



*Pro for life*

Professional tool users have always played a major part in the Facom success story.

It is with the help of these professionals that Facom designs and manufactures products with the ultimate goal of making everyday tasks easier and safer.

This privileged relationship allows Facom to clearly understand the needs and requirements of each specialist trade, something they have been doing for the past 90 years...

It is this close contact with customers that enables Facom to produce innovative, professional quality tools that meet the exacting standards of industrial and automotive professionals the world over.



## Catalogue **FO8**

▶ 2 practical indexes : **Alphabetic** 854

**Alphanumeric** 861

### ▶ Facom at your disposal :

- Customer contact
- Online services
- Technical advice



### ▶ Technology and safety

- Safety advice
- Conversion of measuring units
- Facom and standards
- Mechanical adjustments
- Lighting standards
- Screw and circlip standards



## Workstations and tool storage

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# Our ambition: useful innovation

## ► Innovation with and on behalf of professional users

- FACOM innovates in all technologies and in all areas of activity (design, materials, new processes, methods).
- Each new Facom-designed product is the fruit of field tests performed with the help of professional users.

## ► Innovation for increased productivity

- Saving time, increasing efficiency, and improving productivity and safety are essential values for the development of new tools (numerous patents).



## ► Innovation for simplifying tasks

- Priority is given to useful innovation, placing a premium on the simplification of tasks and the reduction of effort.
- New designs are regularly tested with the aim of helping professional users to improve their efficiency.



# Our obsession: quality

## ► Quality improves profitability

- Facom produces highly efficient tools that meet the very highest quality standards.
- Reliable and durable, they are a guaranteed good investment.
- Sturdy and strong, they are tested under extreme conditions and intensive use.

## ► Quality for the safety of professional users

- Facom products are designed to reduce user effort and minimise the risk of trauma or injury.



## ► Guaranteed Facom quality



- Choosing a Facom product guarantees complete satisfaction, with the added security of the Facom guarantee.
- The design and manufacturing processes are ISO 9001 certified (version 2000).





# Our obligation: customer satisfaction

## ► Comprehensive assistance every day

- Numerous services are offered to assist users to work even more efficiently: Tool applications and selection guides; technical advice; safety standards; training; After-sales services.

## ► Over 6500 products serving all professional needs

- Facom's comprehensive range of standard and specialist tools meets the needs of every user.
- Facom is present in many sectors, notably the industrial (maintenance and production), automotive (inspection and repair), heavy goods vehicles, electrical, electronic and aerospace sectors.



## ► The entire Facom range at your fingertips

- 870 pages, 600 000 copies, 12 languages, the Facom catalogue is a genuine tool reference book.
- The Web site offers selection guides and information on new products, as well as the complete catalogue.



[www.facom.com](http://www.facom.com)



# Our passion: customer contact

## ► Facom's advisors with their demonstration and assistance vehicles

- **Their mission** : to be in contact with users at their workplace
- **Their objective** : To listen, inform, advise and allow you to try out our tools.
- **Their priority** : To better meet the needs of the professional user by identifying improvements to the product range.



## ► An international presence

With 12 subsidiaries throughout the world, Facom places great importance on contact with the users of its tools.

## ► A distributor near you

Professional, competent and sharing a unique spirit of service, the distributors, who are Facom's partners, are able to provide you the entire range of products and services.



# Design and manufacture: a vocation

## ► Recognised design expertise

- 250 technician engineers committed full-time to the development of new products.
- 10 design offices incorporated within the production sites working exclusively on Facom-related research.



## ► Made by Facom

- 60% of production is manufactured in Facom's 11 French and European factories.
- 40% of tools are produced in partnership with manufacturers working to Facom's own, higher specifications.

## ► Factories using cutting-edge technology

- Facom's production centres are constantly upgraded to improve product performance and optimise the production process.
- They specialise in different production techniques: Cold forming, heat treatment, surface treatment, plastic injection, etc.





# The Facom guarantee, often copied, never equalled

When you, as professionals, use a tool, you expect it to give total, permanent and long-lasting satisfaction, however intensive the use and whatever the application.



That is why Facom tools are always tested under extreme conditions and intensive use. Like quality, with which it goes hand in hand, the Guarantee is integral to Facom's commitment and the reputation of its product range.

## ► Over fifty years of shared history

A major innovation introduced as early as 1952, the Facom Guarantee is backed by a dedicated organisation :

- The Facom distributor network constitutes the first link in the Guarantee chain, with responsibility for its application to exchanges from stock.
- All items that are returned to our workshops enter into a regularly audited, traceability-based procedure.
- 18 employees are responsible for handling and processing warranty returns each day.



## ► The Facom Guarantee: transparency and modernity



- Guarantee returns can now be followed in real time. Your distributor can follow the progress of your tool at all times via an Extranet link.





# Periodic inspection of your tools ensures production quality



## ► The Facom laboratory

is a COFRAC-accredited laboratory and can assist with :



















- Torque assurance.
- Regular calibration and inspection of tools to ensure compliance with ISO standard requirements.
- Mutual recognition of the validity of tool calibration and inspection with European and other the countries based on multilateral or bilateral recognition agreements (EA; ILAC).
- Linking of tools to the national and international (SI) system of units.



Note 1: For further information regarding the services provided by the laboratory, please refer to the After Sales Service catalogue and the Web site [www.facom.fr](http://www.facom.fr)

Note 2: The delivery of a calibration certificate bearing the COFRAC-ETALONNAGE logo guarantees that the results are linked back to the international (SI) system of units.

## ► Signatories of the EA\* multilateral recognition agreement

 COFRAC, Comité Français d'Accréditation	 NA, Norwegian Accreditation
 DKD, Deutscher Akkreditierungsrat	 RVA, Raad voor Accreditatie
 BMWA, Bundesministerium für wirtschaftliche Angelegenheiten	 IPAC, Instituto Português de Acreditação
 BKO, Belgische Kalibratie Organisatie oboe Organisation Belge d'Etalonnage	 CAI, Czech Accreditation Institute
 DANAK, Danish Accreditation National Agency of Industry & Trade	 UKAS, United Kingdom Accreditation Service
 ENAC, Entidad Nacional de Acreditacion	 SWEDAC, Swedish Board for Accreditation & Conformity
 FINAS, Finnish Accreditation Service	 SAS, Swiss Accreditation Service
 NAB, National Accreditation Board	 ESYD, Hellenic Accreditation System
 SIT, Servizio Italiano di Taratura	 PCA, Polskie Centrum Akredytacji

\* European co-operation for Accreditation.

## ► Signatories of bilateral recognition agreements

 NATA, National Association of Testing Authorities	 A2AL, American Association for Laboratory
 SANAS, South Africa National Laboratory Accreditation Service	 SAC, Singapore Confederation of Industries

► **Torque control services**

• **COFRAC services :**

As a COFRAC-accredited organisation (No. 2-1805), the Facom laboratory offers a range of torque monitoring services.

The “COFRAC etalonnage” logo guarantees that the results are directly linked to the international (SI) system of units (linked to national and international standards).

260 Section 6

• **Facom laboratory services :**

The Facom Laboratory is linked to the national calibration standards and issues calibration certificates in accordance with the specifications of ISO 6789 and its own quality assurance procedures.

260 Section 6



► **Fixed-price repairs**

For certain pneumatic, electrical, hydraulic and torque control tools,

Facom offers a range of fixed-price repair or standard replacement conditions.



► **Crimping plier inspection**

ISO 9000 quality assurance systems require crimping equipment to be periodically checked for compliance with the standards and recommendations.

Facom therefore decided to offer a worry-free inspection service to its customers, covering all Facom crimping pliers for insulated and non-insulated terminals



In certain countries, these services delegated locally. Please contact your Facom representative for further information

# Facom Technical Assistance, passionate about your work.



## ► Over 200 demonstration vehicles

- Their mission: to understand the needs of tool users through site visits.



## ► Assistance provided

- **Product demonstrations / try-outs :**
  - Presentation of new products.
  - Literature.
  - Catalogue distribution.
- **Technical advice.**
- **Selection assistance.**
- **Local distributors.**



## ► Over 150 000 visits each year

- The source of Facom product development and improvement
- 150 000 opportunities to learn about, analyse and anticipate your needs and provide concrete solutions.





# Facom's distributors

With a network of over 5,500 sales outlets in 100 countries, Facom is always close to you and your needs.



868



## ► The professional's true partner

The Facom team is always available for the following :

- Product information,
- Technical advice,
- Merchandising solutions,
- Delivery times,
- Managing warranty returns,
- After sales services, torque control, etc.

## ► The Facom Extranet portal

Even more services via your distributor :

- Online follow-up of orders.
- Monitoring of warranty returns and repairs.
- Spare parts.



NEW


► **The complete Facom product range online**

Access the entire up-to-date Facom product range in one click. Download the whole catalogue, specific sections and much, much more.

www.facom.com



**NEW**



► **Choose your tools online**

You can now select products online, record your selection and e-mail it to your distributor for a quotation, as well as printing a hard copy.

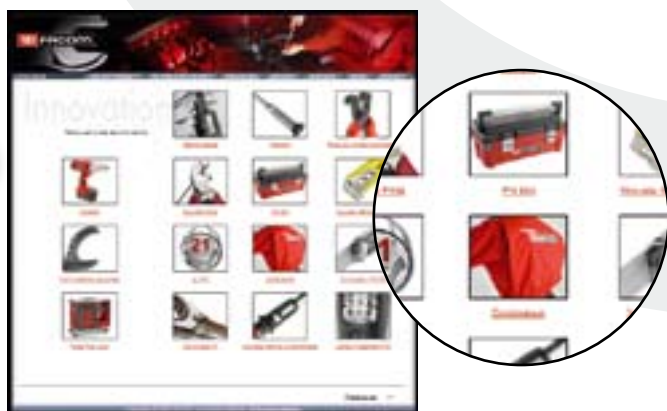
► **Tool / Marque / Vehicle application guide**

Find the right Facom tool for the job on the vehicle to be repaired - fast.



► **New Facom products**

Discover all the latest Facom innovations and see demonstration videos.





NEW

## ▶ Locating your Facom distributor

Enter your address and the site will display details of your nearest distributors in France and the rest of the world. Find your nearest distributor in just a few clicks.



## ▶ Customised workstations

Create your own workstation, quickly and easily, in just a few clicks. You can now devise your own workshop colour scheme, drawer and tool configurations on:

→ [www.facom.com](http://www.facom.com)

allows you to choose :

- drawer combinations,
- colours,
- accessories.
- tool storage modules.



## ▶ Extranet: Speed and reliability for your distributor, satisfaction and quality for you!

Using our Extranet site, your distributor can now monitor products online and meet your needs in the shortest of time :

- Direct access to details on product availability.
- Real-time follow-up of orders and tools returned for repair.
- Accessories.
- Reduced risk of inputting errors.





# CUSTOMISED TOOLS: FACOM SOLUTIONS

Occasionally, standard tools are just not up to the job. If you require specially designed or adapted tools, Facom's engineering team can apply their technical expertise to help you create the tools you need to suit your specifications.



Roller cabinets with a variety of drawer configurations

## ▶ Product adaptation to suit your specifications



Storage modules to suit a particular set of tools



Special end fittings for torque wrenches. Special finishes. Different materials.

## ▶ Personalisation

Storage units in your own colours



## ▶ Your logo

# Technical information

## ► Over 25,000 answers per year

- The queries we receive cover a very wide range of subjects: requests for technical information, for assistance finding products or spare parts, for practical tips, technical documentation, etc.
- Our advisors are always able to provide the right answer with the help of numerous data and information bases.
- Don't hesitate to contact your usual FACOM representative.



## ► Customers abroad will be referred to our subsidiaries



• **Contacts** 868







► Mitsubishi Motor Sport\*




► Parotech\* 




► Aravi\* 



► JFC Racing\* 



► Pescarolo Sport\* 

\* FACOM Technical Partners.

► You too can join Team



► Contact your distributor or go to [www.facom.com](http://www.facom.com)





KTM\* 



Team\* 



Dap 91\*



Coutelle Junior Team\*



Peugeot Sport\*

# Facom!









# 1. Tool sets



## ▶ Mechanical engineering 20



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## ▶ Electricity 47



## ▶ Building maintenance and general servicing sets 47



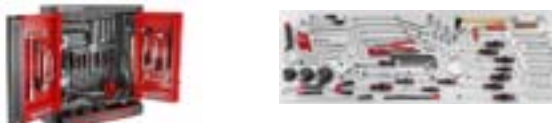
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## ▶ Drivers sets 61





## 512-piece mechanical tool set

### CM.160A

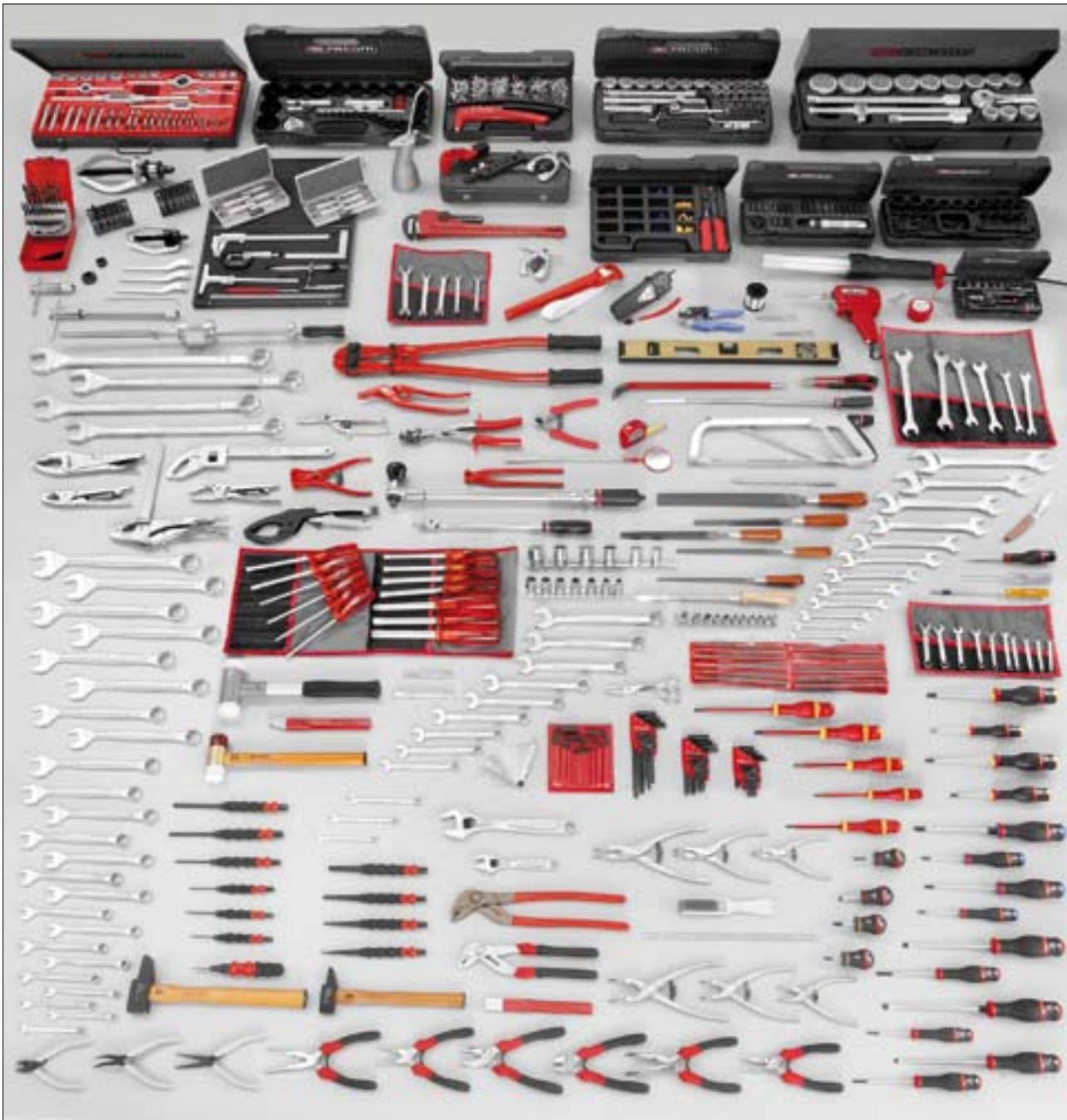
• Metric and inch set supplied loose, as below.

△△ : 113 kg.

Ref	Qty	Description
440.JE18	18	Combination wrenches 6 to 24 mm
440.JU12	12	Combination wrenches 1/4" to 15/16"
440	6	Combination wrenches 26 to 30 and 32 mm
40LA	4	Long combination wrenches 33, 35, 36, 38 mm
39.JE10T	10	Roll set of short combination wrenches 3.2 to 11 mm
44.JE12	12	Open-end wrenches 6 to 32 mm
31.JE6T	6	Roll set of low profile open-end wrenches 8 to 19 mm
43.JE5T	5	Roll set of flare-nut wrenches 7 to 19 mm
113A	2	Adjustable wrenches 6" and 10"
115A.100	1	Pin wrench
S.440AP	29	Socket set $\square$ 1/2" : 8 to 32 mm and accessories (in a case)
S.40U	7	Rack socket-set 3/8" to 21/32"
S.41U	6	Rack socket-set 11/16" to 1"
S.141A	1	Long hinged handle $\square$ 1/2"
R.425AP	26	Sockets $\square$ 1/4" : 5.5 to 14 mm and accessories (in a case)
R.40U	11	11-piece rack socket-set 3/16" to 9/16"
K.432E	16	"Truck" socket set $\square$ 3/4" : 30 to 55 mm and accessories (in case)
NS.500A	26	Impact socket set $\square$ 1/2" : 8 to 27 mm
NS.265M	21	Impact screwdriver set with bits
S.306A200	1	Torque wrench 40 to 200 Nm
AN	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
AWH10X175	1	Hexagonal blade screwdriver for slotted heads with hexagon shoulder
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2
AWPH3X150	1	Hexagonal blade screwdriver for Phillips® head no. 3 with hexagon shoulder
AND	3	Screwdrivers for Pozidriv® heads no. 0-1-2
AWDH3X150	1	Hexagonal blade screwdriver for Pozidriv® head no. 3 with hexagon shoulder
A6,5x150VE	3	1,000 V insulated screwdrivers for slotted heads 3.5x100 - 4x100 - 6.5x150
AP.VE	2	1,000 V insulated screwdrivers Phillips® heads 1x100 - 2x125
701A	1	Multifunction tester
AV.HT1B	1	Voltage tester screwdriver 90 to 480V
AF	1	Screw starter for slotted heads
AN	2	Stubby screwdrivers for slotted heads 4x35 and 6.5x35 mm
ANP	2	Stubby screwdrivers for Phillips® heads 1x35 and 2x35 mm
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
89.JP8	8	Torx® keys no. 10 to 45
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
84E.J1	5	Case-set of nut spinners
AEF.J1	5	Case set of Micro-Tech® screwdrivers
94A.JE13T	13	Roll set of nut spinners 3.2 to 14 mm
187.18CPE	1	Sheathed combination pliers
192.16CPE	1	"Piano wire" diagonal cutters
181.25CPE	1	Lockable multigrip pliers
181.30G	1	Lockable multigrip pliers
185.20CPE	1	Sheathed straight half-round nose pliers
195.20CPE	1	Sheathed angled half-round nose pliers
189.17CPE	1	Sheathed round-nose pliers
188.16CPE	1	Sheathed flat-nose pliers
495.22EL	1	Heavy-duty end nippers
191A.18EL	1	Compound-leverage end nippers
T5.L65	1	Trigger-release lock-grip pliers (with aluminium sheathing)

Ref	Qty	Description
501	1	Long-nose lock-grip pliers
507A	1	Compact lock-grip pliers
509	1	Lock-grip wrench
521.200	1	Sliding jaw lock-grip clamp
169E	3	Inside-circlip pliers 13 - 18 - 23.
167E	3	Outside-circlip pliers 13 - 18 - 23.
405.12MT	1	Precision diagonal cutters
401.MT	1	Extra-long flat-nose precision pliers
403.MT	1	Precision angled half-round nose pliers
893.316	1	Locking tape measure 3 m
234	1	Scriber
DELA.1051.05	1	Rule 300 mm
804	1	Feeler gauge, 19 blades
311A.50	1	Level with protractor dial
809.J2	8	Measuring and scribing instrument kit
603E	1	Hacksaw frame
660A.8	10	Bimetal hacksaw blades
STG	5	File set
AP6X80	1	Square punch
883B	1	Right-cut scroll shears
237.A	1	Thread restoring tool
270.A	1	Spark plug brush
996.5	1	Steel cable cutters
990.B1	1	Bolt cropper
881	1	Serrated shears
887A	1	Nibblers
231	1	Three-square scraper
222.J19	19	Box set of drill-bits 1 to 10 mm
221.227J2	41	Tap and die set (in a case)
830A.10	1	Ratchet tool-holder
830A.10L	1	Long ratchet tool-holder
AS.12LTP180T2	12	Wallet set of 12 needle files, 180 mm
245.J2	26	Set of gasket punches in a case
200H	2	Riveting hammers 24 and 32 mm
208A.32CB	1	Plastic-tip mallet
212A.40	1	Dead-blow hammer
247.G	5	Sheathed nail sets 2 - 3 - 4 - 6 - 8 mm
249.G	5	Sheathed drift punches 2 - 3 - 4 - 6 - 8 mm
265.20	1	Constant-profile cape chisel
254A.10	1	Precision cape chisel
263.18	1	Chisel
256.4	1	Precision centre punch 4 mm
257.G	1	Sheathed automatic centre punch
134.18	1	Pipe wrench
138.30	1	Strap wrench, 4"
238A.32	1	Pipe cutter, 3 to 32 mm and 1/8" to 11/4"
239.EA	1	Inch dies
239	1	"Refrigeration" flaring tool (in a case)
Y.RIV1	1	Riveting kit
374A.20	1	Double-action oil can
269	1	Crowbar
777A.230	1	Inspection lamp
U.306A140	1	3-leg puller $\varnothing$ 7 to 140 mm
U.306G2	3	Legs for inside application
U.306M	1	Slide hammer
U.306A1	1	Nut/washer subassembly
U.302	1	3-leg puller 6 to 80 mm
285.JS10	10	Set of stud extractors
840.1	1	Electricians knife with wire stripper
841	1	Electricians scissors
985761	1	Automatic cutting stripper
844.SE18	1	Retractable knife
449.Z3A	1	Crimping plier and terminal set
848B.100	1	Instant-heat 100 W soldering iron
661626	1	Reel of solder wire
827B	1	Magnetic retriever
834.R2	1	Articulated mirror

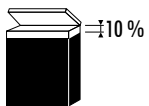
# Mechanical engineering



Set CM.160A with 8-drawer roller cabinet JET.8GXL and chest JET.C4GXL

## JET8.M160A

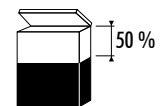
ΔΔ : 239 kg.



Set CM.160A with workbench 2000.BB1 and cabinet 2210

## 2000.BBM160A

- Supplied with set of hooks CKS.2230-160.



## 329-piece mechanical tool set

## CM.150A

• Metric set supplied loose, as below.

△△ : 97,5 kg.

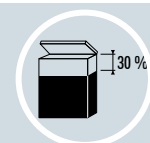
Ref	Qty	Description
440.JE18	18	Combination wrenches 6 to 24 mm
440	6	Combination wrenches 26 to 30 and 32 mm
40LA	4	Long combination wrenches 33, 35, 36, 38 mm
39.JE10T	10	Roll set of short combination wrenches 3.2 to 11 mm
44.JE12	12	Open-end wrenches 6 to 32 mm
43.JE5T	5	Roll set of flare-nut wrenches 7 to 19 mm
31.JE6T	6	Roll set of low profile open-end wrenches 8 to 19 mm
113A.C	2	Adjustable wrenches 6" and 10"
115A.100	1	Pin wrench
S.440AP	29	Socket set $\square$ 1/2" : 8 to 32 mm and accessories (in a case)
S.141A	1	Long hinged handle $\square$ 1/2"
R.425AP	26	Sockets $\square$ 1/4" : 5.5 to 14 mm and accessories (in a case)
K.432E	16	"Truck" socket set $\square$ 3/4" : 30 to 55 mm and accessories (in case)
S.306A200	1	Torque wrench 40 to 200 Nm
AN	3	Screwdrivers for slotted heads : 3x75 - 4x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
AWH10X175	1	Hexagonal blade screwdriver for slotted heads with hexagon shoulder
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2
AWDH3X150	1	Hexagonal blade screwdriver for Phillips® head no. 3 with hexagon shoulder
AND	3	Screwdrivers for Pozidriv® heads no. 0 to 3
AWPH3X150	1	Hexagonal blade screwdriver for Pozidriv® head no. 3 with hexagon shoulder
A.65x150	3	1,000 V insulated screwdrivers for slotted heads 3.5x100 - 4x100 - 6.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers Phillips® heads 1x100 - 2x125 mm
701A	1	Multifunction tester
AV.HT1B	1	Voltage tester screwdriver 90 to 480 V
AF	1	Screw starter for slotted heads
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
89.JP8	8	Torx® keys no. 10 to 45
AEF.J1	5	Case set of Micro-Tech® screwdrivers
187.18CPE	1	Sheathed combination pliers
192.16CPE	1	"Piano wire" diagonal cutters
181.25CPE	1	Lockable multigrip pliers
181.30G	1	Lockable multigrip pliers
185.20CPE	1	Sheathed straight half-round nose pliers
195.20CPE	1	Sheathed angled half-round nose pliers
189.17CPE	1	Sheathed round-nose pliers
188.16CPE	1	Sheathed flat-nose pliers
495.22EL	1	Heavy-duty end nippers
191A.18EL	1	Compound-leverage end nippers

Ref	Qty	Description
501	1	Long-nose lock-grip pliers
507A	1	Compact lock-grip pliers
521.200	1	Sliding jaw lock-grip clamp
T5.L65	1	Trigger-release lock-grip pliers (with aluminium sheathing)
169E	3	Inside-circlip pliers 13 - 18 - 23.
167E	3	Outside-circlip pliers 13 - 18 - 23.
405.12MT	1	Precision diagonal cutters
893.316	1	Locking tape measure 3m
234	1	Scriber
DELA.1051.05	1	Rule 300 mm
804	1	Feeler gauge, 19 blades
603E	1	Hacksaw frame
660A.8	10	Bimetal hacksaw blades
STG	5	File set
AP6X80	1	Square punch
883B	1	Right-cut scroll shears
237.A	1	Thread restoring tool
270.A	1	Spark plug brush
996.5	1	Steel cable cutters
881	1	Serrated shears
231	1	Three-square scraper
222.J19	19	Box set of drill-bits 1 to 10 mm
221.227J2	41	Tap and die set (in a case)
830A.10	1	Ratchet tool-holder
830A.10L	1	Long ratchet tool-holder
200H	2	Riveting hammers 26 and 32 mm
208A.32	1	Heavyweight mallet
212A.40	1	Dead-blow hammer
247.G	5	Sheathed nail sets 2 - 3 - 4 - 6 - 8 mm
249.G	5	Sheathed drift punches 2 - 3 - 4 - 6 - 8 mm
265.20	1	Constant-profile cape chisel
254A.10	1	Precision cape chisel
263.18	1	Chisel
256.4	1	Precision centre punch 4 mm
257.G	1	Sheathed automatic centre punch
134.18	1	Pipe wrench
Y.RIV1	1	Riveting kit
374A.20	1	Double-action oil can
269	1	Crowbar
U.306A140	1	3-leg puller $\varnothing$ 7 to 140 mm
U.306G2	3	Legs for inside application
U.306M	1	Slide hammer
U.306A1	1	Nut/washer subassembly
840.1	1	Electricians knife with wire stripper
841	1	Electricians scissors
985761	1	Automatic cutting stripper
844.SE18	1	Retractable utility knife
827B	1	Magnetic retriever
834.R2	1	Articulated mirror
815A	1	Vernier caliper to 1/10 mm
673838	1	Pre-insulated terminal crimping pliers



## Additional services

This symbol shows the % storage space remaining when the tools are in place.





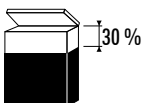
# Mechanical engineering



Set CM.150A with 7-drawer roller cabinet JET.7GXL and chest JET.C4GXL

**JET7.M150A**

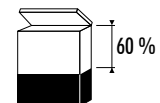
ΔΔ : 218.5 kg.



Set CM.150A with workbench 2000.BB1 and cabinet 2210

**2000.BBM150A**

• Supplied with set of hooks CKS.2230-150.



## 184-piece mechanical tool set

### CM.140A

• Metric set supplied loose, as below.

ΔΔ : 34,5 kg.



Ref	Qty	Description
<b>440.JE18</b>	18	Combination wrenches 6 to 24 mm
<b>440</b>	6	Combination wrenches 26 to 30 and 32 mm
<b>39.JE10T</b>	10	Roll set of short combination wrenches 3.2 to 11 mm
<b>44.JE12</b>	12	Open-end wrenches 6 to 32 mm
<b>113A.10C</b>	1	Adjustable wrench 10"
<b>S.440AP</b>	29	Socket set $\square$ 1/2" : 8 to 32 mm and accessories (in a case)
<b>R.425AP</b>	26	Sockets $\square$ 1/4" : 5.5 to 14 mm and accessories (in a case)
<b>AN</b>	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x100 mm
<b>ANF</b>	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
<b>AWH10X175</b>	1	Hexagonal blade screwdriver for slotted heads with hexagon shoulder
<b>ANP</b>	3	Screwdrivers for Phillips® heads no. 0-1-2
<b>AWPH3X150</b>	1	Hexagonal blade screwdriver for Phillips® head no. 3 with hexagon shoulder
<b>AND</b>	3	Screwdrivers for Pozidriv® heads no. 0-1-2
<b>AWDH3X150</b>	1	Hexagonal blade screwdriver for Pozidriv® head no. 3 with hexagon shoulder
<b>A6.5x150VE</b>	3	1,000 V insulated screwdrivers for slotted heads 3.5x100 - 4x100 - 6.5x150
<b>AP.VE</b>	2	1,000 V insulated screwdrivers Phillips® heads 1x100 - 2x125
<b>701A</b>	1	Multifunction tester
<b>AV.HT4P</b>	1	Voltage tester screwdriver 90 to 480 V
<b>82H.JP9</b>	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
<b>89.JP8</b>	8	Torx® keys no. 10 to 45
<b>187.18CPE</b>	1	Sheathed combination pliers
<b>192.16CPE</b>	1	"Piano wire" diagonal cutters
<b>181.25CPE</b>	1	Lockable multigrip pliers

Ref	Qty	Description
<b>185.20CPE</b>	1	Sheathed straight half-round nose pliers
<b>188.16CPE</b>	1	Sheathed flat-nose pliers
<b>495.22EL</b>	1	Heavy-duty end nippers
<b>501</b>	1	Long-nose lock-grip pliers
<b>T5.L65</b>	1	Trigger-release lock-grip pliers (with aluminium sheathing)
<b>169E</b>	3	Inside-circlip pliers 13 - 18 - 23.
<b>167E</b>	3	Outside-circlip pliers 13 - 18 - 23.
<b>893.316</b>	1	Locking tape measure 3 m
<b>234</b>	1	Scriber
<b>DELA.1051.05</b>	1	Rule 300 mm
<b>804</b>	1	Feeler gauge, 19 blades
<b>603E</b>	1	Hacksaw frame
<b>660A.8</b>	10	Bimetal hacksaw blades
<b>STG</b>	5	File set
<b>AP6X80</b>	1	Square punch
<b>270.A</b>	1	Spark plug brush
<b>200H</b>	2	Riveting hammers 26 and 32 mm
<b>208A.32CB</b>	1	Plastic-tip mallet
<b>247.G</b>	2	Sheathed nail sets 2 and 4 mm
<b>249.G</b>	2	Sheathed drift punches 2 and 4 mm
<b>254A.10</b>	1	Precision cape chisel
<b>263.18</b>	1	Chisel
<b>256.4</b>	1	Precision centre punch 4 mm
<b>134.18</b>	1	Pipe wrench
<b>Y.RIV1</b>	1	Riveting kit
<b>374A.20</b>	1	Double-action oil can
<b>840.1</b>	1	Electricians knife with wire stripper
<b>841</b>	1	Electricians scissors
<b>834.R2</b>	1	Articulated mirror



## 178-piece inch tool set with engineers hammer

### CU.140A

• As CM.140A, but with inch sizes replacing metric tools (as detailed below).

• Supplied loose.

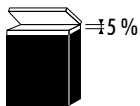
ΔΔ : 30,6 kg.

Ref	Qty	Description
440.JU17	17	Combination wrenches 1/4" to 1 1/4".
39.JU10T	10	Roll set of short combination wrenches 1/8" to 7/16"
44.JU8T	8	Open-end wrenches 1/4"x5/16" to 1 1/8"
44	3	Open-end wrenches 7/16"x1/2", 9/16"x5/8" and 11/16"x3/4"
S.440AUP	24	Socket set 1/2" : 3/8" to 1 1/4" and accessories (in a case)
R.425AUP	26	Sockets 1/4" : 7/32" to 9/16", bits and accessories (in a case)
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
800A.EX	1	Tape measure 2m/6ft
804.U	1	Feeler gauges to 1/10,000"
202H	2	Engineers hammers 1/2" and 1"

## Set CM.140A with 4-drawer chest BT.64

### 2074.M140A

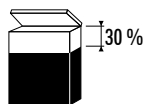
ΔΔ : 63.7 kg.



## Set CM.140A with 7-drawer roller cabinet JET.7GXL

### JET7.M140A

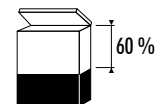
ΔΔ : 119.5 kg.



## Set CM.140A with workbench 2000. BB1 and cabinet 2210

### 2000.BBM140A

• Supplied with set of hooks CKS.2230-140.





## 148-piece mechanical tool set

## CM.130A

- Metric set supplied loose, as below.
- ΔΔ : 21,7 kg.



№	Qty	Description
440.JE18	18	Combination wrenches 6 to 24 mm
44.JE12	12	Open-end wrenches 6 to 32 mm
113A.10C	1	Adjustable wrench 10"
S.440AP	29	Sockets 1/2" : 8 to 32 mm and accessories (in a case)
R.425AP	26	Sockets 1/4" : 5.5 to 14 mm and accessories (in a case)
AN	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2
AND	3	Screwdrivers for Pozidriv® heads no. 0-1-2
A6,5x150VE	2	1,000 V insulated screwdrivers for slotted heads 4x100 - 6.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers Phillips® heads no. 1-2
AV.HT4P	1	Voltage tester screwdriver 90 to 480 V
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
89.JP8	8	Torx® keys no. 10 to 45
187.18CPE	1	Sheathed combination pliers

№	Qty	Description
192.16CPE	1	"Piano wire" diagonal cutters
181.25CPE	1	Lockable multigrip pliers
185.20CPE	1	Sheathed straight half-round nose pliers
188.16CPE	1	Sheathed flat-nose pliers
501	1	Long-nose lock-grip pliers
169E	2	Inside-circlip pliers 13 - 18.
167E	2	Outside-circlip pliers 13 - 18.
893.316	1	Locking tape measure 3 m
603E	1	Hacksaw frame
660A.8	10	Bimetal hacksaw blades
STG	5	File set
AP6X80	1	Square punch
200H.32	1	Riveting hammer 32 mm
208A.32CB	1	Plastic-tip mallet
247.G	2	Sheathed nail sets 2 - 4 mm
249.G	2	Sheathed drift punches 2 - 4 mm
254A.10	1	Precision cape chisel
263.18	1	Chisel
256.4	1	Precision centre punch 4 mm
840.1	1	Electricians knife with wire stripper

## 137-piece inch tool set with engineers hammer

## CU.130A

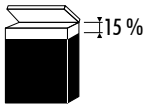
- As CM.130A, but with inch sizes replacing metric tools (as detailed below).
- Supplied loose.
- ΔΔ : 30,7 kg.

№	Qty	Description
440.JU12	12	Combination wrenches 1/4" to 15/16"
44.JU8T	8	Roll set of open-end wrenches 1/4"x5/16" to 11/8"x1 1/4"
44	3	Open-end wrenches 7/16"x1/2", 9/16"x5/8" and 11/16"x3/4"
S.440AUP	24	Socket set 1/2" : 3/8" to 1 1/4" and accessories (in a case)
R.425AUP	26	Sockets 1/4" : 7/32" to 9/16", bits and accessories (in a case)
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
800A.EX	1	Tape measure 2m/6ft
202H.1"	1	Engineers hammer

## Set CM.130A with 4-drawer chest BT.64

**2074.M130A**

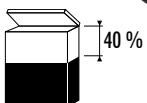
ΔΔ : 50.9 kg.



## Set CM.130A with 6-drawer roller cabinet JET.6GXL

**JET6.M130A**

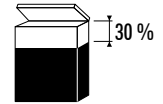
ΔΔ : 102.7 kg.



## Set CM.130A with roller chest 2092A

**2092.M130A**

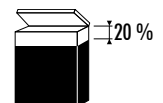
ΔΔ : 54.2 kg.



## Set CM.130A with cabinet 2201

**2201.M130A**

• Supplied with set of hooks CKS.2082-130.





## 128-piece mechanical tool set

**CM.120A**

- Metric set supplied loose, as below.

ΔΔ : 20,2 kg.



Code	Qty	Description
440.JE14	14	Combination wrenches 7 to 24 mm
44.JE12	12	Open-end wrenches 6 to 32 mm
113A.10C	1	Adjustable wrench 10"
RS.440E	54	Socket set 1/4" and 1/2" and accessories (in a case)
AN	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x100
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2
AND	3	Screwdrivers for Pozidriv® heads no. 0-1-2
A4X100VE	1	1,000 V insulated screwdriver for slotted heads 4 mm
AP1X100VE	1	1,000 V insulated screwdrivers for Phillips® heads no. 1
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
187.18CPE	1	Sheathed combination pliers
192.16CPE	1	"Piano wire" diagonal cutters

Code	Qty	Description
181.25CPE	1	Lockable multigrip pliers
185.20CPE	1	Sheathed straight half-round nose pliers
188.16CPE	1	Sheathed flat-nose pliers
501	1	Long-nose lock-grip pliers
169E.18	1	Inside-circlip pliers
167E.18	1	Outside-circlip pliers
893.316	1	Locking tape measure 3 m
603E	1	Hacksaw frame
660A.8	10	Bimetal hacksaw blades
STG	5	File set
AP6X80	1	Square punch
200H.32	1	Riveting hammer
208A.32CB	1	Plastic-tip mallet
247.G	2	Sheathed nail sets : 2 - 4 mm
249.G	2	Sheathed drift punches sets : 2 - 4 mm
256.4	1	Precision centre punch 4 mm
840.1	1	Electricians knife with wire stripper

## 93-piece inch tool set with engineers hammer

**CU.120A**

- As CM.120A, but with inch sizes replacing metric tools. No 1/4" sockets and accessories (as below).

- Supplied loose.

ΔΔ : 18,9 kg.

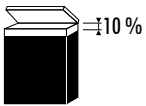
Code	Qty	Description
440.JU12	12	Combination wrenches 1/4" to 15/16".
44.JU8T	8	Open-end wrenches 1/4"x5/16" to 1"1/8"
S.440AUP	24	Socket set 1/2" : 3/8" to 11/4" and accessories(in a case)
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
800A.EX	1	Tape measure 2m/6ft
202H.1"	1	Engineers hammer

# Mechanical engineering

## Set CM.120A with 2-drawer chest BT.62A

**2070.M120A**

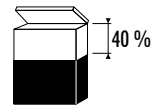
$\Delta\Delta$  : 39.2 kg.



## Set CM.120A with roller chest 2092A

**2092.M120A**

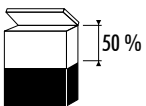
$\Delta\Delta$  : 52.7 kg.



## Set CM.120A with 5-drawer roller cabinet JET.5GXL

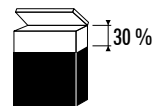
**JET5.M120A**

$\Delta\Delta$  : 89.2 kg.



## Set CM.120A with cabinet 2201

**2201.M120A**





## 84-piece mechanical tool set

**CM.110A**

- Metric set supplied loose, as below.
- ΔΔ : 15 kg.



Ref	Qty	Description
440.JE14	14	Combination wrenches 7 to 24 mm
113A.10C	1	Adjustable wrench 10"
RS.430E	30	Socket set 1/4" and 1/2" and accessories (in a case)
AN	3	Screwdrivers for slotted heads 3x75 -4x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2
AND2X125	1	Screwdrivers for Pozidriv®
A4X100VE	1	1,000 V insulated screwdriver for slotted heads 4 mm
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
187.18CPE	1	Sheathed combination pliers
192.16CPE	1	"Piano wire" diagonal cutters
181.25CPE	1	Lockable multigrip pliers

Ref	Qty	Description
185.20CPE	1	Sheathed straight half-round nose pliers
188.16CPE	1	Sheathed flat-nose pliers
501	1	Long-nose lock-grip pliers
169E.18	1	Inside-circlip pliers
167E.18	1	Outside-circlip pliers
893.316	1	Locking tape measure 3 m
603E	1	Hacksaw frame
660A.8	10	Bimetal hacksaw blades
AP6X80	1	Square punch
200H.32	1	Riveting hammer 32 mm
208A.32CB	1	Plastic-tip mallet
247.G	2	Sheathed nail sets 2 - 4 mm
249.G	2	Sheathed drift punches 2 - 4 mm
256.4	1	Precision centre punch 4 mm
840.1	1	Electricians knife with wire stripper

## 84-piece inch tool set with engineers hammer

**CU.110A**

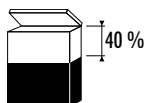
- As CM.110A, but with inch sizes replacing metric tools (as detailed below).
- Supplied loose.
- ΔΔ : 14.75 kg.

Ref	Qty	Description
440.JU12	12	Combination wrenches 1/4" to 15/16"
S.440AUP	24	Socket set 1/2" : 3/8" to 1 1/4" and accessories(in a case)
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
800A.EX	1	Tape measure 2m/6ft
202H.1"	1	Engineers hammer

## Set CM.110A with 5-compartment toolbox BT.11A

**2050.M110A**

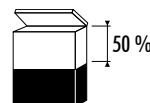
ΔΔ : 19.5 kg.



## Set CM.110A with roller chest JET. CR4GXL

**CR4.M110A**

ΔΔ : 86 kg.



## 60-piece mechanical tool set

### CM.100A

- Metric set supplied loose, as below.

ΔΔ : 10,4 kg.



Ref	Qty	Description	Ref	Qty	Description
440.JE14	14	Combination wrenches 7 to 24 mm	187.18CPE	1	Sheathed combination pliers
S.430ADP	26	"Radio" socket set 10 to 32 mm (in a case)	192.16CPE	1	Diagonal cutters
AN	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x100 mm	181.25CPE	1	Lockable multigrip pliers
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm	893.316	1	Locking tape measure 3 m
ANP	3	Screwdrivers for Phillips® heads no. 0-1-2	603E	1	Hacksaw frame
A4X100VE	1	1,000 V insulated screwdriver for slotted heads 4 mm	660A.8	10	Bimetal hacksaw blades
			200H.32	1	Riveting hammer 32 mm
			247.G	2	Sheathed nail sets 2 - 4 mm
			249.G	2	Sheathed drift punches 2 - 4 mm

## 56-piece inch tool set with engineers hammer

### CU.100A

- As CM.100A, but with inch sizes replacing metric tools (as detailed below).

- Supplied loose.

ΔΔ : 14.9 kg.

Ref	Qty	Description
440.JU12	12	Combination wrenches 1/4" to 15/16".
S.440AUP	24	Socket set 1/2" : 3/8" to 1 1/4" and accessories (in a case)
202H.1"	1	Engineers hammer
800A.EX	1	Tape measure 2m/6ft

## Set CM.100A with 66 cm plastic toolbox BP.P26

### 2026.M100A



## Set CM.110A with tool bag BS.T20

### 2120.M110A





## 39-piece mechanical tool set

**CM.LT3**

- Metric set supplied loose, as below.
- ΔΔ : 4,65 kg.



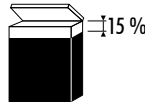
Code	Qty	Description
<b>440.JE9</b>	9	Combination wrenches 7 to 19 mm
<b>75.JN10</b>	10	Open-socket wrenches 8 to 19 mm
<b>AN</b>	2	Round blade screwdrivers 3.5x100 - 5.5x150 mm
<b>AND</b>	2	Insulated screwdrivers for Pozidriv® heads no. 1 and 2
<b>82H.JP9</b>	9	Sleeve set of hexagonal keys : 1.5 to 10 mm

Code	Qty	Description
<b>192.16G</b>	1	Diagonal cutters
<b>187.18G</b>	1	Combination pliers
<b>181.25CPE</b>	1	Lockable multigrip pliers
<b>200H.32</b>	1	Riveting hammer
<b>249</b>	2	Drift punches 4 - 6 mm
<b>263.18</b>	1	Chisel

## Set CM.LT3 with 2-compartment toolbox BT.6A

**2060.LT3**

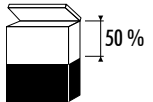
ΔΔ : 7.8 kg.



## Set CM.LT3 with 5-compartment toolbox BT.11A

**2050.LT3**

ΔΔ : 9.5 kg.

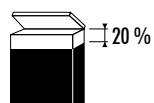


## Electromechanical and servicing

## Set CM.EM40A with trolley case BV.21TR1

**2238.EM40A**

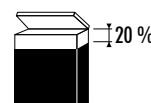
- 530 x 390 x 180 mm.
- ΔΔ : 9.7 kg.



## Set CM.EM40A with trolley case BV.21ST

**2038.EM40A**

- 475 x 360 x 180 mm.
- ΔΔ : 8,6 kg.



## Electromechanical tool sets

### DEDICATED KITS



Each tool set is available with or without a service case.

- **Sturdy and compact :**

these cases are designed to transform into genuine on-site workstations. Tidy storage arrangements and instant tool identification save time and avoid leaving tools behind after job completion.

- **Easily transportable :**

sturdy integral folding and lockable trolley system for quickly and effortlessly transporting tools between servicing jobs.

- **Trolley-mounted case :**

makes transport easier and allows unrestricted working, with the tools always at the right height.



For details of our complete range of cases see p. **35**

### 64-piece tool set

#### CM.EM40A

- Supplied loose, as below.  $\Delta \nabla$  : 4,5 kg.



Ref	Qty	Description
44.JE9T	9	Roll set of open-end wrenches 3.2 to 19 mm
113A.6C	1	Adjustable wrench
R.420P	18	"Radio" socket set 3.2 to 14 mm and accessories
AN4X35	1	Stubby screwdriver 4 mm
A6.5x150VE	4	Screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x125 - 6.5x150 mm
AP.VE	3	1,000V insulated screwdrivers for Phillips® heads no. 0 - 1 - 2
AFU.2	1	Screw starter for slotted heads
83H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
193.16CPE	1	Sheathed straight half-round nose "telephone" pliers
183.16CPE	1	Angled half-round nose "television" pliers
194.17CPE	1	Sheathed end-entry wire stripper

Ref	Qty	Description
181.25CPE	1	Lockable multigrip pliers
405.15	1	Precision diagonal cutters, axial cut
1116B.BW	1	Dual-rating soldering iron (20/40W)
661626	1	Reel of solder wire
839A	1	Desoldering pump
841	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
251A	3	Drift punches 2 - 3 - 4 mm
893.213	1	Locking tape measure 2m
149.Y	1	Precision tweezers
834.R1	1	Articulated mirror
835A	1	Spring hook
836	1	Pen light



# 1 Electromechanical and servicing

## 103-piece tool set

### CM.EM41A

• Supplied loose, as below.

△△ : 6,3 kg.



Code	Qty	Description
39.JE16T	16	Roll set of combination wrenches 3.2 to 17 mm
113A.6C	1	Adjustable wrench
R.420P	18	"Radio" socket set 3.2 to 14 mm and accessories
A6.5x150VE	4	1000v Insulated screwdrivers for slotted heads 3,5x100 - 4x100 - 5,5x125 - 6,5x150 mm
AN4X35	1	Stubby screwdriver 4 mm
ANP1X35	1	Stubby screwdriver for Phillips® heads no. 1
AP.VE	3	Insulated screwdrivers for Phillips® heads no. 0 - 1 - 2
AD.VE	2	Insulated screwdrivers for Pozidriv® heads no. 1 - 2
AFU.2	1	Screw starter for slotted heads
AFUX.1	1	Screw starter for cross-heads
94	4	Box-shank nut spinners 4 - 5 - 6 - 8 mm
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
181.18G	1	Lockable multigrip pliers
179E.13	1	Inside-circlip pliers
177E.13	1	Outside-circlip pliers
405.MT	2	Precision diagonal cutters
401.MT	1	Extra-long flat-nose precision pliers
402.MT	1	Precision half-round nose pliers

Code	Qty	Description
403.MT	1	Precision angled half-round nose pliers
449I	1	Crimping pliers
1116B.BW	1	Dual-rating soldering iron (20/40W)
661626	1	Reel of solder wire
839A.1	1	Desoldering pump
1195	3	Wallet set of soldering accessories
841	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
AIG.PAM160T2	1	Flat needle file 160 mm
AIG.RD160T2	1	Round needle file 160 mm
200H.26	1	Riveting hammer
251A	4	Drift punches 1 - 2 - 3 - 4 mm
256.2.5	1	Precision centre punch
234	1	Scriber
893.213	1	Locking tape measure 2m
804	1	Feeler gauge, 19 blades
AE.J1	8	Case set of Micro-Tech® screwdrivers 1 to 2.5 mm and cross-head screwdrivers 000 and 00
149.Y	1	Precision tweezers
152.Y	1	Angled tweezers
153	1	Crossover tweezers
834	1	Inspection mirror
835A	1	Spring hook
836	1	Pen light
827.1	1	Magnetic retriever

## Specialised tools



1,000 V insulated tools  
See section 16

622



Dedicated electricians tools.  
See section 16

622



Dedicated electronics tools.  
See section 17

670



ESD anti-static tools.  
See section 17

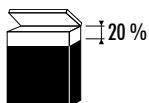
670

# Electromechanical and servicing

Set CM.EM41A with case BV.29P  
and trolley BV.C1

**2021.EM41A**

ΔΔ : 16.6 kg.

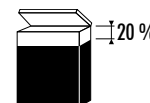


Set CM.EM41A with trolley case  
BV.51A

**2208.EM41A**

• 475 x 360 x 180 mm.

ΔΔ : 11,2 kg.

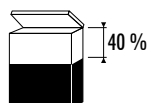


Set CM.EM41A with trolley case  
BV.61

**2061.EM41A**

470 x 390 x 347 mm.

ΔΔ : 16 kg.





# 1 Electromechanical and servicing

## 119-piece metric and inch tool set

### CM.INFO

- Supplied loose, as below.
- ΔΔ : 6,4 kg.



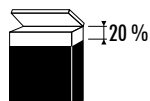
Ref	Qty	Description
22.JE6T	6	Roll set of miniature open-end wrenches 3.2
22.JU5T	5	Roll set of miniature open-end wrenches 3/16" to 9/16"
44.14X15	1	Open-end wrench 14 x 15 mm
113A.8C	1	Adjustable wrench
R.420MU	28	Sockets 1/4" : de 3.2 to 13 mm and 3/16" to 9/16" and accessories
A6.5x150VE	5	Insulated screwdrivers 3.5x75 - 4x100 - 5.5x125 - 6.5x150 - 8x150 mm
AN5.5X35	1	Stubby screwdriver 5.5 mm
ANF10X200	1	Forged blade screwdriver 10 mm
AP.VE	3	Insulated screwdrivers for Phillips® heads no. 0 - 1 - 2
ANP1X35	1	Stubby screwdriver for Phillips® heads no. 1
AMR	1	Multi-blade "radio" screwdriver
AEF.J1	5	Case set of Micro-Tech® screwdrivers
AFU.1	1	Screw starter for slotted heads
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
82H.JU7	7	Wallet set of short hexagonal keys 0.028 to 3/32"
83H.JU10	10	Wallet set of long-reach hexagonal keys 1/16" to 3/8"
188.16CPE	1	Sheathed flat-nose pliers
195.CPE	1	Sheathed angled half-round nose pliers
181.25CPE	1	Lockable multigrip pliers
405.10MT	1	Heavy-duty diagonal cutters

Ref	Qty	Description
405.MT	1	Precision diagonal cutters
432.LMT	1	Electronics gripping pliers
433.LMT	1	Angled half-round nose pliers
438	1	Round-nose ring pliers
405.15	1	Precision diagonal cutters, axial cut
163	1	Wire strippers and cutters
1230.40	1	Electronic soldering iron 40 W
661626	1	Reel of solder wire
839A.1	1	Desoldering pump
1802A	2	Black and red mini wire-holders
826.0	1	Mechanical retriever
841.0	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
AS.6L140T2	6	Roll set of needle files
207A.32CB	1	Plastic-tip mallet
251A	3	Drift punches 1.5 - 2.5 - 3.5 mm
893.213	1	Locking tape measure 2m
804	1	Feeler gauge, 19 blades
804.U	1	Feeler gauges to 1/10,000"
149.Y	1	Precision tweezers
836	1	Pen light
834.R1	1	Articulated mirror
835A	1	Spring hook

### Set CM.INFO with case BV.215T

#### 2038.INFO

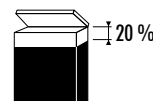
- 530 x 390 x 180 mm.
- ΔΔ : 10,5 kg.



### Set CM.INFO with case BV.29P and trolley BV.C1

#### 2029.INFO

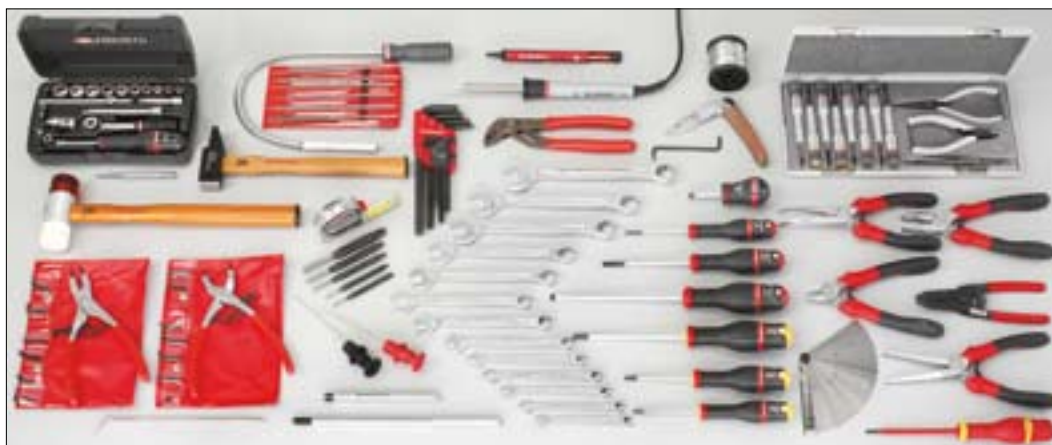
- ΔΔ : 16.1 kg.



# Electromechanical and servicing

## 101-piece metric tool set

• Supplied loose, as below.



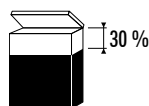
Ref	Qty	Description
440	13	Combination wrenches 5.5 - 6 to 14 - 16 to 18 mm
R.425AP	26	Sockets $\square$ 1/4" : 5.5 to 14 mm and accessories (in a case)
AN	3	Machined round-blade screwdrivers 3.5x75 - 5.5x100 - 6.5x150 mm
A4X100VE	1	Insulated screwdriver 4 mm
AN6.5X35	1	Stubby screwdriver for slotted heads 6.5 mm
ANP	3	Screwdrivers for Phillips® heads no. 0 - 1 - 2
AFU.2	1	Screw starter for slotted heads
AFUX.1	1	Screw starter for cross-heads
ARZ.4	1	Round blade offset screwdriver 4 mm
MT.J3	11	Micro-Tech® tools
83H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
187.18CPE	1	Sheathed combination pliers
188.20CPE	1	Sheathed flat-nose pliers
183.20CPE	1	Sheathed angled half-round nose pliers
391.16CPE	1	Sheathed diagonal cutters
181.18G	1	Lockable multigrip pliers

Ref	Qty	Description
467	1	Set of outside-circlip pliers + tips
469	1	Set of inside-circlip pliers + tips
163	1	Wire strippers and cutters
1230.40	1	Electronic soldering iron 40 W
661626	1	Reel of solder wire
839A	1	Desoldering pump
1802A	2	Black and red mini wire-holders
840.1	1	Electricians knife with wire stripper
AS.6L180T0	6	Roll set of needle files
200H.26	1	Riveting hammer
207A.32CB	1	Plastic-tip mallet
251A	5	Drift punches 1.5 - 2 - 3 - 4 - 5 mm
256.2,5	1	Precision centre punch
234	1	Scriber
893.213	1	Locking tape measure 2m
804	1	Feeler gauge, 19 blades
827B	1	Magnetic retriever

## Set CM.BUR1 with case BV.21ST

### 2038.BUR1

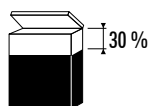
• 530 x 390 x 180 mm.  
 $\Delta\Delta$  : 10,9 kg.



## Set CM.BUR1 with case BV.29P and trolley BV.C1

### 2029.BUR1

$\Delta\Delta$  : 16.5 kg.



## 110-piece inch tool set

### CM.BUR3

• As CM.BUR1, but with inch sizes replacing metric tools (as detailed below).  
 • Supplied loose.  
 $\Delta\Delta$  : 7,2 kg.

Ref	Qty	Description
440	10	Combination wrenches 1/4" to 3/4".
R.425AUP	26	Sockets $\square$ 1/4" : 7/32" to 9/16", bits and accessories (in a case)
83H.JU10	10	Wallet set of long-reach hexagonal keys 1/16" to 3/8"
83H	3	Set of long-reach hexagonal keys 7/64", 1/8" and 1/2"
82H.JU7	7	Wallet set of short hexagonal keys 0.028 to 3/32"
82H.9/64	1	Key
804.U	1	Thickness gauge to 1/10,000"
202H.1/2	1	Riveting hammer





## 31-piece tool set

**CM.EL29**

- Supplied loose.

ΔΔ : 1,9 kg.

Code	Qty	Description
<b>AN</b>	3	Screwdrivers for slotted heads 3x75 - 4x100 - 5.5x150 mm
<b>ANP</b>	3	Insulated screwdrivers for Phillips® heads no. 0 - 1 - 2
<b>406.8MT</b>	1	Semi-flush diagonal cutter
<b>432.MT</b>	1	Precision half-round straight pliers
<b>149.Y</b>	1	Precision tweezers
<b>AEF.J3</b>	8	Micro-Tech® screwdrivers
<b>841.2</b>	1	Scissors
<b>845.1</b>	1	Interchangeable-blade scalpel
<b>1230.30</b>	1	Soldering iron 30 W
<b>661626</b>	1	Reel of solder wire
<b>839A.1</b>	1	Desoldering pump
<b>DELA1031.01</b>	1	Rule 150 mm
<b>113A.6C</b>	1	Adjustable wrench
<b>AS.6L140T2</b>	6	Roll set of needle files
<b>181.18G</b>	1	Lockable multigrip pliers



## Set CM.EL29 with soft case BV.16

**2138.EL29**

- Dimensions : 440 x 315 x 75 mm.

ΔΔ : 2,8 kg.



## 41-piece metric tool set

**CM.EL30**

- Supplied loose.

ΔΔ : 2,5 kg.

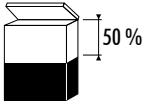
Code	Qty	Description
<b>22.JE6T</b>	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
<b>A.65x150</b>	4	Insulated screwdrivers 3.5x75 - 4x100 - 5.5x150 - 6.5x150 mm
<b>AP.VE</b>	3	Insulated screwdrivers for Phillips® heads no. 0-1-2
<b>AD.VE</b>	3	Insulated screwdrivers for Pozidriv® heads no. 0-1-2
<b>AMR</b>	1	Multiblade screwdrivers 1.5 - 2 and 2.5 mm
<b>HT.2X2,4</b>	1	Tuning screwdriver for slotted heads 2 and 2.4 mm
<b>74.JL9</b>	9	Nut spinners 3.2 to 10 mm
<b>405.12MT</b>	1	Precision diagonal cutters
<b>406.MT</b>	1	Diagonal cutters
<b>431.MT</b>	1	Short-nose pliers
<b>433.LMT</b>	1	Angled half-round nose pliers
<b>449I</b>	1	Crimping pliers
<b>1230.30</b>	1	Soldering iron 30 W
<b>661626</b>	1	Reel of solder wire
<b>839A.1</b>	1	Desoldering pump
<b>841.4</b>	1	Electricians scissors
<b>840.1</b>	1	Electricians knife with wire stripper
<b>AIG.PAM140T2</b>	1	Flat needle file 140 mm
<b>AIG.RD160T2</b>	1	Round needle file 160 mm
<b>149.Y</b>	1	Precision tweezers
<b>1830.1</b>	1	Extra-soft silk brush



## Set CM.EL30 with 3-compartment toolbox BT.9

### 2132.EL30

- Dimensions : 470 x 220 x 170 mm.
- ΔΔ : 5,9 kg.



## 53-piece metric tool set metric

### CM.EL31

- Supplied loose.
- ΔΔ : 4,2 kg.

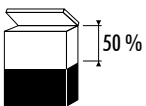
Ref	Qty	Description
R.430AP	27	Sockets 1/4" and accessories
A.65x150	4	Insulated screwdrivers for slotted heads 2.5x50 - 3.5x75 - 4x100 - 5.5x150 mm
AP.VE	2	Insulated screwdrivers for Phillips® heads no. 0 - 1
AD.VE	2	Insulated screwdrivers for Pozidriv® heads no. 0 - 1
HT.2X2,4	1	Tuning screwdriver for slotted heads 2 and 2.4 mm
AEF.J1	5	Case set of Micro-Tech® screwdrivers
178A.CP	1	"Radio" multigrip pliers
405.12MT	1	Precision diagonal cutters
406.MT	1	Diagonal cutters
420.MT	1	Shaping pliers
431.LMT	1	Electronics flat-nose pliers
433.LMT	1	Angled half-round nose pliers
449I	1	Crimping pliers
1230.30	1	Soldering iron 30 W
661626	1	Reel of solder wire
839A.1	1	Desoldering pump
AFU.0	1	Screw starter "electronic"
1830.1	1	Extra-soft silk brush



## Set CM.EL31 with 3-compartment box BT.9

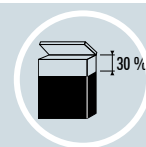
### 2132.EL31

- Dimensions : 470 x 220 x 180 mm.
- ΔΔ : 7,6 kg.



## Additional services

This symbol shows the % storage space remaining when the tools are in place.





## 66-piece metric tool set

**CM.EL32**

- Supplied loose.
- ΔΔ : 4,5 kg.



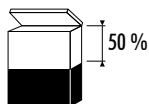
Ref	Qty	Description
<b>22.JE6T</b>	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
<b>113A.6C</b>	1	Adjustable wrench
<b>R.420P</b>	19	"Radio" socket set 3.2 to 14 mm and accessories
<b>A6.5x150VE</b>	3	1,000 V insulated screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x150 mm
<b>AP.VE</b>	2	1,000 V insulated screwdrivers for Phillips® heads no. 0-1
<b>AD.VE</b>	2	1,000 V insulated screwdrivers for Pozidriv® heads no. 0 - 1
<b>AN4X35</b>	1	Stubby screwdriver 4 mm
<b>AMR</b>	1	Multi-blade "radio" screwdriver
<b>HT.2X2,4</b>	1	Tuning screwdriver for slotted heads 2 and 2.4 mm
<b>83SH.JP9</b>	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
<b>AFU.0</b>	1	Screw starter-"electronic"
<b>181.18G</b>	1	Lockable multigrip pliers
<b>405.12MT</b>	1	Precision diagonal cutters

Ref	Qty	Description
<b>406.MT</b>	1	Diagonal cutters
<b>431.MT</b>	1	Short-nose pliers
<b>420.MT</b>	1	Shaping pliers
<b>433.LMT</b>	1	Angled half-round nose pliers
<b>449I</b>	1	Crimping pliers
<b>1230.30</b>	1	Soldering iron 30 W
<b>661626</b>	1	Reel of solder wire
<b>839A.1</b>	1	Desoldering pump
<b>841.4</b>	1	Electricians scissors
<b>840.1</b>	1	Electricians knife with wire stripper
<b>AIG.PAM140T2</b>	1	Flat needle file 140 mm
<b>AIG.RD160T2</b>	1	Round needle file 160 mm
<b>DELA.892.02</b>	1	Locking tape measure 2 m
<b>149.Y</b>	1	Precision tweezers
<b>834</b>	1	Inspection mirror
<b>835A</b>	1	Spring hook
<b>836</b>	1	Pen light
<b>1830.1</b>	1	Extra-soft silk brush

## Set CM.EL32 with case BV.51A

**2208.EL32**

- Dimensions : 475 x 360 x 180 mm.
- ΔΔ : 9,4 kg.



## 89-piece metric tool set

### CM.EL33

- Supplied loose.
- ΔΔ : 4,7 kg.



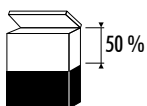
Code	Qty	Description
39.JE10T	10	Roll set of short combination wrenches 3.2 to 11 mm
113A.6C	1	Adjustable wrench
R.420P	19	"Radio" socket set 3.2 to 14 mm and accessories
A.65x150	4	Insulated screwdrivers for slotted heads 2.5x50 - 3.5x75 - 4x100 - 5.5x150 mm
AP.VE	2	Insulated screwdrivers for Phillips® heads no. 0 - 1
AD.VE	2	Insulated screwdrivers for Pozidriv® heads no. 0 - 1
AN4X35	1	Stubby screwdriver 4 mm
ANP1X35	1	Stubby screwdriver for Phillips® heads no. 1
AMR	1	Multiblade screwdriver 1.5 - 2 - 2.5 mm
HT.3	2	Tuning screwdrivers
AFU.1	1	Screw starter for slotted heads
AFUX.1	1	Screw starter for cross-heads
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
181.18G	1	Lockable multigrip pliers
194.17VE	1	1,000 V insulated wire stripper
405.12MT	1	Precision diagonal cutters
406.MT	1	Diagonal cutters
431.MT	1	Short-nose pliers

Code	Qty	Description
420.MT	1	Shaping pliers
403.MT	1	Precision angled half-round nose pliers
438	1	Straight-nose ring pliers
1230.30	1	Soldering iron 30 W
661626	1	Reel of solder wire
839A.0	1	Desoldering pump
1195	3	Wallet set of soldering accessories
1802A	2	Black and red mini wire-holders
1803A	2	Black and red probes
1804B	2	Black and red connection leads
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
AS.6L140T2	6	Roll set of needle files
DELA.892.02	1	Locking tape measure 2 m
149.Y	1	Precision tweezers
827.2	1	Magnetic retriever
834.R1	1	Articulated mirror
835A	1	Spring hook
836	1	Pen light
1830.1	1	Extra-soft silk brush

## Set CM.EL33 with case BV.21SX

### 2138.EL33

- Dimensions 530 x 390 x 180 mm.
- ΔΔ : 8,9 kg.





## 103-piece metric and inch tool set

**CM.EL34**

- Supplied loose.

ΔΔ : 2,5 kg.

Ref	Qty	Description
22.JE6T	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
22.JU5T	5	Roll set of miniature open-end wrenches 3/16" to 9/16"
113A.6C	1	Adjustable wrench
R.420MU	28	Sockets 1/4" : de 3.2 to 13 mm and 3/16" to 9/16" and accessories
A6.5x150VE	3	Insulated screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x150 mm
AN4X35	1	Screwdrivers for slotted heads - Short blades 4x35
AP.VE	2	Insulated screwdrivers for Phillips® heads no. 0 - 1
ANP1X35	1	Insulated screwdrivers for Phillips® PH 1 1000V
AD.VE	2	Insulated screwdrivers for Pozidriv® heads no. 0 - 1
AMR	1	Multi-blade "radio" screwdriver
AFUX.1	1	Screw starter for cross-heads
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
82H.JE10	10	Wallet set of hexagonal keys 0.9 to 6 mm
181.18G	1	Lockable multigrip pliers
405.12MT	1	Precision diagonal cutters
405.MT	1	Precision diagonal cutters
416.PMT	1	Semi-flushcutter
431.MT	1	Short-nose pliers
433.LMT	1	Angled half-round nose pliers
449I	1	Crimping pliers
1230.30	1	Soldering iron 30 W
661626	1	Reel of solder wire
839A	1	Desoldering pump
1195	3	Wallet set of soldering accessories
1802A	2	Black and red mini wire-holders
1803A	2	Black and red probes
1804B	2	Black and red connection leads
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
DELA.892.02	1	Locking tape measure 2 m
AFU.0	1	Screw starter "electronic"
153	1	Crossover tweezers



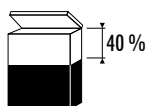
Ref	Qty	Description
149.Y	1	Precision tweezers
152.Y	1	Angled tweezers
826.0	1	Mechanical retriever
834	1	Inspection mirror
835A	1	Spring hook
836	1	Pen light
1830.1	1	Extra-soft silk brush
HT.2X2,4	1	Tuning screwdriver for slotted heads 2 and 2.4 mm

## Set CM.EL34 with case BV.21SX

**2138.EL34**

- Dimensions : 530 x 390 x 180 mm.

ΔΔ : 6,7 kg.



## 149-piece metric and inch tool set

### CM.EL35

- As CM.EL34 but with additional tools listed below.
- Supplied loose.

ΔΔ : 4,5 kg.



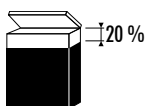
⇒	Qty	Description
APZ.A	1	Dual-size offset screwdriver for Phillips® heads no. 0 - 1
ARZ.4	1	Round blade offset screwdriver 4 mm
HT.3X4	1	Tuning screwdrivers
827.2	1	Magnetic retriever
82H.JU7	7	Wallet set of short hexagonal keys 0.028 to 3/32"
432.MT	1	Precision half-round straight pliers
1130.1	1	Desoldering braid
AS.6L140T2	6	Roll set of needle files
200H.26	1	Riveting hammer
251A.JT9	9	Drift punches with guide sleeve 1 to 6 mm
AE.J1	8	Case set of Micro-Tech® screwdrivers 1 to 2.5 mm and cross-head screwdrivers 000 and 00
84E.J1	6	Case-set of nut spinners
146.2Y	1	Gripping tweezers
438	1	Round-nose ring pliers
372	1	Spot oiler

## Set CM.EL35 with case BV.21SX

### 2138.EL35

- Dimensions : 530 x 390 x 180 mm.

ΔΔ : 8,7 kg.





## 96-piece metric tool set

**CM.E18**

- Supplied loose.
- ΔΔ : 10.5 kg.



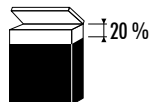
Code	Qty	Description
440.JE9	9	Set of combination wrenches 8 to 19 mm
22.JE6T	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
113A.6C	1	Adjustable wrench
R.425A	26	"Radio" socket set 5.5 to 14 mm, with screwdriver bits and accessories
A6,5x150VE	4	1,000 V insulated screwdrivers 3.5x75 - 4x100 - 5.5x150 - 6.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers for Phillips® heads no. 1 - 2
AD.VE	2	1,000 V insulated screwdrivers for Pozidriv® heads no. 1 - 2
AF	1	Screw starter for slotted heads
AFP.1	1	Screw starter for cross-heads
AKZ	2	Offset screwdrivers 6 and 8 mm
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
188.16CPE	1	Sheathed flat-nose pliers
187.18CPE	1	Sheathed combination pliers
195.20CPE	1	Sheathed angled half-round nose pliers
185.20CPE	1	Sheathed straight half-round nose pliers
391.16CPE	1	Sheathed diagonal cutters
190.20CPE	1	Sheathed end cutters
181.25CPE	1	Lockable multigrip pliers

Code	Qty	Description
500	1	Lock-grip pliers
194.17CPE	1	Sheathed end-entry wire stripper
985956	1	Jivaro LC 28 mm sheath stripper
673838	1	Pre-insulated terminal crimping pliers
1230.40	1	Electronic soldering iron 40 W
661626	1	Reel of solder wire
826.1	1	Flexible mechanical retriever
701A	1	Multifunction tester
412B.10	1	Cable cutter
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
AP6X80	1	Square punch
200H.32	1	Riveting hammer 32 mm
203H.18	1	Electricians hammer
249	3	Drift punches 2 - 3 - 4 mm
258	1	Side-cutting chisel
256.6	1	Precision centre punch
263.15	1	Chisel
805.1	1	Vernier caliper
310B.40	1	Level 400 mm
893.316	1	Locking tape measure 3 m
803.200M	1	Stainless rule 200 mm

## Set CM.E18 with 5-compartment toolbox BT.13A

**2070.E18**

- 550 x 220 x 235 mm.
- ΔΔ : 16 kg.



## Set CM.E18 with tool bag BS.T20

**2120.E18**

## 84-piece metric tool set

### CM.E17

- Supplied loose.
- ΔΔ : 9.2 kg.



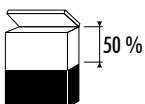
Code	Qty	Description
22.JE6T	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
44	4	Open-end wrenches 16x17 - 18x19 - 21x23 - 22x24 mm
113A.6C	1	Adjustable wrench
R.425A	26	"Radio" socket set 5.5 to 14 mm, with screwdriver bits and accessories
A6.5x150VE	4	1,000 V insulated screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x150 - 6.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers for Phillips® heads no. 1 - 2
AD.VE	2	1,000 V insulated screwdrivers for Pozidriv® heads no. 1 - 2
AF	1	Screw starter for slotted heads
AKZ	2	Offset screwdrivers 6 - 8 mm
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
188.16CPE	1	Sheathed flat-nose pliers
187.18CPE	1	Sheathed combination pliers
195.20CPE	1	Sheathed angled half-round nose pliers
391.16CPE	1	Sheathed diagonal cutters
190.20CPE	1	Sheathed end cutters
181.25CPE	1	Lockable multigrip pliers

Code	Qty	Description
509	1	"Compact" lock-grip pliers
194.17CPE	1	Sheathed end-entry wire stripper
985956	1	Jivaro LC 28 mm sheath stripper
4491	1	Crimping pliers
1230.40	1	Electronic soldering iron 40 W
661626	1	Reel of solder wire
701A	1	Multifunction tester
412B.10	1	Cable cutter
256.6	1	Precision centre punch
263.15	1	Chisel
258	1	Side-cutting chisel
893.316	1	Locking tape measure 3 m
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
AP6X80	1	Square punch
200H.32	1	Riveting hammer 32 mm
203H.18	1	Electricians hammer
249	2	Drift punches 2 - 4 mm

## Set CM.E17 with 5-compartment toolbox BT.11A

### 2050.E17

- 470 x 220 x 235 mm.
- ΔΔ : 13.7 kg.





## 55-piece metric tool set

**CM.E16**

• Supplied loose, as below.

ΔΔ : 5.7 kg.

Ref	Qty	Description
44	5	Open-end wrenches 14x15 - 16x17 - 18x19 - 21x23 - 22x24 mm
22.JE6T	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
113A.8C	1	Adjustable wrench
R.410D	15	"Radio" sockets 5.5 to 14 mm and accessories
A6,5x150VE	4	1,000 V insulated screwdrivers for slotted heads 2.5x50 - 3.5x100 - 4x100 - 5.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers for Phillips® heads no. 0 - 1
AMS	1	Multiblade screwdriver for slotted heads 5.5 - 6.5 mm and Phillips® heads no. 1 - 2
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
256.6	1	Precision centre punch
263.15	1	Chisel
187.18CPE	1	Sheathed combination pliers
391.16CPE	1	Sheathed diagonal cutters
181.25CPE	1	Lockable multigrip pliers
194.17CPE	1	Sheathed end-entry wire stripper
449I	1	Crimping pliers
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
203H.18	1	Electricians hammer

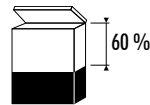


## Set CM.E16 with case BV.7A

**2163.E16**

• 445 x 330 x 185 mm.

ΔΔ : 9.7 kg.



## 52-piece metric tool set

**CM.E15**

• Supplied loose, as below.

ΔΔ : 7.2 kg.

Ref	Qty	Description
22.JE6T	6	Roll set of miniature open-end wrenches 3.2 to 13 mm
113A.6C	1	Adjustable wrench
A6,5x150VE	4	1,000 V insulated screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x150 - 6.5x150 mm
AP.VE	2	1,000 V insulated screwdrivers for Phillips® heads no. 1 - 2
AD.VE	2	1,000 V insulated screwdrivers for Pozidriv® heads no. 1 - 2
AN4X35	1	Stubby screwdriver for slotted heads 4 mm
ANP1X35	1	Stubby screwdriver for Phillips® heads no. 1
AF	1	Screw starter
AKZ	2	Offset screwdrivers 6 and 8 mm
83SH.JP9	9	Sleeve set of spherical head hex keys 1.5 to 10 mm
188.16CPE	1	Sheathed flat-nose pliers
195.20CPE	1	Sheathed angled half-round nose pliers
391.16CPE	1	Sheathed diagonal cutters
190.20CPE	1	Sheathed end cutters
181.25CPE	1	Lockable multigrip pliers
194.17CPE	1	Sheathed end-entry wire stripper
673838	1	Pre-insulated terminal crimping pliers
1230.40	1	Electronic soldering iron 40 W
661626	1	Reel of solder wire
841.4	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
AP6X80	1	Square punch
200H.32	1	Riveting hammer 32 mm
203H.18	1	Electricians hammer
249	3	Drift punches 2 - 3 - 4 mm
256.6	1	Precision centre punch
263.15	1	Chisel
258	1	Side-cutting chisel
893.316	1	Locking tape measure 3 m

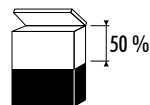


## Set CM.E15 with 5-compartment toolbox BT.11A

**2050.E15**

• 470 x 220 x 235 mm.

ΔΔ : 11.7 kg.



# Building maintenance and general servicing sets

## ► Building fitting and maintenance

### 59-piece tool set

#### CM.SG4A

- Supplied loose, as below.
- ΔΔ : 12 kg.



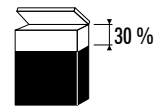
Ref	Qty	Description
44	9	Open end wrenches 6x7 mm and 44.JE8 (8 to 24 mm)
113A.12C	1	Adjustable wrench 12"
AN	2	Screwdrivers 5.5x100 - 6.5x150 mm
ANF	2	Screwdrivers for slotted heads 8x150 - 10x200 mm
ANP	2	Screwdrivers for Phillips® heads no. 1 - 2
A4X100VE	1	Insulated screwdriver for slotted heads 4 mm
AP2X125VE	1	Insulated screwdriver for Phillips® heads no. 2
AV.HT1B	1	Voltage tester screwdriver 90 to 480V
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
185.20G	1	Half-round nose pliers
192.16G	1	Diagonal cutters
495.25EL	1	Heavy-duty end nippers
181.25CPE	1	Lockable multigrip pliers
501	1	Long-nose lock-grip pliers
92A	9	Angled box wrenches 5.5 to 13 mm
269	1	Crowbar
841.0	1	Electricians scissors
840.1	1	Electricians knife with wire stripper
844.D	1	Retractable utility knife
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
PAM.B250EM	1	Flat bastard-cut file 250 mm
DRD.MD250EM	1	Half-round second-cut file 250 mm
RD.MD200EM	1	Round second-cut file 200 mm
DRDMD250EM	1	Half-round second-cut wood rasp 250 mm
200H.32	1	Riveting hammer

Ref	Qty	Description
256.4	1	Precision centre punch 4 mm
263.18	1	Chisel
234	1	Scriber
307A.40	1	"Builders" level, 400 mm
893.316	1	Locking tape measure 3 m
131.14	1	"Stillson" pipe wrench

### Set CM.SG4A with 5-compartment tool box BT.13A

#### 2046.SG4A

- 550 x 220 x 215 mm.
- ΔΔ : 17.1 kg.



### Electricians 15-piece tool set module

#### CM.SE

- Supplied loose, as below.
- ΔΔ : 2 kg.

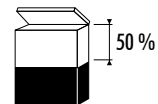


Ref	Qty	Description
A6.5x150VE	5	Insulated screwdrivers for slotted heads 2.5x50 - 3.5x75 - 4x100 - 5.5x125 - 6.5x150 mm
AP.VE	3	Insulated screwdrivers for Phillips® heads no. 0 - 1 - 2
391.16VE	1	1,000 V insulated cutting pliers
187.18VE	1	1,000V insulated combination pliers
194.17VE	1	1,000 V insulated wire stripper
449I	1	Crimping pliers
840.1	1	Electricians knife with wire stripper
405.12MT	1	Precision diagonal cutters
442.MT	1	Precision half-round nose pliers

### Set CM.SE with compact leather bag BV.100

#### 2180.SE

- ΔΔ : 2.6 kg.





## ► Plumbing and sanitation



### Maintenance and installation

- Sanitary facilities.
- Industrial networks...

*This set contains all the basic plumbing tools and can be extended to suit specific needs.*

Pipework tools  
See section 15 p. 600



### 55-piece tool set

#### CM.SG3A

- Supplied loose, as below.
- ΔΔ : 19,5 kg.



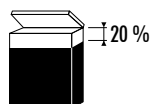
№	Qty	Description
44.JE12	12	Open-end wrenches 6 to 32 mm
113A.12C	1	Adjustable wrench 12"
105.280	1	Monkey wrench 70 mm
AN	2	Screwdrivers for slotted heads 3.5x75 - 4x100 mm
ATHH	3	Wood-handle screwdrivers for slotted heads 5.5x100 - 6.5x125 - 8x150 mm
ATHH.P	2	Wood-handle screwdrivers for Phillips® heads no. 1 - 2
83H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
192.16G	1	Diagonal cutters
495.25EL	1	Heavy-duty end nippers
181.25CPE	1	Lockable multigrip pliers
T5.L100	1	Large-capacity lock-grip pliers
883B	1	Right-cut scroll shears
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades

№	Qty	Description
AP6X80	1	Square punch
231	1	Three-square scraper
DRD.MD250EM	1	Half-round second-cut file 250 mm
RD.MD200EM	1	Round second-cut file 200 mm
PAM.B300EM	1	Flat bastard file, 300 mm
200H.32	1	Riveting hammer 32 mm
1262.100	1	"Builders" club hammer
1267.30P	1	Builders bar
256.4	1	Precision centre punch 4 mm
263.18	1	Chisel
307A.40	1	"Builders" level, 400 mm
DELA.401.00	1	Plastic folding rule (2 m)
131A.18	1	"Stillson" pipework wrench
136A.2	1	Chain pipe wrench
336.28	1	Slide-type pipe cutter
239.EA	1	Inch dies
239.M	1	Flaring tool die for pipes 6 to 14 mm
122.38	1	Washbasin wrench 1 1/2" (38 mm)

### Set CM.SG3A with 5-compartment tool box BT.13A

#### 2046.SG3A

- 550 x 220 x 215 mm.
- ΔΔ : 24,6 kg.



# Building maintenance and general servicing sets

## ► Refrigeration and air-conditioning



### Installation and repair

- Air-conditioning.
- Ventilation units.
- Refrigeration units...

*This set caters for most on-site repairs, including electromechanical, mechanical, electrical and pipework.*



Pipework tools p. 600  
See section 15

### 87-piece tool set

#### CM.RFCL

- Supplied loose, as below.

ΔΔ : 11,8 kg.



Code	Qty	Description
440	11	Combination wrenches 6 to 14, 17, 19 mm
44.JE12	12	Open-end wrenches 6 to 32 mm
113A.10C	1	Adjustable wrench 10"
42	4	Flare-nut wrenches 14x17 - 19x22 - 24x27 - 30x32
R.420P	18	"Radio" socket set 3.2 to 14 mm and accessories
J.210	1	"Junior" extension 125 mm
J.120A	1	"Junior" sliding tee
J	3	12-point sockets 13 - 17 - 19 mm
AN	4	Screwdrivers for slotted heads 3.5x75 - 4x100 - 5.5x150 - 8x150 mm
AN	2	Stubby screwdrivers 4 and 6.5 mm
ANP	2	Screwdrivers for Phillips® heads no. 1 - 2
ARZ	3	Round-blade offset screwdrivers 4 - 5.5 and 6.5 mm
AKZ	2	Hexagon-blade offset screwdrivers 6 and 8 mm
AV.HT2B	1	110-250 V voltage tester screwdriver

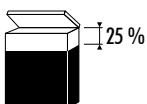
Code	Qty	Description
187.18CPE	1	Sheathed combination pliers
193.16CPE	1	Sheathed straight half-round nose "telephone" pliers
192.16CPE	1	"Piano wire" diagonal cutters
181.25CPE	1	Lockable multigrip pliers
840.1	1	Electricians knife with wire stripper
601	1	Hacksaw frame
CLE.MDAM	6	Wallet set of locksmiths files
200H.32	1	Riveting hammer 32 mm
256.4	1	Precision centre punch 4 mm
263.15	1	Chisel
249	2	Precision drift punches 2 and 4 mm
893.316	1	Locking tape measure 3 m
238	2	Copper pipe mini-cutters 16 and 32
239.EA	1	Inch dies
239.M	1	Flaring tool die for pipes 6 to 14 mm

### Set CM.RFCL with leather case BV.7A

#### 2163.RFCL

- 480 x 200 x 350 mm.

ΔΔ : 15,8 kg.





## ► Park and garden sets



### Service and repair of

- **Mowers.**
- **Mini-tractors.**
- **Brush cutters.**
- **Chainsaws....**

*Set contains metric and inch tools to cover all popular makes.*



### 118-piece tool set

#### CM.JA

• Supplied loose, as below.

ΔΔ : 18,4 kg.

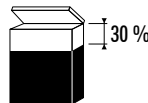


Code	Qty	Description
440.JE18	18	Combination wrenches 6 to 24 mm
440.JU12	12	Combination wrenches 1/4" to 15/16"
34.JT8	8	Miniature open-end wrenches 3.2 to 8 mm
75.JE16	16	Open-socket wrenches 8 to 24 mm
75.JU10	10	Open-socket wrenches 5/16" to 7/8"
75	4	Open-socket wrenches 6 and 7 mm, 1/4" and 15/16"
AN	4	Screwdrivers for slotted heads : 3.5x75 - 4x100 - 5.5x100 - 6.5x150 mm
ANF	2	Screwdrivers for slotted heads 8x150 - 10x200 mm
ANP	3	Screwdrivers for Phillips® heads no. 1 - 2 - 3
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
82H.JU10	10	Wallet set of hexagonal keys 1/16" to 3/8"
188.20CPE	1	Sheathed flat-nose pliers
195.CPE	1	Sheathed angled half-round nose pliers
192.18CPE	1	Sheathed diagonal cutters
181.25CPE	1	Lockable multigrip pliers
500	1	Lock-grip pliers
179E	2	Inside-circlip pliers 13 - 18
177E	2	Outside-circlip pliers 13 - 18
200H	2	Riveting hammers 26 and 40 mm
248.JT7	7	Long drift punches 2 to 6 - 8 - 10 mm
256.4	1	Precision centre punch 4 mm
262A.18	1	Constant-profile chisel
893.316	1	Locking tape measure 3 m
804	1	Feeler gauge, 19 blades

### Set CM.JA with 5-compartment tool box BT.13A

#### 2046.JA

ΔΔ : 23.9 kg.



# Plant and equipment maintenance sets

## ▶ Handling equipment sets



### Service and repair of

- combustion engine or electric motor-driven handling equipment.

Full set of tools for any warehouse or site without a workshop.



Multimeter.  
See section 17 p. **670**

Tools for internal combustion engines p. **712**

### 102-piece tool set

#### CM.MAN

- Supplied loose, as below.
- ΔΔ : 19,7 kg.



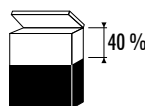
№	Qty	Description
440.JE11	11	Combination wrenches 7 to 19 mm
42	3	Flare-nut wrenches : 11x13 - 14x17 - 19x22 mm
113A.12C	1	Adjustable wrench 12"
RS.430E	30	Socket set 1/4" and 1/2" and accessories (in a case)
AN	3	Screwdrivers for slotted heads : 4x100 - 5.5x100 - 6.5x150 mm
ANF8X150	1	Screwdrivers for slotted heads 8 mm
A6.5x150VE	2	1,000 V insulated screwdrivers 3.5x100 - 5.5x150 mm
ANP	3	Screwdrivers for Phillips® heads no. 1 - 2 - 3
AP1X100VE	1	1,000 V insulated screwdrivers for Phillips® heads no. 1
83H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
192.16G	1	Diagonal cutters
391.16VE	1	1,000 V insulated cutting pliers
181.25CPE	1	Lockable multigrip pliers
185.20G	1	Half-round nose pliers
187.16G	1	Combination pliers
187.18VE	1	1,000 V insulated combination pliers
177E	2	Outside-circlip pliers 13 - 18.
179E	2	Inside-circlip pliers 13 - 18.
501	1	Long-nose lock-grip pliers
803.300M	1	Flexible stainless 2-sided rule
805.1	1	Vernier caliper
601	1	Hacksaw frame
DRD.MD250EM	1	Half-round second-cut file 250 mm
RD.MD200EM	1	Round second-cut file 200 mm
249	3	Drift punches 3, 4 and 6 mm
263.20	1	Chisel
200H.32	1	Riveting hammer 32 mm
374A.20	1	Double-action oil can
378A	1	Lever-operated grease gun

№	Qty	Description
194.17VE	1	1,000 V insulated wire stripper
276	1	Contact file
449.Z3A	1	Terminal crimping set
783A	1	Lug and post cleaner
784B	1	Acid hydrometer
405.10MT	1	Heavy-duty diagonal cutters
AEF.J1	5	Case set of Micro-Tech® screwdrivers
840.1	1	Electricians knife with wire stripper
827.1	1	Magnetic retriever
834.R2	1	Articulated mirror
237.A	1	Thread restoring tool

### Set CM.MAN with 4-drawer roller chest JET.CR4GXL

#### CR4.MAN

ΔΔ : 90.7 kg.





# 1 Motor mechanics tool sets

## 84-piece service station set

### CM.S1

- Supplied loose, as below.
- ΔΔ : 20,3 kg.



Ref	Qty	Description	Ref	Qty	Description
440	10	Combination wrenches 13 - 14 - 17 - 19 - 21 to 25 - 32 mm	B.J16R	2	Hinged wrenches for 16 mm spark plugs - short and long-reach
113A	2	Adjustable wrenches 6" and 10"	B.J21R	2	Hinged wrenches for 21 mm spark plugs - short and long-reach
S.151	1	Ratchet 1/2"	DM.28-9	1	Spark plug lead pliers
S.215	1	Extension 1/2" : 250 mm	D.150	2	Poignées dynamométriques 18 et 24 N.m
S	7	"Standard" sockets 1/2" 13 - 17 - 22 - 24 - 30 - 32 - 34 mm	J.161	1	Palm control ratchet
AN	2	Screwdrivers for slotted heads 3.5x100 - 5.5x100 mm	DM.20	1	Spark plug fitter
ANF	2	Screwdrivers for slotted heads 6.5x100 - 8x200 mm	D.105	4	Drain plug bits 8-10-10.5-13.1
AND	4	Screwdrivers for Pozidriv® heads no. 1 to 4	D.106-10	1	Drain plug bit
ANX	3	Screwdrivers for Torx® heads no. 20, 25 and 27	D.107	6	Drain plug bits 8-10-12-13-14-17
AGT.8X100	1	Tee handle screwdriver	D.109-10	1	Drain plug bit
83H	3	Hexagonal keys 8, 10 and 17 mm	J.210RC	1	Extension
89	3	Torx® keys T8, T10, T15	J.240A	1	1/2"3/8" universal joint
181.25CPE	1	Lockable multigrip pliers	J.153A	1	Long-reach hinged ratchet
187.16CPE	1	Sheathed combination pliers	D.13A	1	Drain plug wrench
500	1	Lock-grip pliers	D.151A	1	Self-gripping oil-filter wrench
200H.32	1	Riveting hammer 32 mm	U.46CL	1	Fast oil-filter wrench
263.15	1	Chisel	D.155	1	Oil-filter wrench Ø 76 mm
373.25	1	Oil can	D.156	1	Oil-filter wrench Ø 86 mm
827B	1	Magnetic retriever	D.157	1	Oil-filter wrench Ø 96 mm
B.J14	2	Sockets 3/8" for 14 mm spark plugs - 90 and 250 mm	804	1	Feeler gauge, 19 blades
B.J16	2	Sockets 3/8" for 16 mm spark plugs - 90 and 250 mm	270.A	1	Spark plug brush
			276	1	Contact file
			D.3-7	1	Power levers
			77A.TO	1	Cross brace.

## Service station cabinet

### 2201.MS1

- Set CM.S1 supplied with wall cabinet 2201 fitted internally with perforated panels and 2 drawers.
- Supplied with hook system and storage trays PL.399 and PL.346A



# Motor mechanics tool sets

## Essential 41-piece tool set with 5-compartment toolbox BT.11A

### 2143.M

• Basic tool set, ideal for workshops, training and technical colleges.

• 470 x 220 x 215 mm.

ΔΔ : 10,5 kg.



Ref	Qty	Description
44.JE8T	8	Roll set of open-end wrenches 8 to 24 mm
J.431AP	19	Case set of sockets 3/8" 7 to 24 mm and accessories
AR	3	Round-blade screwdrivers 3.5x75 - 5.5x100 - 6.5x150 mm
181.25CPE	1	Multigrip pliers
192.16G	1	Diagonal cutters
187.16G	1	Combination pliers

Ref	Qty	Description
188.16G	1	Flat-nose pliers
501	1	Long-nose lock-grip pliers
200.F30	1	Riveting hammer 30 mm
249	2	Drift punches 2 and 4 mm
263.18	1	Chisel
B.J16A1	1	Short-reach socket 3/8" for 16 mm plugs
B.J21A1	1	Short-reach socket 3/8" for 21 mm plugs

## 69-piece metric tool set

### CM.A1

• Supplied loose.

ΔΔ : 9 kg.



Ref	Qty	Description
440.JE11	11	Combination wrenches 7 to 19 mm
440	2	Combination wrenches 22 to 24 mm
AN		Screwdrivers for slotted heads 3.5x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x1500 - 8x200 mm
ANP	2	Screwdrivers for Phillips® heads no. 1 and 2
AND	2	Insulated screwdrivers for Pozidriv® heads no. 1 and 2
AV.BT1	1	Voltage tester screwdriver 6 to 24 V
181.25CPE	1	Lockable multigrip pliers
192.16G	1	Diagonal cutters
187.18G	1	Combination pliers
185.20G	1	Half-round nose pliers

Ref	Qty	Description
475A.20	1	Reversible circlip pliers
507A	1	Compact lock-grip pliers
840.1	1	Electricians knife with wire stripper
205H.50	1	Hammer
208A.32AB	1	Plastic-tip mallet
248	3	Long drift punches 2 - 4 - 6 mm
256.6	1	Precision centre punch
263.18	1	Chisel
4491	1	Crimping pliers
827.1	1	Magnetic retriever
U.46CL	1	Fast oil-filter wrench
804	1	Feeler gauge, 19 blades
270.A	1	Spark plug brush
J.430AP	1	Socket set 8 to 22 mm





# 1 Motor mechanics tool sets

## 126-piece metric tool set

### CM.A2

• Supplied loose, as below.

ΔΔ : 16,8 kg.

Tool sets ▲



Code	Qty	Description
440.JE16T	16	Roll set of combination wrenches 8 to 24 mm
39.JE16T	16	Roll set of combination wrenches 3.2 to 17 mm
43.8X10	1	Flare-nut wrench
113A.8C	1	Adjustable wrench
S.420B	15	Case set of sockets 1/2", 10 to 24 mm and accessories
R.410D	15	"Radio" sockets 5.5 to 14 mm and accessories
AN	2	Screwdrivers for slotted heads 3.5x100 - 5.5x100 mm
ANF	2	Screwdrivers for slotted heads 6.5x150 - 8x200 mm
AN5.5X35	1	Stubby screwdriver for slotted heads
ANP	2	Screwdrivers for Phillips® heads no. 1 and 2
AND	2	Screwdrivers for Pozidriv® heads no. 1 and 2
ANP1X35	1	Stubby screwdriver PH 1
APZ.B	1	Offset screwdriver for Phillips® heads no. 1 and 2
AV.BT1	1	Voltage-tester screwdriver for very low voltage 6-24 V
82H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
181.25CPE	1	Lockable multigrip pliers
192.16CPE	1	"Piano wire" diagonal cutters
187.20CPE	1	Combination pliers
185.20CPE	1	Sheathed straight half-round nose pliers
475A.J1	2	Reversible circlip pliers
501	1	Long-nose lock-grip pliers
507A	1	Compact lock-grip pliers

Code	Qty	Description
DRD.MD200EM	1	Half-round second-cut file 200 mm
270.A	1	Spark plug brush
803.300M	1	Flexible stainless 2-sided rule
234	1	Scriber
805.1	1	Vernier caliper
603E	1	Hacksaw frame
231	1	Three-square scraper
840.1	1	Electricians knife with wire stripper
200H.32	1	Riveting hammer 32 mm
208A.32AB	1	Plastic-tip mallet
249	2	Drift punches 2 and 4 mm
247	2	Nail sets 2 and 4 mm
256.6	1	Precision centre punch
263.15	1	Chisel
Y.105B	1	Riveter
U.301	1	Outside puller Ø 80 mm
285.JS5	5	Stud extractors
449I	1	Crimping pliers
834.R2	1	Articulated mirror
827.1	1	Magnetic retriever
U.46CL	1	Fast oil-filter wrench
NS.17X19	1	Double ended impact socket
804	1	Feeler gauge, 19 blades
777A.230	1	Inspection lamp
D.3-7	1	Power levers
DM.34	1	Hose clamps
D.169	1	Set of adaptors



Drivers sets  
See section 18. ▶ 712



FO8

# HGV mechanics tool sets

## 159-piece tool set with storage trays

### CM.159

- Set of 13 modules (5 drawers).
- Compatible with Chrono Jet units.
- Details as below.

ΔΔ 19,27 Kg.

Ref	Qté	Désignation
<b>R</b>	17	□ 1/4" square drive 12-point sockets 5.5 to 14 mm, palm-control ratchet and accessories
<b>83H</b>	10	Long-reach hexagonal keys 2 to 10 mm
<b>ED</b>	2	Bits for Pozidriv® heads 101 - 102
<b>EH</b>	4	Male bits 103 - 104 - 105 - 106
<b>ES</b>	3	Bits for slotted heads 134.5 - 136.5 and 148
<b>S</b>	21	□ 1/2" square drive 12-point sockets 10 to 32 mm, palm-control ratchet and accessories
<b>181.25CPE</b>	1	Lockable multigrip pliers
<b>501</b>	1	Long-nose lock-grip pliers
<b>185.20CPE</b>	1	Half-round nose pliers
<b>192.16CPE</b>	1	Cutters
<b>187.18CPE</b>	1	Sheathed combination pliers
<b>440</b>	20	Combination wrenches 6 to 24 and 27 to 32 mm
<b>AN3.5x75</b>	1	Protwist® screwdriver for slotted heads 3.5 mm
<b>AW</b>	4	Hexagonal blade Protwist® screwdrivers for slotted heads 4X100 - 5.5X150 - 6.5X150 and 10X200
<b>AWP</b>	3	Hexagonal blade Protwist® screwdrivers for Phillips® heads no. 1-2-3
<b>AND0x75</b>	1	Protwist® for Pozidriv® head PZ0
<b>AWD</b>	2	Hexagonal blade Protwist® screwdrivers for Pozidriv® heads no. 1-2
<b>ANXR</b>	7	ProtwistJ Resistorx® screwdrivers 10 to 40 mm
<b>AN</b>	2	Stubby Protwist® screwdrivers for slotted heads 4 and 5.5
<b>ANP</b>	2	Stubby Ergotwist® screwdrivers for Phillips® heads no. 1 and 2
<b>205H.50</b>	1	DIN engineers hammer (German standard)
<b>208A.32CB</b>	1	Heavyweight mallet
<b>263.18</b>	1	Chisel
<b>256.6</b>	1	Precision centre punch
<b>248</b>	3	Long drift punches 4 - 5 - 6 mm
<b>601</b>	1	Hacksaw frame
<b>660A.10</b>	10	Bimetal hacksaw blades
<b>1712</b>	1	Locking tape measure 2 m
<b>234.S</b>	1	Scriber
<b>803.300M</b>	1	Flexible stainless 2-sided rule
<b>PAM.B300EM</b>	1	Flat bastard file, 300 mm
<b>DRD.MD250EM</b>	1	Half-round second-cut file 250 mm
<b>RD.MD200EM</b>	1	Round second-cut file 200 mm
<b>CAR.MD200EM</b>	1	Square second-cut file 200 mm
<b>TRI.MD200EM</b>	1	Triangular second-cut file 200 mm
<b>177E.18</b>	1	Straight-nose outside-circlip pliers
<b>179E.18</b>	1	Straight-nose inside-circlip pliers
<b>197E.18</b>	1	90°-nose outside-circlip pliers
<b>199E.18</b>	1	90°-nose inside-circlip pliers
<b>59TX</b>	4	Torx® ring wrenches 6 to 24 mm
<b>JTX</b>	5	Torx® □ 3/8" sockets 8 to 16 mm
<b>STX</b>	2	Torx® □ 1/2" sockets 18 and 20 mm
<b>R, J et S</b>	3	Accessories
<b>EXR</b>	6	Resistorx® □ 1/4" bits 110 to 140
<b>EX</b>	4	Torx® bits 240 to 255
<b>PL</b>	13	Storage trays (314 - 321 - 323 - 325 - 326 - 327 - 330 - 332 - 333 - 335 - 348A - 360 - 627)



For HGV specific tools, see section 18 p. 827





## 105-piece tool set with storage trays

**CM.105**

- Set of 9 modules (3 drawers), details as below.
- Compatible with Chrono Jet units.  $\Delta\Delta$  : 13.57 kg.

Ref	Qty	Description
<b>R</b>	17	□ 1/4" square drive 12-point sockets 5.5 to 14 mm, palm-control ratchet and accessories
<b>83H</b>	10	Long-reach hexagonal keys 2 to 10 mm
<b>ED</b>	2	Bits for Pozidriv® heads 101 - 102
<b>EH</b>	4	Male bits 103 - 104 - 105 - 106
<b>ES</b>	3	Bits for slotted heads 134.5 - 136.5 and 148
<b>S</b>	21	□ 1/2" square drive 12-point sockets 10 to 32 mm, palm-control ratchet and accessories
<b>181.25CPE</b>	1	Lockable multigrip pliers
<b>501</b>	1	Long-nose lock-grip pliers
<b>185.20CPE</b>	1	Half-round nose pliers
<b>192.16CPE</b>	1	Cutters
<b>187.18CPE</b>	1	Sheathed combination pliers
<b>440</b>	20	Combination wrenches to 6 à 24 and 27 to 32 mm
<b>AW</b>	4	Hexagonal blade Protwist® screwdrivers for slotted heads 4X100 - 5.5X100 - 6.5X150 - 10X200
<b>ANPOx75</b>	1	Screwdriver PH 0
<b>AWP</b>	3	Hexagonal blade Protwist® screwdrivers for Phillips® heads no. 0 - 1 - 2 - 3
<b>ANXR</b>	4	Protwist® Resistor® screwdrivers 10 to 30
<b>AN</b>	2	Stubby Protwist® for slotted heads 4 and 5.5
<b>ANP</b>	2	Stubby Protwist® screwdrivers for Phillips® heads no. 1 and 2
<b>205H.50</b>	1	DIN engineers hammer (German standard)
<b>208A.32CB</b>	1	Heavyweight mallet
<b>263.18</b>	1	Chisel
<b>256.6</b>	1	Precision centre punch
<b>248</b>	3	Long drift punches 4 - 5 - 6 mm
<b>PL</b>	9	Storage trays (321 - 323 - 330 - 627 - 670 - 671 - 325 - 326 - 333)



## Heavy mechanical workshop furniture

*The volume, strength, load capacity and manoeuvrability of this range make it ideal for workshops servicing :*

- Heavy goods vehicles
- Civil Engineering plant
- Farming machinery
- Industrial equipment



For details of these products, see "workstations and storage"...

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Compatible with the FA-COM modular storage system

# Plant and equipment maintenance set

## ► Farming equipment sets

### 29-piece metric tool set with 3-tray box BT.9

#### 2145.MAG1

• 470 x 220 x 170 mm.  
 $\Delta\Delta$  : 12,2 kg.

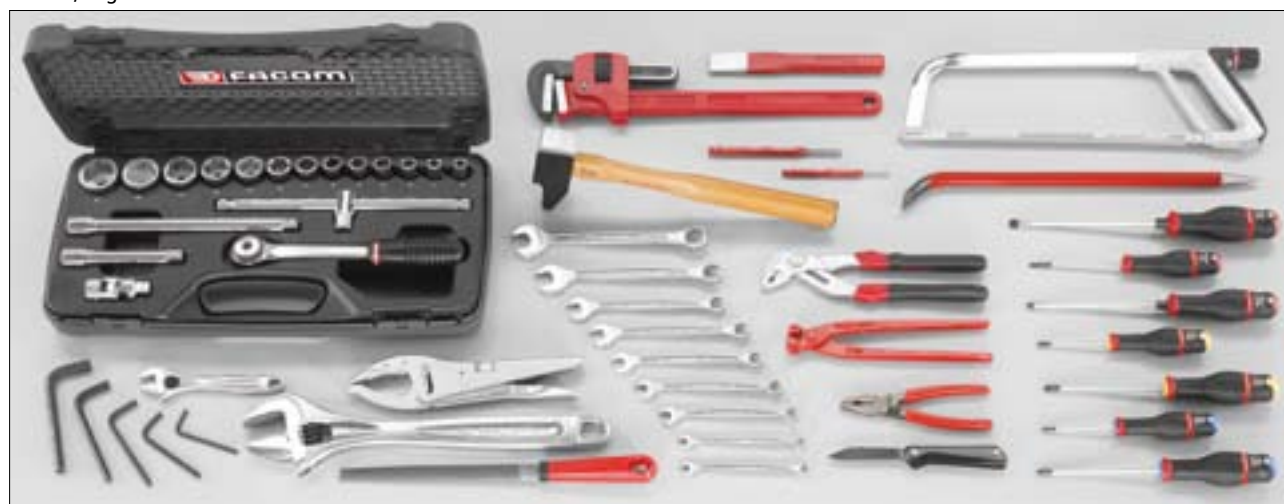
Code	Qty	Description
44.JE8	8	Open-end wrenches 8 to 24 mm
75.JN8	8	Open-socket wrenches 8 to 24 mm
113A.6C	1	Adjustable wrench
113A.12C	1	Adjustable wrench 12"
AN	3	Round blade screwdrivers 3.5x75 - 6.5x150 and 8x200 mm
181.25CPE	1	Lockable multigrip pliers
192.20G	1	Diagonal cutters
187.20G	1	Combination pliers
893.316	1	Tape measure 3 m
603E	1	Hacksaw frame
200H.42	1	Riveting hammer 42 mm
263.18	1	Chisel
374A.20	1	Double-action oil can



### 54-piece metric tool set

#### CM.AG4

• Supplied loose, as below.  
 $\Delta\Delta$  : 13,4 kg.



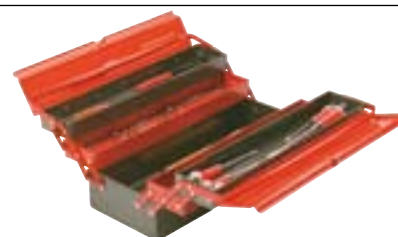
Code	Qty	Description
440.JE9	9	Set of combination wrenches 8 to 19 mm
113A.6C	1	Adjustable wrench
113A.15C	1	Adjustable wrench
S.429EP	18	"Standard" sockets and accessories 10 to 32 mm (in a case)
AN4X100	1	Round-blade screwdriver
AWH	2	Hexagonal-blade screwdriver 6.5x150 - 8x175 mm
ANP	2	Screwdrivers for Phillips® heads no. 1 - 2
AND	2	Screwdrivers for Pozidriv® heads no. 1 - 2
82H	5	Set of hexagonal keys 4 - 5 - 6 - 8 - 10 mm
181.25CPE	1	Lockable multigrip pliers
187.16G	1	Combination pliers

Code	Qty	Description
495.22EL	1	Heavy-duty end nippers
500	1	Lock-grip pliers
603E	1	Hacksaw frame
840.2	1	Knife
200H.40	1	Riveting hammer 40 mm
249	2	Drift punches 4 and 6 mm
263.20	1	Chisel
269	1	Crowbar
131A.18	1	"Stillson" pipework wrench 60 mm, 2"
DRD.MD200EM	1	Half-round second-cut file 200 mm

### Set CM.AG4 with 5-compartment toolbox BT.13A

#### 2146.MAG4

• 550 x 220 x 215 mm.  
 $\Delta\Delta$  : 18,9 kg.





## 150-piece metric and inch tool set with chest BT.66

### 2174.MAG5

- 670 x 415 x 361 mm.
- ΔΔ : 77,4 kg.



Ref	Qty	Description
440.JE24	24	Combination wrenches 6 to 32 mm
75.JE16	16	Open-socket wrenches 8 to 32 mm
75	4	Socket wrenches 26 - 27 and 30 - 32 mm
113A.6C	1	Adjustable wrench
113A.15C	1	Adjustable wrench
S.151	1	Ratchet $\square$ 1/2"
S.110	1	Speed brace
S.120A	1	Sliding tee
S.240A	1	Universal joint
S.210 - S.215	2	Extension
S	22	"Standard" sockets 8 to 19, 21 to 24, 26 to 30 and 32 mm
K.151B	1	Reversible ratchet. $\square$ 3/4"
K.210B - K.215B	2	Extension
K.120B	1	Sliding tee
K	12	"Truck" socket set 30 - 32 - 33 - 34 - 36 - 38 - 41 - 42 - 46 - 50 - 54 - 55 mm
AN	2	Screwdrivers for slotted heads 3.5x75 and 4x100 mm
AWH	5	Hexagonal blade screwdrivers 5.5x125 - 6.5x150 - 8Ex175 - 10x175 and 12x250 mm
AND	3	Screwdrivers for Pozidriv® heads no. 1 - 2 - 3
83H.JP9	9	Sleeve set of hexagonal keys : 1.5 to 10 mm
181.25CPE	1	Locking twin slip-joint multigrip pliers
183.30G	1	Lockable multigrip pliers
192.16CPE	1	Sheathed "piano wire" diagonal cutters
187.16CPE	1	Sheathed combination pliers

Ref	Qty	Description
495.22EL	1	Heavy-duty end nippers
475A.J1	2	Reversible circlip pliers
501	1	Long-nose lock-grip pliers
893.316	1	Locking tape measure 3 m
234	1	Scriber
805.1	1	Vernier caliper
603E	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
990.B0	1	"Compact" bolt cropper
882A	1	Scroll shears
844.D	1	Knife
PAM.MD200	1	Flat second-cut file 200 mm
RD.MD200	1	Round second-cut file 200 mm
RAB.DRDMD250	1	Half-round second-cut rasp 250 mm
TRO.5.6EM	1	Round file for chainsaw
200H	2	Riveting hammers 32 and 50 mm
249.JT7	7	Wallet set of drift punches 2 to 10 mm
247	6	Nail sets 2 to 6 and 8 mm with wallet N.38A-6C
262A.20	1	Chisel
269	1	Crowbar
121A.1'	1	Pipe wrench
Y.RIV1	1	Riveting kit
449I	1	Crimping pliers
701A	1	Multifunction tester
U.46PL	1	Large-capacity oil-filter wrench

# Plant and equipment maintenance sets

## ► Construction plant sets

### 151-piece metric tool set

#### CM.V9

- Supplied loose, as below.
- ΔΔ : 40,9 kg.



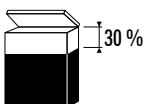
Ref	Qty	Description
<b>440.40LAJE26</b>	26	Standard 8 - 18 and long 19 to 38 mm combination wrenches
<b>44.JE8</b>	8	Open-end wrenches 8 to 24 mm
<b>R.425A</b>	26	"Radio" socket set 5.5 to 14 mm, with screwdriver bits and accessories
<b>S.141A</b>	1	Long hinged handle $\square$ 1/2"
<b>S.208</b>	1	Extension $\square$ 1/2"
<b>S.232B</b>	1	Extension $\square$ 1/2", $\square$ 3/4"
<b>S.440E</b>	28	"Standard" sockets 8 to 32 mm and accessories with storage tray
<b>K.230B</b>	1	Coupler $\square$ 3/4", $\square$ 1/2"
<b>K.151B</b>	1	Reversible ratchet. $\square$ 3/4"
<b>K.120B</b>	1	Sliding tee
<b>K.210B - K.215B</b>	2	Extensions
<b>K</b>	12	"Truck" socket set 30 - 32 - 33 - 34 - 36 - 38 - 41 - 42 - 46 - 50 - 54 - 55 mm
<b>AN</b>	2	Round-blade screwdrivers 3.5x75 and 4x100 mm
<b>ANF</b>	3	Forged-blade screwdrivers 5.5x150 - 6.5x150 and 8x200 mm
<b>ANP</b>	2	Screwdrivers for Phillips® heads no. 1 - 2
<b>AND</b>	2	Screwdrivers for Pozidriv® heads no. 1 - 2
<b>82.JL10</b>	10	Wallet set of hexagonal keys 2 to 10 mm

Ref	Qty	Description
<b>181.25CPE</b>	1	Lockable multigrip pliers
<b>192.16CPE</b>	1	"Piano wire" diagonal cutters
<b>187.20CPE</b>	1	Combination pliers
<b>188.20CPE</b>	1	Sheathed flat-nose pliers
<b>501</b>	1	Long-nose lock-grip pliers
<b>T5.L100</b>	1	Large-capacity lock-grip pliers
<b>893.316</b>	1	Locking tape measure 3 m
<b>804</b>	1	Feeler gauge, 19 blades
<b>804.P</b>	1	Feeler gauges to 1/100 mm
<b>603E</b>	1	Hacksaw frame
<b>660A.10</b>	10	Bimetal hacksaw blades
<b>200H</b>	2	Riveting hammers 28 and 40 mm
<b>208A.32CB</b>	1	Plastic-tip mallet
<b>249</b>	2	Drift punches 4 and 6 mm
<b>247</b>	2	Nail sets 4 and 6 mm
<b>256.6</b>	1	Precision centre punch
<b>263.20</b>	1	Chisel
<b>252.10</b>	1	Precision chisel
<b>827B</b>	1	Magnetic retriever
<b>276</b>	1	Contact file
<b>270A.MA</b>	1	Wire brush.

### Set CM.V9 with site chest BT.28

#### 2068.MV9

- 615 x 398 x 392 mm.
- ΔΔ : 91,9 kg.





## 145-piece inch tool set for Caterpillar plant

### CU.V12

- Supplied loose, as below.
- ΔΔ : 44,3 kg.



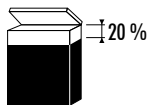
Ref	Qty	Description
440.JU17T	17	Roll set of combination wrenches 1/4" to 1 1/4".
40.LA	3	Long combination wrenches 1 1/8", 1 5/16" and 1 3/8"
44	7	Open-end wrenches : 3/8x7/16 - 1/2x9/16 - 5/8x11/16 - 3/4x13/16 à 1 1/8x1 1/4"
34	4	Open-end wrenches 3/8", 7/16", 1/2", 9/16"
55.JU10	10	Offset ring wrenches 1/4" to 1 1/4"
113A.8C	1	Adjustable wrench
S.145	1	Long hinged handle □ 1/2"
S.232B	1	Extension □ 1/2", □ 3/4"
S.440AUP	24	Socket set □ 1/2" : 3/8" to 1 1/4" and accessories (in a case)
K.140A	1	Hinged handle
K.230B	1	Coupler □ 3/4", □ 1/2"
K.151B	1	Reversible ratchet. □ 3/4"
K.210B - K.215B	2	Extensions
K.120B	1	Sliding tee
K	11	"Truck" socket set 1 1/4" - 1 5/16" - 1 7/16" - 1 1/2" - 1 5/8" - 1 11/16" - 1 13/16" to 2" - 2 3/16" - 2 1/4"
K.125A	1	Tommy bar
AWH	2	Power screwdrivers for slotted heads 6.5x150 and 8x175 mm
AN	3	Round blade Protwist® screwdrivers 4x100 - 5.5x150 - 6.5x150 mm
ANP	5	Screwdrivers for Phillips® heads no. 0 to 4
82H.JU13	13	Wallet set of hexagonal keys 3/32" to 3/4"
181.25CPE	1	Lockable multigrip pliers
192.16CPE	1	"Piano wire" diagonal cutters

Ref	Qty	Description
187.18CPE	1	Sheathed combination pliers
189.17CPE	1	Sheathed round-nose pliers
188.16CPE	1	Sheathed flat-nose pliers
500	1	Lock-grip pliers
893.316	1	Locking tape measure 3 m
804	1	Feeler gauge, 19 blades
816	1	Vernier caliper to 1/20 mm
603E	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
237.C	1	Thread restoring tool
882A	1	Scroll shears
840B	1	Electricians knife
RD.MD200EM	1	Round second-cut file 200 mm
PAM.MD200EM	1	Flat hand file
DRD.MD200EM	1	Half-round second-cut file 200 mm
TRI.MD200EM	1	Triangular second-cut file 200 mm
200H.40	1	Riveting hammer 40 mm
202H.1/4	1	Engineers hammer
208A.32AB	1	Plastic-tip mallet
248.JT7	7	Long drift punches 2 to 6 - 8 - 10 mm
256.8	1	Centre punch
263.20	1	Chisel
265.20	1	Constant-profile cape chisel
254A.10	1	Precision cape chisel
827B	1	Magnetic retriever
270.A	1	Spark plug brush
270A.MA	1	Wire brush.
276	1	Contact file

## Set CU.V12 with site chest BT.28

### 2068.UV12

- 615 x 398 x 392 mm.
- ΔΔ : 95,3 kg.



## Drivers tool kit

### 2013.M

- 13-piece metric tool set in a soft roll bag (N.38A- 10C).

ΔΔ : 2 kg

Σ	Qty	Description
44	4	Roll set of open-end wrenches 8X9 - 10X11 - 12X13 - 17X19 mm
AM.D	1	Blade handle
AMZ	4	Reversible blades for Torx® heads 10x15 - 20x25, slotted heads 4x6.5 mm and Pozidriv® heads 1x2
181.25CPE	1	Lockable multigrip pliers
192.18CPE	1	Sheathed diagonal cutters
113A.10C	1	Adjustable wrench 10"
DF.3	1	Wire brush.



## "Touring" kit

### 2024.M

- 24-piece metric tool set in a soft case 450 x 353 x 80 mm (BV.16).

ΔΔ : 4.8 kg.

Σ	Qty	Description
44	7	Open-end wrenches : 6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 mm
AM.D	1	Blade handle
AMZ	5	Reversible blades for Torx® 10x15 - 20x25 - 30x40, Slotted heads 4x6.5 and Pozidriv® heads 1x2
181.25CPE	1	Lockable multigrip pliers
192.18CPE	1	Sheathed diagonal cutters
113A.10C	1	Adjustable wrench 10"
500	1	Lock-grip pliers
200H.30	1	Riveting hammer 30 mm
252.10	1	Precision chisel
249.4	1	Drift punch 4 mm
DF.3	1	Wire brush.
L.16AM	1	Box wrench for spark plugs
804	1	Feeler gauge, 19 blades
D.3-7	1	Power levers



## "Overland" kit

### 2049.M

- 49-piece metric tool set in a soft dual-access case (BS.12)

• 420 x 300 x 110 mm.

ΔΔ : 8.5 kg.



Σ	Qty	Description
44	9	Open-end wrenches 6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x21 - 22x24 mm
AM.D	1	Blade handle
AMZ	9	Reversible blades for Torx® heads 10x15 - 20x25 - 30x40, Slotted heads 4x6.5, Pozidriv® heads 1x2, Phillips® heads 1X2, Hexagonal 4-5-6
181.25CPE	1	Lockable multigrip pliers
185.20CPE	1	Sheathed straight half-round nose pliers
192.18CPE	1	Sheathed diagonal cutters
500	1	Lock-grip pliers
113A.10C	1	Adjustable wrench 10"

Σ	Qty	Description
200H.30	1	Riveting hammer 30 mm
252.10	1	Precision chisel
249.4	1	Drift punch 4 mm
J.161	1	Palm control ratchet 3/8"
J	4	3/8" socket accessories : 2 extensions, universal joint, sliding tee
J.H	13	Rack socket set 3/8" : 8 to 19 and 21 mm
L.16AM	1	Box wrench for spark plugs
804	1	Feeler gauge, 19 blades
D.3-7	1	Power levers
DF.3	1	Wire brush.







# 2. Roller cabinets and workshop furniture

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## ▶ Drawer units and large capacity cabinets 98





**NEW**

## Wall cabinets

### *Maximum visibility and accessibility*

#### Advantages

- ▶ Compact, optimised storage
- ▶ Modular
- ▶ Central locking



**N** 93

**NEW**

## Facom "Control System"

### *Instant identification*

#### Advantages

- ▶ Immediate identification of missing tools
- ▶ High density foam
- ▶ Easy grip



**N** 87



*Triple security*

**Advantages**

- ▶ Anti-tilt system.
- ▶ Selective drawer opening:
- ▶ Central locking



N 71



Jet.XL workbenches

*High specification and safety*

**Advantages**

- ▶ Heavy-duty worktop
- ▶ High performance drawer slides
- ▶ Selective drawer opening



N 74



## WORKSHOP STORAGE



**A COMPREHENSIVE RANGE - FROM THE ROLLER CABINET TO THE WORK BENCH**



**Facom has a close relationship with end users. This, combined with overall control of the manufacturing processes ensures the highest product quality and performance.**

### Quality and durability

- High performance drawer slides.
- Endurance tested.
- Chemical and mechanical resistance tested.
- Automated manufacturing process for accuracy and consistency.

### Safety

- Facom considers the safety of operators and their working environment from the very earliest stages of design.  
e.g. : Ankle protection, polymer bumpers.

### Productivity

- Facom's Global Organisation Concept combines the workstation and tool storage for a more ergonomic design and easier tool access.
- It allows instant identification of missing tools.

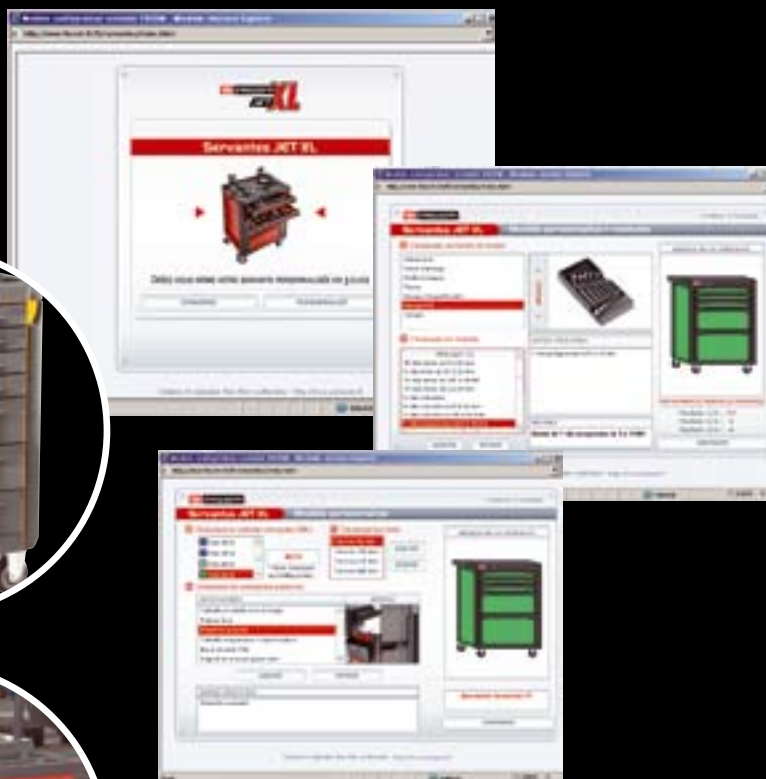


## Roller cabinets

## DESIGN YOUR WORKSTATION

### ROLLER CABINET CONFIGURATION TOOL ON [WWW.FACOM.COM](http://WWW.FACOM.COM) !

Quickly and easily create your roller cabinet in a few clicks of a mouse.

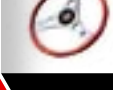


#### CHOOSE :

- THE DRAWER COMBINATION
- THE COLOUR
- THE ACCESSORIES
- THE TOOL STORAGE MODULES

See our range of  
roller chests on p.

62



## ► Standard roller cabinets

# JET.XL

# HIGH PERFORMANCE ROLLER CABINETS

### FEATURES

#### Multi-functional worktop :

- Integral bi-material handle.
- Storage compartments for screws, nuts, bolts, etc.
- Retaining lip.
- Can receive a vice.
- Storage locations provided for 6 screwdrivers.


#### Selective drawer opening system :


- Smooth opening, easy to operate, simply by lifting the handle.
- Fully opening drawers.
- Removable drawer partitions secured by means of rubber studs for complete freedom of arrangement.
- Roller cabinet comes with a set of tags for easy identification of drawer contents.

#### Strength :

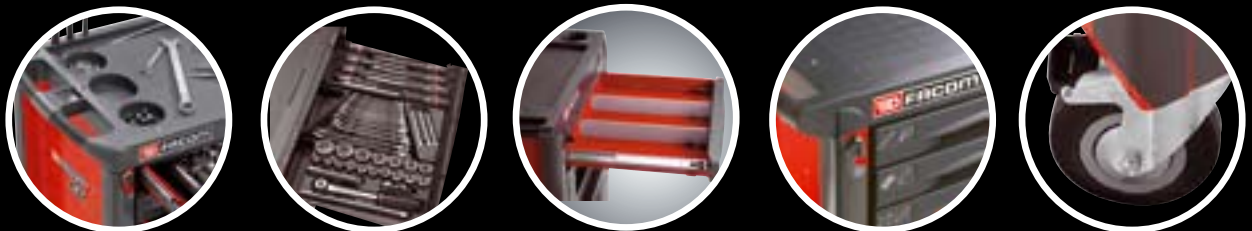
- Worktop designed for a static distributed load of 900 kg.
- High performance drawer slides.



  
Drawer capacity  
20/35 kg

  
Compatible with the Facom modular storage system

**FACOM**  
**JET.XL**



### SAFETY

- Bumpers on all 4 corners.
- Front of drawers made of composite materials acting as additional bumpers.
- Solid, rounded base providing ankle protection.
- Large diameter wheels (125 mm) for easier manoeuvrability and a reduced risk of overturning.
- Centralised folding-key locking system.





# Roller cabinets and chests

## JET.XL five-drawer roller cabinet

- Drawer sizes : 2x60 + 2x130 + 1x270 mm.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130/270 mm.
- Drawer capacity : 20/25/30 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.

FACOM	Colour	ΔΔ kg
<b>JET.5XL</b>	Red 3020	74
<b>JET.5GXL</b>	Grey 9006	74



## JET.XL six-drawer roller cabinet

- Drawer sizes : 4x60 + 1x130 + 1x270 mm.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130/200/270 mm.
- Drawer capacity : 20/25/30 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.

FACOM	Colour	ΔΔ kg
<b>JET.6XL</b>	Red 3020	74
<b>JET.6GXL</b>	Grey 9006	74



## JET.XL seven-drawer roller cabinet

- Drawer sizes : 5x60 + 1x130 + 1x200 mm.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130/200 mm.
- Drawer capacity : 20/25/30 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.

FACOM	Colour	ΔΔ kg
<b>JET.7XL</b>	Red 3020	76
<b>JET.7GXL</b>	Grey 9006	76



## JET.XL eight-drawer roller cabinet

- Drawer sizes : 6x60 + 2x130 mm.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130 mm.
- Drawer capacity : 20/25 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.

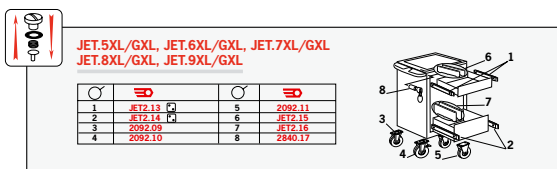
FACOM	Colour	ΔΔ kg
<b>JET.8XL</b>	Red 3020	78
<b>JET.8GXL</b>	Grey 9006	78



## JET.XL nine-drawer roller cabinet

- Drawer sizes : 8x60 + 1x130 mm.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130 mm.
- Drawer capacity : 20/25 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.

FOB	Colour	ΔΔ
JET.9XL	Red 3020	80
JET.9GXL	Grey 9006	80



## ► Additional chests

### JET.XL four-drawer chest

- All the advantages of the JET.XL range.
- Drawer sizes :
  - 3 drawers 60 mm high.
  - 1 drawer 130 mm high.
- Overall dimensions (including worktop) : L.780xD.510xH.470 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130.
- Drawer capacity : 20/25 kg.
- Compatible with the FACOM modular storage system.
- Able to receive removable drawer partitions (not included).
- Stackable on JET.XL roller cabinets (kit not included).

FOB	Colour	ΔΔ
JET.C4XL	Red 3020	46
JET.C4GXL	Grey 9006	46



## ► Heavy-duty roller cabinets

### Reinforced JET.XL roller cabinets

- 7 drawers (569 x 421 mm) :
  - 5 drawers 60 mm high with partitions.
  - 1 drawer 130 mm high with partitions.
  - 1 drawer 200 mm high.
- Heavy-duty wood and galvanized steel worktop allowing the fitting of a vice.
- Static resistance of structure : 1 tonne.
- Comfortable tubular handle.
- Drawer fronts made of flexible material and anti-shock protection on corners.
- Drawer capacity : 25, 35, 40 kg according to height.
- 100 % opening drawers / compatible with the Facom modular storage system.
- Selective drawer opening system incorporated on each drawer.
- Central key locking.
- Compatible with the JET accessory range.
- Dimensions L.970xD.810xH.515.

FOB	Colour	ΔΔ
JET.TS7XL	Red 3020	80
JET.TS7GXL	Grey 9006	80





# Roller cabinets and chests

## ► Safety lock roller cabinets

**New**

**SAFETY LOCK SYSTEM**



### TRIPLE SECURITY

#### Inter-locking drawers

• To reduce the risk of overturning, JET.XLS roller cabinets are fitted with the SAFETY LOCK SYSTEM that prevents more than one drawer being opened at a time.

#### Selective drawer opening

• Simple and efficient. Lift the handle in the front of each drawer to open.

#### Central drawer locking

• Lock all drawers with the single turn of a key.



### JET.XL six-drawer roller cabinet - safety range

#### JET.6GXL

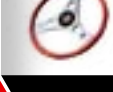
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130/270 mm.
- Drawer capacity : 20/25/30 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.
- 9006 Grey.
- ΔΔ : 74 kg.



### JET.XL eight-drawer roller cabinet - safety range

#### JET.8GXL

- Drawer sizes : 6x60 + 2x130 mm.
- Incorporated safety system preventing more than one drawer being opened at a time, thus preventing any risk of tipping.
- Overall dimensions (including wheels and worktop) : L.780xD.520xH.970 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130 mm.
- Drawer capacity : 20/25 kg.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.
- 9006 Grey.
- ΔΔ : 78 kg.



**CHRONO.XL****HIGH PERFORMANCE  
ROLLER CABINETS****Impact and hydrocarbon-resistant worktop**

- Integral handle and retaining lip

**Fully opening drawers**

- Total access, movable partitions.
- Drawer capacity : 20/25 kg.

**Safety system**

- Central locking and brake preventing accidental opening of each drawer

**Accessories**

- Can accommodate the majority of JET.XL accessories

 Static resistance : 800 kg distributed weight

**FACOM XL**  
*Chrono*

**CHRONO.XL six-drawer roller cabinet****CHRONO.6XL**

- Drawer sizes : 3x60 + 2x130 + 1x200 mm.
- Dimensions
  - Overall dimensions (including wheels and worktop) : L.735xD.510xH.970 mm.
  - Effective drawer dimensions : L.569xD.421xH.60/130/200 mm.
- Drawer capacity : 20/20/25 kg
- Colour 3020 Red cabinet and 9006 Grey drawers.
- $\Delta\Delta$  : 69 kg.

**CHRONO.XL seven-drawer roller cabinet****CHRONO.7XL**

- Drawer sizes : 4x60 + 3x130 mm.
- Dimensions
  - Overall dimensions (including wheels and worktop) : L.735xD.510xH.970 mm.
  - Effective drawer dimensions : L.569xD.421xH.60/130 mm.
- Drawer capacity : 20/20/25 kg.
- Colour 3020 Red cabinet and 9006 Grey drawers.
- $\Delta\Delta$  : 71 kg.





# Roller cabinets and chests

## CHRONO.XL four-drawer chest

### CHRONO.C4XL

- Same specification as the CHRONO.XL roller cabinet range.
  - Drawer sizes :
    - 3 drawers 60 mm high.
    - 1 drawer 130 mm high.
  - Overall dimensions (including worktop) : 735 x 510 x 480 mm.
  - Effective drawer dimensions : L. 569 x D. 421 x H. 60/130.
  - Drawer capacity : 20 kg.
  - Compatible with the FACOM modular storage system.
  - Able to receive removable drawer partitions (not included).
  - Stackable on CHRONO.XL roller cabinets with connection kit CHRONO.C4K1 (not included).
  - Converts to a roller chest with wheel kit CHRONO.C4K2 (not included).
  - Colour : RAL 3020 Red cabinet and 9006 Grey drawers.
- ΔΔ : 41 kg.



## Connection kit

### CHRONO.C4K1

- For securely attaching the CHRONO.C4XL chest on top of a CHRONO.XL roller cabinet.
- ΔΔ : 1.7 kg.



## Wheel kit

### CHRONO.C4K2

- For converting chests CHRONO.XL or JET.XL into roller chests.
  - Comprising a set of wheels (2 fixed, 2 castors, one with a brake) and a handle.
- ΔΔ : 5.4 kg.



## Additional services

For orders of 6 roller cabinets or more, we can paint our boxes to match your companies corporate colours. Simply ask your sales advisor or distributor for more details.

www.facom.com. See details on p. 67



## New

## JET.XLW MOBILE WORKBENCH

### PRACTICAL, STURDY AND COMPACT

#### Wooden worktop

- 24mm tinted wood worksurface - resistant and easy to maintain.
- Suitable for fitting a vice.

#### High storage capacity

- 7 drawers with heavy-duty drawer slides.
- 1 locker for storing bulky items and a plastic carry tray (supplied as standard).
- Same key locks both the drawers and the locker door.

#### Manoeuvrable

- Large diameter wheels (160 mm) allows the bench to ride over pipes and door rails, etc.
- Special fork slots for safely lifting the bench onto a lorry with a forklift truck when working away from the workshop.

#### Accessories

- Compatible with the JET.XL range of side-mounted accessories.



### JET.XL seven-drawer mobile workbench

- Worktop :
  - Very strong, tinted varnished wood 24 mm thick, easy to maintain, suitable for fitting a vice.
- Storage spaces :
  - 7 JET.XL drawers with heavy-duty ball-bearing slides : 5 x 60 + 1 x 130 + 1 x 200 mm.
  - Drawer capacity : 25/35/40 kg.
  - Selective drawer opening.
- Central key locking.
  - Compatible with FACOM modular storage range.
  - 1 large capacity locker for bulky items.
  - Door key lock.
  - Same key serves for the drawers and the locker.
- 160 mm diameter wheels, 2 fixed, 2 castors, one with brake.
- Supplied with 3 sets of removable partitions for 60 mm drawers and 1 set of partitions for 130 mm drawers.
- Supplied with a plastic carry tray.
- Compatible with the JET.XL range of side-mounted accessories.
- Effective drawer dimensions : 569 x 421 x 60/130/200 mm.



	Colour	Dimensions mm	ΔΔ kg
JET.T7XLW	Red 3020	990 x 515 x 1140	113
JET.T7GXLW	Grey 9006	990 x 515 x 1140	113





## JET.XL mobile workbench

### Impact and heat-resistant

- Ultra-heavy-duty worktop of galvanized steel on a 24 mm thick wooden base. Impact and heat-resistant.
- Vice-fitting option.

### Storage capacity

- 6 drawers with heavy-duty drawer slides
- 1 directly accessible compartment for bulky items.
- Other specifications as JET.XLW.



**Drawer capacity 25/35 kg**

Compatible with the FACOM modular storage system

## JET.XL six-drawer mobile workbench

- 100 % opening drawers, compatible with modular storage range / moveable partitions.
- 6 drawers (569 x 421 mm) :  
- 3 x 60 + 1 x 130 + 1 x 200 mm.
- Supplied with 3 sets of partitions for small drawers and 1 set of partitions for medium-sized drawers.
- 1 open compartment for storing bulky items and the plastic carry tray.
- Supplied with a plastic carry tray.
- Compatible with the JET range of side-mounted accessories.
- Dimensions L.990 x D.515 mm x H.1,140.



ED	Colour	ΔΔ kg
JET.T7XLW	Red 3020	117
JET.T7GXLW	Grey 9006	117

JET.T6XL, JET.T6GXL, JET.T7XLW, JET.T7GXLW

ED	ED
1 JET.T6-03	5 2840.17
2 JET.T6-04	6 JET.15
3 JET.T6-05	7 JET.16
4 JET.14	

## JET.XL door kit

- Quickly and easily transforms the open compartment of JET.XL mobile workbenches into a secure locker.
- The kit comprises a sheet steel door and rear panel.
- Attached to the cabinet by means of rivets through pre-drilled holes (rivets supplied).
- The door is fitted with a lock and comes complete with two keys (1 folding).

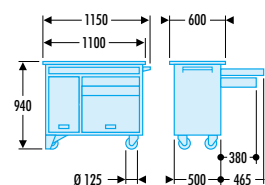
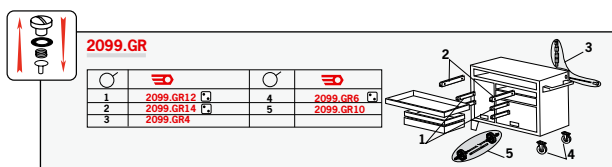
ED	Colour
JET.T6DOOR	Red 3020
JET.T6GDOOR	Grey 9006



## Mobile workbench

## 2099.GR

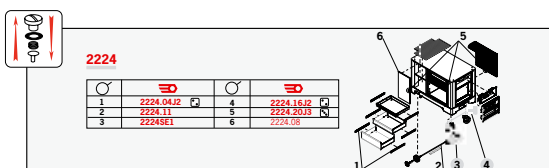
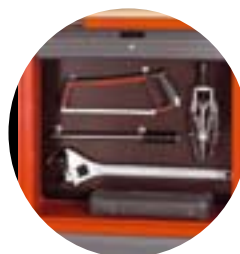
- Wide beech-ply worktop.
  - "Total-vision" drawer 863 x 445 x 70 mm, including 4 fully movable partitions.
  - Full-length compartment for storing long tools.
  - 1 drawer 50 mm high (x 534 x 372 mm) with compartments for fasteners.
  - 1 drawer 100 mm high (x 534 x 372 mm).
  - 2 large storage compartments (one with shelf) concealed by up-and-in doors.
  - Wheels. Ø 125 mm, one with brake, with "swarf-riding" tyres.
- △△ : 82 kg.



## Large volume mobile workbench

## 2224

- Large, thick and sturdy varnished wooden worktop suitable for fitting a vice.
- Retractable handle, quickly transforming the mobile workbench into an extremely stable workstation.
- Large storage capacity :
  - 6 drawers with ball-bearing slides (4 x 70 + 1 x 125 + 1 x 205 mm) and centralised key locking. Compatible with FACOM modules.
  - side door concealing two storage compartments for bulky items. Key lockable.
  - perforated rear panel (170 mm deep) for hanging even very bulky tools using the Facom CKS hook system. Key-lockable shutter.
  - 2 side storage compartments.
- Same key for the drawers, the door and the shutter.
- Shock-resistant cabinet base.
- Very large wheels for easy manoeuvrability.
- Dimensions 1,265 x 755 x 930 mm.
- Tools not included.





## JET.CR4XL

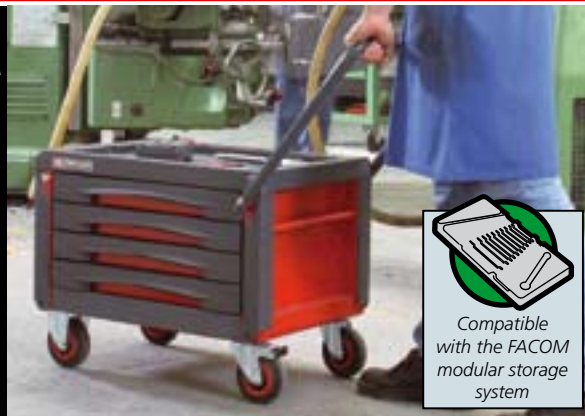
## MOBILE CHESTS

### NOT JUST A CHEST, MORE A MINI ROLLER CABINET

Easy to manoeuvre around the workshop.

Carry all your tools to outside jobs.

Can be combined with a fixed chest for maximum storage capacity.



### JET.XL four-drawer mobile chest

- All the advantages of the JETXL range.
- Folding pulling handle.
- 4 wheels Ø 125 mm : 2 fixed, 2 castors, one with brake.
- Able to receive removable drawer partitions (not included).
- Compatible with the FACOM modular storage system.
- Able to support a JET.C4XL fixed chest.
- 4 drawers : 3x60 + 1x130.
- Overall dimensions (including wheels and worktop) : 780 x 510 x 620 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130.
- Drawer capacity : 20/25 kg.

	Colour	ΔΔ kg
<b>JET.CR4XL</b>	Red 3020	51
<b>JET.CR4GXL</b>	Grey 9006	51

**JET.CR4XL, JET.CR4GXL**

1	JET.13	4	2092.09
2	JET.14	5	2092.10
3	2092.11	6	2840.17



### Roller chest

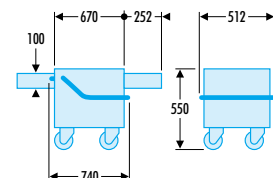
#### 2092A

- A particularly good compromise between size and effective volume.
- Can be transported in a vehicle.
- Wheels Ø 125 mm for effortlessly covering long distances.
- 2 drawers 100 mm high (x 360 x 300 mm).
- Each drawer includes a removable tray 360 x 148 x 40 mm, for storing small tools.
- Two compartments 440 x 140 x 60 mm.
- Documents or flat items can be stored inside the lid.
- Can be padlocked (padlock not included).
- Rubber ankle protection.

ΔΔ : 28.5 kg.

**2092A**

1	2092.24	4	2092.11
2	2092.09	5	2092A.15
3	2092.10		



**"Maximum volume" workstation****JET.CS11XL**

- Comprising a JET.XL 7-drawer roller cabinet and a JET.XL 4-drawer chest.
- Drawer size : 569 x 421 mm.
- Roller cabinet specification as JET.7GXL.
- Chest specification as JET.C4GXL.

	Dimensions mm	ΔΔ kg
<b>JET.CS11XL</b>	1380 x 780 x 520	121,5

**"Industrial maintenance" workstation****JET.7MIXL**

- Comprising :
- 1 JET.XL seven-drawer roller cabinet.
- 1 Paper roll holder (JET.A5-3GXL).
- 1 Waste bin. (JET.A5-2XL).
- 1 Vertical panel for drawings, procedures or tools (JET.A6GXL).
- 1 Side cupboard for long and/or expensive tools (JET.A8GXL).
- 1 anti-theft bar for increased security (JET.A9XL).

	Dimensions with panel installed mm	ΔΔ kg
<b>JET.7MIXL</b>	1375 x 780 x 520	91

**"Electromechanical engineering" workstation****JET.8ELXL**

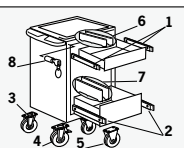
- Comprising :
- 1 JET.XL eight-drawer roller cabinet.
- 1 Nuts and screws stand (JET.A7GXL).
- 1st drawer fitted with 3 trays for fasteners and small components (PL.384) and a small parts tray (PL.636).
- 1 Document holder (JET.A2GXL).
- 1 Compartmented magnetic shelf and 1 paper roll holder (JET.A5-1GXL).
- 1 Waste bin (JET.A5-2XL).

	Dimensions with panel installed mm	ΔΔ kg
<b>JET.8ELXL</b>	1375 x 780 x 520	91



JET.CS11XL, JET.7MIXL, JET.8ELXL

1	JET2.13	5	2092.11
2	JET2.14	6	JET2.15
3	2092.09	7	JET2.16
4	2092.10	8	2840.17



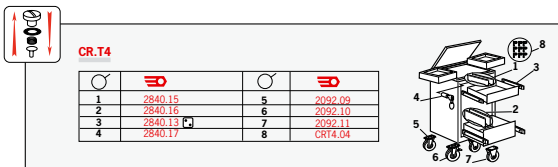
## Bodywork repair workstation

### CR.T1

Comprising :

- A lid :
  - containing a panel fitted with a system for securing dressers and hammers.
  - PK perforations for freely hanging other tools.
  - 2 gas springs for ease of use.
- 2 trays that pull out sideways to reveal a large bin for storing heavier tools such as dollies and spoons. The bottom of the trays and the bin are fitted with non-slip mats.
- 3 drawers (2 x 60 mm + 1 x 130 mm) compatible with the Facom modular storage system and 1 bin drawer (270 mm high) for storing bulky items and pneumatic tools.
- High resistance, easy-to-maintain galvanized steel worktop.
- Safe : Central key locking of lid and drawers.
- Corner bumpers to avoid damage to vehicles in case of accidental contact.
- Manoeuvrability ensured by 4 large diameter wheels, 2 fixed, 2 castors, one with a brake.
- Dimensions : 1,020 x 770 x 460 mm.

ΔΔ : 76.5 kg.



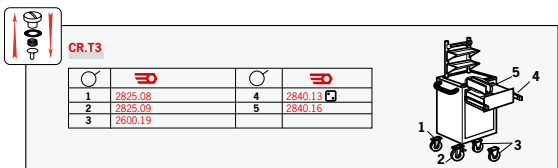
## Surface preparation workstation

### CR.T3

- 2 sloping upper shelves for storing consumables.
- 1 drawer 130 mm high with padlock for expensive items, safety items, etc.
- 2-way sloping shelf for ordinary tools.
- 1 storage area for bulky consumables.
- Perforated recessed side panels for attaching accessories : 2 bottle-shelves, 1 paper-roll holder, wire supports to hold paint guns, 1 waste bag holder.
- Dimensions 1,585 x 1,020 x 610 mm.

ΔΔ : 52 kg.

	Dimensions mm	ΔΔ kg
<b>CR.T3</b>	1585 x 1020 x 610	52

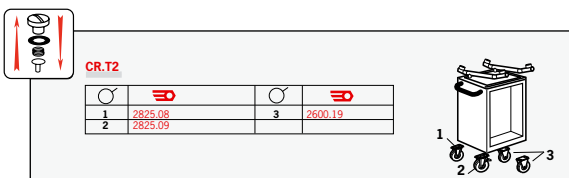


## Windshield workstation

### CR.T2

- Drawer 130 mm high (padlock closure), tool shelf and storage area for consumables.
- Supplied with a paper-roll holder and two bottle shelves.
- Galvanised steel worktop with adjustable arms for supporting light vehicle and heavy-duty vehicle windshields.
- Foam windshield support pads.
- Padlocked drawer.
- Dimensions 1,050 x 970 x 610 mm.

ΔΔ : 48 kg.





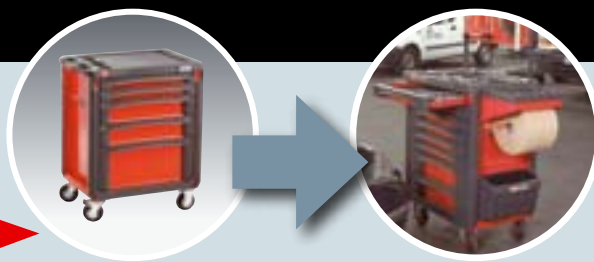


## Accessories

*Quickly and easily transform your roller cabinet into a workstation*

www.facom.com. See details on p.

80



### XL vertical panel

#### JET.A6G

- For hanging drawings, procedures and tools (compatible with Facom CKS hook system).
  - Supplied with sheet holder (ring binders, without sheets or tools).
  - Dimensions : L. 690 x D. 30 x H. 320 mm.
- ΔΔ : 6 kg.



### XL nuts and screws stand

#### JET.A7

- Panel with 2 rows of tip-out bins for nuts and screws.
  - 1 row of 6 bins : dimensions : 600 mm x 110 mm
  - 1 row of 9 bins : dimensions : 600 mm x 70 mm
  - Fasteners cannot fall out, even when moving the cabinet.
  - For JETXL roller cabinet.
  - Dimensions : L.690 x D.120 x H.220 mm.
  - Tube : 755 mm.
- ΔΔ : 6.2 kg.



### XL side cupboard

#### JET.A8G

- For storing long and/or expensive tools.
  - Compatible with Facom CKS hook system.
  - Key locking.
  - For JETXL roller cabinet.
  - Dimensions : L.380 x D.85 x H.685 mm.
- ΔΔ : 7 kg.



### Red anti-theft bar

#### JET.A9

- In addition to central locking of drawers. Secured with a padlock (not included).
  - Quickly and easily installed.
  - Dissuasive and attractive.
  - For JETXL roller cabinet.
  - Dimensions : L.120 x D.110 x H.880 mm.
- ΔΔ : 5.5 kg.



## XL bottle holder

### JET.A1G

- For storing aerosols, cleaning products, sprays, etc.
  - Dimensions : L.380 x D.112 x H.125 mm.
  - CHRONO.XL compatible.
- ΔΔ : 1.2 kg.



## Grey XL document holder

### JET.A2G

- Kind to documents : Rounded edges and protective joint.
  - Can hold an A4 file.
  - Dimensions : L.340 x D.55 x H.315 mm.
  - CHRONO.XL compatible.
- ΔΔ : 800 g.



## Pivoting shelf

### JET.A3

- For supporting a laptop computer or taking notes.
  - Raised lip and blocking mechanism ensure secure support.
  - Dimensions : 515 x 480 x 200 mm.
- ΔΔ : 1 kg.



## XL Cleaning accessories

### JET.A5G

- Detachable compartmented magnetic shelf + paper roll holder
  - Easy to unroll, blocks the paper between pulls.
  - Paper not included.
  - Dimensions : L.410 x D.300 x H.185 mm.
  - Detachable metal waste bin. Easy to empty
  - Dimensions : L.380 x D.160 x H.250 mm.
  - CHRONO.XL compatible.
- ΔΔ : 5.2 kg.



## Detachable compartmented magnetic shelf + paper roll holder

### JET.A5-1G

- Easy to unroll, blocks the paper between pulls.
  - Paper not included.
  - Dimensions : L.410 x D.300 x H.185 mm.
- ΔΔ : 3 kg.



## Waste bin

### JET.A5-2

- Dimensions : L.380 x D.160 x H.250 mm.
  - CHRONO.XL compatible.
- ΔΔ : 2.2 kg.



## Paper roll holder only

### JET.A5-3G

- Easy to unroll, blocks the paper between pulls (paper not included).
  - Dimensions : 340 x 150 mm.
  - CHRONO.XL compatible.
- ΔΔ : 600 g.



## Adjustable windshield support

### 2800.A8

- Instantly attaches onto a roller cabinet.
- Dimensions : 540 x 160 x 100 mm.
- ΔΔ : 2.8 kg.



## Carry tray and holder

### JET.A11

- Heavy-duty plastic carry tray.
- Very handy for carrying tools to the point of use.
- Complete with connection kit for quick installation.
- Dimensions : L.115 x P.385 x H.255 mm excluding handle.
- ΔΔ : 3 kg.



## Wooden worktop

### JET.A4

- For JET.XL roller cabinet.
- Fits easily into the worktop recess.
- Dimensions L. 588 x D. 439 x H. 12.5 mm.
- ΔΔ : 1.95 kg.



## Patterned aluminium worktop

### JET.A12XL

- Very resistant.
- Fits easily into the worktop recess of JET.XL roller cabinets.
- Dimensions L. 588 x W. 439.
- ΔΔ : 1.105 kg.



## Sheet of tags

### 2225.A1

- Drawer organization and identification.



## Rubber matting

### 2600.A2

- Easy to cut.
- 534 x 390 mm.
- For lining drawer bottoms.
- ΔΔ : 210 g.



## Drawer partitions

- For small drawers :
  - JET.XL or CHRONO.XL drawers = JET2.15.
  - CHRONO drawers = CH5T-50.
- For medium-sized drawers :
  - JET.XL or CHRONO.XL drawers = JET2.16.
  - CHRONO drawers = CH5T-100.

	Height mm
JET2.15	60
JET2.16	130
CH5T-50	50
CH5T-100	100



## Accessory application table

	Vertical panel	Vertical Nuts and screws stand	Side cupboard	Anti-theft bar	Carry tray and holder	Pivoting shelf	Bottle holder	Document holder	Wooden worktop	Patterned aluminium worktop
JET	JET.A6G	JET.A7G	JET.A8G	JET.A9	JET.A11	JET.A3	JET.A1G	JET.A2G	JET.A4/ JET.A4G	
JET.XL	JET.A6GXL	JET.A7GXL	JET.A8GXL	JET.A9XL	JET.A11	JET.A3	JET.A1GXL	JET.A2GXL	JET.A4XL	JET.A12XL
CHRONO.XL							JET.A1GXL	JET.A2GXL		

	Cleaning accessories	Shelf + roll holder	Waste bin	Roll holder	Windshield support	Rubber matting	Drawer labels	Front storage tray	Side storage tray	Fastener module
JET	JET.A5G	JET.A5-1G	JET.A5-2	JET.A5-3G	2800.A8	2600.A2	2225.A1	PL.636		PL.384
JET.XL	JET.A5GXL	JET.A5-1GXL	JET.A5-2XL	JET.A5-3GXL	2800.A8	2600.A2	2225.A1	PL.656	PL.655	PL.384
CHRONO.XL	JET.A5GXL	JET.A5-1GXL	JET.A5-2XL	JET.A5-3GXL	2800.A8	2600.A2	2225.A1	PL.656	PL.655	PL.384





## FACOM MODULAR SYSTEM

### COMPATIBLE WITH ALL FACOM ROLLER CABINET RANGES

For **CHRONO.XL** and **JET.XL**

If you have a **Chrono.XL** or **JET.XL** roller cabinet :

- Position your modules.
- Position your modules and insert a PL.655 to the left or right hand side of the drawer and a PL.656 at the front or back of the drawer.



**PL.655**



**PL.656**



If you already have storage modules and wish to use them in your new **XL** roller cabinet.

- Add a side storage tray PL.655, ideal for storing nuts and bolts, to the left or the right of your drawer.



### Information

If you already own a **CHRONO** or **JET** roller cabinet and you wish to fit it with storage modules, nothing could be simpler. Simply detach the break-off section and add small the parts trays to secure the modules in place if required.

For **CHRONO** and **JET**

If you have a **Jet** roller cabinet

- Remove the snap-off section.
- Position your modules.
- Place the PL.636 edge storage tray along the front or the back of the drawer.



**PL.636**



If you have a **Chrono** roller cabinet

- Position your modules.
- Add the new PL.655 small parts tray on the left- or right-hand side of your drawer. Ideal for storing screws, nuts and bolts.

#### Small parts tray

**PL.636**

- For securing modules and storing small tools and components.

ΔΔ : 150 g

#### Side storage tray for XL drawer

**PL.655**

- For securing modules and storing small tools and components.
- Can be placed along the right- or left-hand side of the drawer.

ΔΔ : 155 g.

#### Front/back storage tray for XL drawer

**PL.656**

- For securing modules and storing small tools and components.
- Can be placed along the front or the back of the drawer.

ΔΔ : 165 g.



## FACOM MODULAR STORAGE SYSTEM



### ORGANISE AND CUSTOMISE YOUR WORKSTATION

- 1/3 drawer width module, for adapting your equipment to your needs.
- The Facom workstation configuration tool ([www.facom.com/fr/servantes/index.html](http://www.facom.com/fr/servantes/index.html)) simplifies the choice and organisation of tools.

### STORED TOOLS = PRODUCTIVITY, COMFORT AND SAFETY

- instant access to all your tools without wasting time.
- Optimum safety : no more rummaging through loose tools in a drawer.



#### MOD.440-1

- 16 combination wrenches 6 to 24 mm (PL.670)



#### MOD.440-2

- 4 combination wrenches 27 to 32 mm (PL.671)



#### MOD.40R

- 14 ratchet-effect combination wrenches 8 to 24 mm (PL.352A).



#### MOD.44-1

- 9 open-end wrenches 6 to 24 mm (PL.315).



#### MOD.44-2

- 3 open-end wrenches 26 to 32 mm (PL.316).



#### MOD.75-1

- 10 socket wrenches 8 to 19 mm (PL.625).



#### MOD.55-1

- 7 offset ring wrenches 6 to 19 mm (PL.317A).



#### MOD.55-2

- 3 ring wrenches 22 to 28 mm (PL.318A).



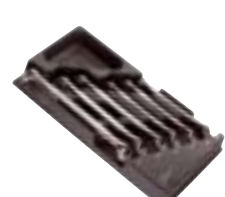
#### MOD.67XL

- 6 Large sized wrenches : 21 to 32 mm (PL.653).



#### MOD.64J7

- 7-piece 12-point ratchet ring wrench module, 6 to 19 mm (PL.608A).



#### MOD.66A-1

- 6 hinged socket wrenches 6 to 19 mm (PL.319A).



#### MOD.68BHB

- 7 combination wrenches 6 to 19 mm (PL.608).



#### MOD.97

- 6-piece metric double-ended forged socket-wrench module, 8 to 19 mm (PL.359).



#### MOD.43

- Pipe wrenches 7 to 19 mm (PL.635).



#### MOD.TX1

- 24 Torx® sockets (PL.360).



#### MOD.R1

- Sockets  $\square$  1/4" and accessories/keys/bits - 35 items (PL.321).

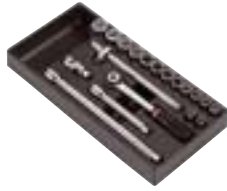
# Facom modular storage system



**XL**

## MOD.R5

- 1/4" 6-point sockets, metric keys and bits (PL.658).



## MOD.J1

- Sockets  $\square$  3/8", 8 to 22 mm and accessories (PL.322).



## MOD.J5

- 3/8" 6-point sockets 8 to 22 mm (PL.322A).



## MOD.J7

- 3/8" 6-point sockets 8 to 24 mm (PL.665).



## MOD.S1

- Sockets  $\square$  1/2", 10 to 32 mm and accessories (PL.323).



## MOD.CDX

- CDX sockets 8 to 27 mm and accessories (PL.355).



**XL**

## MOD.K2

- 3/4" 6-point sockets 34 to 55 mm (PL.662)..



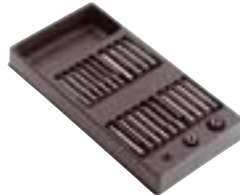
## MOD.SHP

- Sockets  $\square$  1/2" with long-reach monobloc bits (PL.336).



## MOD.E41

- 41 bits and 3 bit holders (PL.621).



## MOD.E20L

- 20 drive bits.
- Tray PL.624.



## MOD.A1

- 8 Protwist screwdrivers for slotted heads 3 to 8 - "PH" 1 and 2 (PL.325).



## MOD.A3

- 8 Protwist screwdrivers : 4 standard and 4 stubby (PL.326).



## MOD.84TZS

- 7 spherical head tee-handle hexagon keys (PL.329).



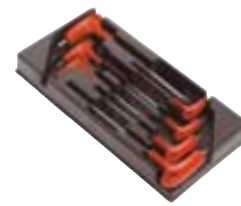
## MOD.ANX

- 7 Torx® screwdrivers 10 to 40 (PL.327).



## MOD.ANXR

- 7 Protwist Resistorx® screwdrivers 10 to 40 mm (PL.327).



## MOD.89TX

- 7 tee-handle Torx® keys (PL.329).



## MOD.A1VE

- 8 VE 1,000 Volt insulated screwdrivers (PL.325).



## MOD.VE

- 3 pliers 1,000 Volt insulated (PL.622).



## MOD.CPE

- 3 sheathed engineers pliers (PL.627).



## MOD.PR11

- Lock-grip pliers T5.L and multigrip pliers 181.25CPE (PL.330).



## MOD.PR8

- Lock-grip pliers 500 and multigrip pliers 180 (PL.330).



## MOD.MT1

- 6 electronics pliers (PL.612).



## MOD.PC1

- 4 circlip pliers (PL.332).

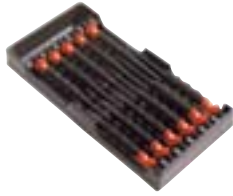


## MOD.MI1

- Hammer tools (PL.333).







### MOD.CG

- Sheathed drift punch, nail set and centre punch (PL.334).



### MOD.CG1

- Sheathed drift punches, flat chisels and cape chisels (PL.611).



### MOD.NS260

- Impact driver and bits (PL.380).



### MOD.LIM

- 5 files with handles (PL.606).



### MOD.Y105

- Riveter and selection of rivets (PL.377).



### PL.384

- Storage for small components.  
ΔΔ : 0.217 kg.



### MOD.U46CL

- Oil change and filter module (PL.399).



### MOD.DF

- Disc brake servicing module (PL.629).



### MOD.196-1

- Drum brake servicing module (PL.628).



### MOD.BRA

- Diesel spark plug servicing module (PL.667).



### MOD.CAR1

- Forming tools (PL.396).



### MOD.850

- Milled files (PL.630).



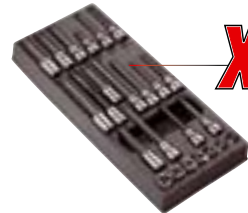
### MOD.234

- Measuring and scribing module (PL.633).



### MOD.MET

- Metrology module (PL.634).



### MOD.CH

- Cylinder head tightening and loosening tool module (PL.663).



### MOD.BJ

- Module for 16 to 21 mm spark plugs. (PL.161)



### MOD.U306

- Pullers U.306A140 and U.14L + 6 legs (PL.354).



### MOD.K1

- 6-point sockets 3/4", 34 to 55 mm and accessories - 10 items (PL.324).

### MOD.601

- Saw, tape measure, files (PL.335).



### MOD.208

- Wheel nut tightening tools (PL.337A).



### MOD.99B

- 7 tee socket-wrenches with universal joint 7 to 19 mm (PL.304).



# Facom modular storage system

**New**

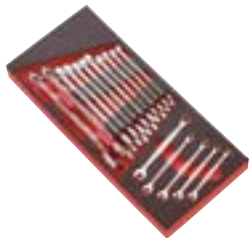
## FACOM CONTROL SYSTEM



### THE SAFETY OF AN INSTANT INVENTORY

- Two-colour system (Red bottom) helps immediate identification of missing tools. No risk of forgetting a tool in a machine or an engine after servicing.
- Finger recesses for easy pick-up.
- Completely silent during transport.
- Tools securely held during transport.
- Resistant to workshop chemicals.
- Dimensions of a JET.XL or CHRONO.XL  
1/3 drawer width module : 18.8 x 41.7 x 4.5 cm.

Contact your dealer for special aeronautical trays.



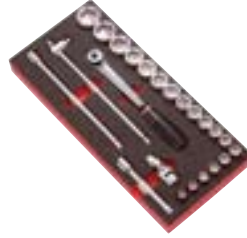
#### MODM.440-1

- Foam module - 16 combination wrenches 5 to 24 mm (PM. MOD440-1).



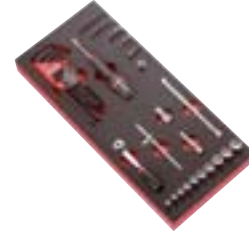
#### MODM.440-2

- Foam module - 4 combination wrenches 27 to 32 mm. Completes MODM.440-1 (PM.MOD440-2).



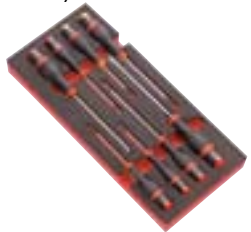
#### MODM.S1A

- Foam module - sockets  $\square$  1/2", 10 to 32 mm and accessories - 23 items (PM.MODS1A).



#### MODM.R1A

- Foam module - sockets  $\square$  1/4" and accessories/keys/bits - 38 items (PM.MODR1A).



#### MODM.A1

- Foam module - 8 Protwist screwdrivers for slotted heads 3 to 8 - "PH" heads no. 1 and 2 (PM. MODA1).



#### MODM.A3

- Foam module - 8 Protwist screwdrivers : 4 standard and 4 stubby (PM.MODA3).



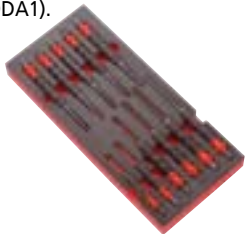
#### MODM.CPE1

- Foam module - 3 sheathed CPE pliers and 1 pair of lock-grip pliers (PM.MODCPE1).



#### MODM.MI1

- Foam module of hammer tools (PM.MODMI1).



#### MODM.CG

- Foam module - sheathed drift punches, nail sets and centre punch (PM.MODCG).



#### MODM.MI3

- Hammer, mallet, chisel, centre punch, Long drift punches 4 - 5 - 6 mm. (PM.MODMI3).



#### MODM.MI4

- Hammer, mallet, chisel, centre punch, Long drift punches 4 - 5 - 6 mm. (PM.MODMI4).

# XL



## New

## Heavy-duty WORKBENCHES

### ALL THE ADVANTAGES OF THE JET.XL DRAWER SYSTEM - IN A WORKBENCH

*Selective drawer opening :*

*Fully opening*

*Fully compatible with FACOM modular storage range*

*Central locking*

*Tags for easy identification of drawer contents (supplied with each unit)*



## New

#### Workbench 1.5 m long

##### 1500.AA1

- Beech-ply worktop. Linseed oil-treated for easy maintenance.
  - Worktop length : 1.5 m.
  - Worktop width : 750 mm.
  - Standard height : 850 mm.
  - Colour : RAL 9006 Grey.
- ΔΔ : 95 kg.



#### Workbench 2 m long

##### 2000.AA1

- Beech-ply worktop 40 mm thick. Linseed oil-treated for easy maintenance.
  - Worktop length : 2 m.
  - Worktop width : 750 mm.
  - Standard height : 850 mm.
  - Colour RAL 9006 Gey.
- ΔΔ : 99 kg.



#### Workbench 1.5 m long with 6 drawers

##### 1500.AB1

- Worktop length : 1.5 m.
  - Worktop width : 750 mm.
  - Standard height : 850 mm.
  - Colour RAL 9006 Grey.
  - Complete with one 6-drawer unit :
    - 4 x 60 mm + 1 x 130 mm + 1 x 270 mm.
  - Supplied with 3 sets of removable partitions for small drawers.
- ΔΔ : 102 kg.



#### Workbench 2 m long with 6 drawers

##### 2000.AB1

- Worktop length : 2 m.
  - Worktop width : 750 mm.
  - Standard height : 850 mm.
  - Colour RAL 9006 Gey.
  - Complete with one 6-drawer unit :
    - 4 x 60 mm + 1 x 130 mm + 1 x 270 mm.
  - Supplied with 3 sets of removable partitions for small drawers.
- ΔΔ : 105 kg.





# Heavy-duty workbenches



## Heavy-duty workbenches

### Resistant

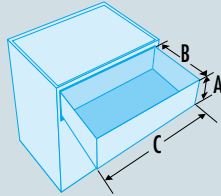
- Sturdy beech-ply worktop 40 mm thick
- Linseed oil-treated for increased resistance to liquids and easy maintenance
- Rigid 12/10 mm and 15/10 mm steel construction
- Drawers supported on heavy-duty ball-bearing slides providing a capacity of 50 kg per drawer.

### Large storage capacity

- 6 fully-opening drawers giving total access to contents.



Static resistance  
1,000 kg



A mm	B mm	C mm
60	421	569
130	421	569
270	421	569



Compatible with the FACOM modular storage system



New

### Workbench 2 m long with 12 drawers

#### 2000.BB1

- Worktop length : 2 m.
- Worktop width : 750 mm.
- Standard height : 850 mm.
- Colour : RAL 9006 Grey.
- Complete with two 6-drawer units : 4 x 60 mm + 1 x 130 mm + 1 x 270 mm.
- Supplied with 6 sets of removable partitions for small drawers.
- ΔΔ : 120,5 kg.



### Workbench 2 m long with drawers and cabinet 2210

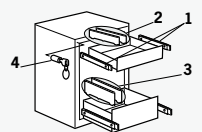
#### 2000.AB32

- Workstation 2 m long
- Unit comprising a workbench 2000.AB1 and a shutter cabinet 2210.
- Workbench 2000.AB1 :
  - Complete with one 6-drawer unit : 4 x 60 mm + 1 x 130 mm + 1 x 270 mm.
  - Supplied with 3 sets of removable partitions for small drawers.
  - Worktop length : 2 m.
  - Worktop width : 750 mm.
  - Standard height : 850 mm.
  - Beech-ply worktop 40 mm thick. Linseed oil-treated for easy maintenance.
  - Colour : RAL 9006 Grey.
- Cabinet 2210 : Shutter cabinet 2 m long.
  - Effective storage space 1,875 x 714 x 145 mm.
  - Tools hung by CKS system.
  - Key lock.
  - Dimensions : 2,000 x 800 x 240 mm.
  - Colour : RAL 9006 Grey.
- ΔΔ : 135 kg.



1500.AB1, 2000.AB1, 2000.BB1, 2000.AB32

	FACOM
1	JET2.14
2	JET2.15
3	JET2.16
4	2840.17





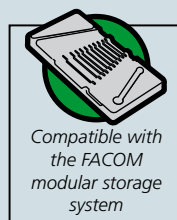
## Maintenance workbenches

### Stable

- 40mm thick linseed treated beech worktop: tough and resistant.
- "U" profile steel construction
- Can be bolted to the floor

### Simple

- Quick and easy to assemble.
- Central "foot rest" cross-bar.
- Workbenches 2 m long can receive an optional second drawer unit 2235.AT.



### Workbench 2 m long

#### 2250.AT3

- Worktop length : 2 m.
- Surface width : 750 mm.
- Height : 860 mm.
- Treated beech-ply worktop 40 mm thick
- Three-drawer unit 2235.AT3, with partitions.
- Optional second drawer unit 2235.AT.
- Drawer size : 534x358 mm.

△△ : 96.5 kg.



### Workbench 2 m long

#### 2250

- Worktop length : 2 m.
- Surface width : 750 mm.
- Height : 860 mm.
- Treated beech-ply worktop 40 mm thick.
- Two drawer units 2235.AT (optional).

△△ : 70.5 kg.



# Maintenance workbenches

## Workbench 1.5 m long with panel

### 2245.PVAT3

- Worktop length : 1.5 m.
  - Surface width : 750 mm.
  - Height : 860 mm.
  - Treated beech-ply worktop 40 mm thick
  - Vertical panel for hanging tools using the CKS system : 1500x510x50 mm.
  - Three-drawer unit 2235.AT3, with partitions.
  - Drawer size : 534x358 mm.
- ΔΔ : 97.3 kg.



## Workbench 1.5 m long

### 2245

- Worktop length : 1.5 m.
  - Surface width : 750 mm.
  - Height : 860 mm.
  - Treated beech-ply worktop 40 mm thick
  - One 2235.AT drawer unit (optional).
- ΔΔ : 59.5 kg.



## ▶ Drawer units

### 2235.AT Drawer unit

- Drawer unit to fit either side under worktop.
- Fittings supplied.
- Key lock.
- Drawer size : 534 x 358 mm.



B	Drawer heights		Overall dimensions mm	ΔΔ kg
	50 mm	100 mm		
<b>2235.AT2</b>	-	x 2	670 x 426 x 315	20,5
<b>2235.AT3</b>	x 2	x 1	670 x 426 x 315	26



**2235.AT1-2235.AT2-2235.AT3**

1		2834.10
2		2235.AT1-02





• El fondo, los laterales, las puertas y

## Worktop CABINETS and wall storage units

### Maximum visibility and accessibility

- Shutters open fully and doors to 180°.

### Compact, optimised storage

- Walls, sides and door panels are perforated to maximise storage space.

### Modular

- Wall mounted units are compatible with the Facom modular storage system.

### Safety system

- Centralised key-locking of wall unit doors and drawers.



Worktop mounted

Wall mounted

### Shutter cabinet 1.50 m long

#### 2205

- Effective storage space 1,375 x 714 x 145 mm.
  - Tools hung by CKS system.
  - Key lock.
  - 1,500 x 800 x 240 mm.
- ΔΔ : 25 kg.



### Shutter cabinet 2 m long

#### 2210

- Effective storage space 1,875 x 714 x 145 mm.
  - Tools hung by CKS system.
  - Key lock.
  - 2,000 x 800 x 240 mm.
- ΔΔ : 30 kg.



# Worktop cabinets and wall storage units

New

## Wall unit - 1 drawer - 810 mm high

### 2201

- Cabinet with vertical hanging and drawer sections.
  - Vertical storage section :
    - Storage surface area : 1 m<sup>2</sup>.
    - The bottom and the sides of the cabinet, as well as the door linings are perforated for hanging tools using the CKS system.
    - The two door leaves open to 180° for maximum visibility and accessibility.
  - Drawer section :
    - 1 fully-opening drawer with ball-bearing slides.
    - Effective drawer dimensions : L. 569 x H. 60 mm x D. 210 mm.
    - Central key locking of doors and drawer.
    - Wall-mounted (through holes provided) or supported on the workbench.
    - Dimensions : L. 720 mm x D. 280 mm x H. 810 mm.
- ΔΔ : 31 kg.



## Wall unit with 2 drawers and shutters - 1,000 mm high

### 2202XL

- Vertical storage section :
    - Storage surface area : 1.8 m<sup>2</sup>.
    - The bottom and the sides of the cabinet, the door linings, as well as the 2 additional shutters are perforated for hanging tools using the CKS system.
    - The two door leaves open to 180° for maximum visibility and accessibility.
  - Drawer section :
    - 2 fully-opening drawers with ball-bearing slides.
    - Effective drawer dimensions : L. 569 x H. 60 mm x D. 210 mm.
    - Central key locking of doors and drawers.
    - Wall-mounted (through holes provided) or supported on the workbench.
    - Dimensions : L. 720 x D. 280 x H. 1,000 mm.
- ΔΔ : 42.5 kg.



## Shutter cabinet

### 2216

- Compact cabinet for storing a set of tools.
  - Shutter key lock.
  - Tools hung by CKS system.
  - Can be screwed to a wall (through holes provided).
  - 800 x 550 x 150 mm.
- ΔΔ : 12 kg.



## ▶ Panels and hook system

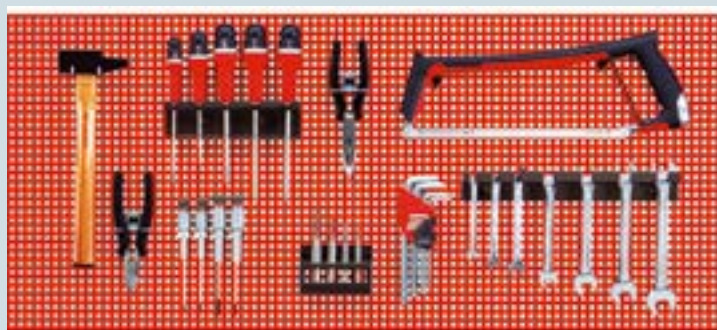
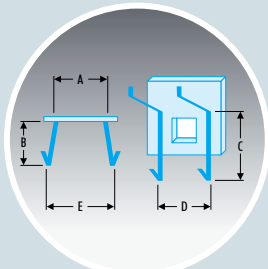


### Perforated panels and CKS hook system

#### A HOOK FOR EACH TOOL

**Space-saving :** Wall surfaces are transformed into storage surfaces.

**Ergonomic :** Direct tool access.



#### CKS hook system

- Installation of retaining clip CKLA

#### Perforated panels

- Perforation : 6 long x 6 mm.
- Pitch : 12 mm.

PK	L mm	H mm	I mm	ΔΔ kg
PK.1	444	888	10	2,350
PK.2	444	444	10	1,160
PK.4	1665	444	10	4,360

PK	L mm	H mm	I mm	ΔΔ kg
PK.1G	444	888	10	2,350
PK.2G	444	444	10	1,160
PK.4G	1665	444	10	4,360



#### Standard hook and retaining clip

**CK :** standard hook, length 50 mm.

**CKLA :** very useful when Redesigning hook layout (pack of 10) ΔΔ 10-15 g.



#### Hooks for combination and open-end wrenches

**CKS.60A :** hook Ø 30 mm.

**CKS.61A :** hook Ø 15 mm.

**CKS.57A :** dim. : A : 13 mm, B : 5 mm.

**CKS.58A :** dim. : A : 25 mm, B : 8 mm.

**CKS.59A :** dim. : A : 36 mm, B : 12 mm.



#### Hooks for screwdrivers

**CKS.50A :** dim. : A : 13 mm, C : 35 mm, D : 7 mm.

**CKS.51A :** dim. : A : 13 mm, C : 35 mm, D : 10 mm.

**CKS.52A :** dim. : A : 14 mm, C : 35 mm, D : 13 mm.

**CKS.70A :** dim. : A : 15 mm, C : 37 mm, D : 36 mm, E : 25 mm.



#### Hooks for hammers

**CKS.45A :** dim. : A : 17 mm, B : 28 mm.

**CKS.46A :** dim. : A : 33 mm, B : 36 mm.



#### Hooks for round tools

**CKS.64A :** Ø 7 to 9 mm.

**CKS.65A :** Ø 8 to 12 mm.

**CKS.66A :** Ø 12 to 15 mm.

**CKS.67A :** Ø 15 to 25 mm.

**CKS.68A :** Ø 25 to 32 mm.



#### Hooks for pliers

**CKS.55A :** dim. : A : 61 mm, B : 28 mm.

**CKS.56A :** dim. : A : 50 mm, B : 17 mm.



#### Hook sets

**CKS.K1 :** set of 30 hooks

20xCK, 5xCKS.58A, 5xCKS.59A.

**CKS.K2 :** set of 40 hooks

5xCKS.45A, 5xCKS.46A, 5xCKS.55A, 5xCKS.56A,

10xCKS.66A, 10xCKS.67A.

**CKS.K3 :** set of 65 hooks

20xCKS.60A, 20xCKS.61A,

5xCKS.67A, 5xCKS.68A,

5xCKS.50A, 5xCKS.51A,

5xCKS.52A.





# Worktop cabinets and wall storage units

## Tool racks

### Wrench rack

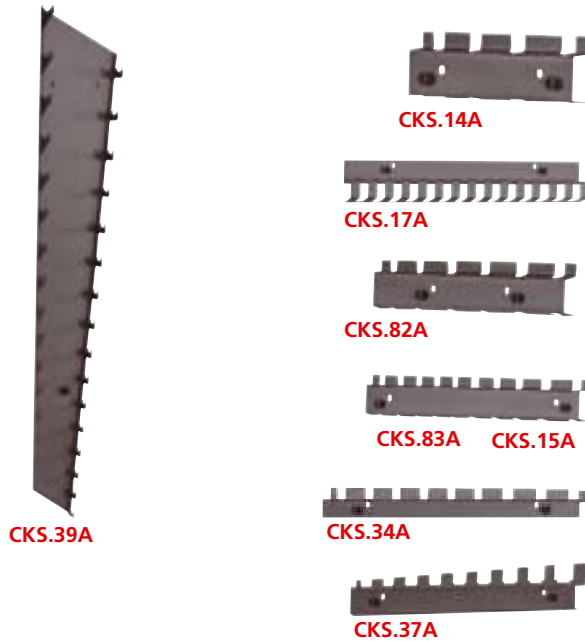
- CKS.11A 5 wrenches 44, 21 to 32 mm.  $\Delta\Delta$  : 130 g.
- CKS.10A 7 wrenches 44, 6 to 19 mm.  $\Delta\Delta$  : 120 g.
- CKS.38A 9 combination wrenches 40, 8 to 19 mm.  $\Delta\Delta$  : 85 g.
- CKS.7A 10 hexagon keys, 2 to 10 mm.  $\Delta\Delta$  : 130 g.
- CKS.37A 9 socket wrenches 75 or 76, 8 to 19 mm.  $\Delta\Delta$  : 186 g.
- CKS.39A 16 socket wrenches 75 - 76 - 92, 8 to 24 mm.  $\Delta\Delta$  : 780 g.
- CKS.17A 14 nut spinners 74.  $\Delta\Delta$  : 206 g.

### Screwdriver rack

- CKS.14A 4 screwdrivers AC. AP.  $\Delta\Delta$  : 85 g.
- CKS.12A 5 screwdrivers AF.  $\Delta\Delta$  : 115 g.
- CKS.13B 5 screwdrivers AC - AG - AR - ATH - AZ - AN - AW.  $\Delta\Delta$  : 90 g.
- CKS.82A 6 screwdrivers AZ - AN - AW.  $\Delta\Delta$  : 135 g.
- CKS.15A 10 screwdrivers AC - AN - AW.  $\Delta\Delta$  : 192 g.
- CKS.83A 10 screwdrivers AZ - AN - AW.  $\Delta\Delta$  : 160 g.
- CKS.16A 14 screwdrivers AR - AN - AW.  $\Delta\Delta$  : 220 g.

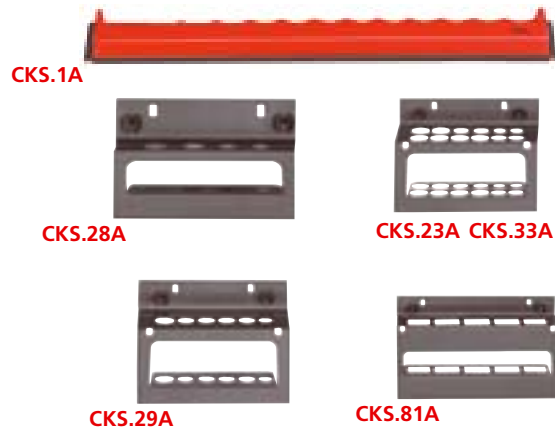
### File rack

- CKS.34A 9 files with handles.  $\Delta\Delta$  : 140 g.
- CKS.35A 5 files with handles.  $\Delta\Delta$  : 68 g.



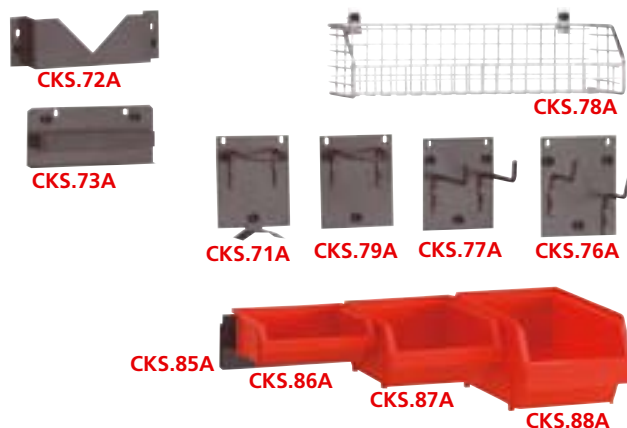
## Tool set organisers

- CKS.1A 13  $\square$  1/2" - 3/8" sockets - 8 - 21 mm.  $\Delta\Delta$  : 280 g.
- CKS.2A 9  $\square$  1/2" sockets - 22 - 32 mm.  $\Delta\Delta$  : 286 g.
- CKS.25A 5 stud extractors  $\varnothing$  4 - 11 mm.  $\Delta\Delta$  : 52 g.
- CKS.27A 5 drift punches  $\varnothing$  2.5 - 10 mm.  $\Delta\Delta$  : 47 g.
- CKS.28A 4 round tools  $\varnothing$  10 - 12 mm.  $\Delta\Delta$  : 50 g.
- CKS.29A 6 drift punches  $\varnothing$  2 - 8 mm.  $\Delta\Delta$  : 126 g.
- CKS.31A 7 drift punches  $\varnothing$  2 - 10 mm.  $\Delta\Delta$  : 123 g.
- CKS.32A 9 drift punches  $\varnothing$  1 - 6 mm.  $\Delta\Delta$  : 131 g.
- CKS.23A 12 drift punches  $\varnothing$  4 - 10 mm.  $\Delta\Delta$  : 124 g.
- CKS.33A 12 drift punches  $\varnothing$  2 - 8 mm.  $\Delta\Delta$  : 110 g.
- CKS.80B 4 chisels.  $\Delta\Delta$  : 145 g.
- CKS.81A 5 cape chisels.  $\Delta\Delta$  : 210 g.



## Other tool holders

- CKS.78A Wire basket 355 x 105 x 92 mm.  $\Delta\Delta$  : 208 g.
- CKS.76A A : 60 mm, B : 65 mm. Power tools.  $\Delta\Delta$  : 190 g.
- CKS.77A A : 55 mm, B : 100 mm. Power tools.  $\Delta\Delta$  : 190 g.
- CKS.79A A : 48 mm, B : 60 mm. Air tools.  $\Delta\Delta$  : 200 g.
- CKS.71A A : 48 mm, B : 60 mm. Air tools.  $\Delta\Delta$  : 200 g.
- CKS.73A Assorted round tools.  $\varnothing$  25 - 32 mm.  $\Delta\Delta$  : 125 g.
- CKS.72A Sander.  $\Delta\Delta$  : 145 g.
- CKS.85A Bin bracket. Length : 400 mm.  $\Delta\Delta$  : 320 g.
- CKS.86 Plastic bin. 110 x 110 x 40 mm.  $\Delta\Delta$  : 50 g.
- CKS.87 Plastic bin. 110 x 150 x 60 mm.  $\Delta\Delta$  : 90 g.
- CKS.88 Plastic bin. 110 x 200 x 85 mm.  $\Delta\Delta$  : 165 g.



## ▶ Hook reference table



### Using the reference tables

- Start with the tool family, e.g. Wrenches.
- Select the tool reference, e.g. 440.26.
- Hook reference appears opposite the tool reference : CKS.60A.

If more than one tool reference goes with the same hook, the symbol / indicates the reference covered. *coverot*, e.g. 41.6 / 41.24 means that wrenches 6 to 24 can be stored on hook CKS.61A.



39.3,2H / 39. 11/16	CKS.61A
41.26 / 41.32	CKS.60A
41.46L / 41.80L	CKS.60A
41.6 / 41.24	CKS.61A
42.8X10	CKS.57A
42.1/2X9/16 / 42.9/16X5/8	CKS.58A
42.19X22 / 42.22X24	CKS.59A
42.3/4X7/8 / 42.1'X1'1/8	CKS.59A
42.36X41	CKS.56A
42.5/16X3/8	CKS.57A
43.17X19	CKS.58A
43.7X9	CKS.66A
44.1/4X5/16 / 44.11/32X13/32	CKS.57A
44.11/16X3/4	CKS.58A
44.13X15 / 44.13X17	CKS.58A
44.1'7/16X1'5/8	CKS.56A
44.24X27 / 44.25X28	CKS.59A
44.3,2X5,5 / 44.4X5	CKS.64A
44.3/4X13/16 / 44.7/8X15/16	CKS.59A
44.3/4X13/16 / 44.7/8X15/16	CKS.59A
44.38X42	CKS.56A
44.5,5X7 / 44.8X10 / 44.10X11	CKS.57A
45.19 / 45.95	CKS.61A
54A.24 / 54.95	CKS.60A
55A.1/4X5/16 / 55A.1'1/8X1'1/4	CKS.61A
55A.15/16X1"	CKS.61A
55A.27X29 / 55A.46X50	CKS.60A
55A.6X7	CKS.61A
55A.7X8 / 55A.26X28	CKS.61A
57.10X12 / 57.19X22	CKS.61A
59.6X7 / 59.30X32	CKS.61A
66A.16X17 / 66A.21X23	CKS.67A
66A.3/8X7/16 / 66A.5/8X3/4	CKS.66A
66A.6X7	CKS.65A
66A.8X9 / 66A.14X15	CKS.67A
68B.17X19H / 68B.22X24H	CKS.60A
68B.6X7 / 68B.16X18H	CKS.61A
68TX.6X8 / 68TX.14X18	CKS.61A
70A.27 / 70A.32	CKS.60A
70A.5/16 / 70A.7/8	CKS.61A
70A.7 / 70A.24	CKS.61A
74.10 / 74.14	CKS.52A
74.3,2 / 74.9	CKS.51A
74.3/16 / 74.11/32	CKS.51A
74.3/8 / 74.7/16	CKS.52A
74T.11 / 74T.14	CKS.52A
74T.5 / 74T.10	CKS.51A
75.6 / 76.38	2 X CK
82.JP9	CKS.61A
82H.JP9 / 83SH.JP9	CKS.61A
84TC.10	CKS.70A
84TC.3	CKS.50A
84TC.4 / 84TC.6	CKS.51A

84TC.8	CKS.52A
84TZ.10	CKS.52A
84TZ.2,5 / 84TZ.8	CKS.51A
84TZ.3/32 / 84TZ.1/4	CKS.51A
84TZ.3/8	CKS.52A
84TZ.5/16	CKS.46A
84TZS.1/4 / 84TZS.3/8	CKS.51A
84TZS.4 / 84TZS.10	CKS.51A
84TZS.5/32 / 84TZS.7/32	CKS.50A
86A.JE7A / 86H.JU7	CK
87H.JE8 / 87HL.JU8	CKS.61A
89.JP8 / 89.JP8L	CKS.61A
89TX.15 / 89TX.27	CKS.51A
89TX.30 / 89TX.50	CKS.52A
89TX.6 / 89TX.10	CKS.50A
91A.6X7	CKS.65A
91A.8X9 / 91A.32X34	CK
92A.4 / 92A.32	2 X CK
94A.3,2 / 94A.5	CKS.65A
94A.4,5	CKS.65A
94A.5,5 / 94A.7	CKS.66A
94A.8 / 94A.14	CKS.67A
97.16X17 / 97.30X32	CKS.67A
97.6X7	CKS.65A
97.8X9 / 97.14X15	CKS.66A
99C.19	CKS.60A
99C.6 / 99B.18	CKS.61A
105.230 / 105.280	CKS.61A
105.375	CKS.60A
113A.12C / 113A.24C	CKS.60A
113A.4C / 113A.10C	CKS.61A
114.8	CK
115A.50 / 115A.200	CKS.61A
116.200	CKS.60A
116.50 / 116.100	CKS.61A
117.B	CKS.61A
118A	CKS.61A
119.3/8 / 119.3/4	CKS.61A
120.1/2 / 120.1'	CKS.61A
120.1'1/2 / 121.2'	CKS.60A
125A.120 / 125.A180	CKS.60A
125A.35 / 125A.80	CKS.61A
126A.120 / 126A.180	CKS.60A
126A.35 / 126A.80	CKS.61A
131.24 / 131.36	CKS.60A
131.8 / 131.18	CKS.61A
133.14 / 133.36	CKS.60A
134A.24 / 134A.36	CKS.60A
134A.8 / 134A.18	CKS.61A
135.14 / 135.24	CKS.60A
136.2 / 136A.4	CKS.61A
138.17 / 138.48	CKS.61A
440. 1/4 / 440. 1'1/8	CKS.61A
440. 1'1/4	CKS.60A
440. 19LA / 440. 22LA	CKS.61A
440. 23LA / 440.50LA	CKS.60A
440. 26 / 440. 32	CKS.60A
440. 3,2H	CKS.60A
440. 3/4LA / 440.13/16LA	CKS.61A

440. 4H / 440. 25	CKS.61A
440.7/8LA / 440.2'LA	CKS.60A
440R.8 / 440R.24	CKS.61A
AWHH1/8 / 7/32	CKS.51A
AWHH2 / 4	CKS.50A
AWHH3/32 / 7/64	CKS.50A
AWHH5 / 8	CKS.51A
AWHH9 / 10	CKS.52A
AWSH2 / 5	CKS.50A
AWSH6 / 8	CKS.51A



J.151A / J.161L	CKS.67A
S.143A / S.161	CKS.68A
S.171 / SJ.171	CKS.67A



A2,5X50VE / 4X150VE	CKS.51A
A5,5X125VE / 10X200VE	CKS.50A
AD.0X50	CKS.50A
AD.1X75 / 3X150	CKS.51A
ADB.0X40 / 2X40	CKS.66A
AGT.10X100	CKS.52A
AGT.6X100 / 8X100	CKS.51A
AN3,5X75 / 4X400	CKS.50A
AN4X25 / 6,5X35	CKS.68A
AN5,5X100 / 8X175	CKS.51A
AND0X75 / 1X75	CKS.50A
AND1X100	CKS.51A
AND1X25 / 2X35	CKS.68A
AND1X250	CKS.50A
AND1X400 / 3X150	CKS.51A
AND4X200	CKS.52A
ANDH2X125 / 3X150	CKS.51A
ANDH4X200	CKS.67A
ANF4X100 / 5,5X100	CKS.50A
ANF5,5X150 / 8X200	CKS.51A
ANF8EX200 / 10X250	CKS.52A
ANP0X75 / 1X250	CKS.50A
ANP1X25 / 2X35	CKS.68A
ANP2X100 / 3X150	CKS.51A
ANP4X200	CKS.52A
ANX10X35 / 20X35	CKS.68A
ANX10X75 / 20X100	CKS.50A
ANX25X100 / 40X150	CKS.51A
ANXR10X175 / 20X100	CKS.50A
ANXR25X100 / 40X150	CKS.51A
AP.1X75 / 4X200	CKS.51A
AP.0X50 / 0X75	CKS.50A
APB. 0X40 / 2X40	CKS.66A
APT. 2X100 / 3X100	CKS.51A
APY. 0X75VE / 4X200VE	CKS.51A

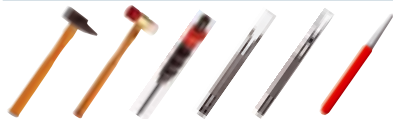
# Worktop cabinets and wall storage units

AR. 2,5X75 / 3,5X100	<b>CKS.50A</b>
AR. 2X40 / 2,5X50	<b>CKS.64A</b>
AR. 4X100 / 8X200	<b>CKS.51A</b>
ARA. 2,5X50 / 3,5X75	<b>CKS.64A</b>
ARB. 4X40 / 6,5X40	<b>CKS.66A</b>
ATH. 5,5X100 / 8X150	<b>CKS.51A</b>
ATH. 8EX175 / 12X250	<b>CKS.52A</b>
ATHH. 10X175 / 14X250	<b>CKS.52A</b>
ATHH. D1 / D2	<b>CKS.51A</b>
ATHH. D3	<b>CKS.52A</b>
ATHH. P1 / P2	<b>CKS.51A</b>
ATHH. P3	<b>CKS.52A</b>
ATHH.4X90 / ATHH.8X150	<b>CKS.51A</b>
AW3,5X100	<b>CKS.50A</b>
AW5,5X100	<b>CKS.51A</b>
AW8X150	<b>CKS.51A</b>
AWDH1X75 / 2X100	<b>CKS.51A</b>
AWFH5,5X125 / 8X175	<b>CKS.51A</b>
AWFH8EX175 / 14X250	<b>CKS.52A</b>
AWH5,5X125 / 6,5X150	<b>CKS.51A</b>
AWPH2X125 / 3X150	<b>CKS.51A</b>
AWPH4X200	<b>CKS.52A</b>
AWXR25X100	<b>CKS.51A</b>



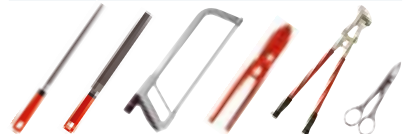
167E.9 / 167E.23	<b>CKS.61A</b>
167G.18 / 167G.23	<b>CKS.56A</b>
167G.9 / 167G.13	<b>CKS.59A</b>
169E.9 / 169E.23	<b>CK</b>
169G.13	<b>CKS.59A</b>
169G.23	<b>CKS.56A</b>
170A	<b>CKS.61A</b>
171.20EL	<b>CK</b>
176A.CP / 176A.CPY	<b>CKS.61A</b>
177E.23	<b>CKS.56A</b>
177E.24 / 177E.32	<b>CKS.61A</b>
177E.9 / 177E.19	<b>CKS.61A</b>
177G.18 / 177G.23	<b>CKS.56A</b>
177G.9 / 177G.13	<b>CKS.59A</b>
178A.CP	<b>CKS.59A</b>
179E.19	<b>CKS.61A</b>
179E.23	<b>CKS.56A</b>
179G.18 / 179G.23	<b>CKS.56A</b>
179G.9 / 179G.13	<b>CK</b>
180	<b>CKS.61A</b>
180.CPE	<b>CKS.61A</b>
180.TE	<b>CKS.61A</b>
180.VE	<b>CKS.61A</b>
181.18CPE	<b>CKS.61A</b>
181.18G	<b>CKS.61A</b>
181.18TE	<b>CKS.61A</b>
181.25CPE	<b>CKS.61A</b>
181.25G	<b>CKS.61A</b>
181.25TE	<b>CKS.61A</b>
181.30G	<b>CKS.61A</b>
182A.CP	<b>CKS.60A</b>
185.20 CPE	<b>CKS.56A</b>
185.28EG	<b>CKS.56A</b>
186.7CPG	<b>CKS.59A</b>
187.18 CPE / TE / VE	<b>CK</b>
191A.18EL / 191A.22EL	<b>CK</b>
192.16 CPE / TE	<b>CK</b>

194.17 CPE / TE / VE	<b>CKS.56A</b>
195.20 CPE / TE / VE	<b>CKS.56A</b>
197E.9 / 197E.32	<b>CKS.61A</b>
197G.23	<b>CKS.56A</b>
197G.9 / 197G.18	<b>CKS.59A</b>
199E.23	<b>CKS.56A</b>
199E.32	<b>CKS.61A</b>
199E.9 / 199E.18	<b>CK</b>
199G.18 / 199G.23	<b>CKS.56A</b>
199G.9 / 199G.13	<b>CKS.59A</b>
391.16 CPE / TE / VE	<b>CK</b>
395.14 / 395.16	<b>CKS.59A</b>
396	<b>CKS.56A</b>
401 / 404	<b>CKS.56A</b>
405.10	<b>CK</b>
405.12	<b>CKS.59A</b>
409	<b>CKS.59A</b>
410	<b>CKS.61A</b>
410.S	<b>CKS.61A</b>
411A.17	<b>CKS.59A</b>
411A.20	<b>CKS.56A</b>
416	<b>CK</b>
421	<b>CKS.59A</b>
425 / 435	<b>CK</b>
442	<b>CKS.56A</b>
505	<b>CKS.61A</b>
445.8DS / 445.10DS	<b>CKS.61A</b>
467 / 469	<b>CKS.61A</b>
477.32 / 479.32	<b>CKS.61A</b>
480.ECG	<b>CKS.61A</b>
481.40	<b>CKS.60A</b>
482.CPY / 482.EG	<b>CKS.61A</b>
484A	<b>CK</b>
484A.30	<b>CKS.61A</b>
491.18G	<b>CKS.61A</b>
491.20G	<b>CKS.61A</b>
491.22G	<b>CKS.61A</b>
495A.20EL	<b>CKS.61A</b>
495A.22EL	<b>CKS.61A</b>
495A.25EL	<b>CKS.61A</b>
495A.28EL	<b>CKS.60A</b>
495A.30EL	<b>CKS.60A</b>
497.32 / 499.32	<b>CKS.61A</b>
500 / 503	<b>CKS.60A</b>
504A.100	<b>CKS.61A</b>
504A.180	<b>CKS.46A</b>
506	<b>CKS.60A</b>
507A / 509	<b>CKS.61A</b>
511 / 512	<b>CKS.60A</b>
513.5 / 514A.65	<b>CKS.61A</b>
514A.240 / 516	<b>CKS.60A</b>
517.6 / 517.10	<b>CK</b>
520A.25 / 520A.170	<b>CKS.61A</b>
521.100 / 521.200	<b>CKS.60A</b>



200.F24 / 200.F42	<b>CKS.46A</b>
200A.24 / 200A.50	<b>CKS.46A</b>
202A.1/4 / 202A.2'	<b>CKS.46A</b>
203.F16 / 203A.20	<b>CKS.46A</b>
205.F10 / 205.F80	<b>CKS.46A</b>
205A.10 / 205A.50	<b>CKS.46A</b>
207A.25 / 207A.50	<b>CKS.46A</b>

208A.25 / 208A.60	<b>CKS.46A</b>
209.50 / 209.60	<b>CKS.46A</b>
212A.35 / 212A.60	<b>CKS.46A</b>
213.F30 / 213A.40	<b>CKS.46A</b>
214.10 / 214.R25	<b>CKS.66A</b>
214.R30	<b>CKS.67A</b>
214.R35	<b>CKS.68A</b>
215.16 / 215.30	<b>CKS.46A</b>
216.40 / 216.60	<b>CKS.46A</b>
859A.28 / 860A.40	<b>CKS.46A</b>
252.8 / 252.10	<b>CKS.64A</b>
254A.8 / 254A.10	<b>CKS.64A</b>
246.2 / 246.4	<b>CKS.64A</b>
246.5 / 246.6	<b>CKS.65A</b>
246.8	<b>CKS.66A</b>
248.2 / 248.6	<b>CKS.64A</b>
248.8 / 248.10	<b>CKS.66A</b>
249.2 / 249.3	<b>CKS.64A</b>
249.4 / 249.5	<b>CKS.65A</b>
249.6 / 249.G8	<b>CKS.65A</b>
249.G10 / 249.G16	<b>CKS.67A</b>
251A.1,5	<b>CKS.64A</b>
251A.2,5 / 251A.5	<b>CKS.64A</b>
251A.6	<b>CKS.65A</b>
247.2 / 247.6	<b>CKS.64A</b>
247.8L / 247.G8	<b>CKS.66A</b>
255.2,5 / 255.4	<b>CKS.64A</b>
255.6 / 255.8	<b>CKS.65A</b>
255.10	<b>CKS.66A</b>
255.G2,5 / 255.G10	<b>CKS.66A</b>
256.2,5 CKS.64A	<b>CKS.64A</b>
256.4 / 256.8	<b>CKS.65A</b>
256.10 / 257	<b>CKS.66A</b>



CAR.MD200EM	<b>CKS.60A</b>
DRD.B200EM/MD250EM	<b>CKS.60A</b>
PAM.B200EM / .MD250EM	<b>CKS.60A</b>
RAB.DRDB300EM	<b>CKS.61A</b>
RAB.DRDMD250	<b>CKS.61A</b>
RAB.DRDMD250EM	<b>CKS.60A</b>
RAB.RD250EM	<b>CKS.60A</b>
RD.B250EM/RD.MD200EM	<b>CKS.60A</b>
TP.AVR150EM / AVR200EM	<b>CKS.60A</b>
TP.EF150EM	<b>CKS.60A</b>
TRL.MD150EM / .MD200EM	<b>CKS.60A</b>
TRO.5,6EM	<b>CKS.61A</b>

603E 2 X CK	<b>2 X CK</b>
841.0	<b>CKS.58A</b>
841.4	<b>CKS.56A</b>
841.6	<b>CKS.56A</b>
841.7	<b>CKS.46A</b>
841.8A / 841.9	<b>CKS.56A</b>
880	<b>CK</b>
881 CKS.61A	<b>CKS.61A</b>
883B.G	<b>CKS.60A</b>
883.32	<b>CKS.60A</b>
884.30 / 884B	<b>CKS.60A</b>
983.8 / 983.10	<b>CKS.55A</b>
984.8 / 984.10	<b>CK</b>

## Internet.

• Keep up to date with our latest products. To find tools by vehicle marque or application visit our Web site at [www.facom.com](http://www.facom.com).





## ▶ Large capacity cabinet

### Cabinet with folding doors

#### 2940A

- 5 shelves.
  - 8 partitions 200 mm high.
  - 2 bin drawers 140 mm high (320 x 400 mm).
  - 2 bin drawers 140 mm high (160 x 400 mm).
- △△ : 185 kg.



## ▶ Drawer units

### Nine-drawer unit

#### 2939A

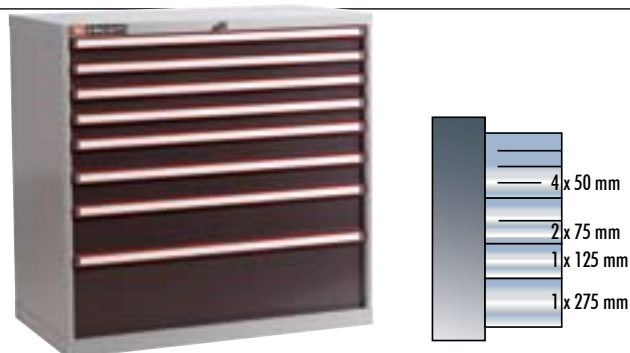
- Drawer size : 918 x 459 mm.
  - Overall cabinet dimensions : 1,020 x 1,000 x 575 mm.
  - Load per drawer : 100 kg.
  - Fully-opening drawers.
  - Anti-tilt system.
- △△ : 214 kg.



### Eight-drawer unit

#### 2938A

- Drawer size : 918 x 459 mm.
  - Overall cabinet dimensions : 1,020 x 1,000 x 575 mm.
  - Load per drawer : 100 kg.
  - Fully-opening drawers.
  - Anti-tilt system.
- △△ : 199 kg.



### Seven-drawer unit

#### 2937A

- Drawer size : 918 x 459 mm.
  - Overall cabinet dimensions : 1,020 x 1,000 x 575 mm.
  - Load per drawer : 100 kg.
  - Fully-opening drawers.
  - Anti-tilt system.
- △△ : 187 kg.

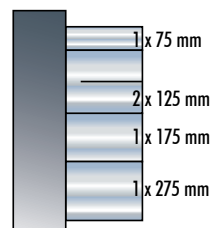


# Drawer units and large capacity cabinets

## Five-drawer unit

### 2935A

- Drawer size : 918 x 459 mm.
  - Overall cabinet dimensions : 1,020 x 1,000 x 575 mm.
  - Load per drawer : 100 kg.
  - Fully-opening drawers.
  - Anti-tilt system.
- ΔΔ : 158 kg.



## Drawer fittings

### 2930.A1A

- Plastic trays for 50 mm high drawers.
  - 36 compartments :
  - 150 x 150 x 46 mm (6 compartments).
  - 150 x 75 x 46 mm (18 compartments).
  - 75 x 75 x 46 mm (12 compartments).
- ΔΔ : 2.76 kg.



## Drawer fittings

### 2930.A2A

- Partitions for drawers 75 mm high.
  - 3 dividers 459 mm long.
  - 9 partitions 255 mm long.
  - 3 partitions 153 mm long.
- ΔΔ : 2.62 kg.



## Drawer fittings

### 2930.A4A

- Partitions for drawers 75 mm high.
  - 5 dividers 459 mm long.
  - 22 partitions 153 mm long.
- ΔΔ : 3.74 kg.



## Drawer fittings

### 2930.A6A

- Partitions for drawers 125 mm high.
  - 2 dividers 459 mm long.
  - 6 partitions 306 mm long.
- ΔΔ : 2.62 kg.









# 3. Toolboxes, cases and chests

## ▶ Tool boxes 104



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## ▶ Plastic cases 110



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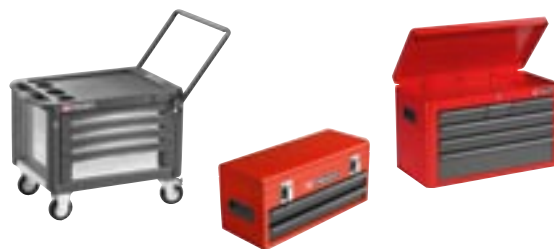
## ▶ "Light maintenance" soft cases 118



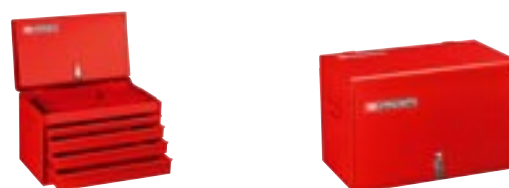
## ▶ Chests for roller cabinets 119



## ▶ Maintenance chests 121



## ▶ "Construction" chests 123



**NEW**

## Facom Pro Box



### *The professional answer*

#### Advantages

- ▶ Sturdy
- ▶ Kind to the working environment
- ▶ Lockable



**N** 107

**NEW**

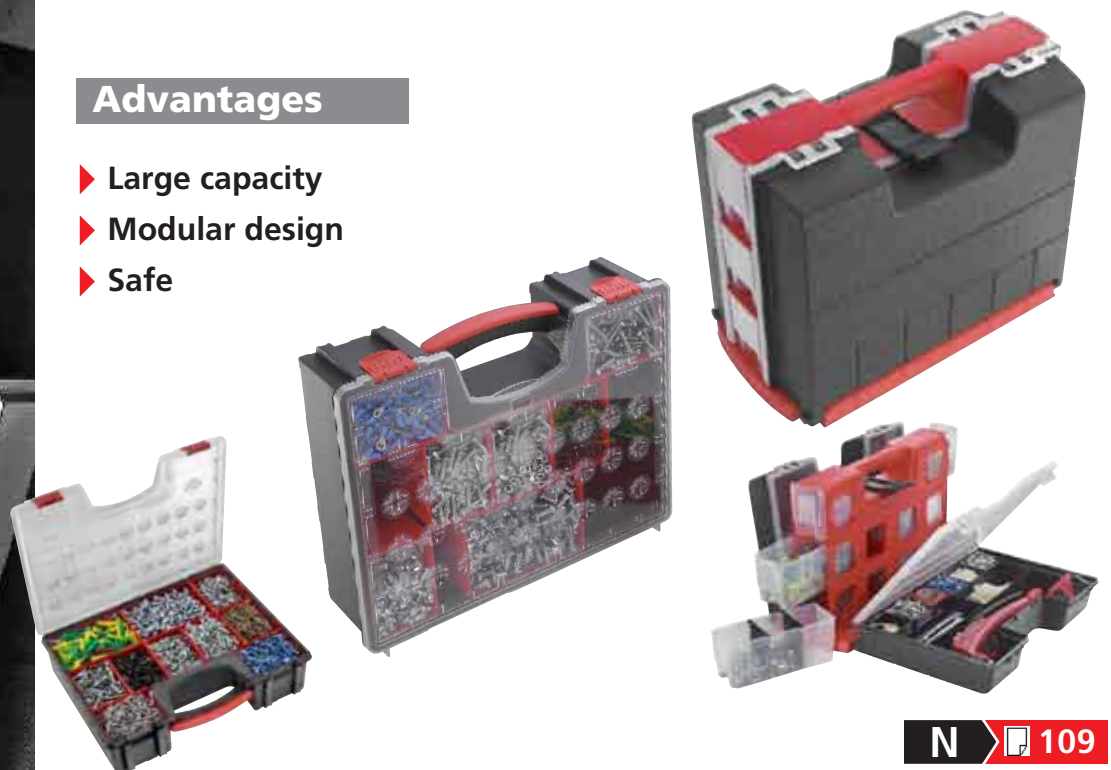
## Organisers



### *Ideal for on-site maintenance*

#### Advantages

- ▶ Large capacity
- ▶ Modular design
- ▶ Safe



**N** 109



*The new generation toolbox*



**Advantages**

- ▶ Sturdy design
- ▶ Safe and comfortable
- ▶ Many compartments



N 104



**New****FABRIC TOOL BOX  
BS.T20****FACOM PROBAG****Heavy duty design :**

- Very high strength 1,200 x 1,200 denier fabric.
- Rigid, waterproof tool compartment.
- Aluminium handle.

**Protection and comfort :**

- Leather grip.
- Padded shoulder strap.
- Closing flap.

**Handy storage :**

- Elastic tool retaining strap.
- Special screwdriver partition.
- Easy access to the tool compartment.
- Large number of side pockets.
- Adjustable saw compartment with self-adhesive strips.
- Flap top storage pouch.



**New**

## Fabric tool box

### BS.T20

- Dimensions : 49 x 22 x 35 cm.
- $\Delta\Delta$  : 2.797 kg.



## ► Metal tool boxes



## "Traditional" metal tool boxes

### INSTANT ACCESS TO COMPARTMENTS

#### STURDY

- 1) Heavy-duty hinges and anodized pins.
- 2) Stiffened lid Fully riveted.

#### PRACTICAL

- 3) Storage modules available.
- 4) Padlock clasp.

#### ERGONOMIC

- 5) Ergonomic handle
- 6) Edges carefully deburred for safety.



## Five-tray box

### BT.13A

- Large storage capacity.
- Can hold a hacksaw or spirit level.
- Handles pull apart for immediate access to all trays.
- Foam-lined compartment bottoms.
- Padlock clasp (padlock not supplied).
- Bottom bin : 518 x 200 x 98 mm.
- Trays : 526 x 100 x 55 mm.
- Capacity : 30 kg.
- Volume : 18 dm<sup>3</sup>.
- Dimensions : 560 x 220 x 238 mm.
- $\Delta\Delta$  : 5 kg.



### Five-tray box

#### BT.11A

- Large storage capacity
- Handles pull apart for immediate access to all trays.
- Foam-lined compartment bottoms.
- Padlock clasp (padlock not supplied).
- Bottom bin : 448 x 200 x 98 mm.
- Trays : 448 x 100 x 55 mm.
- Capacity : 25 kg.
- Volume : 17 dm<sup>3</sup>.
- Dimensions : 475 x 220 x 238 mm.
- $\Delta\Delta$  : 4.5 kg.



### Three-tray box

#### BT.9

- Good size-to-capacity ratio
- Handles pull apart for immediate access to all trays.
- Foam-lined compartment bottoms.
- Padlock clasp (padlock not supplied).
- Bottom bin : 448 x 205 x 98 mm.
- Trays : 448 x 100 x 55 mm.
- Capacity : 20 kg.
- Volume : 13 dm<sup>3</sup>.
- Dimensions :

	Dimensions mm	Description	$\Delta\Delta$ g
<b>P.10A</b>	444 x 95 x 30	Five-compartment tray	120
<b>PL.249</b>	435 x 89 x 44	Socket tray	150



### Tool box trolley

#### BT.A2

- Platform to take boxes and chests : BT.9-BT.11A-BT.13A.
- Box is secured but may be removed when necessary.
- Fold-down handle for easy storage.
- Wheels  $\varnothing$  98 mm for effortless travel.
- Max. load : 30 kg.
- Dimensions : 600/920 x 210 x 400 mm.
- $\Delta\Delta$  : 4.25 kg.



### Two-tray box

#### BT.6A

- Bottom bin and hinged top tray.
- Lid opening offsets top tray to give immediate access to bottom bin.
- Foam-lined compartment bottoms.
- Padlock clasp (padlock not supplied).
- Carrying handle, contoured edges and identity tag recess.
- Bottom bin : 440 x 170 x 85 mm.
- Top tray : 440 x 170 x 50 mm.
- Capacity : 15 kg.
- Volume : 10 dm<sup>3</sup>.
- Dimensions : 467 x 185 x 155 mm.
- $\Delta\Delta$  : 3 kg.



### "Compact" tool box

#### BT.4A

- Steel box containing a tool tray with central partition, comfortable handle.
- Bottom bin : 290 x 155 x 45 mm.
- Tray compartments 260 x 80 x 30 mm (x 2).
- Dimensions : 295 x 207 x 95 mm.
- $\Delta\Delta$  : 1.8 kg.





## ► Plastic tool boxes

# New

## FACOM PRO BOX

### THE PROFESSIONAL ANSWER

#### Sturdy

- Reinforced polypropylene shell.
  - Impact resistant.
  - Resistant to common chemical agents.
- Metal hinges and fasteners.
  - Very durable.
- Safe, comfortable aluminium handle.

#### Safe

- Flexible protective corner bumpers.
- Metal padlock clasps (padlock not included).

#### Easy tool use

- Portable tool tray.
- Securing straps in the lid (BP.P26 only).



# New

#### 51 cm box

##### BP.P20

- 51 cm, approx 36 dm.<sup>3</sup>.
- Dimensions : 50.2 x 26.8 x 27.3 cm.
- ΔΔ : 2.32 kg.



#### 66 cm box

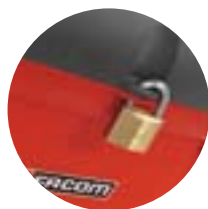
##### BP.P26

- 66 cm, approx 47 dm.<sup>3</sup>.
- Dimensions : 65 x 26.8 x 27.3 cm.
- ΔΔ : 2.94 kg.

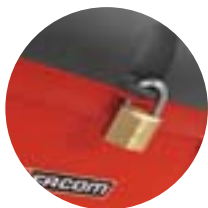


**41 cm box****BP.C16**

- 2 storage compartments on the lid.
  - Strong metal catches.
  - Padlock clasp (padlock not supplied).
  - Retractable handle.
  - Removable tray.
  - Stackable.
  - Dimensions : 41.1 x 19.9 x 18.5 cm (15 dm<sup>3</sup>).
- ΔΔ : 1.1 kg.

**49 cm box****BP.C19**

- 2 storage compartments on the lid.
  - Strong, padlockable metal catches (padlock not supplied).
  - Retractable handle.
  - Removable tray.
  - Stackable.
  - Dimensions : 49.3 x 25.6 x 24.8 cm (31 dm<sup>3</sup>).
- ΔΔ : 1.95 kg.

**61 cm box****BP.C24**

- 2 storage compartments on the lid.
  - Strong, padlockable metal catches (padlock not supplied).
  - Retractable handle.
  - Removable tray.
  - Stackable.
  - Dimensions : 61 x 27 x 28.4 cm (47 dm<sup>3</sup>).
- ΔΔ : 2.74 kg.



## ► Organizer

### Eight-compartment organizer

#### BP.Z8

- Transparent lid for immediate recognition of contents.
- 8 removable, divisible compartments (up to 10 spaces).
- Polycarbonate lid.
- Lid secures the inner compartments ensuring that the parts remain in place during transport.
- Dimensions : 42.2 x 33.5 x 10.6 cm
- ΔΔ : 1.8 Kg.



### Forty-six compartment organizer

#### BP.Z46

- Large capacity :
  - 36 litres.
  - 6 central drawers.
  - 2 side trays (up to 16 compartments per tray).
- Modularity :
  - Customisable storage trays for tools and consumables.
  - Tray separators providing up to 3 compartments per tray.
- Safety :
  - Safety catch preventing trays and drawers opening during transport.
- Dimensions : 45.4 x 24.4 x 32.4 cm.
- ΔΔ : 3.1 kg.



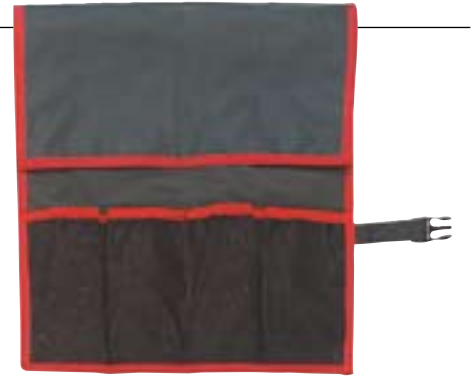


# "Light maintenance"

## Nylon tool roll bag

- Made of nylon.
- PVC pockets, available in small, medium and large sizes.
- Chemical and hydrocarbon-resistant.
- Practical : folds for transport.
- Secure : closed by clip-fastened strap.
- Ergonomic : spaces designed to suit tool sizes.

Ref	Dimensions mm	Number of pockets			Total no. of pockets
		Small	Medium- sized	Large	
<b>N.38A-4B</b>	310 x 530	-	-	4	4
<b>N.38A-6F</b>	360 x 520	3	-	3	6
<b>N.38A-10C</b>	320 x 735	3	1	6	10
<b>N.38A-12C</b>	330 x 800	5	-	7	12



## Plastic cases

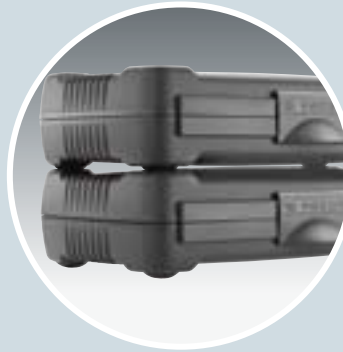


### Plastic cases

**FOR STORING TOOLS OR  
CONSUMABLES**



*Fitted with non-slip studs*



*Stackable*



*Scratch-resistant*

These cases can fit into other Facom units :

- Cases, tool boxes, roller cabinets, work benches, tool bags.

### BP Plastic cases

- Recyclable polypropylene.
- Chemical and hydrocarbon-resistant.
- High impact and drop resistance.
- Ultra-durable hinges and catches.
- Easily opened with one hand.
- Lightweight.

Ref	Dimensions mm	ΔΔ g
<b>BP.102</b>	204 x 122 x 52	172
<b>BP.109</b>	478 x 234 x 72	923
<b>BP.112</b>	389 x 164 x 66	452
<b>BP.115</b>	332 x 143 x 67	780





## Selection guide

### CHOOSING A CASE










Facom cases are of sturdy design for carrying heavy loads and are laid out in such a way as to optimise the available storage space. All cases are key-lockable for the safety of your tools.

- **Protect your back, reduce fatigue :**

Wheeled cases. The majority of Facom cases are compatible with the "Facom case trolley" or are fitted as standard with wheels.

- **A case to suit every need :**



	Hand-held	Workstation case (with adjustable trolley)	Roller cases
Standard	 See p. 112 BV.21ST : clear bottom section BV.21SX : compartmented bottom section	 See p. 114 BV.21ST + BV.C1 + BV.C1A1 BV.21SX + BV.C1 + BV.C1A1	 See p. 115 BV.21TR1
Heavy-duty	 See p. 112 BV.51A : rack tool holders BV.51APR : pouch tool storage	 See p. 114 BV.51A + BV.C1 + BV.C1A1 BV.51APR + BV.C1 + BV.C1A1	---
Seal tight	 See p. 113 BV.29 : without connecting plate BV.29P : with plate BV.C1A1	 See p. 114 BV.29 + BV.C1 + BV.C1A1 BV.29P + BV.C1 + BV.C1A1	---
Large capacity	---	---	 See p. 115 BV.61
Leather	 See p. 116 BV.7A : "Large" BV.6A : "Medium" 640083 : "Small" BV.5A : with drawers	---	---



## ► Electrical service cases

### Technicians case

#### BV.51A

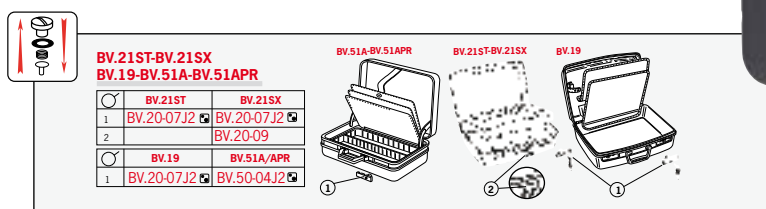
- Tool storage racks (8) with rubber holding straps on 4 surfaces.
  - 1 document holder in the lid.
  - 1 fully modular compartment with 5 removable partitions.
  - Lid can be locked open.
  - Numbered key lock (20 different lock numbers can be provided to special order).
  - Bi-material handle.
  - Impact-resistant polypropylene shell.
  - Non-slip rubber feet.
  - Sizes of the 5 partitions :
    - 1 partition 315 mm x 65 mm.
    - 2 partitions 185 mm x 65 mm.
    - 2 partitions 125 mm x 65 mm.
  - Size of the bottom compartment : L.435 x D.315 x H.65 mm.
  - Overall dimensions : L.486x D.430 x H.205 mm.
  - Internal dimensions : L.470x D.345 x H.190 mm.
- ΔΔ : 6.12 kg.



### Technicians case

#### BV.51PR

- Similar to model BV.51A, but with additional internal storage panels.
  - Tool pockets on 4 sides.
- ΔΔ : 5.3 kg.



### Fitters case

#### BV.21SX

- Shock-resistant polypropylene. Airline approved. Volume 28 dm<sup>3</sup>.
  - Compartment bottom section.
  - Modular tool storage with sealed compartments.
  - 3 small component containers (BV.21BP).
  - Soldering iron stand (BV.21-10).
  - Numbered safety key locks (20 different lock numbers can be provided to special order).
  - Max. capacity : 25 kg.
  - Internal dimensions : 500 x 360 x 165 mm.
  - Overall dimensions : 530 x 390 x 180 mm.
- ΔΔ : 4.2 kg.



Ref	Dimensions mm	Description	ΔΔ g
BV.21-10	180 x Ø 35	Soldering iron stand	200
BV.21BP	165 x 110 x 28	Set of 3 plastic boxes	180
BV.21M	490 x 345 x 35	Foam compartment divider	200



## Fitters case

### BV.21ST

- Shock-resistant polypropylene. Airline approved. Volume 28 dm<sup>3</sup>.
  - Modular tool storage with sealed compartments.
  - Clear bottom section with no partitioning.
  - Numbered safety key locks (20 different lock numbers can be provided to special order).
  - Internal dimensions : 500 x 360 x 165 mm.
  - Overall dimensions : 530 x 390 x 180 mm.
- ΔΔ : 4.1 kg.

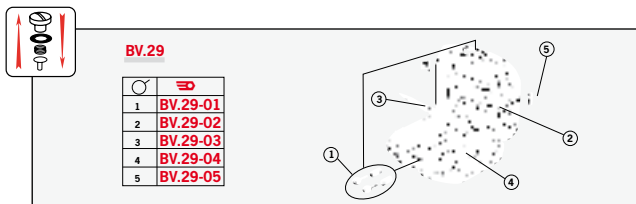


## ► Universal cases

### Universal seal-tight case

#### BV.29

- Polypropylene copolymer outer shell with integral handle
  - Side catches and seal for complete weather-tightness.
  - Impact and hydrocarbon-resistant.
  - High-security numbered locks (100 different lock numbers can be provided to special order).
  - Two double-sided tool trays with elastic tool holders.
  - Large compartmented bottom section.
  - Volume : 29 dm<sup>3</sup>.
  - Internal dimensions : 525 x 310 x 185.
  - Overall dimensions : 570 x 415 x 200
- ΔΔ : 5 kg.



### Universal seal-tight case with mounting plate

#### BV.29P

- General specification as BV.29, but with a plate (BV.C1A2) with a lock for securing to a wall, inside a vehicle or on a motorbike.
- ΔΔ : 5.3 kg.



## Workstation trolley and service case holder

### BV.C1

- Trolley only, compatible with case BV.29P or other case if fitted with plate BV.C1A1.
- Wheel, frame and multi-functional head assembly.
- Easy to use.
- Anti-tilt system.
- Case locks onto trolley.
- Max. capacity : 35 kg.
- Working height : 570 mm (+/- case).
- Folded length : 850 mm.
- Wheel base : 440 mm
- Wheel diameter : 150 mm.

ΔΔ : 4.5 kg.

Code	Description
BV.C1A1	Plate
BV.C1A2	Plate



### Plate

#### BV.C1A1

- Universal plate fitting all cases, for attachment to trolley BV.C1.

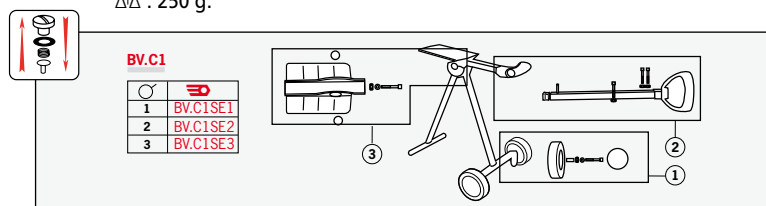


### Plate

#### BV.C1A2

- Additional mounting plate for BV.29P providing additional attachment options (wall, motorbike, car).

ΔΔ : 250 g.



## ► Roller cases

### Fitters roller container case

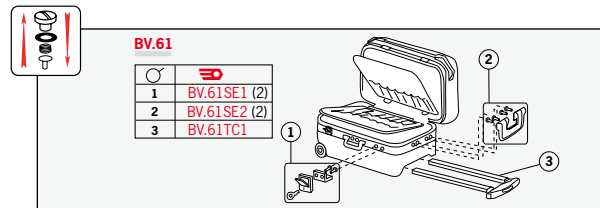
#### BV.61

- High Density Polyethylene (HDPE).
- Integral lockable folding trolley system
- 2 removable intermediate panels for optimum, tidy storage.
- Large volume bottom section for bulky items and/or spare parts.
- 2 handles providing 2 carrying options.
- Increased stability.
- 3 small component containers.
- Stiffeners.
- Large diameter wheels.
- Numbered safety key locks (20 different lock numbers can be provided to special order).
- Max. capacity : 30 kg.
- Length when open : 850 mm.
- Internal dimensions : 470 x 390 x 347 mm.
- Overall dimensions : 550 x 440 x 365.

△△ : 8.5 kg.



Image	Description
	<b>BV.61BP</b>
	Set of 3 plastic boxes

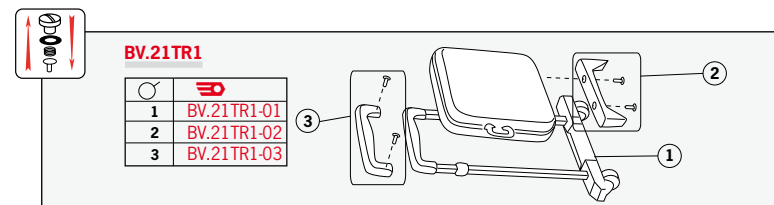


### Fitters service roller case

#### BV.21TR1

- Lockable, folding steel trolley system.
- Modular tool storage with sealed compartments.
- Foam dividers for holding tools in place during transport and doubling as knee protection.
- 2 small component containers.
- Numbered safety key locks (20 different lock numbers can be provided to special order).
- Max. capacity : 25 kg.
- Internal dimensions : 500 x 360 x 165 mm.
- Overall dimensions : 530 x 390 x 180 mm, excluding trolley system.

△△ : 5.2 kg.







## Leather cases

Strong leather and convenient plastics for long life and user comfort.



Quality finish.



Optimum storage.



Comfort.



Security.

## Fold-down front case

**BV.7A**

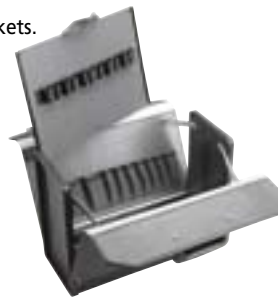
- Removable double-sided tilting panel 400 x 280 mm, comprising :
  - one side for tool storage and the other with a pocket for A4 documents and miscellaneous items.
  - back panel with 11-slot tool holder.
  - front flap with tool holder.
  - galvanized steel base.
- Stand-off feet.
- Dimensions : 445 x 330 x 185 mm.
- $\Delta\Delta$  : 3.8 kg.



## Dual access case

**BV.6A**

- Removable middle panel 400 x 280 mm. Slots on both sides will hold a total of 22 tools.
- Front and rear flaps opening to 45° with tool storage pockets.
- ABS base and sides.
- Dimensions : 430 x 350 x 195 mm.
- $\Delta\Delta$  : 3.15 kg.



## Drawer case

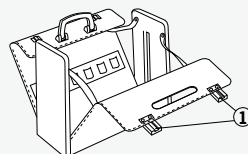
**BV.5A**

- Sliding drawers, one with 4 trays partitionable into 1 to 8 compartments, giving instant access to contents : 375 x 116 x 40 mm.
- Removable tray with handle.
- Tilting rear panel with 22-slot tool holder.
- Dimensions : 425 x 320 x 215 mm.
- $\Delta\Delta$  : 4.6 kg.



BV.5A-BV.6A-BV.7A

○	☞
1	BV.5-04 (2)



## Case

### 640083

- Dimensions : 430 x 290 x 180 mm.
  - Rear panel with 11-slot tool holder.
  - Centre compartment for bulky items.
  - Front flap with 9-slot tool holder.
- ΔΔ : 2.6 kg.



## Leather bags

### Compact bag

#### BV.100

- Ideal for tools for on-site repairs to machinery.
  - Very strong and resistant to aggressive environments.
  - Dimensions : 350 x 120 x 120 mm.
- ΔΔ : 510 g.



### Leather tool bag

#### 703232

- Hide tool bag with shoulder strap.
  - Reinforced sides for increased stiffness.
  - Nickel-plated rivets.
  - Closed by 3 buckles.
  - Dimensions : 405 x 145 x 125 mm.
- ΔΔ : 880 g.



### Plumbers bag

#### BV.105

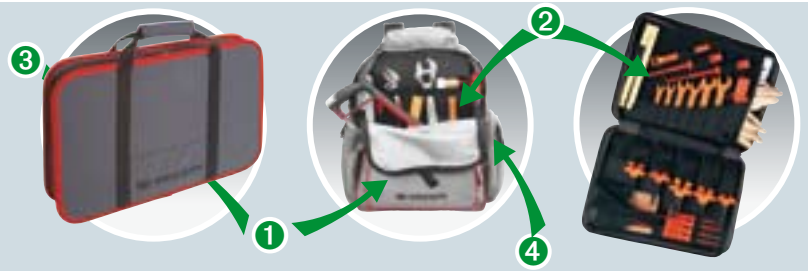
- High strength, ideal for carrying bulky tools safely.
  - Wide adjustable shoulder-strap.
  - Fastened by buckles.
  - Reinforced base with protective studs.
  - Dimensions : 500 x 160 x 160 mm.
- ΔΔ : 1.3 kg.





## Soft cases and back-packs

- ① Highly resistant materials.
- ② Practical storage.
- ③ Sturdy carrying straps.
- ④ Additional pockets.



### Soft case

#### BV.16

- Resistant to hydrocarbons.
- Double-ended zip fastener can be secured by padlock (not supplied).
- A4 document holder.
- 29 tool slots and one compartment for a box or measuring instrument, 220 x 120 x 50 mm max.
- Load capacity : 10 kg.
- Stiff sides hold tools in position.
- Dimensions : 440 x 315 x 75 mm.
- ΔΔ : 920 g.



### Back-pack

#### BV.17

- Sized for easy carrying, with adjustable waist and shoulder straps.
- Adjustable tool-retaining straps.
- 2 side pockets 220 x 110 x 40 mm.
- 1 zip-fastened back pocket 200 x 100 x 20 mm.
- 1 top pocket 190 x 100 x 35 mm.
- Strap for attaching ropes or long objects.
- Base designed for carrying a toolbox or bulky items.
- Padlock option (padlock not supplied).
- Load capacity : 20 kg.
- Dimensions : 530 x 450 x 220 mm.
- ΔΔ : 1.3 kg.





# Chests for roller cabinets



Compatible with the Facom modular storage system

## Drawer chests

See these products on p. 66

### A WIDE RANGE OF APPLICATIONS



Compatible with roller cabinets



Stackable (BT.74TRA)



Roller-mounted (JET.CR4GXL)



Dedicated "construction" chest (BT.28)

## JET.XL red four-drawer chest

### JET.C4XL

- All the advantages of the JET.XL range.
- Drawer sizes :
  - 3 drawers 60 mm high.
  - 1 drawer 130 mm high.
- Overall dimensions (including worktop) : L.780xD.510xH.470 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130.
- Drawer capacity : 20/25 kg.
- Compatible with the FACOM modular storage system.
- Able to receive removable drawer partitions (not included).
- Stackable on JET.XL. roller chest or cabinet (kit included).
- Red 3020.
- $\Delta\Delta$  : 45.5 kg.



## JET.XL grey four-drawer chest

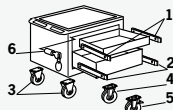
### JET.C4GXL

- All the advantages of the JET.XL range.
- Drawer sizes :
  - 3 drawers 60 mm high.
  - 1 drawer 130 mm high.
- Overall dimensions (including worktop) : L.780xD.510xH.470 mm.
- Effective drawer dimensions : L.569xD.421xH.60/130.
- Drawer capacity : 20/25 kg.
- Compatible with the FACOM modular storage system.
- Able to receive removable drawer partitions (not included).
- Stackable on JET.XL. roller chest or cabinet (kit included).
- 9006 grey.
- $\Delta\Delta$  : 45.5 kg.



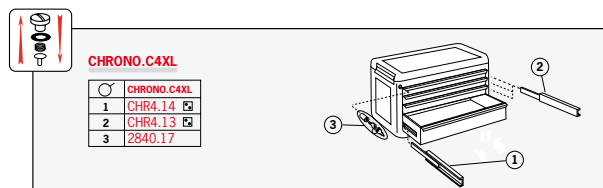
JET.C4XL, JET.C4GXL

Ø	FACOM	Ø	FACOM
1	JET2.13	4	2092.09
2	JET2.14	5	2092.10
3	2092.11	6	2840.17



**CHRONO.XL four-drawer chest****CHRONO.C4XL**

- Same specification as the CHRONO.XL roller cabinet range.
  - Drawer sizes :
    - 3 drawers 60 mm high.
    - 1 drawer 130 mm high.
  - Overall dimensions (including worktop) : 735 x 510 x 480 mm.
  - Effective drawer dimensions : L. 569 x D. 421 x H. 60/130.
  - Drawer capacity : 20 kg.
  - Compatible with the FACOM modular storage system.
  - Able to receive removable drawer partitions (not included).
  - Stackable on CHRONO.XL roller cabinets with connection kit CHRONO.C4K1 (not included).
  - Converts to a roller chest with wheel kit CHRONO.C4K2 (not included).
  - Colour : RAL 3020 red cabinet and 9006 grey drawers.
- ΔΔ : 41 kg.

**Connection kit****CHRONO.C4K1**

- For securely attaching the CHRONO.C4XL chest on top of a CHRONO.XL roller cabinet.
- ΔΔ : 1.7 kg.

**Wheel kit****CHRONO.C4K2**

- For converting chests CHRONO.XL or JET.XL into roller chests.
  - Comprising a set of wheels (2 fixed, 2 castors, one with a brake) and a handle.
- ΔΔ : 5.4 kg.

**Maintenance chests****Wheel kit****BT.74K2**

- For converting BT.74 series chests to mobile units
  - Wheels Ø 100 mm, 2 fixed and 2 castors, one with brake.
  - Mounting screws supplied.
- ΔΔ : 3 kg.



# Maintenance chests

## Stacking kit

### BT.74K1

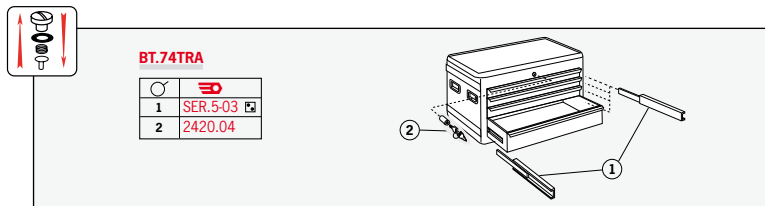
- For stacking and securing two BT.74TRA series chests
- ΔΔ : 1.48 kg.



## Four-drawer chest

### BT.74TRA

- ABS worktop.
  - 3 drawers 50 mm high.
  - 1 drawer 100 mm high.
  - Drawer dimensions : 534 x 358 mm.
  - 4 lifting handles on the sides of the chest.
  - Dimensions : 700 x 450 x 445 mm.
  - RAL 3020 red.
- ΔΔ : 30 kg.



## Six-drawer chest

### BT.66

- 1 drawer 110 mm high (x 297 x 534 mm).
  - 2 drawers 50 mm high (x 297 x 534 mm), 1 with partitions
  - 2 drawers 50 mm high (x 297 x 194 mm).
  - 1 drawer 50 mm high (x 297 x 82 mm).
  - 1 top compartment 45 mm high.
  - Lid closure locks drawers against opening.
  - Central key-locking.
- ΔΔ : 27 kg.



## Four-drawer chest

### BT.64

- 3 drawers 50 mm high (x 297 x 534 mm), 2 with partitions.
  - 1 drawer 110 mm high (x 297 x 534 mm).
  - 1 top compartment 45 mm high.
  - Lid closure locks drawers against opening.
  - Central key-locking.
- ΔΔ : 26 kg.





### Three-drawer chest

#### BT.23L

- 3 drawers 50 mm high (475 x 185 mm).
- 1 top compartment 535 x 220 x 100 mm.
- Padlock clasp (padlock not supplied).
- Dimensions : 550 x 230 x 315 mm.
- ΔΔ : 12 kg.



### Two-drawer chest

#### BT.22L

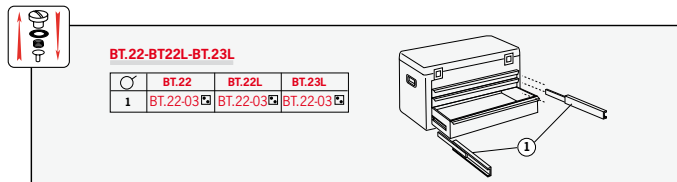
- 2 drawers 50 mm high (475 x 185 mm).
- 1 top compartment 535 x 220 x 100 mm.
- Padlock clasp (padlock not supplied).
- Dimensions : 550 x 230 x 254 mm.
- ΔΔ : 10 kg.



### Two-drawer chest

#### BT.22

- 2 drawers 50 mm high (404 x 185 mm).
- 1 top compartment 465 x 220 x 100 mm.
- Padlock clasp (padlock not supplied).
- Dimensions : 480 x 230 x 254 mm.
- ΔΔ : 8 kg.



### Three-drawer chest

#### BT.63

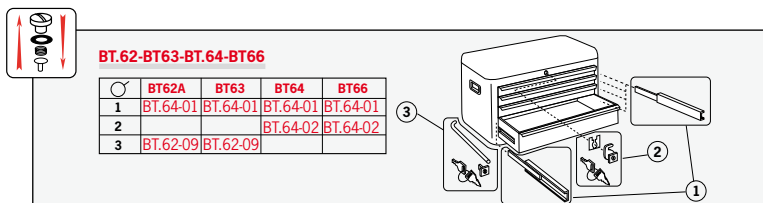
- 3 drawers 50 mm high (x 297 x 534 mm), 2 with partitions.
- ABS-covered top.
- Central key-locking.
- ΔΔ : 16 kg.



### Two-drawer chest

#### BT.62A

- 1 drawer 50 mm high (x 297 x 534 mm) with partitions.
- 1 drawer 110 mm high (x 297 x 534 mm).
- ABS-covered top.
- Central key-locking.
- ΔΔ : 15 kg.



# Maintenance chests

## Cart

### 2701

- For BT.66 - BT.63 - BT.62 and BT.28.
- Wheels Ø 100 mm.
- Middle shelf for bulky tools.
- Dimensions : 804 x 670 x 427 mm.
- ΔΔ : 20 kg.



## Chest trolley

### 2220A

- Can carry chests BT.63/64/66/28.
- Wheels Ø 100 mm, 2 fixed and 2 castors.
- Dimensions : 860 x 430 x 190 mm.
- ΔΔ : 12 kg.

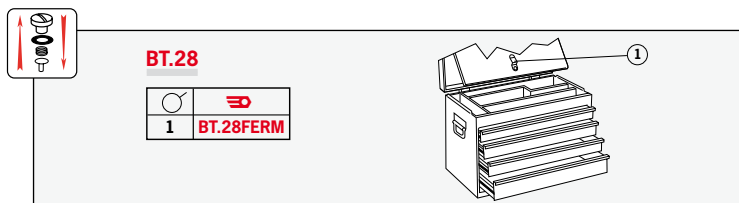


# "Construction" chests

## "Construction" chests

### BT.28

- Strong chest for carrying heavy tools.
- Capacity : 80 kg.
- Ideal for building-site vehicles.
- Side handles.
- Padlocking option.
- Comprising :
  - 1 drawer 38 mm high (x 537 x 314 mm)
  - 2 drawers 58 mm high (x 537 x 314 mm)
  - 1 drawer 78 mm high (x 537 x 314 mm).
- Dimensions : 615 x 385 x 392 mm.
- ΔΔ : 45 kg.









# 4. Wrenches

## ► Combination wrenches 128



Standard series .....	128
Fast series .....	132
Compact series .....	133
Offset series .....	134
Power series .....	135

## ► Ratchet wrenches 136



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Hinged ratchet combination wrench series .....	139
Ratchet ring wrench series .....	140
15° angle head ratchet ring wrench series .....	141
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## ► Open-end wrenches 143



Standard series .....	143
Low-profile series .....	144
Compact series .....	145
Power series .....	146

## ► Ring wrenches 147



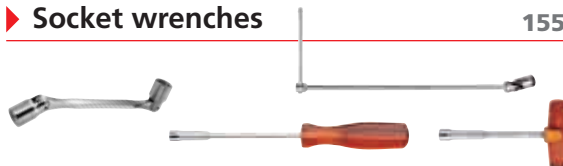
Standard series .....	147
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Series for side-hole nuts .....	163
Series for top-hole nuts .....	165



**NEW**

### "JP" sleeve set



*Your wrenches always close to hand*

#### Advantages

- ▶ Immediately find the right wrench
- ▶ No more tools left on site
- ▶ Super compact



**N** 130

**NEW**

### Ratchet wrenches: a comprehensive range



*The advantages of a ratchet wrench*

#### Advantages

- ▶ Fast
- ▶ Compact
- ▶ Manoeuvrable



**N** 136

The combination wrench reinvented for you

Advantages

440

Manoeuvrable...  
Precise...  
Powerful...



- ▶ More control
- ▶ Better ring head accessibility
- ▶ More efficient open-end
- ▶ More power, delivered safely



N 128



# 4 Combination wrenches

## ► Standard series

Fixed-size and adjustable wrenches



THE "NEW GENERATION"  
"COMBINATION WRENCH"

THE COMBINATION WRENCH REINVENTED FOR YOU



### More control

During pre-tightening :

- More stable
- Easier to guide
- Wrench does not turn in the hand.



### More comfortable

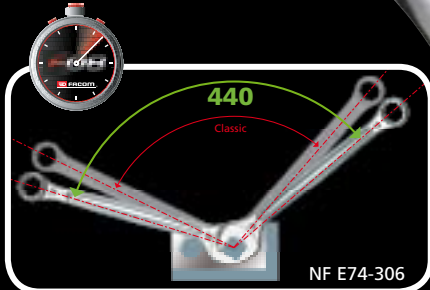
- Variable handle cross section doubles the surface in contact with the hand.

Painless torque application



### Better ring head accessibility

- Ring head provides better clearance for reaching recessed or closely spaced nuts.



### More efficient open-end

The open-end / handle geometry provides 20 % better accessibility.

### More power, delivered safely

- Meets the requirements of aerospace standard SAE AS954E.
- Up to 400 % spare capacity for tightening high-strength bolts.
- Tightening torques guaranteed significantly above NF ISO 1711-1 specifications.

ISO 898-1* 60 N.m		<b>+ 400 %</b>
ISO 1711-1 175 N.m		
SAE AS 954E	**253 N.m	<b>+ 25 %</b>
<b>440</b>		<b>310 N.m !</b>

\* ISO bolt class,  $\mu = 0.10$ , see page / \*\* imperial-metric equivalence.

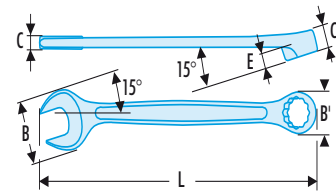
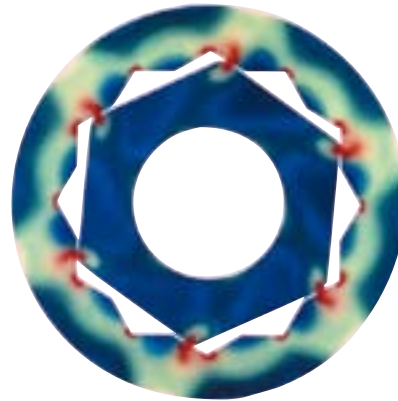
# Combination wrenches

## 440 OGV® metric and inch combination wrenches

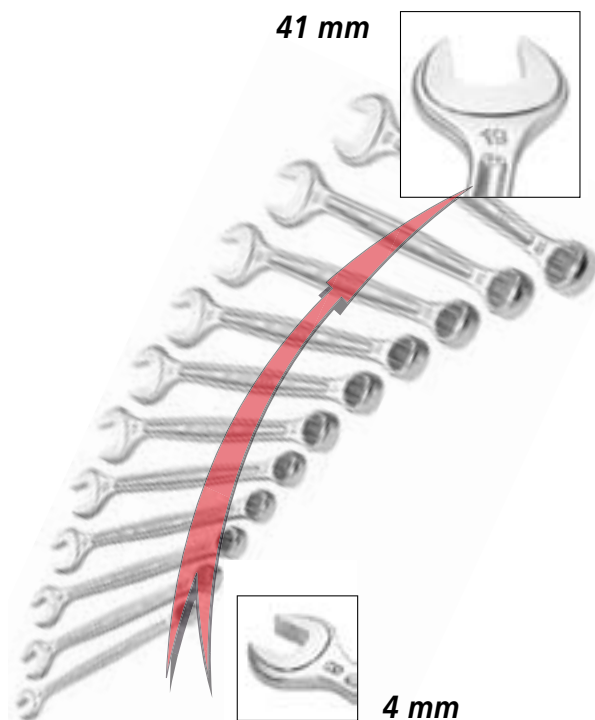
▷ Industrial and automotive : ISO 691, NF ISO 691, ISO 7738, NF ISO 7738, ISO 3318, NF ISO 3318, ISO 1711-1, NF ISO 1711-1, NF E74-306.

▷ Aerospace : SAE AS 954E.

- Wide range of openings :
  - Metric sizes : 4 to 41 mm.
  - Inch sizes : 1/4" to 1 1/2".
- High mechanical performance combined with compact design complying with aeronautical standards :
  - Ring head :
    - Ring clearance (dimension E) designed for better access to recessed or closely spaced screws.
    - 12-point OGV profile for a high torque without damaging the nut / prefix H : 6-point ring.
    - Angled at 15°.
  - Open-end :
    - Optimised open end / handle geometry for increased accessibility.
    - Ground contact faces.
    - Satin chrome finish.



mm		C'	B'	L	B	C	E	ΔΔ
mm	"	mm	mm	mm	mm	mm	mm	g
440.4H		3,5	7,8	106	10	3	2,1	7
440.5H		6,0	9,2	115	13,3	3,6	3,1	16
440.5,5H		6,0	9,2	115	13,3	3,8	3,1	17
440.6	440.1/4	6,0	10,0	115	14,1	3,8	3,1	17
440.7		6,2	11,2	122	17,2	3,9	3,4	21
440.8	440.5/16	6,7	12,8	133	19,2	4,7	3,5	29
440.9	440.11/32	7,1	14,2	138	21,2	4,7	3,9	34
440.10	440.3/8	7,6	15,0	145	23	5,2	4,2	42
440.11	440.7/16	8,1	16,9	155	24,5	5,5	4,6	49
440.12		8,4	18,0	162	27	5,8	4,4	57
440.13	440.1/2	8,6	19,3	170	28,7	6,1	4,8	70
440.14	440.9/16	9,5	21,1	180	31	6,4	5,7	82
440.15		10,0	22,2	185	32,6	6,8	5,9	95
440.16	440.5/8	10,5	23,9	195	35,6	7,3	6,4	113
440.17	440.11/16	10,9	25,3	202	37	7,6	6,5	127
440.18		11,4	26,0	208	38,7	8,1	7,2	146
440.19	440.3/4	11,9	27,8	216	41,2	8,3	7,2	167
440.20	440.13/16	12,3	29,5	224	43,1	8,6	6,3	184
440.21		12,8	30,9	233	45,4	8,8	7,8	205
440.22	440.7/8	13,3	32,3	248	46,9	9	8,3	230
440.23		13,8	33,6	257	49	9,3	8,7	254
440.24	440.15/16	14,2	35,0	267	51	9,7	8,9	289
440.25	440.1'	14,7	36,4	274	53	9,9	9,4	311
440.26		15,1	37,8	285	55,5	10,1	9,8	342
440.27	440.1'1/16	15,6	39,2	295	58	10,4	8,9	376
440.28	440.1'1/8	16,1	40,6	305	60,7	10,7	10,6	416
440.29		16,6	42,0	320	63	11,2	10,8	473
440.30		17,1	43,5	340	65	11,5	11,2	531
440.32	440.1'1/4	18,0	46,1	355	68	12,5	11,5	639
440.33	440.1'5/16	18,5	47,0	380	69,8	12,8	11,8	716
440.34		19,0	48,9	390	72	13	12,8	741
440.35	440.1'3/8	19,5	51,0	430	74,3	13,5	12,8	888
440.36	440.1'7/16	20,0	53,0	440	76	14	13,2	941
440.38	440.1'1/2	22,0	56,0	450	80	15,2	14,1	1128
440.41		23,0	58,3	460	85	16	14,7	1286



## New 440 combination wrench

### UNCOMPROMISING PRODUCTION AND INSPECTION

- Facom has designed a wrench that is optimised for users and their needs : The optimised shape of the 440 wrench combines power, comfort and agility. In order to produce this complex shape, Facom has developed a special manufacturing process involving new technologies.
- Each production batch undergoes dimensional inspection, as well as static and fatigue mechanical performance, wear and corrosion resistance testing.



Endurance test under load

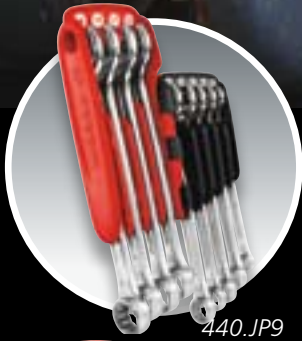
# 4 Combination wrenches

Fixed-size and adjustable wrenches

**New**

**440.JP9 - 440.JP12**

9 or 12 piece combination wrench clip set



440.JP9



440.JP12

## **YOUR WRENCHES WITH YOU AT ALL TIMES**

### **Practical : save time**

- Easy, clear wrench identification.
- Quick, foolproof tool storage.
- No more loose wrenches in your tool box.
- Belt hook.
- Hole for wall hook.

### **Safe : no more lost wrenches.**

- Missing wrenches readily identified : no more tools left on site at the end of the job.
- Durable wrench locking system.

### **Ultra compact**

Total overall dimensions :  
219x66x38 mm for 440.JP9.  
280x87x47 for 440.JP12.

### **Easy to store.**

- In any storage compartments of any Facom tool box (BT11, BT13, Probox, etc.).
- In any roller cabinet drawer.



**FO8**



# Combination wrenches

## 440 Clip set of OGV® combination wrenches

- Quickly stored, quickly identified, always with you.
- Chemical product-resistant.

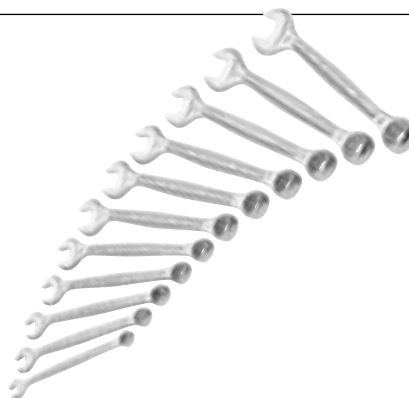
⇒	⊘ mm	ΔΔ g
<b>440.JP9</b>	8-10-11-12-13-16-17-18-19	940
<b>440.JP12</b>	7-8-10-11-12-13-16-17-18-19-22-24	1548



## 440 Metric OGV® combination wrench sets

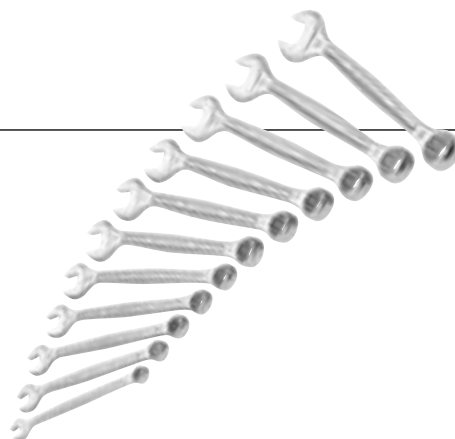
- Supplied as box, roll or panel sets.

⇒	📦	📜	📄	⊘ mm	ΔΔ g
<b>440.JN8</b>		•		8-10-11-13-17-19-22-24	1003
<b>440.JN8T</b>	N.38A-8C			8-10-11-13-17-19-22-24	1133
<b>440.JE9</b>		•		8-9-10-11-12-13-14-17-19	657
<b>440.JE11</b>		•		7-8-10-11-12-13-14-16-17-18-19	903
<b>440.JE16</b>		•		8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	1989
<b>440.JE16T</b>	N.38A-17A			8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	2164
<b>440.JE18</b>		•		6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	1989
<b>440.JE25</b>				6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24-26-27-28-29-30-32-34	5545
<b>440.P25M</b>		•		6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24-26-27-28-29-30-32-34	5545



## 440 Inch OGV® combination wrench sets

⇒	📦	📜	⊘ mm/°	ΔΔ g
<b>440.JU6T</b>	N.38A-6B		3/8-7/16-1/2-9/16-5/8-11/16	603
<b>440.JU9</b>		•	1/4-5/16-3/8-7/16-1/2-9/16-5/8-11/16-3/4	696
<b>440.JU12</b>		•	1/4-5/16-3/8-7/16-1/2-9/16-5/8-11/16-3/4-13/16-7/8-15/16	1399
<b>440.JU17T</b>	N.38A-17		1/4-5/16-11/32-3/8-7/16-1/2-9/16-5/8-11/16-3/4-13/16-7/8-15/16-1"-11/16"-11/8"-11/4"	3350



## 440 OGV® combination wrench sets in thermo-formed modules

- Compatible with the FACOM modular storage system (all roller cabinets).
- MOD.440-1XL and MOD.440-2XL : to fit XL roller cabinets.
- MOD.440-1, MOD.440-2 and MOD.440-4 : to fit all roller cabinets.

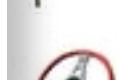
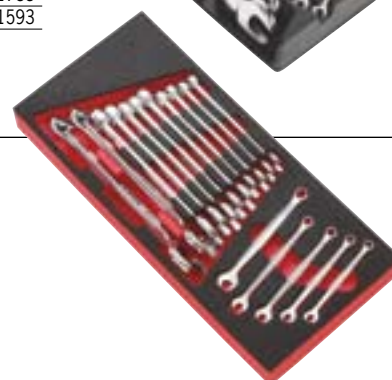
⇒	📦	⊘ mm/°	ΔΔ g
<b>MOD.440-1XL</b>	PL.313	6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-24	1938
<b>MOD.440-1</b>	PL.670	6-7-8-9-10-11-12-13-14-15-16-17-18-19-22-24	1733
<b>MOD.440-2XL</b>	PL.671	27-29-30-32-34	2920
<b>MOD.440-2</b>	PL.314A	27-29-30-32	1733
<b>MOD.440-4</b>	PL.673	1/4-5/16-11/32-3/8-7/16-1/2-9/16-5/8-11/16-3/4-13/16-7/8-15/16	1593



## 440 OGV® combination wrench sets in foam modules

- Compatible with the FACOM modular storage system (XL roller cabinets).

⇒	📦	⊘ mm/°	ΔΔ g
<b>MODM.440-1</b>	PM.MOD440-1	6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-24	1868
<b>MODM.440-2</b>	PM.MOD440-2	27-29-30-32-34	2855





## Ratchet wrenches

For our ratchet wrench range, see section 4, page 136



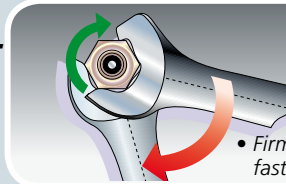
### Fast series



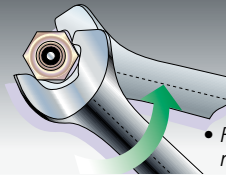
**TWICE AS FAST**

## 40R - Ratchet-effect combination wrench

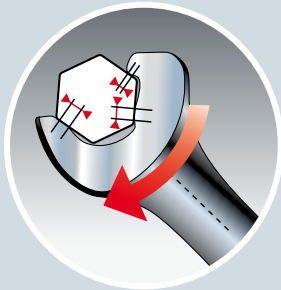
### Ratchet effect.



- Firm pressure on fastener flats.



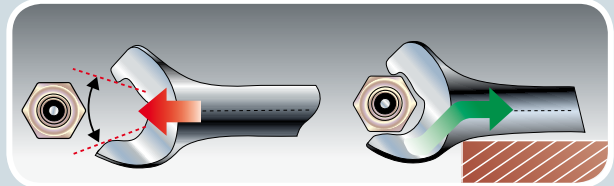
- Rewind action without removing the tool.



### 3 drive surfaces.

- Less wear.
- Less risk of tool slippage.

### Easier positioning and withdrawal.

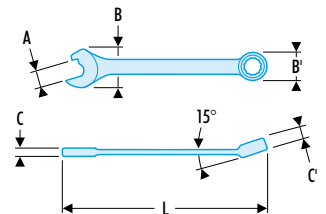
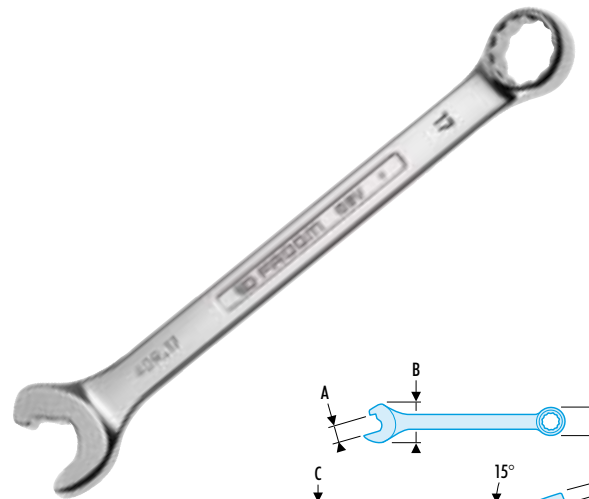


## 40R Metric fast combination wrenches

▷ ISO 7738, DIN 3113, NF ISO 7738.

- Metric sizes 8 to 24 mm.
- 12-point OGV® ring angled at 15°.
- Satin chrome finish.

№	A mm	B x B' mm	C x C' mm	L mm	ΔΔ g
40R.8	8	18,5 x 12,9	4,3 x 6	126	26
40R.9	9	20,5 x 14	4,3 x 6,1	133	29
40R.10	10	22,9 x 15,9	4,8 x 6,6	141	39
40R.11	11	24,9 x 17	5,1 x 7	148	45
40R.12	12	26,8 x 18,4	5,3 x 7,5	157	56
40R.13	13	28,8 x 19,8	5,6 x 8	165	61
40R.14	14	30,6 x 21,2	6 x 8,5	172	73
40R.15	15	32 x 22,4	6,6 x 9,2	179	79
40R.16	16	34,8 x 23,8	6,9 x 9,8	187	93
40R.17	17	36,7 x 25	7 x 10,3	193	113
40R.18	18	38,5 x 26,4	7,4 x 10,9	201	120
40R.19	19	40,9 x 29,4	7,6 x 11,3	209	140
40R.20	20	42,5 x 29,4	8 x 11,6	217	165
40R.21	21	45 x 30,7	8,1 x 11,9	223	182
40R.22	22	47 x 32	8,2 x 12,3	240	205
40R.23	23	48,5 x 33,4	8,4 x 12,6	250	236
40R.24	24	50,5 x 34,7	8,5 x 12,9	260	260









## 39 Metric and inch short combination wrench sets

• Supplied as rack or roll sets.

➤	rack			ΔΔ g
<b>39.JP6</b>	CK.67SJ1		8 - 10 - 11 - 12 - 13 - 14	285
<b>39.JE9T</b>		N.38A-9E	7 - 8 - 10 - 11 - 12 - 13 - 14 - 16 - 17	580
<b>39.JE10T</b>		N.38A-10A	3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11	250
<b>39.JE16T</b>		N.38A-16A	3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17	700
<b>39.JU10T</b>		N.38A-10A	1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 9/32 - 5/16 - 11/32 - 3/8 - 7/16	250
<b>39.JU14T</b>		N.38A-16A	1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 9/32 - 5/16 - 11/32 - 3/8 - 7/16 - 1/2 - 9/16 - 5/8 - 11/16	560



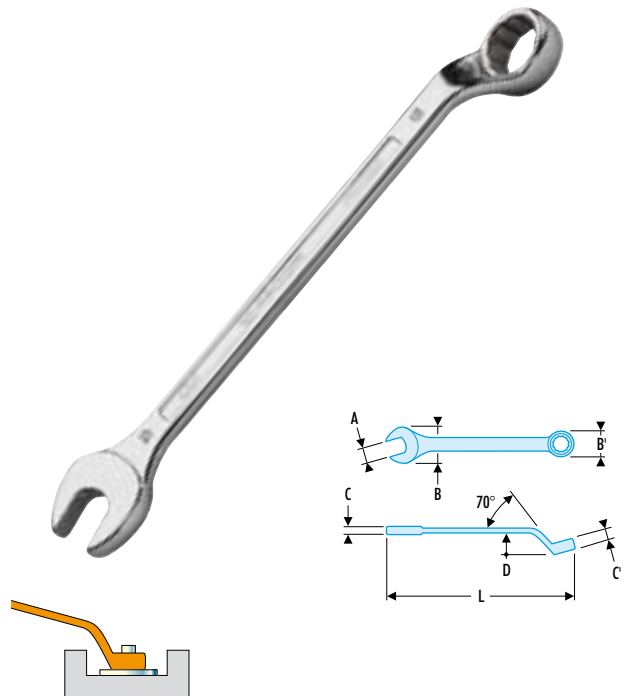
## ➤ Offset series

### 41 Metric offset combination wrenches

➤ ISO 7738, DIN 3113, NF ISO 7738.





- 12-point ring offset to clear fingers or obstacles
- Metric sizes from 6 to 32 mm.
- Chrome finish.

➤	A mm	B x B' mm	C x C' mm	D mm	L mm	ΔΔ g
<b>41.6</b>	6	14,5 x 11	4 x 6	12,5	113	27
<b>41.7</b>	7	18,5 x 13	4,5 x 7	15	127	35
<b>41.8</b>	8	18,5 x 13	4,5 x 7	15	127	35
<b>41.9</b>	9	23,5 x 15,5	5 x 8	16,5	142	50
<b>41.10</b>	10	23,5 x 15,5	5 x 8	16,5	142	50
<b>41.11</b>	11	27,5 x 18,5	5,5 x 8,6	18,5	160	75
<b>41.12</b>	12	27,5 x 18,5	5,5 x 8,6	18,5	160	75
<b>41.13</b>	13	31,5 x 21,5	5,5 x 9	18,5	180	100
<b>41.14</b>	14	31,5 x 21,5	5,5 x 9	18,5	180	100
<b>41.15</b>	15	36,5 x 24,5	6,6 x 10,3	20,5	200	130
<b>41.16</b>	16	36,5 x 24,5	6,6 x 10,3	20,5	200	130
<b>41.17</b>	17	40,5 x 27	7,3 x 11,2	22	224	195
<b>41.18</b>	18	40,0 x 27	7,3 x 11,2	22	224	195
<b>41.19</b>	19	43,0 x 30	7,8 x 12,6	24	248	250
<b>41.21</b>	21	48,0 x 33	8,2 x 13	26,5	275	320
<b>41.22</b>	22	48,0 x 33	8,2 x 13	26,5	275	320
<b>41.23</b>	23	53,0 x 36	9 x 14	28,5	302	415
<b>41.24</b>	24	53,0 x 36	9 x 14	28,5	302	415
<b>41.26</b>	26	59,0 x 40	9,5 x 15	31,5	332	555
<b>41.27</b>	27	59,0 x 40	9,5 x 15	31,5	332	555
<b>41.28</b>	28	63,0 x 43,5	10 x 15,6	33,5	364	700
<b>41.29</b>	29	63,0 x 43,5	10 x 15,6	33,3	364	700
<b>41.30</b>	30	68,0 x 46,5	10,5 x 16,5	35,5	398	850
<b>41.32</b>	32	68,0 x 46,5	10,5 x 16,5	35,5	398	850



### 41 Metric offset combination wrench sets

• Supplied as box, roll and panel sets.

➤					ΔΔ kg
<b>41.JE9</b>			•	8-9-10-11-12-13-14-17-19	0,930
<b>41.JE18</b>			•	6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	3,017
<b>41.JE9T</b>	N.38A-9B			8-9-10-11-12-13-14-17-19	1,050
<b>41.JE12T</b>	N.38A-12B			8-10-11-12-13-14-16-17-18-19-21-22	2,095
<b>41.P24M</b>			•	6-7-8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24-26-27-28-29-30-32	9,380



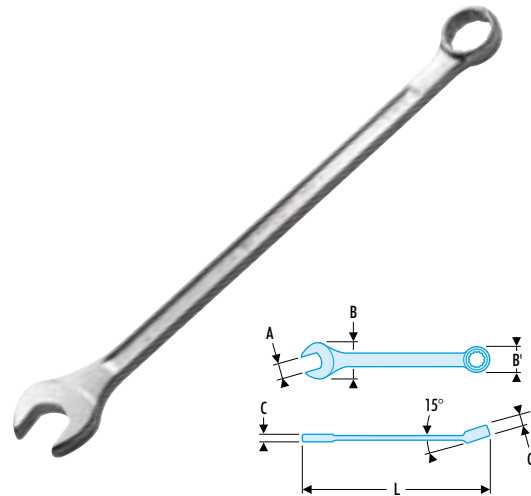
## ► Power series

### 40LA Metric and inch long combination wrenches

► Strength to ISO 3318, ISO 7738, NF ISO 3318, NF ISO 7738.

- Long handle for increased torque.
- Metric sizes from 19 to 50 mm.
- Inch sizes from 3/4" to 2".
- 12-point OGV® ring angled at 15°.

⇒	⇐	L	B x B'	C x C'	ΔΔ
A mm	A" mm	mm	mm	mm	g
40.19LA	40.3/4LA	329	45 x 29,6	8,7 x 12	240
40.21LA	40.13/16LA	355	49 x 32,3	9,5 x 13	305
40.22LA	40.7/8LA	368	51 x 33,8	9,9 x 14	360
40.23LA	40.15/16LA	381	53 x 35,4	10,3 x 14,5	370
40.24LA		394	55 x 36,9	10,7 x 15	455
40.26LA	40.1'LA	420	59 x 39,4	11,5 x 15,5	520
40.27LA	40.1'1/16LA	433	61 x 40,6	11,9 x 16	590
40.28LA	40.1'1/8LA	446	62,4 x 42,2	12,3 x 16,5	600
40.29LA		446	62,4 x 42,2	12,3 x 16,5	600
40.30LA	40.1'1/4LA	472	65 x 45,2	13,1 x 17	800
40.32LA		498	69,5 x 47,8	13,9 x 18	850
40.33LA	40.1'5/16LA	498	69,5 x 47,8	13,9 x 18	850
40.34LA		524	72,7 x 50,7	14,7 x 19	1040
40.35LA		524	72,7 x 50,7	14,7 x 19	1040
40.36LA	40.1'7/16LA	550	76 x 53,6	15,5 x 20	1200
40.38LA	40.1'1/2LA	576	80 x 56	16,3 x 22	1435
40.41LA		615	86 x 59,2	17,5 x 23	1720
40.42LA	40.1'5/8LA	615	86 x 59,2	17,5 x 23	1720
40.46LA	40.1'13/16LA	680	95 x 65,85	19,5 x 25	2435
40.50LA	40.2'LA	732	103 x 71	21,1 x 30	3500



### 40LA Metric and inch long combination wrench sets

• Supplied as box sets.

⇒	⇐	⊘, mm/"	ΔΔ
			kg
40LA.JE17	•	19-21-22-23-24-26-27-28-29-30-32-33-35-36-38-41-42	13,8
440.40LAJE26		(440)-8-9-10-11-12-13-14-15-16-17-18(40LA)-19-21-22-23-24-26-27-28-29-30-32-33-35-36-38	11,1
440.40LAJU20	•	(440)-1/4-5/16-3/8-7/16-1/2-9/16-5/8-11/16-1/2-13/16-7/8-15/16-1-11/16-11/8-1-1/4-15/16-13/8-17/16-11/2	9,0

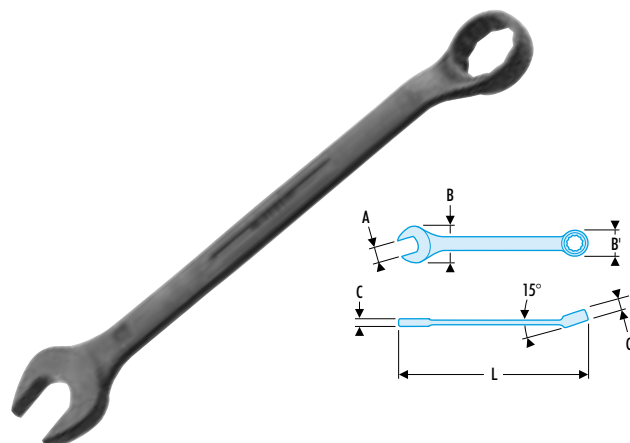


### 41L Metric heavy-duty combination wrenches

► ISO 691, NF ISO 691.

- Metric sizes from 46 to 65 mm.
- Forged in high-strength steel.
- Burnished finish.

⇒	A	B x B'	C x C'	L	ΔΔ
	mm	mm	mm	mm	kg
41.46L	46	95 x 69	15 x 24	520	1,3
41.50L	50	103 x 75	16,5 x 26	560	1,45
41.55L	55	113 x 84,5	18 x 28	610	1,58
41.60L	60	123 x 90	20 x 31	660	2,3
41.65L	65	133 x 98	22 x 31	710	2,65



# 4 Ratchet wrenches

## ▶ Ratchet combination wrench series

### 67 range

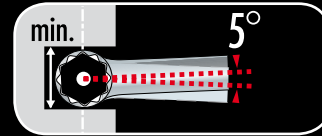
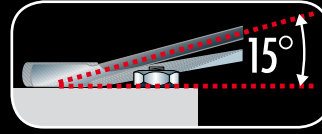
### RATCHET COMBINATION WRENCHES

### Raise your expectations

#### UNBEATABLY COMPACT

- Reversible ratchet system incorporated within a compact ring head.

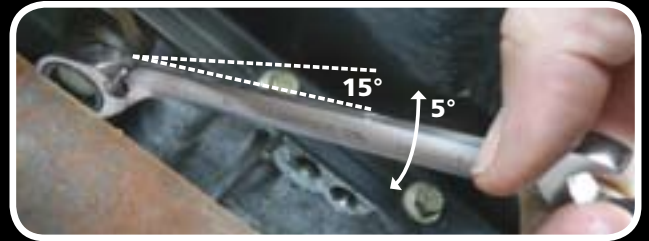
Ideal for reaching into awkward spaces, FACOM's new ratchet combination wrench is easier to use for both tightening and loosening..



GUARANTEED compliance with ISO 1711-1

#### Ultra-fast operation

- Increment : 5° (6° for sizes 8 and 9).  
Small increments for better performance.
- Perfectly suited to quick pre-tightening and loosening operations, for maximum productivity, even where access is restricted.



#### Guaranteed safety for all professional applications.

Particular care has been taken in the design of the new FACOM reversible ratchet combination wrench to avoid the risk of accidental reversal.

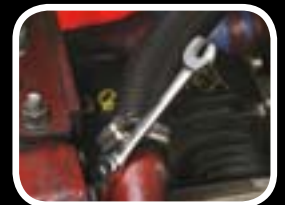
Facom's 67 and 67S range incorporates a recessed reversing lever which protects it during torquing.



#### Guaranteed safety for all professional applications.

Working conditions are changing. The related constraints of compact, cluttered work spaces and increasingly difficult access are a focus of Facom's concerns.

- A range to cater for changing working environments.
- The 67 range includes :
  - The 67S ultra-compact short ratchet combination wrench.
  - The highly versatile 67F hinged ratchet combination wrench.



Fixed-size and adjustable wrenches

FO8



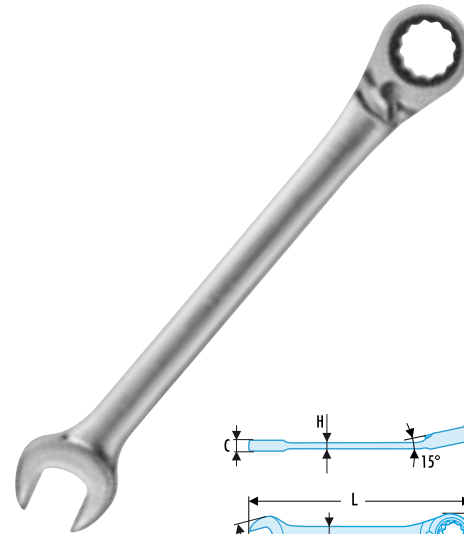
# Ratchet wrenches

## 67 Ratchet combination wrenches

▷ ISO 1711-1.

- Reversible ratchet system incorporated within a compact ring head.
- High performance, suitable for aircraft fasteners.
- Integral reversing lever avoids any risk of accidental reversal.
- Wrench angled at 15°.
- 5° increments (6° for sizes 8 and 9).
- Satin chrome finish.

➤	B mm	D mm	B' mm	C mm	C' mm	L mm	H mm	ΔΔ g
67.6	15	7,5	14	4	6,3	128	2,8	27
67.7	16,7	7,5	17	4,3	6,5	140	2,8	32
67.8	16,7	7,5	17	4,3	6,5	140	2,8	42
67.9	18,7	8	18,6	4,5	6,9	149	3	50
67.10	20,8	8,8	20,2	5	7,3	158	3,4	59
67.11	23	9,9	22	5,3	7,7	165	3,7	71
67.12	24,6	10,8	23,4	5,5	8,2	171	4	88
67.13	26,8	11,8	25,5	6,1	8,6	178	4,3	101
67.14	29	12,6	26,9	6,5	9	190	4,5	119
67.15	31	13,4	28,3	6,8	9,4	199	4,7	138
67.16	33	14,1	29,8	7,1	9,9	208	4,9	153
67.17	35,5	15,2	31,8	7,5	10,3	225	5,3	186
67.18	37,5	16,1	32,7	8,1	10,7	236	5,5	211
67.19	39,4	16,8	34	8,6	11,2	247	5,7	243
67.21	45,8	19,5	40,1	9	13	287,8	6,3	343
67.22	45,8	19,5	40,1	9	13	287,8	6,3	343
67.24	51,8	22,1	46,5	10	14,5	321	6,5	476
67.27	56,4	25	52,4	10,8	15,5	356,6	8,4	693
67.30	62,7	27	58,1	11,5	17	400,7	8,5	891
67.32	66,4	29,2	61,9	12,4	17,5	423,5	9,5	1079



## 67 Metric ratchet combination wrench sets

- Supplied as rack, module or box sets.

➤	📏	📦	⌀ mm	ΔΔ kg
67.JP9			8-10-11-12-13-16-17-18-19	1,195
67.J7	•		8-10-12-13-14-17-19	0,876
MOD.67.J12		PL.652	8-9-10-11-12-13-14-15-16-17-18-19	1,590
MOD.67.XL		PL.653	21-22-24-27-30-32	4,090



## ▶ Short ratchet combination wrench series

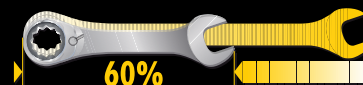
**67S**

## Short reversible ratchet combination wrenches

### ACCESSIBILITY FIRST

*Easier servicing and repair.*

- Ideal for applications that present problems in terms of :
  - congestion,
  - visibility and accessibility.
- Saves time.
- Comfortable to use.
- Automotive applications : working around the engine block or gearbox, instrument panel, steering column, electric or control panels.



### Unbeatably ultra-compact.

- 40% more compact than a traditional ratchet combination wrench.

**Ideal for applications where access is limited.**

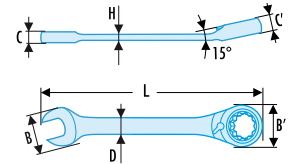
### 67S Short ratchet combination wrenches

▷ ISO 1711-1.

- Reversible ratchet system incorporated within a compact ring head.
- Head angled at 13°.
- 5° increments (6° for sizes 8 and 9).
- Integral reversing lever avoiding accidental reversal.
- Satin chrome finish.



Ø	B mm	D mm	B' mm	C mm	C' mm	L mm	H mm	ΔΔ g
<b>67S.7</b>	16,2	7,8	16,7	4	6,5	90	2,8	22
<b>67S.8</b>	16,2	7,8	16,7	4	6,5	90	2,8	22
<b>67S.9</b>	18,2	8,8	18,6	4,4	6,9	93	2,9	29
<b>67S.10</b>	20,3	9,3	20,0	4,8	7,3	95	3,3	35
<b>67S.11</b>	22,5	10,2	21,8	5,2	7,7	103	3,7	44
<b>67S.12</b>	24,3	10,8	23,0	5,3	8,2	106	3,9	51
<b>67S.13</b>	26,8	11,8	25,2	5,8	8,6	108	4,0	63
<b>67S.14</b>	28,7	12,6	26,8	6,2	9	115	4,4	77
<b>67S.15</b>	30,5	13,3	28,3	6,5	9,4	119	4,5	88
<b>67S.16</b>	32,9	14,1	29,8	6,8	9,9	123	4,7	105
<b>67S.17</b>	34,9	15,2	31,8	7,2	10,3	127	5,0	117



### 6-piece set of short ratchet combination wrenches

#### 67S.JP6

- 6-piece set of short ratchet combination wrenches.
- Sizes : 8 - 10 - 11 - 12 - 13 - 14.
- FACOM Design Support.
- Support ref : CK.67SJ1.



## ► Hinged ratchet combination wrench series

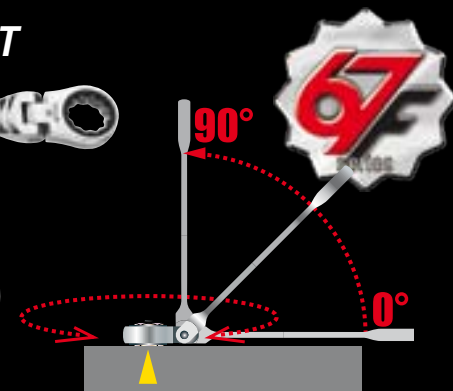
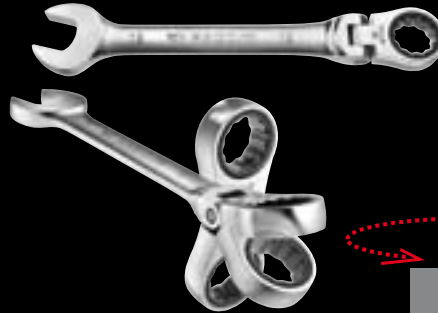
**67F**

### Hinged ratchet combination wrenches

#### VERSATILE, COMPACT AND ULTRA-EFFICIENT

##### Accessibility and Comfort.

- Overcomes the problems of tightening and loosening in applications where the operator must work blind.
- The hinged head adapts to each application for maximum efficiency and working comfort.
- Hand remains clear, limiting the risk of scratching or injury.
- Perfect grip, better torque transfer, faster.



##### Versatile ring head.

The hinged ring head is ideally suited to applications requiring :

- An ultra-compact ratchet.
- An extra low profile wrench.
- Extreme manoeuvrability.

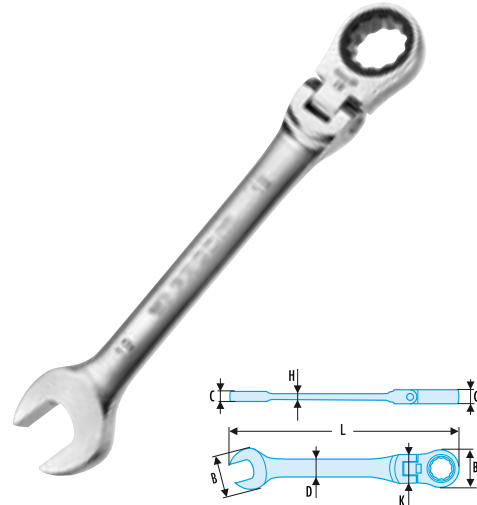


### 67F Hinged ratchet combination wrenches

► ISO 1711-1.

- Ratchet system incorporated within a compact ring head.
- 180° wrench movement.
- 5° increments (6° for sizes 8 and 9).
- Satin chrome finish.

№	B	D	B'	C	C'	K	L	H	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	g
<b>67F.8</b>	16,2	7,8	16,7	4,3	6,5	13	127	3	35
<b>67F.9</b>	18,2	8,8	18,6	4,6	6,9	14,6	131,5	3,1	45
<b>67F.10</b>	20,3	9,3	20	5	7,3	16	136	3,4	52
<b>67F.11</b>	22,5	10,2	21,8	5,4	7,7	17	141	3,8	64
<b>67F.12</b>	24,8	10,8	23	5,8	8,2	18	147,5	4	78
<b>67F.13</b>	26,8	11,8	25,2	6,1	8,6	19	154	4,1	94
<b>67F.14</b>	28,7	12,6	26,8	6,4	9	20	160	4,6	108
<b>67F.15</b>	30,5	13,3	28,3	6,9	9,4	21	169	4,8	127
<b>67F.16</b>	32,9	14,1	29,8	7,2	9,9	22	179	5	149
<b>67F.17</b>	34,5	15,2	31,8	7,6	10,3	23	190	5,3	181
<b>67F.18</b>	37	15,9	32,8	8	10,7	24	203	5,5	204
<b>67F.19</b>	39,2	16,8	33,9	8,6	11,2	25	215	5,8	236



### 9-piece set of hinged ratchet combination wrenches

#### 67F.JP9

- 9-piece set of hinged ratchet combination wrenches
- Sizes : 8 - 10 - 11 - 12 - 13 - 16 - 17 - 18 - 19.
- FACOM Design Support.
- Support ref : CK.CLE.





# 4 Ratchet wrenches

## ► Ratchet ring wrench series

### Ratchet ring wrenches 64



GUARANTEED compliance with ISO 1711-1.

**EXTRA LOW-PROFILE.**



**Ideal for crowded or tight spaces.**

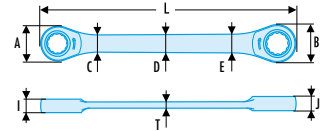
- The compact ring head perfectly replaces the ratchet and socket combination and provides the advantages of an extra low-profile ratchet.
- Extra thin walls (T) for the tightest clearances.
- Optimum diameter (D) for an unbeatably compact design.
- 5° increments.
- Ideal for low clearance applications.
- Enables quick tightening and loosening in the most difficult conditions.

### 64 - Metric and inch 12 point ratchet ring wrenches

► ISO 1711-1.

- Ideal for use where access is difficult.
- Ultra-compact ring head.
- 5° increments.
- High performance, suitable for aircraft fasteners.
- Satin chrome finish.

Size	A	B	C	D	E	I	J	t	L	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
64.6X7	14,2	17,2	8	8	8	6,3	6,5	3	115	35
64.8X9	16,8	20,2	8,3	8,7	9,1	6,5	6,9	3,2	128	42
64.10X11	20,2	21,8	9,1	9,7	10,3	7,3	7,7	3,6	150	60
64.12X13	23	24,8	11,3	11,8	12,3	8,2	8,6	4,2	170	81
64.14X15	26,5	29,5	13,1	13,7	14,3	9	9,4	4,7	190	128
64.16X18	29,5	33,5	14,8	15,7	16,6	9,9	10,7	5,4	210	182
64.17X19	31,5	33,5	15,2	15,9	16,6	10,3	11,2	5,4	230	187
64.21X23	40	46	15,2	15,9	16,6	13	14,5	5,4	260	480
64.22X24	40	46	15,2	15,9	16,6	13	14,5	5,4	260	480
64.1/4X5/16	14,2	17,2	8	8	8	6,3	6,5	3	115	35
64.5/16X11/32	16,8	20,2	8,3	8,7	9,1	6,5	6,9	3,2	128	42
64.3/8X7/16	20,2	21,8	9,1	9,7	10,3	7,3	7,7	3,6	150	60
64.1/2X9/16	23	24,8	11,3	11,8	12,3	8,6	9	4,2	180	116
64.5/8X11/16	29,5	33,5	14,8	15,7	16,6	9,9	10,7	5,4	210	182
64.3/4X13/16	33,5	40	15,2	15,9	16,6	11,2	13	5,4	245	307
64.7/8X15/16	40	46	15,2	15,9	16,6	13	14,5	5,4	260	480



### 64 - Sets of metric and inch 12 point ratchet ring wrenches

- Supplied as box, roll or module sets.

Size	Sizes	Icon 1	Icon 2	Icon 3	ΔΔ
					kg
64.J4	10x11 - 12x13 - 16x18 - 17x19			•	0,536
64.JE6T	8x9 - 10x11 - 12x13 - 14x15 - 16x18 - 17x19 mm	N.38A-6B			0,825
64.JU6T	1/4x5/16 - 3/8x7/16 - 1/2x9/16 - 5/8x11/16 - 3/4x13/16 - 7/8x15/16	N.38A-6B			1,312
MOD.64J7	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x18 - 17x19		PL.608A		1,153



Fixed-size and adjustable wrenches

F08

## ► 15° offset head ratchet ring wrench series

65

### Offset ratchet ring wrenches

#### Angled heads

GUARANTEED compliance with ISO 1711-1.



#### Accessibility and Comfort.

- The compact ring head perfectly replaces the ratchet and socket combination and provides the advantages of an extra low-profile ratchet.
- Head angled at 15° on each side.
- Keeps the hand away from the application.

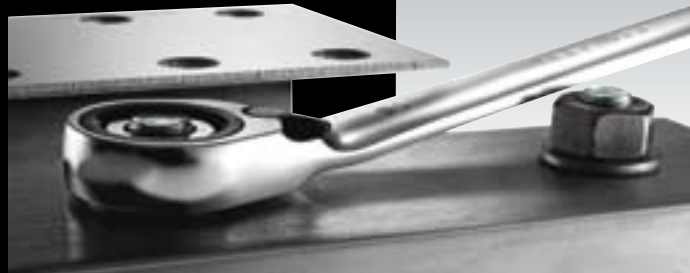
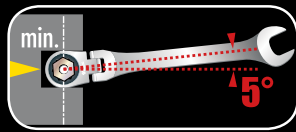
#### Saves time.

- 5° increments.
- Ideal for low clearance applications.
- Enables quick tightening and loosening in the most difficult conditions.



#### Safe.

- Integral reversing lever avoids any risk of accidental reversal while in use.

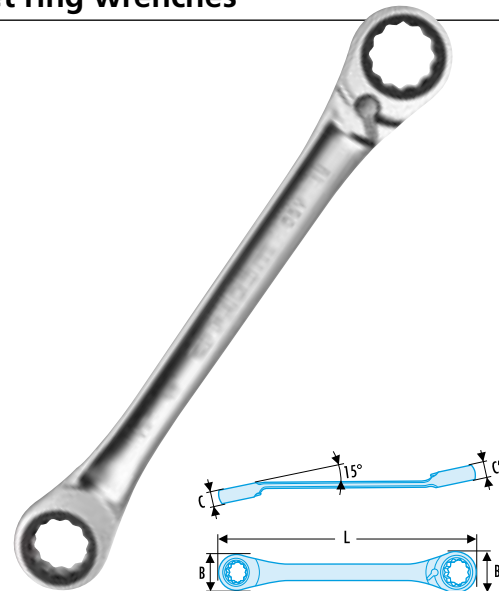


### 65 - 12-point metric and inch 15° angle head ratchet ring wrenches

► ISO 1711-1.

- Ideal for use where access is difficult.
- Ultra-compact ring heads angled at 15°.
- 5° increments.
- Integral reversing levers avoid any risk of accidental reversal.
- High performance, suitable for aircraft bolts.
- Satin chrome finish.

№	B	B'	C	C'	L	ΔΔ
	mm	mm	mm	mm	mm	g
65.6X7	14	17	6,3	6,5	115	30
65.8X9	17	20,2	6,5	6,9	128	42
65.10X11	20,2	22	7,3	7,7	150	62
65.12X13	23,4	25,5	8,2	8,6	170	90
65.14X15	26,9	29,8	9	9,4	190	130
65.16X18	29,8	34	9,9	10,7	210	187
65.17X19	31,8	34	10,3	11,2	230	208
65.21X23	40,1	46	13	14,5	260	430
65.22X24	40,1	46,5	13	14,5	260	424
65.1/4X5/16	14	17	6,3	6,5	115	30
65.5/16X11/32	17	20,2	6,5	6,9	128	44
65.3/8X7/16	20,2	22	7,3	7,7	150	62
65.1/2X9/16	25,5	26,9	8,6	9	180	108
65.5/8X11/16	29,8	31,8	9,9	10,3	200	169
65.3/4X13/16	34	40,1	11,2	13	245	291
65.7/8X15/16	40,1	46,5	13	14,5	260	419



### 65 - Metric and inch 15° angle head ratchet ring wrench sets

- Supplied as rack, roll or module sets.

№	Ø		ΔΔ
	mm		kg
65.JP6	8x9 - 10x11 - 12x13 - 14x15 - 16x18 - 17x19		0,830
65.JU6T	1/4x5/16 - 3/8x7/16 - 1/2x9/16 - 5/8x11/16 - 3/4x13/16 - 7/8x15/16	N.38A-6B	1,312
MOD.65J7	6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x18 - 17x19	PL.608A	0,925



# 4 Ratchet wrenches

## ▶ Ratchet bit driver series

**65.PE**

### Ratchet bit holder wrench



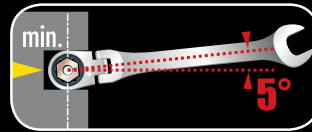
GUARANTEED compliance  
with ISO 1711-1

#### Facom performance

- Reversible ratchet system incorporated within a compact ring head.
- Wrench angled at 15°.
- Increment : 5°.
- Small increments for a better increment-to-performance ratio.
- Facom reversing lever.

#### Ultra compact and practical.

- Spring clip bit attachment.
- Knurled head for easier pre-tightening.
- Used for installing 1/4" and 5/16" aircraft type fasteners.



### 1/4" - 5/16" bit holder wrench

#### 65.PE

- Takes bits :
    - Series 1 : hexagonal 1/4"
    - Series 2 : hexagonal 5/16"
  - Used for installing 1/4" and 5/16" aircraft fasteners.
  - 5° increments.
  - Heads angled at 15°.
  - Bits retained by spring-clip.
  - Knurled head for fast pre-tightening.
  - Length : 150 mm
  - Satin chrome finish.
- ΔΔ : 74 g



### Ratchet wrench and bit set

#### 65.PEJ13

- Wrench 65.PE.
  - 13 bits.
    - ⚙ For Torx® Tamper Resistant screws® : EXR.110 - EXR.115
    - EXR.120 - EXR.125 - EXR.130 - EXR.140.
    - ○ For Hexagon socket heads : EH.103 - EH.104 - EH.105 - EH.106.
    - ⚙ For Pozidriv® screw : ED.101T - ED.102T - ED.103T.
  - BP.102.
  - PL.367 A.
- ΔΔ : 400 g



Fixed-size and adjustable wrenches

FOB



# Open-end wrenches

## ► Standard series



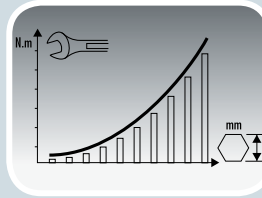
### 44 series open end wrenches

#### THE "DOUBLE-ENDED" WRENCH

##### 2 sizes per wrench

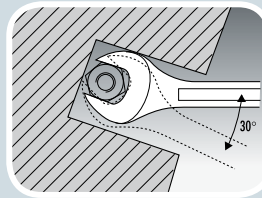


- Reduces the number and weight of tools.



##### Power and precision

- Tightening torque : ISO 1711, DIN 899, NF E 74.381.
- Tight tolerances on openings for a perfect fit on fasteners.



##### Slim profile and comfort

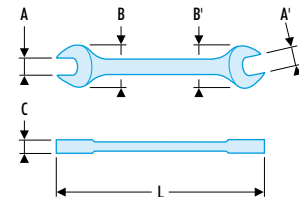
- Smaller shape and volume for better accessibility.
- Streamlined heads.
- 30° increments.

## 44 Metric and inch open-end wrenches

► ISO 10102, DIN 3110, NF ISO 3318, NF ISO 10102.

- Metric sizes from 3.2 to 42 mm.
- Inch sizes from 1/4" x 5/16" to 17/16" x 15/8".
- Satin chrome finish.

↺	↺	B x B'	C	L	ΔΔ
A mm	A"	mm	mm	mm	g
44.3.2X5,5		11 x 13,5	3,0	90	11
44.4X5		11 x 13,5	3,0	90	11
44.6X7	44.1/4X5/16	15 x 17,5	3,5	120	20
44.8X9		18,5 x 21	3,8	137	30
44.8X10	44.11/32X13/32	19 x 23	4,2	143	38
44.10X11	44.3/8X7/16	23 x 25	4,7	152	47
44.10X13		23 x 29	5,1	162	58
44.11X13		25,5 x 29	5,1	167	65
44.12X13		25,5 x 29	5,1	167	64
44.12X14	44.1/2X9/16	29 x 33,5	5,5	177	77
44.14X15		31 x 33	5,8	182	87
44.13X17		31 x 37	6,3	192	118
44.16X17		35,5 x 37	6,3	200	118
44.16X18	44.5/8X11/16	37 x 42	6,8	210	144
44.17X19	44.11/16X3/4	37 x 42	6,8	210	144
44.18X19		39 x 42	7,3	220	157
44.20X22	44.3/4X13/16	43 x 48,5	7,5	240	200
44.21X23		47 x 50,5	7,8	242	218
44.22X24	44.7/8X15/16	47,5 x 52	8,3	261	258
44.24X27		51 x 58	8,8	270	324
44.25X28		56 x 61,6	8,8	282	360
44.26X28	44.1'X1'1/16	56 x 61,6	8,8	282	360
44.27X29		59 x 64	9,5	301	450
44.27X30		59 x 64	9,5	301	450
44.27X32	44.1'1/8X1'1/4	63 x 70	9,8	318	513
44.30X32	44.1'3/16X1'5/16	63 x 70	9,8	318	513
44.33X35		71 x 75	11,5	342	720
44.34X36		71 x 75	11,5	342	720
44.36X41	44.1'3/8X1'1/2	78 x 87	12,0	381	945
44.38X42	44.1'7/16X1'5/8	78 x 87	12,0	381	945



## 44 Metric wrench sets

• Supplied as box, roll, module or panel sets.

Code	Icon	Icon	Icon	Icon	mm	ΔΔ kg
44.JE9	•				3,2x5,5-4x5-6x7-8x9-10x11-12x13-14x15-16x17-18x19	0,545
44.JE8	•				8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24	0,98
44.JE12	•				6x7-8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24-26x28-27x29-30x32	2,29
44.JE17	•				3,2x5,5-4x5-6x7-8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24-26x28-27x29-30x32-33x35-36x41-38x42	4,925
44.JE8T	N.38A-8C				8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24	1,02
44.JE9T	N.38A-9E				3,2x5,5-4x5-6x7-8x9-10x11-12x13-14x15-16x17-18x19	0,58
44.P17E	•				3,2x5,5-4x5-6x7-8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24-26x28-27x29-30x32-33x35-36x41-38x42	7,5
MOD.44-1		PL.315			6x7-8x9-10x11-12x13-14x15-16x17-18x19-21x23-22x24	1,315
MOD.44-2		PL.316			26x28 - 27x29 - 30x32	1,578



## 44 Inch wrench sets

• Supplied as box or roll sets.

Code	Icon	Icon	Icon	Icon	mm	ΔΔ kg
44.JU6	•				1/4 x 5/16 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 3/4 x 13/16 - 7/8 x 15/16	0,65
44.JU12	•				1/4 x 5/16 - 11/32 x 13/32 - 3/8 x 7/16 - 5/8 x 11/16 - 1/2 x 9/16 - 3/4 x 13/16 - 7/8 x 15/16 - 1 x 11/16 - 11/8 x 11/4 - 13/16 x 15/16 - 13/8 x 1 1/2 - 17/16 x 15/8	3,96
44.JU8T	N.38A-8B				1/4 x 5/16 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 3/4 x 13/16 - 7/8 x 15/16 - 1 x 11/16 - 11/8 x 11/4	1,56



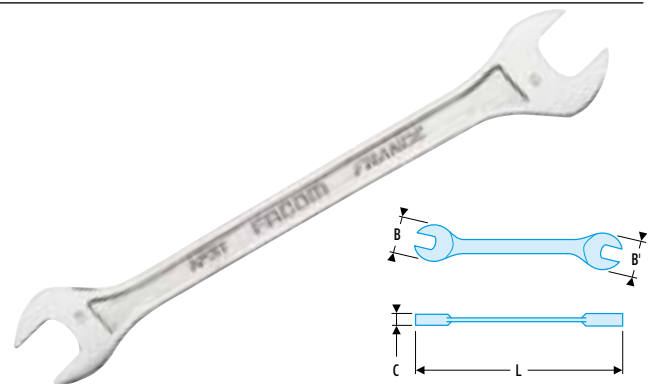
## ► Low-profile series

## 31 Metric low-profile open-end wrenches

► ISO 3318, NF E 74-304

- Metric sizes from 6 to 23 mm.
- 30 % slimmer than a conventional open-end wrench.
- Essential in confined spaces and for locknuts.
- Chrome finish.

Code	B x B'	C	L	ΔΔ g
31.6X7	16 x 19	2,2	148	18
31.8X9	20 x 24,5	2,4	175	28
31.10X11	20,5 x 25	2,4	175	28
31.12X13	28 x 33	3,6	210	68
31.14X15	29 x 33	3,6	210	68
31.16X17	38,5 x 43	4,2	250	140
31.18X19	38,5 x 43	4,2	250	140
31.20X22	49 x 53	5,6	292	270
31.21X23	49 x 53	5,6	292	270



## 31 Metric low-profile open-end wrench sets

• Supplied as roll sets.

Code	Icon	mm	ΔΔ kg
31.JE6T	N.38A-6B	8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19	0,6
31.JE9T	N.38A-9B	6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 x 22 - 21 x 23	1,022



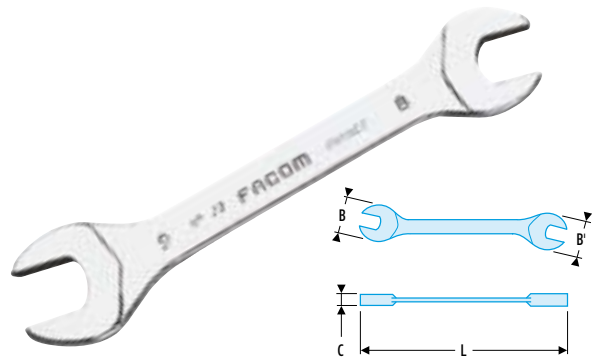
## Compact series

### 22 Metric and inch midget wrenches with open ends at 15°

▷ ISO 3318, NF ISO 3318.

- Metric sizes from 3.2 to 13 mm.
- Inch sizes from 3/16" x 1/4" to 1/2" x 9/16".
- Short shank and slim heads for access in confined spaces.
- Chrome finish.

➤	➤	B x B'	C	L	ΔΔ
A mm	A"	mm	mm	mm	g
<b>22.3,2X5,5</b>		10 x 13	2,4	70	6
<b>22.4X5</b>		10 x 13	2,4	70	6
<b>22.6X7</b>	<b>22.3/16x1/4</b>	14 x 16	2,7	80	10
	<b>22.7/32x9/32</b>	14x16	2,7	80	10
<b>22.8X9</b>	<b>22.5/16x3/8</b>	18 x 20	3	90	17
<b>22.10X11</b>	<b>22.11/32x7/16</b>	21 x 23	3	100	22
<b>22.12X13</b>	<b>22.1/2X9/16</b>	26 x 28	3,5	110	36



### 22 Metric and inch wrench sets

• Supplied as roll sets.

➤	➤	⊕	ΔΔ
		mm / "	g
<b>22.JE6T</b>	N.38-6A	3,2 x 5,5 - 4 x 5 - 6 x 7 - 8 x 9 - 10 x 11 - 12 x 13	140
<b>22.JU5T</b>	N.38A-5C	3/16 x 1/4 - 7/32 x 9/32 - 5/16 x 3/8 - 11/32 x 7/16 - 1/2 x 9/16	130

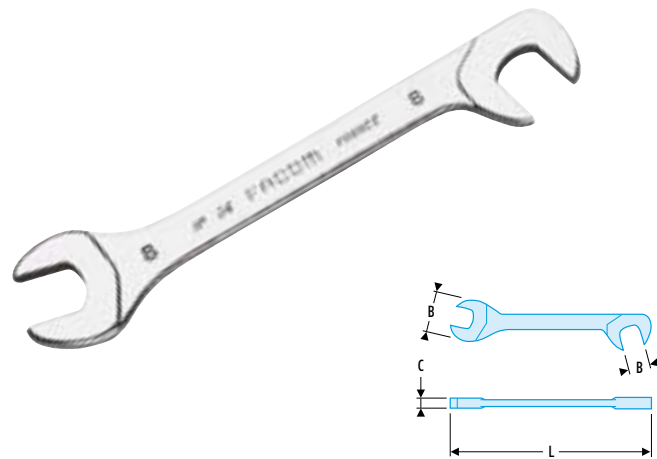


### 34 Metric and inch midget wrenches with open ends at 15° and 75°

▷ ISO 3318, DIN 3113, NF ISO 3318.

- Metric sizes from 3.2 to 17 mm.
- Inch sizes from 3/16" to 11/16".
- The heads angled at 15° and 75° give access to fasteners that are inaccessible with a standard wrenches.
- Short handle and very slim heads for manoeuvrability.
- Chrome finish.

➤	➤	B	C	L	ΔΔ
A mm	A"	mm	mm	mm	g
<b>34.3,2</b>		10	2,4	70	6
<b>34.4</b>		10	2,4	70	6
<b>34.5</b>	<b>34.3/16</b>	13	2,4	75	8
<b>34.5,5</b>	<b>34.7/32</b>	13	2,4	75	8
<b>34.6</b>	<b>34.1/4</b>	15	2,7	80	10
<b>34.7</b>	<b>34.9/32</b>	15	2,7	80	10
<b>34.8</b>	<b>34.5/16</b>	18,5	3	90	18
<b>34.9</b>	<b>34.11/32</b>	18,5	3	90	18
<b>34.10</b>	<b>34.3/8</b>	22	3	100	22
<b>34.11</b>	<b>34.13/32</b>	22	3	100	22
	<b>34.7/16</b>	22	3	100	22
<b>34.12</b>	<b>34.1/2</b>	27	3,5	120	36
<b>34.13</b>	<b>34.9/16</b>	27	3,5	120	36
<b>34.14</b>		27	3,5	120	40
<b>34.15</b>	<b>34.5/8</b>	33	4,5	140	67
<b>34.16</b>	<b>34.11/16</b>	33	4,5	140	67
<b>34.17</b>		33	4,5	140	67



### 34 Metric and inch short open-end wrench sets

• Supplied as roll sets.

➤	➤	⊕	ΔΔ
		mm / "	g
<b>34.JL16T</b>	N.38A-16A	3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17	560
<b>34.JU13T</b>	N.38A-13B	3/16 - 7/32 - 1/4 - 9/32 - 5/16 - 11/32 - 3/8 - 13/32 - 7/16 - 1/2 - 9/16 - 5/8 - 11/16	430





## Metric miniature open-end wrench set

## 34.JT8

- Set of 10 tools on a ring, holding :
  - 8 ultra-thin forged wrenches from 3.2 to 8 mm : 3.2-4-4.5-5-5.5-6-7-8 mm.
  - 1 feeler gauge 5/10°.
  - 1 screwdriver.
- Chrome finish.
- Supplied in a pouch.
- ΔΔ : 107 g.



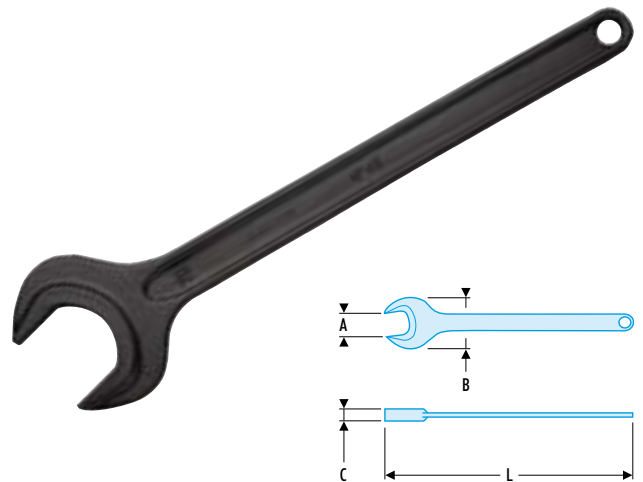
## ► Power series

## 45 Heavy-duty open-end wrenches

▷ DIN 894, NF E 74-301.


- Metric sizes from 30 to 75 mm.
- Forged in carbon steel and hardened to 120 kg/mm<sup>2</sup> for high torque applications (construction, railways, shipyards, farming, oil rigs, etc.).
- Hook eye.
- Burnished finish.


➤	A	B	C	L	ΔΔ
	mm	mm	mm	mm	kg
45.30	30	62	11	255	0,26
45.32	32	66	12	270	0,315
45.34	34	66	12	270	0,315
45.36	36	74	13	300	0,43
45.38	38	74	13	300	0,43
45.41	41	85,5	13,5	346	0,58
45.46	46	95,5	15,5	381	0,75
45.50	50	102	16	415	1,05
45.55	55	112,5	16	460	1,2
45.60	60	122,5	18	493	1,7
45.65	65	130,5	18	518	1,7
45.70	70	143	20	573	2,2
45.75	75	151	21	605	2,8




**VSE 1,000 V insulated tools**


**1,000 V insulated wrenches**









**Safety colour coding**




**ORANGE** : 1,000 V protection.

**YELLOW visible** : STOP and change tool.

For "VE" series  
1,000 V insulated  
wrenches, see page **653**



# Ring wrenches

## ► Standard series



### Series 55A ring wrenches

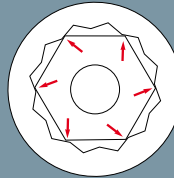
Facom OGV® profile.

Higher torque.

Increased durability.

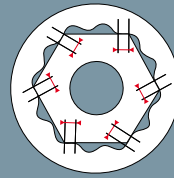
Reduced socket-fastener wear with 12-point OGV® ring.

Standard profile

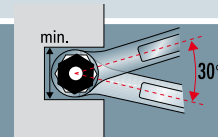


• Stress applied to edges

OGV® profile



• Bears against the side faces.



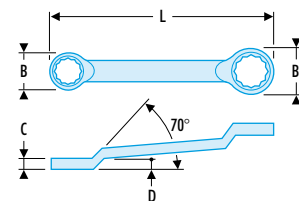
## 55A Metric and inch OGV® offset ring wrenches

► DIN 838.

- Metric sizes from 6 to 50 mm.
- Inch sizes from 1/4" to 1 1/4".
- 12-point OGV® ring.
- Satin chrome finish.



⇒ A mm	⇒ A'	B x B' mm	C x C' mm	D mm	L mm	ΔΔ g
55A.6X7		10,7 x 12,2	5,5 x 6,2	19 x 20	167	42
	55A.1/4X5/16	11 x 14	5,5 x 6,5	20 x 21	172	47
55A.7X8		12 x 14	5,5 x 6,5	20 x 21	172	45
55A.8X9		13,7 x 15,5	6,5 x 7,2	20 x 21	182	58
55A.8X10		13,7 x 15,5	6,5 x 7,2	20 x 21	182	64
	55A.11/32X13/32	15,5 x 18	7,5 x 8,7	22 x 23	197	85
55A.10X11	55A.3/8X7/16	16,5 x 18	7,5 x 17	22 x 23	197	82
55A.11X13	55A.7/16X1/2	18 x 21	8,9 x 9,2	24 x 25	217	108
55A.12X13		19,5 x 21,5	8,9 x 9,2	24 x 25	218	117
	55A.1/2X9/16	21,5 x 23	9,2 x 9,7	25 x 26	238	143
55A.13X15		21,5 x 23,5	9,2 x 9,7	25 x 26	238	147
55A.14X15	55A.9/16X5/8	22 x 23,5	9,2 x 9,7	25 x 26	238	135
55A.13X16		21,5 x 26	9,4 x 10,7	27 x 28	245	155
55A.13X17		21 x 26	9,4 x 10,7	27 x 28	245	156
55A.16X17	55A.5/8X11/16	25,7 x 27	10,7 x 11,2	27 x 28	258	196
55A.16X18	55A.19/32X25/32	25,7 x 27,2	10,7 x 11,2	27 x 28	258	197
55A.17X19	55A.5/8X3/4	27 x 29,7	11,2 x 12,2	29 x 30	290	263
55A.18X19	55A.11/16X3/4	27 x 29,7	11,2 x 12,2	29 x 30	290	254
55A.18X21	55A.3/4X13/16	29 x 33	11,7 x 12,7	31 x 32	296	289
55A.19X22		29 x 33,7	11,7 x 12,7	31 x 32	296	283
55A.20X22	55A.13/16X7/8	32 x 35	12,2 x 13,2	31 x 32	316	363
55A.21X23		32 x 35	12,2 x 13,2	31 x 32	316	361
55A.22X24	55A.7/8X15/16	33,7 x 36,7	12,2 x 13,2	33 x 34	324	391
55A.24X26	55A.15/16X1"	37,2 x 41	12,7 x 14,3	33 x 34	328	470
55A.24X27		37,2 x 41,2	12,7 x 14,3	33 x 34	328	464
	55A.1"X1"1/16	39,7 x 42	13,7 x 14,7	34 x 35	345	519
55A.25X28		39,7 x 43	13,7 x 14,7	34 x 35	345	514
55A.26X28		39,7 x 43	13,7 x 14,7	34 x 35	345	507
55A.27X29	55A.1"1/16X1"1/8	41,5 x 46	14,3 x 15,7	35 x 36	353	574
55A.27X30		41,5 x 46	14,3 x 15,7	35 x 36	353	569
55A.27X32		41,5 x 46,2	14,3 x 15,7	35 x 36	353	572
55A.30X32	55.1"1/8X1"1/4	45,3 x 48,7	15,2 x 16,7	36 x 38	360	638
55A.30X34		46 x 52	17,2 x 19,2	37 x 39	402	818
55A.34X36		52 x 55	18,2 x 20,2	40 x 42	440	1074
55A.36X41		53,7 x 61,7	18,2 x 20,2	40 x 42	440	1073
55A.38X42		41,5 x 46	14,3 x 15,7	35 x 36	353	1060
55A.46X50		70,7 x 76,7	20,7 x 21,7	44 x 48	510	1884



## 55A Metric and inch ring wrench sets

• Supplied as box, roll, module or panel sets.

Code	Icon	Icon	Icon	Icon	mm/"	ΔΔ kg
55A.JN6	•				8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19	0,738
55A.JD8	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 x 22	1,034
55A.JE8	•				8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 24 x 26	1,422
55A.JD10	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 x 22 - 24 x 27 - 30 x 32	2,03
55A.JE12	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 24 x 26 - 26 x 28 - 27 x 29 - 30 x 32	3,288
55A.JD12	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 x 22 - 21 x 23 - 24 x 26 - 25 x 28 - 27 x 32	3,076
55A.JD12A	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 20 x 22 - 21 x 23 - 24 x 27 - 25 x 28 - 30 x 32	3,116
55A.JE14	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 22 x 24 - 26 x 28 - 27 x 29 - 30 x 32 - 36 x 41 - 38 x 42	6,178
55A.JU6A	•				1/4 x 5/16 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 3/4 x 13/16 - 7/8 x 15/16	0,99
55A.JU8	•				1/4 x 5/16 - 11/32 x 13/32 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 19/32 x 25/32 - 3/4 x 13/16 - 7/8 x 15/16	1,266
55A.JU10	•				1/4 x 5/16 - 11/32 x 13/32 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 19/32 x 25/32 - 3/4 x 13/16 - 7/8 x 15/16 - 1" x 1 1/16 - 1 1/8" x 1 1/4"	2,4
55A.JN6T	N.38A-6B				8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19	0,83
55A.JD8T	N.38A-6B				6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19 - 20x22	1,12
55A.JE8T	N.38A-6B				8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 24 x 26	1,51
55A.JU6AT	N.38A-6B				1/4 x 5/16 - 3/8 x 7/16 - 1/2 x 9/16 - 5/8 x 11/16 - 3/4 x 13/16 - 7/8 x 15/16	1,08
55A.JU8T	N.38A-6B				1/4x5/16-11/32x13/32-3/8x7/16-1/2x9/16-5/8x11/16-19/32x25/32-3/4x13/16-7/8x15/16	1,356
55A.JU8AT	N.38A-6B				1/4 x 5/16 - 3/8 x 7/16 - 1/2 x 9/16 - 2/8 x 11/16 - 3/4 x 13/16 - 7/8 x 15/16 - 1" x 1 1/16 - 1 1/8" x 1 1/4"	1,22
55A.P14E	•				6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 22 x 24 - 26 x 28 - 27 x 29 - 30 x 32 - 36 x 41 - 38 x 42	8,5
MOD.55-1	PL.317A				6x7 - 8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19	0,920
MOD.55-2	PL.318				21x23 - 22x24 - 26x28	1,450
MOD.55-3	PL.600				1/4x5/16 - 11/32x13/32 - 3/8x7/16 - 1/2x9/16 - 5/8x11/16 - 19/32x25/32 - 3/4x13/16	1,020



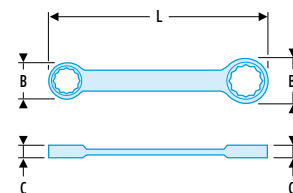
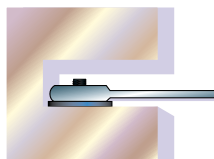
## 59 Metric straight ring wrenches

▷ ISO 10103, DIN 837, NF ISO 10103.

- Slim rings and short shank for working in congested spaces.
- 12-point heads giving 30° increments.
- Satin chrome finish.



Code	B x B'	C	L	ΔΔ
	mm	mm	mm	g
59.6X7	9,9 x 11,2	4,7	100	10
59.8X9	12,5 x 14	5,2	115	16
59.10X11	15,5 x 16,5	6,4	128	28
59.12X13	18,5 x 20,5	7,3	143	40
59.14X15	21 x 22,5	7,3	157	50
59.16X17	23,5 x 24,5	8,5	168	65
59.18X19	26 x 27,5	9,2	189	80
59.21X23	31,2 x 33,8	11,6	217	130
59.22X24	31,2 x 33,9	11,6	217	130
59.26X28	36,5 x 40,5	11,8	265	230
59.27X29	38,9 x 43,4	12,8	285	270
59.30X32	42,5 x 45	12,8	285	280





# Ring wrenches

## 59 Straight ring wrench sets

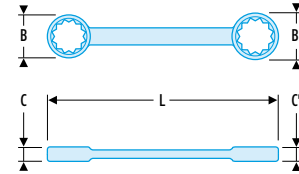
- Supplied as box or roll sets.

Ref	Icon	Icon	mm	ΔΔ kg
59..JN6		•	8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19	0,279
59..JE12		•	6 x 7 - 8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 22 x 24 - 26 x 28 - 27 x 29 - 30 x 32	1,329
59..JN8T	N.38A-8C		8 x 9 - 10 x 11 - 12 x 13 - 14 x 15 - 16 x 17 - 18 x 19 - 21 x 23 - 22 x 24	0,570



## 59TX Torx® ring wrenches

- Torx® pattern with 30° increments by reversing the tool.
- "Tear-drop" profile of ring outer walls ensures even stress distribution and higher strength.
- Polished chrome finish.



Ref	N° Torx®	B x B' mm	C x C' mm	L mm	ΔΔ g
59TX.6X8	E6 x E8	9 x 11	5 x 6	115	15
59TX.10X12	E10 x E12	13 x 15	7 x 8	150	35
59TX.14X18	E14 x E18	17 x 21	8 x 9,5	190	65
59TX.20X24	E20 x E24	24 x 28	11 x 13,5	240	190

## Set of 4 Torx® ring wrenches

### 59TX.J4

- Torx® pattern with 30° increments by reversing the tool.
- "Tear-drop" profile of ring outer walls ensures even stress distribution and higher strength.
- Set of 4 Torx® wrenches : E6 x E8, E10 x E12, E14 x E18, E20 x E24.
- Polished chrome finish.
- ΔΔ 315 g.

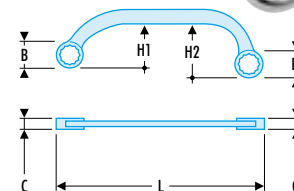
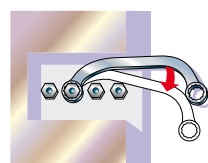


## ► Half-moon series

### 57 Metric half-moon ring wrenches

▷ ISO 3318, NF ISO 3318.

- Half-moon shape reaches where standard tools cannot.
- 12-point ring giving 30° increments.
- Satin chrome finish.



Ref	H1 x H2 mm	B x B' mm	C x C' mm	L mm	ΔΔ g
57.10X12	24 x 26	17 x 19,5	8 x 8	143	85
57.11X13	24 x 26	17 x 19,5	8 x 8	143	85
57.13X15	28 x 31	20 x 23	8,5 x 9	166	100
57.14X16	30 x 33	22,5 x 24,5	9 x 9,5	184	180
57.14X17	30 x 33	22,5 x 24,5	9 x 9,5	184	180
57.15X17	30 x 33	22,5 x 24,5	9 x 9,5	184	180
57.16X18	33 x 35	24 x 27	9,5 x 10	200	215
57.19X22	32 x 41	28,5 x 32,5	10 x 11	235	280




# 4 Ring wrenches

Fixed-size and adjustable wrenches

## Set of 5 metric half-moon ring wrenches

### 57.JE5

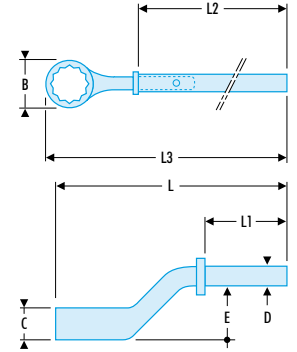
- Supplied as box sets.

			$\Delta\Delta$ g
57.JE5	•	10 x 12 - 11 x 13 - 14 x 17 - 16 x 18 - 19 x 22	850


## ► Power series

### 54 Metric heavy-duty offset ring wrenches


- Metric sizes from 24 to 70 mm.
- Offset 12-point ring giving 30° increments.
- High power from resilient ring combined with long removable handle (order separately).
- Chrome finish.



#### Wrenches

	B x C mm	∅ D x L1 mm	E x L mm	$\Delta\Delta$ kg
54A.24	38 x 17,0	18,5 x 85	29,5 x 180	0,380
54A.30	48 x 18,0	18,5 x 95	33,5 x 200	0,550
54A.32	49 x 18,0	21,5 x 116	34,0 x 235	0,700
54A.36	54 x 20,0	21,5 x 120	35,5 x 245	0,840
54A.41	62 x 22,0	21,5 x 127	39,5 x 265	1,000
54A.46	69 x 23,0	24,5 x 129	40,0 x 280	1,300
54A.50	76 x 25,5	24,5 x 129	42,5 x 290	1,450
54A.55	81 x 28,0	24,5 x 136	45,5 x 300	1,500
54A.60	90 x 30,5	29,5 x 156	49,0 x 345	2,300
54A.65	98 x 33,0	29,5 x 158	53,0 x 355	2,400
54A.70	105 x 35,5	29,5 x 160	55,0 x 365	2,800

#### Handles\*



	L2 mm	L3 mm	$\Delta\Delta$ kg
54.M1B	460	555	0,58
54.M2B	610	730	1,112
54.M3B	760	910	2,214
54.M4B	860	1060	2,881

Handles\* \* Suitable handles listed opposite wrench sizes.

### Metric heavy-duty ring wrench set

#### 54.P9M

- Supplied as panel sets..

	Handles		$\Delta\Delta$ kg
54.P9M	54.M1B, 54.M2B, 54.M3B	• 24 - 30 - 32 - 36 - 41 - 46 - 50 - 55	13,5



## Ratchet ring wrenches

For ratchet ring wrenches, see page p. 147

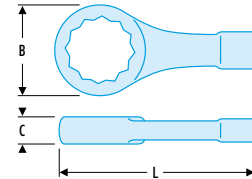


## ► Slogging wrench series

### 50 Metric and inch slogging ring wrenches

- 12-point ring giving 30° increments.
- For use with a sledge or air hammer for tightening or loosening fasteners on heavy equipment.
- Forged in high impact-strength steel.
- Paint finish

►	B x C mm	L mm	ΔΔ kg
50.24	50 x 18	170	0,548
50.27	50 x 18	170	0,524
50.30	50 x 18	170	0,502
50.32	62 x 21	190	0,880
50.34	62 x 21	190	0,873
50.35	62 x 21	190	0,852
50.36	62 x 21	190	0,826
50.38	62 x 21	190	0,800
50.40	72 x 24	209	1,452
50.41-1'5/8	72 x 24	209	1,418
50.42	72 x 24	209	1,277
50.43-1'11/16	72 x 24	209	1,319
50.44	72 x 24	209	1,264
50.45	72 x 24	209	1,274
50.46-1'13/16	87,5 x 28	238	2,145
50.47	87,5 x 28	238	2,146
50.48	87,5 x 28	238	2,186
50.50	87,5 x 28	238	2,072
50.52	87,5 x 28	238	2,030
50.54	87,5 x 28	238	2,015
50.55	102 x 30	275	2,969
50.56	102 x 30	275	2,805
50.57-2'1/4	102 x 30	275	2,727
50.58	102 x 30	275	2,807
50.59	102 x 30	275	2,724
50.60-2'3/8	102 x 30	275	2,761
50.65-2'9/16	102 x 30	275	2,553
50.67-2'5/8	102 x 30	275	4,346

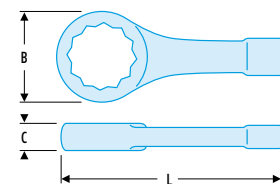


►	B x C mm	L mm	ΔΔ kg
50.70-2'3/4	102 x 30	275	4,221
50.75-2'15/16	102 x 30	275	4,068
50.76-3'	102 x 30	275	3,962
50.78	142 x 38	358	6,440
50.80	142 x 38	358	6,301
50.85	142 x 38	358	6,041
50.90	142 x 38	358	5,750
50.95	142 x 38	358	9,245
50.100	142 x 38	358	8,946
50.105	142 x 38	358	8,705
50.110	142 x 38	358	14,633
50.115	142 x 38	358	13,941
50.120	142 x 38	358	13,698

### 51A Thin wall slogging ring wrenches

- Metric sizes from 32 to 85 mm.
- 12-point ring giving 30° increments.
- Thinner but higher walls fit into narrower spaces without compromising wrench strength.
- Paint finish

►	B x C mm	L mm	ΔΔ kg
51A.32	49,0 x 23	195	0,6
51A.36	56,0 x 26	195	0,65
51A.41	61,0 x 29	200	0,8
51A.46	70,0 x 32	250	1,23
51A.50	73,0 x 35	280	1,35
51A.55	77,0 x 38	300	1,7
51A.58	77,0 x 38	300	1,58
51A.60	82,5 x 42	300	1,97
51A.65	90,5 x 45	320	2,52
51A.70	99,0 x 47	355	2,94
51A.75	106,0 x 53	360	3,77
51A.80	114,0 x 57	440	5,12
51A.85	117,0 x 57	440	5,1



For manual impact wrenches see page **166**

*The power to free or secure very tight fasteners*





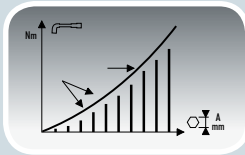
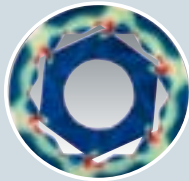
## Standard series



### OGV<sup>®</sup> angled open-socket wrenches

#### Facom OGV<sup>®</sup> profile

- Facom OGV<sup>®</sup> 6 and 12-point profiles. extend contact area while reducing stress.
- Increased torque.
- Longer tool life.
- Protected fastener corners.



#### Through-hole and deep recess

- Angle and through-hole design accommodates threaded rods or a bar for extra leverage, without affecting wrench strength.
- Deep recess at one end and open-end socket at the other fit over protruding studs

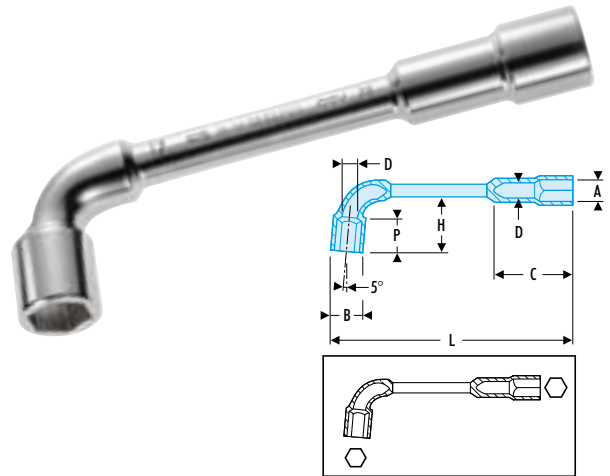


### 75 Forged metric and inch 6 x 6 point OGV<sup>®</sup> angled open-socket wrenches

▷ ISO 2236, NF ISO 2236.

- Satin chrome finish.

Ø	Ø	B	C	P	D	H	L	ΔΔ
A mm	A'	mm	mm	mm	mm	mm	mm	g
75.6	75.1/4	10	21	6	5	15	102	32
75.7		11	22	7	5	17	106	35
75.8	75.5/16	12,5	25	8	7	19	114	60
75.9		13,5	26	9	7	20	122	65
75.10	75.3/8	15	28	10	8	24	129	95
75.11	75.7/16	16,5	30	11	8	25	136	114
75.12		18	36	12	9	28	144	152
75.13	75.1/2	19,5	38	13	9	30	152	175
75.14		21	40	14	10,5	32	160	202
75.15	75.9/16	22,5	42	15	10,5	34	169	226
75.16	75.5/8	24	46	16	13	37	178	285
75.17		25,5	48	17	13	39	187	312
75.18	75.11/16	26,5	50	18	13	40	195	365
75.19	75.3/4	28,5	51	19	15	41	204	430
75.20		29,5	53	20	15	43	212	440
75.21	75.13/16	30,5	55	21	15	46	221	490
75.22		32	57	22	15	48	230	536
75.23	75.7/8	33,5	64	23	18	51	240	626
75.24	75.15/16	34,5	67	24	18	54	250	660
75.25		36	69	25	20	56	260	785
75.26	75.1'	37	70	26	20	57	270	795
75.27		38,5	73	27	22	58	280	950
75.28		39,5	75	28	22	60	290	950
75.29		41	76	29	22	62	300	1050
75.30		42	83	30	24	64	310	1300



Ø	Ø	B	C	P	D	H	L	ΔΔ
A mm	A'	mm	mm	mm	mm	mm	mm	g
75.31		43,5	86	30	24	70	320	1385
75.32		44,5	88	31	24	74	330	1400
75.33		46	92	32	27	79	340	1480
75.34		47,5	95	33	27	80	350	1550
75.35		48,5	96	34	27	81	360	1630
75.36		49,5	97	35	27	82	370	1700
75.38		52	99	37	28	85	390	2080

### 75 Metric and inch angled socket wrench sets

- Supplied as box, module and panel sets.

Ø			mm <sup>2</sup>	ΔΔ
				kg
75.JN8	•		8 - 10 - 11 - 13 - 17 - 19 - 22 - 24	2,37
75.JN10	•		8 - 10 - 11 - 12 - 13 - 14 - 16 - 17 - 18 - 19	2,16
75.J12	•		7 - 8 - 10 - 11 - 12 - 13 - 16 - 17 - 18 - 19 - 22 - 24	3,39
75.JE16	•		8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24	4,7
75.JU10	•		5/16 - 3/8 - 7/16 - 1/2 - 9/16 - 5/8 - 11/16 - 3/4 - 13/16 - 7/8	2,76
75.P22M	•		8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 21 - 22 - 23 - 24 - 26 - 27 - 28 - 29 - 30 - 32	13,34
MOD.75-1		PL.625	8-10-11-12-13-14-16-17-18-19	2,480



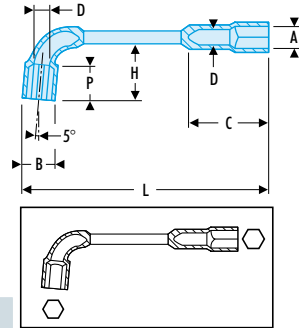
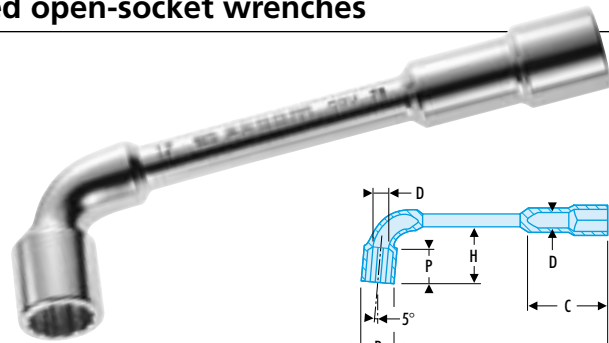
# Socket wrenches

## 76 Forged metric 12 x 6 point OGV® angled open-socket wrenches

▷ ISO 2236, NF ISO 2236.

- Satin chrome finish.

➤	B	C	P	D	H	L	ΔΔ
A mm	mm	mm	mm	mm	mm	mm	g
76.6	10	23	6	5	16	102	32
76.7	11	24	7	5	17	106	41
76.8	12,5	27	8	7	19	114	60
76.9	13,5	28	9	7	20	122	65
76.10	15	30	10	8	24	129	95
76.11	16,5	32	11	8	25	136	114
76.12	18	38	11	9	28	144	152
76.13	19,5	40	12	9	30	152	175
76.14	21	42	13	10,5	32	160	200
76.15	22,5	44	14	10,5	34	169	225
76.16	24	49	16	13	37	178	285
76.17	25,5	51	17	13	39	187	312
76.18	26,5	53	18	13	40	195	365
76.19	28,5	54	19	15	41	204	430
76.20	29,5	56	20	15	43	212	440
76.21	30,5	58	21	15	46	221	490
76.22	32	60	22	15	48	230	535
76.23	33,5	67	23	18	51	240	625
76.24	34,5	70	24	18	54	250	660
76.25	36	72	25	20	56	260	785
76.26	37	73	26	20	57	270	795
76.27	38	77	27	22	58	280	950
76.28	39,5	79	28	22	60	290	950
76.29	41	80	29	22	62	300	1050



➤	B	C	P	D	H	L	ΔΔ
A mm	mm	mm	mm	mm	mm	mm	g
76.30	42	87	30	24	64	310	1300
76.31	43,5	90	30	24	70	320	1385
76.32	44,5	92	31	24	74	330	1400
76.33	46	96	32	27	79	340	1480
76.34	47	99	33	27	80	350	1550
76.35	48,5	100	34	27	81	360	1630
76.36	49,5	101	35	27	82	370	1700
76.38	52	103	37	28	85	390	2080

## 76 Metric and inch angled socket wrench sets

- Supplied as box or panel sets.

➤	mm/°	ΔΔ
	kg	
76.JN8	8-10-11-13-17-19-22-24	2,37
76.JN10	8-10-11-12-13-14-16-17-18-19	2,16
76.JE16	8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	4,7
76.P22M	8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24-26-27-28-29-30-32	13,34



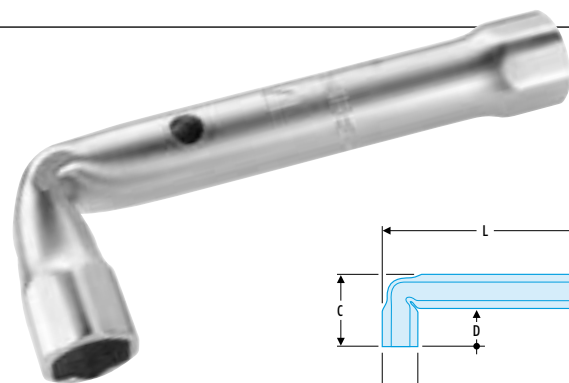
## ▶ Box wrench series

### 92A Metric angled box wrenches

▷ ISO 2236, NF ISO 2236.

- Will reach nuts on threaded rods.
- Through hole for inserting bar 160A.
- Chrome finish.

➤	Suitable bar	B	C	D	L	ΔΔ
	mm	mm	mm	mm	mm	g
92A.4	160A.1	6,3	23,5	16,5	95	20
92A.5	160A.1	8,8	23,5	16,5	95	20
92A.5,5	160A.1	9,3	25	18	95	25
92A.6	160A.1	9,9	26,5	17,5	100	30
92A.7	160A.1	11,1	28,5	19,5	100	30
92A.8	160A.1	12,7	31,5	20,5	109	48
92A.9	160A.1	13,9	33	22	109	46
92A.10	160A.1	15,5	36,5	23,5	118	68
92A.11	160A.1	16,7	36,5	23,5	118	70
92A.12	160A.1	18,9	43	27	127	100
92A.13	160A.1	19,5	43	27	127	110
92A.14	160A.1	21,2	49	31	136	155
92A.15	160A.1	22,3	49	31	136	160
92A.16	160A.1	23,4	55	35	145	190
92A.17	160A.1	24,5	55	35	145	200
92A.18	160A.1	25,8	61	39	154	225
92A.19	160A.1	27	61	39	154	230
92A.20	160A.1	29,1	66,5	41,5	163	320



➤	Suitable bar	B	C	D	L	ΔΔ
	mm	mm	mm	mm	mm	g
92A.21	160A.1	30,3	67,5	41,5	163	325
92A.22	160A.1	31,4	68	42	172	350
92A.23	160A.1	32,5	72,5	46,5	172	390
92A.24	160A.2	33,7	74,5	45,5	180	415
92A.27	160A.2 or 160A.3	38,2	81	49	190	520
92A.30	160A.2 or 160A.3	41,8	86,5	53,5	205	640
92A.32	160A.2 or 160A.3	44,5	93	57	215	785

## 92A Metric angled box wrench sets

- Supplied as box or rack sets.

▣	▢	○ mm	ΔΔ kg
92A.JE8	•	8-10-11-13-17-19-22-24	1,485
92A.P8M	•	8-10-11-13-17-19-22-24	1,875
92A.P16M	•	8-9-10-11-12-13-14-15-16-17-18-19-21-22-23-24	4



## ▶ Tee socket series

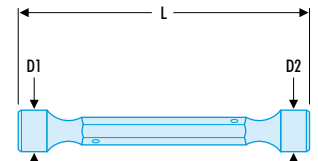
### 97 Metric double-ended forged socket wrenches

▷ ISO 2236, DIN 896, NF ISO 2236.

- Dual-size tool.
- Hollow body allows insertion over long threaded rods.
- For use with bars 160A.
- 6-point sockets, hexagon tubing.



▣	Suitable bar	D1 x D2 mm	Ø mm	L mm	ΔΔ g
97.6X7	160A.1	9,5 x 10,7	4	110	32
97.8X9	160A.1	12,5 x 14	4	120	48
97.10X11	160A.1	15 x 16	6	130	66
97.12X13	160A.1	17,5 x 19	6	140	106
97.14X15	160A.1	20 x 21,5	6,5	150	138
97.16X17	160A.1	22,7 x 24	8,2	160	188
97.18X19	160A.1	25,2 x 26,5	8,2	170	238
97.20X22	160A.1	27,7 x 30,2	10,2	180	262
97.21X23	160A.1	29 x 31,2	10,2	185	294
97.24X26	160A.2 or 160A.3	33 x 35,5	12,5	190	416
97.25X28	160A.2 or 160A.3	34,5 x 38	12,5	195	442
97.27X29	160A.2 or 160A.3	37 x 39,5	12,5	200	504
97.30X32	160A.2 or 160A.3	40,5 x 43	12,5	200	630



### 97 Metric double-ended forged socket wrench sets

- Supplied as box or module sets

▣	▢	▣	○ mm	ΔΔ kg
97.JE6	•		8x9 - 10x11 - 12x13 - 14x15 - 16x17 - 18x19	0,77
MOD.97		PL.359	8x9-10x11 - 12x13	1.019

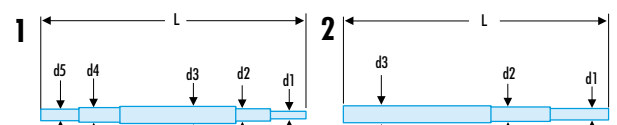


### 160A Bars for wrenches 91A, 92A and 97

- Hardened chrome steel.
- Shape 1 for 160A.1.
- Shape 2 for 160A.2 and 160A.3.
- Chrome finish.



▣	d1 mm	d2 mm	d3 mm	d4 mm	d5 mm	L mm	ΔΔ g
160A.1	3,8	5,25	9	7,4	6,25	220	80
160A.2	10,75	12,25	13	-	-	300	280
160A.3	12,25	14,25	18	-	-	350	380





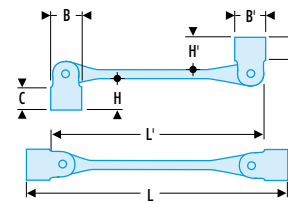
## ► Hinged series

### 66A Metric and inch hinged socket wrenches

▷ Strength to ISO 1711-1, NF ISO 1711-1.

- Spring-steadied pivoting 12-point OGV®.
- socket.
- Satin chrome finish.

⇒	B x B' mm	C x C' mm	H x H' mm	L' mm	L mm	ΔΔ g
66A.6X7	10,3 x 11,5	15 x 15	23 x 23	156	188,5	95
66A.8X9	12,6 x 13,85	15 x 15	23 x 23	156	188,5	100
66A.10X11	15 x 16,5	18 x 18	26 x 26	156	194,5	105
66A.10X13	15 x 19	21 x 21	31 x 31	189,5	233,5	190
66A.12X13	17,5 x 19	21 x 21	31 x 31	189,5	233,5	195
66A.14X15	20,5 x 21,75	23 x 23	33 x 33	231	237,5	215
66A.16X17	23 x 24	23 x 23	35 x 35	231	280	325
66A.16X18	23 x 24,7	23 x 24	35 x 36	231	281	330
66A.18X19	24,7 x 26	24 x 28	36 x 40	231	286	345
66A.20X22	27,3 x 30,5	28 x 28	41,5 x 41,5	270	329	515
66A.21X23	28,6 x 31,5	28 x 30	41,5 x 43,5	270	331	535
66A.24X27	33 x 36,7	33 x 33	50,5 x 50,5	312	381	1020
66A.30X32	40,5 x 43	36 x 36	53,5 x 53,5	312	387	1100
66A.3/8X7/16	15 x 16,5	18 x 18	26 x 26	156	164,5	105
66A.1/2X9/16	19 x 20,5	21 x 23	31 x 33	189,5	235,5	215
66A.5/8X11/16	23 x 24,7	23 x 24	35 x 36	231	281	335
66A.5/8X3/4	23 x 26	23 x 28	35 x 40	231	285	340



### 66A Metric and inch wrench sets

- Supplied as box, roll or module sets.

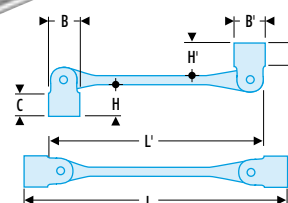
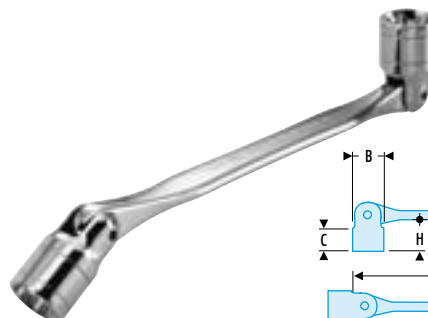
⇒	📦	📦	📦	⌀, mm/"	ΔΔ kg
66A.JE6			•	8x9-10x11-12x13-14x15-16x17-18x19	1,3
66A.JE9			•	6x7-8x9-10x11-12x13-14x15-16x17-18x19-20x22-21x23	2,45
66A.JU3			•	3/8x7/16-1/2x9/16-5/8x3/4	0,67
66A.JE9T	N.38A-9B			6x7-8x9-10x11-12x13-14x15-16x17-18x19-20x22-21x23	2,55
66A.JE6T	N.38A-6B			8x9-10x11-12x13-14x15-16x17-18x19	1,150
MOD.66A-1		PL.319A		6x7 - 8x9 - 10x11-12x13 - 14x15- 16x17	0,940
MOD.66A-2		PL.320		18x19- 20x22 - 21x23	1,600



### 66TX TORX® hinged socket wrenches

- Spring-steadied TORX® sockets.
- Satin chrome finish.

⇒	B x B' mm	C x C' mm	H x H' mm	L mm	L' mm	ΔΔ g
66TX.6X8	8 x 10	5 x 7	22 x 22	186	156	82
66TX.10X12	13 x 15	7,5 x 8	27 x 27	224,5	189,5	175
66TX.14X18	17 x 20,5	10 x 12	32 x 34	274	231	329
66TX.20X24	23,5 x 28	13 x 18	38 x 42	323	270	528



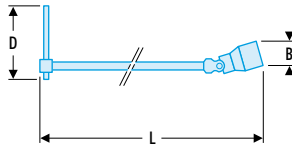
## ► Universal joint series

### 99C Tee socket-wrench with universal joint

▷ Strength to ISO 2236, DIN 896, NF ISO 2236.

- Spring-steadied socket.
- Satin chrome finish with polished chrome socket.

99C	B mm	D mm	L mm	ΔΔ g
99C.6	10,3	165	399	225
99C.7	10,3	165	399	225
99C.8	12,6	165	399	225
99C.9	13,8	175	399	225
99C.10	15,0	175	431	325
99C.11	16,5	175	431	325
99C.12	17,5	175	434	335
99C.13	19,0	175	466	415
99C.14	20,5	175	466	430
99C.15	21,7	180	498	545
99C.16	23,0	180	499	560
99C.17	24,0	180	499	560
99C.18	24,7	180	501	570
99C.19	26,0	220	523	860



### 99C Metric wrench sets

• Supplied as box or panel sets.

99C	□	□	□	□, mm/°	ΔΔ kg
99C.JE12	•			7; 8; 9; 10; 11; 12; 13; 14; 16; 17; 18; 19	4,55
99C.JE8	•			8; 9; 10; 11; 12; 13; 14; 17	2,84
99C.P12E	•			7; 8; 9; 10; 11; 12; 13; 14; 16; 17; 18; 19	6,85
99C.P8E	•			8; 9; 10; 11; 12; 13; 14; 17	5,20
MOD.99B		PL.304		7; 8; 10; 11; 13; 17; 19	4,010



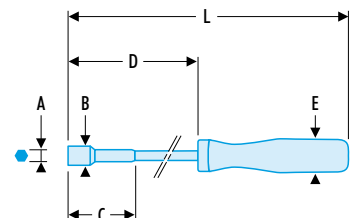
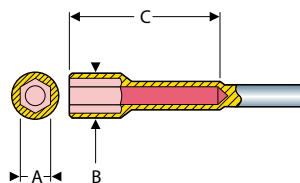
## ► Nut spinner series

### 74 Metric and inch forged 6-point nut spinners

▷ ISO 2236, DIN 3125, NF ISO 2236.

- High-strength forged carbon steel.
- Permanently moulded acetate handle, resists oil, grease and hydrocarbons.
- Ideal for light engineering.
- Polished chrome finish.

99C	99C	B	C	D	E	L	ΔΔ
A mm	A' mm	mm	mm	mm	mm	mm	g
74.3,2		6,0	20	125	25	230	70
74.4		7,0	20	125	25	230	75
74.4,5	74.3/16	7,5	25	125	25	230	77
74.5	74.7/32	8,0	25	125	25	230	80
74.5,5		8,0	30	125	25	230	82
74.6	74.1/4	9,5	35	125	25	230	100
74.7	74.9/32	9,5	35	125	25	230	100
74.8	74.5/16	12,0	50	125	28	240	129
74.9	74.11/32	12,0	50	125	28	240	129
74.10	74.3/8	14,5	50	125	28	240	134
74.11	74.7/16	16,0	50	125	28	240	139
74.12		17,0	50	125	28	240	141
74.13		18,5	55	125	28	240	144
74.14		20,0	55	125	28	240	147



## 74 Metric wrench sets

- Supplied as wallet or rack sets.

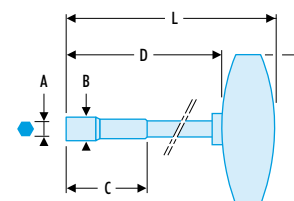
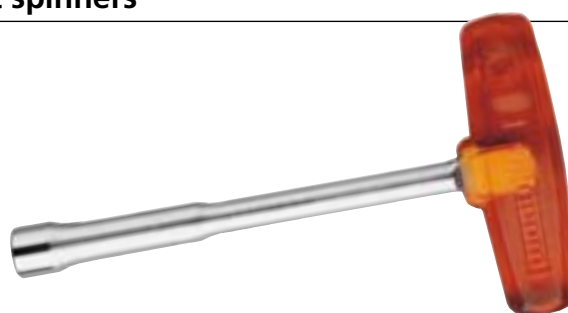
➤			⌀ mm	ΔΔ kg
<b>74.JL9</b>	N.38A-10D		3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10	1
<b>74.JL14</b>	•		3,2 - 4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14	1,69
<b>74.P14E</b>		•	3,2 - 4 - 4,5 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14	1,81



## 74T Metric forged Tee-handled 6-point nut spinners

- For higher torques.
- High-strength forged carbon steel.
- Permanently moulded acetate tee-handle resists oil, grease and hydrocarbons.
- Polished chrome finish.

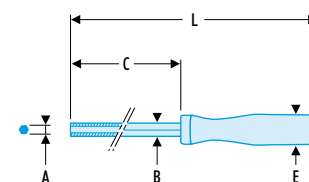
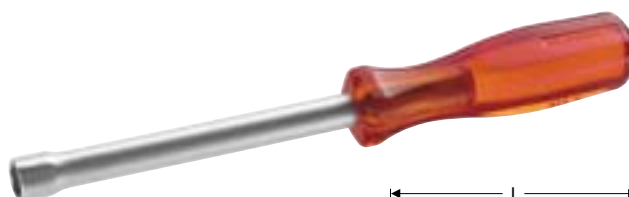
➤	A mm	E mm	B mm	C mm	D mm	L mm	ΔΔ g
<b>74T.5</b>	5	85	8	25	130	160	80
<b>74T.5,5</b>	5,5	85	9	30	130	160	85
<b>74T.6</b>	6	85	9	35	130	160	100
<b>74T.7</b>	7	85	11	35	130	160	115
<b>74T.8</b>	8	85	12	50	130	160	120
<b>74T.9</b>	9	85	13	50	130	160	120
<b>74T.10</b>	10	85	14	50	130	160	125
<b>74T.11</b>	11	85	16	50	130	160	130
<b>74T.12</b>	12	85	18	50	130	160	132
<b>74T.13</b>	13	85	19	55	130	160	135
<b>74T.14</b>	14	85	20	55	130	160	138



## 94A Metric box-shank nut spinners

- Ideal for long threaded rods.
- Chrome finish.

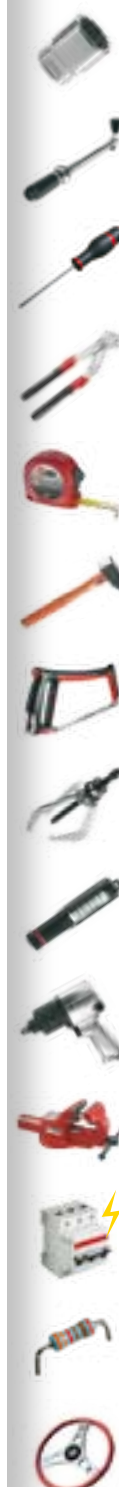
➤	A mm	B mm	C mm	E mm	L mm	ΔΔ g
<b>94A.3,2</b>	3,2	7	125	25	225	70
<b>94A.4</b>	4	7	125	25	225	75
<b>94A.5</b>	5	7	125	25	225	80
<b>94A.5,5</b>	5,5	7	125	25	225	100
<b>94A.6</b>	6	9	125	28	235	110
<b>94A.7</b>	7	9	125	28	235	125
<b>94A.8</b>	8	11	125	28	235	152
<b>94A.9</b>	9	11	125	28	235	160
<b>94A.10</b>	10	13	125	32	245	165
<b>94A.11</b>	11	13	125	32	245	245
<b>94A.12</b>	12	16	125	39	260	260
<b>94A.13</b>	13	16	125	39	260	275
<b>94A.14</b>	14	18	125	39	260	280



## 94A Metric box-shank nut spinner sets

- Supplied as wallet sets.

➤		⌀ mm	ΔΔ kg
<b>94A.JL9</b>	N.38A-10D	3,2-4-5-5,5-6-7-8-9-10	1,2
<b>94A.JE13T</b>	N.38A-14A	3,2-4-5-5,5-6-7-8-9-10- 11-12-13-14	2,295



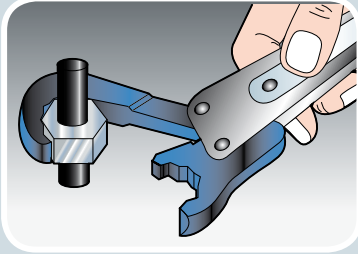


## ▶ 70 Ratchet flare-nut wrenches

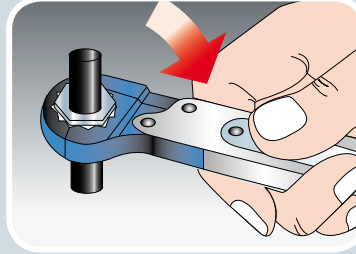


### 70 series - Ratchet flare-nut wrenches

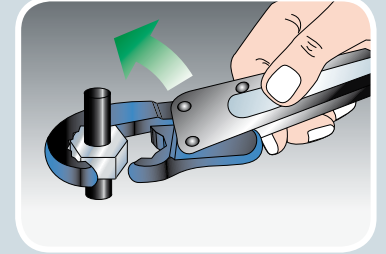
#### RATCHET EFFECT AND ACCESSIBILITY



• Positioning is straightforward, even with little clearance around the pipe.



• Torque is applied over all six flats for optimum drive.



• Ratchet action without wrench removal completes work five times faster than with a conventional tool.

### 70A Metric ratchet flare-nut wrenches

- Metric sizes from 7 to 32 mm.
- 6-point heads up to 11 mm.
- Finish :
  - chrome with burnished head up to 24 mm.
  - burnished from 27 to 32 mm.
- Fast tools for pipe unions in a variety of applications such as automotive, construction, air conditioning, refrigeration, aircraft and plumbing.
- 70A.27, 70A.30, 70A.32 : Heavy-duty model, burnished finish, PVC

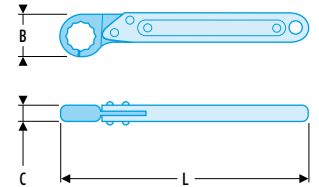
Ref	B mm	C mm	L mm	ΔΔ g
70A.7	25,4	7,1	137,5	75
70A.8	25,4	7,1	137,5	75
70A.9	25,4	7,1	137,5	73
70A.10	25,4	7,1	137,5	73
70A.11	25,4	7,1	137,5	73
70A.12	25,4	7,1	137,5	70
70A.13	25,4	7,1	137,5	70
70A.14	33,5	9,6	184	140
70A.16	33,5	9,6	184	140
70A.17	33,5	9,6	184	135
70A.18	33,5	9,6	184	135
70A.19	33,5	9,6	184	130
70A.22	42,4	11,2	237,5	260
70A.24	42,4	12,9	237,5	260
70A.27	55,8	14,2	346	505
70A.30	55,8	14,2	346	480
70A.32	55,8	14,2	346	470



70A.13



70A.27



### 70A Metric ratchet flare-nut wrench sets

- Supplied as box or roll sets.

Ref	Ref	Ref	mm	ΔΔ g
70A.JN6		•	8 - 10 - 11 - 13 - 17 - 19	560
70A.JE7T	N.38A-7B		7 - 8 - 9 - 10 - 11 - 12 - 13	550
70A.JE5T	N.38A-5A		14 - 16 - 17 - 18 - 19	720



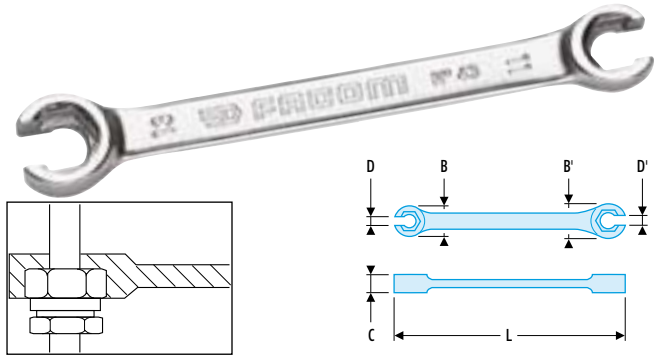
Fixed-size and adjustable wrenches

## ► Standard series

### 43 Flanged flare-nut wrenches

- Metric sizes from 7 to 19 mm.
- Flange strengthened 6-point split ring for use on stubborn fittings such as seized pipe unions.
- Short shank for easier handling.
- Chrome finish.

➤	B x B' mm	C mm	D x D' mm	L mm	ΔΔ g
<b>43.7X9</b>	15,6 x 18,3	10	5,0 x 6,6	124	38
<b>43.8X10</b>	16,6 x 19,1	10	5,9 x 7,4	124	40
<b>43.10X11</b>	19,1 x 20	10	7,4 x 8,1	124	43
<b>43.11X13</b>	20 x 22,9	11,5	8,1 x 9,5	143	63
<b>43.12X14</b>	22,3 x 24,6	11,5	8,9 x 10,3	143	66
<b>43.17X19</b>	28,3 x 31,4	13	12,6 x 14,1	162	100



### 43 Flanged flare-nut wrench sets

- Supplied in a wallet or module

➤	📁	📏	⌀ mm	ΔΔ kg
<b>43.JE5T</b>	N.38A-5B		7x9-8x10-11x13-12x14-17x19	0,330
<b>MOD.43</b>		PL.365	7x9 - 8x10 - 11x13 - 12x14 - 17x19	0,960

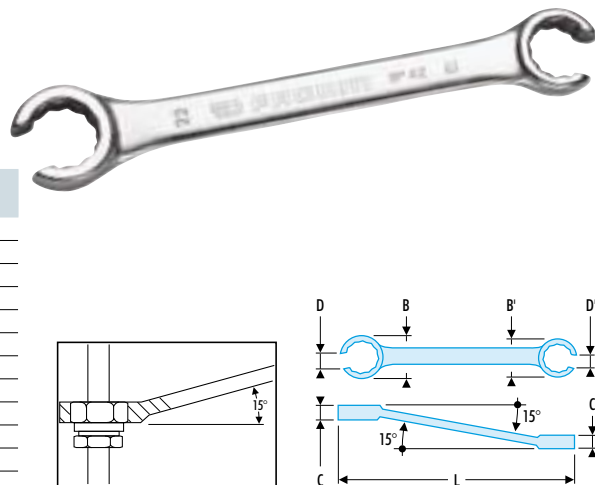


### 42 Metric and inch flare-nut wrenches angled at 15°

▷ DIN 3118.

- Metric sizes from 8 to 41 mm.
- Inch sizes from 5/16" x 3/8" to 1" x 1 1/8".
- 6-point heads up to 12 x 14 mm.
- Chrome finish.

➤	➤	B x B' mm	C mm	D x D' mm	L mm	ΔΔ g
<b>42.8X10</b>	<b>42.5/16x3/8</b>	18 x 20	7 x 8,5	6 x 7	140	55
<b>42.10X11</b>		20 x 22	8,5 x 9	7 x 8,5	150	65
<b>42.10X12</b>		20 x 22	8,5 x 9	7 x 9	150	65
<b>42.11X13</b>	<b>42.7/16x1/2</b>	22 x 26	9 x 10,5	8,5 x 10	165	110
<b>42.12X14</b>		24 x 28	9,5 x 11	9 x 11	170	120
<b>42.14X17</b>	<b>42.9/16x5/8</b>	28 x 30	11 x 12	11 x 14	200	135
<b>42.17X19</b>	<b>42.11/16x3/4</b>	30 x 32	12 x 14	14 x 15	210	175
<b>42.19X22</b>	<b>42.3/4x7/8</b>	32 x 38	14 x 16	15 x 17	220	210
<b>42.22X24</b>		38 x 42	16 x 17	17 x 18	235	270
<b>42.24X27</b>	<b>42.1"x1"1/8</b>	42 x 46	17 x 18	18 x 20	255	290
<b>42.30X32</b>		50 x 52	21 x 23	22 x 24	275	480
<b>42.36X41</b>		60 x 67	25 x 27	25 x 32	310	1100



### Set of 5 flare-nut wrench angled at 15°

#### 42.JE5T

- Supplied as roll sets.

➤	📁	⌀ mm	ΔΔ g
<b>42.JE5T</b>	N.38A-5A	8x10-11x13-12x14-17x19-22x24	770



## ▶ Adjustable series

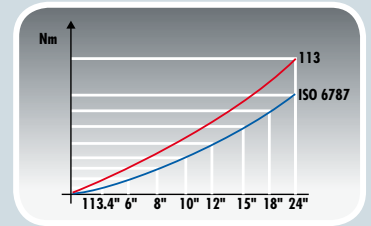


## Series 113A adjustable wrenches

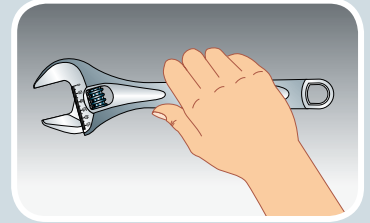
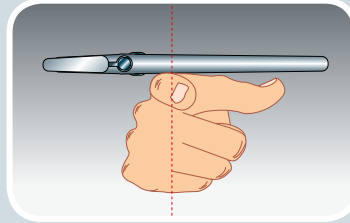
## HIGH-PERFORMANCE AND MANOEUVRABILITY

**Powerful**

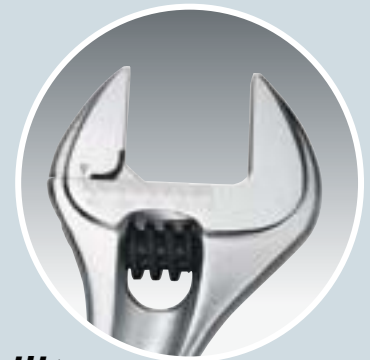
- Performance exceeds standard specifications.
- ISO 6787, DIN 3117  
NF E 74-324.
- ASME B 107.8m-1996  
(US. nat.std).

**Ergonomic**

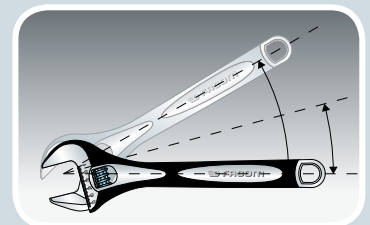
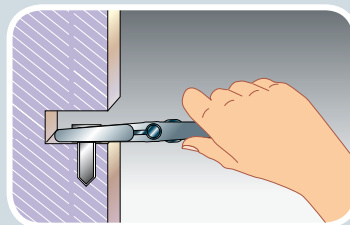
- Optimised contact surfaces for maximum user comfort.
- Contoured handle for improved handling.
- Ergonomic worm screw :
  - Optimised finger contact area.
  - Improved worm screw access.

**Versatile**

- Millimetre graduations :
  - Reading measurements,
  - Wrench presetting.
- Non-protruding moving jaw at maximum capacity.

**For greater accessibility**

- Head angled at 15° for easier repositioning.
- Tapered jaw tips for optimum access.



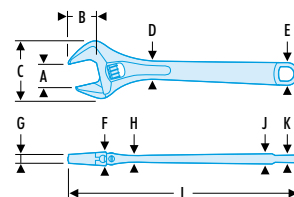


# Variable opening wrenches

## Series 113A.C Chromed adjustable wrenches

▷ Strength to ISO 6787, DIN 3117, NF ISO 6787, ASME B 107.8 M.

- Chromed body and polished jaw faces.
- Contoured handle for improved handling.
- Improved worm screw access.
- Tapered jaw tips for optimum access.
- Non-protruding moving jaw at maximum capacity.
- Millimetre graduations for pre-setting jaw opening.
- Clockwise rotating worm screw.
- Sizes from 4" to 24".
- Registered design.

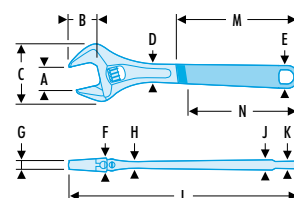


Series	A	B	C	D	E	F	G	H	J	K	L	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
<b>113A.4C</b>	13	13	34	11	14	9,5	4,5	5	6,5	5	114	65
<b>113A.6C</b>	20	19	45,0	14,8	18,5	11,8	5	6	8,3	5,8	155	125
<b>113A.8C</b>	27	24	61,5	18,5	24	13,5	6,5	9	11	8,5	206	275
<b>113A.10C</b>	30	29	69,5	21,5	28,5	15,5	9	9,5	12,7	10	255	480
<b>113A.12C</b>	34	34	80	25	31	18	10	10,2	13	10	306	700
<b>113A.15C</b>	44	44	97	28	35	20	13,5	12	14,8	11,5	380	1146
<b>113A.18C</b>	53	53	115	31	38,5	22,5	16	14,3	17,8	13,5	456	1792
<b>113C.24C</b>	62	61	132	42	38	31	17	17	15	15	612	3495

## Series 113A.CG Sheathed and chromed adjustable wrenches

▷ Strength to ISO 6787, DIN 3117, NF ISO 6787, ASME B 107.8 M.

- Sheathed and chromed body, polished jaws.
- Contoured handle for improved handling.
- Improved worm screw access.
- Tapered jaw tips for optimum access.
- Non-protruding moving jaw at maximum capacity.
- Millimetre graduations for pre-setting jaw opening.
- Counter clockwise rotating worm screw.
- Sizes from 4" to 12".
- Registered design.

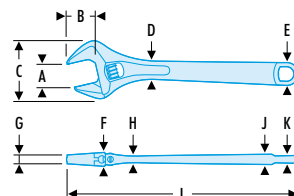


Series	A	B	C	D	E	F	G	H	J	K	L	M	N	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
<b>113A.4CG</b>	13	13	34,0	11,0	18,5	9,5	4,5	5,0	9,5	6,0	116	65,5	65,0	75
<b>113A.6CG</b>	20	19	45,0	14,8	24,0	11,8	5,0	6,0	12,0	8,0	159	90,5	80,0	140
<b>113A.8CG</b>	27	24	61,5	18,5	31,0	13,5	6,5	9,0	14,5	10,0	209	123,0	109,0	310
<b>113A.10CG</b>	30	29	69,5	21,5	36,5	15,5	9,0	9,5	17,5	12,5	259	157,5	140,0	510
<b>113A.12CG</b>	34	34	80,0	25,0	39,5	18,0	10,1	10,2	19,5	14	310	189,5	169,5	740

## 113A.T Phosphated adjustable wrenches

▷ Strength to ISO 6787, DIN 3117, NF ISO 6787, ASME B 107.8 M.

- Contoured handle for improved handling.
- Improved worm screw access.
- Tapered jaw tips for optimum access.
- Non-protruding moving jaw at maximum capacity.
- Millimetre graduations for pre-setting jaw opening.
- Counter clockwise rotating worm screw.
- Phosphated body, fine-ground jaw faces.
- Sizes from 4" to 24".
- Registered design.



Series	A	B	C	D	E	F	G	H	J	K	L	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
<b>113A.4T</b>	13	13	34	11	14	9,5	4,5	5	6,5	5	114	65
<b>113A.6T</b>	20	19	45	14,8	18,5	11,8	5	6	8,3	5,8	155	125
<b>113A.8T</b>	27	24	61,5	18,5	24	13,5	6,5	9	11	8,5	206	275
<b>113A.10T</b>	30	29	69,5	21,5	28,5	15,5	9	9,5	12,7	10	255	480
<b>113A.12T</b>	34	34	80	25	31	18	10	10,2	13	10	306	700
<b>113A.15T</b>	44	44	97	28	35	20	13,5	12	14,8	11,5	380	1146
<b>113A.18T</b>	53	53	115	31	38,5	22,5	16	14,3	17,8	13,5	456	1792
<b>113.24T</b>	62	61	132	42	38	31	17	17	15	15	612	3265

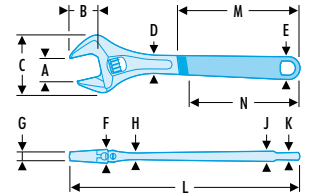
### 113A.TG Sheathed and phosphated adjustable wrenches

▷ Strength to ISO 6787, DIN 3117, NF ISO 6787, ASME B 107.8 M.

- Contoured handle for improved handling.
- Improved worm screw access.
- Tapered jaw tips for optimum access.
- Non-protruding moving jaw at maximum capacity.
- Millimetre graduations for pre-setting jaw opening.
- Counter clockwise rotating worm screw.
- Sheathed, phosphated body, fine-ground jaw faces.
- Sizes from 4" to 12".
- Registered design.



Model	A	B	C	D	E	F	G	H	J	K	L	M	N	ΔΔ
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	g
<b>113A.4TG</b>	13	13	34,0	11,0	18,5	9,5	4,5	5,0	9,5	6,0	116	65,5	65,0	75
<b>113A.6TG</b>	20	19	45,0	14,8	24,0	11,8	5,0	6,0	12,0	8,0	159	90,5	80,0	140
<b>113A.8TG</b>	27	24	61,5	18,5	31,0	13,5	6,5	9,0	14,5	10,0	209	123,0	109,0	310
<b>113A.10TG</b>	30	29	69,5	21,5	36,5	15,5	9,0	9,5	17,5	12,5	259	157,5	140,0	510
<b>113A.12TG</b>	34	34	80,0	25,0	39,5	18,0	10,1	10,2	19,5	14,5	310	189,5	169,5	740

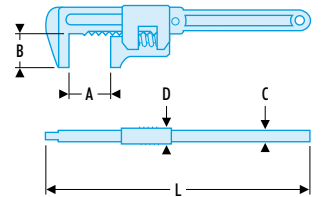
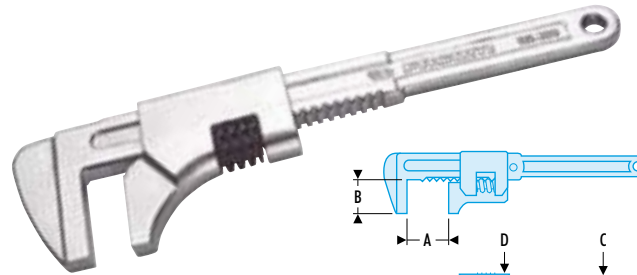


### ▶ Monkey wrench series

#### 105 Monkey wrenches

- 3 models, jaw capacities 60 - 70 - 80 mm.
- Sturdy, wide-opening tools for heavy-duty work on farms and building sites.
- Body and worm in hardened steel.
- Ground and chrome finish.

Model	A max	B	C	D	L	ΔΔ
	mm	mm	mm	mm	mm	kg
<b>105.230</b>	60	34	10	17	230	0,480
<b>105.280</b>	70	45	11	20	280	0,810
<b>105.375</b>	80	45	13	22	375	1,440



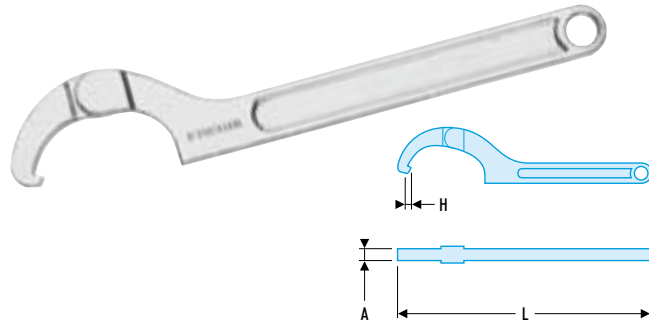
# Hook and pin wrenches

## ► Series for side-slot nuts

### 125A Hinged hook wrenches

- Capacity 15 to 180 mm.
- Joint fitted with a spring-washer for smooth, reliable operation.
- Five wrench sizes equate to three times as many conventional C-wrenches.
- Chrome finish.

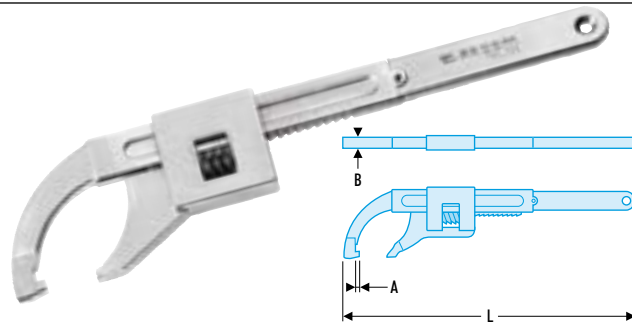
➤	mm	A mm	H mm	L mm	ΔΔ kg
<b>125A.35</b>	15 - 35	5	3,0	168	0,08
<b>125A.50</b>	35 - 50	6	4,0	202	0,17
<b>125A.80</b>	50 - 80	8	5,0	280	0,38
<b>125A.120</b>	80 - 120	9	5,5	345	0,7
<b>125A.180</b>	120 - 180	11	7,5	492	1,48



### 115A Adjustable hook wrench

- Capacity 10 to 200 mm.
- Chrome finish.

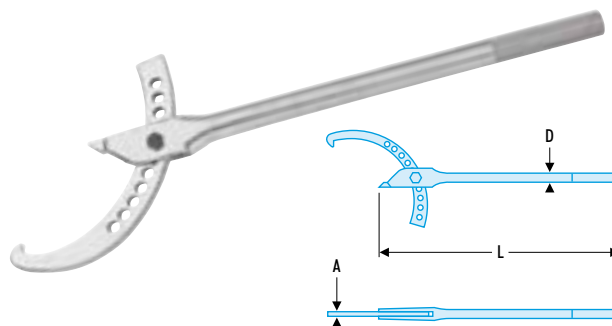
➤	mm	A mm	B mm	L mm	ΔΔ kg
<b>115A.50</b>	10 - 50	4	7,5	215	0,34
<b>115A.100</b>	20 - 100	5	8,0	360	0,8
<b>115A.200</b>	30 - 200	7	10,0	550	1,86



### 119 Heavy-duty hook wrenches

- Capacity 120 to 324 mm.
- With its 11-hole adjustment, this wrench alone replaces a variety of conventional tools in heavy-duty applications.
- Chrome finish.
- Forged hook, hardened to 44 HRC.

➤	mm	A mm	D mm	L mm	ΔΔ kg
<b>119.3/8</b>	120 - 224	9,5	26	610	3,16
<b>119.3/4</b>	220 - 324	19	33	650	5,9

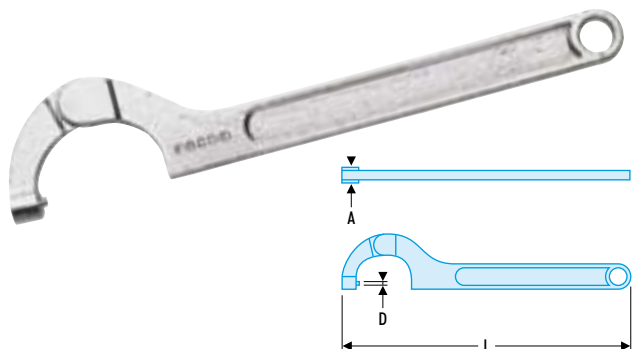


## ► Series for side-hole nuts

### 126A Hinged pin wrenches


- For nuts with side holes.
- Interchangeable pins.
- Capacity 15 to 180 mm.
- Same design advantages as wrench "125A" but with interchangeable pins for nuts with holes around the side.
- Five sizes cover the full range of conventional fixed wrenches.
- Pins hardened to 40 HRC.

➤	mm	D mm	A mm	L mm	ΔΔ kg
<b>126A.35</b>	15 - 35	3	10	168	0,08
<b>126A.50</b>	35 - 50	4	12	202	0,17
<b>126A.80</b>	50 - 80	5	14	280	0,36
<b>126A.120</b>	80 - 120	6	18	345	0,7
<b>126A.180</b>	120 - 180	8	20	492	1,44





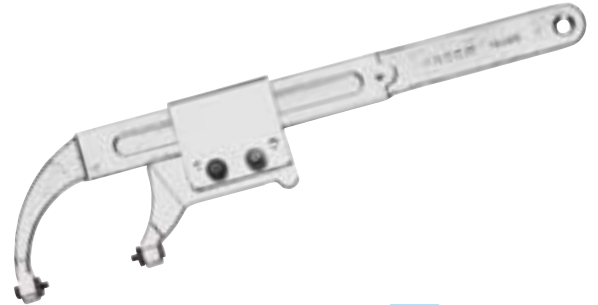
## 126.E Sets of 2 spare pins


	Ø mm	ΔΔ g
<b>126.E35</b>	3	2
<b>126.E50</b>	4	5
<b>126.E80</b>	5	9
<b>126.E120</b>	6	19
<b>126.E180</b>	8	34

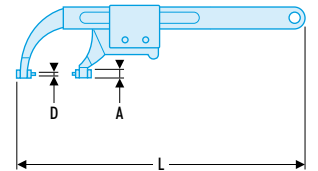


## 116 Sliding-jaw pin wrenches


- For nuts with side holes.
- Interchangeable pins.
- Capacity 0 to 200 mm.
- Moving jaw simply slides along the shank and is self-locking on to the nut.
- Supplied with two sets of easy-to-change pins.
- Chrome-finish body, phosphated pins.



	mm	D mm	A mm	L mm	ΔΔ kg
<b>116.50</b>	0 - 50	2,5 - 4	8	210	0,38
<b>116.100</b>	0 - 100	4 - 6	12	360	0,82
<b>116.200</b>	35 - 200	6 - 8	16	550	1,96



## 116E Sets of 2 spare pins

	For key	Ø mm	ΔΔ g
<b>116.50E1</b>	116.50	2,5	6
<b>116.50E2</b>	116.50	4	6
<b>116.100E1</b>	116.100	4	15
<b>116.100E2</b>	116.100	6	16
<b>116.200E1</b>	116.200	6	36
<b>116.200E2</b>	116.200	8	36



## ► Series for top-hole nuts

### Wrenches for nuts with top holes

#### 117.B


- Interchangeable pins.
- Forged in chrome vanadium steel, with divider-type adjustment controlled from central knurl. Each wrench supplied with a set of 8 pins.
- Set of 2 spare pins.
- Double-ended round pins for nuts with top holes.
- Chrome finish.

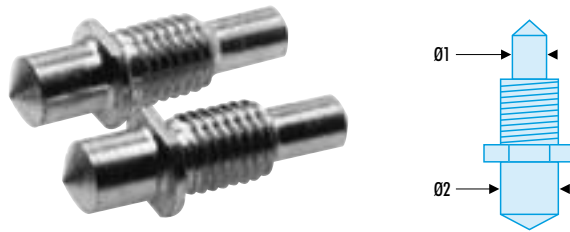
	Length mm	Capacity mm	$\Delta\Delta$ g
<b>117.B</b>	245	20 - 100	530



#### 117.E Sets of 2 spare pins

- Double-ended round pins for nuts with top holes.

	$\text{Ø}1 - \text{Ø}2$ mm	$\Delta\Delta$ g
<b>117.E1</b>	2,5 - 4	16
<b>117.E2</b>	6 - 8	24
<b>117.E3</b>	3 - 5	17
<b>117.E4</b>	7 - 9	27



### Wrench for nuts with top slots


#### 118A

- Interchangeable pins.
  - Capacity 20 to 100 mm.
  - Forged in chrome vanadium steel, with divider-type adjustment controlled from central knurl.
  - Each wrench supplied with a set of 8 pins.
  - Length 245 mm.
  - Chrome finish.
- $\Delta\Delta$  : 530 g.



#### 118.EC Sets of 2 spare pins

- Square pins for nuts with top slots.

	A mm	$\Delta\Delta$ g
<b>118.EC4</b>	4	11
<b>118.EC5</b>	5	12
<b>118.EC6</b>	6	14
<b>118.EC8</b>	8	17







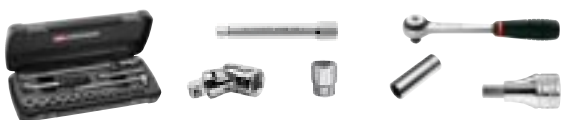
# 5. Ratchets/Sockets

## ▶ 1/4" "Radio" range 174



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## ▶ 1" "Mammoth" range 239



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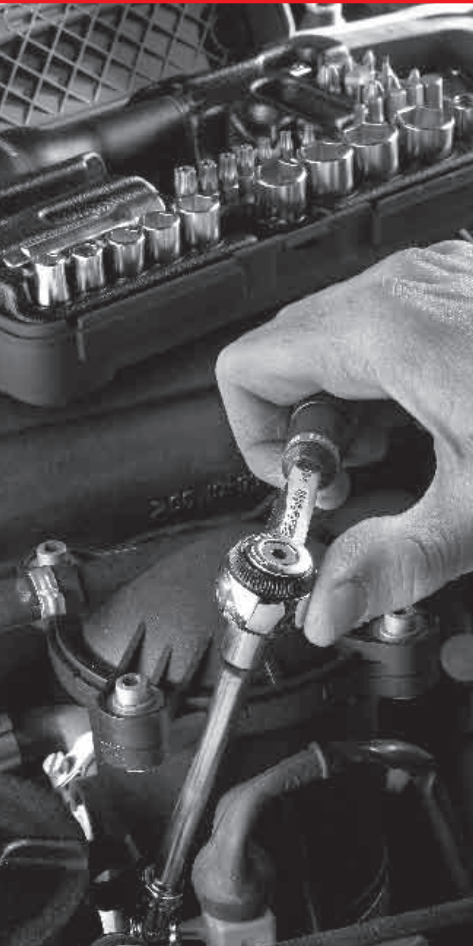


## ▶ 366 Impact screwdriver



**NEW**

**Compact multi-service set.**



### *Essential torquing and screw-driving tool set with a foam tray*

#### **Advantages**

- ▶ High density foam resists crushing and hydrocarbons
- ▶ Visual identification of missing tools
- ▶ Tools more securely held



**N** **174**

**NEW**

**3/8" "locking" ratchets**



### *The Facom locking system*

#### **Advantages**

- ▶ High pull-off resistance, no more lost sockets
- ▶ Easy release, even with slippery hands
- ▶ Low return torque



**N** **194**



*Instant identification*

**Advantages**

- ▶ Saves time
- ▶ Compatible with 6 and 12-point sockets
- ▶ Resistant to abrasion, lubricants, etc.



N ▶ 170



3/4" ratchet

*A heavy duty ratchet for any job and any situation*

**Advantages**

- ▶ Durable: mechanism protected against ingress of external elements
- ▶ Easy to use
- ▶ Safe: plunger ratchet/socket/ accessory locking system



N ▶ 234





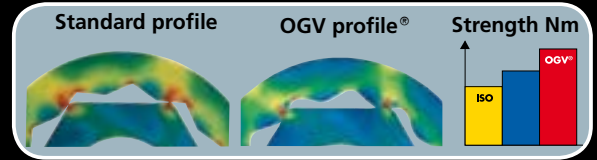


## Facom OGV<sup>®</sup> profile

### HIGHER TORQUE WITHOUT DAMAGE TO FASTENERS !

The OGV<sup>®</sup> profile is achieved by a succession of curves instead of the flats found in conventional sockets<sup>®</sup>.

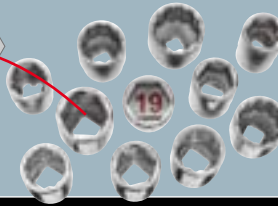
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



### TAG socket inserts

- Immediately identify your sockets.
- 6- or 12 point sockets.

⇒ TAG



## Choosing your socket

### 1. Choose the size

Nut sizes may be metric or in inches.

mm ? inch ?



### 2. Standard or long-reach socket ?

- The standard socket



overcomes the problem of protruding threaded rods or difficulty of access with an extension.

### 3. 6-point or 12-point socket ?



- securely grips the nut.
- limits slippage in particular on damaged nuts.



- allows a more instinctive placement on the nut.
- is used for tightening 12 point nuts.

# Facom socket range













## Premium service : a wide range of sockets

- **Service :**

The FACOM range includes over 1500 different ratchets, sockets, accessories and sets to meet your every need.

- **Performance :**

The performance of Facom's ratchets, sockets and accessories greatly exceeds current standard specifications.

Application	Sizes	Square drive
 <p>Light engineering. Electronics Electromechanical Cycles</p> 	<p>3.2 to 14 mm 3/16" to 9/16"</p>	<p>Radio range <math>\square</math> 1/4" p. 174</p>
 <p>Mechanical engineering Automotive engineering Motorcycles</p> 	<p>7 to 24 mm 1/4" to 1" 7 to 32 mm 8 to 34 mm 1/4" to 1"</p>	<p>Junior range <math>\square</math> 3/8" p. 190 CDX range p. 204 Standard range <math>\square</math> 1/2" p. 210</p>
 <p>Heavy engineering Heavy goods vehicles Civil Engineering plant Farming equipment Offshore</p> 	<p>19 to 55 mm 3/4" to 2 1/4" 41 to 100 mm 1 13/16" to 3 3/8"</p>	<p>Truck range <math>\square</math> 3/4" p. 230 Mammoth range <math>\square</math> 1" p. 239</p>
 <p>For all you power-assisted torquing applications</p> 	<p>6 to 120 mm 3/8" to 2 1/4"</p>	<p>Impact range <math>\square</math> 3/8", 1/2", 3/4", 1", 1 1/2" p. 243</p>
 <p>For all live working applications</p> 	<p><b>1000 V insulated VSE range</b> Sockets 6 to 12 mm Sockets 9 to 19 mm Sockets 8 to 22 mm</p>	<p>Radio <math>\square</math> 1/4" p. 665 Junior <math>\square</math> 3/8" p. 663 Standard <math>\square</math> 1/2" p. 661</p>



## Facom ratchets

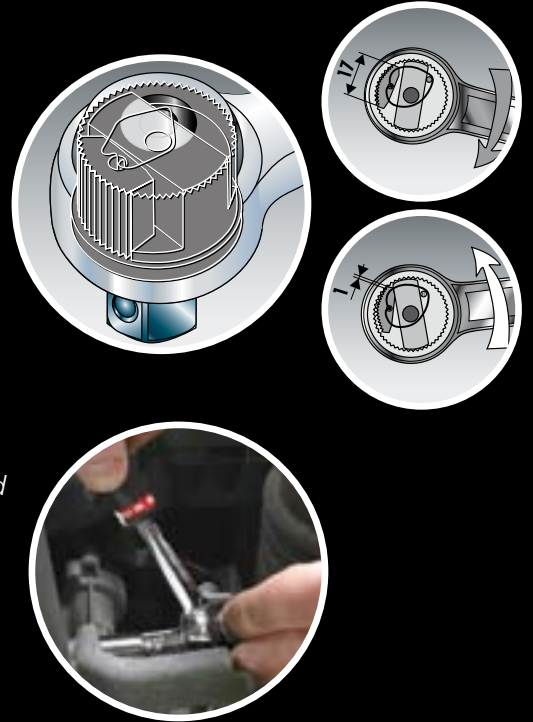
## Meeting professional needs

### PERFORMANCE

- The performance of Facom ratchets exceeds ISO 3315 specifications. E.g. : ratchet  $\square$  1/2" S.161 : over 400 kg on the handle.
- High-frequency hardened teeth for increased strength and durability.
- Torque transmitted through 17 teeth in mesh ensuring better stress distribution.
- Single tooth in contact during back swing to limit return torque.

### ACCESSIBILITY

- Facom 72 tooth mechanism allows torquing to be performed in only 5° increments.
- The design of the mechanism gives a very compact head that is ideal for working in confined spaces.



## Series 171 Locking ratchet

Ratchets J, SJ and S.171 are equipped with a locking system that can resist a socket pull-off load of over 60 kg

p. 194

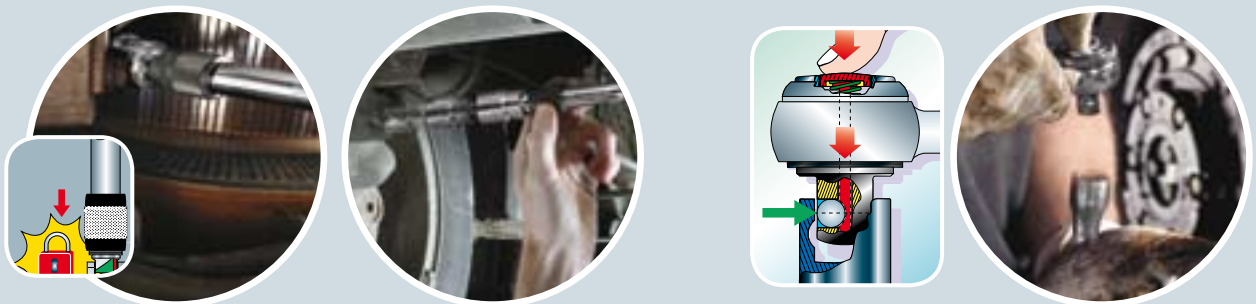


### SAFETY :

- No lost or jammed-in-place sockets.

### COMFORT :

- Immediate socket release simply by pressing the button, even with slippery or gloved hands.





## SERIES 161 Palm control ratchet

- **Comfortable :**

The palm-control system allows the operator to push down on the head of the ratchet while avoiding accidental reversal.

p. 194



## SERIES 151 Standard ratchet

- **Sturdy :**

Simple Facom mechanism ensures high performance and durability.

p. 194



## Metal grip ratchets

- **Sturdy :**

Metal grip ratchets are ideal for environments where PVC grips are vulnerable to solvent attack.

- **Comfortable :**

Incorporates the Palm control system.

- **Grip :**

The handle is knurled to avoid all risk of slippage.

p. 194



## SM SERIES "Parking meter" ratchets

- **Sturdy :**

"Parking meter" ratchets are ideal for use in difficult working conditions :  
 - Sealed head gives better protection against clogging.  
 - 50 tooth mechanism, 9° increments.

- **Comfortable :**

Recessed reverse lever avoids accidental reversal and is easier to operate with gloved hands.

p. 218



SM.161



SM.171

SM.150


























# Radio 1/4" range

▶  1/4" inch sets

 1/4" Metric socket and bit sets



## R.2A : THE MOST COMPREHENSIVE SET...!

	R.2AM	R.2A	R.3A	R.420P
	R.161	R.161	R.161	R.161
 12x6	6	6	6	6
 1/4" 6,35mm	R.	R.	R.	R.
				
	3,2			•
	4			•
	5			•
	5,5	•	•	•
	6	•	•	•
	7	•	•	•
	8	•	•	•
	9	•	•	•
	10	•	•	•
	11	•	•	•
	12	•	•	•
	13	•	•	•
	14	•	•	•
 EP	1	•	•	
 +	2	•	•	
	3	•	•	
 ED	1	•	•	•
 +	2	•	•	•
	3	•	•	•
 ES	4			
	4,5	•	•	
	5,5			
	6,5	•	•	
	8	•	•	
 EH	2			
	2,5			
	3	•	•	
	4	•	•	
	5	•	•	
	6	•	•	
	7	•	•	
	8			
 EXR	10	•	•	
	15	•	•	
	20	•	•	•
	25	•	•	•
	27	•	•	
	30	•	•	•
	40	•	•	•
	R.209	•	•	•
	R.210	•	•	
	R.215		•	
	R.240A	•	•	•
	R.236	•	•	•
	R.235	•	•	•
	R.120A			•
	PM.R2A	PL.427	PL.366A	PL.442
	BP.102			
	204 x 122 x 52 mm			
	0,80 kg	0,80 kg	0,60 kg	0,82 kg

 R.2AM 



 R.2A 



 R.3A 



 R.420P 


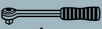








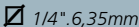

















Ratchets, sockets and accessories

 1/4"

Metric socket and bit sets

... ALWAYS WITH YOU...  
... FOR EVERY SITUATION

		R.425AP	R.426AP	R.425A	R.430ADP	R.431ADP	R.410D	R.410AE
		R.161	R.161	R.151	R.161	R.161	R.151	R.151
								
		R.	R.	R.	R.	R.	R.	R.
	3,2							
	4							
	5							
	5,5	•	•	•	•	•	•	•
	6	•	•	•	•	•	•	•
	7	•	•	•	•	•	•	•
	8	•	•	•	•	•	•	•
	9	•	•	•	•	•	•	•
	10	•	•	•	•	•	•	•
	11	•	•	•	•	•	•	•
	12	•	•	•	•	•	•	•
	13	•	•	•	•	•	•	•
	14	•	•	•	•	•	•	•
	EP							
	1	•	•	•	•	•	•	•
	2	•	•	•	•	•	•	•
	3							
	ED							
	1							
	2							
	3							
	ES							
	4	•	•	•	•	•		
	4,5							
	5,5				•	•		
	6,5	•	•	•	•	•		
	8	•	•	•	•	•		
	EH							
	2							
	2,5							
	3	•	•	•				
	4	•	•	•	•	•		
	5	•	•	•				
	6	•	•	•				
	7							
	8				•	•		
	EXR							
	10							
	15							
	20				•	•		
	25				•	•		
	27							
	30				•	•		
	40				•	•		
	R.209	•	•	•	•	•		
	R.210	•	•	•	•	•		•
	R.215						•	
	R.240A	•	•	•	•	•		
	R.236	•	•	•	•	•	•	•
	R.235	•	•	•	•	•		
	R.120A	•	•	•	•	•	•	
		PL.441		PL.389A		PL.244A	PL.390A	
		BP.102						
		204 x 122 x 52 mm						
		0,83 kg	0,83 kg	0,83 kg	0,87 kg	0,87 kg	0,66 kg	0,55 kg

 R.425AP 

 R.426AP 

 R.425A 



 R.430ADP 

 R.431ADP 



 R.410D 



 R.410AE 





 1/4" Metric socket and wrench sets

 R.450AP 



 R.440EP 





























 R.447EP 



 R.430AP 






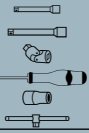









FOR MAXIMUM SERVICE

	R.450AP	R.440EP	R.447EP	R.430AP
	R.161	R.161	R.161	R.161
	R.LA			
		34	39	R.
	3,2	•	•	•
	4	•	•	•
	5	•	•	•
	5,5	•	•	•
	6	•	•	•
	7	•	•	•
	8	•	•	•
	9	•	•	•
	10	•	•	•
	11	•	•	•
	12	•	•	•
	13	•	•	•
	14	•	•	•
	ED			
	1	•	•	•
	2	•	•	•
	3	•	•	•
	4	•	•	•
	ES			
	3	•	•	•
	4	•	•	•
	5,5	•	•	•
	6,5	•	•	•
	8	•	•	•
	EH			
	2	•	•	•
	2,5	•	•	•
	3	•	•	•
	4	•	•	•
	5	•	•	•
	6	•	•	•
	8	•	•	•
	R.209	•	•	•
	R.215	•	•	•
	R.240A	•	•	•
	R.236	•	•	•
	R.235	•	•	•
	R.245	•	•	•
	R.120A	•	•	•
	R.110	•	•	•
	R.140A	•	•	•
	R.216	•	•	•
	R.227	•	•	•
	181.18G	•	•	•
	AN2,5x75	•	•	•
	AN3,5x75	•	•	•
	RT			
	3	•	•	•
	4	•	•	•
	5	•	•	•
	7	•	•	•
	22			
	3,2x5,5	•	•	•
	4x5	•	•	•
	6x7	•	•	•
	8x9	•	•	•
	10x11	•	•	•
	12x13	•	•	•
	PL.703	PL.36A	PL.128A	PL.414
		BP.109		BP.109
		478 X 234 x 272 mm		389 X 164 x 272 mm
	3,26 kg	2,70 kg	2,50 kg	1,92 kg

1/4"

## Metric socket modules

**FACOM MODULES : THE BEST STORAGE SYSTEM FOR YOUR ROLLER CABINETS**

FACOM		MOD.R5	MODM.R1A	MOD.R1
		R.161	R.161	R.161
 1/4" 6,35mm		R.	R.	R.
	5,5	•	•	•
	6	•	•	•
	7	•	•	•
	8	•	•	•
	9	•	•	•
	10	•	•	•
	11	•	•	•
	12	•	•	•
	R.209	•	•	•
	R.215	•	•	•
	R.240A	•	•	•
	R.236	•	•	•
	R.235	•	•	•
	R.120A	•	•	•
	EP	•	•	•
	+	•	•	•
		•	•	•
	ED	•	•	•
	+	•	•	•
		•	•	•
	ES	•	•	•
	•	•	•	•
		•	•	•
	EH	•	•	•
	•	•	•	•
		•	•	•
		•	•	•
	EXR	•	•	•
	+	•	•	•
		•	•	•
		•	•	•
		•	•	•
		•	•	•
	82H			•
	•			•
				•
				•
				•
				•
				•
				•
				•
				•
	83SH	•	•	
	•	•	•	
		•	•	
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	89S	•	•	
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		•	•	
		•	•	
		•	•	
		•	•	
		•	•	
		•	•	
	PL.658	PM.MODR1A	PL.321	
	420 x 190 x 55 mm			
	1,41 kg	1,05 kg	1,10 kg	



FACOM MODM.R1A 6



### Foam modules :

- Identification of missing tools.
- High density foam : resistant to crushing and workshop solvents.

FACOM MOD.R5 6



FACOM MOD.R1 6



$\square$  1/4"

Inch socket and wrench sets

$\Rightarrow$  R.411MU  $\odot$



**RATCHETS  $\square$  1/4" : IDEAL FOR DIFFICULT ACCESS SITUATIONS, WHATEVER THE APPLICATION**

$\Rightarrow$  R.420MU  $\odot$



$\Rightarrow$  R.440UP  $\odot$



$\Rightarrow$  MOD.R3  $\odot$



		R.411MU		R.420MU		R.440UP		MOD.R3		
		R.151		R.161		R.161		R.161		
$\square$ 1/4" 6,35mm		R.		R.		R.		34		
	mm	mm	"	mm	"	"	"	mm	"	
	3,2	3/16	-	-	•	•	•	•	-	•
	4	7/32	•	•	•	•	•	•	-	•
	5	1/4	•	•	•	•	•	•	-	•
	5,5	9/32	•	•	•	•	•	•	-	•
	6	5/16	•	•	•	•	•	•	-	•
	7	11/32	•	•	•	•	•	•	-	•
	8	3/8	•	•	•	•	•	•	-	•
	9	13/32	•	•	•	•	•	•	-	•
	10	7/16	•	•	•	•	•	•	-	•
	11	1/2	•	•	•	•	•	•	-	•
	12	9/16	•	•	•	•	•	•	-	•
	13	-	•	-	•	-	-	-	-	-
	R.209	•		•			•		•	
	R.215	•		•			•		•	
	R.240A	•		•			•		•	
	R.236			•			•		•	
	R.235			•			•		•	
	R.120A			•			•		•	
	R.140A						•		•	
	R.216						•		•	
	R.222	•					•		•	
	181.18G						•		•	
	AN.3,5x75						•		•	
	R.142	•					•		•	
	ED								•	
	2								•	
	ES								•	
	4,5								•	
	6,5								•	
	8								•	
	EH								•	
	1/8								•	
	5/32								•	
	3/16								•	
	7/32								•	
	82H.								•	
	5/64								•	
	3/32								•	
	1/8								•	
	9/64								•	
	5/32								•	
	3/16								•	
	7/32								•	
	1/4								•	
	5/16								•	
	3/8								•	
	PL.125A	PL.453	PL.37A	PL.603						
	BP.115	BP.102	BP.109	-						
	332 x 143	204 x 122	478 x 234	420 x 180						
	x 67 mm	x 52 mm	x 72 mm	x 55 mm						
	1,56 kg	0,72 kg	2,56 kg	0,95 kg						

Ratchets, sockets and accessories

















 1/4"

Inch socket and bit sets

**LARGE RANGE OF SOCKETS : 6- OR 12-POINT, STANDARD OR LONG-REACH, METRIC OR INCH**

		RB.425UP	R.425AUP	R.426AUP	R.427UP	R.418AU
	R.161	R.161	R.161	R.161	R.161	R.151
	RB.	R.	R.E	R.	R.	
 1/4" .6,35mm						
	3/16					
	7/32					
	1/4					
	9/32					
	5/16					
	11/32					
	3/8					
	13/32					
	7/16					
	1/2					
9/16						
	R.209					
	R.210					
	R.215					
	R.240A					
	R.236					
	R.235					
	R.120A					
	R.210S					
	EP 1					
	2					
	ED 1					
	2					
	3					
	ES 4					
	4,5					
	6,5					
	8					
	EH 1/8					
	5/32					
	3/16					
	7/32					
	1/4					
	EXR 10					
	15					
	20					
	25					
	27					
	30					
	40					
	PL.246A	PL.382A	PL.382A	PL.427	PL.391B	
	BP.102					
	204 x 122 x 52 mm					
	0,70 kg	0,76 kg	0,76 kg	0,75 kg	0,55 kg	

 RB.425UP 



 R.425AUP 

 R.426AUP 



 R.427UP 



 R.418AU 



 1/4" "Radio" ratchets

Facom round head ratchets



**The solution for congested spaces.**

**Compact :**

- The Facom ratchet mechanism ensures a very compact round head design.

**Precise :**

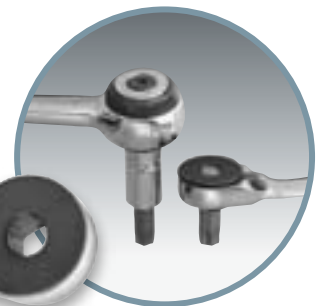
- 72-tooth mechanism gives increments of only 5°

**High performance :**

- Meet the requirements of ISO 3315, DIN 3122 and NF ISO 3315.

**Metal grip ratchets**

• Ideal for environments where PVC grips are vulnerable to solvent attack.



**Facom VSE 1000 V insulated ratchets**

 **1000VOLTS**  
EN 60900

See the "VSE" series range of 1000 V insulated tools on page  **662**

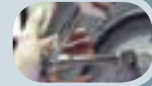


 1/4"

## Selection guide

### Palm control system

*Ergonomic* : Allows the operator to push down on the head of the ratchet while avoiding accidental reversal.



### Long handle

*Power* : Transmits more torque without over-loading the ratchet mechanism.

### Finger-control

*Ultra compact* : Ideal for awkward spaces.

### Metal handle

*Sturdy* : Ideal for environments where PVC grips are vulnerable to solvent attack.

*Grip* : Knurled handle to avoid all risk of slippage.

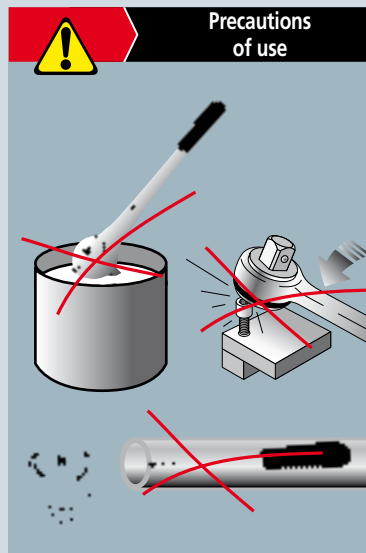
### Hinged handle





































*Hinged handle with stiffened joint for optimum clearance.*

### 1/4" and 5/16" bit-holder system

*Compact* : Ultra-compact head allows bits to be used in confined spaces.

*Bits held by a spring clip. "One finger" reversing lever.*



	R.161	R.151	R.155A	R.157A	R.158A	R.150A	65.PE
<b>Advantages</b>							
<b>Palm control system</b>							
<b>Long handle</b>							
<b>Finger-control</b>							
<b>Metal handle</b>							
<b>Hinged handle</b>							
<b>Bit holders</b>							
<b>Characteristics</b>							
<b>Increments</b>	5°	5°	5°	5°	5°	5°	5°
<b>No of teeth</b>	72	72	72	72	72	72	72
<b>L (mm)</b>	119.5	120	114	153	158	-	150
<b>l (mm)</b>	108	108	102	141	145.5	-	130
<b>a (mm)</b>	26.5	25	26.5	26.5	26.5	26.5	11
<b>b (mm)</b>	25	25	25	25	25	38.5	20
<b>c (mm)</b>	19	17.5	19	19	19	19	-
<b>Ø (mm)</b>	19,5	21	11	11	11	11	-
<b>ΔΔ g</b>	120	100	115	125	150	120	74
<b>Maintenance</b>							
	<b>Knurl caps</b>						
	R.161C						
	J.161C						
	<b>Spare parts kit</b>						
	R.161RN						
	<b>Square drives</b>						
	R.151R						



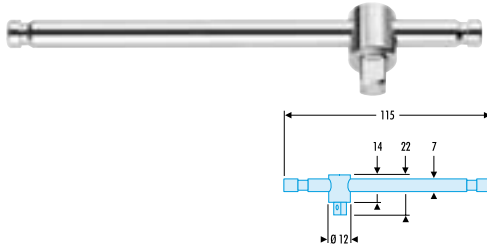


**▶ Accessories  1/4"****1/4" drive sliding tee****R.120**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

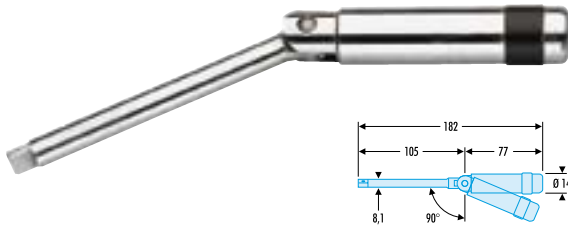
- Friction-head allows bar to form a T or L-handle.
- Chrome finish.

ΔΔ : 49 g.

**1/4" drive hinged handle****R.142**

- Can be used as a nut spinner or L-handle for fast pre-tightening or high torques.

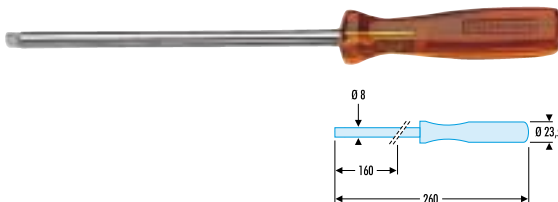
ΔΔ : 125 g.

**1/4" drive long spinner 260 mm****R.227**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Grease-resistant, Isoryl handle.
- Chrome finish.

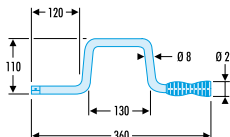
ΔΔ : 125 g.

**1/4" drive speed brace****R.110**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- For fast rotation.
- PVC rotating handle.
- Chrome finish.

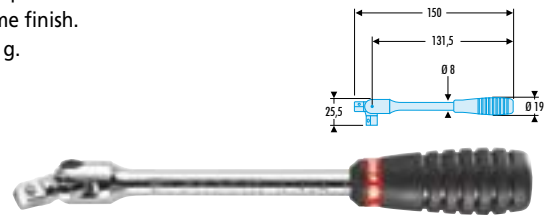
ΔΔ : 220 g.

**1/4" drive hinged handle 150 mm****R.140A**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Spring steadies hinge in any position, allowing access behind obstacles.
- Non-slip handle.
- Chrome finish.

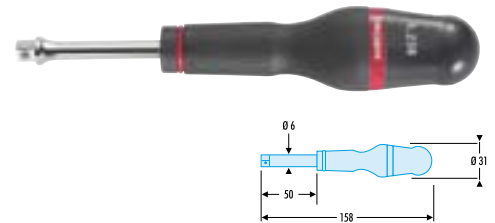
ΔΔ : 83 g.

**1/4" drive short spinner 158 mm****R.236**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Ergonomic, high-strength bi-material handle resistant to common chemicals.
- Chrome finish.

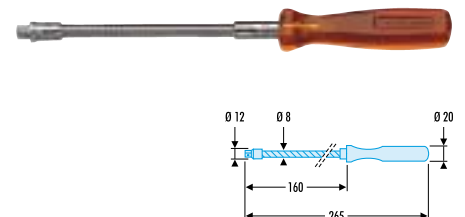
ΔΔ : 79 g.

**1/4" drive flexible spinner 265 mm****R.222**

- For fasteners where access is difficult.

- Unsuitable for high torques : max. 2.8 N.m.

ΔΔ : 115 g.

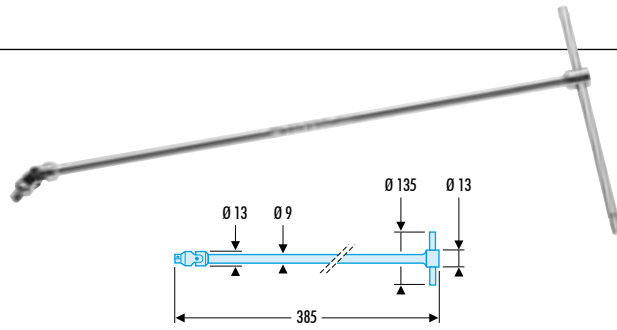


# Radio 1/4" range

## 1/4" drive tee with universal joint 385 mm

### R.229A

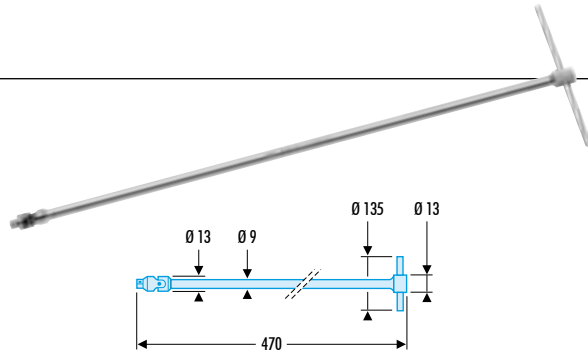
- Universal joint withstands high torques and is spring-steadied in position.
- Long reach and working angle up to 65° allows access to recessed fasteners.
- Length 385 mm.
- $\Delta\Delta$  : 215 g.



## 1/4" drive tee with universal joint 470 mm

### R.228

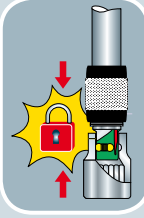
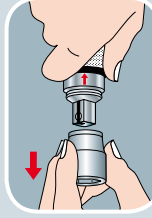

- Extended reach of tee-handle is ideal for particularly deep recesses.
- $\Delta\Delta$  : 250 g.




i
Locking system = total safety

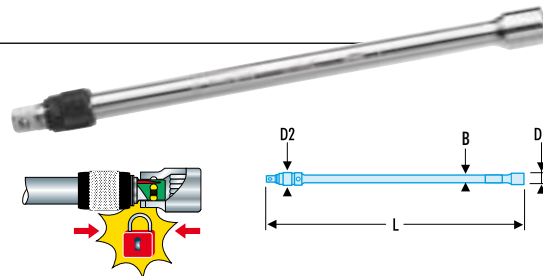
- Resists a socket pull-off load of over 60 kg
- Prevents accidental socket loss
- Instantly unlocks by retracting the knurled ring.

**Use only with sockets equipped with an internal ball notch.**


## R.RC 1/4" drive locking extensions

	B mm	D1 mm	D2 mm	L mm	$\Delta\Delta$ g
<b>R.210RC</b>	8,2	12	13	100	45
<b>R.215RC</b>	8,2	12	13	150	60
<b>R.217RC</b>	8,2	12	13	250	100



## R 1/4" drive extensions

- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- Polished chrome finish.

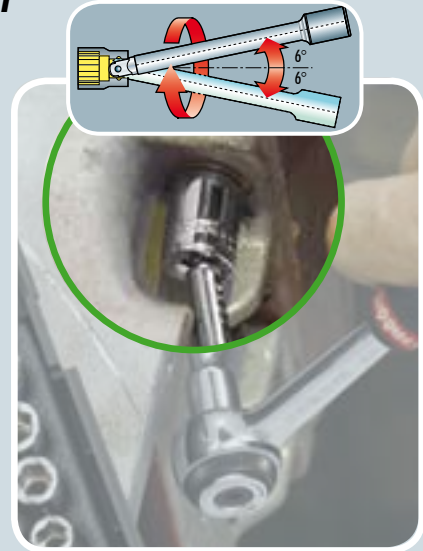
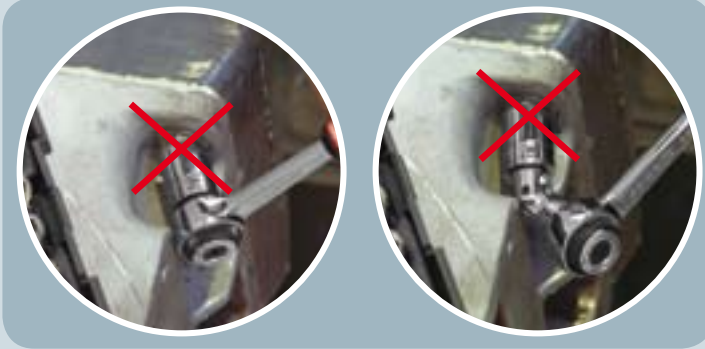
	B mm	D mm	L mm	$\Delta\Delta$ g
<b>R.209</b>	8,2	12	55	30
<b>R.210</b>	8,2	12	100	45
<b>R.215</b>	8,2	12	150	65
<b>R.217</b>	8,2	12	250	105






**Wobble extensions**

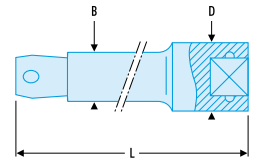
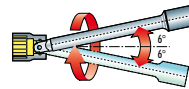
*Inaccessible with a socket or a universal joint?  
Use a wobble extension!*



**R.S 1/4" drive wobble extensions**

- Square drive profile gives 6° working angle.

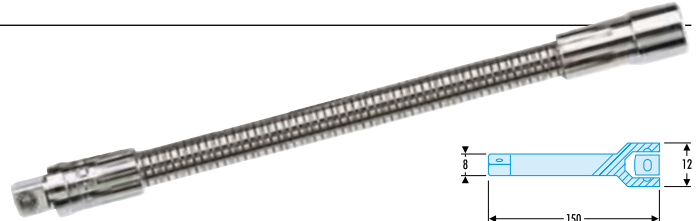
	B	D	L	ΔΔ
	mm	mm	mm	g
<b>R.209S</b>	8,2	12	55	30
<b>R.210S</b>	8,2	12	100	45



**R 1/4" drive flexible extension 150 mm**

**R.216**

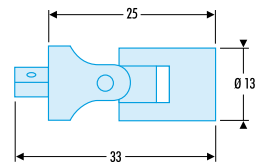
- Reaches fasteners out of direct access line.
- Unsuitable for high torques : max. 2.8 N.m.
- ΔΔ : 66 g.



**1/4" universal joint**

**R.240A**

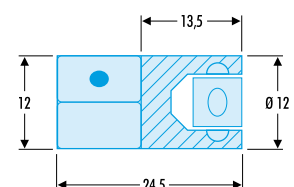
- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- Spring-stiffened joints. Stays in position when reaching for fasteners.
- Significant time savings.
- ΔΔ : 20 g.



**1/4" to 3/8" coupler**

**R.232**

- 1/4" female to 3/8" male square drive.
- For adapting 3/8" drive sockets.
- ΔΔ : 16 g.





## Set of 3 couplers

### D.169

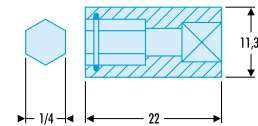
- Allows use of square drives smaller than socket drive sizes :
    - 1/4" square drive + D.169RJ ▷ 3/8" socket.
    - 3/8" square drive + D.169JS ▷ 1/2" socket.
    - 1/2" square drive + D.169SK ▷ 3/4" socket.
  - Compactness means that fewer tools are needed for in situ maintenance operations.
  - Magnetic retainer and locking system (JS and SK).
  - Knurl allows hand tightening where access is difficult.
- ΔΔ : 96 g.



## 1/4" drive standard spring-clip bit holder

### R.235

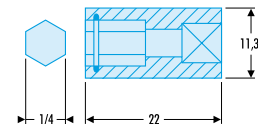
- Spring clip for frequent bit changes.
- ΔΔ : 10 g.



## 1/4" drive secure spring-clip bit holder




### R.245

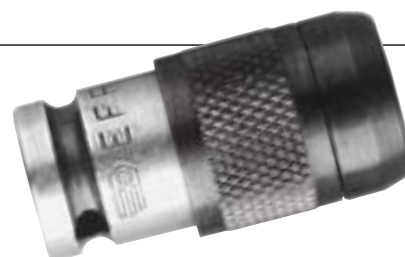
- Stiffer, more secure, spring clip for infrequent bit changes.
  - Square drive has side-hole for ball or plunger lock.
- ΔΔ : 10 g.



## 1/4" drive lock-ring bit holder

### E.F.R

			Length mm	ΔΔ g
E.F.R	1/4	1/4	30	26



► **Sockets  1/4" OGV®**

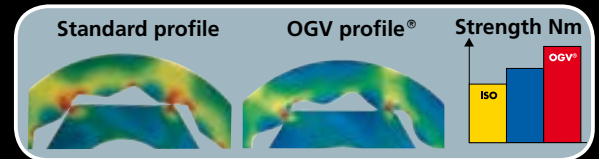


**Facom OGV® profile**

**HIGHER TORQUE WITHOUT DAMAGE TO FASTENERS !**

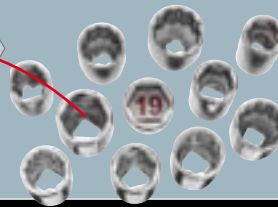
The OGV® profile is achieved by a succession of curves instead of the flats found in conventional sockets®.

- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.





**TAG socket inserts**

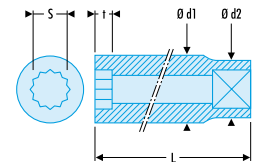
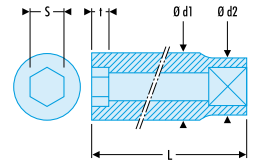
- Immediately identify your sockets.
  - 6- or 12-point sockets.
- ⇒ TAG



**R 1/4" drive metric 6 and 12-point OGV® sockets**



► Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.  
R.3,2 : standard profile

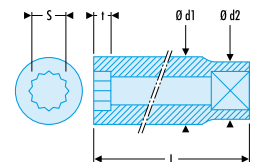
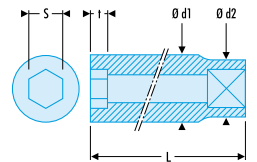
		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>R.3,2</b>		3,2	5,9	11,2	2,40	22	7,3
<b>R.4</b>		4,0	6,9	11,2	2,60	22	7,7
<b>R.5</b>		5,0	8,2	11,2	4,80	22	8,1
<b>R.5,5</b>	<b>R.5,5E</b>	5,5	8,8	11,2	4,80	22	8,4
<b>R.6</b>	<b>R.6E</b>	6,0	9,4	11,2	5,60	22	8,6
<b>R.7</b>	<b>R.7E</b>	7,0	11	11	6,00	22	9,2
<b>R.8</b>	<b>R.8E</b>	8,0	12,0	12,0	6,50	22	11,5
<b>R.9</b>	<b>R.9E</b>	9,0	13,2	13,2	6,50	22	14,3
<b>R.10</b>	<b>R.10E</b>	10,0	14,7	14,7	7,80	22	17,7
<b>R.11</b>	<b>R.11E</b>	11,0	15,8	15,8	9,00	22	19,4
<b>R.12</b>	<b>R.12E</b>	12,0	17,0	17,0	9,50	22	23,2
<b>R.13</b>	<b>R.13E</b>	13,0	17,7	17,7	10,00	22	23,7
<b>R.14</b>	<b>R.14E</b>	14,0	18,7	18,7	10,00	22	26,1



**R 1/4" drive metric 6 and 12-point OGV® sockets**

► Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1, ANSI B 107.1.


		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>R.3/16</b>	<b>R.3/16E</b>	3/16	8,0	11,2	4,75	22	8,2
<b>R.7/32</b>	<b>R.7/32E</b>	7/32	9,0	11,2	5,50	22	8,3
<b>R.1/4</b>	<b>R.1/4</b>	1/4	10,1	11,2	6,00	22	9,3
<b>R.9/32</b>	<b>R.9/32E</b>	9/32	11	11	6,00	22	8,9
<b>R.5/16</b>	<b>R.5/16E</b>	5/16	12,0	12,0	6,50	22	11,5
<b>R.11/32</b>	<b>R.11/32E</b>	11/32	13,2	13,2	6,50	22	14,5
<b>R.3/8</b>	<b>R.3/8E</b>	3/8	14,7	14,7	7,80	22	17,8
<b>R.13/32</b>	<b>R.13/32E</b>	13/32	14,7	14,7	7,80	22	17,0
<b>R.7/16</b>	<b>R.7/16E</b>	7/16	15,8	15,8	9,00	22	19,5
<b>R.1/2</b>	<b>R.1/2E</b>	1/2	17,7	17,7	10,00	22	24,5
<b>R.9/16</b>	<b>R.9/16E</b>	9/16	18,7	18,7	10,00	22	25,2

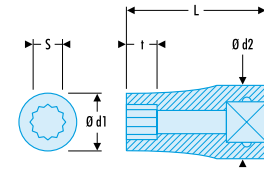


## RB 1/4" drive inch 12-point OGV® sockets

▷ Performance : to AS.954E.

• Used for aeronautical applications.


	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>RB.3/16</b>	7,6	11,2	4,8	22	7,0
<b>RB.7/32</b>	8,7	11,2	5,5	22	8,0
<b>RB.1/4</b>	9,7	11,2	6,0	22	8,0
<b>RB.9/32</b>	10,6	11,2	6,0	22	10,5
<b>RB.5/16</b>	11,9	11,9	6,5	22	10,0
<b>RB.11/32</b>	12,9	12,9	6,5	22	11,5
<b>RB.3/8</b>	13,7	13,7	7,8	22	14,0
<b>RB.7/16</b>	15,8	14,8	9,0	22	17,0
<b>RB.1/2</b>	16,9	16,0	10,0	22	18,5
<b>RB.9/16</b>	18,7	17,5	10,0	22	22,0

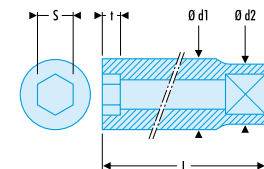


## ▶ Long-reach sockets 1/4" OGV®

### R.LA 1/4" long-reach metric 6-point OGV® sockets

▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.


	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>R.3,2LA</b>	3,2	5,80	12,0	1,8	50,5	18
<b>R.4LA</b>	4,0	6,80	12,0	2,0	50,5	18
<b>R.5LA</b>	5,0	8,10	12,0	2,3	50,5	18
<b>R.5,5LA</b>	5,5	8,10	12,0	3,0	50,5	18
<b>R.6LA</b>	6,0	9,40	12,0	5,6	50,5	18
<b>R.7LA</b>	7,0	10,9	12,0	7,1	50,5	27
<b>R.8LA</b>	8,0	12,0	12,0	7,9	50,5	27
<b>R.9LA</b>	9,0	12,8	12,8	7,9	50,5	32
<b>R.10LA</b>	10,0	14,3	14,3	7,9	50,5	41
<b>R.11LA</b>	11,0	16,0	16,0	7,9	50,5	54
<b>R.12LA</b>	12,0	16,8	16,8	8,4	50,5	50
<b>R.13LA</b>	13,0	18,2	18,2	8,4	50,5	59
<b>R.14LA</b>	14,0	19,2	19,2	10,2	50,5	68

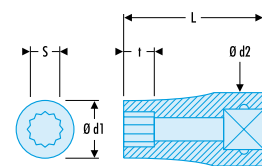


### R.EL 1/4" long-reach inch 12-point OGV® sockets

▷ Performance : to AS954E, ASME B 107.1.

- High performance, suitable for aircraft fasteners to AS954E.
- Thinner socket walls for better accessibility.
- Facom OGV® 12 point profile ensures :
  - Reduced stress.
  - Better protection of 6 and 12-point screw heads.
  - High durability.
- Available as a rack set reference : REL.40U.

	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>R.3/16EL</b>	3/16	7,7	10,9	6	50	14
<b>R.7/32EL</b>	7/32	8,5	10,9	7,4	50	15
<b>R.1/4EL</b>	1/4	9,4	10,9	7,4	50	17
<b>R.9/32EL</b>	9/32	10,2	10,9	8,5	50	17
<b>R.5/16EL</b>	5/16	11,4	11,8	9	50	23
<b>R.11/32EL</b>	11/32	12,5	12	9,7	50	25
<b>R.3/8EL</b>	3/8	13,7	12,8	11,2	50	32
<b>R.7/16EL</b>	7/16	15,6	14,3	11,9	50	40
<b>R.1/2EL</b>	1/2	17,3	16,2	13,8	50	45
<b>R.9/16EL</b>	9/16	18,8	17,1	16,2	50	49




**New**



## Rack set of 1/4" drive sockets


- Racks fit inside tool boxes, in roller cabinets, on panels.
- A range of sockets displayed for easy selection.

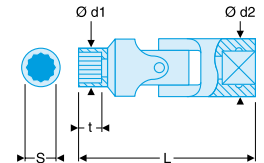
	Sizes	$\Delta\Delta$ g	Rack
<b>R.40E</b>	R: 3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14	255	CKS.93
<b>RL.40E</b>	RL: 3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9	220	CKS.89
<b>RL.41E</b>	RL: 10 - 11 - 12 - 13 - 14	310	CKS.89
<b>R.40U</b>	R: 3/16 - 7/32 - 1/4 - 9/32 - 5/16 - 11/32 - 3/8 - 13/32 - 7/16 - 1/2 - 9/16	235	CKS.93
<b>REL.40U</b>	REL: 3/16 - 7/32 - 1/4 - 9/32 - 5/16 - 11/32 - 3/8 - 7/16 - 1/2 - 9/16	345	CKS.93




## R.F 1/4" drive hinged inch 12-point OGV® sockets


▷ Performance : to ANSI B 107.1, GGG.W.641E, ASME B 107.1.

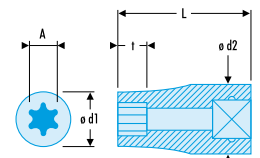
	$\emptyset$ d1 mm	$\emptyset$ d2 mm	t mm	L mm	$\Delta\Delta$ g
<b>R.3/16F</b>	8,0	13,0	5,3	31,6	13
<b>R.7/32F</b>	8,5	13,0	6,1	32,4	13
<b>R.1/4F</b>	9,8	13,0	6,5	32,8	13
<b>R.9/32F</b>	10,5	13,0	6,5	32,8	13
<b>R.5/16F</b>	12,0	13,0	7,0	33,3	14
<b>R.11/32F</b>	13,3	13,0	7,0	33,3	16
<b>R.3/8F</b>	13,7	13,0	8,3	34,6	21
<b>R.7/16F</b>	15,5	13,0	9,5	35,8	27
<b>R.1/2F</b>	18,0	13,0	10,5	36,8	34
<b>R.9/16F</b>	19,2	13,0	10,5	36,8	35

▶ Long-reach sockets  1/4" Torx®

## RTX 1/4" drive Torx® sockets

- Drive  1/4".
- For Torx® fasteners.
- Manual use.
- Chrome finish.

	Torx® no.	I★ A mm	$\emptyset$ d1 mm	$\emptyset$ d2 mm	t mm	L mm	$\Delta\Delta$ g
<b>RTX.4</b>	E4	3,70	5,4	11,2	3,2	22	8
<b>RTX.5</b>	E5	4,58	6,7	11,2	3,0	22	8
<b>RTX.6</b>	E6	5,54	7,7	11,2	3,6	22	8
<b>RTX.7</b>	E7	6,22	8,3	11,2	3,6	22	8
<b>RTX.8</b>	E8	7,29	9,6	11,2	4,3	22	9
<b>RTX.10</b>	E10	9,19	11,3	12,0	5,6	22	11



## Set of 1/4" drive Torx® sockets

## RTX.40

- Sockets supplied on a rack.




	$\emptyset$	Dimensions Torx®	Rack	$\Delta\Delta$ g
<b>RTX.40</b>	6	E4 - E5 - E6 - E7 - E8 - E10	CKS.89	90



## ▶ Bit sockets 1/4"




### RT 1/4" drive metric and inch bit sockets

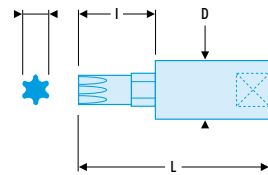
- Removable bits.
- Metric and inch sizes.

	S	Ø d	Components		I	L	ΔΔ
	mm	mm			mm	mm	g
<b>RT.2</b>	2,00	11,3	R.245	EH.102	15	37	18
<b>RT.2,5</b>	2,50	11,3	R.245	EH.102,5	15	37	18
<b>RT.3</b>	3,00	11,3	R.245	EH.103	15	37	18
<b>RT.4</b>	4,00	11,3	R.245	EH.104	15	37	18
<b>RT.5</b>	5,00	11,3	R.245	EH.105	15	37	19
<b>RT.6</b>	6,00	11,3	R.245	EH.106	15	37	20
<b>RT.7</b>	7,00	11,3	R.245	EH.107	15	37	21
<b>RT.8</b>	8,00	11,3	R.245	EH.108	15	37	22
<b>RT.10</b>	10,00	11,3	R.245	EH.110	15	37	24
<b>RT.1/8</b>	3,17	11,3	R.245	EH.101/8	15	37	18
<b>RT.5/32</b>	3,96	11,3	R.245	EH.105/32	15	37	18
<b>RT.3/16</b>	4,76	11,3	R.245	EH.103/16	15	37	18
<b>RT.7/32</b>	5,56	11,3	R.245	EH.107/32	15	37	19
<b>RT.1/4</b>	6,35	11,3	R.245	EH.101/4	15	37	20





### RX 1/4" drive Torx® bit sockets






	Torx®	I	Components		D	I	L	ΔΔ
	no.	A mm			mm	mm	mm	g
<b>RX.6</b>	T6	1,65	R.245	R.245	11,3	16	38	17
<b>RX.7</b>	T7	1,97	R.245	R.245	11,3	16	38	17
<b>RX.8</b>	T8	2,30	R.245	R.245	11,3	16	38	17
<b>RX.9</b>	T9	2,48	R.245	R.245	11,3	16	38	17
<b>RX.10</b>	T10	2,72	R.245	R.245	11,3	16	38	17
<b>RX.15</b>	T15	3,26	R.245	R.245	11,3	16	38	17
<b>RX.20</b>	T20	3,84	R.245	R.245	11,3	16	38	18
<b>RX.25</b>	T25	4,40	R.245	R.245	11,3	16	38	18
<b>RX.27</b>	T27	4,96	R.245	R.245	11,3	16	38	18
<b>RX.30</b>	T30	5,49	R.245	R.245	11,3	16	38	18
<b>RX.40</b>	T40	6,60	R.245	R.245	11,3	16	38	18





## Create your own bit sockets



  
  


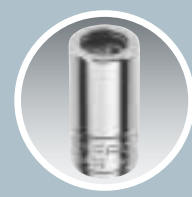
**Bits**

Series 1  1/4"


Series 2  5/16"

See section 7 p. **345** 



**R.235**

○ 1/4" (6,35 mm)  
Standard spring clip



**R.245**

○ 1/4" (6,35 mm)  
Heavy-duty spring clip



# Junior 3/8" range.

## ▶ Socket sets 3/8"

 3/8"

Metric socket sets

⇒ J.501   
 ⇒ J.500 



⇒ J.431P   
 ⇒ J.430AP 
























⇒ J.420E 



⇒ J.431ASP   
 ⇒ J.430ASP 



### LOCKING RATCHETS AND EXTENSIONS : NO MORE LOST SOCKETS

		J.501	J.500	J.430AP	J.431P	J.420E	J.431ASP	J.430ASP	
		J.171	J.171	J.161	J.161	J.151A	J.161	J.161	
 6		6	12	12	6	12	6	12	
 3/8" - 9,52mm		J.H	J.	J.	J.H	J.	J.H	J.	
	7					•			
	8	•	•	•	•	•	•	•	
	9	•	•	•	•	•	•	•	
	10	•	•	•	•	•	•	•	
	11	•	•	•	•	•	•	•	
	12	•	•	•	•	•	•	•	
	13	•	•	•	•	•	•	•	
	14	•	•	•	•	•	•	•	
	15	•	•	•	•	•	•	•	
	16	•	•	•	•	•	•	•	
	17	•	•	•	•	•	•	•	
	18	•	•	•	•	•	•	•	
	19	•	•	•	•	•	•	•	
	20					•			
	21	•	•	•	•	•	•	•	
	22	•	•	•	•	•	•	•	
	23					•			
	24					•			
		J.210			•	•		•	•
		J.215			•	•		•	•
		J.120A	•	•	•	•		•	•
		J.240A	•	•	•	•		•	•
		J.210RC	•	•					
		J.215RC	•	•					
	J.210S					•			
	J.235						•	•	
	J.236						•	•	
	ED 						•	•	
	3						•	•	
	4						•	•	
							•	•	
	EH 						•	•	
	6						•	•	
	8						•	•	
	10						•	•	
	ES 						•	•	
	6,5						•	•	
	8						•	•	
	10						•	•	
		PL.412A			PL.13	PL.19A	PL.411		
		BP.112			BT.112G	BP.115	BP.112		
		389 x 164 x 66 mm				322 x 143 x 67 mm	389 x 164 x 66 mm		
		2,20 kg	2,20 kg	1,96 kg	2,75 kg	1,50 kg	2,75 kg	2,75 kg	

Ratchets, sockets and accessories



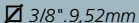

































 3/8"

Metric socket modules

## FACOM MODULES : THE BEST STORAGE SYSTEM FOR YOUR ROLLER CABINETS

		MOD.J7	MOD.J5	MOD.J1
		J.161 + J174	J.171	J.161
 3/8" .9,52mm		 6	 6	 6
		J.H	J.H	J.H
7				
8		•	•	•
9		•	•	•
10		•	•	•
11		•	•	•
12		•	•	•
13		•	•	•
14		•	•	•
15		•	•	•
16		•	•	•
17		•	•	•
18		•	•	•
19		•	•	•
20				
21		•	•	•
22		•	•	•
23		•		
24		•		
	J.210			•
	J.215			•
	J.120A	•	•	•
	J.240A	•	•	•
	J.210RC	•	•	
	J.215RC	•	•	
	J.210S			
	J.235			
	J.236			
	ED			
	+			
	3			
	4			
	EH			
	5			
	6			
	8			
	10			
	ES			
	6,5			
	8			
	10			
		PL.665	PL.322A	
		420 x 180 x 55 mm		
		2,20 kg	1,75 kg	1,80 kg



 MOD.J7  6



 MOD.J5  6



 MOD.J1  6



 3/8"

Metric socket, wrench and bit sets

 J.451EP  6  12



 JT.415E







 JX.415EP



 J.426M










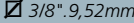




















		J.451EP	J.447E	JT.415E	JX.415EP	J.426M
		J.161 + J.156	J.151	J.151A	J.161	-
		J. J.LA	J. 39	-	-	-
	3/8" 9,52mm					
	7	•	•			
	8	•	•			
	9	•	•			
	10	•	•			
	11	•	•			
	12	•	•			
	13	•	•			
	14	•	•			
	15	•	•			
	16	•	•			
	17	•	•			
	18	•	•			
	19	•	•			
	21	•	•			
	22	•	•			
	24	•	•			
	J.210	•	•			•
	J.210S			•		
	J.215	•	•		•	
	J.120A				•	
	J.240A	•	•			
	J.110	•	•			
	J.140A	•	•			•
	J.235	•	•		•	•
	J.236	•	•		•	•
	J.216	•	•			•
	J.222					•
	BJ.21A1		•			
	BJ.16A1		•			
	JT					
	3	•		•		
	4	•		•		
	5	•		•		
	6	•		•		
	7	•		•		
	8	•		•		
	10	•		•		
	ED					
	1	•				•
	2	•				•
	3	•				•
	4	•				•
	EP					
	1					•
	2					•
	3					•
	4					•
	ES					
	4					•
	5,5	•				•
	6,5	•				•
	8	•				•
	10	•				•
	EX					
	10				•	•
	15				•	•
	20				•	•
	25				•	•
	27				•	•
	30				•	•
	40				•	•
	45				•	•
	50				•	•
	55				•	•
	EH					
	3					•
	4					•
	5					•
	6					•
	7					•
	8					•
	10					•
	PL.77A		PL.27B	PL.20A	PL.118	PL.21A
	BT.105		BR.109	BR.115	BT.109G	BR.112
	540 x 280 x 58 mm		478 x 234 x 72 mm	322 x 143 x 66 mm	470 x 195 x 53 mm	389 x 164 x 66 mm
	7,70 kg		3,55 kg	1,27 kg	1,75 kg	2,53 kg

# Junior 3/8" range.

 3/8"

Inch socket sets

	J.430MU	J.430UP	J.450U	J.420AU	MOD.J2
	J.161	J.161	J.151A + J.156	J.161	J.161
			 		
 3/8" .9,52mm	J.	J.	J.   J.LA	J.	J.
	1/4	•	•	•	•
	5/16	•	•	•	•
	3/8	•	•	•	•
	7/16	•	•	•	•
	1/2	•	•	•	•
	9/16	•	•	•	•
	5/8	•	•	•	•
	11/16	•	•	•	•
	3/4	•	•	•	•
	13/16	•	•	•	•
	7/8	•	•	•	•
	15/16	•	•	•	•
	1"	•	•	•	•
	7	•			
	8	•			
	9	•			
	10	•			
	11	•			
	12	•			
	13	•			
	14	•			
	15	•			
	16	•			
	17	•			
	18	•			
	19	•			
	21	•			
	22	•			
	24	•			
	J.210	•	•	•	•
	J.215	•	•	•	•
	J.120A	•	•	•	•
	J.240A	•	•	•	•
	J.110		•		•
	J.235		•		
	J.236		•		
	J.216		•		
	J.140A		•		
	JT		•		
	1/8		•		
	5/32		•		
	3/16		•		
	7/32		•		
	1/4		•		
	5/16		•		
	3/8		•		
	ED		•		
	1		•		
	2		•		
	3		•		
	4		•		
	ES		•		
	5,5		•		
	6,5		•		
	8		•		
	10		•		
	PL.59A	PL.12A	PL.78A	PL.69A	PL.601
	BP.109		BT.105	BP.115	-
	478 x 234 x 72 mm		540 x 280 x 58 mm	332 x 143 x 67 mm	420 x 180 x 55 mm
	4,18 kg	3,73 kg	7,38 kg	2,70 kg	1,52 kg

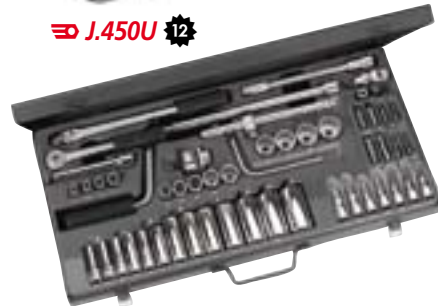
 J.430MU 



 J.430UP 



 J.450U 



 J.420AU 



 MOD.J2 





# Junior 3/8" range.

## ▶ Ratchets 3/8"

### 3/8" "Junior" ratchets

#### Facom round head ratchets

⇒ J.171  
● ● ○ ○ ○ ○



⇒ J.161  
○ ● ○ ○ ○ ○



⇒ J.151A  
○ ○ ○ ○ ○ ○



⇒ J.174  
● ● ● ○ ○ ○



⇒ J.153A  
○ ● ● ○ ○ ●



⇒ J.161E  
○ ● ● ● ● ○



⇒ J.155A  
○ ● ○ ○ ○ ●



⇒ J.157A  
○ ● ● ○ ○ ●



⇒ J.158A  
○ ● ● ○ ○ ●



⇒ J.159A  
○ ● ● ○ ○ ●



#### The solution for congested spaces

##### Compact :

- The Facom ratchet mechanism ensures a very compact round head design.

##### Precise :

- 72 tooth mechanism gives increments of only 5°.



##### High performance :

- Meet the requirements of ISO 3315, DIN 312 NF ISO 3315.

#### Metal grip ratchets

- Ideal for environments where PVC grips are vulnerable to solvent attack.

⇒ J.156

Ratchet attachment.  
Female drive :  3/8"  
Male drive :  3/8".

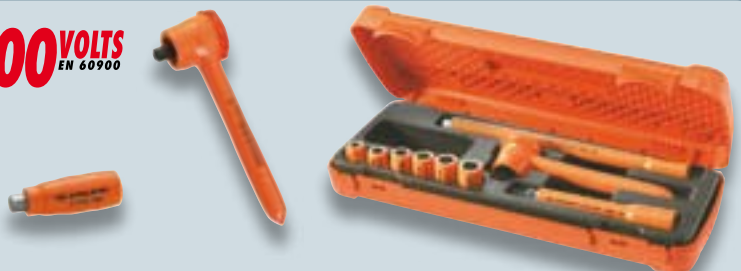


#### Facom VSE 1000 V insulated ratchets



See the "VSE" series range of 1000 V insulated tools on page

661



Ratchets, sockets and accessories



 3/8"

## Selection guide

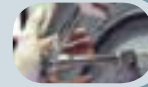
### Locking system

**Safe :** Locking system can resist a socket pull-off force of up to 600 Newtons. No lost sockets.  
**Ergonomic :** Immediate socket release simply by pressing the button, even with slippery or gloved hands.



### Palm control system

**Ergonomic :** Allows the operator to push down on the head of the ratchet while avoiding accidental reversal.



### Long handle

**Power :** Transmits more torque without over-loading the ratchet mechanism.

### Short handle

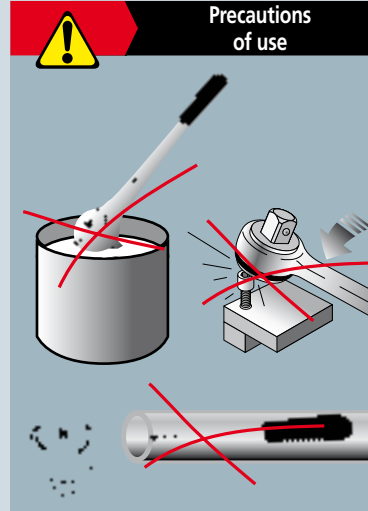
**Compact :** Ideal for awkward spaces.

























































### Metal handle

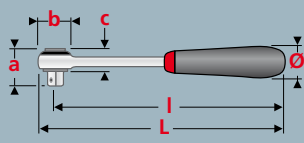
**Sturdy :** Ideal for environments where PVC grips are vulnerable to solvent attack.  
**Grip :** Knurled to avoid all risk of slippage.

### Hinged handle

**Hinged handle with stiffened joint for optimum clearance.**



	J.171	J.161	J.151A	J.174	J.153A	J.161E	J.155A	J.157A	J.158A	J.159A	J.156
<b>Advantages</b>											
<b>Locking system</b>											
<b>Palm control system</b>											
<b>Long handle</b>											
<b>Short handle</b>											
<b>Metal handle</b>											
<b>Hinged handle</b>											
<b>Characteristics</b>											
<b>Increments</b>	5°	5°	5°	5°	5°	5°	5°	5°	5°	5°	5°
<b>No of teeth</b>	72	72	72	72	72	72	72	72	72	72	72
<b>L (mm)</b>	210	175	175	250	278	110	190	257	273	268	-
<b>l (mm)</b>	195	160	160	234	263	95	175	242	258	253	-
<b>a (mm)</b>	36	32	29	36	32	32	32	32	32	31	53
<b>b (mm)</b>	32.5	29.5	29.5	32.5	29.5	29.5	29.5	29.5	29.5	30	39
<b>c (mm)</b>	24	21	18	24	21	21	21	21	21	20	42
<b>Ø (mm)</b>	28	25	21	28	25	14	16	16	16	16	-
<b>ΔΔ g</b>	260	210	200	320	315	140	260	320	350	375	200
<b>Maintenance</b>											
	<b>Knurl caps</b>										
	J.161C										
	S.156C										
J.151AC											
	<b>Spare parts kit</b>										
	J.161RN										
	S.151RN										
J.151RN											
	<b>Square drives</b>										
	J.151AR										
J.151R											

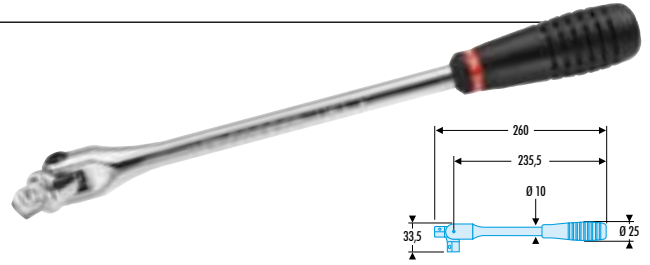


**► Accessories  3/8"****3/8" drive hinged handle 260 mm****J.140A**

► Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Stiffened joint.
- Chrome finish.

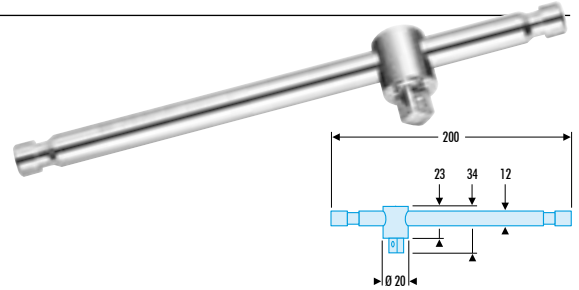
ΔΔ : 230 g.

**3/8" drive sliding tee****J.120**

► Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Friction-head allows bar to form a T or L-handle.

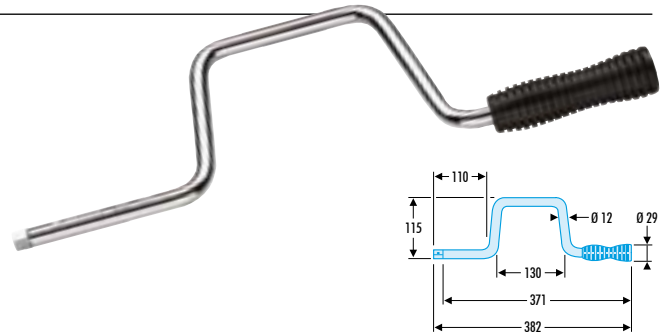
ΔΔ : 215 g.

**3/8" drive speed brace****J.110A**

► Performance : to ISO 3315, DIN ISO 3122, NF ISO 3315.

- For fast rotation.
- PVC rotating handle.

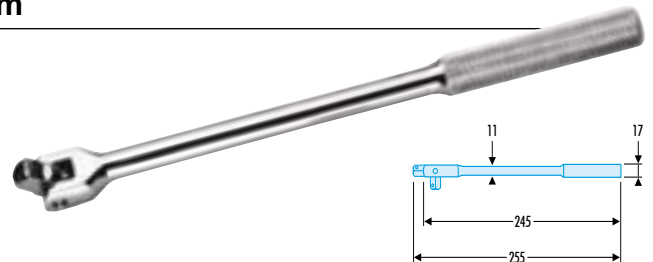
ΔΔ : 395 g.

**3/8" drive metal-grip hinged handle 255 mm****J.145**

► Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Stiffened joint.
- Chrome finish.

ΔΔ : 290 g.

**3/8" drive flexible spinner 295 mm****J.222**

- For fasteners where access is difficult.
- Unsuitable for high torques : max. 3 N.m.

ΔΔ : 180 g.





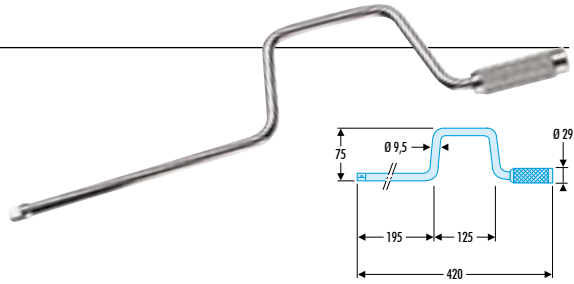
# Junior 3/8" range.

## 3/8" drive metal-grip speed brace

### J.115

▷ Performance : to ISO 3315, DIN ISO 3122, NF ISO 3315.

- For fast rotation.
  - Metal rotating handle.
- ΔΔ : 425 g.

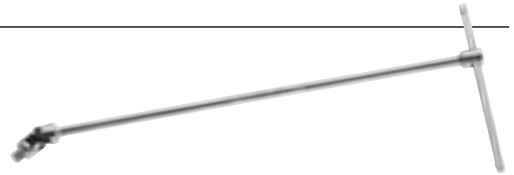


## 3/8" drive tee with universal joint 450 mm

### J.229A

▷ Performance : to ISO 1174-1, DIN 3120, NF ISO 1174-1.

- Universal joint withstands high torques and is spring-steadied in position.
  - Long reach and working angle up to 65° allows access to recessed fasteners.
  - Length 450 mm.
  - Tee handle.
- ΔΔ : 410 g.

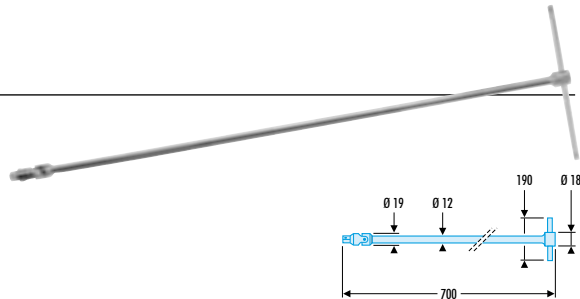


## 3/8" drive tee with universal joint 700 mm

### J.228

▷ Performance : to ISO 1174-1, DIN 3120, NF ISO 1174-1.

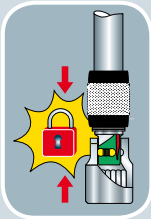
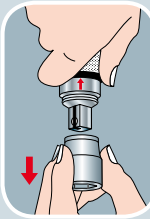

- Tee handle.
- ΔΔ : 660 g.



i **Locking system = total safety**


- Resists a socket pull-off load of over 60 kg
- Prevents accidental socket loss
- Instantly unlocks by retracting the knurled ring.

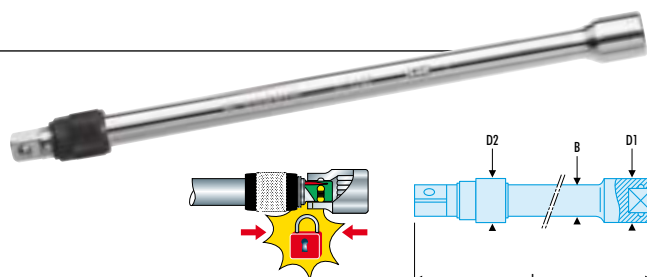
**Use only with sockets equipped with an internal ball notch.**

## J.RC 3/8" drive locking extensions

- Lock system prevents socket loss for total safety.

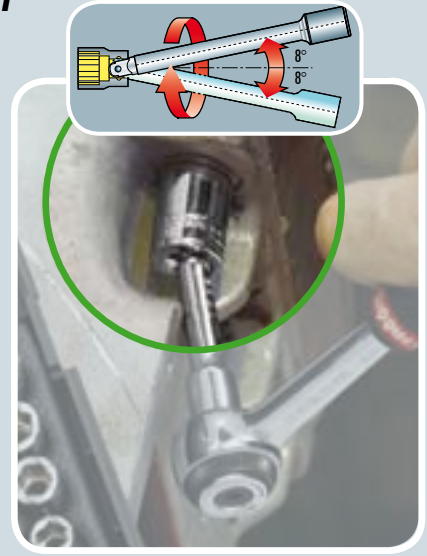
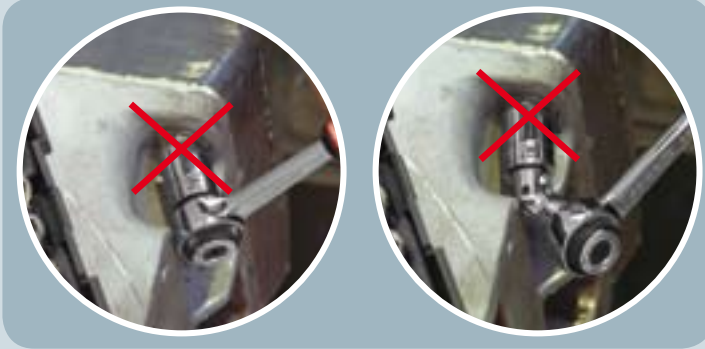
	B mm	D1 mm	D2 mm	L mm	ΔΔ g
J.210RC	12,5	18	18	125	135
J.215RC	12,5	18	18	250	240
J.217RC	12,5	18	18	500	490






### Wobble extensions

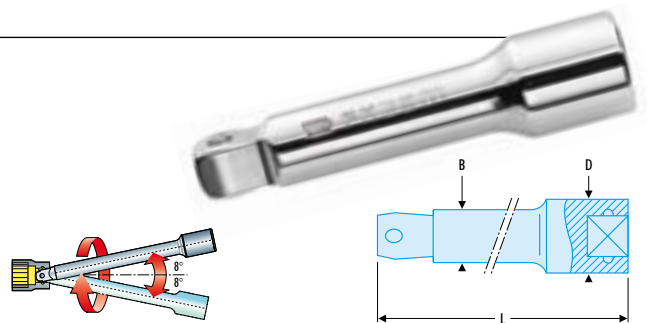
*Inaccessible with a socket or a universal joint?  
Use a wobble extension!*



#### J.S 3/8" drive wobble extensions


- Square drive profile gives 8° working angle.
- Useful where access is limited.

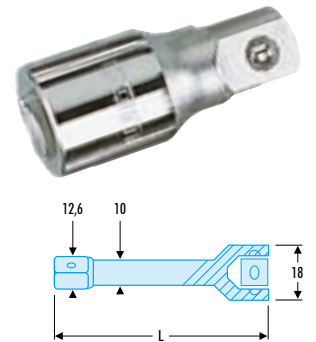
	B mm	D mm	L mm	ΔΔ g
<b>J.209S</b>	12,5	18	75	80
<b>J.210S</b>	12,5	18	125	130



#### J 3/8" drive extensions

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

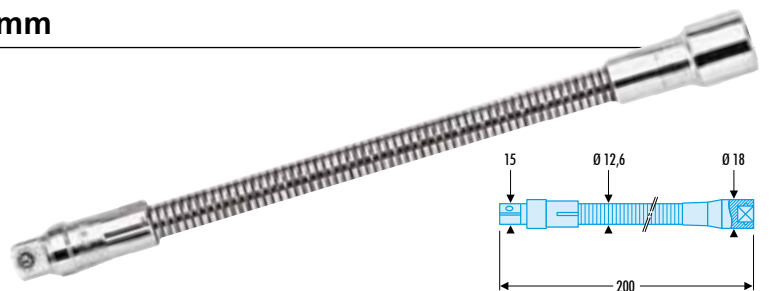
	L mm	ΔΔ g
<b>J.208</b>	50	62
<b>J.209</b>	75	86
<b>J.210</b>	125	127
<b>J.215</b>	250	230
<b>J.217</b>	500	445



#### R 3/8" drive flexible extension 200 mm

##### J.216

- Unsuitable for high torques.
- ΔΔ : 145 g.

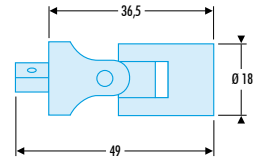


# Junior 3/8" range.

## 3/8" universal joint

### J.240A

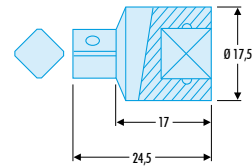
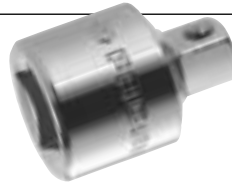
- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- Spring-stiffened joints.
- ΔΔ : 60 g.



## 3/8" to 1/4" coupler

### J.230

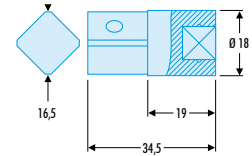
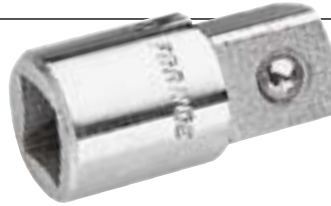
- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- For adapting 1/4" drive sockets.
- Max. torque 62 N.m.
- ΔΔ : 25 g.



## 3/8" to 1/2" coupler

### J.232

- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- For adapting 1/2" drive sockets.
- ΔΔ : 45 g.



## Set of 3 couplers



### D.169

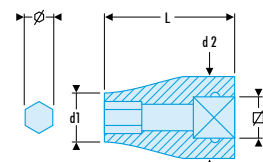
- Allows use of square drives smaller than socket drive sizes :
  - 1/4" square drive + D.169RJ ▷ 3/8" socket.
  - 3/8" square drive + D.169JS ▷ 1/2" socket.
  - 1/2" square drive + D.169SK ▷ 3/4" socket.
- Compactness means that fewer tools are needed for in situ maintenance operations.
- Magnetic retainer and locking system (JS and SK).
- Knurl allows hand tightening where access is difficult.
- ΔΔ : 96 g.



## 3/8" drive spring-clip bit holders



- Spring clip bit holding system.
- For frequent bit changes.

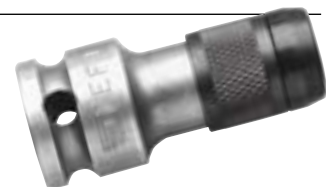
	∅"		d1 mm	d2 mm	L mm	ΔΔ g
J.235	1/4	3/8	11,3	18,0	30	26
J.236	5/16	3/8	14	18,0	30	30




## 3/8" drive lock-ring bit holder

### EF.J

	∅"		Length mm	ΔΔ g
EF.J	1/4	3/8	43	48





► Sockets  3/8" OGV®

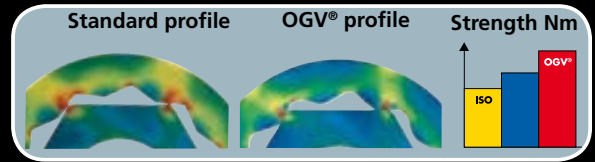


Facom OGV® profile

**HIGHER TORQUE WITHOUT DAMAGE TO FASTENERS !**

The OGV® profile is achieved by a succession of curves instead of the flats found in conventional sockets®.

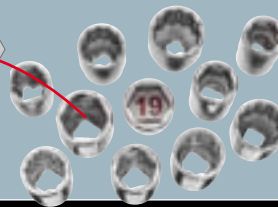
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



TAG socket inserts



- Immediately identify your sockets.
- 6- or 12-point sockets.

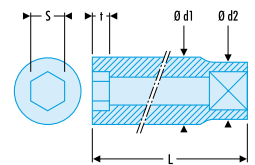
⇒ TAG





J 3/8" drive metric 6 and 12-point OGV® sockets

► Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.


		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
J.7H	J.7	7	11,0	17,6	6,0	27	24
J.8H	J.8	8	12,2	17,6	6,5	27	25
J.9H	J.9	9	13,5	17,6	6,7	27	25
J.10H	J.10	10	14,7	17,6	7,8	27	26
J.11H	J.11	11	16,0	17,6	9,0	27	27
J.12H	J.12	12	17,2	17,6	9,5	27	26
J.13H	J.13	13	18,3	17,4	10,4	30	36
J.14H	J.14	14	19,5	17,6	10,5	30	34
J.15H	J.15	15	20,8	18,9	12,0	30	38
J.16H	J.16	16	22	19,9	12,0	30	45
J.17H	J.17	17	23,4	21,7	13,0	30	52
J.18H	J.18	18	24,7	21,7	13,0	33	69
J.19H	J.19	19	26,0	22,7	14,0	33	62
J.20H	J.20	20	27,2	22,2	15,0	33	70
J.21H	J.21	21	28,5	23,5	16,0	33	75

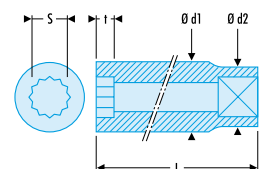


		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
J.22H	J.22	22	29,7	24,7	16,5	33	80
J.23H	J.23	23	31,0	26,0	16,5	33	90
J.24H	J.24	24	31,3	26,3	16,5	33	86

J 3/8" drive inch 12-point OGV® sockets

► Performance : to GGG.W.641E, ANSI B 107.1, ASME B 107.1.

	S	Ø d1	Ø d2	t	L	ΔΔ	
	mm	mm	mm	mm	mm	g	
J.1/4	1/4	6,35	10,0	17,5	6,0	27	24
J.5/16	5/16	7,95	11,9	17,5	6,5	27	25
J.3/8	3/8	9,53	14,1	17,6	7,5	27	26
J.7/16	7/16	11,11	16,0	17,5	9,0	27	27
J.1/2	1/2	12,70	18,1	17,5	10,4	30	36
J.9/16	9/16	14,29	19,5	17,7	10,5	30	34
J.5/8	5/8	15,88	22,0	20,0	12,0	30	46
J.11/16	11/16	17,46	24,0	21,0	13,0	33	74
J.3/4	3/4	19,05	26	22,7	14,0	33	76
J.13/16	13/16	20,64	28,0	23,0	16,0	33	79
J.7/8	7/8	22,23	29,7	24,7	16,5	33	104
J.15/16	15/16	23,81	31,3	26,3	16,5	33	136
J.1"	1	25,40	33,3	28,3	16,5	33	156




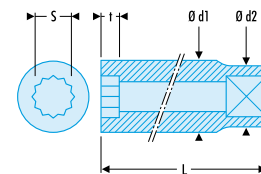
# Junior 3/8" range.

## JB 3/8" drive inch 12-point OGV® sockets

▷ Performance : to AS.954E.



• Used for aeronautical applications.

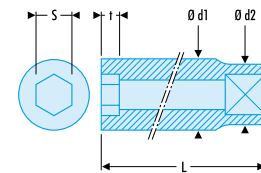
	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>JB.1/4</b>	9,7	16,7	6,0	27	20
<b>JB.5/16</b>	11,7	16,7	6,8	27	21
<b>JB.11/32</b>	12,7	16,7	6,8	27	22
<b>JB.3/8</b>	13,7	16,7	7,5	27	23
<b>JB.7/16</b>	15,6	16,7	9,0	27	24
<b>JB.1/2</b>	17,6	16,7	10,4	30	27
<b>JB.9/16</b>	19,6	18,5	10,5	30	33
<b>JB.5/8</b>	21,6	20,0	12,0	30	42
<b>JB.11/16</b>	23,6	22,0	13,0	32	50
<b>JB.3/4</b>	25,4	22,8	15,0	32	55
<b>JB.13/16</b>	27,4	24,0	16,0	32	68
<b>JB.7/8</b>	29,4	24,0	16,0	32	68



## J.HLA 3/8" drive long-reach metric 6 and 12-point OGV® sockets


▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.

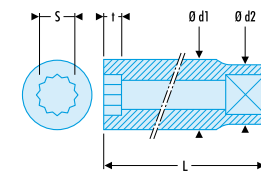
		S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>J.7HLA</b>	<b>J.7LA</b>	7	10,6	17,3	6	55	44
<b>J.8HLA</b>	<b>J.8LA</b>	8	12	17,3	7,5	55	46
<b>J.9HLA</b>	<b>J.9LA</b>	9	13	17,3	7,5	55	47
<b>J.10HLA</b>	<b>J.10LA</b>	10	14,5	17,3	9	55	50
<b>J.11HLA</b>	<b>J.11LA</b>	11	16	17,3	10,5	55	53
<b>J.12HLA</b>	<b>J.12LA</b>	12	16,8	17,2	12	55	53
<b>J.13HLA</b>	<b>J.13LA</b>	13	18	17	12	55	54
<b>J.14HLA</b>	<b>J.14LA</b>	14	20	18	15	55	60
<b>J.15HLA</b>	<b>J.15LA</b>	15	21	20	15	60	75
<b>J.16HLA</b>	<b>J.16LA</b>	16	22	20	15	60	85
<b>J.17HLA</b>	<b>J.17LA</b>	17	23,5	22	15	60	102
<b>J.18HLA</b>	<b>J.18LA</b>	18	24,5	23	18	60	109
<b>J.19HLA</b>	<b>J.19LA</b>	19	25	24	18	60	110
<b>J.21HLA</b>	<b>J.21LA</b>	21	27	26	18	60	123
<b>J.22HLA</b>	<b>J.22LA</b>	22	29	28	21	60	150
<b>J.24HLA</b>	<b>J.24LA</b>	24	31	30	24	60	176



## J.LA 3/8" long-reach inch 12-point OGV® sockets


▷ Performance : to ASME B 107.1.

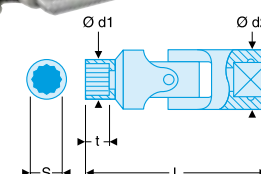
	S "	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g	
<b>J.1/4LA</b>	1/4	6,35	10,6	17,5	4,0	44,7	36
<b>J.5/16LA</b>	5/16	7,94	12,4	17,5	4,3	44,7	36
<b>J.3/8LA</b>	3/8	9,53	14,3	17,5	4,7	44,7	41
<b>J.7/16LA</b>	7/16	11,11	16,2	17,5	6,2	44,7	45
<b>J.1/2LA</b>	1/2	12,70	18,2	18,2	7,4	44,7	50
<b>J.9/16LA</b>	9/16	14,29	20,5	20,5	9,0	48,0	72
<b>J.5/8LA</b>	5/8	15,88	22,3	22,3	10,2	63,8	104
<b>J.11/16LA</b>	11/16	17,46	23,8	23,8	10,2	63,8	113
<b>J.3/4LA</b>	3/4	19,05	25,3	25,3	11,8	63,8	127
<b>J.13/16LA</b>	13/16	20,64	27,0	27,0	12,3	63,8	140
<b>J.7/8LA</b>	7/8	22,23	30,2	30,2	12,7	63,8	181
<b>J.15/16LA</b>	15/16	23,81	31,8	31,8	12,7	63,8	185
<b>J.1"LA</b>	1	25,40	33,4	33,4	12,7	63,8	185



## J.F 3/8" drive hinged inch 12-point OGV® sockets

▷ Performance : to ANSI B 107.1, GGG.W.641E, ASME B 107.1.


	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>J.3/8F</b>	14,0	19,0	8,3	47,5	55
<b>J.7/16F</b>	15,8	19,0	9,8	49,0	55
<b>J.1/2F</b>	18,3	19,0	11,3	50,5	60
<b>J.9/16F</b>	19,5	19,0	11,3	50,5	60
<b>J.5/8F</b>	22,0	19,0	12,8	53,5	70
<b>J.11/16F</b>	24,0	19,0	13,8	54,5	72
<b>J.3/4F</b>	25,8	19,0	15,8	56,5	80

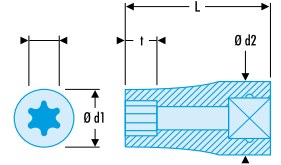


► Torx sockets®  3/8"

## JTX 3/8" Torx® sockets

- For Torx® fasteners.
- Manual use.
- Polished chrome finish.



	Torx® no.	I★ A mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
JTX.8	E8	7,29	9,9	17,3	5,6	26	40
JTX.10	E10	9,19	11,8	17,3	6,4	26	40
JTX.12	E12	10,95	14,5	17,3	8,0	26	40
JTX.14	E14	12,67	15,7	17,3	8,8	26	50
JTX.16	E16	14,70	18,0	17,3	9,6	26	100



## Set of Torx® sockets

## JTX.40




- Sockets supplied on a rack.

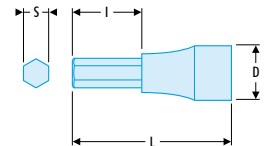
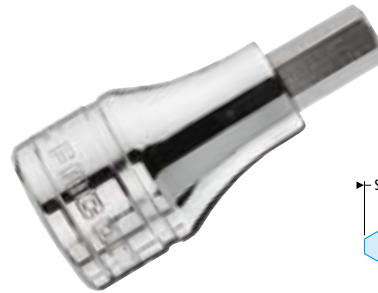
		Dimensions Torx®	Rack	ΔΔ g
JTX.40	5	E8 - E10 - E12 - E14 - E16	CKS.91	90

► Bit sockets  3/8"

## JT 3/8" drive metric and inch bit sockets




- Removable bits.

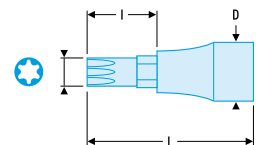
	S mm	Components  	D mm	I mm	L mm	ΔΔ g
JT.3	3	J.235 EH.103	18	15	45	31
JT.4	4	J.235 EH.104	18	15	45	31
JT.5	5	J.235 EH.105	18	15	45	32
JT.6	6	J.235 EH.106	18	15	45	33
JT.7	7	J.235 EH.107	18	15	45	34
JT.8	8	J.236 EH.208	18	17,5	47,5	43
JT.10	10	J.236 EH.210	18	17,5	47,5	50
JT.1/8	3,17	J.235 EH.101/8	18	15	45	31
JT.5/32	3,96	J.235 EH.105/32	18	15	45	31
JT.3/16	4,76	J.235 EH.103/16	18	15	45	31
JT.7/32	5,56	J.235 EH.107/32	18	15	45	32
JT.1/4	6,35	J.235 EH.101/4	18	15	45	33
JT.5/16	7,94	J.236 EH.205/16	18	17,5	47,5	43
JT.3/8	9,53	J.236 EH.203/8	18	17,5	47,5	50



## JX 3/8" drive Torx® bit sockets


- Removable bits.

	Torx® no.	I★ A mm	Components  	D mm	I mm	L mm	ΔΔ g
JX.10	T10	2,72	J.235 EX.110	18	16	46	33,5
JX.15	T15	3,26	J.235 EX.115	18	16	46	33,5
JX.20	T20	3,84	J.235 EX.120	18	16	46	33,5
JX.25	T25	4,40	J.235 EX.125	18	16	46	33,5
JX.27	T27	4,96	J.235 EX.127	18	16	46	33,5
JX.30	T30	5,49	J.235 EX.130	18	16	46	33,5
JX.40	T40	6,60	J.236 EX.240	18	22,5	52,5	45
JX.45	T45	7,77	J.236 EX.245	18	22,5	52,5	45
JX.50	T50	8,79	J.236 EX.250	18	22,5	52,5	47,5
JX.55	T55	11,17	J.236 EX.255	18	22,5	52,5	61








i **Create your own bit sockets**




**Bits**




Series 1  1/4"


Series 2  5/16"


See section 7 p. 345

**Bit holders  3/8"**




⇒ **J.235**

 1/4" 6,35 mm



⇒ **J.236**

 5/16" 7,94 mm

p. 360

?

## Rack set of 3/8" drive short and long-reach sockets

- Racks fit inside tool boxes, in roller cabinets, on panels.
- A range of sockets displayed for easy selection.

⇒	Dimensions mm / "	Rack	ΔΔ g
<b>J.40E</b>	J : 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16	CKS.94	380
<b>JL.40E</b>	JL : 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15	CKS.94	590
<b>JL.41E</b>	JL : 16 - 17 - 18 - 19 - 21 - 22 - 24	CKS.94	870
<b>J.40U</b>	J : 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 9/16 - 5/8 - 11/16	CKS.94	340
<b>JL.40U</b>	JL : 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 9/16 - 5/8 - 11/16 - 3/4 - 13/16	CKS.94	840



## Rack set of 3/8" drive metric hexagon bit sockets

### JT.40

- Comprising :  
- 6 bits : JT.4-5-6-7-8-10.
  - Rack CKS.91.
- ΔΔ : 280 g.



i **Special  3/8" sockets for automotive applications**

*For details of our 3/8" special automotive sockets, see section 18*

- Spark plug sockets
- Glow plug sockets.
- Drain plug sockets
- Injector sockets



▶ CDX<sup>®</sup> socket sets

CDX



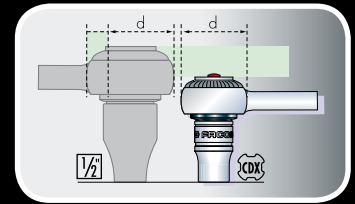
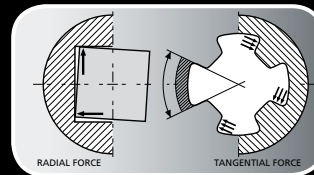
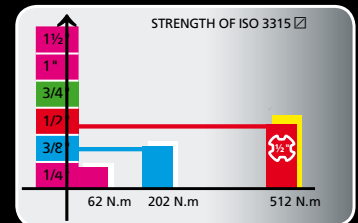
# The solution to your accessibility problems



## THE POWER OF A $\square$ 1/2" RATCHET WITH THE COMPACTNESS OF A $\square$ 3/8" !

**PERFORMANCE**

- The special CDX<sup>®</sup> drive transmits more torque than a standard 1/2" square drive. With its shorter handle, the CDX<sup>®</sup> drive has the same torque and strength performance as a  $\square$  1/2" drive while having the compactness of a  $\square$  3/8".
- CDX<sup>®</sup> ratchets are tested to ISO 3315 paragraph. 5 applying to  $\square$  1/2" ratchets.

**USABILITY**

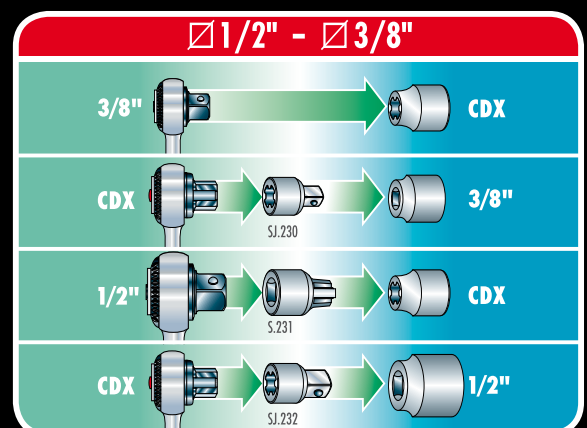
- The locking mechanism resists a socket pull-off load of over 60 kg.
- Immediate socket release simply by pressing the button even with slippery or gloved hands.
- Compact ratchet is more manoeuvrable.
- Lighter :  
CDX<sup>®</sup> is 40% lighter than a standard  $\square$  1/2" ratchet = less weight to carry = less fatigue.

**COMPATIBILITY**

- CDX<sup>®</sup> drive can be used with  $\square$  3/8" and  $\square$  1/2" tools, either directly or via couplers.

**A COMPREHENSIVE RANGE**

- Standard and long-reach ratchets.
- Sockets 7 to 32 mm.
- 6 and 12-point.
- Locking extensions.
- Universal joint.
- Sliding tee.



**CDX®**

## Metric socket and bit sets



**SJ.440 12**



**CDX.4 6**



**CDX.5 6**












		<i>SJ.440</i>	<i>CDX.4</i>	<i>CDX.5</i>
		<i>SJ.171</i>	<i>SJ.171</i>	<i>SJ.174</i>
		<i>SJ.</i>	<i>SJ.H</i>	<i>SJ.H</i>
<b>CDX</b>	7	•		
	8	•	•	•
	9	•	•	•
	10	•	•	•
	11	•	•	•
	12	•	•	•
	13	•	•	•
	14	•	•	•
	15	•	•	•
	16	•	•	•
	17	•	•	•
	18	•	•	•
	19	•	•	•
	21	•	•	•
	22	•	•	•
	23	•	•	•
	24	•	•	•
	26	•	•	•
	27	•	•	•
	30	•	•	•
	32	•	•	•
	<i>SJ.240</i>	•	•	•
	<i>SJ.210R</i>	•	•	•
	<i>SJ.215R</i>	•	•	•
	<i>SJ.230</i>	•	•	•
	<i>SJ.231</i>		•	•
	<i>SJ.232</i>			
	<i>SJ.235</i>	•		
	<i>SJ.236</i>	•		
	<i>SJ.120</i>	•		
	<i>ED</i>			
	2	•		
	3	•		
	4	•		
	<i>EH</i>			
	5	•		
	6	•		
	8	•		
	10	•		
	<i>ES</i>			
	6,5	•		
	8	•		
	10	•		
	<i>PL.300A</i>		<i>PL.617</i>	
	<i>BP.109</i>		<i>BP.112</i>	
	478 x 234 x 72 mm		389 x 164 x 66 mm	
	4,05	2,75	2,80	



**CDX® Metric socket sets**

WITH ITS UNIQUE DESIGN,  
THE CDX® RATCHET HAS THE TORQUING  
POWER OF A 1/2" RATCHET BUT IS MUCH  
MORE COMPACT. **P. 218**

		SJ.431A	SJ.430A	SJ.430AD	SJ.431B	MOD.CDX
		SJ.171	SJ.171	SJ.171	SJ.171	SJ.171
		6	12	12	6	6
		SJ.H	SJ.	SJ.	SJ.H	SJ.H
	7					
	8	•	•	•	•	•
	9	•	•	•	•	•
	10	•	•	•	•	•
	11	•	•	•	•	•
	12	•	•	•	•	•
	13	•	•	•	•	•
	14	•	•	•	•	•
	15	•	•	•	•	•
	16	•	•	•	•	•
	17	•	•	•	•	•
	18	•	•	•	•	•
	19	•	•	•	•	•
	21	•	•	•	•	•
	22	•	•	•	•	•
	23					
24	•	•			•	
26	•	•				
27	•	•			•	
30						
32						
	SJ.240	•	•	•	•	•
	SJ.210R	•	•	•	•	•
	SJ.215R	•	•	•	•	•
	SJ.230					•
	SJ.231					
	SJ.232					•
	SJ.235					
	SJ.236					
SJ.120						
	ED 2					
	3					
	4					
	EH 5					
	6					
	8					
	10					
	ES 6,5					
	8					
	10					
		PL.425		PL.424	PL.298	PL.355
		BP.112			BT.112G	-
		389 x 164 x 66 mm				420 x 180 x 55 mm
		2,90 kg	2,90 kg	2,90 kg	3,10 kg	2,12 kg

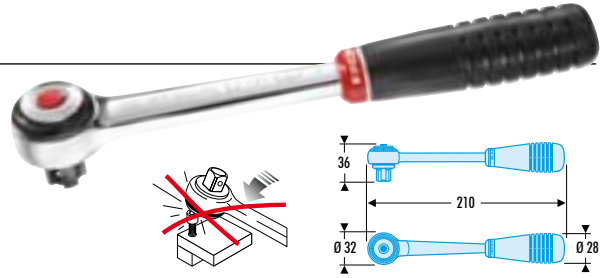


## ▶ CDX® ratchets

### Locking CDX® ratchet

#### SJ.171

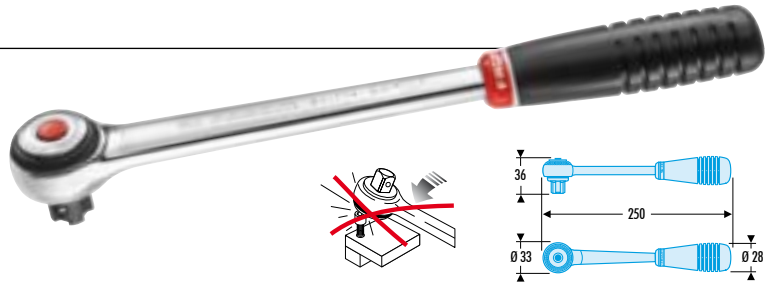
- CDX® drive.
  - 72 tooth mechanism. 5° increments.
  - "Palm control" system.
  - Satin chrome finish.
- ΔΔ : 280 g.



### Long-reach locking CDX® ratchet

#### SJ.174

- CDX® drive.
  - 72 tooth mechanism. 5° increments.
  - "Palm control" system.
  - Satin chrome finish.
- ΔΔ : 320 g.



## ▶ CDX® accessories

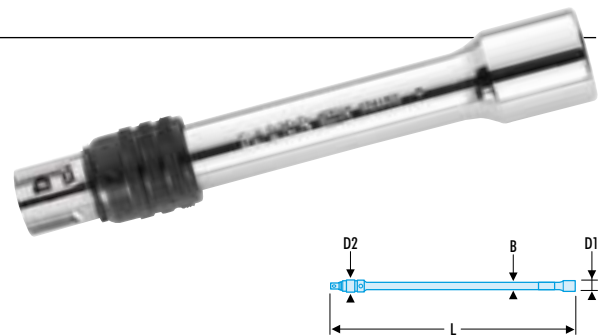
i **Locking system = total safety**

- Resists a socket pull-off load of over 60 kg
- Prevents accidental socket loss
- Instantly unlocks by retracting the knurled ring.

**Use only with sockets equipped with an internal ball notch.**

### SJ.R Locking CDX® extensions

- Safety lock.
  - Prevents the loss of sockets or accessories, the locking system is ideal in crowded assemblies.
1. Push fit.
  2. Socket positively locked.



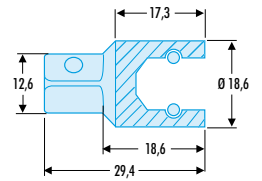
	B mm	D1 mm	L mm	D2 mm	ΔΔ g
<b>SJ.210R</b>	14,8	20,5	125	20,5	190
<b>SJ.215R</b>	14,8	20,5	250	20,5	360



## CDX® to 3/8" coupler

## SJ.230

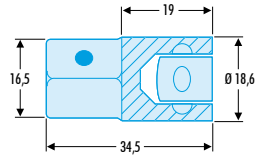
- Female CDX® drive.
- Male 3/8" square drive.
- For adapting  $\square$  3/8" sockets and accessories to a CDX® ratchet.



## CDX® to 1/2" coupler

## SJ.232

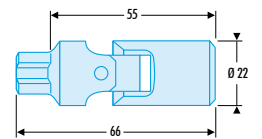
- Female CDX® drive.
  - Male 1/2" square drive.
  - For adapting sockets and accessories  $\square$  1/2".
- $\Delta\Delta$  : 46 g.



## CDX universal joint®

## SJ.240

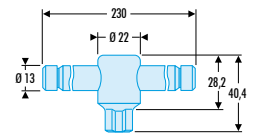
- Spring-stiffened joints.
  - Stays in position.
  - Optimum accessibility
- $\Delta\Delta$  : 125 g.



## CDX sliding tee®

## SJ.120

- Sliding bar.
  - Friction-steadied head.
- $\Delta\Delta$  : 300 g.

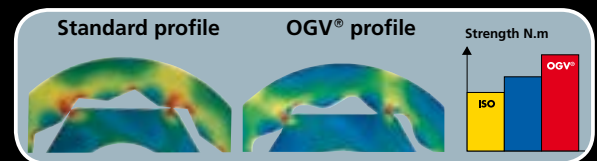


## Facom OGV® profile

## HIGHER TORQUE WITHOUT DAMAGING THE FASTENERS !

The OGV® profile is achieved by a succession of curves instead of the flats found in conventional sockets®.

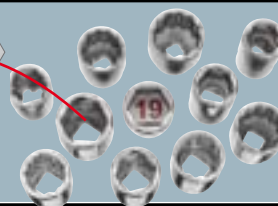
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



## The TAG socket inserts

- Immediately identify your sockets.
- 6- or 12 point sockets.

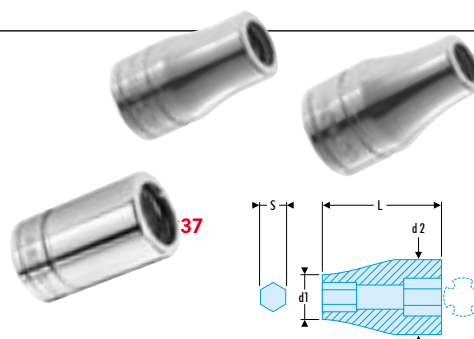
TAG





## CDX® spring-clip bit holders

⇒	S	d1	d2	L	ΔΔ
	"	mm	mm	mm	g
<b>SJ.235</b>	1/4	11,3	18,6	30	28
<b>SJ.236</b>	5/16	14	18,6	30	32
<b>SJ.237</b>	1/2	20,6	20,6	34,4	40

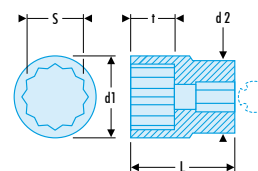


## ▶ CDX® OGV® sockets

### SJ Metric OGV® sockets

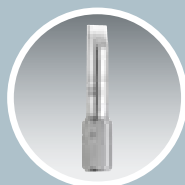
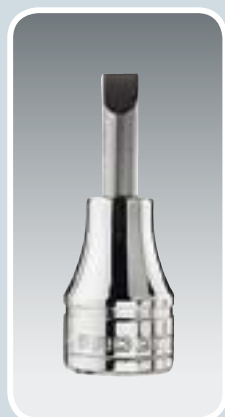
• CDX® system.

⇒	⇒	S	Ø d1	Ø d2	t	L	ΔΔ
⊕	⊕	mm	mm	mm	mm	mm	g
<b>SJ.7H</b>	<b>SJ.7</b>	7	10,8	18,6	6,0	27	24
<b>SJ.8H</b>	<b>SJ.8</b>	8	12,8	18,6	6,5	27	25
<b>SJ.9H</b>	<b>SJ.9</b>	9	13,3	18,6	6,8	27	25
<b>SJ.10H</b>	<b>SJ.10</b>	10	14,5	19,7	7,5	27	25
<b>SJ.11H</b>	<b>SJ.11</b>	11	15,8	19,7	8	27	30
<b>SJ.12H</b>	<b>SJ.12</b>	12	17,0	19,7	9,0	27	32
<b>SJ.13H</b>	<b>SJ.13</b>	13	18,3	19,7	9,5	27	33
<b>SJ.14H</b>	<b>SJ.14</b>	14	19,5	18,6	11,0	30	35
<b>SJ.15H</b>	<b>SJ.15</b>	15	20,8	19,0	12,0	30	38
<b>SJ.16H</b>	<b>SJ.16</b>	16	22,0	20,0	12,0	30	41
<b>SJ.17H</b>	<b>SJ.17</b>	17	23,4	21,7	13,0	30	50
<b>SJ.18H</b>	<b>SJ.18</b>	18	24,7	21,7	13,5	33	60
<b>SJ.19H</b>	<b>SJ.19</b>	19	26,0	23,0	14,0	33	62
<b>SJ.20H</b>	<b>SJ.20</b>	20	27,2	22,2	15,0	33	62
<b>SJ.21H</b>	<b>SJ.21</b>	21	28,5	23,5	16,0	33	73
<b>SJ.22H</b>	<b>SJ.22</b>	22	29,5	23,5	16,5	33	75
<b>SJ.23H</b>	<b>SJ.23</b>	23	31,0	26,0	16,5	33	90
<b>SJ.24H</b>	<b>SJ.24</b>	24	31,3	26,3	16,5	33	87
<b>SJ.26H</b>	<b>SJ.26</b>	26	34,2	29,2	16,5	33	115
<b>SJ.27H</b>	<b>SJ.27</b>	27	35,5	30,5	19,0	38	140
<b>SJ.28H</b>		28	37	31,1	20	38	156
<b>SJ.29H</b>		29	38	31,9	20	38	159
<b>SJ.30H</b>		30	39,4	33,1	20	38	172
<b>SJ.32H</b>		32	41,4	33,1	20	38	191



## ▶ CDX bits®

### Create your own bit sockets



#### Bits

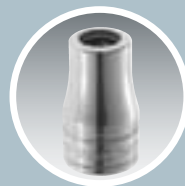


Series 1 ⬡ 1/4"

Series 2 ⬡ 5/16" See section 7 p. 345



⇒ SJ.235



⇒ SJ.236



⇒ SJ.237

#### Bit holders

p. 360

⬡ 1/4" 6,35 mm    ⬡ 5/16" 7,94 mm    ⬡ 1/2" 12,70 mm



# Standard 1/2" range

## ▶ Socket sets 1/2"

### 1/2+1/4" Metric socket and bit sets

Ratchets, sockets and accessories

⇒ RS.440E



⇒ RS.430E



⇒ S.800



⇒ S.900



⇒ S.447DP

⇒ S.446DP



		RS.440E	RS.430E	S.800	S.900	S.447DP	S.446DP
		S.161 + R.161	S.151 + R.151	S.161	S.161	S.161	S.161
1/2" 12.7mm		S.H R.	S.H R.	S.H	S.H	S.H	S.
	5						
	5,5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	21						
	22						
	23						
24							
26							
27							
28							
29							
30							
32							
34							
	S.206						
	S.208						
	S.210						
	S.210S						
	S.215						
	S.240A						
	S.120A						
	S.236						
	S.237						
	R.209						
	R.210						
R.240A							
R.235							
R.236							
	EP 1						
	EP 2						
	EP 3						
	ED 1						
	ED 2						
	ED 3						
	ES 4,5						
	ES 6,5						
	ES 8						
	ES 10						
		EH 3					
EH 4							
EH 5							
EH 6							
EH 7							
EH 8							
	EHL 10						
	EHL 4						
	EHL 5						
	EHL 6						
	EX 7						
	EX 8						
	EX 10						
	EX 20						
	EX 25						
	EX 27						
	EXR 30						
	EXR 40						
	EXR 45						
	EXR 55						
	EXR 10						
	EXL 15						
	EXL 20						
	EXL 25						
	EXL 27						
	EXL 30						
	ENH 40						
	ENH 45						
	ENH 50						
	ENH 12						
	ENH 14						
		PL.714	PL.112A	PL.706	PL.705	PL.291APL.291A	
		BP.109					
		478 x 234 x 72 mm					
		3,92 kg	3,56 kg	4,70 kg	4,30 kg	5,00 kg	5,00 kg

# Standard $\square$ 1/2" range

$\square$  1/2"

Metric socket sets

- $\Rightarrow$  S.441AP  $\odot$  6
- $\Rightarrow$  SM.441EP  $\odot$  6
- $\Rightarrow$  S.441E  $\odot$  6

- $\Rightarrow$  S.440AP  $\odot$  12
- $\Rightarrow$  SM.440EP  $\odot$  12
- $\Rightarrow$  S.440E  $\odot$  12

- $\Rightarrow$  S.431ADP  $\odot$  6
- $\Rightarrow$  S.430ADP  $\odot$  12



S.161



SM.161



- $\Rightarrow$  S.431DP  $\odot$  6



- $\Rightarrow$  S.442EP  $\odot$  12



	S.441AP	SM.441EP	S.441E	S.440AP	SM.440EP	S.440E	S.431ADP	S.430ADP	S.442EP	S.431DP	
$\square$ 1/2" .12.7mm	S.161	SM.161	S.151	S.161	SM.161	S.151	S.161	S.161	S.161	S.161	
$\odot$ 6	S.H	S.H	S.H	S.	S.	S.	S.H	S.	S.	S.H	
$\odot$ 12											
8	•	•	•	•	•	•			•		
9	•	•	•	•	•	•			•		
10	•	•	•	•	•	•	•	•	•	•	
11	•	•	•	•	•	•	•	•	•	•	
12	•	•	•	•	•	•	•	•	•	•	
13	•	•	•	•	•	•	•	•	•	•	
14	•	•	•	•	•	•	•	•	•	•	
15	•	•	•	•	•	•	•	•	•	•	
16	•	•	•	•	•	•	•	•	•	•	
17	•	•	•	•	•	•	•	•	•	•	
18	•	•	•	•	•	•	•	•	•	•	
19	•	•	•	•	•	•	•	•	•	•	
20	•	•	•	•	•	•	•	•	•	•	
21	•	•	•	•	•	•	•	•	•	•	
22	•	•	•	•	•	•	•	•	•	•	
23	•	•	•	•	•	•	•	•	•	•	
24	•	•	•	•	•	•	•	•	•	•	
26	•	•	•	•	•	•	•	•	•	•	
27	•	•	•	•	•	•	•	•	•	•	
28	•	•	•	•	•	•	•	•	•	•	
29	•	•	•	•	•	•	•	•	•	•	
30	•	•	•	•	•	•	•	•	•	•	
32	•	•	•	•	•	•	•	•	•	•	
34	•	•	•	•	•	•	•	•	•	•	
	S.210	•	•	•	•	•	•	•	•	•	
	S.215	•	•	•	•	•	•	•	•	•	
	S.240A	•	•	•	•	•	•	•	•	•	
	S.120A	•	•	•	•	•	•	•	•	•	
	S.110	•	•	•	•	•	•	•	•	•	
	PL.708						PL.701		P.21	PL.235	
	BP.109								BT.6A	BT.109G	
	478 x 234 x 72 mm								468 x 190 x 160 mm	470 x 195 x 53 mm	
	5,95 kg	6,05 kg	5,95 kg	5,95 kg	6,05 kg	5,95 kg	4,88 kg	4,88 kg	7,68 kg	4,82 kg	



$\square$  1/2" Metric socket sets



**LOCKING RATCHETS AND EXTENSIONS :**  
**CAN RESIST A SOCKET PULL-OFF FORCE OF OVER.**  
**600 NEWTONS**  
**SECURE RATCHET/EXTENSION/SOCKET**  
**ATTACHMENT**  
**NO MORE LOST SOCKETS**



		S.500	S.200DP	S.600	SM.600
		S.171	S.161	S.161	SM.161
		$\square$	$\square$	$\square$	$\square$
$\square$ 1/2" .12.7mm		S.H	S.H	S.H	S.H
	8			•	•
	9				
	10	•	•	•	•
	11	•	•	•	•
	12	•	•	•	•
	13	•	•	•	•
	14	•	•	•	•
	15	•	•		
	16	•	•	•	•
	17	•	•	•	•
	18	•	•	•	•
	19	•	•	•	•
	20				
	21	•	•	•	•
	22	•	•	•	•
	23	•	•	•	•
	24	•	•	•	•
	26				
	27	•	•	•	•
	28				
29					
30	•	•	•	•	
32	•	•	•	•	
34					
	S.210		•		
	S.215		•	•	•
	S.240A	•	•	•	•
	S.210RC	•			
	S.215RC	•			
		PL.618		PL.619	
		BP.112			
		389 x 164 x 66 mm			
		3,57 kg	3,45 kg	3,45 kg	3,55 kg

$\square$  1/2"

Metric socket sets

**A WIDE RANGE OF SOCKET SETS TO MEET YOUR NEEDS...**

**... IN ALL SITUATIONS AND ALWAYS CLOSE TO HAND**



		S.429EP	S.428EP	S.423AP	S.422AP	S.420B
		S.161	S.161	S.161	S.161	S.151
		6	12	6	12	12
	$\square$ 1/2" .12.7mm	S.H	S.	S.H	S.	S.
	8			•	•	
	9			•	•	
	10	•	•	•	•	•
	11	•	•	•	•	•
	12	•	•	•	•	•
	13	•	•	•	•	•
	14	•	•	•	•	•
	15	•	•	•	•	•
	16			•	•	•
	17	•	•	•	•	•
	18			•	•	•
	19	•	•	•	•	•
	20					
	21			•	•	•
	22	•	•	•	•	•
	23			•	•	
24	•	•	•	•	•	
26						
27	•	•				
28						
29						
30	•	•				
32	•	•				
34						
	S.210	•	•	•	•	
	S.215	•	•	•	•	•
	S.240A	•	•	•	•	
	S.120A	•	•			
	S.110					
	S.210RC					
	S.215RC					
		PL.10A		PL.422		PL.423
		BR.109		BR.112		
		478 x 234 x 72 mm		389 x 164 x 66 mm		
		4,03 kg	4,03 kg	2,92 kg	2,92 kg	2,33 kg

S.429EP 6

S.428EP 12



S.423AP 6

S.422AP 12



S.420B 12



$\square$  1/2" Metric socket modules



**FACOM FOAM MODULES :**

- **HIGH DENSITY FOAM : GOOD RESISTANCE TO CRUSHING AND WORKSHOP SOLVENTS.**
- **EASY IDENTIFICATION OF MISSING TOOLS.**

$\Rightarrow$  MODM.S1A  $\square$



$\Rightarrow$  MOD.S1  $\square$



S.161



$\Rightarrow$  MOD.SM1  $\square$



SM.161

	MODM.S1A	MOD.S1	MOD.SM1
	S.161	S.161	SM.161
$\square$ 1/2" .12.7mm	S.H	S.H	S.H
	8	•	
	9		
	10	•	•
	11	•	•
	12	•	•
	13	•	•
	14	•	•
	15	•	•
	16	•	•
	17	•	•
	18	•	•
	19	•	•
	20		
	21	•	•
	22	•	•
	23	•	•
	24	•	•
	26		
	27	•	•
	28		
	29		
	30	•	•
	32	•	•
	34		
	S.210	•	•
	S.215	•	•
	S.240A	•	•
	S.120A	•	
	PM.S1A	PL.323	PL.323
		-	
	420 x 190 x 55 mm	420 x 180 x 55 mm	
	3,45 kg	3,32 kg	3,42 kg





## $\square$ 1/2" Metric long-reach socket and bit sets



### LONG-REACH SOCKETS :

- FOR TIGHTENING AND LOOSENING NUTS ON PROTRUDING THREADS.
- CLEARS OBSTACLES.
- EASIER ACCESS TO RECESSED FASTENERS.

		S.450EP	S.405E	S.404E	S.401A	S.400A	MOD.HLA	
		S.161	-	-	-	-	-	
$\square$ 1/2" .12.7mm		S. S.LA	S.HLA	S.LA	S.H	S.	S.HLA	J.HLA
	7							•
	8	•			•	•		•
	9	•			•	•		•
	10	•			•	•		•
	11	•			•	•	$\square$ 1/2"	•
	12	•	•	•	•	•	•	$\square$ 3/8"
	13	•	•	•	•	•	•	
	14	•	•	•	•	•	•	
	15	•	•	•	•	•	•	
	16	•	•	•	•	•	•	
	17	•	•	•	•	•	•	
	18	•	•	•	•	•	•	
	19	•	•	•	•	•	•	
	21	•	•	•	•	•	•	
	22	•	•	•	•	•	•	
	23	•	•	•	•	•	•	
24	•	•	•	•	•	•		
26	•	•	•	•	•	•		
27	•	•	•	•	•	•		
28	•	•	•	•	•	•		
29	•	•	•	•	•	•		
30	•	•	•	•	•	•		
32	•	•	•	•	•	•		
	S.210	•						
	S.215	•						
	S.240A	•						
	S.120A	•						
	S.110	•						
	S.236	•						
	S.237	•						
S.234	•							
S.141A	•							
	ED 3	•						
	4	•						
	ENS 4	•						
	6	•						
	PLT.11, PL.23, PL.24A		PL.52B		PL.413		PL.609	
	BT.108		BP.109		BP.112		-	
	452 x 284 x 111 mm		478 x 234 x 72 mm		389 x 164 x 66 mm		420 x 180 x 55 mm	
	14,86 kg		4,65 kg	4,65 kg	2,69 kg	2,69 kg	1,62 kg	

$\Rightarrow$  S.450EP  $\square$  12



$\Rightarrow$  S.405E  $\square$  6

$\Rightarrow$  S.404E  $\square$  12



$\Rightarrow$  S.401A  $\square$  6

$\Rightarrow$  S.400A  $\square$  12



$\Rightarrow$  MOD.HLA  $\square$  6



 1/2" Torx® socket, bit and wrench sets



SEE SECTION 4 FOR TORX®  
RING WRENCHES  
SEE SECTION 6 FOR TORX® BITS

 RSX.427





























 RSX.19A



 MOD.TX1



		RSX.427P		RSX.19A		MOD.TX1	
		R.161 + S.161		-		-	
 1/2" .12.7mm		RTX.	STX.	RTX.	STX.	JTX.	STX.
	4	•					
	5	•					
	6	•		•			
	7	•		•		 .3/8"	
	8	•		•		•	
	10	•	 .1/2"	•	 .1/2"	•	
	12	 .1/4"	•	 .1/4"	•	•	
	14		•		•	•	
	16		•		•	•	 .1/2"
	18		•		•	•	•
20		•		•	•	•	
		AMZ.H					
		R.235		•		•	
		S.236		•		•	
		J.235				•	
 SXM		27		•			
		30		•			
 1/2"		40		•			
		45		•			
		50		•			
 EXR		10		•		•	
		15		•		•	
		20		•		•	
		25		•		•	
		27		•		•	
		30		•		•	
		40		•		•	
 EX		8		•			
		10		•			
		15		•			
		20		•			
		25		•			
		27		•			
		40				•	
		45				•	
		50				•	
		55				•	
 EX		245		•			
		250		•			
		255		•			
		6x8				•	
59TX		10x12				•	
		14x18				•	
		20x24				•	
		PL.220B		PL.393A		PL.360	
		BP.112		BP.102		-	
		389 x 164 x 66 mm		204 x 122 x 52 mm		420 x 180 x 55 mm	
		2,00 kg		0,62 kg		0,99 kg	

# Standard $\square$ 1/2" range

$\square$  1/2"

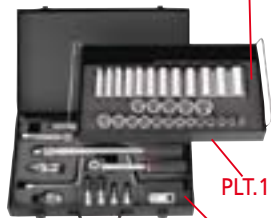
Inch socket and bit sets



$\Rightarrow$  S.441AUP  $\odot$   
 $\Rightarrow$  S.440AUP  $\odot$



$\Rightarrow$  S.450UP  $\odot$  PL.25  
 PLT.11  
 PL.24



$\Rightarrow$  S.420AU  $\odot$



$\Rightarrow$  MOD.S2  $\odot$

















S.161

$\Rightarrow$  MOD.SM2  $\odot$



SM.161

$\Rightarrow$	S.441AUP	S.440AUP	S.450UP	S.420AU	MOD.S2	MOD.SM2
 $\odot$ $\square$ 1/2" .12.7mm	S.161 $\odot$	S.161 $\odot$	S.161+S.156 $\odot$ $\odot$	S.151 $\odot$	S.161 $\odot$	SM.161 $\odot$
	S.H	S.	S. S.LA	S.	S.	S.
	3/8	•	•	•	•	•
	7/16	•	•	•	•	•
	1/2	•	•	•	•	•
	9/16	•	•	•	•	•
	19/32	•	•	•	•	•
	5/8	•	•	•	•	•
	21/32	•	•	•	•	•
	11/16	•	•	•	•	•
	3/4	•	•	•	•	•
	25/32	•	•	•	•	•
	13/16	•	•	•	•	•
	7/8	•	•	•	•	•
	15/16	•	•	•	•	•
	31/32	•	•	•	•	•
	1	•	•	•	•	•
	1 1/16	•	•	•	•	•
	1 1/8	•	•	•	•	•
	1 1/4	•	•	•	•	•
	S.210	•	•	•	•	•
	S.215	•	•	•	•	•
	S.240A	•	•	•	•	•
	S.120A	•	•	•	•	•
	S.110	•	•	•	•	•
	S.236		•			
	S.237		•			
	S.234		•			
	S.141A		•			
	ED 3		•			
	4		•			
	ENS 14		•			
	16		•			
	PL.702		PLT.11 PL.23 PL.25A	PL.415	PL.604	
	BR.109		BT.108	BP.112	-	
	478 x 234 x 72 mm		452 x 284 x 111 mm	389 x 164 x 66 mm	420 x 180 x 55 mm	
	5,18 kg	5,18 kg	13,03 kg	2,43 kg	2,95 kg	3,05 kg





$\square$  1/2" "Standard" ratchets

Facom "round head" ratchets

⇒ S.171  
●●○○○○



⇒ S.161  
○●○○○○



⇒ S.151  
○○○○○



⇒ S.154  
○○●○○○



⇒ S.143A  
○●○○○●



⇒ S.153A  
○●○○○●



**The solution for congested spaces**  
**Compact :**  
 • The Facom ratchet mechanism ensures a very compact round head.  
**Precise :**  
 • 72-tooth mechanism gives increments of only 5°.  
**High performance :**  
 • Meet the requirements of ISO 3315, DIN 3122 NF ISO 3315.

Metal grip ratchets

⇒ S.155A  
○●○○●○



⇒ S.157A  
○●●●○○



⇒ S.158A  
○●●●●○



• Ideal for environments where PVC grips are vulnerable to solvent attack.

⇒ S.156  
Ratchet attachment.  
Female drive :  $\square$  1/2".  
Male drive :  $\square$  1/2".

"Parking meter" ratchets

⇒ SM.171  
●●○○○●



⇒ SM.161  
○●○○○●



⇒ SM.150  
○●○○○●



**Sturdy :**  
 • "Parking meter" ratchets are ideal for use in difficult working conditions : their mechanism is protected and has fewer teeth (50) than a "round-head" ratchet (72).  
**Ergonomic :**  
 • Recessed reverse lever avoids accidental reversal and is easier to operate with gloved hands.

 1/2"

## Selection guide



### Locking system

*Safe* : Locking system can resist a socket pull-off force of up to 600 Newtons. No lost sockets.  
*Ergonomic* Immediate socket release simply by pressing the button, even with slippery or gloved hands.



### Palm control system

*Ergonomic* Allows the operator to push down on the head of the ratchet while avoiding accidental reversal.



### Long handle

*Power* : Transmits more torque without over-loading the ratchet mechanism.



### Metal handle

*Sturdy* : Ideal for environments where PVC grips are vulnerable to solvent attack.  
*Grip* : Knurled to avoid all risk of slippage.



### "Parking meter" ratchets

*Ideal for use in difficult working conditions* : protected mechanism.

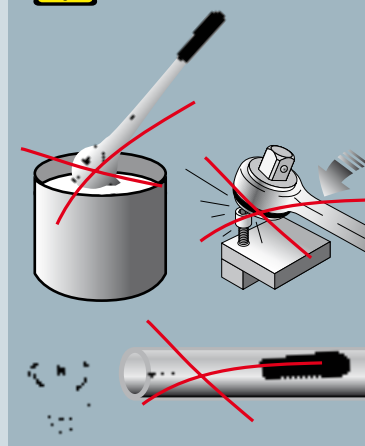



### Hinged handle

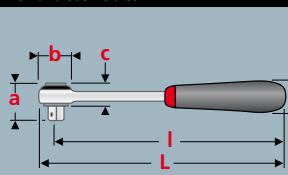
*Hinged handle with stiffened joint for optimum clearance.*



### Precautions of use



	S.171	S.161	S.151	S.154	S.143A	S.153A	SM.171	SM.161	SM.150	S.155A	S.157A	S.158A	S.156
<b>Advantages</b>													
Locking system	●						●						
Palm control system	●	●			●	●	●	●	●	●	●	●	
Long handle				●		●					●	●	
Metal handle										●	●	●	
"Parking meter" head							●	●	●				
Hinged handle					●	●						●	
<b>Characteristics</b>													
<b>Increments</b>	5°	5°	5°	5°	5°	5°	7°	7°	7°	5°	5°	5°	5°
<b>No of teeth</b>	72	72	72	72	72	72	50	50	50	72	72	72	72
<b>L (mm)</b>	250	250	251	400	266	400	259.5	259.5	259.5	257	380	430	-
<b>l (mm)</b>	231	231	232	380	247	381	238	238	238	238	361	411	-
<b>a (mm)</b>	44	43	40	40	43	43	38	38	38	43	43	43	59
<b>b (mm)</b>	38.5	38.5	38.5	39.5	38	38	43	43	43	38.5	38.5	37	39
<b>c (mm)</b>	28.5	27.5	24.5	24.5	27.5	27.5	22.5	22.5	22.5	27.5	27.5	27.5	39
<b>Ø (mm)</b>	31	31	29	29	31	31	31	31	31	19	19	19	-
<b>△ g</b>	495	490	475	780	598	755	600	605	580	570	725	930	230
<b>Maintenance</b>													
<b>Knurl caps</b>													
S.161C		●			●	●				●	●	●	
S.151C			●	●									
S.156C													●
SM.150C							●	●	●				
<b>Spare parts kit</b>													
S.161RN		●			●	●				●	●	●	
S.151RN			●	●									●
SM.150RN								●	●				
SM.171RN							●						
<b>Square drives</b>													
S.151R		●	●	●	●	●				●	●	●	●
SM.150-04								●	●	●			
SM.171-04							●						

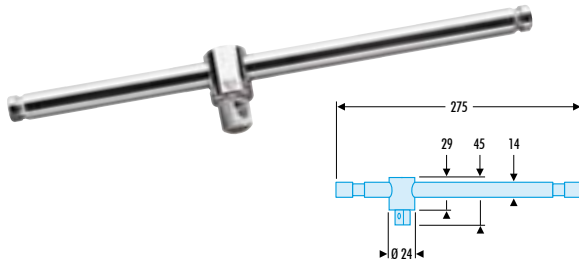


**► Accessories  1/2"****1/2" drive sliding tee****S.120**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Friction-head allows bar to form a T or L-handle.

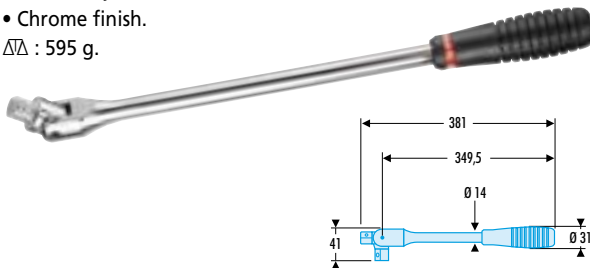
ΔΔ : 408 g.

**1/2" drive hinged handle 381 mm****S.141A**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Stiffened joint.
- Chrome finish.

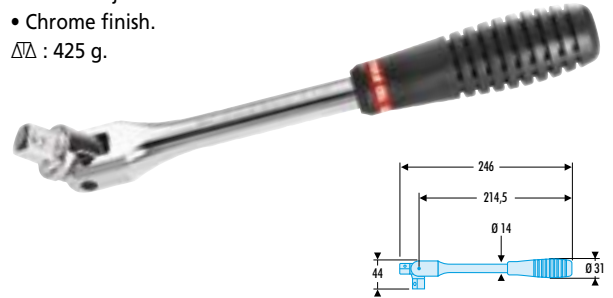
ΔΔ : 595 g.

**1/2" drive hinged handle 246 mm****S.140A**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Stiffened joint.
- Chrome finish.

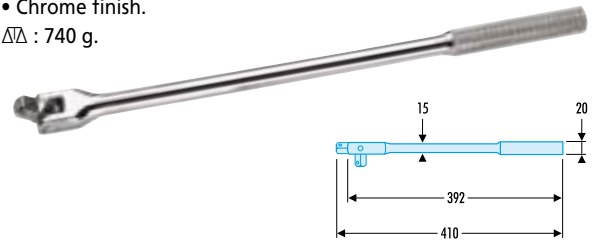
ΔΔ : 425 g.

**1/2" drive metal-grip hinged handle 410 mm****S.145**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Stiffened joint.
- Chrome finish.

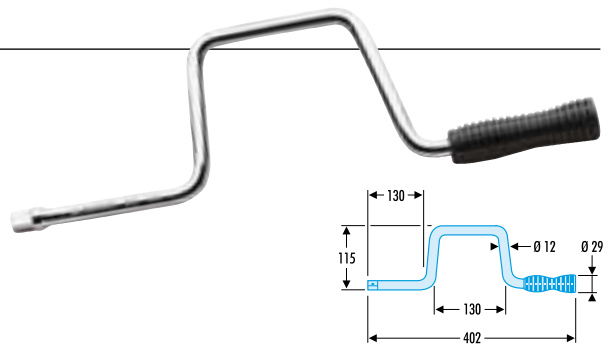
ΔΔ : 740 g.

**1/2" drive speed brace****S.110**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Significant time-savings whenever space allows.
- PVC rotating handle.
- Chrome finish.

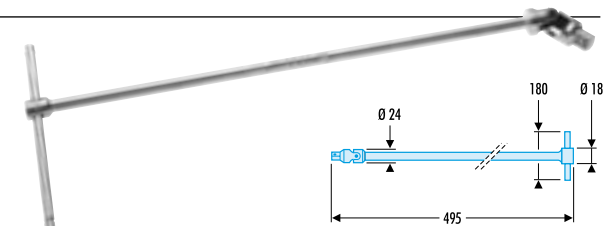
ΔΔ : 510 g.

**1/2" drive tee with universal joint 495 mm****S.229**

▷ Performance : to ISO 1174-1, DIN 3120, NF ISO 1174-1.

- Universal joint for high torques.

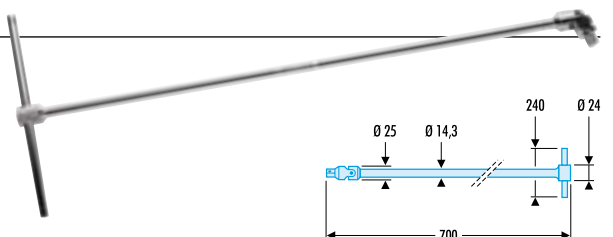
ΔΔ : 550 g.

**1/2" drive tee with universal joint 700 mm****S.228**

▷ Performance : to ISO 1174-1, DIN 3120, NF ISO 1174-1.

- Extended reach of tee-handle is ideal for particularly deep recesses.

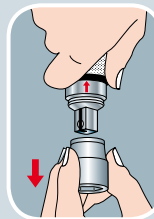
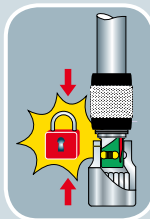
ΔΔ : 1.2 kg.





## Locking system = total safety

- Resists a socket pull-off load of over 60 kg
- Prevents accidental socket loss
- Instantly unlocks by retracting the knurled ring.





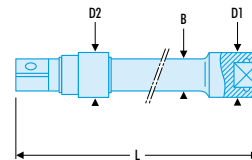
Use only with sockets equipped with an internal ball notch.

## S.RC 1/2" drive locking extensions

- Total safety.
- Lock system prevents socket loss.
- Safety and instant release, by retracting knurled ring, for total user confidence.
- Positive locking for use with sockets with internal ball notch.

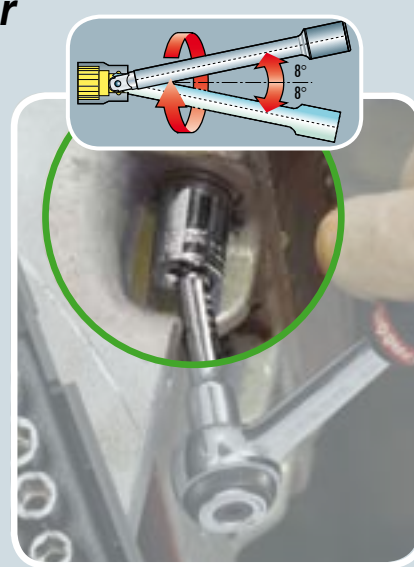


		D1	B	D2	L	$\Delta\Delta$
	"	mm	mm	mm	mm	g
<b>S.210RC</b>	1/2	23	16,5	23	130	250
<b>S.215RC</b>	1/2	23	16,5	23	250	450
<b>S.217RC</b>	1/2	23	16,5	23	500	860





## Wobble extensions

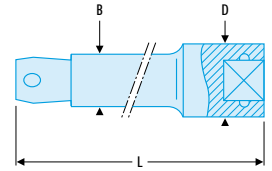
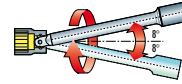
*Inaccessible with a socket or a universal joint?  
Use a wobble extension!*





**S 1/2" drive wobble extensions**

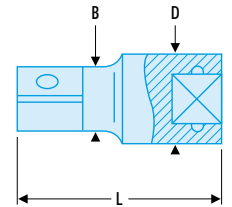
- Square drive rounded profile gives 8° working angle.
- Useful where access is restricted.

		D mm	B mm	L mm	ΔΔ g
<b>S.208S</b>	1/2	23	16,5	75	130
<b>S.210S</b>	1/2	23	16,5	130	225
<b>S.215S</b>	1/2	23	16,5	250	420

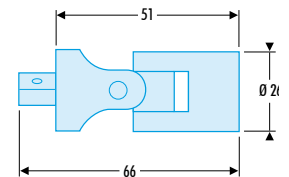
**S 1/2" drive extensions**


- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- Chrome finish.

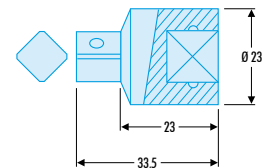
		D mm	B mm	L mm	ΔΔ g
<b>S.206</b>	1/2	23	16,5	52,5	90
<b>S.208</b>	1/2	23	16,5	75,0	130
<b>S.210</b>	1/2	23	16,5	130,0	225
<b>S.215</b>	1/2	23	16,5	250,0	420
<b>S.217</b>	1/2	23	16,5	500,0	840

**1/2" universal joint****S.240A**

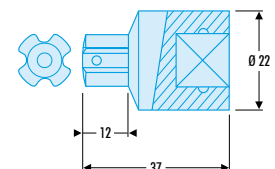
- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
  - Spring-stiffened joint.
  - Stays in position when reaching for fasteners.
  - Significant time savings.
- ΔΔ : 150 g.

**1/2" to 3/8" coupler****S.230**

- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
  - 1/2" female to 3/8" male square drive.
  - For adapting sockets and accessories  3/8".
  - Max. torque 212 N.m.
- ΔΔ : 55 g.

**1/2" to CDX® coupler****S.231**

- 1/2" female to CDX® male square drive.
- ΔΔ : 65 g.




# Standard 1/2" range

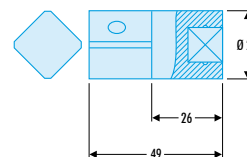
## 1/2" to 3/4" coupler

### S.232B

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

- 1/2" female to 3/4" male square drive with plunger.
- For adapting sockets and accessories  3/4".
- Male square drive with plunger for positive locking of sockets and accessories.

ΔΔ : 135 g.



## Set of 3 couplers

### D.169

• Allows use of square drives smaller than socket drive sizes :

- 1/4" square drive + D.169RJ ▷ 3/8" socket.
- 3/8" square drive + D.169JS ▷ 1/2" socket.
- 1/2" square drive + D.169SK ▷ 3/4" socket.
- Compactness means that fewer tools are needed for in situ maintenance operations.
- Magnetic retainer and locking system (JS and SK).
- Knurl allows hand tightening where access is difficult.

ΔΔ : 96 g.

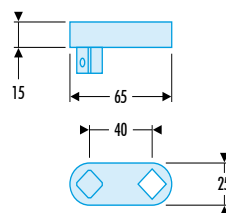


## 1/2" drive offset adaptor

### S.234



- 1/2" female to 1/2" male square drive.
- Offset centrelines for enhanced accessibility.

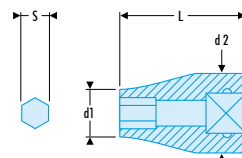
ΔΔ : 165 g.



## 1/2" drive spring-clip bit holders


▷ Performance : to ISO 1173, DIN 3126, NF ISO 1173.

	S		d1	d2	L	ΔΔ
	"	"	mm	mm	mm	g
<b>S.236</b>	5/16	1/2	14	23	36	54
<b>S.237</b>	1/2	1/2	20,5	23	44	70



## 1/2" drive lock-ring bit holder

### E.F.S

	∅		Length	ΔΔ
	"	"	mm	g
<b>E.F.S</b>	1/4	1/2	50	88





## ► Special 1/2" OGV® sockets

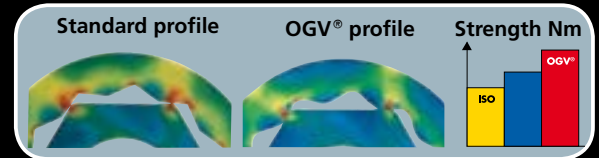


### Facom OGV® profile

#### HIGHER TORQUE WITHOUT DAMAGING THE FASTENER !

The OGV® profile is achieved by a succession of curves instead of the flats found in conventional sockets®.

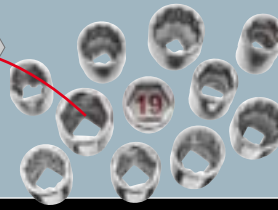
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



#### Le TAG : pastilles pour douilles



- Immediately identify your sockets.
- 6- or 12 point sockets.

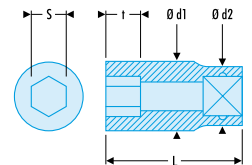
⇒ TAG



### S 1/2" drive metric 6 and 12-point OGV® sockets

► Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.



		S	Ø d1	Ø d2	t	L	ΔΔ
mm	mm	mm	mm	mm	mm	mm	g
S.8H	S.8	8	13,1	22,8	6,5	36	48
S.9H	S.9	9	13,8	22,8	6,5	36	48
S.10H	S.10	10	15,3	22,8	7,8	36	48
S.11H	S.11	11	16,5	22,8	9,0	36	51
S.12H	S.12	12	17,8	22,8	9,5	36	52
S.13H	S.13	13	18,9	22,8	10,4	36	55
S.14H	S.14	14	20,2	22,8	10,5	36	57
S.15H	S.15	15	21,4	22,8	12,0	36	60
S.16H	S.16	16	22,6	21,6	12,0	36	57
S.17H	S.17	17	24,1	23,1	13,0	36	61
S.18H	S.18	18	25,5	23,4	13,0	36	68
S.19H	S.19	19	26,6	24,6	14,0	36	69
S.20H	S.20	20	27,4	25,4	14,0	36	71
S.21H	S.21	21	29,1	25,1	16,0	38	93
S.22H	S.22	22	30,4	26,4	16,5	38	101
S.23H	S.23	23	31,6	27,6	16,5	38	122
S.24H	S.24	24	32,7	28,7	16,5	38	130
S.25H	S.25	25	34,1	27,7	16,5	38	139
S.26H	S.26	26	35,4	29	16,5	38	149
S.27H	S.27	27	36,6	29,2	19,0	44	164
S.28H	S.28	28	37,9	30,5	20,0	44	175
S.29H	S.29	29	38,7	31,3	20,0	44	179
S.30H	S.30	30	40,4	33	20,0	44	201
S.31H	S.31	31	41,6	34,2	20,0	44	205
S.32H	S.32	32	42,6	35,1	20,0	44	215
S.34H	S.34	34	44,9	37,5	20,0	44	240

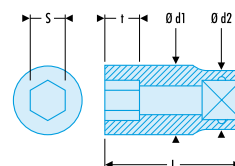


# Standard 1/2" range

## S 1/2" drive inch 6 and 12-point OGV® sockets



▷ Performance : to GGG.W.641E, ANSI B 107.1.

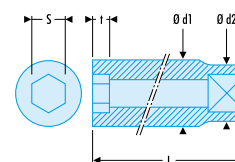
		S "	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
S.3/8H	S.3/8	3/8	14,7	22,8	7,8	36	48
S.7/16H	S.7/16	7/16	16,5	22,8	9,0	36	51
S.1/2H	S.1/2	1/2	18,9	22,8	10,4	36	55
S.9/16H	S.9/16	9/16	20,2	22,8	10,5	36	58
S.19/32H	S.19/32	19/32	21,4	22,8	12,0	36	60
S.5/8H	S.5/8	5/8	22,6	21,6	12,0	36	65
S.21/32H	S.21/32	21/32	24,1	23,1	13,0	36	65
S.11/16H	S.11/16	11/16	24,6	22,6	13,0	36	71
S.3/4H	S.3/4	3/4	27	25	14,0	36	68
S.25/32H	S.25/32	25/32	27,9	25,9	14,0	36	72
S.13/16H	S.13/16	13/16	28,6	24,6	16,0	38	96
S.7/8H	S.7/8	7/8	30,4	26,4	16,5	38	99
S.15/16H	S.15/16	15/16	32,7	28,7	16,5	38	132
S.31/32H	S.31/32	31/32	34,1	27,7	16,5	38	142
S.1"H	S.1"	1	34,7	28,3	16,5	38	152
S.1"1/16H	S.1"1/16	1 1/16	36,6	29,2	19,0	44	164
S.1"1/8H	S.1"1/8	1 1/8	38,7	31,3	20,0	44	182
S.1"3/16H	S.1"3/16	1 3/16	40,4	33	20,0	44	201
S.1"1/4H	S.1"1/4	1 1/4	42,5	35,1	20,0	44	229



## S.LA 1/2" drive long-reach metric 6 and 12-point OGV® sockets


▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.

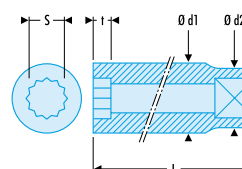
		S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
S.12HLA	S.12LA	12	17,8	21	12	77	105
S.13HLA	S.13LA	13	19,0	21,8	12	77	115
S.14HLA	S.14LA	14	20,3	21,8	15	77	120
S.15HLA	S.15LA	15	21,5	21,8	15	77	125
S.16HLA	S.16LA	16	22,8	22,0	15	77	128
S.17HLA	S.17LA	17	24	23,0	15	77	140
S.18HLA	S.18LA	18	25	24,0	18	77	160
S.19HLA	S.19LA	19	26,5	25,0	18	77	160
S.21HLA	S.21LA	21	29,0	27,0	18	77	200
S.22HLA	S.22LA	22	30,0	28,0	21	77	215
S.23HLA	S.23LA	23	31,5	29,0	21	77	232
S.24HLA	S.24LA	24	32,8	30,0	24	77	255
S.26HLA	S.26LA	26	35,0	32,0	24	77	280
S.27HLA	S.27LA	27	36,5	33,0	27	77	310
S.28HLA	S.28LA	28	37,8	34,0	27	77	330
S.29HLA	S.29LA	29	39,0	35,0	27	77	355
S.30HLA	S.30LA	30	40,0	36,0	30	77	355
S.32HLA	S.32LA	32	42,8	38,0	33	77	408




## S.LA 1/2" long-reach inch 12-point OGV® sockets

▷ Performance : to GGG. W.641E, ANSI B 107.1, ASME B 107.1.

	S "	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
S.1/2LA	1/2	19,0	22,3	8,1	82,2	135
S.9/16LA	9/16	20,6	22,3	9,6	82,2	138
S.5/8LA	5/8	22,3	22,3	10,9	82,2	150
S.11/16LA	11/16	24,4	24,4	10,9	82,2	160
S.3/4LA	3/4	26,9	26,9	12,4	82,2	165
S.13/16LA	13/16	28,7	28,7	12,9	82,2	175
S.7/8LA	7/8	30,2	30,2	14,0	82,2	200
S.15/16LA	15/16	31,7	31,7	15,0	82,2	225
S.1"LA	1	33,3	33,3	15,2	82,2	255
S.1"1/16LA	1 1/16	36,5	36,5	16,0	82,2	320
S.1"1/8LA	1 1/8	38,1	38,1	16,7	82,2	350
S.1"1/4LA	1 1/4	42,9	42,9	16,7	82,2	430





## Rack sets of 1/2" drive metric and inch sockets

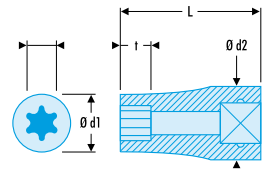
	⊕ dimensions mm - "	Rack	ΔΔ g
<b>S.40E</b>	8-9-10-11-12-13-14-15-16	CKS.95	570
<b>S.41E</b>	17-18-19-20-21-22-23-24	CKS.95	690
<b>S.40U</b>	3/8-7/16-1/2-9/16-19/32-5/8-21/32	CKS.97	465
<b>S.41U</b>	11/16-3/4-13/16-7/8-15/16-1"	CKS.95	650

▶ Torx® sockets  1/2"


## STX Torx® 1/2" sockets


- Drive  1/2".
- For Torx® fasteners.
- Manual use.
- Chrome finish.

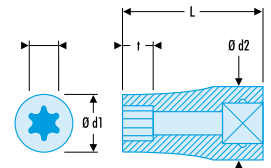
	Torx® no.	I★ A mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>STX.12</b>	E12	10,95	15,0	21	8,0	37	47
<b>STX.14</b>	E14	12,67	16,3	21	8,8	37	47
<b>STX.16</b>	E16	14,70	18,8	22	9,6	37	57
<b>STX.18</b>	E18	16,38	20,4	22	11,1	37	57
<b>STX.20</b>	E20	18,16	22,9	22	12,7	37	63
<b>STX.24</b>	E24	21,84	26,5	22	16,1	37	97



## GSX Torx® 1/2" machine sockets



- Drive  1/2".
- For Torx® fasteners.
- Machine use

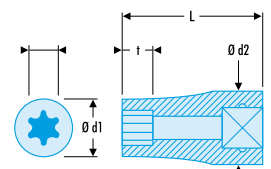
	Torx® no.	I★ A mm	Ø d1 mm	Ø d2 mm	t mm	L mm	ΔΔ g
<b>GSX.10</b>	E10	9,19	13,0	25	6,35	38	61
<b>GSX.12</b>	E12	10,95	14,4	25	7,90	38	62
<b>GSX.14</b>	E14	12,67	17,0	25	8,70	38	66
<b>GSX.16</b>	E16	14,70	20,0	25	9,50	38	74
<b>GSX.18</b>	E18	16,38	21,5	25	11,10	38	75
<b>GSX.20</b>	E20	18,16	25,0	30	12,70	38	119
<b>GSX.24</b>	E24	21,84	30,0	30	15,90	38	136



## Torx® 1/2" socket sets

- Sockets supplied on a rack.

	⊕	Dimensions Torx®	 *	Rack	ΔΔ g
<b>STX.40</b>	5	E12 - E14 - E16 - E18 - E20	1/2	CKS.90	320
<b>RSX.J6</b>	6	E6 - E8 - E10 - E12 - E14 - E16	1/2-1/4	CKS.98	205






## ▶ Bit sockets 1/2"

### STM 1/2" drive metric hexagon bit sockets




- For hexagon socket heads.
- Non-removable bits.

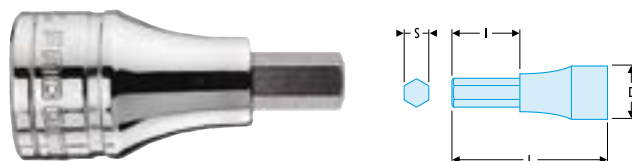
	S mm	D mm	I mm	L mm	ΔΔ g
<b>STM.4</b>	4,00	22,8	24	60	59
<b>STM.5</b>	5,00	22,8	24	60	60
<b>STM.6</b>	6,00	22,8	24	60	62
<b>STM.7</b>	7,00	22,8	24	60	64
<b>STM.8</b>	8,00	22,8	24	60	65
<b>STM.10</b>	10,00	22,8	24	60	80
<b>STM.12</b>	12,00	23,1	24	60	102
<b>STM.14</b>	14,00	23,1	24	60	127
<b>STM.17</b>	17,00	23,4	24	60	152
<b>STM.19</b>	19,00	23,4	24	60	162



### STM 1/2" drive inch hexagon bit sockets

- For hexagon socket heads.
- Removable bits.

	S		Components		D mm	I mm	L mm	ΔΔ g
	"	mm						
<b>ST.1/4</b>	1/4	6,35	S.236	EH.201/4	23	17	54	67
<b>ST.5/16</b>	5/16	7,94	S.236	EH.205/16	23	17	54	67
<b>ST.3/8</b>	3/8	9,52	S.236	EH.203/8	23	17	54	74
<b>ST.7/16</b>	7/16	11,11	S.237	ENH.307/16	23	31	70	110
<b>ST.1/2</b>	1/2	12,70	S.237	ENH.301/2	23	31	70	117
<b>ST.9/16</b>	9/16	14,29	S.237	ENH.309/16	23	31	70	125
<b>ST.5/8</b>	5/8	15,88	S.237	ENH.305/8	23	31	70	143
<b>ST.3/4</b>	3/4	19,05	S.237	ENH.303/4	23	31	70	165




### Set of 1/2" drive metric hexagon bit sockets


#### STM.J9

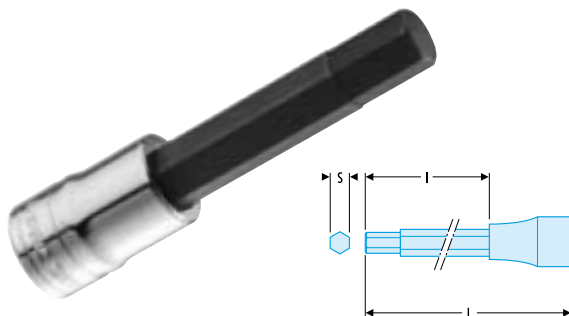
- Comprising : STM.5, STM.6, STM.7, STM.8, STM.10, STM.12, STM.14, STM.17, STM.19.
- Plastic case BP.102 : 204 x 122 x 52 mm.
- Tray PL.458.



### SHP 1/2" drive long-reach metric hexagon bit sockets


- Long-reach series.
- Non-removable bits.
- Square drive  1/2".

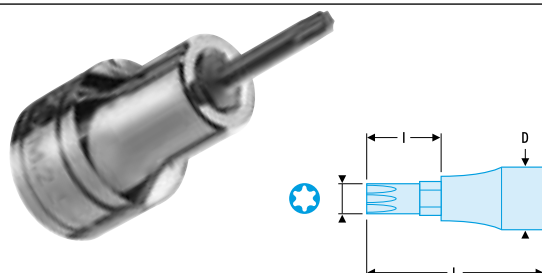
	S mm	I mm	L mm	ΔΔ g
<b>SHP.6LA</b>	6	64	100	77
<b>SHP.7LA</b>	7	64	100	78
<b>SHP.8LA</b>	8	64	100	79
<b>SHP.10LA</b>	10	104	140	132
<b>SHP.12LA</b>	12	64	100	144
<b>SHP.5ELA</b>	5	144	180	112
<b>SHP.6EL1A</b>	6	104	140	93
<b>SHP.6EL2A</b>	6	184	220	127



### SXM 1/2" drive Torx® bit sockets


- Non-removable bits.

	Torx® no.	I★ A mm	D mm	I mm	L mm	ΔΔ g
<b>SXM.20</b>	T20	3,84	22,8	24	60	58
<b>SXM.25</b>	T25	4,40	22,8	24	60	58
<b>SXM.27</b>	T27	4,96	22,8	24	60	59
<b>SXM.30</b>	T30	5,49	22,8	24	60	59
<b>SXM.40</b>	T40	6,60	22,8	24	60	62
<b>SXM.45</b>	T45	7,77	22,8	24	60	63
<b>SXM.50</b>	T50	8,79	22,8	24	60	74
<b>SXM.55</b>	T55	11,17	22,8	24	60	96
<b>SXM.60</b>	T60	13,17	23,1	24	60	117



## SX.LA 1/2" drive long-reach Torx® bit sockets

• Non-removable bits.

	Torx® no.	A mm	D mm	l mm	L mm	ΔΔ g
<b>SX.40LA</b>	T40	6,60	22,8	84	120	95
<b>SX.45LA</b>	T45	7,77	22,8	84	120	95
<b>SX.55LA</b>	T55	11,17	22,8	104	140	220
<b>SX.70LA</b>	T70	15,49	23,1	104	140	280



## Set of 1/2" drive Torx® bit sockets

### AMEX.3

• Comprising : SXM.20, SXM.25, SXM.27, SXM.30, SXM.40, SXM.45, SXM.50, SXM.55, SXM.60.

• Plastic case BP.102 : 204 x 122 x 52 mm.


• Tray PL.455.

ΔΔ : 865 g.



## SV.B 1/2" drive XZN® spline bit sockets


• Non-removable bits.

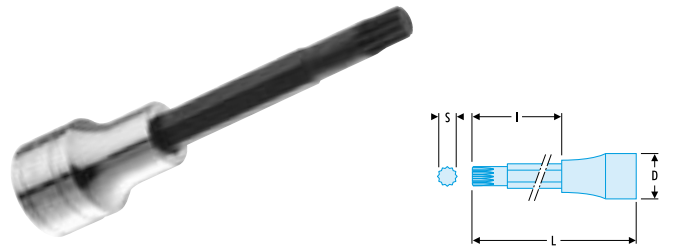
	Ø Screw	D mm	l mm	L mm	ΔΔ g
<b>SV.6B</b>	M6	22,8	24	60	60
<b>SV.8B</b>	M8	22,8	24	60	60
<b>SV.10B</b>	M10	22,8	24	60	70
<b>SV.12B</b>	M12	22,8	24	60	80
<b>SV.14B</b>	M14	22,8	24	60	100
<b>SV.16B</b>	M16	23,1	24	60	110



## SV.LB 1/2" drive long-reach XZN® spline bit sockets

• Non-removable bits.

	Ø Screw	D mm	l mm	L mm	ΔΔ g
<b>SV.6LB</b>	M6	22,8	64	100	80
<b>SV.8LB</b>	M8	22,8	64	100	80
<b>SV.10LB</b>	M10	22,8	64	100	90
<b>SV.10ELB</b>	M10	22,8	120	120	110
<b>SV.12LB</b>	M12	22,8	64	100	120
<b>SV.12ELB</b>	M12	22,8	104	140	150
<b>SV.14LB</b>	M14	22,8	64	100	150



## Special 1/2" sockets for automotive applications

For details of our 1/2" special automotive sockets, see section 18.

- Spark plug sockets
- Cylinder head sockets
- Injector sockets




## Rack sets of 1/2" drive bit sockets

ST : for hexagon socket heads.


SX : for Torx® heads.

SV : for XZN® spline heads.


	Sizes	Rack	ΔΔ g
<b>ST.40</b>	STM 6-8-10-12-14-17-19	CKS.97	830
<b>ST.41</b>	SHPLA 6-7-8-10-12	CKS.90	610
<b>SX.41</b>	SXM 20-25-27-30-40-45-50-55	CKS.95	640
<b>SV.40A</b>	SVA 6-8-10-12	CKS.90	340
<b>SV.41A</b>	SVLB 8-10-12	CKS.90	440





i **Create your own bit sockets**




**Bits**




Series 2  5/16"


Series 3  1/2"

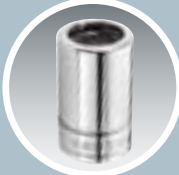
See section 7 p. 351

**Bit holders  1/2"**




S.236

 5/16" 7,94 mm



S.237

 1/2" 12,70 mm

## Set of 1/2" drive XZN® spline bit sockets

### SV.J8A

- Non-removable bits for high torques
- Comprising :  
Short-reach bits SV.6B, SV.8B, SV.10B, SV.12B.  
Long-reach bits SV.6LB, SV.8LB, SV.10LB, SV.12LB.
- Tray PL.247 : 220 x 136 x 28 mm.
- ΔΔ : 805 g.



## Set of 1/2" drive long reach XZN® spline bit sockets

### SV.LJ6A

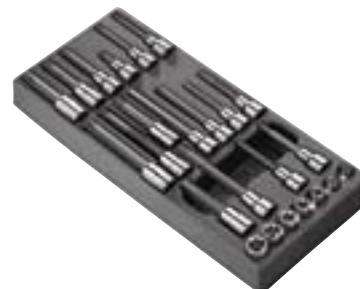
- Long-reach non-removable bits for high torques.
- Comprising :  
Long-reach bits SV.6LB, SV.8LB, SV.10LB, SV.12LB.  
Extra-long-reach bits SV.10ELB, SV.12ELA.
- Tray PL.258 : 170 x 170 x 34 mm.
- ΔΔ : 800 g.



## Cylinder head tightening and loosening tool module

### MOD.CH

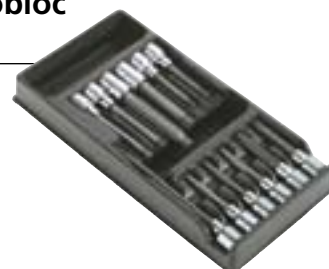
- Comprising :  
- D.34B7L, D.34B9L, D.34B10L, D.34B12L, D.34B14L, D.34B16L.  
- SV.6LB, SV.8LB, SV.14LB.  
- SV.10ELB, SV.12ELB.  
- JTX.8, JTX.10.  
- STX.12, STX.14, STX.16, STX.18, STX.20.  
- SX.55LA, SX.70LA.  
- SHP.6LA, SHP.8LA, SHP.10LA, SHP.12LA.






## 12-piece set of 1/2" square drive sockets with long-reach monobloc TORX®, XZN® and hexagon bits

### MOD.SHPPB

- Ideal for light vehicle cylinder heads.
- Tray PL.336.
- Dimensions : 420 x 180 x 55 mm.



				ΔΔ kg
<b>MOD.SHP</b>	40-45-55-70	5-6-7-8	6-8-10-12	1,740





# Truck 3/4" range

## ▶ Socket sets 3/4"

### 3/4" Metric socket sets

FACOM HELPS YOU WITH YOUR HEAVY MAINTENANCE TASKS

⇒ K.411 



⇒ K.441A   
⇒ K.442E 























⇒ K.437E  ⇒ K.436E 



⇒ SK.453N   
⇒ SK.452N 



		K.411	K.441A	K.442E	K.437E	K.436E	SK.453N		SK.452N	
		K.152	K.151B	K.151B	K.151B	K.151B	K.151B + S.151		K.151B + S.151	
	 3/4" .19,05mm	 K.HB	 K.HB	 K.B	 K.HB	 K.B	 K.HB	 S.H	 K.B	 S.
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19	•	•	•	•	•				•
	21	•	•	•	•	•	 3/4"	•	 3/4"	•
	22	•	•	•	•	•	•	•	•	•
	23	•	•	•	•	•	•	•	•	•
	24	•	•	•	•	•	•	•	•	•
	26									
	27	•	•	•	•	•	•	•	•	•
	28									
29										
30	•	•	•	•	•	•	•	•	•	
32	•	•	•	•	•	•	•	•	•	
34	•	•	•	•	•	•	 1/2"	•	 1/2"	
36	•	•	•	•	•	•	•	•	•	
38										
41	•	•	•	•	•	•	•	•	•	
42										
46	•	•	•	•	•	•	•	•	•	
50	•	•	•	•	•	•	•	•	•	
54										
55	•	•	•	•	•	•	•	•	•	
	K.210B	•	•	•	•	•	•	•	•	
	K.215B	•	•	•	•	•	•	•	•	
	K.120B	•	•	•	•	•	•	•	•	
	K.240A		•	•	•	•		•	•	
	K.140A		•	•	•	•		•	•	
	K.125A		•	•	•	•		•	•	
	S.210							•	•	
	S.215						•	•	•	
	S.120A						•	•	•	
	S.240A						•	•	•	
	S.110						•	•	•	
	PL.438	C.K422CA + 2 x C.K422EA		PL.87A		P.21				
	BT.103G	BT.6A		BT.103G		BT.6A				
	643 x 230 x 111 mm	468 x 190 x 160 mm		643 x 230 x 111 mm		468 x 190 x 160 mm				
	15,20 kg	17,00 kg	17,00 kg	15,50 kg	15,50 kg	17,20 kg		17,20 kg		

Ratchets, sockets and accessories



## 3/4" Metric socket sets



**FARMING EQUIPMENT MAINTENANCE**




**INDUSTRIAL MAINTENANCE**












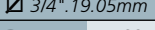










**HGV MAINTENANCE**

 **K.421N**   
 **K.420N** 



 **K.433E**   
 **K.432E** 

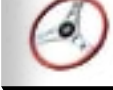


	<b>K.421N</b>	<b>K.420N</b>	<b>K.433E</b>	<b>K.432E</b>	<b>MOD.K2</b>	<b>MOD.K1</b>
	K.151B	K.151B	K.151B	K.151B	K.152	K.151B
						
	K.HB	K.B	K.HB	K.B	K.HB	K.HB
	22	•	•			
	23					
	24	•	•			
	27	•	•			
	30	•	•	•	•	
	32	•	•	•	•	
	33			•	•	
	34	•	•	•	•	•
	36	•	•	•	•	•
	38			•	•	
	41	•	•	•	•	•
	42			•	•	
	46	•	•	•	•	•
	50	•	•	•	•	•
	54			•	•	
	55			•	•	•
	K.210B	•	•	•	•	•
	K.215B	•	•	•	•	
	K.120B	•	•	•	•	•
	K.240A				•	
	K.140A					
	K.125A					
	K.230B					•
	PL.42		PL.40		PL.662	PL.324
	BT.103G		BT.103G		-	-
	643 x 230 x 111 mm		643 x 230 x 111 mm		420 x 190 x 65 mm	420 x 355 x 65 mm
	12,90 kg	12,90 kg	16,30 kg	16,30 kg	7,46 kg	8,29 kg

 **MOD.K2** 



 **MOD.K1** 



 3/4"

Inch and long-reach metric socket sets



 K.442U 



 SK.452U 








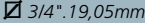



















 K.415E 



 K.405E 



	K.442U	SK.452U	K.415E	K.405E
	K.151B	K.151B + S.151		K.151B
				
 3/4" .19,05mm	K.B	K.B	S.	K.LA
				
22			•	•
23			•	•
24			•	•
26			•	•
27			•	•
29			•	•
30			•	•
32			•	•
34			•	•
36			•	•
38			•	•
41			•	•
42			•	•
				
3/8			•	
7/16			•	
1/2			•	
9/16			•	
19/32			•	
5/8			•	
21/32			•	
11/16			•	
3/4			•	
25/32			•	
13/16			•	
3/4	•			
7/8	•		•	
15/16	•		•	
31/32			•	
1	•	 .3/4"	•	
1'1/16	•	•	•	
1'1/8	•	•	•	
1'1/4	•	•	•	
1'5/16	•		 .1/2"	
1'3/8	•	•		
1'7/16	•	•		
1'1/2	•	•		
1'5/8	•	•		
1'11/16	•			
1'3/4	•			
1'13/16	•	•		
1'7/8	•			
2'	•	•		
2'1/8	•			
2'3/16	•			
2'1/4	•			
	K.210B	•		•
	K.215B	•		•
	K.120B	•		•
	K.240A			
	K.140A			
	K.125A	•		
	S.210		•	
	S.215		•	
	S.120A		•	
	S.240A		•	
	S.110		•	
	-	PL.22	PL.43	PL.60A
	BT.6A	BT.6A	BT.103G	BT.111
	468 x 190 x 160 mm	468 x 190 x 160 mm	643 x 230 x 111 mm	396 x 224 x 82 mm
	22,1 kg	16,2 kg	16,27 kg	9,30 kg



**K.152**

## Compact and precise ratchet $\square$ 3/4"

**25 % MORE COMPACT  
FOR CONFINED SPACES !**



**ERGONOMIC**

- Ergonomic handle providing 2-handed grip for high torques.

**PERFORMANCE**

- Precise : 72 tooth mechanism, 5° increments.
- Powerful and strong : 17 teeth in mesh during torquing.
- Monobloc ratchet : lighter and more manoeuvrable.
- Confined spaces : head 25% more compact than traditional ratchets.

**SAFETY FIRST**

- Plunger lock ratchet/sockets/accessories.



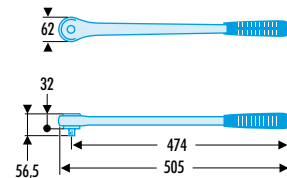
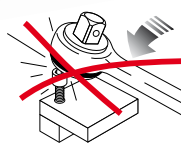
### Compact 3/4" drive ratchet

**K.152**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Very lightweight monobloc ratchet for increased manoeuvrability.
- Compact head.
- Ergonomic handle providing 2-handed grip.
- 5° increments (only 1/72 of a turn).
- High-power from 17 teeth in mesh when torque is applied.
- Plunger safety lock.
- Chrome finish.

ΔΔ : 1.67 kg.



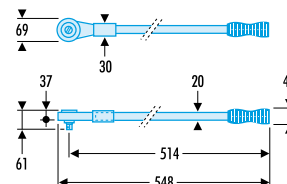
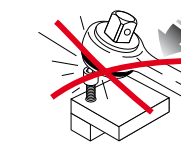
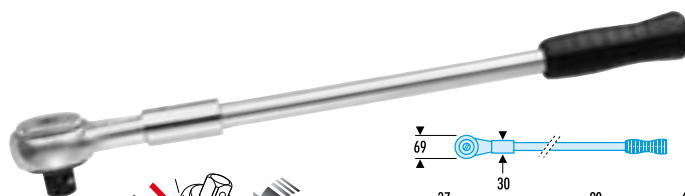
### 3/4" drive ratchet with removable handle

**K.154B**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- 5° increments (only 1/72 of a turn).
- High-power from 17 teeth in mesh when torque is applied.
- Plunger safety lock.
- Chrome finish.

ΔΔ : 2.4 kg.



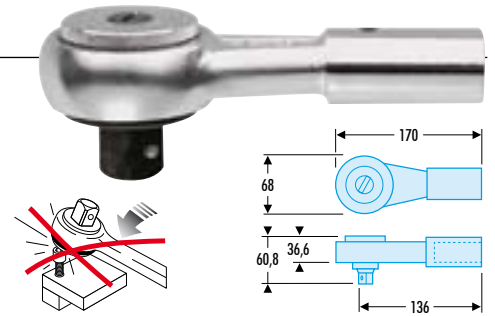
Description
K.154AM Handle for K.154B



3/4" drive ratchet without handle

**K.151B**

- ▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.
  - 5° increments (only 1/72 of a turn).
  - High-power from 17 teeth in mesh when torque is applied.
  - For use with bars K.125 or K.126 and handle K.154AM.
  - Plunger safety lock.
  - Chrome finish.
- ΔΔ : 1.2 kg.



**K.149**

**Ratchet  3/4" for heavy maintenance**

**A HEAVY-DUTY RATCHET SUITABLE FOR ANY JOB AND ANY SITUATION !**

**COMFORT OF USE**

- Ergonomic reverse lever for easy inversion even when wearing gloves.
- Recessed reversing lever : avoids accidental change of direction.
- Removable handle.



**PERFORMANCE**

- Sturdy : 40 tooth mechanism. 9° increments.
- "Parking meter" head limits the entry of foreign matter into the mechanism.

**SAFETY FIRST**

- Plunger lock ratchet/sockets/accessories.



Heavy industry



Farming machinery



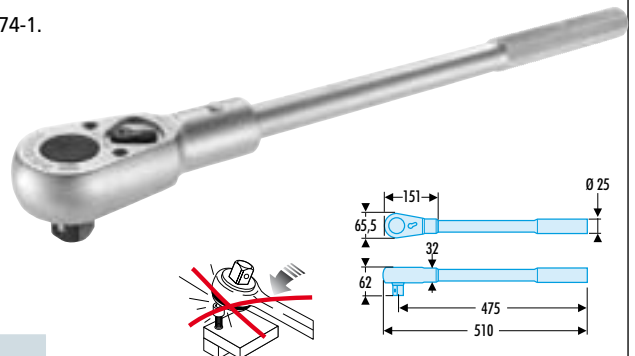
Heavy goods vehicles

3/4" drive "Site" ratchet

**New**

**K.149**

- ▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315, NF ISO 1174-1.
  - Suitable for outdoor working.
  - Sturdy mechanism protected against dirt.
  - Recessed reversing switch :
  - 9° increments.
  - Removable handle.
  - Length 510 mm.
  - 40 tooth mechanism.
  - Plunger safety lock.
  - Matt chrome finish.
- ΔΔ : 2.85 kg.








	Description
<b>K.149RN</b>	Repair kit
<b>K.149M</b>	Handle for ratchet K.149



## Maintenance of 3/4" drive ratchets

- Ratchet maintenance is straightforward :  
For continued serviceability, simply clean and replace worn parts periodically.

		K.150	K.150A	K.151	K.151A	K.151B	K.152	K.154A	K.154B	K.149
 <b>Knurl caps</b> K.152C M.151C K.151BC							•			
	 <b>Spare parts kit</b> K.151RN S.152RN K.150RN			•	•	•		•	•	
			•	•						
							•			
 <b>Square drives</b> K.152R K.150R K.150AR K.151AR							•			
		•								
			•							
					•	•		•	•	
 <b>Repair kit</b> K.149RN										•

## ▶ Accessories 3/4"

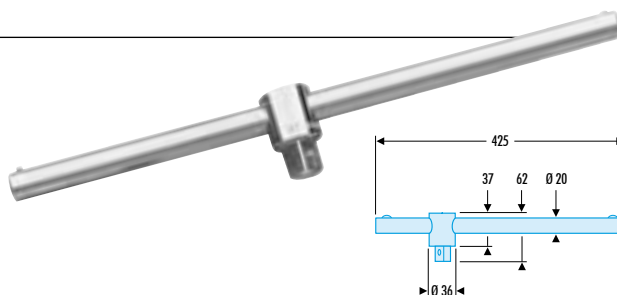
### 3/4" drive sliding tee

#### K.120B

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Ball-steadied head.
- T or L-handle.
- Chrome finish.

ΔΔ : 1.3 kg.

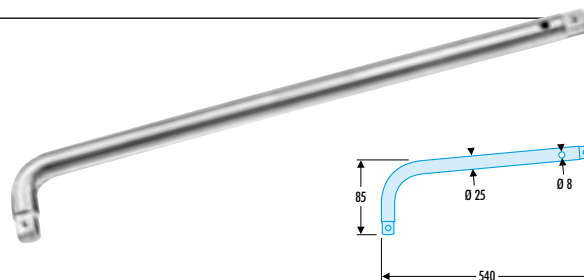


### 3/4" drive angle bar

#### K.130A

- Takes 3/4" socket on either end :  
- Short end for high torques  
- Long end for pre-tightening or in recesses.
- Chrome finish.

ΔΔ : 2.3 kg.



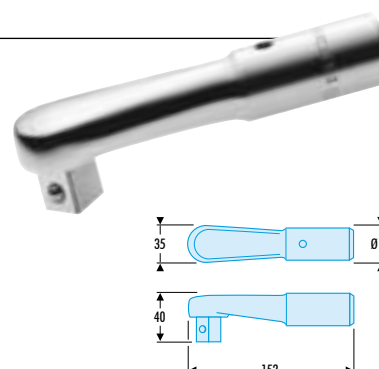
### 3/4" drive fixed adaptor

#### K.200E

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- For use with bars K.125 and K.126.
- Chrome finish.

ΔΔ : 630 g.



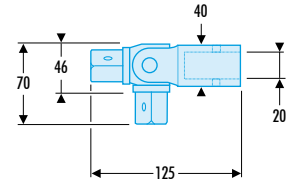


**3/4" drive hinged adaptor****K.140A**

▷ Performance : to ISO 3315, NF ISO 3315.

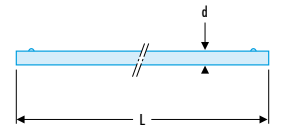
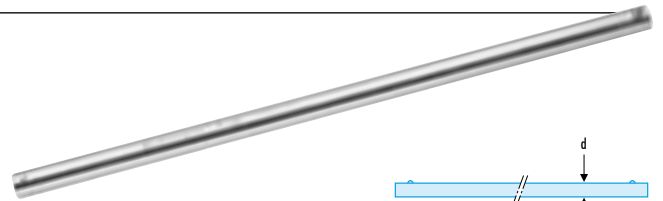
- For use with bars K.125 and K.126.
- Fastener rotation from any angle.
- Spring-steadied in any position.
- Chrome finish.

ΔΔ : 760 g.

**K 3/4" drive bars**


• Extended handles for ratchet K.151A and adaptors K.140A and K.200E.

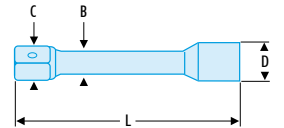
	d mm	L mm	ΔΔ kg
<b>K.125A</b>	20	425	1,04
<b>K.126A</b>	20	500	1,22

**K.B 3/4" drive extensions**

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

• Chrome finish.

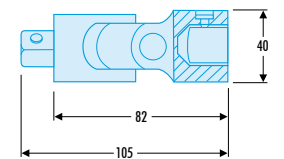
	B mm	C mm	D mm	L mm	ΔΔ g
<b>K.208B</b>	25	25	36	100	410
<b>K.210B</b>	20	25	36	200	620
<b>K.215B</b>	20	25	36	400	1130

**3/4" universal joint****K.240A**


▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

- Spring-stiffened joints.
- Stays in position when reaching for fasteners.
- Significant time savings.
- Chrome finish.

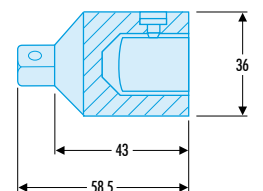
ΔΔ : 550 g.

**3/4" to 1/2" coupler****K.230B**

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

- For adapting sockets and accessories  1/2".
- Interchangeable 1/2" male square ref. K.230B1.
- Max. torque 512 N.m.
- Chrome finish, phosphate square.

ΔΔ : 250 g.



# Truck $\square$ 3/4" range

## Interchangeable 1/2" male drive

### K.230B1

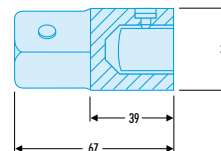
- Interchangeable 1/2" male drive for  $\square$  3/4" to  $\square$  1/2" coupler reference K.230B



## 3/4" to 1" coupler

### K.232A

- ▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.
- For adapting sockets and accessories  $\square$  1".
- Chrome finish.
- △△ : 340 g.



## ▶ Sockets $\square$ 3/4" OGV<sup>®</sup>

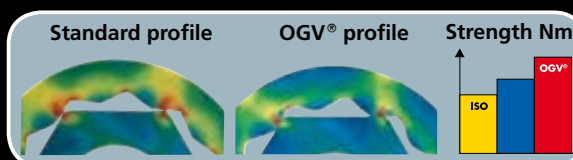


### Facom OGV<sup>®</sup> profile

#### HIGHER TORQUE WITHOUT DAMAGING THE FASTENER !

The OGV<sup>®</sup> profile is achieved by a succession of curves instead of the flats found in conventional sockets<sup>®</sup>.

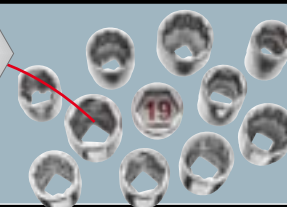
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



#### TAG socket inserts

- Immediately identify your sockets.
- 6- or 12 point sockets.

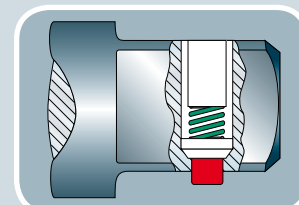
⇒ TAG



## $\square$ 3/4" - 1" Locking sockets and accessories

#### SAFETY AND COMFORT

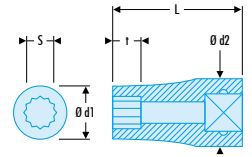
- Lock system prevents accidental socket loss during use.
- Quick release simply by pressing the plunger.
- Compatible with standard ball-lock tools.







## K.B 3/4" drive metric 6 and 12-point OGV® sockets

▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.

- OGV® profile.
- Secure attachment of plunger lock accessories.
- Quick release button.
- Chrome finish.



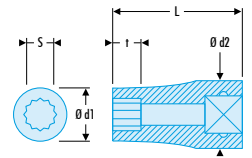
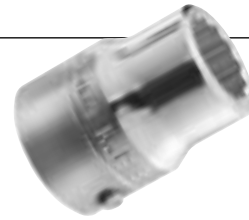
		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>K.19HB</b>	<b>K.19B</b>	19	29,9	36	14	49	207
<b>K.21HB</b>	<b>K.21B</b>	21	31,9	36	14	49	208
<b>K.22HB</b>	<b>K.22B</b>	22	33,4	36	14	51	221
<b>K.23HB</b>	<b>K.23B</b>	23	35,7	36	14	52,5	244
<b>K.24HB</b>	<b>K.24B</b>	24	35,7	36	16	52,5	237
<b>K.26HB</b>	<b>K.26B</b>	26	38,7	36	16	52,5	231
<b>K.27HB</b>	<b>K.27B</b>	27	39,5	36	18	52,5	232
<b>K.28HB</b>	<b>K.28B</b>	28	40,8	36	18	52,5	239
<b>K.29HB</b>	<b>K.29B</b>	29	42	36	18	52,5	245
<b>K.30HB</b>	<b>K.30B</b>	30	43,2	36	20	59	282
<b>K.32HB</b>	<b>K.32B</b>	32	45,7	36	22	59	301
<b>K.33HB</b>	<b>K.33B</b>	33	47,9	36	22	59	330


		S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>K.34HB</b>	<b>K.34B</b>	34	48,2	36	24	59	322
<b>K.35HB</b>	<b>K.35B</b>	35	49,9	36	24	59	344
<b>K.36HB</b>	<b>K.36B</b>	36	50,7	36	24	59	347
<b>K.38HB</b>	<b>K.38B</b>	38	54	40	27	66,9	478
<b>K.40HB</b>	<b>K.40B</b>	40	55,9	40	27	66,9	493
<b>K.41HB</b>	<b>K.41B</b>	41	57	40	27	66,9	504
<b>K.42HB</b>	<b>K.42B</b>	42	59,4	40	27	66,9	552
<b>K.44HB</b>	<b>K.44B</b>	44	61,9	40	28	66,9	587
<b>K.46HB</b>	<b>K.46B</b>	46	63,2	40	30	75	641
<b>K.50HB</b>	<b>K.50B</b>	50	68,2	40	33	75	725
<b>K.54HB</b>	<b>K.54B</b>	54	73,9	45	36	75	880
<b>K.55HB</b>	<b>K.55B</b>	55	74,5	45	36	75	875


## K.B 3/4" drive inch 12-point OGV® sockets

▷ Performance : to GGG.W.641E, ANSI B 107.1, ASME B 107.1.

- OGV® profile.
- Secure attachment of plunger lock accessories.
- Quick release button.
- Chrome finish.





	S	S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>K.3/4B</b>	3/4	19,05	29,9	36	14	49	207
<b>K.7/8B</b>	3/4	22,23	33,4	36	14	51	220
<b>K.15/16B</b>	15/16	23,81	35,7	36	14	51	233
<b>K.1"B</b>	1"	25,40	37,7	36	14	52,5	250
<b>K.1'1/16B</b>	11/16"	26,99	39,5	36	18	52,5	232
<b>K.1'1/8B</b>	11/8"	28,58	41,4	36	18	52,5	241
<b>K.1'3/16B</b>	13/16"	30,16	43,2	36	20	59	280
<b>K.1'1/4B</b>	11/4"	31,75	45,7	36	22	59	304
<b>K.1'5/16B</b>	15/16"	33,34	47,9	36	22	59	326
<b>K.1'3/8B</b>	13/8"	34,93	49,9	36	24	59	343
<b>K.1'7/16B</b>	17/16"	36,51	50,7	36	24	59	339

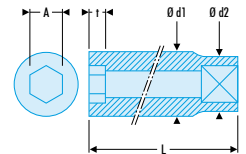
	S	S	Ø d1	Ø d2	t	L	ΔΔ
		mm	mm	mm	mm	mm	g
<b>K.1'1/2B</b>	1 1/2"	38,1	54	40	27	66,9	478
<b>K.1'9/16B</b>	19/16"	39,69	55,9	40	27	66,9	498
<b>K.1'5/8B</b>	15/8"	41,28	57	40	27	66,9	498
<b>K.1'11/16B</b>	111/16"	42,86	60,4	40	27	66,9	564
<b>K.1'3/4B</b>	13/4"	44,45	61,9	40	28	66,9	586
<b>K.1'13/16B</b>	113/16"	46,04	63,2	40	30	75	641
<b>K.1'7/8B</b>	17/8"	47,63	65,9	40	33	75	699
<b>K.2"B</b>	2"	50,80	68,2	40	33	75	698
<b>K.2'1/8B</b>	21/8"	53,98	73,9	45	36	75	880
<b>K.2'3/16B</b>	23/16"	55,56	74,5	45	36	75	855
<b>K.2'1/4B</b>	21/4"	57,15	76,9	45	36	75	913

## K.LA 3/4" long-reach metric 6-point OGV® sockets

▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.


	S	Ø d1	Ø d2	t	L	ΔΔ
	mm	mm	mm	mm	mm	g
<b>K.19LA</b>	19	29,8	36	18	87,5	339
<b>K.21LA</b>	21	32,0	36	18	87,5	367
<b>K.22LA</b>	22	33,5	36	21	87,5	391
<b>K.23LA</b>	23	35,8	38	21	87,5	461
<b>K.24LA</b>	24	35,8	38	24	87,5	400
<b>K.26LA</b>	26	38,8	36	24	87,5	474
<b>K.27LA</b>	27	39,6	38	27	87,5	480
<b>K.29LA</b>	29	42,1	40	27	87,5	505
<b>K.30LA</b>	30	43,3	40	30	87,5	530
<b>K.32LA</b>	32	45,8	40	33	87,5	540
<b>K.33LA</b>	33	48,0	45	33	87,5	600
<b>K.34LA</b>	34	48,3	45	33	87,5	656
<b>K.35LA</b>	35	50,0	45	33	87,5	707
<b>K.36LA</b>	36	50,8	45	36	87,5	672

	S	Ø d1	Ø d2	t	L	ΔΔ
	mm	mm	mm	mm	mm	g
<b>K.38LA</b>	38	54,1	45	36	87,5	772
<b>K.41LA</b>	41	57,1	45	40	87,5	778
<b>K.42LA</b>	42	59,5	45	40	87,5	863



## KT.A 3/4" drive metric bits for hexagon socket heads

- Interchangeable bits with plunger lock.

	S	Bit only	ΔΔ
	mm		g
<b>KT.14A</b>	14	ET.1914	297
<b>KT.17A</b>	17	ET.1917	307
<b>KT.19A</b>	19	ET.1919	314





# Mammoth 1" range






## ▶ Metric socket sets 1"

### Set of 1" drive 6-point sockets 42 to 82 mm

#### M.431E

• Comprising :  
Metal case.  
BT.101 : 768 x 344 x 158 mm.  
Tray PL.57.

			$\Delta\Delta$ kg
M.431E		M.151	46

M.HA 	46-50-54-55-58-60-63-65-67-70 71-75-77-80-82 mm	 M.120A	 M.210A
		 M.151	 M.215A








### Set of 1" drive 6-point sockets 58 to 100 mm

#### M.441E

• Comprising :  
Metal case.  
BT.101 : 768 x 344 x 158 mm.  
Tray PL.54.

			$\Delta\Delta$ kg
M.441E		M.151	64,2

M.HA 	58-60-63-65-67-70-71-75-77-80 82-85-90-95-100 mm	 M.120A	 M.210A
		 M.151	 M.215A








### Set of 1" drive 6-point sockets 41 to 80 mm

#### M.423E

• Comprising :  
Metal case.  
BT.104 : 568 x 344 x 123 mm.  
Tray PL.85.

			$\Delta\Delta$ kg
M.423E		M.151	29,7

M.HA 	41-46-50-55-60-65-70 75-80 mm	 M.120A	 M.210A
		 M.151	 M.215A








## ▶ Inch socket sets 1"

### Set of 1" drive sockets 17/8" to 33/8"

#### M.431U

• Comprising :  
Metal case.  
BT.101 : 768 x 344 x 158 mm.  
Tray PL.58.

			$\Delta\Delta$ kg
M.431U		M.151	39,5

M.HA 	1 7/8" - 2" - 2 1/8" - 2 3/16" - 2 1/4" - 2 3/8" 2 1/2" - 2 5/8" - 2 3/4" - 3" - 3 1/8" - 3 3/8"	 M.120A	 M.210A
		 M.151	 M.215A

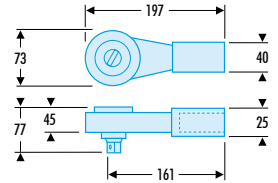


**▶ Ratchets and accessories  1"****1" drive ratchet without handle****M.151**

▷ Performance : to ISO 3315, DIN 3122, NF E 74.365.

- 5° increments.
- For use with bars M.125 or M.126 and handle M.120.
- Chrome finish.


ΔΔ : 2.1 kg.

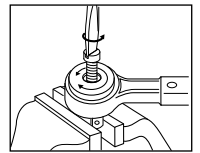
**Spare parts kit for ratchet M.151**

M.151RN Worm parts kits : comprising spring, screw and pawl.


M.151C Knurl cap.

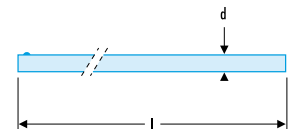
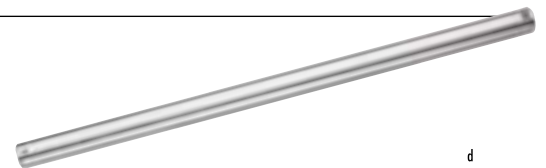
M.151R Square drive.

	ΔΔ g
<b>M.151RN</b>	80
<b>M.151C</b>	120
<b>M.151R</b>	470

**M.125A - 126A bars for ratchet M.151**

- Chrome finish.
- Used as extension handles on ratchet M.151.

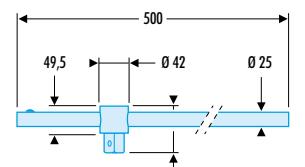
	d mm	l mm	ΔΔ kg
<b>M.125A</b>	25	500	1,9
<b>M.126A</b>	25	700	2,7

**1" drive sliding tee****M.120A**

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315.

- Friction-head allows bar to form a T or L-handle.
- Chrome finish.

ΔΔ : 2.4 kg.




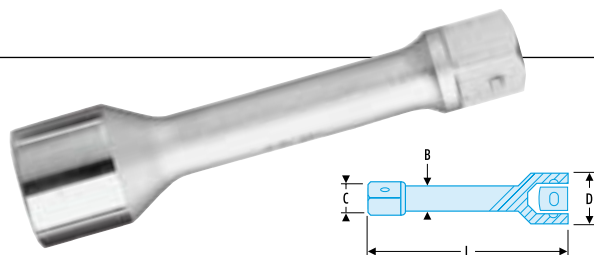
# Mammoth 1" range

## M 1" drive extensions

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

- Plunger safety lock.
- Chrome finish.

	B	C	D	L	$\Delta\Delta$
	mm	mm	mm	mm	kg
<b>M.210A</b>	25	33	48	200	1,1
<b>M.215A</b>	25	33	48	415	2



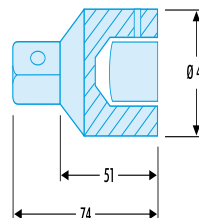
## 1" to 3/4" coupler

### M.230C

▷ Performance : to ISO 3316, DIN 3123, NF ISO 3316.

- Maximum torque 1412 N.m.
- 1" female to 3/4" male square drive.
- For adapting 3/4" drive sockets.
- Interchangeable 3/4" male square ref. M.230C1.
- Chrome body, burnished male drive.

$\Delta\Delta$  : 415 g.



## Interchangeable 3/4" male drive

### M.230C1

- Maximum torque 1412 N.m.
- Interchangeable 3/4" male square attaches to 1" to 3/4" coupler ref. M.230C
- Burnished finish.

$\Delta\Delta$  : 111 g.



## ▷ Sockets 1"

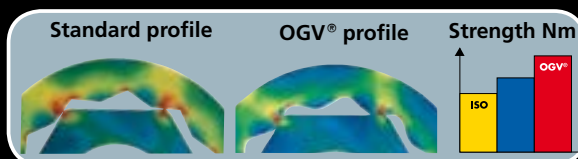


## Facom OGV<sup>®</sup> profile

### HIGHER TORQUE WITHOUT DAMAGING THE FASTENER !

The OGV<sup>®</sup> profile is achieved by a succession of curves instead of the flats found in conventional sockets<sup>®</sup>.

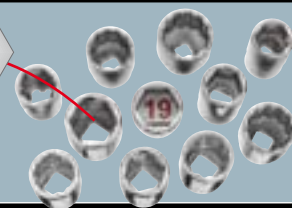
- **More powerful tightening :**  
Larger contact area between socket and fastener minimises stress.
- **Less wear :**  
Torque is transmitted through the fastener flats instead of the corners.
- **Increased durability :**  
Stress concentration in the corners is eliminated.



### TAG socket inserts

- Immediately identify your sockets.
- 6- or 12 point sockets.

 TAG



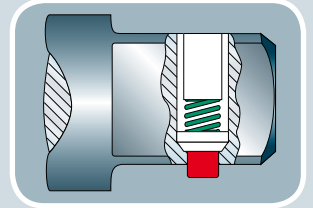


  $\varnothing$  3/4" - 1"

## Locking of sockets and accessories

## SAFETY AND COMFORT


- Lock system prevents accidental socket loss during use.
- Quick release simply by pressing the plunger.
- Compatible with standard ball-lock tools.

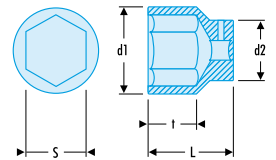


## M.HA 1" drive metric 6-point OGV® sockets

▷ Performance : to ISO 2725-1, DIN 3124, NF ISO 2725-1.

- Thinner, lighter body.
- Secure attachment of plunger lock accessories.
- Push-button release.
- Chrome finish.


	S	Ø d1	Ø d2	t	L	ΔΔ
	mm	mm	mm	mm	mm	g
M.41HA	41	56,9	51,3	25	74	685
M.46HA	46	64,4	51,3	30	76	852
M.50HA	50	69,4	51,3	33	80	968
M.54HA	54	74,4	56,3	31	84	1262
M.55HA	55	75,4	56,3	36	84	1262
M.58HA	58	79,6	56,3	35	85	1354
M.60HA	60	82,4	56,3	39	87	1432
M.63HA	63	85,4	58,3	35	92	1545
M.65HA	65	88,4	58,3	42	92	1652
M.67HA	67	90,4	58,3	39	92	1687
M.70HA	70	94,4	58,3	45	96	1921
M.71HA	71	95,4	58,3	45	96	1904
M.75HA	75	100,4	65,3	48	100	2261
M.77HA	77	107,4	65,3	51	100	2715
M.80HA	80	107,4	65,3	52	106	2800
M.82HA	82	109,4	65,3	52	110	2880
M.85HA	85	113,4	73,3	52	110	3225
M.90HA	90	120,4	73,3	56	110	3555
M.95HA	95	126,4	73,3	56	110	3800
M.100HA	100	132,4	73,3	56	115	4225

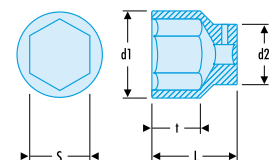


## M.HA 1" drive inch 6-point OGV® sockets

▷ Performance : to GGG.W.641E, ANSI B 107.1, ASME B 107.1.

- Thinner, lighter body.
- Secure attachment of plunger lock accessories.
- Push-button release.
- Chrome finish.

	S	S	Ø d1	Ø d2	t	L	ΔΔ
	"	mm	mm	mm	mm	mm	g
M.1'13/16HA	1'13/16	46,04	64,4	51,3	30	76	852
M.1'7/8HA	1'7/8	47,63	66,4	51,3	29	80	929
M.2'HA	2"	50,8	70,4	51,3	31	80	1000
M.2'1/8HA	2'1/8	53,98	74,4	56,3	31	84	1262
M.2'3/16HA	2'3/16	55,56	75,4	56,3	35	84	1253
M.2'1/4HA	2'1/4	57,15	78,5	56,3	35	84	1368
M.2'3/8HA	2'3/8	60,33	82,4	56,3	39	87	1439
M.2'1/2HA	2'1/2	63,5	86,4	58,3	35	92	1570
M.2'5/8HA	2'5/8	66,68	90,4	58,3	39	92	1704
M.2'3/4HA	2'3/4	69,85	94,4	58,3	45	96	1904
M.3'HA	3"	76,2	103,4	65,3	51	100	2347
M.3'1/8HA	3'1/8	79,37	107,4	65,3	51	106	2770
M.3'3/8HA	3'3/8	85,72	113,4	73,3	56	110	3225



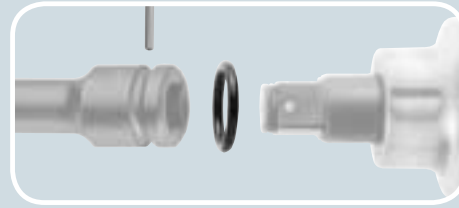


## Impact socket sets

**DEVELOPED FOR YOUR POWER TOOLS**

### PERFORMANCE

- Specially designed to resist the stresses from impact (section 14), or "Dynamact" tools (section 15). Their special steel and heat treatment ensure a very high yield strength and wear resistance.



### SAFETY

- All sockets and accessories feature a groove and side-hole to UNI ISO 2725. Locking is ensured by a through-pin and retaining ring (to be ordered separately).
- Never fit chrome-finished manual sockets Impact tools.

	Pins		Rings	
	Ø x L mm		Ø tore x Ø in mm	
	<b>GA.15A</b>	2,5 x 15,0	<b>BA.16A</b>	2,4 x 16,0
	<b>GA.18A</b>	2,5 x 18,0	<b>BA.19A</b>	2,4 x 19,0
	<b>GA.20A</b>	3,0 x 20,0	<b>BA.21A</b>	2,4 x 21,0
	<b>GA.24A</b>	3,0 x 24,0	<b>BA.20A</b>	3,5 x 20,2
	<b>GA.37A</b>	4,0 x 37,0	<b>BA.24A</b>	3,5 x 24,0
	<b>GA.43A</b>	5,0 x 43,0	<b>BA.25A</b>	3,5 x 25,0
	<b>GA.75A</b>	6,0 x 75,0	<b>BA.38A</b>	3,5 x 38,0
	<b>GA.84A</b>	6,0 x 84,0	<b>BA.46A</b>	3,5 x 46,0
			<b>BA.75A</b>	5,7 x 75,0
			<b>BA.85A</b>	5,7 x 85,0

### Choosing impact tools

Type of tool	Drive	Sizes
SOCKET 	<ul style="list-style-type: none"> <li>Ø 3/8"</li> <li>Ø 1/2"</li> <li>Ø 3/4"</li> <li>Ø 1"</li> <li>Ø 1 1/2"</li> </ul>	<ul style="list-style-type: none"> <li>6 → 19 mm</li> <li>8 → 32 mm ; 3/8" → 1" 1/16</li> <li>17 → 46 mm ; 3/4" → 1" 5/8</li> <li>21 → 77 mm</li> <li>55 → 120 mm</li> </ul>
TORX® SOCKET 	Ø 1/2"	E10 → E24
LONG-REACH SOCKET 	<ul style="list-style-type: none"> <li>Ø 1/2"</li> <li>Ø 3/4"</li> <li>Ø 1"</li> </ul>	<ul style="list-style-type: none"> <li>8 → 32 mm</li> <li>17 → 46 mm</li> <li>22 → 70 mm</li> </ul>
EXTRA-LONG-REACH SOCKET 	Ø 1"	30, 32, 33 mm
MONOCLOC BIT 	<ul style="list-style-type: none"> <li>Ø 1/2"</li> <li>Ø 3/4"</li> </ul>	<ul style="list-style-type: none"> <li>5 → 19 mm</li> <li>17 → 24 mm</li> </ul>
EXTENSION 	<ul style="list-style-type: none"> <li>Ø 3/8"</li> <li>Ø 1/2"</li> <li>Ø 3/4"</li> <li>Ø 1"</li> <li>Ø 1 1/2"</li> </ul>	<ul style="list-style-type: none"> <li>L : 76 - 150 mm</li> <li>L : 50 - 252 mm</li> <li>L : 100 - 330 mm</li> <li>L : 125 - 330 mm</li> <li>L : 250 - 330 mm</li> </ul>
UNIVERSAL JOINT 	<ul style="list-style-type: none"> <li>Ø 3/8"</li> <li>Ø 1/2"</li> </ul>	1 modèle par carré d'entraînement
COUPLER 	<ul style="list-style-type: none"> <li>Ø 3/8"</li> <li>Ø 1/2"</li> <li>Ø 3/4"</li> <li>Ø 1"</li> <li>Ø 1 1/2"</li> </ul>	<ul style="list-style-type: none"> <li>Ø 3/8" → Ø 1/2"</li> <li>Ø 1/2" → Ø 3/4"</li> <li>Ø 3/4" → Ø 1"</li> <li>Ø 1" → Ø 1 1/2"</li> <li>Ø 1 1/2" → Ø 2 1/2"</li> </ul>
DYNAMACT WRENCH 	<ul style="list-style-type: none"> <li>Ø 3/4"</li> <li>Ø 1"</li> </ul>	<ul style="list-style-type: none"> <li>1000 N.m</li> <li>2000 N.m</li> </ul>
IMPACT SCREWDRIVER 	<ul style="list-style-type: none"> <li>Ø 3/8"</li> <li>Ø 1/2"</li> </ul>	<ul style="list-style-type: none"> <li>200 N.m</li> <li>400 N.m</li> </ul>

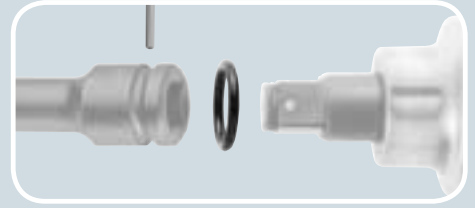


## ► Impact sockets and accessories   3/8"



### Safety first

- For your safety, use impact sockets and accessories with the appropriate rings and pins.
- Never fit chrome-finished manual sockets or accessories to impact tools.

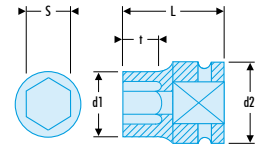
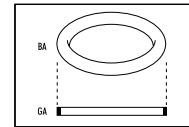


### NJ.A 3/8" drive metric 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.

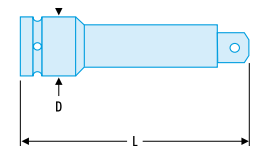
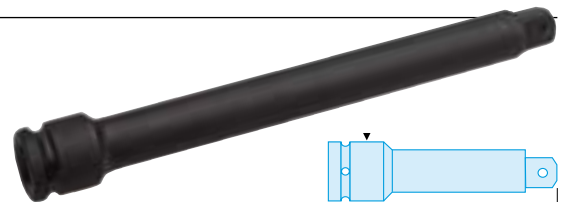
	S	∅ d1	∅ d2	T	L	GA	BA	ΔΔ
	mm	mm	mm	mm	mm			g
<b>NJ.6A</b>	6	11,5	19	6	30	GA.15A	BA.16A	38
<b>NJ.7A</b>	7	12,5	19	8	30	GA.15A	BA.16A	41
<b>NJ.8A</b>	8	14,0	19	8	30	GA.15A	BA.16A	41
<b>NJ.9A</b>	9	15,0	19	8	30	GA.15A	BA.16A	42
<b>NJ.10A</b>	10	16,5	19	8	30	GA.15A	BA.16A	41
<b>NJ.11A</b>	11	17,5	19	9	32	GA.15A	BA.16A	47
<b>NJ.12A</b>	12	19,0	19	9	30	GA.15A	BA.16A	49
<b>NJ.13A</b>	13	20,0	22	10	30	GA.18A	BA.19A	49
<b>NJ.14A</b>	14	21,5	22	11,5	30	GA.18A	BA.19A	63
<b>NJ.16A</b>	16	24,0	22	12,5	30	GA.18A	BA.19A	72
<b>NJ.17A</b>	17	25,0	22	12,5	30	GA.18A	BA.19A	70
<b>NJ.19A</b>	19	27,5	22	14	30	GA.18A	BA.19A	77



### 3/8" drive impact extensions

- For your safety, use impact extensions with the appropriate rings and pins.

	L	D	ΔΔ	GA	BA
	mm	mm	g		
<b>NJ.210A</b>	75	19	95	GA.15A	BA.16A
<b>NJ.211A</b>	150	19	170	GA.15A	BA.16A

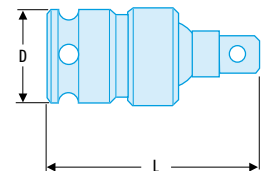


### 3/8" drive impact universal joint

#### NJ.240A

- For your safety, use impact universal joints with the appropriate rings and pins.

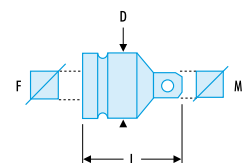
	D	L	GA	BA	ΔΔ
	mm	mm			g
<b>NJ.240A</b>	23,85	51	GA.18	BA.21	85



### 3/8" drive impact couplers

- For your safety, use impact couplers with the appropriate rings and pins.


	Female	Male	L	D	GA	BA	ΔΔ
	∅ F	∅ M	mm	mm			g
<b>NJ.230A</b>	3/8"	1/4"	32	22	GA.18A	BA.19A	40
<b>NJ.232A</b>	3/8"	1/2"	36	22	GA.18A	BA.19A	95






i

## Create your drive bits



**Bits**




Series 2  $\square$  5/16"

Series 3  $\square$  1/2"


See section 7 p. 351

**Impact bit holders  $\square$  3/8"**



**NJ.236A**

$\square$  5/16" 7,94 mm



**NJ.237A**

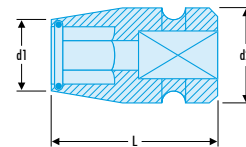
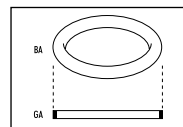
$\square$  1/2" 12,70 mm

p. 363

## 3/8" drive impact bit-holders

▷ Performance : to ISO 1174-2, DIN 3121, NF ISO 1174-2.

Ref	$\square$	$\varnothing$ d1 mm	$\varnothing$ d2 mm	L mm	GA	BA	$\Delta$ g
<b>NJ.236A</b>	5/16	14,0	19	37	GA.15A	BA.16A	35
<b>NJ.237A</b>	1/2	19	19	37	GA.15A	BA.16A	40




New

### 14-piece 3/8" drive impact bit set

**JHX.14**

- Comprising :
  - 2 bit holders  $\square$  1/2",  $\varnothing$  1/2" and 5/16".
  - $\square$  Hexagonal 6-7-8-10-12 and 14 mm.
  - $\otimes$  Torx® no. 30-40-45-50 and 55.
  - BP.102.
  - PL.402A.
- $\Delta$  : 800 g.



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## Facom power tools

Facom has a wide range of air and portable electric tools, including impact wrenches, ratchets, screwdrivers, drills, grinders, sanders, power chisels, etc.

See section 14 page 570

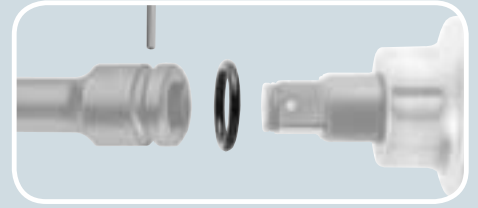






## Safety first



- For your safety, use impact sockets and accessories with the appropriate rings and pins.
- Never fit chrome-finished manual sockets or accessories to Impact tools.

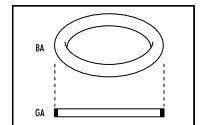
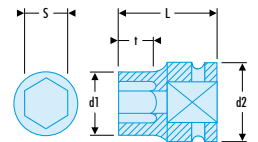


## ► Impact sockets and accessories 1/2"

### NS.A 1/2" drive metric and inch 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.



		S mm	Ø d1 mm	Ø d2 mm	T mm	L mm	GA	BA	ΔΔ g
NS.8A		8	15,0	25	9	38	GA.20A	BA.20A	70
NS.9A		9	16,0	25	12	38	GA.20A	BA.20A	70
NS.10A	NS.3/8A	10	17,5	25	12	38	GA.20A	BA.20A	75
NS.11A	NS.7/16A	11	18,7	25	12	38	GA.20A	BA.20A	76
NS.12A		12	20,0	25	12	38	GA.20A	BA.20A	75
NS.13A	NS.1/2A	13	21,0	25	12	38	GA.20A	BA.20A	76
NS.14A	NS.9/16A	14	22,5	25	12	38	GA.20A	BA.20A	83
NS.15A		15	23,7	30	12	38	GA.24A	BA.25A	112
NS.16A	NS.5/8A	16	25,0	30	12	38	GA.24A	BA.25A	105
NS.17A	NS.11/16A	17	26,5	30	13	38	GA.24A	BA.25A	112
NS.18A		18	27,5	30	13	38	GA.24A	BA.25A	110
NS.19A	NS.3/4A	19	29,0	30	14	38	GA.24A	BA.25A	112
NS.20A		20	30,0	30	15	38	GA.24A	BA.25A	116
NS.21A	NS.13/16A	21	31,0	30	15	38	GA.24A	BA.25A	156
NS.22A	NS.7/8A	22	32,5	30	16	38	GA.24A	BA.25A	156
NS.23A	NS.15/16A	23	33,5	30	16	38	GA.24A	BA.25A	162
NS.24A		24	35,0	30	20	45	GA.24A	BA.25A	169
NS.26A	NS.1'A	26	38,0	30	24	50	GA.24A	BA.25A	192
NS.27A	NS.1'1/16A	27	39,0	30	24	50	GA.24A	BA.25A	220
NS.28A		28	40,0	30	24	50	GA.24A	BA.25A	273
NS.29A		29	41,0	30	24	50	GA.24A	BA.25A	276
NS.30A		30	43,0	30	24	50	GA.24A	BA.25A	285
NS.32A		32	45,0	30	24	50	GA.24A	BA.25A	278



### 9-piece rack set of 1/2" drive metric 6-point impact sockets

#### NS.J9


▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- A selection of the most popular sizes for automotive applications :  
-  NS.13A-14A-16A-17A-18A-19A-21A-22A and 24A.
- Essential accessory for any  1/2".
- Supplied on a rack CKS.95.

ΔΔ : 1.2 kg.



### 1/2" drive metric 6-point impact socket modules

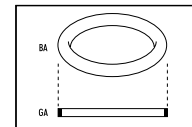
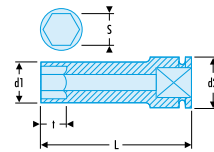
	Contents	Tray	ΔΔ kg
	Socket	Bit holder	
MOD.NS1	NS.10A-11A-12A-13A-14A-15A-16A-17A-18A-19A-21A-22A-23A-24A	-	PL.610 2,0
MOD.NS2	NS.13A-14A-15A-16A-17A-18A-19A-21A-22A-27A-30A-32A	2 bits holders Ø 1/2" et 5/16"	PL.623 2,9



# Impact range

## NS.LA 1/2" drive long-reach metric 6-point impact sockets

6	S mm	Ø d1 mm	Ø d2 mm	T mm	L mm	GA	BA	ΔΔ g
NS.8LA	8	15,0	25	13	78	GA.20A	BA.20A	130
NS.10LA	10	17,5	25	14	78	GA.20A	BA.20A	154
NS.11LA	11	18,7	25	14	78	GA.20A	BA.20A	163
NS.12LA	12	20,0	25	14	78	GA.20A	BA.20A	169
NS.13LA	13	21,0	25	14	78	GA.20A	BA.20A	185
NS.14LA	14	22,5	25	17	78	GA.20A	BA.20A	201
NS.16LA	16	25,0	30	17	78	GA.24A	BA.25A	224
NS.17LA	17	26,0	30	17	78	GA.24A	BA.25A	252
NS.18LA	18	27,5	30	17	78	GA.24A	BA.25A	283
NS.19LA	19	29,0	30	19	78	GA.24A	BA.25A	268
NS.21LA	21	31,0	30	24	78	GA.24A	BA.25A	310
NS.22LA	22	32,5	30	24	78	GA.24A	BA.25A	302
NS.23LA	23	33,5	30	24	78	GA.24A	BA.25A	298
NS.24LA	24	35,0	30	24	78	GA.24A	BA.25A	309
NS.26LA	26	38,0	30	24	78	GA.24A	BA.25A	311
NS.27LA	27	39,0	30	24	78	GA.24A	BA.25A	325
NS.28LA	28	40,0	30	24	78	GA.24A	BA.25A	323
NS.29LA	29	41,0	30	24	78	GA.24A	BA.25A	357
NS.30LA	30	43,0	30	24	78	GA.24A	BA.25A	352
NS.32LA	32	45,0	30	24	78	GA.24A	BA.25A	317

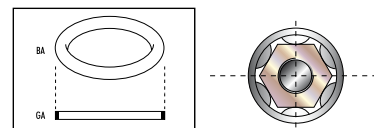
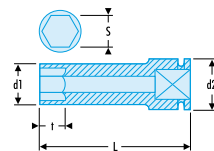


## NSB 1/2" drive long-reach metric thin-wall 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.
- Thin wall for better access.
- 6-point convex pattern for increased resilience.

6	S mm	d1 mm	d2 mm	T mm	L mm	GA	BA	ΔΔ g
NSB.8	8	13,0	25	8	80	GA.20A	BA.20A	165
NSB.10	10	15,0	25	10	80	GA.20A	BA.20A	170
NSB.11	11	16,2	25	11	80	GA.20A	BA.20A	180
NSB.12	12	18,2	25	12	80	GA.20A	BA.20A	200
NSB.13	13	19,0	25	13	80	GA.20A	BA.20A	210
NSB.14	14	21,0	30	14	80	GA.24A	BA.25A	205
NSB.15	15	22,0	30	15	80	GA.24A	BA.25A	220
NSB.16	16	23,0	30	16	80	GA.24A	BA.25A	230
NSB.17	17	24,0	30	17	80	GA.24A	BA.25A	245
NSB.18	18	25,5	30	18	80	GA.24A	BA.25A	245
NSB.19	19	27,0	30	19	80	GA.24A	BA.25A	240
NSB.21	21	30,0	30	22	80	GA.24A	BA.25A	245
NSB.22	22	31,0	30	23	85	GA.24A	BA.25A	250
NSB.24	24	32,0	30	24	85	GA.24A	BA.25A	280
NSB.27	27	36,0	30	27	85	GA.24A	BA.25A	325
NSB.30	30	39,0	30	30	85	GA.24A	BA.25A	330
NSB.32	32	41,0	30	32	85	GA.24A	BA.25A	335



## 3-piece set of 1/2" drive long-reach thin-wall impact sockets for wheel nuts

### NSB.3

- Includes 1/2".
- Special series for wheel nuts.

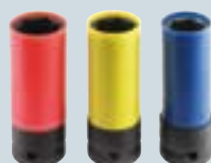
ΔΔ : 740 g.



## Sockets for alloy wheels

- NSAL.3 = set of 3 deep impact sockets with protective plastic sleeves to prevent damage to polished chrome or alloy wheels.

See section 18 p. 785  
Wheels-Hubs-Transmission




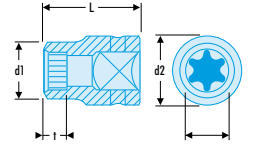
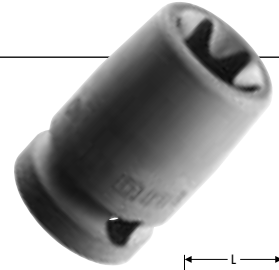


**New**

## NSTX Torx® 1/2" impact sockets

• For your safety, use impact sockets with the appropriate rings and pins.

	Torx® no.	I* mm	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ g
<b>NSTX.10</b>	E10	9,19	14,2	25	6,4	38	GA.20A	BA.20A	86
<b>NSTX.12</b>	E12	10,95	15,2	25	8,0	38	GA.20A	BA.20A	85
<b>NSTX.14</b>	E14	12,67	18,2	25	8,8	38	GA.20A	BA.20A	88
<b>NSTX.16</b>	E16	14,70	19,2	25	9,6	38	GA.20A	BA.20A	88
<b>NSTX.18</b>	E18	16,38	22,2	25	11,1	38	GA.20A	BA.20A	89
<b>NSTX.20</b>	E20	18,16	24,2	30	12,7	38	GA.24A	BA.24A	134
<b>NSTX.24</b>	E24	21,84	28,2	30	17,0	40	GA.24A	BA.24A	138



**New**

## 7-piece Torx® 1/2" impact socket rack set

### NSTX.J7

- For your safety, use impact sockets with the appropriate rings and pins.
- Set of 7 Torx impact sockets  $\square$  1/2".
- Includes sizes :
- NSTX : E10, E12, E14, E16, E18, E20, E24.
- Supplied on a rack CKS.97.
- ΔΔ : 770 g.




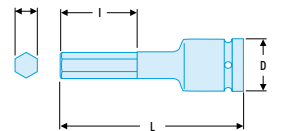
**New**

## NSHM 1/2" drive metric impact bits for hexagon socket heads

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.
- Non-removable bits.

	mm	Ø D mm	l mm	L mm	GA	BA	ΔΔ g
<b>NSHM.5</b>	5	25	20	75	GA.20A	BA.20A	60
<b>NSHM.6</b>	6	25	20	75	GA.20A	BA.20A	60
<b>NSHM.8</b>	8	25	25	75	GA.20A	BA.20A	80
<b>NSHM.10</b>	10	25	25	75	GA.20A	BA.20A	100
<b>NSHM.12</b>	12	25	25	75	GA.20A	BA.20A	120
<b>NSHM.14</b>	14	25	25	75	GA.20A	BA.20A	120
<b>NSHM.17</b>	17	25	25	75	GA.20A	BA.20A	160
<b>NSHM.19</b>	19	25	25	75	GA.20A	BA.20A	180



**New**

## 8-piece rack set of 1/2" drive metric impact bits for hexagon socket heads

### NSHM.J8

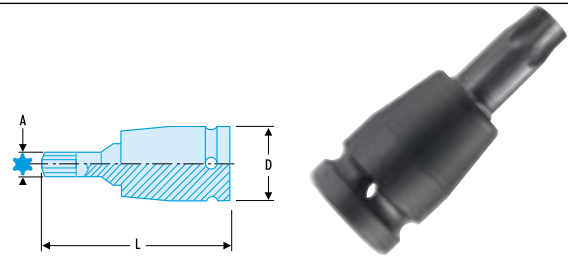
- For your safety, use impact sockets with the appropriate rings and pins.
- Set of 8 bits  $\square$  1/2" for hexagon socket heads.
- Includes sizes : ○ NSHM.5, 6, 8, 10, 12, 14, 17, 19.
- Supplied on a rack CKS.95.
- ΔΔ : 1.20 kg.



## NSX 1/2" drive impact bits for Torx® heads

- For your safety, use impact sockets with the appropriate rings and pins.
- Interchangeable bits.

⇒	Torx®	I★	Components		D	L	ΔΔ
	no.	A mm					
<b>NSX.30A</b>	T30	5,49	NS.237A	NEX.30A	25	70	90
<b>NSX.40A</b>	T40	6,60	NS.237A	NEX.40A	25	70	95
<b>NSX.45A</b>	T45	7,77	NS.237A	NEX.45A	25	70	95
<b>NSX.50A</b>	T50	8,79	NS.237A	NEX.50A	25	70	100
<b>NSX.55A</b>	T55	11,17	NS.237A	NEX.55A	25	70	105
<b>NSX.60A</b>	T60	13,20	NS.237A	NEX.60A	25	70	110



i **Create your drive bits**

?

**Bits**  
  
 Series 2 5/16"  
 Series 3 1/2" ▶ See section 7 p. 351

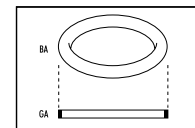
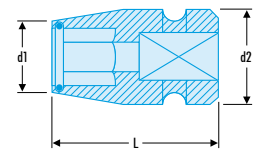
**Impact bit holders 1/2"**  

⇒ NS.236A  
 5/16" 7,94 mm

⇒ NS.237A  
 1/2" 12,70 mm

## 1/2" drive impact bit-holders

⇒		∅ d1	∅ d2	L	GA	BA	ΔΔ
		mm	mm	mm			g
<b>NS.236A</b>	5/16	15,5	25	40	GA.20A	BA.20A	65
<b>NS.237A</b>	1/2	20	25	40	GA.20A	BA.20A	40



## 14-piece 1/2" drive impact bit set

### NHX.14A

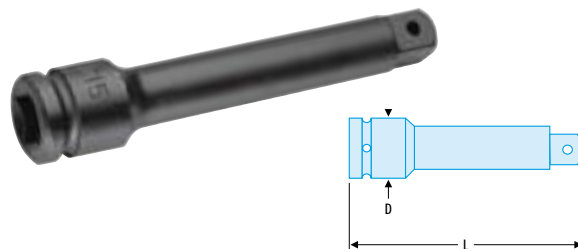
- Comprising :
  - 2 bit holders 1/2", 1/2" and 5/16".
  - Hexagonal 6-7-8-10-12 and 14 mm.
  - Torx® no. 30-40-45-50 and 55.
  - Phillips® 2 - 3 and 4.
  - BP.102.
  - PL.402A.
- ΔΔ : 800 g.



### 1/2" drive impact extensions

• For your safety, use impact extensions with the appropriate rings and pins.

	L mm	D mm	GA	BA	$\Delta\Delta$ g
<b>NS.210A</b>	50	25	GA.20A	BA.20A	105
<b>NS.215A</b>	125	25	GA.20A	BA.20A	235
<b>NS.218A</b>	175	25	GA.20A	BA.20A	370
<b>NS.219A</b>	250	25	GA.20A	BA.20A	520

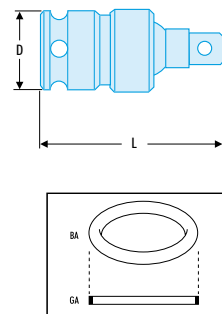


### 1/2" drive impact universal joint

#### NS.240A

• For your safety, use impact universal joints with the appropriate rings and pins.

	$\varnothing$ D mm	L mm	GA	BA	$\Delta\Delta$ g
<b>NS.240A</b>	27,9	60	GA.24A	BA.24A	205

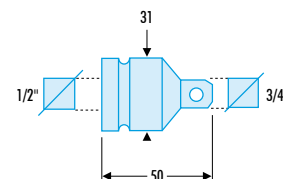


### 1/2" to 3/4" impact coupler

#### NS.232B

• For your safety, use impact couplers with the appropriate rings and pins.

	GA	BA	$\Delta\Delta$ g
<b>NS.232B</b>	GA.24A	BA.25A	185

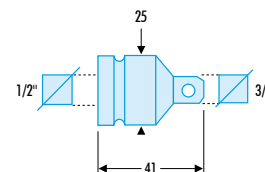


### 1/2" to 3/8" impact coupler

#### NS.230A

• For your safety, use impact couplers with the appropriate rings and pins.

	GA	BA	$\Delta\Delta$ g
<b>NS.230A</b>	GA.20A	BA.20A	90



**New**

### Set of 1/2" drive short and long-reach impact sockets 10 to 32 mm

#### NS.550A

- For your safety, use impact sockets with the appropriate rings and pins (included).
  - Comprehensive set of tools for automotive applications : short and long-reach sockets, sockets for alloy wheels (17, 19, 21 mm).
  - Supplied in plastic case BP 109 (478x234x72 mm) + tray PL.716.
- $\Delta\Delta$  : 5.1 kg.










## Set of 1/2" drive impact sockets 8 to 27 mm

### NS.500A

- For your safety, use impact sockets with the appropriate rings and pins.
  - Supplied in a plastic case BP.112 (389 x 164 x 66 mm) + tray PL.416.
- ΔΔ : 3.7 kg.






 NS.A	8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 17 - 18 - 19 - 21 - 22 - 23 - 24 - 26 - 27 mm	 <b>NS.240A</b>
 BA	BA.20A - BA.24A - BA.25A	 <b>NS.215A</b>
 GA	GA.20A - GA.24A	



## Set of 1/2" drive impact sockets 3/8" to 11/16"

### NS.500AU

- For your safety, use impact sockets with the appropriate rings and pins.
  - Supplied in a plastic case BP.112 (389 x 164 x 66 mm) + tray PL.417.
- ΔΔ : 3.1 kg.


 NS.A	3/8" - 7/16" - 3/8" - 1/2" - 9/16" - 5/8" - 11/16" 3/4" - 13/16" - 7/8" - 15/16" - 1" - 1 1/16"	 <b>NS.240A</b>
 BA	BA.20A - BA.24A - BA.25A	 <b>NS.215A</b>
 GA	GA.20A - GA.24A	



## Set of 1/2" drive long-reach impact sockets 10 to 24 mm

### NS.405A

- For your safety, use impact sockets with the appropriate rings and pins.
  - Supplied in a plastic case BP.112 (389 x 164 x 66 mm) + tray PL.418.
- ΔΔ : 4 kg.

 NS.LA	10 - 11 - 12 - 13 - 14 - 16 - 17 - 19 21 - 22 - 23 - 24 mm
--	---



## Facom power tools

Facom has a wide range of air and portable electric tools, including impact wrenches, ratchets, screwdrivers, drills, grinders, sanders, power chisels, etc.

See section 14 p. **570**



## ► Impact sockets and accessories 3/4"

### Safety first

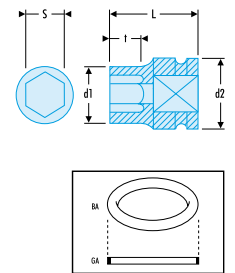
- For your safety, use impact sockets and accessories with the appropriate rings and pins.
- Never fit chrome-finished manual sockets or accessories to Impact tools.

### NK.A 3/4" drive metric and inch 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.

	S"	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ g
NK.17A		30	44	12	52	GA.37A	BA.38A	300
NK.18A		32	44	13	50	GA.37A	BA.38A	310
NK.19A	NK.3/4A	33	44	14	50	GA.37A	BA.38A	315
NK.21A	NK.13/16A	35	44	15	50	GA.37A	BA.38A	330
NK.22A	NK.7/8A	37	44	16	50	GA.37A	BA.38A	345
NK.23A		38	44	16	50	GA.37A	BA.38A	350
NK.24A	NK.15/16A	39	44	17	50	GA.37A	BA.38A	350
NK.26A	NK.1"A	42	44	18	50	GA.37A	BA.38A	480
NK.27A	NK.1-1/16A	43	44	23	54	GA.37A	BA.38A	480
NK.28A		44	44	23	54	GA.37A	BA.38A	520
NK.29A	NK.1"11/8A	45	44	23	54	GA.37A	BA.38A	520
NK.30A		47	44	23	54	GA.37A	BA.38A	545
NK.32A	NK.1"1/4A	49	44	23	56	GA.37A	BA.38A	620
NK.33A		51	44	23	56	GA.37A	BA.38A	650
NK.34A		52	44	23	56	GA.37A	BA.38A	680
NK.35A	NK.1"5/16A	53	44	23	56	GA.37A	BA.38A	680
NK.36A	NK.1"7/16A	54	44	25	56	GA.37A	BA.38A	705
NK.38A	NK.1"1/2A	57	44	26	58	GA.37A	BA.38A	890
NK.41A	NK.1"5/8A	60	44	28	58	GA.37A	BA.38A	890
NK.42A		62	44	29	58	GA.37A	BA.38A	925
NK.46A		67	44	32	63	GA.37A	BA.38A	1055

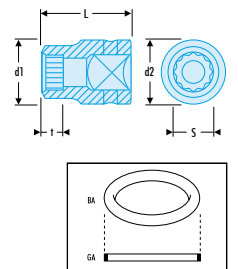


### NKD.A 3/4" drive metric 12-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.

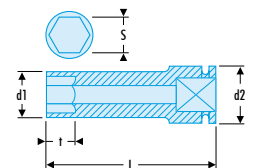
	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ g
NKD.16A	16	29,0	44	12	52	GA.37A	BA.38A	300
NKD.17A	17	30,0	44	12	52	GA.37A	BA.38A	305
NKD.18A	18	31,5	44	14	52	GA.37A	BA.38A	310
NKD.19A	19	32,5	44	14	52	GA.37A	BA.38A	315
NKD.22A	22	36,5	44	16	52	GA.37A	BA.38A	340



### NK.LA 3/4" drive long-reach metric and inch 6-point impact sockets

- For your safety, use impact sockets with the appropriate rings and pins.

	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ kg
NK.17LA	17	31	44	17	95	GA.37A	BA.38A	550
NK.19LA	19	33	44	17	95	GA.37A	BA.38A	620
NK.21LA	21	35	44	24	95	GA.37A	BA.38A	600
NK.22LA	22	37	44	24	95	GA.37A	BA.38A	780
NK.23LA	23	38	44	24	95	GA.37A	BA.38A	780
NK.24LA	24	39	44	24	95	GA.37A	BA.38A	820
NK.26LA	26	42	44	24	95	GA.37A	BA.38A	800
NK.27LA	27	43	44	24	95	GA.37A	BA.38A	810
NK.29LA	29	45	44	24	95	GA.37A	BA.38A	890
NK.30LA	30	47	44	24	95	GA.37A	BA.38A	900
NK.32LA	32	49	44	24	95	GA.37A	BA.38A	930
NK.33LA	33	51	44	24	95	GA.37A	BA.38A	980
NK.34LA	34	52	44	24	95	GA.37A	BA.38A	1100



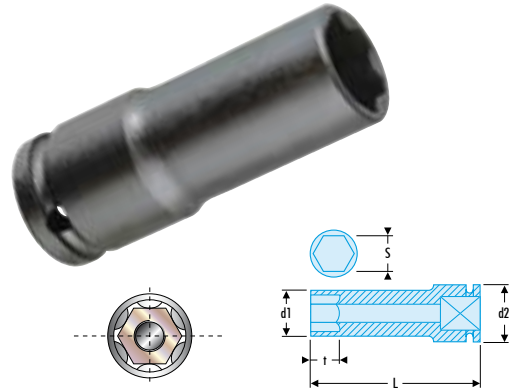
	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ kg
NK.35LA	35	53	44	24	95	GA.37A	BA.38A	1240
NK.36LA	36	54	44	25	95	GA.37A	BA.38A	1240
NK.38LA	38	57	44	60	95	GA.37A	BA.38A	1220
NK.41LA	41	60	44	60	95	GA.37A	BA.38A	1470
NK.42LA	42	62	44	60	95	GA.37A	BA.38A	1450
NK.46LA	46	67	44	60	95	GA.37A	BA.38A	1480

## NKB 3/4" drive long-reach metric thin-wall 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

- For your safety, use impact sockets with the appropriate rings and pins.
- Thin wall for better access.
- 6-point convex pattern for increased resilience.

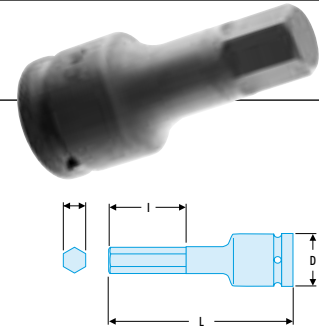
🔧	S	d1	d2	t	L	ΔΔ	GA	BA
	mm	mm	mm	mm	mm	g		
<b>NKB.21</b>	21	33	44	21	102	600	GA.37A	BA.38A
<b>NKB.22</b>	22	34	44	22	102	600	GA.37A	BA.38A
<b>NKB.24</b>	24	36	44	24	102	640	GA.37A	BA.38A
<b>NKB.27</b>	27	40	44	27	102	670	GA.37A	BA.38A
<b>NKB.30</b>	30	43	44	30	102	700	GA.37A	BA.38A
<b>NKB.32</b>	32	46	44	32	102	706	GA.37A	BA.38A
<b>NKB.33</b>	33	48	44	33	102	750	GA.37A	BA.38A
<b>NKB.36</b>	36	50	44	36	102	765	GA.37A	BA.38A



## **New** NKHM 3/4" drive metric impact bits for hexagon socket heads

- For your safety, use impact sockets with the appropriate rings and pins.
- Non-removable bits.

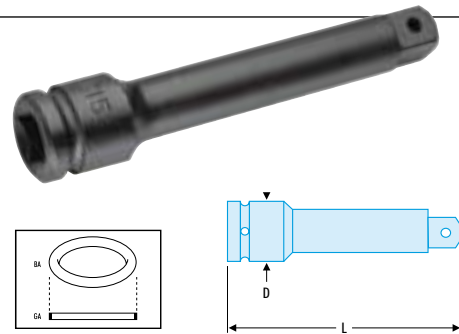
🔧	Hex	Ø D	l	L	GA	BA	ΔΔ
	mm	mm	mm	mm			g
<b>NKHM.17</b>	17	44	20	100	GA.37A	BA.38A	600
<b>NKHM.19</b>	19	44	20	100	GA.37A	BA.38A	600
<b>NKHM.22</b>	22	44	20	100	GA.37A	BA.38A	600
<b>NKHM.24</b>	24	44	20	100	GA.37A	BA.38A	600



## 3/4" drive impact extensions

- For your safety, use impact extensions with the appropriate rings and pins.

🔧	Ø D	L	GA	BA	ΔΔ
	mm	mm			kg
<b>NK.209A</b>	44	100	GA.37A	BA.38A	0,6
<b>NK.210A</b>	44	175	GA.37A	BA.38A	1,05
<b>NK.215A</b>	44	252	GA.37A	BA.38A	1,17
<b>NK.218A</b>	44	330	GA.37A	BA.38A	1,51

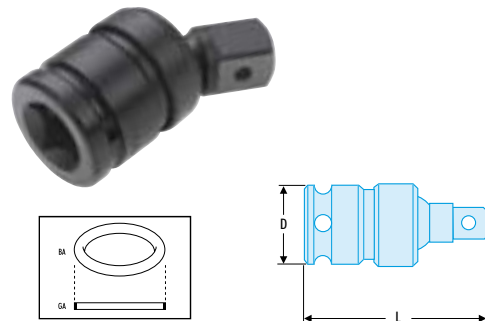


## 3/4" drive impact universal joint

### **NK.240A**

- For your safety, use impact universal joints with the appropriate rings and pins.

🔧	Ø D	L	GA	BA	ΔΔ
	mm	mm			g
<b>NK.240A</b>	44	90	GA.37A	BA.38A	720

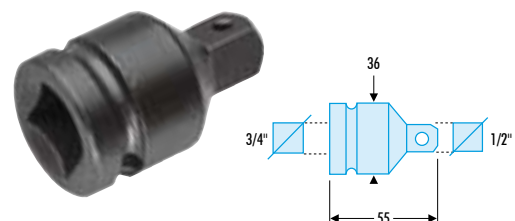


## 3/4" to 1/2" impact coupler

### **NK.230A**

- For your safety, use impact couplers with the appropriate rings and pins.

🔧	GA	BA	ΔΔ
			g
<b>NK.230A</b>	GA.37A	BA.38A	210




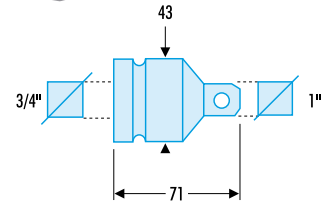


## 3/4" to 1" impact coupler

**NK.232A**

- For your safety, use impact couplers with the appropriate rings and pins.






	GA	BA	$\Delta\Delta$ g
<b>NK.232A</b>	GA.37A	BA.38A	525



## Set of 3/4" drive impact sockets 19 to 42 mm

**NK.500E**

- For your safety, use impact sockets with the appropriate rings and pins.
  - Supplied in a metal case BT.111 (396 x 224 x 82 mm) + tray PL.79A.
- $\Delta\Delta$  : 12.4 kg.






 NK.A	19 - 21 - 22 - 23 - 24 - 26 - 27 - 28 - 29 - 30 32 - 34 - 36 - 38 - 41 - 42 mm	 <b>NK.240A</b>
 BA	BA.38A	 <b>NK.210A</b>
 GA	GA.37A	



## Set of 3/4" drive impact sockets 3/4" to 15/8"

**NK.500U**

- For your safety, use impact sockets with the appropriate rings and pins.
  - Supplied in a metal case BT.111 (396 x 224 x 82 cm) + tray PL.80A.
- $\Delta\Delta$  : 10.3 kg.

 NK.A	3/4" - 13/16" - 7/8" - 15/16" - 1" - 1 1/16" - 1 1/8" 1 1/4" - 1 5/16" - 1 7/16" - 1 1/2" - 1 5/8"	 <b>NK.240A</b>
 BA	BA.38A	 <b>NK.210A</b>
 GA	GA.37A	



## Facom power tools

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See section 14 p. **570**





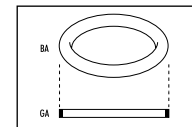
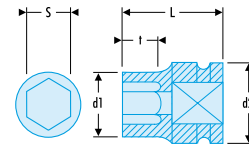
## ► Impact sockets and accessories 1"

### NM.A 1" drive metric and inch 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

• For your safety, use impact sockets with the appropriate rings and pins.


		Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ kg
NM.21A		38	54	17	58	GA.43A	BA.46A	0,520
NM.22A		40	54	17	58	GA.43A	BA.46A	0,500
NM.23A		41	54	17	58	GA.43A	BA.46A	0,500
NM.24A		42	54	17	58	GA.43A	BA.46A	0,500
NM.26A	NM.1'A	44	54	18	58	GA.43A	BA.46A	0,520
NM.27A		46	54	19	58	GA.43A	BA.46A	0,520
NM.28A		47	54	20	58	GA.43A	BA.46A	0,520
NM.29A	NM.1'1/8A	48	54	20	60	GA.43A	BA.46A	0,520
NM.30A		50	54	20	60	GA.43A	BA.46A	0,750
NM.32A	NM.1'1/4A	52	54	22	60	GA.43A	BA.46A	0,760
	NM.1'5/16A	54	54	22	62	GA.43A	BA.46A	0,75
NM.33A		53	54	22	60	GA.43A	BA.46A	0,750
NM.34A		55	54	23	62	GA.43A	BA.46A	0,750
NM.35A		56	54	26	62	GA.43A	BA.46A	0,800
NM.36A		57	54	26	65	GA.43A	BA.46A	0,840
	NM.1'1/2A	60	54	30	65	GA.43A	BA.46A	1,62
NM.38A		60	54	30	65	GA.43A	BA.46A	0,840
NM.41A	NM.1'5/8A	63	54	30	67	GA.43A	BA.46A	1,040
NM.42A		65	54	35	74	GA.43A	BA.46A	1,040
NM.46A	NM.1'13/16A	70	54	35	74	GA.43A	BA.46A	1,500
NM.50A		75	54	40	80	GA.43A	BA.46A	1,650
	NM.1'7/8A	72	54	35	74	GA.43A	BA.46A	1,62
NM.52A	NM.2'A	77	54	42	84	GA.43A	BA.46A	1,750
NM.54A	NM.2'1/8A	80	54	42	84	GA.43A	BA.46A	1,790
NM.55A		81	54	42	84	GA.43A	BA.46A	1,840
NM.56A		82	54	42	84	GA.43A	BA.46A	2,060
NM.58A		85	54	44	87	GA.43A	BA.46A	2,190
NM.60A		87	54	44	87	GA.43A	BA.46A	2,370
NM.65A		93	54	46	90	GA.43A	BA.46A	2,730
NM.70A		100	54	50	96	GA.43A	BA.46A	2,980
NM.75A		106	86	50	98	GA.75A	BA.75A	3,300
NM.77A		109	86	50	100	GA.75A	BA.75A	3,500

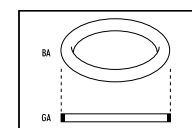
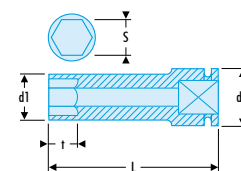


### NM.LA 1" drive long-reach metric and inch 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

• For your safety, use impact sockets with the appropriate rings and pins.


	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	GA	BA	ΔΔ kg
NM.22LA	22	40	54	21	100	GA.43A	BA.46A	1
NM.23LA	23	41	54	21	100	GA.43A	BA.46A	1,05
NM.24LA	24	42	54	21	100	GA.43A	BA.46A	1,05
NM.26LA	26	44,5	54	24	100	GA.43A	BA.46A	1,08
NM.27LA	27	46	54	24	100	GA.43A	BA.46A	1,12
NM.29LA	29	48	54	24	100	GA.43A	BA.46A	1,2
NM.30LA	30	50	54	24	100	GA.43A	BA.46A	1,2
NM.32LA	32	52	54	24	100	GA.43A	BA.46A	1,25
NM.33LA	33	53	54	24	100	GA.43A	BA.46A	1,32
NM.34LA	34	55	54	40	100	GA.43A	BA.46A	1,32
NM.35LA	35	56	54	60	100	GA.43A	BA.46A	1,34
NM.36LA	36	57	54	65	100	GA.43A	BA.46A	1,5
NM.38LA	38	60	54	65	100	GA.43A	BA.46A	1,5
NM.41LA	41	63	54	64	100	GA.43A	BA.46A	1,65
NM.42LA	42	65	54	64	100	GA.43A	BA.46A	1,65
NM.46LA	46	70	54	63	100	GA.43A	BA.46A	1,56
NM.50LA	50	75	54	62	100	GA.43A	BA.46A	1,87
NM.54LA	54	80	54	61	100	GA.43A	BA.46A	1,78
NM.55LA	55	81	54	60	100	GA.43A	BA.46A	1,93
NM.58LA	58	85	54	65	105	GA.43A	BA.46A	2,12
NM.60LA	60	87	54	78	120	GA.43A	BA.46A	2,18
NM.65LA	65	93	54	80	125	GA.43A	BA.46A	2,25
NM.70LA	70	100	54	80	125	GA.43A	BA.46A	2,23

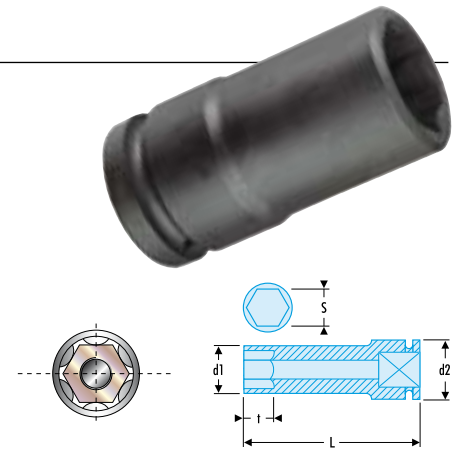


### NMB Long-reach 6-point thin-wall sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.


- For your safety, use impact sockets with the appropriate rings and pins.
- Thin wall for better access.
- 6-point convex pattern for increased resilience.

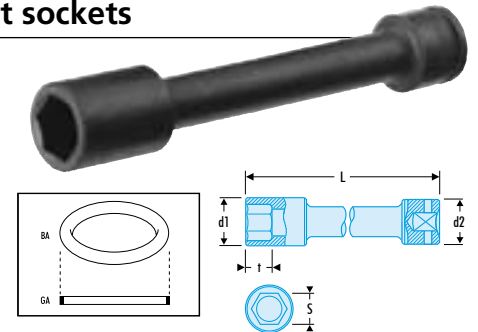
	S	d1	d2	t	L	GA	BA	$\Delta\Delta$
	mm	mm	mm	mm	mm			kg
<b>NMB.24</b>	24	38	54	24	108	GA.43A	BA.46A	0,94
<b>NMB.27</b>	27	42	54	27	108	GA.43A	BA.46A	1,00
<b>NMB.30</b>	30	46	54	30	108	GA.43A	BA.46A	1,04
<b>NMB.32</b>	32	48	54	32	108	GA.43A	BA.46A	1,04
<b>NMB.33</b>	33	49	54	33	108	GA.43A	BA.46A	1,05
<b>NMB.36</b>	36	53	54	36	108	GA.43A	BA.46A	1,08
<b>NMB.46</b>	46	66	54	38	108	GA.43A	BA.46A	1,48
<b>NMB.50</b>	50	74	54	66	108	GA.43A	BA.46A	1,48



### NM.ELA 1" drive extra-long reach metric 6-point impact sockets

- For your safety, use impact sockets with the appropriate rings and pins.
- E.g. = dual wheels of trucks.

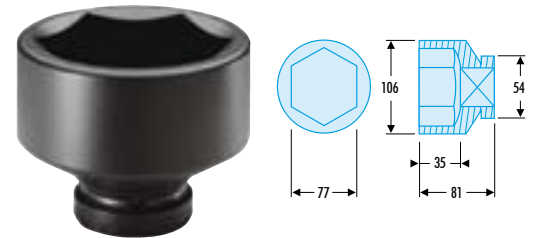
	S	$\varnothing$ d1	$\varnothing$ d2	t	L	GA	BA	$\Delta\Delta$
	mm	mm	mm	mm	mm			kg
<b>NM.30ELA</b>	30	50	54	30	270	GA.43A	BA.46A	2,50
<b>NM.32ELA</b>	32	52	54	32	270	GA.43A	BA.46A	2,56
<b>NM.33ELA</b>	33	53	54	32	270	GA.43A	BA.46A	2,56



### Special "Trailer" 1" drive metric impact socket


#### M.77TR

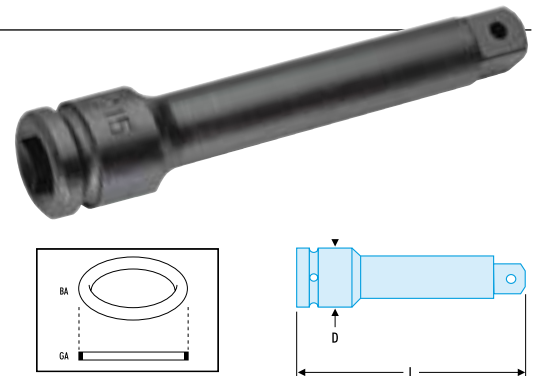
- For your safety, use ring BA.46A and pin GA.43A.
- For 77 mm 6-point trailer hub nut.
- $\Delta\Delta$  : 1.96 kg.



### 1" drive impact extensions

- For your safety, use impact extensions with the appropriate rings and pins.


	L	D	GA	BA	$\Delta\Delta$
	mm	mm			kg
<b>NM.209A</b>	125	54	GA.43A	BA.46A	1,2
<b>NM.210A</b>	200	54	GA.43A	BA.46A	1,6
<b>NM.215A</b>	330	54	GA.43A	BA.46A	2,5

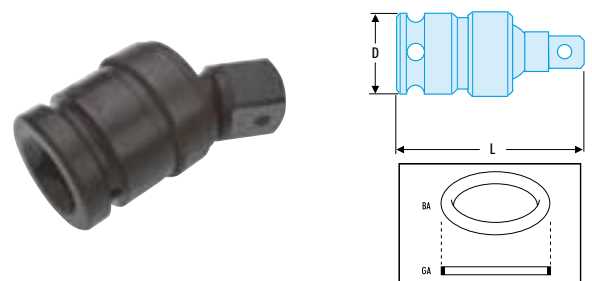


### 1" drive impact universal joint

#### NM.240A

- For your safety, use impact universal joints with the appropriate rings and pins.

	$\varnothing$ D	L	GA	BA	$\Delta\Delta$
	mm	mm			kg
<b>NM.240A</b>	54	110	GA.43A	BA.46A	2,0

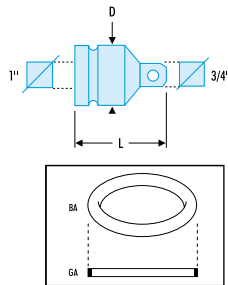




## 1" to 3/4" impact couplers

• For your safety, use impact couplers with the appropriate rings and pins.

	D mm	L mm	GA	BA	$\Delta\Delta$ kg
<b>NM.230A</b>	54	75	GA.38	BA.36	0,54
<b>NM.231A</b>	51	154	GA.38	BA.36	1,04

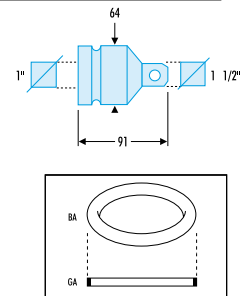


## 1" to 1 1/2" impact coupler

### NM.232A

• For your safety, use impact couplers with the appropriate rings and pins.

	GA	BA	$\Delta\Delta$ kg
<b>NM.232A</b>	GA.43A	BA.46A	1,5



## Facom power tools

Facom has a wide range of air and portable electric tools, including impact wrenches, ratchets, screwdrivers, drills, grinders, sanders, power chisels, etc.

See section 14 p. 570

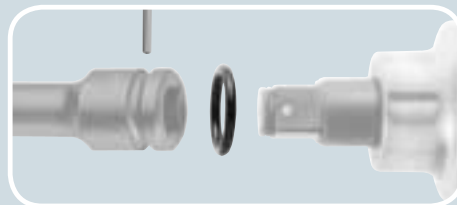


## Impact sockets and accessories 1" 1/2



## Safety first

- For your safety, use impact sockets and accessories with the appropriate rings and pins.
- Never fit chrome-finished manual sockets or accessories to Impact tools.

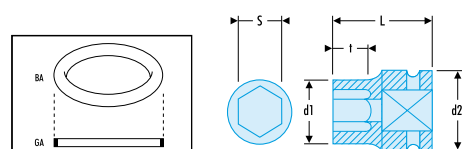


## NG.A 1 1/2" drive metric 6-point impact sockets

▷ Performance : to ISO 2725-2, NF ISO 2725-2.

• For your safety, use impact sockets with the appropriate rings and pins.


	S mm	Ø d1 mm	Ø d2 mm	t mm	L mm	BA	GA	$\Delta\Delta$ kg
<b>NG.55A</b>	55	87	86	38	90	BA.75A	GA.75A	2,52
<b>NG.60A</b>	60	94	86	38	92	BA.75A	GA.75A	2,87
<b>NG.65A</b>	65	100	86	40	95	BA.75A	GA.75A	3,18
<b>NG.70A</b>	70	106	86	43	100	BA.75A	GA.75A	3,75
<b>NG.75A</b>	75	112	86	45	103	BA.75A	GA.75A	3,93
<b>NG.80A</b>	80	119	86	51	110	BA.75A	GA.75A	4,61
<b>NG.85A</b>	85	125	86	52	118	BA.75A	GA.75A	5,38
<b>NG.90A</b>	90	131	86	52	118	BA.75A	GA.75A	5,65
<b>NG.95A</b>	95	137	95	52	118	BA.85A	GA.84A	6,59
<b>NG.100A</b>	100	144	95	59	125	BA.85A	GA.84A	7,42
<b>NG.105A</b>	105	150	95	59	125	BA.85A	GA.84A	7,83
<b>NG.110A</b>	110	156	95	59	125	BA.85A	GA.84A	8,60
<b>NG.115A</b>	115	162	95	67	135	BA.85A	GA.84A	9,73
<b>NG.120A</b>	120	169	95	67	135	BA.85A	GA.84A	9,48

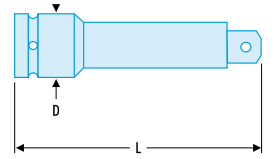
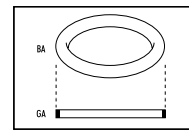


# Impact range

## 1 1/2" drive impact extensions

• For your safety, use impact extensions with the appropriate rings and pins.


	L mm	D mm	BA	GA	$\Delta\Delta$ kg
<b>NG.210A</b>	250	86	BA.75A	GA.75A	5,6
<b>NG.215A</b>	330	86	BA.75A	GA.75A	6,8

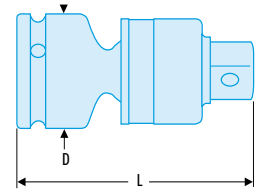
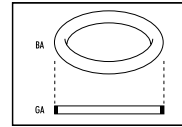


## 1 1/2" drive impact universal joint

### NG.240A

• For your safety, use impact universal joints with the appropriate rings and pins.


	L mm	D mm	GA	BA	$\Delta\Delta$ kg
<b>NG.240A</b>	181	86	GA.75A	BA.75A	4,2

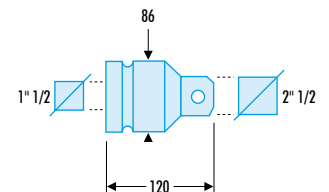
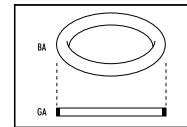


## 1 1/2" to 2 1/2" impact coupler

### NG.232A

• For your safety, use impact universal joints with the appropriate rings and pins.


	L mm	D mm	GA	BA	$\Delta\Delta$ kg
<b>NG.232A</b>	120	86	GA.75A	BA.75A	3,9

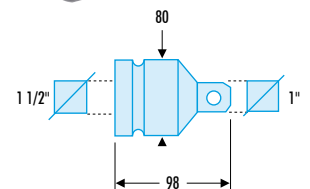
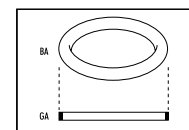


## 1 1/2" to 1" impact coupler

### NG.230A

• For your safety, use impact universal joints with the appropriate rings and pins.

	L mm	D mm	GA	BA	$\Delta\Delta$ kg
<b>NG.230A</b>	100	86	GA.75A	BA.75A	2,1665



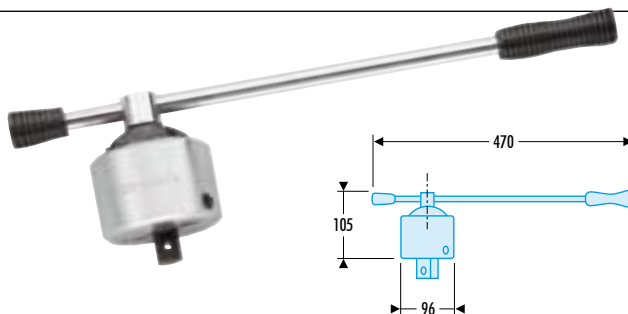
# 3/4" drive Dynapact manual impact wrench

## ▶ 3/4" series

### 3/4" drive Dynapact manual impact wrench

#### NK.300

- Stored energy frees or secures very tight fasteners.
- Handle rotation through 60° (approx.) releases torque.
- 10 impacts on 21 mm A/F equate to 1000 N.m.



Description
NK.300M Dynapact handle

### 3/4" drive Dynapact manual impact wrench set

#### NK.301AE

- Comprising :
  - Wrench NK.300 and 16 tools with locking rings and pins.
  - Sockets NK.19A - 21A - 22A - 23A - 24A - 26A - 27A - 29A - 30A - 32A - 34A - 36A - 38A - 41A - 42A.
  - 1 extension NK.210A.
- Metal case.  
BT.103G : 643 x 224 x 111 mm.
- Tray PL.84A.
- ΔΔ : 16.7 kg.

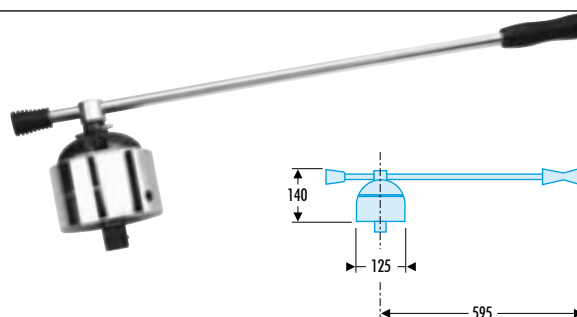


## ▶ 1" series

### 1" drive Dynapact manual impact wrench

#### NM.300

- Stored energy frees or secures very tight fasteners.
- Handle rotation through 60° (approx.) releases torque.
- 10 impacts on 21 mm A/F equate to 2000 N.m.
- ΔΔ : 10.8 kg.



Description
NM.300M Dynapact handle



## Impact screwdriver

- Facom has the solution for quickly and safely releasing seized, rusted or glued fasteners : the impact screwdriver.

See page **366**







# 6. Torque control

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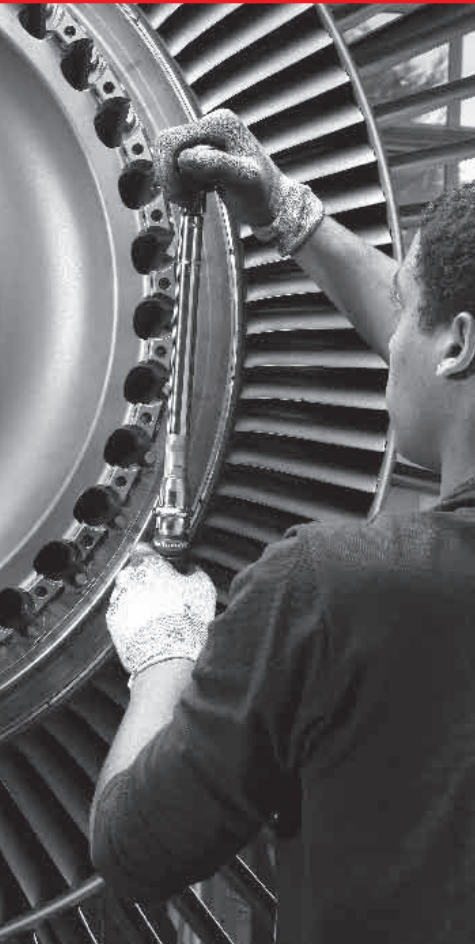
692  Section 17 0-series bits  
4 mm drive





**NEW**

**Series R.306-5 click wrenches**



### *Compact torque wrench for confined spaces*

#### **Advantages**

- ▶ Compact
- ▶ Reliable
- ▶ Safe and precise
- ▶ Ergonomic



**N** 273

**NEW**

**Torque control services**



### *Guaranteed peace of mind*

#### **Advantages**

- ▶ Cofrac services
- ▶ Calibration certificates
- ▶ Torque adjustments
- ▶ Tool checking



**N** 268



*Radio-frequency  
torque transmission*

**Advantages**

- ▶ Identification of correct and incorrect torques
- ▶ Total traceability of data
- ▶ Production process control

**easotork**



N 284

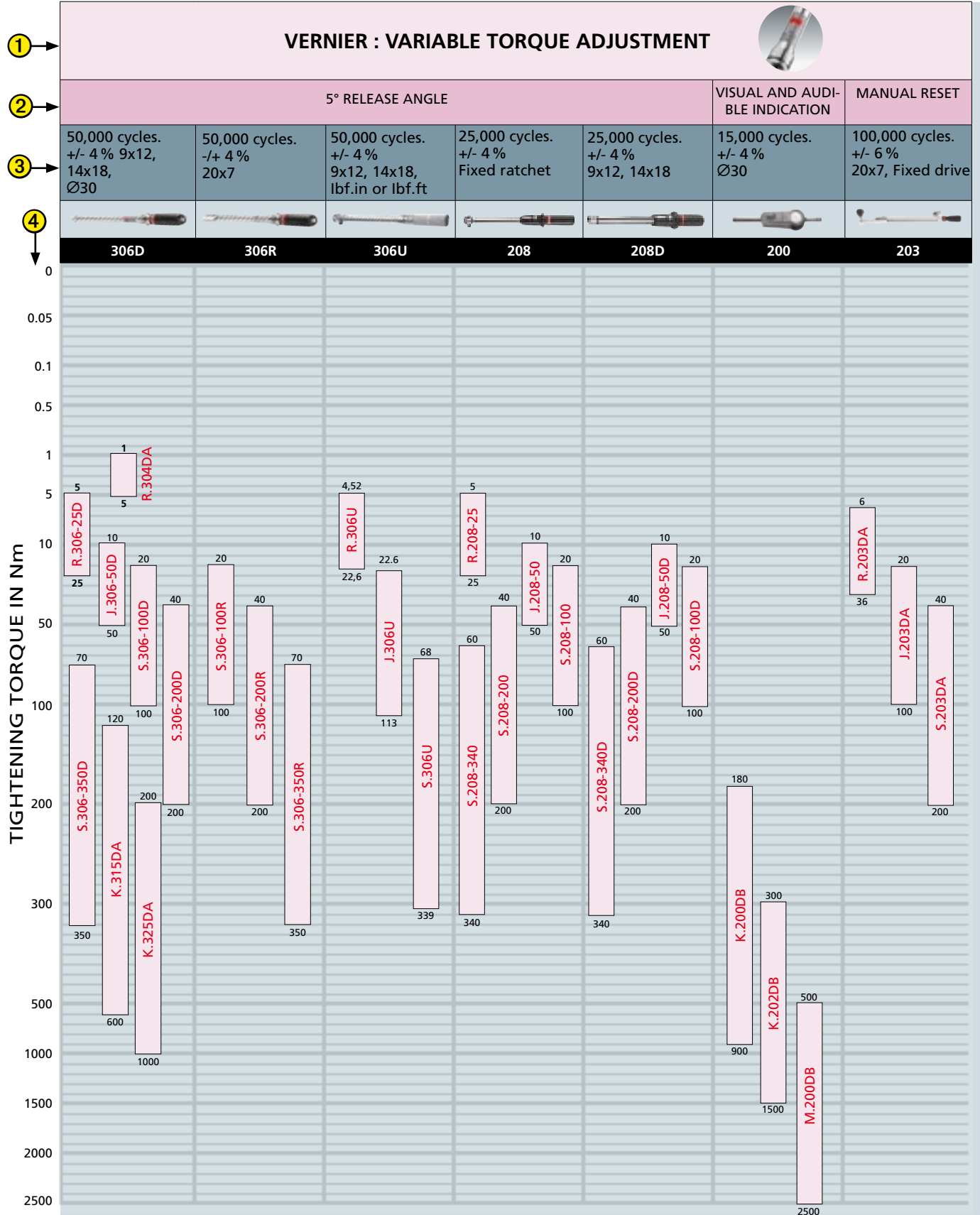




## Selection guide

To find the right wrench for your application :

- ① Choose the type of application
- ② Choose the torque-setting method



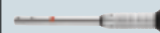






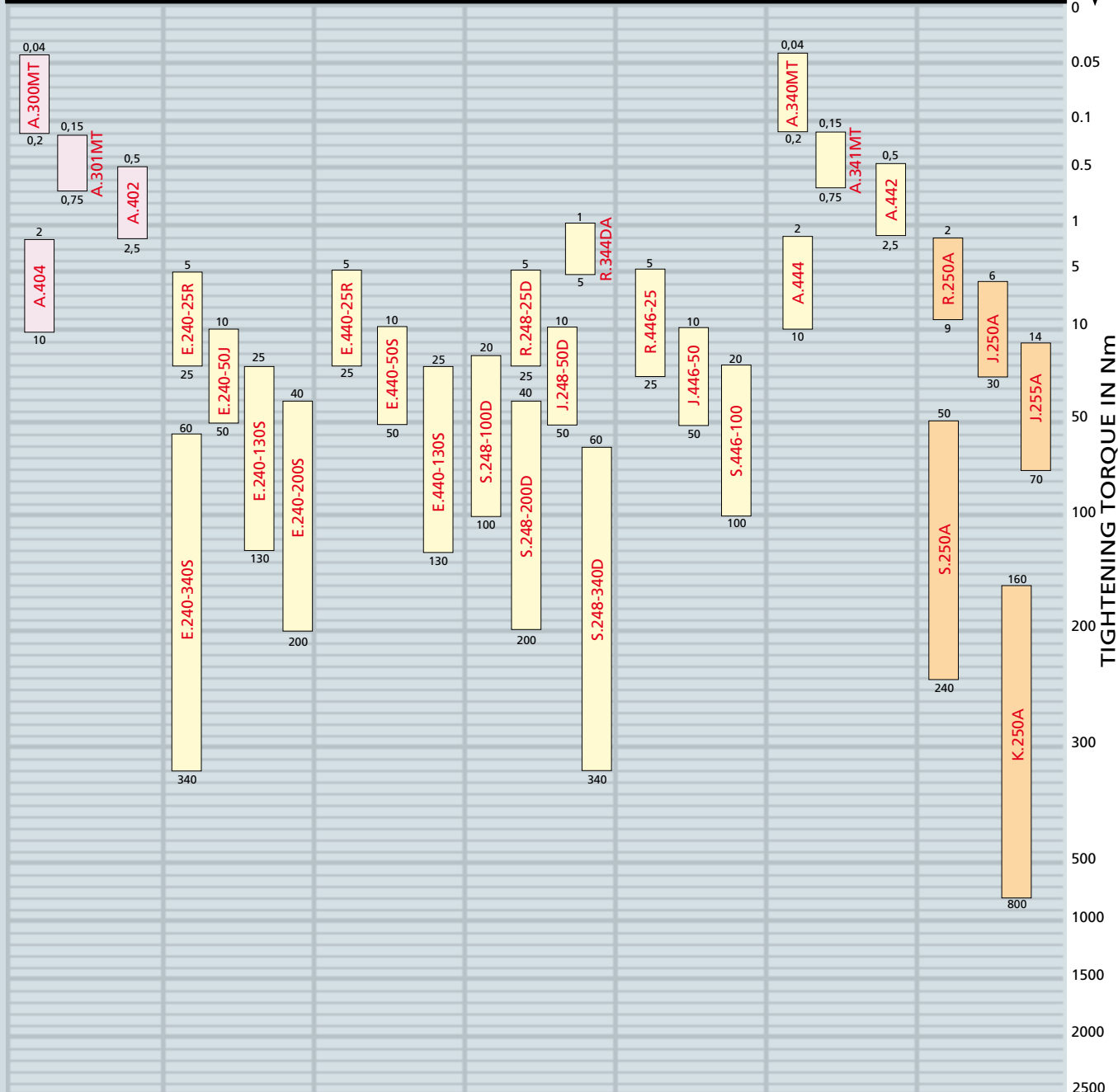
## Selection guide

③ Choose its characteristics  
(Number of cycles, accuracy, end fitting)

④ Choose the torque range

See the accessory  
selection guide  
on page **265**

NON VERNIER : REPETITIVE TIGHTENING TO THE SAME TORQUE					TORQUE READING	
RELEASE	ELECTRONIC + TRACEABILITY		MECHANICAL		RELEASE	DIAL
	5° "CLICK"	20° "BREAK"	5° "CLICK"	20° "BREAK"		
100,000Cycles +/- 6 % ○ 4 mm, 1/4"	100,000 cycles. +/- 4 % 9x12, 14x18	100,000 cycles. +/- 4 % 9x12, 14x18	100,000 cycles. +/- 4 % 9x12, 14x18	50,000 cycles. +/- 8 % 9x12, 14x18,	100,000 cycles. +/- 6 % ○ 4 mm, 1/4"	20,000 cycles. +/- 4 % Fixed drive
						
A.400 / A.300MT	E.240	E.440	248	446	A.440 / A.340MT	250







## Torque control guide



### Tightening torque and tensile load

- Application of the correct force (tensile load) is essential for a reliable assembly :
  - under-tight fasteners can work loose.
  - over-tight fasteners may distort components to be connected ; , or shear the fastener.
- Tensile load depends on tightening torque applied to the fastener and the friction coefficient.

#### Tensile load (Fo)

The force in Newtons (N) which maintains pressure contact between assembled components.

#### Tightening torque (Cs)

The product of a force and the leverage length at which it is applied : Torque (N.m) = Force (in Newtons) x length (in metres).

### Tightening torque table :

Torque values are given for 85 % fastener yield strength (documentation E 25-030).

#### 1. Friction coefficient

Choose the appropriate table according to type of fasteners used (0.10, 0.15, or 0.20).

Example :  $\mu = 0.10$ .

#### 2. Fastener grade

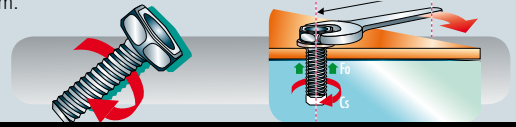
The grade of a fastener denotes its quality (best is 12.9).

Check the appropriate column for the fasteners used.

Example : fastener dia. 10, fastener grade  $\{8.8\}$

### 3. Tightening torque (Cs).

Torque values are listed in Newton-meters (Nm) for each type of fastener. In the example given, the fastener would be tightened to a torque of 36 Nm.



#### CONVERSION TABLE

The internationally accepted unit is the Newton-metre (Nm).

##### 1. To convert Nm

- Newton-metres to Kilogramme-force metres : 1 Nm = 0.102 kgf.m
- Newton-metres to Pound-force feet : 1 Nm = 0.738 lbf.ft
- Newton-metres to Pound-force inches : 1 Nm = 8.851 lbf.in
- Newton-metres to Ounce-force inches : 1 Nm = 141.61 ozf.in

##### 2. To convert kgf.m

- Kilogramme-force metres to Newton-metres : 1 kgf.m = 9.81 Nm
- Kilogramme-force metres to Pound-force feet : 1 kgf.m = 7.23 lbf.ft
- Kilogramme-force metres to Pound-force inches : 1 kgf.m = 86.8 lbf.in

##### 3. To convert lbf.ft

- Pound-force feet en Newton-metres : 1 lbf.ft = 1.35 Nm
- Pound-force feet to Kilogramme-force metres : 1 lbf.ft = 0.138 kgf.m
- Pound-force feet to Pound-force inches : 1 lbf.ft = 12 lbf.in

##### 4. To convert lbf.in

- Pound-force inches to Newton-metres : 1 lbf.in = 0.1129 Nm
- Pound-force inches to Kilogramme-force metres : 1 lbf.in = 0.0115 kgf.m
- Pound-force inches to Pound-force feet : 1 lbf.in = 0.083 lbf.ft
- Pound-force inches to Ounce-force inches : 1 lbf.in = 16 ozf.in

$\mu = 0.10$  tightening torques for phosphated or galvanised fasteners with full lubrication ( $\mu$  = average friction coefficient)

ISO 272			Steel fastener grades to ISO 898-1													
d mm	ISO mm	mm	5,6		5,8		6,8		8,8		9,8		10,9		12,9	
			Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,060	260	0,084	364	0,096	416	0,128	555	0,144	624	0,189	815	0,221	954
2**	0,40	4	0,126	432	0,177	604	0,202	690	0,270	921	0,303	1 036	0,396	1 352	0,463	1 582
2,5**	0,45	5	0,261	718	0,365	1 006	0,417	1 150	0,556	1 533	0,626	1 724	0,82	2 251	0,96	2 634
3	0,50	5,5	0,44	1 077	0,62	1 508	0,71	1 724	0,95	2 298	1,09	2 586	1,40	3 376	1,64	3 951
4	0,70	7	1,03	1 868	1,44	2 615	1,65	2 988	2,20	3 985	2,49	4 484	3,23	5 853	3,78	6 849
5	0,80	8	2,03	3 053	2,85	4 275	3,25	4 885	4,34	6 514	4,92	7 335	6,3	9 568	7,4	11 196
6	1	10	3,53	4 310	4,95	6 034	5,6	6 896	7,5	9 195	8,53	10 336	11	13 506	12,9	15 805
8	1,25	13	8,5	7 904	11,9	11 066	13,6	12 647	18,2	16 863	20,63	18 968	26	24 768	31	28 984
10	1,50	16	16,8	12 580	23	17 612	27	20 128	36	26 838	41	30 197	52	39 418	61	46 128
12	1,75	18	29	18 337	40	25 672	46	29 339	62	39 119	70	44 022	91	57 457	106	67 236
14	2	21	46	25 175	65	35 245	74	40 280	99	53 707	111	60 251	145	78 882	170	92 309
16	2	24	71	34 597	100	48 436	115	55 356	153	73 808	173	83 165	225	108 406	263	126 858
18	2,5	27	99	42 094	139	58 932	159	67 351	220	92 440			313	131 897	366	154 348
20	2,5	30	140	54 059	196	75 682	225	86 494	311	119 003			440	169 385	515	198 216
22	2,5	34	192	67 511	269	94 515	307	108 017	424	148 374			602	211 534	704	247 540
24	3	36	241	77 845	338	108 983	387	124 552	534	171 437			758	243 914	887	285 432
27	3	41	355	102 393	498	143 350	569	163 829	784	225 110			1 114	320 832	1 304	375 442
30	3,5	46	483	124 491	677	174 287	773	199 185	1 067	274 030			1 515	390 072	1 773	456 467
33	3,5	50	653	155 083	915	217 116	1 046	248 132	1 442	341 347			2 048	485 926	2 397	568 637
36	4	55	841	182 032	1 177	254 845	1 346	291 252	1 855	400 571			2 636	570 369	3 085	667 453
39	4	60	1 088	218 667	1 523	306 135	1 741	349 868	2 399	481 158			3 410	685 159	3 990	801 782
42**	4,5	65	1 348	250 311	1 887	350 435	2 156	400 497	2 965	550 683			4 223	784 306	4 941	917 805
45**	4,5	70	1 681	292 970	2 353	410 158	2 690	468 752	3 698	644 534			5 267	917 973	6 164	1 074 223
48**	5	75	2 032	329 254	2 845	460 956	3 251	526 807	4 470	724 359			6 367	1 031 663	7 450	1 207 265
52**	5	80	2 608	395 006	3 651	553 008	4 172	632 009	5 737	869 013			8 171	1 237 685	9 562	1 448 354
56**	5,5	85	3 255	456 159	4 557	638 622	5 208	729 854	7 161	1 003 549			10 199	1 429 298	11 935	1 672 582
60**	5,5	90	4 032	532 893	5 645	746 050	6 451	852 629	8 871	1 172 365			12 634	1 669 732	14 785	1 953 941
64**	6	95	4 856	602 793	6 798	843 911	7 769	964 470	10 683	1 326 146			15 215	1 888 753	17 805	2 210 243

Grade 8-8a up to d=16 mm, 8-8b above d=118 mm





## Torque control guide (continued)



$\mu = 0.15$  tightening torques for coated or bright fasteners fitted dry ( $\mu$  = average friction coefficient)

ISO 272			Steel fastener grades to ISO 898-1													
d mm	ISO mm	mm	5,6		5,8		6,8		8,8		9,8**		10,9		12,9	
			Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,075	234	0,105	327	0,120	374	0,160	499	0,180	561	0,235	732	0,275	857
2**	0,40	4	0,159	388	0,222	544	0,254	621	0,339	829	0,381	932	0,498	1 217	0,582	1 424
2,5**	0,45	5	0,330	648	0,463	907	0,529	1 036	0,705	1 382	0,793	1 555	1,04	2 030	1,21	2 375
3	0,50	5,5	0,57	972	0,80	1 362	0,91	1 556	1,21	2 075	1,38	2 335	1,79	3 048	2,09	3 567
4	0,70	7	1,30	1 685	1,83	2 359	2,09	2 696	2,78	3 594	3,16	4 044	4,09	5 279	4,79	6 178
5	0,80	8	2,59	2 759	3,62	3 862	4,14	4 414	5,5	5 886	6,27	6 626	8,1	8 645	9,5	10 116
6	1	10	4,49	3 891	6,2	5 448	7,1	6 226	9,5	8 302	10,84	9 334	14,0	12 194	16,4	14 269
8	1,25	13	7 145	7 145	15,2	10 003	17,4	11 432	23	15 242	26,34	17 146	34	22 388	40	26 198
10	1,50	16	21	11 379	30	15 930	34	18 206	46	24 275	52	27 313	67	35 655	79	41 724
12	1,75	18	37	16 594	52	23 231	59	26 550	79	35 401	90	39 835	116	51 995	136	60 845
14	2	21	59	22 789	83	31 905	95	36 463	127	48 618	143	54 570	187	71 408	219	83 563
16	2	24	93	31 385	130	43 939	148	50 216	198	66 955	224	75 422	291	98 340	341	115 079
18	2,5	27	128	38 123	179	53 373	205	60 998	283	83 746			402	119 454	471	139 787
20	2,5	30	182	49 039	254	68 655	291	78 463	402	107 941			570	153 657	667	179 811
22	2,5	34	250	61 326	350	85 857	400	98 123	552	134 806			783	192 157	917	224 865
24	3	36	313	70 616	438	98 863	500	112 986	691	155 489			981	221 266	1 148	258 928
27	3	41	463	93 042	649	130 259	741	148 868	1 022	204 577			1 452	291 534	1 700	341 157
30	3,5	46	628	113 045	880	158 263	1 005	180 872	1 387	248 811			1 969	354 209	2 305	414 500
33	3,5	50	854	141 009	1 195	197 412	1 366	225 614	1 884	310 343			2 676	441 828	3 132	517 033
36	4	55	1 096	165 409	1 534	231 573	1 754	264 655	2 418	363 974			3 435	518 282	4 020	606 501
39	4	60	1 424	198 910	1 994	278 474	2 279	318 257	3 139	437 669			4 463	623 253	5 223	729 339
42**	4,5	65	1 760	227 588	2 464	318 624	2 816	364 141	3 872	500 694			5 515	713 110	6 453	834 491
45**	4,5	70	2 203	266 613	3 085	373 258	3 525	426 580	4 847	586 548			6 903	835 386	8 079	977 579
48**	5	75	2 659	299 530	3 722	419 342	4 254	479 248	5 849	658 966			8 330	938 528	9 748	1 098 277
52**	5	80	3 425	359 684	4 795	503 558	5 480	575 495	7 335	791 306			10 731	1 127 011	12 558	1 318 843
56**	5,5	85	4 270	415 172	5 978	581 240	6 832	664 275	9 394	913 378			13 379	1 300 871	15 656	1 522 296
60**	5,5	90	5 306	485 416	7 428	679 583	8 490	776 666	11 673	1 067 916			16 625	1 520 971	19 455	1 779 860
64**	6	95	6 382	548 969	8 935	768 556	10 212	878 350	14 041	1 207 731			19 998	1 720 102	23 402	2 012 885

$\mu = 0.20$  tightening torques for black or galvanised fasteners with minimal lubrication (as supplied) ( $\mu$  = AVERAGE friction coefficient)

ISO 272			Steel fastener grades to ISO 898-1													
d mm	ISO mm	mm	5,6		5,8		6,8		8,8		9,8**		10,9		12,9	
			Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,086	210	0,120	294	0,137	335	0,183	447	0,206	503	0,269	657	0,315	769
2**	0,40	4	0,183	349	0,256	488	0,293	558	0,390	744	0,439	837	0,573	1 093	0,671	1 279
2,5**	0,45	5	0,383	582	0,536	815	0,612	931	0,816	1 242	0,918	1 397	1,20	1 824	1,40	2 134
3	0,50	5,5	0,66	874	0,92	1 224	1,06	1 399	1,41	1 866	1,60	2 099	2,07	2 740	2,43	3 207
4	0,70	7	1,51	1 514	2,11	2 120	2,42	2 422	3,22	3 230	3,66	3 635	4,74	4 744	5,5	5 552
5	0,80	8	3,00	2 481	4,20	3 473	4,81	3 970	6,4	5 293	7,27	5 958	9,4	7 774	11,0	9 098
6	1	10	5,2	3 498	7,2	4 893	8,3	5 598	11,1	7 464	12,57	8 392	16,3	10 962	19,1	12 828
8	1,25	13	12,6	6 426	17,7	8 997	20	10 283	27	13 710	30,62	15 423	39	20 137	46	23 565
10	1,50	16	25	10 238	35	14 334	40	16 382	53	21 843	61	24 575	78	32 082	92	37 542
12	1,75	18	43	14 934	60	20 908	69	23 895	92	31 860	105	35 849	136	46 795	159	54 760
14	2	21	69	20 514	97	28 719	111	32 822	148	43 763	167	49 142	218	64 277	255	75 218
16	2	24	108	28 280	152	39 592	174	45 248	232	60 331	262	67 944	341	88 611	399	103 694
18	2,5	27	149	34 324	209	48 054	239	54 919	330	75 421			469	107 549	549	125 856
20	2,5	30	213	44 188	298	61 863	341	70 700	471	97 253			667	138 456	781	162 023
22	2,5	34	293	55 298	411	77 418	470	88 478	648	121 574			920	173 269	1 077	202 762
24	3	36	366	63 630	513	89 803	586	101 809	809	140 084			1 148	199 376	1 343	233 313
27	3	41	544	83 910	762	117 474	871	134 257	1 201	184 517			1 706	262 920	1 997	307 672
30	3,5	46	737	101 914	1 032	142 679	1 180	163 062	1 628	224 292			2 311	319 331	2 704	373 685
33	3,5	50	1 004	127 210	1 406	178 094	1 607	203 536	2 216	279 953			3 148	398 593	3 684	466 438
36	4	55	1 288	149 174	1 803	208 844	2 060	238 679	2 840	328 236			4 036	467 413	4 723	546 973
39	4	60	1 677	179 487	2 348	251 282	2 683	287 179	3 697	394 919			5 255	562 393	6 150	658 119
42**	4,5	65	2 070	205 323	2 898	287 452	3 312	328 516	4 554	451 710			6 486	643 344	7 590	752 849
45**	4,5	70	2 596	240 641	3 635	336 897	4 154	385 025	5 712	529 410			8 136	754 008	9 520	882 350
48**	5	75	3 130	270 321	4 383	378 449	5 009	432 514	6 887	594 706			9 809	847 006	11 478	991 177
52**	5	80	4 041	324 763	5 657	454 668	6 465	519 620	8 889	714 478			12 661	1 017 590	14 816	1 190 797
56**	5,5	85	5 034	374 739	7 048	524 635	8 054	599 582	11 075	824 426			15 773	1 174 182	18 458	1 374 043
60**	5,5	90	6 266	438 337	8 772	613 672	10 026	701 340	13 785	964 342			19 634	1 373 457	22 976	1 607 237
64**	6	95	7 533	495 676	10 546	693 947	12 052	793 082	16 572	1 090 488			23 603	1 553 119	27 620	1 817 480

\* Grade 8-8a up to d=16 mm, 8-8b above d=18 mm





## Cofrac services provided by Facom



### FACOM'S COFRAC-ACCREDITED LABORATORY IS YOUR PARTNER

- For accurate torquing.
- For calibrating and regularly checking your tools in accordance with ISO requirements.
- For mutually recognised validity of tool calibration and inspection with European and other countries based on multilateral or bilateral recognition agreements (EA ; ILAC).
- For relating your tools back to the national and international (SI) system of units.

#### 1. Calibration certificate plus COFRAC declaration of conformity (3 or 10 points)

For FACOM graduated tools or other makes. Within the 0.04 Nm to 5000 Nm accreditation range according to ISO 6789.

- Direct reading torque wrenches (type 1)
  - Direct reading (type 1)
  - Vernier (type 2)
  - Electronic (type 1)
- Vernier torque drivers 0.04 Nm to 12 Nm



#### 2. Setting to the required torque with Calibration certificate and COFRAC declaration of conformity (1 point)

Within the 0.04 Nm to 3000 Nm accreditation range according to ISO 6789

- Non-vernier click torque wrenches (type 2)  
1 Nm to 350 Nm
- Non-vernier torque drivers  
0.04 Nm to 12 Nm



#### 3. Calibration certificate plus COFRAC declaration of conformity.

For FACOM torque testers (please consult us for other makes)

Within the 0.04 Nm to 5000 Nm accreditation range according to ISO 6789

- Electronic type E.4000 and E.5000  
- 0.1 Nm to 3,000 Nm
- Mechanical type CD  
- 12 Nm to 500 Nm
- Mechanical type CDS  
- 0.05 Nm to 12 Nm





## Facom services



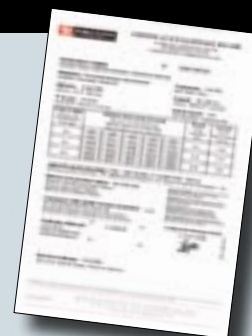
### **FACOM TORQUE CONTROL SERVICES**

*The Facom Laboratory is linked to the national calibration standards and provides the following services as required by ISO 6789 and its own quality assurance procedures :*

#### **1. Facom 3-point calibration certificate**

According to ISO 6789 (3 points at 20 %, 60 %, 100 %)

- Torque wrenches 0.04 Nm to 3000 Nm
  - Direct reading
  - Vernier
  - Electronic
- Vernier torque drivers 0.04 Nm to 12 Nm



#### **2. Facom 10-point calibration certificate**

- Torque wrenches 0.04 Nm to 3000 Nm
  - Direct reading
  - Vernier
  - Electronic
- Vernier torque drivers 0.04 Nm to 12 Nm



#### **3. Setting to the required torque plus Facom calibration certificate (1 point)**

- Click torque wrenches (type 2) 0.04 Nm to 350 Nm



- Non-vernier torque drivers 0.04 Nm to 12 Nm





## Additional services



### COFRAC SERVICES PROVIDED BY FACOM

#### FACOM wrenches

Reference	Description	Measuring range
<b>CVC.RJS</b>	Calibration certificate plus COFRAC declaration of conformity (3 points). Facom graduated tools	0,04 N.m to 360 N.m
<b>CVC.KM</b>	Calibration certificate plus COFRAC declaration of conformity (3 points). Facom graduated tools	360 N.m to 3000 N.m
<b>CEC10.RJS</b>	COFRAC calibration certificate (10 points). Facom graduated tools	0,04 N.m to 360 N.m
<b>CEC10.KM</b>	COFRAC calibration certificate (10 points). Facom graduated tools	360 N.m to 3000 N.m
<b>PRER.CO</b>	Presetting plus Calibration certificate plus COFRAC declaration of conformity (1 point).	0,04 N.m to 3000 N.m
<b>CEC11</b>	COFRAC calibration certificate. Facom torque meter, 1 direction	0,04 N.m to 1000 N.m
<b>CEC12</b>	COFRAC calibration certificate. Facom torque meter, 2 directions	0,04 N.m to 1000 N.m
<b>CEC21</b>	COFRAC calibration certificate. Facom torque meter, 1 direction	1000 N.m to 5000 N.m
<b>CEC22</b>	COFRAC calibration certificate. Facom torque meter, 2 directions	1000 N.m to 5000 N.m
<b>CEC31</b>	COFRAC calibration certificate. Facom E.5000 torque meter, 1 direction	10 N.m to 1000 N.m
<b>CEC32</b>	COFRAC calibration certificate. Facom E.5000 torque meter, 2 directions	10 N.m to 1000 N.m

#### Non-FACOM wrenches

Reference	Description	Measuring range
<b>CVCA1</b>	Calibration certificate plus COFRAC declaration of conformity (3 points). Non-Facom graduated tools	0,04 N.m to 360 N.m
<b>CVCA2</b>	Calibration certificate plus COFRAC declaration of conformity (3 points). Non-Facom graduated tools	360 N.m to 3000 N.m
<b>CEC10.A1</b>	COFRAC calibration certificate (10 points). Non-Facom graduated tools	0,04 N.m to 360 N.m
<b>CEC10.A2</b>	COFRAC calibration certificate (10 points). Non-Facom graduated tools	360 N.m to 3000 N.m
<b>PRER.CO</b>	Presetting plus Calibration certificate plus COFRAC declaration of conformity (1 point).	0,04 N.m to 3000 N.m
<b>CECA11</b>	COFRAC calibration certificate. Non-Facom torque meter, 1 direction	0,04 N.m to 1000 N.m
<b>CECA12</b>	COFRAC calibration certificate. Non-Facom torque meter, 2 directions	0,04 N.m to 1000 N.m
<b>CECA21</b>	COFRAC calibration certificate. Non-Facom torque meter, 1 direction	1000 N.m to 5000 N.m
<b>CECA22</b>	COFRAC calibration certificate. Non-Facom torque meter, 2 directions	1000 N.m to 5000 N.m

### FACOM SERVICES

#### FACOM wrenches

Reference	Description	Range of measurement
<b>CEF3.RJS</b>	3-point calibration certificate. FACOM graduated tools (ISO 6789)	0,04 N.m to 360 N.m
<b>CEF3.KM</b>	3-point calibration certificate. FACOM graduated tools (ISO 6789)	360 N.m to 3000 N.m
<b>CEF10.RJS</b>	10-point calibration certificate. FACOM graduated tools (Facom procedure)	0,04 N.m to 360 N.m
<b>CEF10.KM</b>	10-point calibration certificate. FACOM graduated tools (Facom procedure)	360 N.m to 3000 N.m
<b>PRER.F</b>	Presetting plus 1-point FACOM calibration certificate (ISO 6789)	0,04 N.m to 3000 N.m
<b>RVSERT</b>	Crimping plier inspection report (Facom procedure)	15 N.m to 380 N.m

#### Non-FACOM wrenches

Reference	Description	Range of measurement
<b>CVA1</b>	3-point calibration certificate. Facom graduated tools (ISO 6789)	0,04 N.m to 360 N.m
<b>CVA2</b>	3-point calibration certificate. Facom graduated tools (ISO 6789)	350 N.m to 3000 N.m

## Series 306

"HIGH PERFORMANCE"  
click wrenches

### ACCURATE, EVEN UNDER INTENSIVE USE

#### High performance

- Intensive use : reliability of mechanism tested to 50,000 cycles.
- Durable accuracy : remains within ISO 6789 tolerances after more than 5,000 cycles.
- Accuracy set at +/- 2 % ex works.

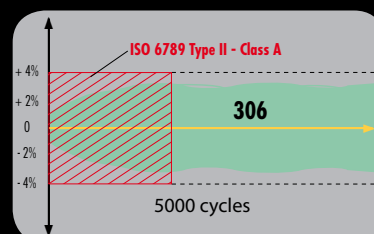
#### Safe

- Accurate, tamper-proof vernier. Easy to read and set for error-free adjustment.
- Automatically locking torque adjustment. No risk of accidental release.

#### Ergonomic

- Ergonomic handle
- Increased length for improved torque transfer and accuracy.
- Hanging ring for storage.

Performance exceeds  
ISO 6789  
ISO 6789 Type II - Class A





## ▶ "High performance" click wrenches

## 306A Click wrenches with removable ratchet

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : +/- 2 % except :  
- R.306-25D, K.315DA, K.325DA : +/- 4 %.  
- R.304DA : +/- 6 %.
- Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
- For use with 9x12, 14x18 and Ø 30 mm.
- One-way wrench convertible to two-way by inverting accessories.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Set supplied in a plastic box with ratchet pivot handle (except R.306A25, R.301A).



Ref	Capacity N.m	End fitting	Graduation N.m	Set contents			Dimensions wrench only		Dimensions including case		
				Wrench	Ratchet	Pivot knob	L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
R.301A	1-5	9 x 12	0,05	R.304DA	R.372	-	185	0,290	BP.102	205	0,58
R.306A25	5-25	9 x 12	0,10	R.306-25D	R.372	-	271	0,45	BP.D1	352	0,98
J.306A50	10-50	9 x 12	1,00	J.306-50D	J.372	S.305P	357	0,93	BP.D2	572	1,73
J.306A100	20-100	9 x 12	1,00	S.306-100D	J.372	S.305P	437	1,05	BP.D2	572	1,94
S.306A100	20-100	9 x 12	1,00	S.306-100D	S.372	S.305P	437	1,05	BP.D2	572	1,95
S.306A200	40-200	14 x 18	1,00	S.306-200D	S.382	S.305P	515	1,26	BP.D3	807	2,53
S.306A350	70-350	14 x 18	2,00	S.306-350D	S.382	S.305P	725	1,79	BP.D3	807	3,06
K.312A	120-600	14 x 18	2,00	K.315DA	K.382	-	990	5,160	BP.D600	1233	8,80
K.322	200-1000	Ø 30	4,00	K.325D	K.151A	-	1280	5,9	BP.D1000	1418	13,50

## 306D Click wrenches without accessories

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : +/- 2 % except :  
- R.306-25D, K.315DA, K.325DA : +/- 4 %.  
- R.304DA : +/- 6 %.
- Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
- For use with 9x12, 14x18 or Ø 30 mm.
- One-way wrench convertible to two-way by inverting accessories.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box.



Ref	Capacity N.m	End fitting	Graduation N.m	Dimensions wrench only		Dimensions including case		
				L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
R.304DA	1-5	9 x 12	0,05	185	0,290	BP.102	205	0,50
R.306-25D	5-25	9 x 12	0,10	271	0,45	BP.D1	352	0,90
J.306-50D	10-50	9 x 12	1,00	357	0,93	BP.D2	572	1,54
S.306-100D	20-100	9 x 12	1,00	437	1,05	BP.D2	572	1,75
S.306-200D	40-200	14 x 18	1,00	515	1,26	BP.D3	807	2,22
S.306-350D	70-350	14 x 18	2,00	725	1,79	BP.D3	807	2,75
K.315DA	120-600	14 x 18	2,00	945	4,6	BP.D600	1233	8,80
K.325DA	200-1000	Ø 30	4,00	1280	5,9	BP.D1000	1418	11,77

# Torque wrenches

## Click wrench with fixed ratchet

### R.306-5

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : +/- 6 %.
- Reliability of mechanism : 50,000 cycles.
- Compact wrench for confined spaces.
- 72-tooth ratchet (5° increments) for use with sockets.
- One-way wrench.
- Numbered and supplied with an ISO 6789 calibration certificate.

Capacity N.m	□	Graduation N.m	L mm	Dimensions including case L (mm)	Case	ΔΔ kg	
R.306-5	1-5	1/4	0,05	197	205 x 120	BP.102	0,30



## 306R Click wrenches with 20x7 fitting

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : +/- 2 %.
- Reliability of mechanism : 50,000 cycles (wrenches to 200 Nm).
- For use with 20x7 end accessories.
- One-way wrench convertible to two-way by inverting accessories.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.

Capacity N.m	End fitting	Length mm	Graduation N.m	ΔΔ kg
S.306-100R	20 x 7	420	1	1,04
S.306-200R	20 x 7	510	1	1,30
S.306-350R	20 x 7	698	2	1,89

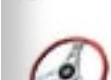


## 306U Click wrenches with dual lbf.in or lbf.ft and N.m graduation.

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : ± 2 %.
- Reliability of mechanism : 50,000 cycles.
- Two-way wrenches graduated in lbf.in or lbf.ft and N.m.
- Reversible ratchet.
- All-metal wrench with knurled metal handle.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box (with ratchet).

Capacity	End fitting		1 graduation		Length mm	Case	□ mm	ΔΔ kg
	lbf.in	lbf.ft	lbf. in	lbf.ft				
R.306U	40-200	-	9 x 12	1 -	285	BP.D1	1/4	0,46
J.306U	200-1000	-	9 x 12	5 -	379	BP.D2	3/8	1,05
S.306U	-	30-250	14 x 18	- 1	600	BP.D3	1/2	1,63





## 306 series wrench sets

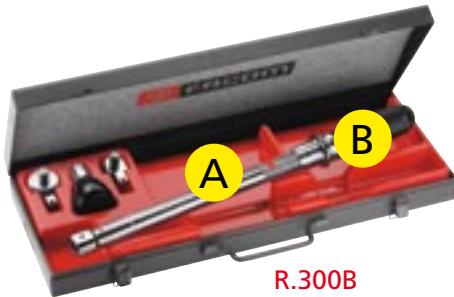
### Set contents :

Each modular set comes in a steel case with one or two empty compartments that can each hold an additional module of sockets or other accessories.



#### Building a set





1. Check which size modules ("module" column) the set will take, e.g. S.300B takes 2 modules size C (C+C).
2. Choose modules of the correct size. For the S.300B, with 9 x 12 end fittings, one can choose e.g. S.300-2 and J.300-3 (both size C modules). See below.



R.300B



J.300B - J.310B - S.300B

MODULES / mm	<b>A</b> 9 x 5 mm	<b>B</b> 14 x 5 mm	<b>C</b> 15 x 10 mm	
	R.300-1 <input type="checkbox"/> 1/4" Sockets 7-8-10-11-13 mm R.209 ΔΔ 150 g		J.300-1 <input type="checkbox"/> 3/8" Sockets 10-11-13-15-16-17-18-19 mm J.210 ΔΔ 540 g	S.300-1 <input type="checkbox"/> 1/2" Sockets 11-13-15-16-17-18-19-21-22 mm S.210 ΔΔ 850 g
		R.300-2 <input checked="" type="checkbox"/> 9 x 12 Open ends no. 10 : 11-13-15-16-17-18-19 mm ΔΔ 350 g	J.300-2 <input checked="" type="checkbox"/> 9 x 12 Ring ends no. 12 : 10-11-13-15-16-17-18-19 mm ΔΔ 380 g	S.300-2 <input checked="" type="checkbox"/> 9 x 12 Ring ends no. 12 : 11-13-15-16-17-18-19 mm ΔΔ 350 g
		R.300-3 <input checked="" type="checkbox"/> 9 x 12 Ring ends no. 12 : 8-10-11-12-13 mm ΔΔ 200 g	J.300-3 <input checked="" type="checkbox"/> 9 x 12 Open ends no. 10 : 11-13-15-16-17-18-19 mm ΔΔ 380 g	S.300-3 <input checked="" type="checkbox"/> 9 x 12 Open ends no. 10 : 8-10-11-12-13 mm ΔΔ 200 g
		R.300-4 <input type="checkbox"/> 1/4" Hex. bits RT : 3-4-5-6 mm ΔΔ 100 g	J.300-4 <input type="checkbox"/> 3/8" Hex. bits JT : 5-6-8-10 mm ΔΔ 190 g	S.300-4 <input type="checkbox"/> 1/2" Hex bits ST : 6-8-10-12 mm ΔΔ 330 g



# Torque wrenches

## 300B Modular sets

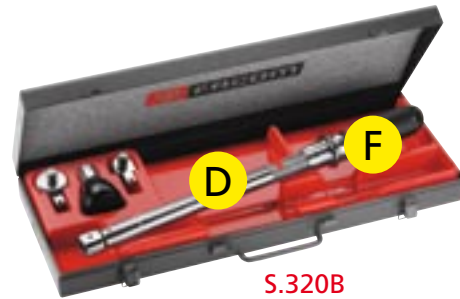
• Contents of 300B series modular sets :

- 1 306D series wrench.
- 1 ratchet.
- 1 square drive.
- 1 pivot knob S.305P (except R.300B).
- 1 steel case with storage tray. (2 free compartments for modules).





⇒	Capacity N.m	End fitting	Contents			Case	Tray	Case	□ "	Module	ΔΔ kg
			Wrench	Ratchet	Sq.end						
<b>R.300B</b>	5-25	9 x 12	R.306-25D	R.372	R.373	BP.115	PL.141A	322 x 128 x 50	1/4	A+B	1,5
<b>J.300B</b>	10-50	9 x 12	J.306-50D	J.372	J.373	BT.118	PL.140	470 x 175 x 55	3/8	C+C	3,1
<b>J.310B</b>	20-100	9 x 12	S.306-100D	J.372	J.373	BT.118	PL.137	470 x 175 x 55	3/8	C+C	3,3
<b>S.300B</b>	20-100	9 x 12	S.306-100D	S.372	S.373	BT.118	PL.137	470 x 175 x 55	1/2	C+C	3,3
<b>S.310B</b>	40-200	14 x 18	S.306-200D	S.382	S.383	BT.119	PL.138	625 x 175 x 55	1/2	C+E	4,4
<b>S.320B</b>	70-350	14 x 18	S.306-350D	S.382	S.383	BT.120	PL.139	770 x 175 x 55	1/2	D+F	5,3



S.310B



S.320B

MODULES / mm	<b>E</b> 28 x 10 mm	<b>D</b> 24 x 10 mm	<b>F</b> 39 x 10 mm
		<b>S.300-21</b> □ 1/2" Sockets 17-18-19-21-22- 24-27-30-32 mm S.210 ΔΔ 1300 g	
	<b>S.300-12</b> 14 x 18 Open ends no. 11 : 16-17-18-19-21-22- 24-27 mm ΔΔ 1280 g	<b>K.300-2</b> 14 x 18 Open ends no. 11 : 22-24-27- 30-32 mm ΔΔ 1020 g	<b>S.300-22</b> 14 x 18 Open ends no. 11 : 17-18-19- 21-22-24-27-30-32 mm ΔΔ 1,580 g
	<b>S.300-13</b> 14 x 18 Ring ends no. 13 : 16-17-18-19-21-22- 24-27 mm ΔΔ 1,140 g		<b>S.300-23</b> 14 x 18 Open ends no. 13 : 17-18-19-21- 22-24-27-30-32 mm ΔΔ 1,440 g <b>K.300-3</b> 14 x 18
	<b>S.300-14</b> □ 1/2" Hex. bits ST : 8-10-12-14 mm ΔΔ 400 g		<b>S.300-24</b> □ 1/2" Hex bits ST : 8-10-12-14-17 mm ΔΔ 540 g



## Series 208

"MULTI-PURPOSE"  
click wrench

## THE COMPACT WRENCH FOR ALL APPLICATIONS

### Heavy-duty

- reliability of mechanism tested to 25,000 cycles.
- Resistant to all hydrocarbons for use in garages or industrial environments.

### Compact

- Shorter and lighter for working in congested spaces.
- Fixed ratchet version with a smaller head.

### Reliable

- Accurate to within +/- 4% in accordance with ISO 6789.
- Long-lasting accuracy.
- Double (coarse and fine) vernier adjustment

ISO 6789 Type II - Class A

2 series :



• With fixed ratchet



• With removable ratchet



## ► "Multi-purpose" click wrenches

### 208 Click wrenches with fixed ratchet

► ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 72-tooth ratchet (5° increments) for use with sockets.
- One-way wrench.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.



►	Capacity N.m	□ "	Graduation N.m	L mm	ΔΔ kg
<b>R.208-25</b>	5-25	1/4	0,1	300	0,50
<b>J.208-50</b>	10-50	3/8"	0,5	357	0,90
<b>S.208-100</b>	20-100	1/2"	1	416	1,04
<b>S.208-200</b>	40-200	1/2"	2	479	1,22
<b>S.208-340</b>	60-340	1/2"	2	632	1,54

### 208D Click wrenches without accessories

► ISO 6789.

- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 9x12 or 14x18 end fitting (for ratchets, ring ends and open ends).
- One-way wrench convertible to two-way by inverting accessories.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube.



►	Capacity N.m	End fitting	Graduation N.m	L mm	ΔΔ kg
<b>J.208-50D</b>	10-50	9x12	0,5	337	0,78
<b>S.208-100D</b>	20-100	9x12	1	396	0,92
<b>S.208-200D</b>	40-200	14x18	2	466	1,11
<b>S.208-340D</b>	60-340	14x18	2	618	1,43

### 208A Click wrenches with removable ratchet

► ISO 6789.

- Accuracy : +/- 4 %.
- Reliability of mechanism : 25,000 cycles.
- 9x12 or 14x18 end fitting (for ratchets, ring ends and open ends).
- One-way wrench convertible to two-way by inverting accessories.
- Touch and sound signals on reaching preset torque.
- Automatic reset.
- Supplied with an ISO 6789 calibration certificate.
- Supplied in a protective plastic tube (with ratchet).



►	Capacity N.m	End fitting	Graduation N.m	Set contents		□ "	L mm	ΔΔ kg
				Wrench	Ratchet			
<b>J.208A50</b>	10-50	9x12	0,5	J.208-50D	J.372V	3/8"	337	0,78
<b>S.208A100</b>	20-100	9x12	1	S.208-100D	S.372V	1/2"	396	0,92
<b>S.208A200</b>	40-200	14x18	2	S.208-200D	S.382V	1/2"	466	1,11
<b>S.208A340</b>	60-340	14x18	2	S.208-340D	S.382V	1/2"	618	1,43





## Series 203 ▶ Manual reset wrench

### THE SIMPLE, HEAVY-DUTY WRENCH

#### Simple and Reliable

- Strong, dependable wrenches.
- Accurate to within +/- 6 % of the reading in accordance with ISO 6789.
- Numbered and supplied with a calibration certificate.

#### Triple signal

- Release of the rocker when preset torque is reached produces a triple visual, sensory and audible signal.
- Clear graduated scale ensures precise torque settings.
- Scale pointer movement helps to monitor torque increase.

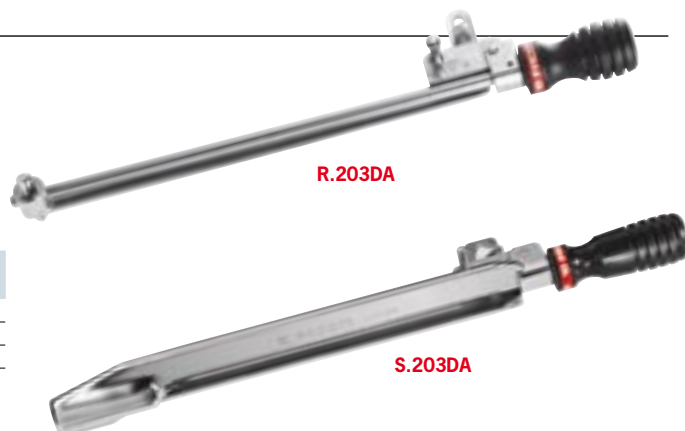


## ▶ Manual reset wrenches

### 203DA Manual reset wrenches

- Accuracy : +/- 4 %.
- Wrench R.203A graduated in Nm with fixed square drive
- Wrenches J.203A and S.203A graduated in daNm.

⇒	Capacity daN.m	Case	Length mm	□ "	1 graduation	ΔΔ kg
<b>R.203DA</b>	0,6 - 3,6	BP.D5	320	1/4	2,0 N.m	0,3
<b>J.203DA</b>	2,0 - 10,0	BP.D5	440	3/8	0,5 daN.m	0,8
<b>S.203DA</b>	4,0 - 20,0	BP.D5	460	1/2	1,0 daN.m	0,9



### 203A Manual reset wrenches with removable square drive

▷ ISO 6789, DIN EN 6789, NF EN ISO 6789.

- Accuracy : ± 6 % of reading.
- Wrench R.203A : graduated in Nm.
- Wrenches J.203A and S.203A graduated in daNm.
- Supplied in a plastic storage case with an ISO 6789 calibration certificate.



⇒	Capacity daN.m	Clé	Sq.end Contents	Handle	Case	Length mm	□ "	1 graduation	ΔΔ kg
<b>R.203A</b>	0,6-3,6	R.203DA		R.200P	BP.D5	320	1/4	2,0 N.m	0,40
<b>J.203A</b>	2,0-10,0	J.203DA	J.203E	S.200P	BP.D5	440	3/8	0,5 daN.m	0,95
<b>S.203A</b>	4,0-20,0	S.203DA	S.203E	S.200P	BP.D5	460	1/2	1,0 daN.m	1,00

# Torque wrenches

## 202A Manual reset wrenches with removable ratchet

▷ ISO 6789.

- Accuracy :  $\pm 6\%$  of reading.
- For  $\square 1/4$ " radio wrench, see R.203A.
- Supplied in a plastic storage case with an ISO 6789 calibration certificate.



E	Capacity N.m	Resolution N.m	Contents		Case	Length mm	$\square$ "	$\Delta\Delta$ kg
			Ratchet Wrench	Ratchet				
<b>J.202A</b>	2-10	0,5	J.203DA	J.152	BP.D5	460	3/8	1,00
<b>S.202A</b>	4-20	1,0	S.203DA	S.152	BP.D5	470	1/2	1,12

## 214A Extension for 203 series wrenches

- Two or three-fold capacity increase for wrenches J.203DA and S.203DA.
- For use with ratchets 152, end fittings 20 (SJ.214) and  $3/4$ " drive sockets (K.214A).



E	Capacity wrench	Length mm	$\Delta\Delta$ kg
<b>SJ.214</b>	x2	400	0,68
<b>K.214A</b>	x3	860	3,00

## 205E Modular sets with sockets

▷ ISO 6789, DIN EN 6789, NF EN ISO 6789.

- Each set has a free compartment for an additional module of end accessories.
- See table page 274 for suitable end accessories.
- Supplied with knob R.200P (R.205E) , S.200P (J.205E, S.205E).
- Supplied with extension SJ.214, (except R.205E).
- Supplied in a grey metal box.



E	Capacity daN.m	Contents		Case	Tray	mm	$\square$ "	Module	$\Delta\Delta$ kg
		Wrench	Socket module						
<b>R.205E</b>	0,6 - 3,6	R.203DA	R.300.1	BT.112G	PL.142	380 x 158 x 50	1/4	B	1,35
<b>J.205E</b>	2 - 10	J.203DA	J.300.11	BT.118	PL.136	470 x 175 x 55	3/8	C	4,26
<b>S.205E</b>	4 - 20	S.203DA	S.300.11	BT.119	PL.135	625 x 175 x 55	1/2	E	4,70

## Series 200 ▶ High-torque wrench

### HIGH-TORQUE WRENCHES

#### Comfort of use

- Large dial.
- Separate Nm and lbf.ft scales.
- Accurate to within +/- 4% of the reading in accordance with ISO 6789.
- Light signal on reaching preset torque.

#### Sturdy

- Large round end fitting Ø 30 mm.
- Optional use with jack or lifting gear.

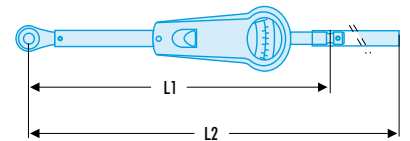


## ▶ High-torque wrenches

### Wrenches with ratchet and square drive

▷ ISO 6789.

- Numbered and supplied with a calibration certificate.
- Set supplied in a metal case with storage tray 760 x 220 x 140 mm.



ID	Capacity		□	Contents				Case	Tray	L1 - L2 mm	ΔΔ kg
	N.m	lbf.ft		Wrench	Ratchet	Sq.end	Handle				
<b>K.201B</b>	180 - 900	150 - 650	3/4	K.200DB	K.151A	M.200E	K.200MA	BT.102	PL.549	595 - 1019	7,90
<b>K.203B</b>	300 - 1500	250 - 1100	3/4	K.200DB	K.151A	K.200E	K.202MA	BT.102	PL.549	595 - 1019	8,00
<b>M.201B</b>	500 - 2500	300 - 1800	1"	M.200DB	M.151	M.200EA	-	BT.102	PL.549	724	18,00

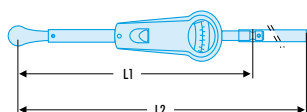


# Torque wrenches

## Wrenches with square drive

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Numbered and supplied with a calibration certificate.
- Set supplied in a metal case with storage tray 760 x 220 x 140 mm.



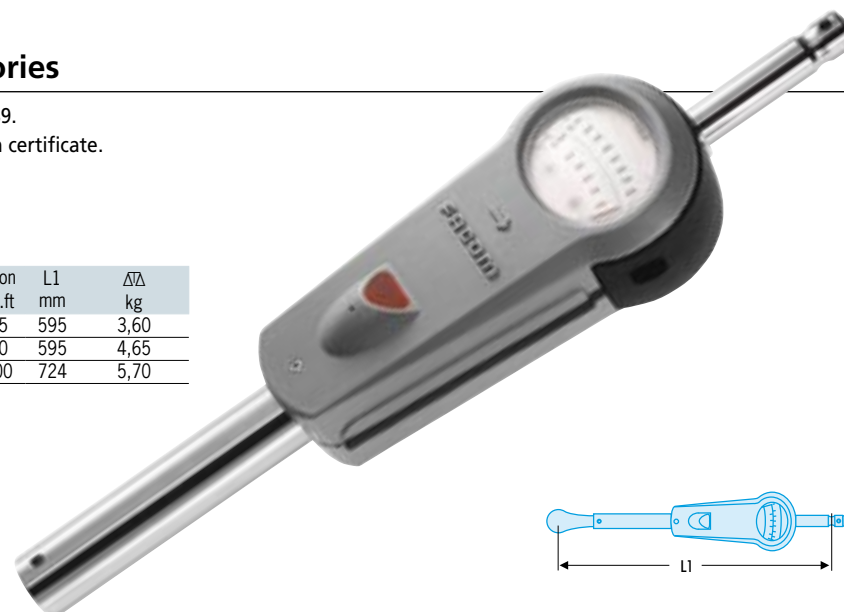
E	Capacity		□	Wrench	Contents		Case	Tray	L1 - L2 mm	ΔΔ kg
	N.m	lbf.ft			Sq.end	Handle				
<b>K.200B</b>	180-900	150-650	3/4	K.200DB	M.200E	K.200MA	BT.102	PL.549	595-1019	6,20
<b>K.202B</b>	300-1500	250-1100	3/4	K.200DB	K.200E	K.202MA	BT.102	PL.549	595-1019	6,30
<b>M.200B</b>	500-2500	300-1800	1	M.200DB	M.200EA	-	BT.102	PL.549	724	13,00

## Wrenches without accessories

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Numbered and supplied with a calibration certificate.

E	Capacity		1 graduation		L1 mm	ΔΔ kg
	N.m	lbf.ft	N.m	lbf.ft		
<b>K.200DB</b>	180 - 900	150 - 650	25	25	595	3,60
<b>K.202DB</b>	300 - 1500	250 - 1100	50	50	595	4,65
<b>M.200DB</b>	500 - 2500	300 - 1800	100	100	724	5,70



## Extension for wrench M.200DB

### M.200M

- Telescopic handle gives up to 3m leverage including length of wrench.

- Complete with fasteners.

ΔΔ : 8.144 kg.



## MC-NP series

## Torque multipliers



**FOR HIGH TIGHTENING AND LOOSENING TORQUES WITHOUT AN EXTERNAL POWER SOURCE**

### Type MC

- Compact and lightweight for awkward spaces.
- With stop lever



### Type NP

- Input torque limiter to protect the mechanism.
- Non-return system for increased safety.
- Lifetime-lubricated mechanism for ease of maintenance.
- Supplied with two reaction arms, one straight and one offset.



**More accurate, safer and more compact**

- Slow, gentle torque application ensures improved accuracy.
- Reduced lever arm compared to a high-torque wrench ensures operator safety.
- Reduced size allows multipliers to be used where high-torque wrenches cannot reach.

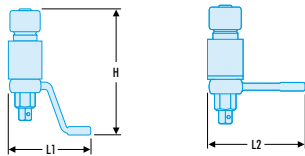
## ► Torque multiplier

### NP torque multiplier set

- Powerful tightening and loosening without external power source.
- Input torque limiter for safety.
- Non-return system.
- Torque multipliers are supplied in a case with the following accessories :
  - offset reaction arm.
  - straight reaction arm.



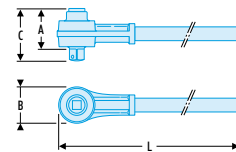
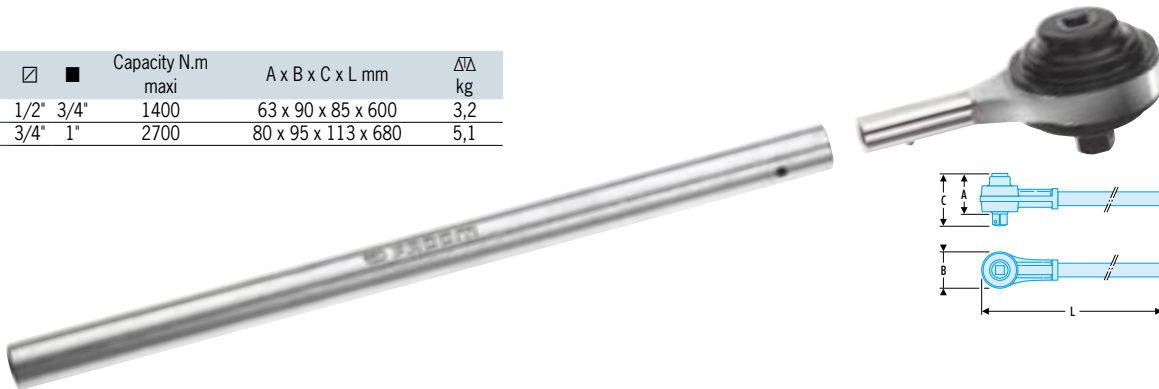
				L1 mm	H mm	L2 mm	Case L x l x h mm	ΔΔ kg
<b>NP.120</b>	NP.250JD	NP.250JC	S.151	200	260	260	370x200x160	6,430
<b>NP.250</b>	NP.250JD	NP.250JC	S.151	200	300	260	370x200x160	9,380
<b>NP.400</b>	NP.400JD	NP.400JC	S.151	270	420	350	440x250x160	19,250
<b>NP.600</b>	NP.400JD	NP.400JC	S.151	270	420	350	440x250x160	19,450



### MC Torque multipliers

- Compact, lightweight models suitable for maintenance tasks.
- Supplied in a soft case with stop lever.

			Capacity N.m maxi	A x B x C x L mm	ΔΔ kg
<b>MC.140A</b>	1/2"	3/4"	1400	63 x 90 x 85 x 600	3,2
<b>MC.270A</b>	3/4"	1"	2700	80 x 95 x 113 x 680	5,1



## Torque multiplier selection guide

**Required input torque :**  $Input\ torque = output\ torque \times multiplying\ factor$

Example : Specified tightening torque : 2000 Nm

Model NP.250 - Input torque = 2,000 x 0.088 = 176 Nm

	A "	B "	Demultiplication	Efficiency	Multiplying factor	Max. input torque Nm	Max. output torque Nm	L mm	Ø mm	ΔΔ kg
MULTIPLIER NP.120	1/2	3/4	1x4	0,87	0,287	340	1200	194	86	6,430
MULTIPLIER NP.250	1/2	1	1x16	0,71	0,088	216	2500	230	86	9,380
MULTIPLIER NP.400	1/2	1-1/2	1x64	0,50	0,032	130	4000	285	114	19,250
MULTIPLIER NP.600	1/2	1-1/2	1x64	0,50	0,032	190	6000	285	114	19,450
MULTIPLIER MC. 140A	1/2	3/4			0,294	412	1400	85	90	3.2
MULTIPLIER MC. 270A	3/4	1			0,294	794	2700	113	95	5.1



### Safety first

- WARNING :** for your safety, use only impact grade sockets and accessories. Always lock sockets with the appropriate pin and ring.
- WARNING :** Never use manual or pneumatic impact wrenches with this type of tool.







## Electromechanical wrench

Series E.240 - Series E.440

Torque control ▲

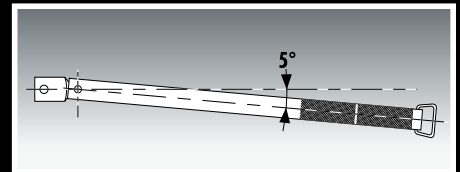
### Electromechanical wrench with radio-frequency torque transmission.

#### High performance

- Accurate to within +/- 4% in accordance with ISO 6789.
- Long-lasting accuracy (more than 5,000 cycles).
- Intensive use : reliability of mechanism tested to 100,000 cycles.

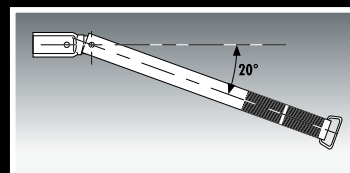
#### Safe

- Non-graduated preset torque wrenches for production applications.
- Preset with a socket key and a torque meter, no risk of no risk of accidentally altering settings.

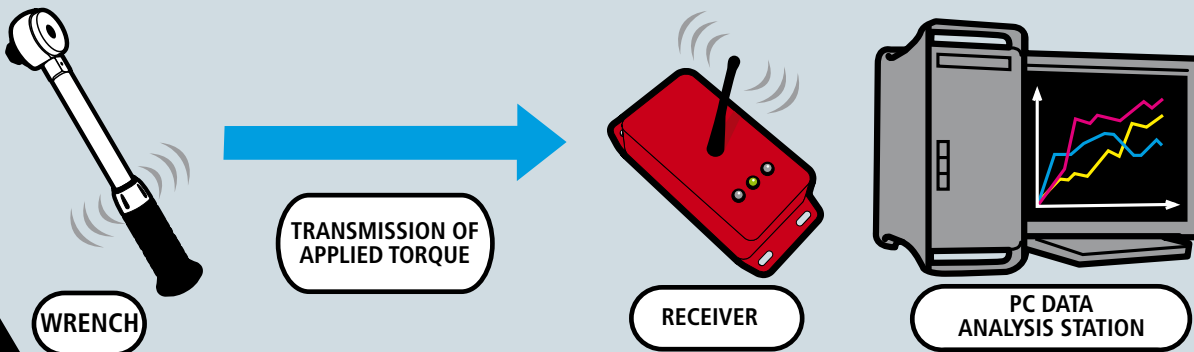


E.240 series

E.440 series



► Identification of correct and incorrect torques



► Total traceability of data

- All torques are recorded, the possibility of operator transcription error is eliminated.

Date	Time	Wrench ID	Torque No.	Actual applied torque	Torque	Overtorque
27/01/2007	09:56:08:03	E101156	53412	176,3	OK	No
27/01/2007	09:56:11:35	E101156	53413	181,1	OK	No
27/01/2007	09:56:13:88	E101156	53414	260	NoK	Yes
27/01/2007	09:56:16:42	E101156	53415	178,4	OK	No
27/01/2007	09:56:18:99	E101156	53416	179,5	OK	No
27/01/2007	09:56:21:30	E101156	53417	172,9	OK	No
27/01/2007	09:56:23:40	E101156	53418	178,6	OK	No
27/01/2007	09:56:25:49	E101156	53419	176,4	OK	No
27/01/2007	09:56:27:65	E101156	53420	197,9	NoK	No
27/01/2007	09:56:34:84	E120013	32635	442	NoK	Yes
27/01/2007	09:57:34:12	E120013	32636	250	OK	No
27/01/2007	09:59:51:07	E120013	32637	290	NoK	No
27/01/2007	09:59:53:58	E120013	32638	261,5	OK	No
27/01/2007	09:59:56:07	E120013	32639	231,5	OK	No
27/01/2007	10:00:25:03	E120013	32640	241,5	OK	No
27/01/2007	10:00:27:51	E120013	32641	248,7	OK	No
27/01/2007	10:00:29:94	E120013	32642	238,5	OK	No

► Production process control

- LEDs on wrench for operator self-checking.
- Errors can be identified and corrected in real time.
- Simultaneous display of 4 receivers.
- LED colours shown on the screen.
- Readings recorded in an Excel file.
- Wrench, receiver and system settings are configured by means of special password-protected menus.



## ► Non-vernier adjustable wrenches with radio transmission

### E.240 Easotork "click" type wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 4 %.
- Reliability : 100,000 cycles.
- Real-time radio transmission of applied torque.
- Preset tightening or loosening torque by inverting accessories.
- Non-vernier wrench : preset on a test rig using a socket key, see torque tester range.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box.



E	Capacity N.m	Attachement	Dimensions wrench only		Dimensions including case		
			L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
<b>E.240-25R</b>	5-25	9x12	347	0,75	BP.D2	585	1,37
<b>E.240-50J</b>	10-50	9x12	417	0,95	BP.D2	585	1,57
<b>E.240-130S</b>	25-130	9x12	450	1,06	BP.D2	585	1,68
<b>E.240-200S</b>	40-200	14x18	515	1,31	BP.D3	805	2,35
<b>E.240-340S</b>	60-340	14x18	587	1,49	BP.D3	805	2,53

E	Description
<b>E.240-BAT</b>	Replacement battery kit

### E.440 Easotork wide-angle "break" type wrenches

▷ ISO 6789.

- Accuracy : +/- 4 %.
- Reliability : 100,000 cycles.
- Real-time radio transmission of applied torque.
- Preset tightening or loosening torque by inverting accessories.
- Non-vernier wrench : preset on a test rig using a socket key, see torque tester range.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic box.



E	Capacity N.m	Attachement	Dimensions wrench only		Dimensions including case		
			L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
<b>E.440-25R</b>	5-25	9x12	340	0,71	BP.D2	585	1,33
<b>E.440-50J</b>	10-50	9x12	366	0,78	BP.D2	585	1,40
<b>E.440-130S</b>	25-130	9x12	463	1,07	BP.D3	805	2,13

E	Description
<b>E.240-BAT</b>	Replacement battery kit

### Radio receiver and USB cable

#### E.240-REC

- Frequency 869 MHz.
- Very sturdy aluminium casing.
- USB, RS232 and PLC outputs.
- For RS232 and PLC output (use receiver power supply E.240.ALI).
- Supplied in a plastic case complete with USB cable and socket key for presetting E.240 and E.440.



E	Sizes	ΔΔ
		g
<b>E.240-REC</b>	230 x 210 x 75 mm	790
Description		
<b>E.240-ALI</b>	Receiver power supply	




# Torque wrenches

## Calibration software and cable

### E.240-CAL

- Windows XP easotork software.
- PC and wrench connection cables.
- Wrench configuration and calibration unit.
- Supplied in plastic case.
- Power supply 9 V battery.

	Sizes	$\Delta\Delta$ g
E.240-CAL	230 x 210 x 75 mm	830



## Wrench charger

### E.240-CHA

- Charger for E.240 and E.440 easotork wrenches.
- 8 V 0.35 mA.

	Sizes	$\Delta\Delta$ g
E.240-CHA	160 x 130 x 65 mm	310



## Initial equipment kit

### E.240-KIT1

- Contains :
    - E.240-REC.
    - E.240-CAL.
    - E.240-CHA.
  - Receiver and USB cable
  - Calibration software and cable
  - 1 wrench charger
- $\Delta\Delta$  : 1,930 g.



## Additional equipment kit

### E.240-KIT2

- Contains :
    - E.240-REC.
    - E.240-CHA.
  - Receiver and USB cable
  - 1 wrench charger
- $\Delta\Delta$  : 1,100 g.



## 248 and 446 series

### "NON GRADUATED" : ADJUSTABLE WRENCHES

#### COMPACT, DURABLE PRODUCTION WRENCHES

##### Durable

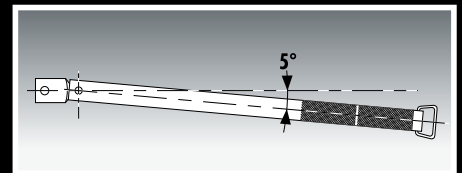
- For intensive and repetitive use, tested to over 100,000 cycles.

##### Compact and lightweight

- Shorter and more compact for working in confined spaces.
- Reduced weight for increased comfort when performing intensive tasks.

##### Safe

- Non-graduated preset torque wrenches for production applications.
- Preset with a hex key and a torque meter, no risk of accidentally altering settings.
- Touch and sound signals on release : can be used in noisy and poor visibility conditions.

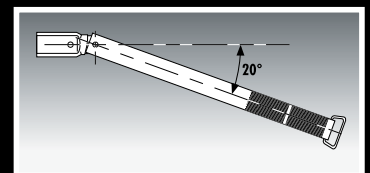


- 5° release angle
- 9x12 and 14x18 end fittings
- Accuracy :  $\pm 4\%$ .

#### Series 248

#### Series 446

- Wide (20°) release angle
- 20x7 end fitting
- Accuracy :  $\pm 8\%$ .



## ► "Non-vernier" adjustable wrenches

### 248D Non-vernier adjustable "click" wrenches

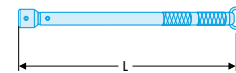
► ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 4 %.
- Proven reliability : 100,000 cycles.
- 9x12 or 14x18 end fittings
- Preset tightening or loosening torques.
- Preset on a test rig using a hex key, see torque tester range.
- Knurled metal handle, optional plastic handle resistant to aggressive hydrocarbons such as Skydrol or Hy-jet, etc.
- Numbered and supplied with an ISO 6789 calibration certificate, packaged in a protective plastic tube.



⇒	Capacity		End fitting	L mm	ΔΔ kg
	N.m	lbf.in lbf.ft			
<b>R.344DA</b>	1-5	10-50	9x12	200	0,24
<b>R.248-25D</b>	5-25	45-220	9x12	250	0,28
<b>J.248-50D</b>	10-50	90-440	9x12	331	0,74
<b>S.248-100D</b>	20-100	15-74	9x12	399	0,88
<b>S.248-200D</b>	40-200	30-148	14x18	464	1,08
<b>S.248-340D</b>	60-340	44-250	14X18	618	1,40

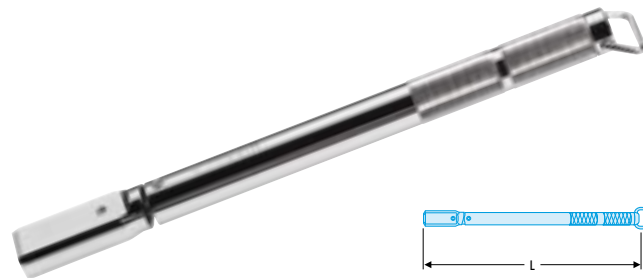
⇒	Description
<b>R.345P</b>	Handle for R.248-25D
<b>S.345P</b>	Handle for J.248-50D or S.248-100D, 200D, 340D



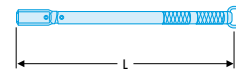
### 446 Non-vernier adjustable wide-angle "break" wrenches

► ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy : +/- 8 %.
- Proven reliability : 50,000 cycles.
- 9x12 or 20x7 end fittings.
- Preset with a torque meter, see torque tester range.
- Supplied with an ISO 6789 calibration certificate.
- Packaged in a protective plastic tube.



⇒	Capacity N.m	End fitting	□ "	L mm	ΔΔ kg
<b>R.446-25</b>	5 - 25	9 x 12	1/4	214	0,38
<b>J.446-50</b>	10 - 50	20 x 7	3/8	279	0,49
<b>S.446-100</b>	20 - 100	20 x 7	1/2	407	0,84

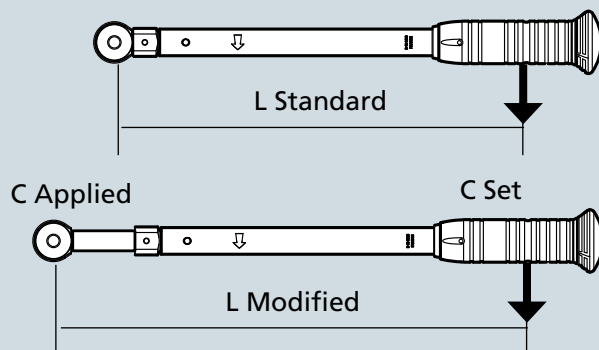


## Calculating the correction factor

If a non-standard or crowfoot accessory is used, the applied torque will not correspond to the set value.

Applied torque =

$$\text{Set torque} \times \frac{L \text{ Modified}}{L \text{ Standard}}$$





## 250A series ▶ Indicating torque wrench

### The two-way indicating wrench for checking your fasteners

#### Easy to read

- Large dial.
- Separate Nm and lbf.ft scales.
- Two-way operation.
- Accuracy :  $\pm 4\%$  of reading in accordance with ISO 6789.

#### Light signal / pointer

- Wrench K.250A fitted with visible (light) and audible (buzzer) indicators.
- Wrenches R, J, S and K fitted with reference pointer.



## ▶ Dial indicating torque wrenches

### 250A Indicating wrenches

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Supplied with an ISO 6789 calibration certificate.
- Supplied in a plastic storage case.

#### ■ Accessories :

- Ratchet : J.156 for wrenches J.250A and J.255A, S.156 for wrench S.250A.

- "Crowfoot" ends  $\square$  3/8".



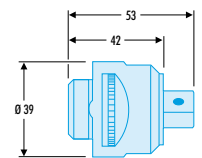
Model	Capacity			1 graduation			Length mm	□ "	ΔΔ kg
	N.m	lbf.in	lbf.ft	N.m	lbf.in	lbf.ft			
<b>R.250A</b>	2-9	15-75	-	0,2	1	-	255	1/4	0,46
<b>J.250A</b>	6-30	50-250	-	0,5	5	-	255	3/8	0,47
<b>J.255A</b>	14-70	120-600	-	2,0	10	-	380	3/8	0,87
<b>S.250A</b>	50-240	-	35-175	5,0	-	5	570	1/2	1,30
<b>K.250A</b>	160-800	-	120-600	20,0	-	10	1185	3/4	4,12

### 3/8" ratchet attachment

#### J.156

- 5° increments.
- Satin chrome finish.

ΔΔ : 200g.

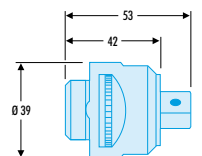


### 1/2" ratchet attachment

#### S.156

- Female 1/2" square drive
- Male 1/2" square drive
- 5° increments.

ΔΔ : 230 g.



# Release-type torque drivers

**A.400 and A.300MT  
Series**

**RELEASE TYPE  
TORQUE DRIVERS**

## **AN ACCURATE, DURABLE LOW-TORQUE TOOL**

### **Reliable, high performance**

- Reliability of mechanism tested over more than 50,000 operations.
- Accuracy exceeds ISO 6789 specified performance of  $\pm 6\%$ .
- Automatic reset every  $120^\circ$ .

### **Safe**

- Automatically releases upon reaching the specified torque, impossible to exceed the set value.
- Protected adjustment system : no risk of accidentally altering settings.
- Flattened profile prevents tool rolling on the work-top.

### **Ergonomic**

- Clear, easy to read vernier.
- Ergonomic handle providing an excellent grip.
- Lightweight.

**ISO 6789 Type II  
- Class D - Class F**

**A.400 series**

**A.300MT series**

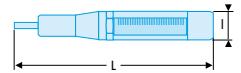


## ▶ Release-type torque drivers

### Micro-Tech® bit drivers

▷ ISO 6789.

- Reduced weight and size specifically designed for low torques.
- Clockwise operation.
- Hexagon socket drive for  $\varnothing$  4 mm bits (optional  $\square$  1/4" drive with adapter ECR.0).
- Supplied with calibration certificate and adjusting key.



Model	Capacity cN.m	Drive	1 graduation cN.m	Adjusting key	Suitable bits series	L mm	l mm	ΔΔ g
<b>A.300MT</b>	4 - 20	4 mm	0,05	82.4	0	96,5	21	75
<b>A.301MT</b>	15 - 75	1/4"	0,5	82.4	1	130,0	23	130

### A.400 Driver with Vernier adjustment

▷ Exceeds ISO 6789 requirements.

- Class II type D (A.400 maintenance).
- One-way drivers, clockwise operation.
- Hexagon socket drive for  $\varnothing$  1/4".
- ECR  $\varnothing$  1/4" -  $\square$  1/4" adaptor for optional sockets and accessories.
- Drive  $\square$  1/4" on the handle for ratchet handle A.300PA.
- Supplied with calibration certificate, adjusting key and individual identification number.



Model	Torque	Graduation N.m	L mm	ΔΔ g
<b>A.402</b>	0.5 to 2.5 Nm	0,1	147	280
<b>A.404</b>	2 to 10 Nm	0,5	147	400

### Drive socket adaptor

#### ECR.0

- adaptor for using  $\square$  1/4" "radio" sockets with the A.300MT and A.340MT series screwdrivers.
- 4 mm hexagonal drive.
- Length 22 mm.

ΔΔ : 7 g.



### Socket adaptor - $\square$ 1/4" - $\varnothing$ 1/4"

#### ECR

- For using 1/4" sockets with drivers A.400, A.440, A.301MT and A.341MT.
- Length 25 mm.

ΔΔ : 15 g.



### Attachable ratchet handle

#### A.300PA

- Ratchet handle gives more tightening power for repetitive work and high torques.
- Fits drivers with 0.50 to 10 N.m torque capacity.
- Max. torque : 30 N.m

ΔΔ : 85 g.





# Release-type torque drivers

## Micro-Tech® tool set

▷ ISO 6789.

- Case-set includes bits and adjusting key.
- Supplied with inspection report.



E	Capacity		Adjusting key	Contents			Dimensions mm	ΔΔ g
	N.m	Screwdriver		Bits⊖	Bits⊕	Bits○		
<b>A.300MTJ1</b>	4-20	A.300MT	82.4	1,8 - 2,5 mm	0,9 - 1,3 - 1,5 - 2 mm	PZ 0 - 1 - 2 mm	185X109X40	300
<b>A.301MTJ1</b>	15-75	A.301MT	82.4	4 - 4,5 - 5,5 mm	1,5 - 2,5 - 3 mm	PZ 0 - 1 mm	185x109x40	370

## Driver bit set $\square$ 1/4"

▷ Exceeds ISO 6789 requirements.

- Class II type D (A.400 maintenance).
- One-way drivers, clockwise operation.
- Hexagon socket drive for  $\square$  1/4".
- Drive  $\square$  1/4" on the handle for ratchet handle A.300PA.
- Supplied with inspection report, adjusting key and individual identification number.
- Case BP.102 and tray PL.436.



E	Screwdriver	Bit holder	Handle	Contents Adjusting key	Contents		
					Bits⊖	Bits○	Bits⊕
<b>A.402J2</b>	A.402	EF.1P4	A.300PA	A.402-20	4,5 - 6,5 - 8 mm	3 - 4 - 5 mm	PZ 1 - 2 - 3 mm
<b>A.404J2</b>	A.404	EF.1PA	A.300PA	A.404-20	4,5 - 6,5 - 8 mm	3 - 4 - 5 mm	PZ 1 - 2 - 3 mm

## Socket set $\square$ 1/4"

▷ Exceeds ISO 6789 requirements.

- Class II type D (A.400 maintenance).
- One-way drivers, clockwise operation.
- Hexagon socket drive for  $\square$  1/4".
- ECR  $\square$  1/4" -  $\square$  1/4" adaptor for sockets and accessories.
- Drive  $\square$  1/4" on the handle for ratchet handle A.300PA.
- Supplied with inspection report, adjusting key and individual identification number.
- Supplied with adaptor ECR, extensions R.210 and R.215.
- Case BP.115 and tray PL.434.



E	Screwdriver	Contents		Socket
		Handle	Adjusting key	
<b>A.402J1</b>	A.402	A.300PA	A402-20	R.3,2-4-5-5,5-6-7-8-9-10 mm
<b>A.404J1</b>	A.404	A.300PA	A404-20	R.3,2-4-5-5,5-6-7-8-9-10 mm



## A.440 and A.340MT series non-vernier drivers

### DRIVERS DESIGNED FOR PRODUCTION APPLICATIONS

#### Same characteristics as A.400 and A.300MT drivers

- No vernier adjustment, torque set with a torque-meter.
- Performance exceeds ISO 6789 requirements ( $\pm 6\%$  of the preset value).
- Handle release when required torque is reached, prevents inadvertent overtorquing
- Automatic reset every 120°.

ISO 6789 Type II - Class D - Class F



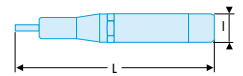
## ► Non-vernier release-type torque drivers

### Micro-Tech® torque drivers

- Reduced weight and size specifically designed for low torques.
- One-way drivers supplied with adjusting key.
- Non-graduated drivers preset on a test rig.
- Hexagon socket drive for  $\varnothing 4$  mm bits (optional  $\square 1/4$ " drive with adapter ECR.0).



➤	Capacity		Drive	Adjusting key	Suitable bits series	L mm	l mm	$\Delta\Delta$ g
	cN.m	lbf.in						
<b>A.340MT</b>	4-20	0,35-1,7	4 mm	82.4	0	96,5	21	75
<b>A.341MT</b>	15-75	1,30-6,5	1/4"	82.4	1	130,0	23	130



### A.440 Production driver

- Exceeds ISO 6789 requirements.
- Class II type F (A.440 production).
- One-way drivers, clockwise operation.
- Hexagon socket drive for  $\varnothing 1/4$ ".
- Drive  $\square 1/4$ " on the handle for ratchet handle A.300PA.
- Supplied with ISO 6789 calibration certificate, adjusting key and individual identification number.

➤	Torque	L mm	$\Delta\Delta$ g
<b>A.442</b>	0.5 to 2.5 Nm	147	300
<b>A.444</b>	2 to 10 Nm	168	400



## Accessories

7 types of accessory :



Pivot knob



Standard ratchet



Compact ratchet



Square drives



Open end

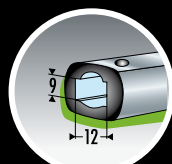


Ring end

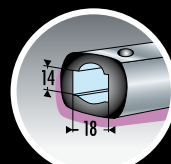


“crowfoot” end

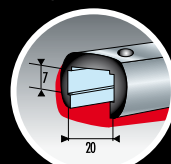
3 types of end fitting :



9X12



14X18



20X7



Wrench fitted with a ratchet J.372, a knob S.305P and a socket.

## Torque accessories



① Choose your wrench or driver

② Choose the type of accessory

Vernier wrenches

306	208	200	203						
R.304DA - R.306-25D J.306-50D - S.306-100D R.306U - J.306U	J.208-50D S.208-100D			9 x 12	J.372 S.372	R.372 J.372V S.372V	R.373 J.373 S.373	SERIES 10	SERIES 12
S.306-200D - S.306-350D S.306U - K.315DA	S.208-200D S.208-340D			14 x 18	S.382	S.382V K.382A	S.383 K.383	SERIES 11	SERIES 13
K.325D		K.200DB K.202DB M.200DB		ø30		K.200DB K.202DB M.200DB	K.151A M.151		
S.306-100R S.306-200R S.306-350R			R.203DA J.203DA S.203A	20 x 7		J.152 S.152	J.203E S.203E	SERIES 20	

Non-vernier wrenches

E.240	E.440	248	446						
E.240-25R E.240-50J E.240-130S	E.440-25R E.440-50J E.440-130S	R.344DA R.248-25D J.248-50D S.248-100D	R.446-25	9 x 12	J.372 S.372	R.372 J.372V S.372V	R.373 J.373 S.373	SERIES 10	SERIES 12
E.240-200S E.240-340S		S.248-200D S.248-340D		14 x 18	S.382	S.382V K.382A	S.383 K.383	SERIES 11	SERIES 13
			J.446-50 S.446-100	20 x 7		J.152 S.152	J.203E S.203E	SERIES 20	

Screwdriver

A.400 A.300MT	A.440 A.340MT		
A.402 A.404	A.442 A.444	∅ 1/4	ECR
A.300MT A.301MT	A.340MT A.341MT	∅ 4	ECR0

See the torque wrench and driver selection guide on page

265

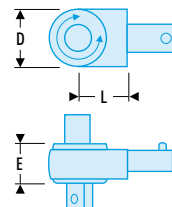
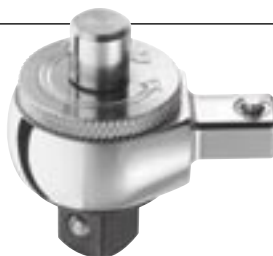


## ► 9 x 12 accessories

## Ratchets

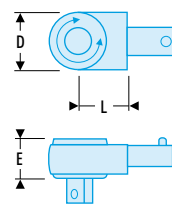
• For use with pivot knob S.305P.

➤	Attachement	□ "	D mm	E mm	L mm	ΔΔ g
<b>J.372</b>	9X12	3/8	37	26	15	155
<b>S.372</b>	9X12	1/2	37	26	15	165



## Compact ratchets

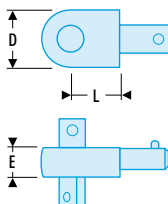
➤	Attachement	□ "	D mm	E mm	L mm	ΔΔ g
<b>R.372</b>	9X12	1/4	27	19	15	70
<b>J.372V</b>	9X12	3/8	37	26	15	140
<b>S.372V</b>	9X12	1/2	37	26	15	150



## Square drives

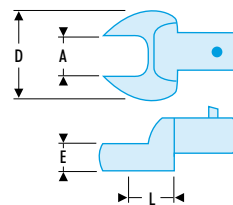
• For use with pivot knob S.305P, except model R.373.

➤	Attachement	□ "	E mm	D mm	L mm	ΔΔ g
<b>R.373</b>	9X12	1/4	14	23	15	55
<b>J.373</b>	9X12	3/8	17	26	15	85
<b>S.373</b>	9X12	1/2	17	26	15	100



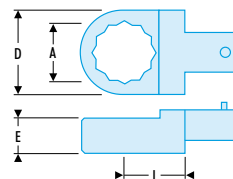
## 10 Open ends

➤	A "	E mm	D mm	L mm	ΔΔ g
<b>10.7</b>	10.1/4	5	19	15	31
<b>10.8</b>	10.5/16	5	19	15	31
<b>10.9</b>		6	25	15	31
<b>10.10</b>	10.3/8	6	25	15	32
<b>10.11</b>	10.7/16	6	25	15	32
<b>10.12</b>		7	31	15	39
<b>10.13</b>	10.1/2	7	31	15	39
<b>10.14</b>	10.9/16	7	31	15	44
<b>10.15</b>		9	37	15	50
<b>10.16</b>	10.5/8	9	37	15	50
<b>10.17</b>	10.11/16	9	37	15	50
<b>10.18</b>		9	39	15	52
<b>10.19</b>	10.3/4	9	40	15	52



## 12 Ring ends

➤	E mm	A mm	D mm	L mm	ΔΔ g
<b>12.7</b>	7	7	14	15	31
<b>12.8</b>	7	8	14	15	31
<b>12.9</b>	7	9	14	15	31
<b>12.10</b>	8	10	17	15	32
<b>12.11</b>	8	11	17	15	32
<b>12.12</b>	10	12	20	15	38
<b>12.13</b>	10	13	20	15	38
<b>12.14</b>	11	14	23	15	43
<b>12.15</b>	11	15	23	15	43
<b>12.16</b>	12	16	27	15	50
<b>12.17</b>	12	17	27	15	50
<b>12.18</b>	13	18	29	15	53
<b>12.19</b>	13	19	29	15	53

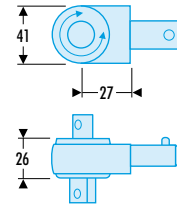
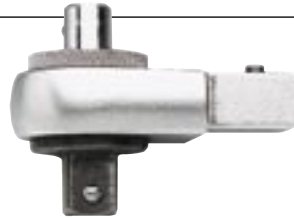


## ► 14 x 18 accessories

### Ratchet

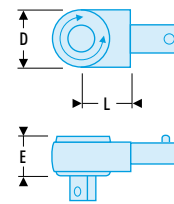
#### S.382

- For use with pivot knob S.305P.
- $\square$  1/2".
- $\Delta\Delta$  : 300 g.



### Compact ratchets

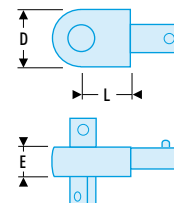
$\Rightarrow$	$\square$ "	D mm	E mm	L mm	$\Delta\Delta$ g
S.382V	1/2	41	26	27	285
K.382A	3/4	69	35	27	870



### Square drives

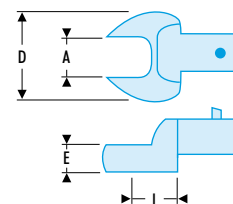
- For use with pivot knob S.305P, except model K.383.

$\Rightarrow$	$\square$ "	D mm	E mm	L mm	$\Delta\Delta$ g
S.383	1/2	32	22	27	160
K.383	3/4	38	22	27	340



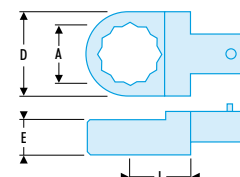
### 11 Open ends

$\Rightarrow$	A "	E mm	D mm	L mm	$\Delta\Delta$ g
11.13	11.1/2	8	34	27	114
11.14	11.9/16	8	34	27	114
11.15		8	34	27	114
11.16	11.5/8	10	39	27	132
11.17	11.11/16	12	39	27	115
11.18		12	39	27	115
11.19	11.3/4	12	45	27	130
11.21	11.13/16	12	45	27	130
11.22	11.7/8	14	52	27	143
11.23	11.15/16	14	52	27	143
11.24		14	52	27	150
11.27	11.1'1/16	16	59	27	170
11.30		18	64	27	200
11.32	11.1'1/4	18	64	27	200



### 13 Ring ends

$\Rightarrow$	A mm	D mm	E mm	L mm	$\Delta\Delta$ g	$\Rightarrow$	A mm	D mm	E mm	L mm	$\Delta\Delta$ g
13.13	13	23	11	27	109	13.22	22	34	14	27	143
13.14	14	51	11	27	109	13.23	23	35	14	27	143
13.15	15	24	11	27	109	13.24	24	36	14	27	150
13.16	16	26	11	27	115	13.27	27	42	16	27	170
13.17	17	26	12	27	115	13.30	30	50	18	27	200
13.18	18	26	12	27	115	13.32	32	50	18	27	200
13.19	19	30	12	27	130	13.34	34	51	11	27	109
13.21	21	31	12	27	130	13.36	36	51	19	27	200



## ▶ 20 x 7 accessories

### 200P Pivot knobs

- Steadies the wrench square in relation to fastener centreline for greater torque accuracy.
- For use with square drives J.203E, S.203E and wrench R.203DA.

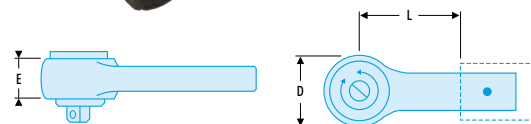
➤	For use with	Ø mm	L mm	ΔΔ g
<b>R.200P</b>	R.203DA	22	45	20
<b>S.200P</b>	J.203E, S.203E	36	55	55



### Ratchets

- 5° increments.
- For use on J.203DA, S.203DA, S.306-100R, S.306-200R and S.306S-350R.
- Chrome finish.

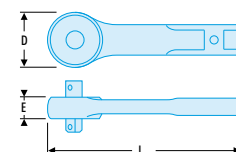
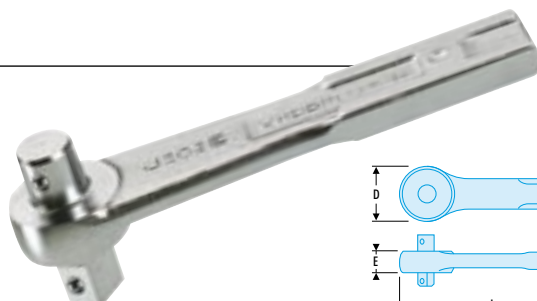
➤	For wrench	□ "	E mm	D mm	L mm	ΔΔ g
<b>J.152</b>	J.203DA S.203DA	3/8	25	38	55	274
<b>S.152</b>	S.306-100R S.306-200R S.306-350R	1/2	25	38	55	275



### Square drives

- For use on J.203DA, S.203DA, S.306-100R, S.306-200R and S.306-350R..

➤	□ "	E mm	D mm	L mm	ΔΔ g
<b>J.203E</b>	3/8	11	25	56	140
<b>S.203E</b>	1/2	11	25	56	150



### Adaptors

- For use with :  
- 9 x 12 end fittings on wrenches up to 100 N.m  
- 14 x 18 end fittings on wrenches up to 600 N.m

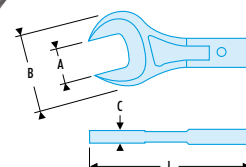
➤	End fitting	ΔΔ g
<b>J.274</b>	9x12	135
<b>S.284</b>	14x18	145



### 20 Open ends

- For use on 203, 306R and 446 series wrenches.
- Chrome finish.

➤	A mm	B mm	C mm	L mm	ΔΔ g
<b>20.10</b>	10	24	6,0	105	60
<b>20.11</b>	11	24	6,0	105	60
<b>20.12</b>	12	29	6,0	106	60
<b>20.13</b>	13	29	6,0	106	60
<b>20.14</b>	14	29	6,0	106	65
<b>20.15</b>	15	40	7,5	109	105
<b>20.16</b>	16	40	7,5	109	105
<b>20.17</b>	17	40	7,5	109	105
<b>20.18</b>	18	40	7,5	109	100
<b>20.19</b>	19	40	7,5	109	100
<b>20.21</b>	21	53	8,0	112	145
<b>20.22</b>	22	53	8,0	112	145
<b>20.23</b>	23	53	8,0	112	145
<b>20.24</b>	24	53	8,0	112	140
<b>20.26</b>	26	53	8,0	112	130
<b>20.27</b>	27	66	9,0	115	185
<b>20.28</b>	28	66	9,0	115	185
<b>20.29</b>	29	66	9,0	115	185
<b>20.30</b>	30	66	9,0	115	185
<b>20.32</b>	32	66	9,0	115	180
<b>20.35</b>	35	74	10,0	118	220
<b>20.36</b>	36	74	10,0	118	220



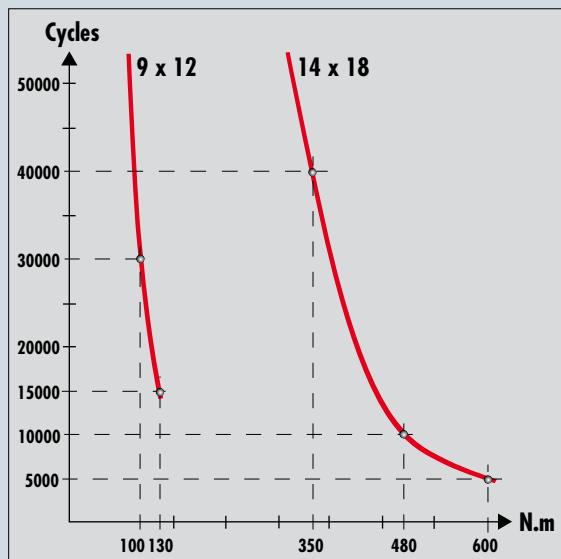




## Safety of end fittings

When the wrench releases, the torque accessories are subjected to severe shocks that can cause them to fail after a certain number of cycles.

The diagram below shows the number of cycles not to be exceeded according to the applied torque. The accessory must be replaced before reaching the maximum number of cycles.



## ► Specialist accessories

### Pivot knob

#### S.305P

- Holds the wrench square in relation to fastener centreline.
  - For use with 3/8" and 1/2" ratchets and square drives.
  - Max. Ø 45; length 66 mm.
- ΔΔ : 110 g.



### 18 "Crowfoot" flare-nut ends mm and inch

▷ ASME B 107.21.

Optimum accessibility.

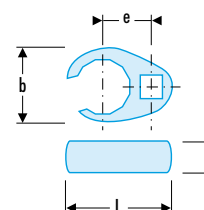
- The crowfoot design gives access to fasteners out of reach of a conventional torque wrench.
- Square drive  $\square$  3/8".
- 12-point open end.

Tightening-torque setting

- The use of end accessories affects wrench lever arm length, see page.
- Before use, the torque wrench complete with accessory should therefore be calibrated on a torque-meter..



Ø	A	e	b	c	L	ΔΔ
mm	"	mm	mm	mm	mm	g
18.10	18.3/8	15,0	22,0	9,5	35	30
18.11	18.7/16	15,0	22,0	9,5	36	30
18.12	18.1/2	16,7	24,0	10,5	39	35
18.13		16,7	24,0	10,5	39	35
18.14	18.9/16	19,5	28,5	11,5	43	45
18.16	18.5/8	19,5	28,5	11,5	43	45
18.17	18.11/16	20,3	32,5	13,7	46	65
18.18		20,3	32,5	13,7	46	65
18.19	18.3/4	20,3	32,5	13,7	48	65
	18.13/16	21,8	36,5	13,7	49	75
	18.7/8	21,8	36,5	13,7	49	75
	18.1'	23,9	44,4	14,2	55	95





## Protractor attachments

### DESIGNED FOR CYLINDER-HEADS

FACOM offers a complete range of specially designed tools

#### Maximum visibility.

- Choice of tapered drum with reverse laser marking. (DMP.360, DM.360L, D.360L) or flat drum with normal marking. (DM.360, DM.370). Set the drum to the value recommended by the manufacturer and stop at zero.

#### Easier to attach.

- Wide range of drum-locking accessories :  
Clamp, magnet, 3 limit stops (24, 45 and 65 mm).


#### Compliance with manufacturers' recommendations.

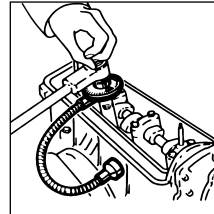
- It is essential to apply the manufacturers' recommended cylinder head torques.
- Tightening to the correct torque with a suitable torque wrench.
- Correct torquing sequence and turn angle.



### Protractor attachments

- 2° graduations.
- Drive  drive.
- Fixed point by flexible arm with magnet.

	<input checked="" type="checkbox"/>	∅	L	ΔΔ
	*	mm	mm	g
<b>DM.360</b>	1/2	63	410	350
<b>DM.370</b>	3/4	73	430	550



### Side-graduated protractor attachment 1/2"

#### D.360L

- Tapered side-graduated drum for maximum ease of reading.
- Double index (red line) for presetting. To tighten, simply align the two markers
- 2° resolution.
- Supplied with 24, 45 and 65 mm limit stops.

ΔΔ : 414 g.



### Side-graduated protractor attachment with flexible arm and magnet 1/2"

#### DM.360L

- Supplied with a flexible arm and a magnet.

ΔΔ : 500 g.



### Protractor attachment 1/2

#### DMP.360L

- Complete kit comprising 3 limit stops (24, 45, 65 and mm long), a flexible arm with a clamp and a magnet
- Dimensions : 375 x 180 x 145 mm.

ΔΔ : 550 g.



## E.5000

### "TORKONTROL" TORQUE TESTER

#### SIMPLE AND ACCURATE FOR THE WORKSHOP OR LABORATORY

##### High-performance

- Large torque range : 10 to 1100 Nm
- High accuracy : +/- 1 % of reading over the entire range.
- Large contact surface ensuring accuracy and a high metrological standard.
- PC connection.

##### Operating modes to suit all types of wrenches

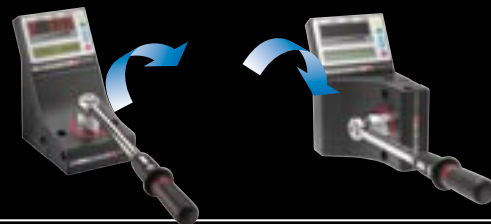
- ISO MODE :  
for producing ISO 6789 calibration certificates.
- PEAK MODE :  
memorises the release value.
- STORAGE MODE :  
memorises the maximum recorded value.
- TRACKING MODE :  
checking of direct-reading and dial-type wrenches,  
etc.

##### User-friendly

- Clear, easy-to-read dual display screen showing torque readings and interactive messages.
- Dual visual and sound signals : can be used in noisy and poor visibility conditions.

##### Ergonomic

- 2 drill bits, tapping and riveting dimensions:  
Easy-to-turn base providing horizontal and vertical wrench positions for use with high torque wrenches.
- Attaches to the workbench  
in both positions
- suitable for all  
square drives  
from 1/4" to 1".



##### Reminder

###### ISO 6789 wrench testing requirements :

The standard requires wrenches to be tested at 20 %, 60 % and 100 % of their maximum capacity. 5 test releases must be performed at each of these values.  
The standard defines the tolerances for each type of tool (+/- 4 %, +/- 6 %, ...).





## ▶ Electronic torque tester

### Electronic torque tester

#### E.5000

##### GENERAL SPECIFICATION.

- Operating range : 10 Nm to 1,100 Nm
- Accuracy : +/- 1 % of reading over the entire reading range (digit included).
- Displayed torque range : 2 to 1,210 Nm
- 10 languages : IT, FR, GB, D, NL, E, PL, PO, DK, SW.
- Units : Nm, daNm, cNm, kgf.m, lbf.in, lbf.ft.
- 4 operating methods for all checking needs.
- Prevention of main measuring errors (Zero and hysteresis).
- Internal battery - average life 3 years.
- Storage temperature : -20°C to 70°C
- Operating temperature : 10°C to 40°C.
- Sensitivity drift : 0.2 % per °C (included in the ± 1 %).
- Ingress protection rating IP5 - EN 60592 (dust).
- EMC CE : 89/336 CEI EN 50081-1 / CEI EN 50082-2.
- Supply voltage : 115-230V / 50-60Hz.
- Power consumption in operation 30-50 mA / 230V, on standby 15 mA / 230V.

##### SOFTWARE SPECIFICATION.

- Storage of up to 500 measurements including date, time, method, unit and position.
- Direct connection to a PC without special software.
- System status information - Buzzer with five loudness settings.
- 3 light signal operating options.
- Customisation of working mode.



Icon	Sizes	ΔΔ kg
E.5000	155 x 260 x 240 mm	13

### CD.12 Test rig

- Applies torque at a constant speed in accordance with ISO 6789 requirements.
- Adjustment of wrench angle vertically and horizontally to remain within the tolerances specified by the standard.
- Metrological accuracy ensuring reliability of test results.
- Easy application of torque.
- Full rig comprises the base and the standard module.
- Torque tester E.5000 not included.



Icon	Description	Capacity N.m	L mm	I mm	ΔΔ kg
CD.12-350	Complete test rig	5-350	1008	230	20
CD.12-350B	Test rig base	5 - 350	1008	230	13,26
CD.12-1100	Complete test rig	5-1100	1558	230	27
CD.12-1100B	Test rig base	5 - 1100	1558	230	19,77
CD.12-SM	Standard module	-	580	270	8,89

Icon	Description
CD.12-A	Spare parts



## Tip

### FACOM TORQUE-METER MAINTENANCE AND INSPECTION

- These reliable field-proven, units require no special servicing.
- Avoid knocks, falls and overloads, and protect from the weather.
- New units are supplied complete with a calibration certificate.
- Periodic inspection can be carried out at the Facom metrology laboratory that is accredited by COFRAC for torque value calibration. (Accreditation no. 2-1305).

See laboratory section, page 301

## ► Mechanical torque testers

### CD Wrench torque-meters

- Accuracy : +/- 1 % from 20 % to 100 % of full scale reading.
- Numbered and supplied with a calibration certificate.
- Hydraulic system for long-term reliability.
- Hinged dial allows use upright or horizontal.
- Large-diameter dial with reference pointer for clear, error-free readings.
- Base dimensions 330 x 120 mm.
- Dial diameter 206 mm.



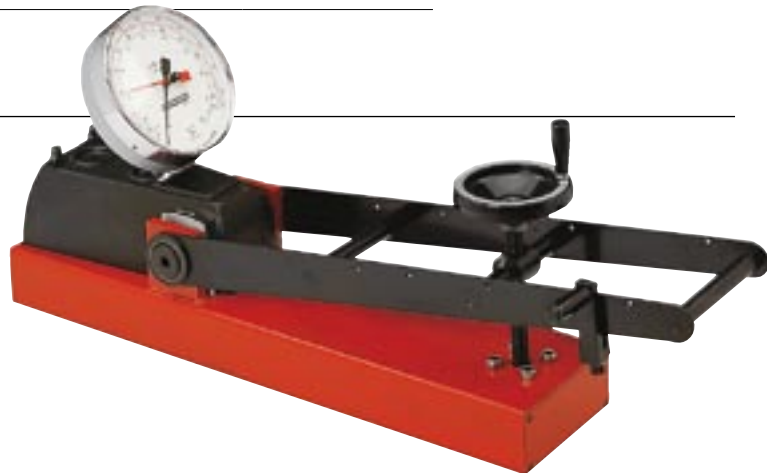
⇒	Capacity					1 graduation					□	ΔΔ kg
	N.m	kgf.cm	kgf.m	lbf.in	lbf.ft	N.m	kgf.cm	kgf.m	lbf.in	lbf.ft		
<b>CD.1</b>	12-60	125-625		110-550		0,5	5		5		3/8-1/2	7,800
<b>CD.2</b>	20-125		2-12,5		20-100	1		0,1	1		3/8-1/2-3/4	7,800
<b>CD.3</b>	100-500		10-50		75-375	5		0,5	5		1/2-3/4-1	7,800

### Test rig for CD torque-meters

#### CD.10

- Recommended for click-type torque wrenches.
- Useful addition to torque-meters CD.1 to CD.3.
- Demultiplied handwheel applies torque progressively to wrenches for precise calibration checks.
- Dimensions : 1,020 x 250 mm.

ΔΔ : 19.2 kg.



### CDS Screwdriver torque-meters

- Accuracy : +/- 2 % from 20 % to 100 % of full scale reading.
- Numbered and supplied with a calibration certificate.
- Large-diameter dial with reference pointer for clear, error-free readings.
- Dimensions : 250 x 150 x 100 mm.
- Complete with 2 square drives.

ΔΔ : 1.9 kg.

⇒	Capacity				1 graduation				□
	cN.m	N.m	ozf.in	lbf.in	cN.m N.m	N.m	ozf.in	lbf.in	
<b>CDS.1</b>	5-35		7-50		0,5	0,5		1/4-3/8	
<b>CDS.2</b>	10-70		14-100		1	1		1/4-3/8	
<b>CDS.3</b>		0,5-4		5-36	0,05	0,5		1/4-3/8	
<b>CDS.4</b>		2-12		18-120	0,2	2		1/4-3/8	









# 7. Screwdrivers, keys and bits

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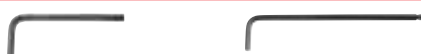


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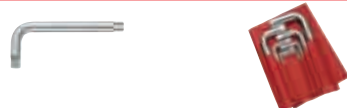
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## ▶ 692 Section 17 0-series bits 4 mm drive



**NEW**

## Ratchet bit drivers



### High performance 45-tooth ratchet

#### Advantages

**Protwist**<sup>®</sup>

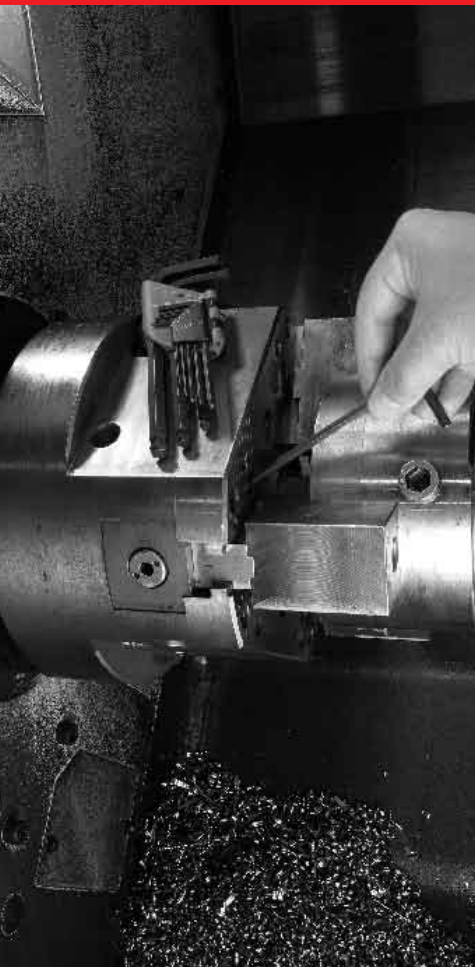
- ▶ Saves time
- ▶ Very low ratchet return-stroke torque
- ▶ 8 screwdriver bits
- ▶ Ergonomic bi-material handle
- ▶ Smart storage: bits are easy to pick-up and return



**N** **330**

**NEW**

## Torx Plus



### New patterns, new tools

**TORXplus**<sup>®</sup>



Torx Plus



Torx plus TAMPER RESISTANT

#### Advantages

- ▶ Tools for TorxPlus patterns
- ▶ Higher torque transfer
- ▶ No risk of slippage



**N** **305**

Comfortable,  
strong and durable

**Protwist**<sup>®</sup>

**Advantages**

- ▶ Ergonomic handle
- ▶ Strong, comfortable grip
- ▶ Accurate black-tipped blade
- ▶ Powerful carbon silicon steel blade
- ▶ Colour coded



N ▶ 308





**New  
Screwdriver**

**Protwist®**



**CARBON  
SILICIUM**

**GOOD TORQUE  
TRANSMISSION AND  
FAST SCREWING SPEED**

**Natural grip, excellent  
comfort**

- Efficient pre-tightening.
- Comfortable high torque action.
- Easier torque transfer.

**Strong, comfortable grip and  
long-lasting performance**

Soft polyurethane zone, polyamide core for high resistance to:

- Impact and stress.
- Abrasion and chemical agents.



**Five handle sizes to suit the tip  
size**

- Small sizes have a long, thin body for a faster screwing action.
- Larger sizes have a wider gripping surface for a firmer hold and maximum torque transfer.



**Silicon carbon  
steel blades**

- Very strong.
- Excellent resistance to bending.

**Black tip : no risk of flaking and  
guaranteed accuracy**







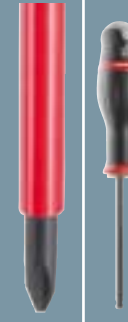










- Retains the dimensional accuracy of the machined tip.
- No chromium deposits in the environment.
- No weakening due to hydrogen release during chromium plating.





## Choosing the right blade for your needs

The Protwist® range, an ideal combination of blade types and tip patterns to choose from. Over 200 references to cover all your needs.

							
	Short blade AN	Round blade, sand-blasted tip AS	Round blade, black tip AN	Hexagonal blade AW	Hexagonal blade with bolster AWH	1,000 V insulated blade A.VE	Hexagonal blade AWHH AWSH
	Awkward spaces	Frequent use	Intensive use	High torque	Added torquing power with a wrench	Live working	Hexagon socket heads
	10 refs 7 tips	24 refs 20 tips	90 refs 59 tips	18 refs 14 tips	16 refs 14 tips	31 refs 23 tips	14 refs 7 tips
	4 → 6,5 mm ⇒ x 4	2,5 → 10 mm ⇒ x 11	2 → 10 mm ⇒ x 30	4 → 12 mm ⇒ x 10	5,5 → 14 mm ⇒ x 8	2 → 12 mm ⇒ x 18	
	1 → 2 ⇒ x 3	0 → 3 ⇒ x 4	0 → 4 ⇒ x 10	1 → 4 ⇒ x 4	1 → 4 ⇒ x 4	0 → 4 ⇒ x 5	
	1 → 2 ⇒ x 3	0 → 3 ⇒ x 4	0 → 4 ⇒ x 9	1 → 4 ⇒ x 4	1 → 4 ⇒ x 4	0 → 3 ⇒ x 4	
		10 → 30 ⇒ x 5	6 → 40 ⇒ x 12				
			10 → 40 ⇒ x 7				
			5 → 40 ⇒ x 12				
			10 → 40 ⇒ x 7				
			1 → 3 ⇒ x 3				
<i>Borneo</i> 						1 → 2 ⇒ x 4	
							2 → 8 mm ⇒ x 14

Colour coding for immediate identification of all Protwist® screwdrivers.



## ► PROTWIST® screwdriver sets and modules

### Protwist® screwdriver sets

Code	Qty	Contents
<b>AND.J5</b>	5	⊕ ANDOX75 - AND1X100 - AND2X125 - AND3X150 - AND4X200
<b>ANP.J5</b>	5	⊕ ANPOX75 - ANP1X100 - ANP2X125 - ANP3X150 - ANP4X200
<b>ANX.J6</b>	6	★ ANX10X75 - ANX15X75 - ANX20X100 - ANX25X100 - ANX30X125 - ANX40X150
<b>ANXP.J6</b>	6	★ ANXP10X75 - ANXP15X75 - ANXP20X100 - ANXP25X100 - ANXP30X125 - ANXP40X150
<b>ANXR.J5</b>	5	⊕ ANXR10X75 - ANXR15X75 - ANXR20X100 - ANXR25X100 - ANXR30X125
<b>ANXRP.J5</b>	5	⊕ ANXRP10X75 - ANXRP15X75 - ANXRP20X100 - ANXRP25X100 - ANXRP30X125
<b>ANP.J6</b>	6	● AN3,5X75 - AN4X100 - AN5,5X150 - AN6,5X150 ⊕ ANP1X100 - ANP2X125
<b>AND.J6</b>	6	● AN3,5X75 - AN4X100 - AN5,5X150 - AN6,5X150 ⊕ AND1X100 - AND2X125
<b>AN.J10</b>	10	● AN3,5X75 - AN4X100 - AN5,5X150 - ANF6,5X150 - AW8X150 - AW10X200 ⊕ ANP1X100 - ANP2X125 ⊕ AND1X100 - AND2X125
<b>AWP.J6</b>	6	● AW4X100 - AW5,5X150 - AW6,5X150 - AW8X200 ⊕ AWP1X100 - AWP2X125
<b>AWD.J6</b>	6	● AW4X100 - AW5,5X150 - AW6,5X150 - AW8X200 ⊕ AWD1X100 - AWD2X125
<b>ANWH.J13</b>	13	● AN3,5X75 - AN4X100 - AN5,5X100 - AW6,5X150 - AWH8X150 - AWH10X200 - AN4X25 - AN6,5X35 ⊕ ANP1X100 - ANP2X125 - ANP2X35 ⊕ AND1X100 - AND2X125

Code	Description
<b>CKS.13B</b>	Tool rack
<b>CKS.82A</b>	Tool rack
<b>CKS.83A</b>	Tool rack
<b>CKS.16A</b>	Tool rack
<b>N.38A-6C</b>	Nylon wallet
<b>N.38A-9B</b>	Nylon wallet



### Protwist® screwdriver modules

Code	Qty	Contents	Tray
<b>MOD.A1</b>	8	● AN3X75 - AN3,5X100 - AN4X100 - AN5,5X125 - AWH6,5X150 - AWH8X175 ⊕ ANP1X100 - ANP2X125	PL.325
<b>MODM.A1</b>	8	● AN3X75 - AN3,5X100 - AN4X100 - AN5,5X125 - AWH6,5X150 - AWH8X175 ⊕ ANP1X100 - ANP2X125	PM.MODA1
<b>MOD.A2</b>	8	● AN2X75 - AN2,5X75 - AWDH3X150 ⊕ ANPOX75 ⊕ ANDOX75 - AND1X100 - AND2X125	PL.631
<b>MOD.A3</b>	8	● AN4X25 - AN5,5X35 ⊕ ANPOX75 - ANP1X25 ⊕ ANDOX75 - AND1X100 - AND2X125 - AND2X35	PL.326
<b>MODM.A3</b>	9	● AN4X25 - AN5,5X35 ⊕ ANPOX75 - ANP1X25 ⊕ ANDOX75 - AND1X100 - AND2X125 - AND2X35	PM.MODA3
<b>MOD.ANXR</b>	7	⊕ ANXR10X75 - ANXR15X75 - ANXR20X100 - ANXR25X100 - ANXR27X100 - ANXR30X125 - ANXR40X150	PL.327
<b>MOD.ANX</b>	7	★ ANX10X75 - ANX15X75 - ANX20X100 - ANX25X100 - ANX27X100 - ANX30X125 - ANX40X150	PL.327



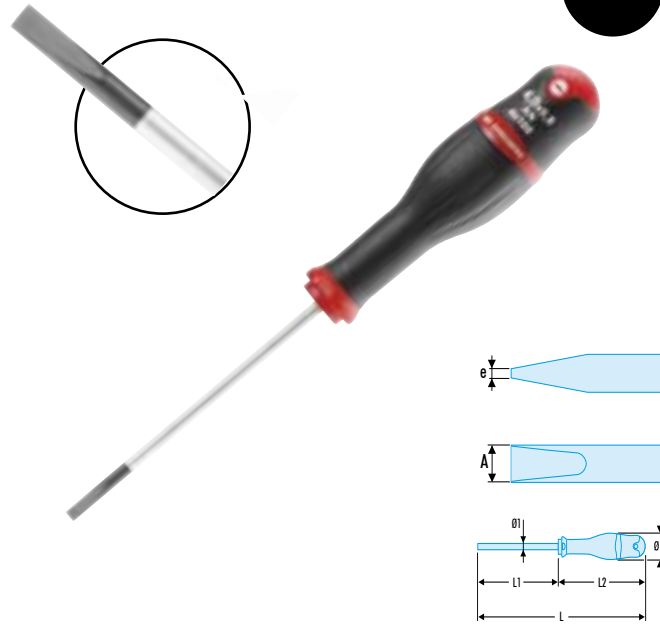


## ▶ Protwist® screwdrivers for slotted heads

### AN For slotted heads - machined blades

- Round shank allows reach into recesses.
- Matt chrome blade, hardened black tip.
- Extra-long blades for increased accessibility.

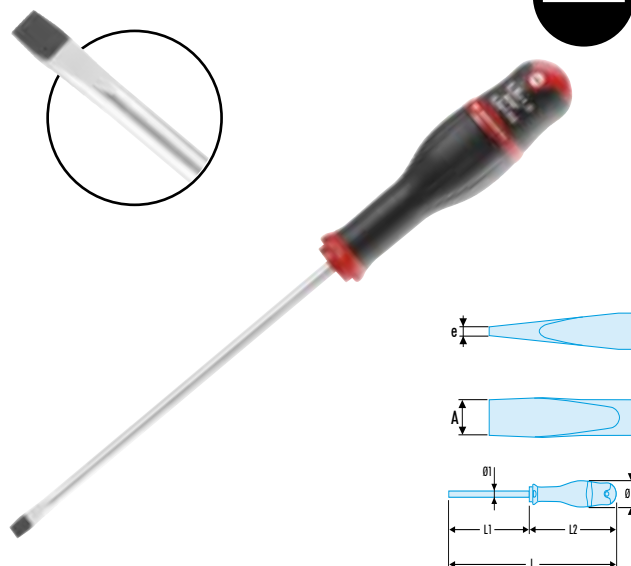
➤	E x A mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>AN2X75</b>	0,4 x 2,0	2,0 x 75	19 x 94	169	18
<b>AN2,5X50</b>	0,4 x 2,5	2,5 x 50	19 x 94	144	20
<b>AN2,5X75</b>	0,4 x 2,5	2,5 x 75	19 x 94	169	21
<b>AN3X75</b>	0,5 x 3,0	3,0 x 75	25 x 103	178	32
<b>AN3X100</b>	0,5 x 3,0	3,0 x 100	25 x 103	203	33
<b>AN3,5X75</b>	0,6 x 3,5	3,5 x 75	25 x 103	178	41
<b>AN3,5X100</b>	0,6 x 3,5	3,5 x 100	25 x 103	203	43
<b>AN3,5X250</b>	0,6 x 3,5	3,5 x 250	25 x 103	353	55
<b>AN4X100</b>	0,8 x 4,0	4,0 x 100	30 x 109	209	47
<b>AN4X150</b>	0,8 x 4,0	4,0 x 150	30 x 109	259	52
<b>AN4X200</b>	0,8 x 4,0	4,0 x 200	30 x 109	309	57
<b>AN4X300</b>	0,8 x 4,0	4,0 x 300	30 x 109	409	120
<b>AN5,5X100</b>	1,0 x 5,5	5,5 x 100	30 x 109	209	82
<b>AN5,5X125</b>	1,0 x 5,5	5,5 x 125	30 x 109	234	87
<b>AN5,5X150</b>	1,0 x 5,5	5,5 x 150	30 x 109	259	91
<b>AN5,5X200</b>	1,0 x 5,5	5,5 x 200	30 x 109	309	105
<b>AN5,5X300</b>	1,0 x 5,5	5,5 x 300	30 x 109	409	130
<b>AN6,5X125</b>	1,2 x 6,5	6,5 x 125	36 x 120	245	132
<b>AN6,5X150</b>	1,2 x 6,5	6,5 x 150	36 x 120	270	140
<b>AN6,5X200</b>	1,2 x 6,5	6,5 x 200	36 x 120	320	153
<b>AN6,5X300</b>	1,2 x 6,5	6,5 x 300	36 x 120	420	180



### ANF For slotted heads - forged blades

- Optimum tip grain structure for exceptional torsional strength.
- Matt chrome blade, hardened black tip.
- Extra-long blades for increased accessibility.

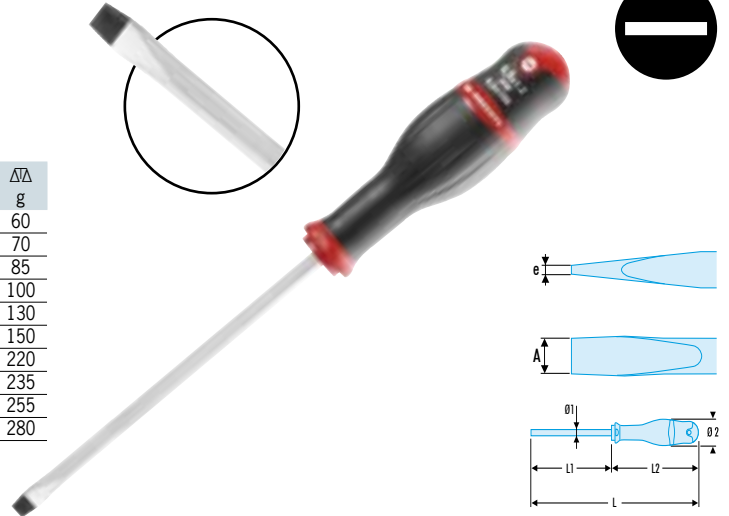
➤	e x A mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ANF4X100</b>	0,8 x 4,0	4,0 x 100	30 x 109	209	47
<b>ANF5,5X100</b>	1,0 x 5,5	5,5 x 100	30 x 109	209	76
<b>ANF5,5X150</b>	1,0 x 5,5	5,5 x 150	30 x 109	259	84
<b>ANF6,5X100</b>	1,2 x 6,5	6,0 x 100	36 x 120	220	120
<b>ANF6,5X150</b>	1,2 x 6,5	6,0 x 150	36 x 120	270	131
<b>ANF8X150</b>	1,2 x 8,0	7,0 x 150	40 x 125	275	149
<b>ANF8X200</b>	1,2 x 8,0	7,0 x 200	40 x 125	325	164
<b>ANF10X200</b>	1,6 x 10,0	9,0 x 200	40 x 125	325	214
<b>ANF10X250</b>	1,6 x 10,0	9,0 x 250	40 x 125	375	268



## AW For slotted heads - hexagonal blades

- Hexagonal blades for optimum resilience and performance.
- Matt chrome blade, hardened black tip.
- Extra-long blades for increased accessibility.

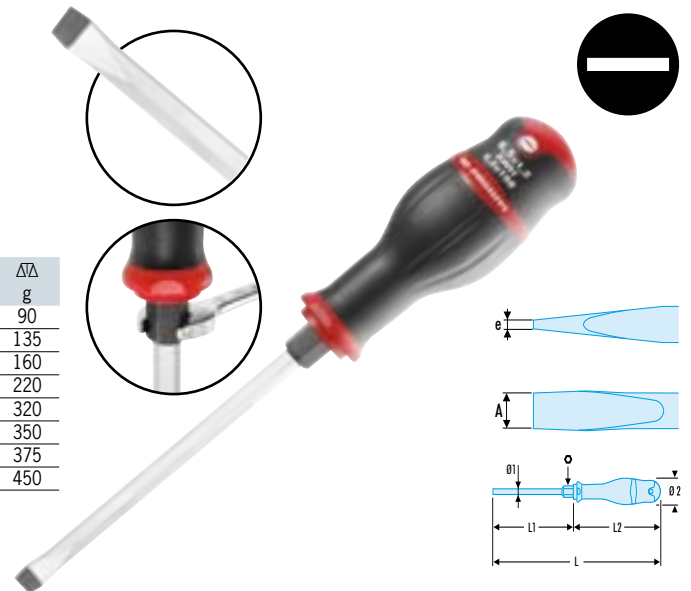
➤	E x A mm	⌀ 1 x 1L mm	⌀2 x L2 mm	L mm	ΔΔ g
<b>AW4X100</b>	0,8 x 4,0	4,0 x 100	30 x 109	209	60
<b>AW4X150</b>	0,8 x 4,0	4,0 x 150	30 x 109	259	70
<b>AW5,5X100</b>	1,0 x 5,5	5,0 x 100	30 x 109	209	85
<b>AW5,5X150</b>	1,0 x 5,5	5,0 x 150	30 x 109	259	100
<b>AW6,5X125</b>	1,2 x 6,5	6,0 x 125	36 x 120	245	130
<b>AW6,5X150</b>	1,2 x 6,5	6,0 x 150	36 x 120	270	150
<b>AW8X150</b>	1,2 x 8,0	7,0 x 150	40 x 125	275	220
<b>AW8X200</b>	1,2 x 8,0	7,0 x 200	40 x 125	300	235
<b>AW10X200</b>	1,6 x 10,0	9,0 x 200	40 x 125	325	255
<b>AW12X250</b>	2,0 x 12,0	10,0 x 250	40 x 125	375	280



## AWH Power series for slotted heads

- Hexagon blade with bolster for unscrewing tight screws.
- Matt chrome blade, hardened black tip.
- Extra-long blades for increased accessibility.

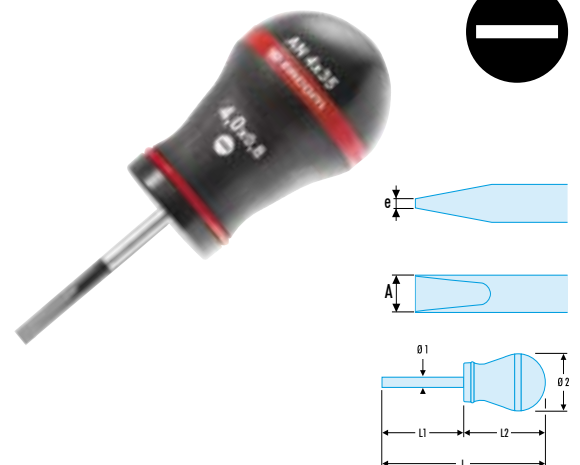
➤	e x A mm	⌀ 1 x 1L mm	⌀2 x L2 mm	L mm	⌀ mm	ΔΔ g
<b>AWH5,5X125</b>	1,0 x 5,5	5,0 x 125	30 x 109	234	8	90
<b>AWH6,5X150</b>	1,2 x 6,5	6,0 x 150	36 x 120	270	10	135
<b>AWH8X175</b>	1,2 x 8,0	7,0 x 175	40 x 125	300	11	160
<b>AWH8EX175</b>	1,6 x 8,0	8,0 x 175	40 x 125	300	12	220
<b>AWH10X175</b>	1,6 x 10,0	9,0 x 175	40 x 125	300	14	320
<b>AWH12x200</b>	2,0 x 12,0	10,0 x 200	40 x 125	325	14	350
<b>AWH12X250</b>	2,0 x 12,0	10,0 x 250	40 x 125	375	14	375
<b>AWH14X250</b>	2,5 x 14,0	12,0 x 250	40 x 125	375	16	450



## AN For slotted heads - short blades

- Short round blade and stubby handle for working in confined spaces.
- Steel, chromium, silicon, manganese.

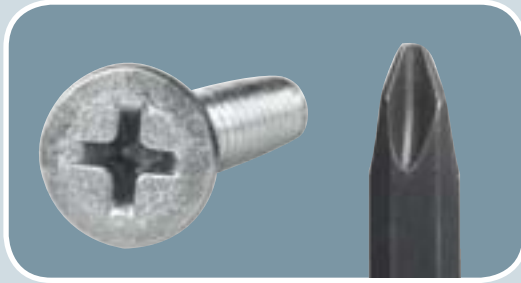
➤	E x A mm	⌀1 x L1 mm	⌀2 x L2 mm	L mm	ΔΔ g
<b>AN4X25</b>	0,8 x 4,0	4,0 x 25	36 x 56	81	35
<b>AN4X35</b>	0,8 x 4,0	4,0 x 35	36 x 56	91	36
<b>AN5,5X35</b>	1,0 x 5,5	5,5 x 35	36 x 56	91	41
<b>AN6,5X35</b>	1,2 x 6,5	6,5 x 35	36 x 56	91	46





## Choosing the right screwdriver for cross-heads

### POWER - DURABILITY - QUALITY



PHILLIPS® PH



POZIDRIV® PZ

The two main cross-head types have very different profiles. Choosing the right screwdriver is crucial for :

- Extending tool life.
- Protecting screw patterns.
- Transmitting maximum torque without wear, particularly with difficult fasteners.

Each tip pattern has a different colour code to help you choose the right screwdriver.

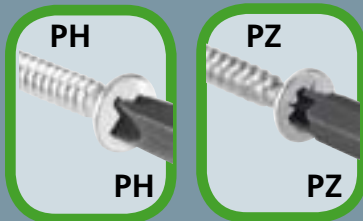
Yellow for PHILLIPS® screwdrivers and blue for POZIDRIV® screwdrivers.

A pictogram of the pattern is also shown on the colour coded end.



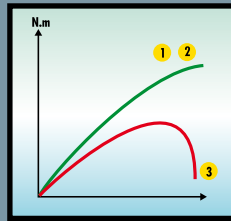
### SMALL DIFFERENCES CAN HAVE A BIG EFFECT

Correct patterns and sizes.



1

2



Screwdriver-to-fastener torque transmission.

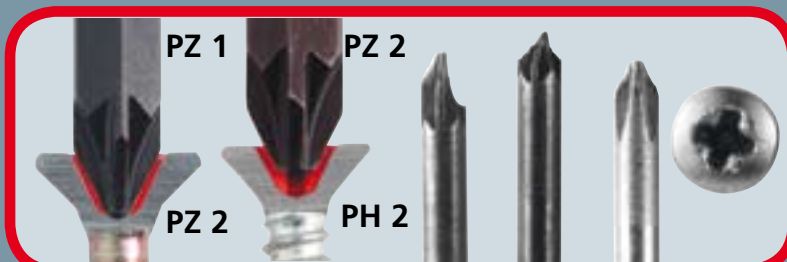
Incorrect patterns or sizes.



3



Using the right screwdriver for the fastener optimises contact areas and transmits maximum torque.



Using the wrong screwdriver reduces contact areas, increases risk of wear or breakage (worn tips, broken fins) which can damage fasteners and assemblies, and may even cause injury.



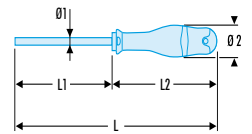
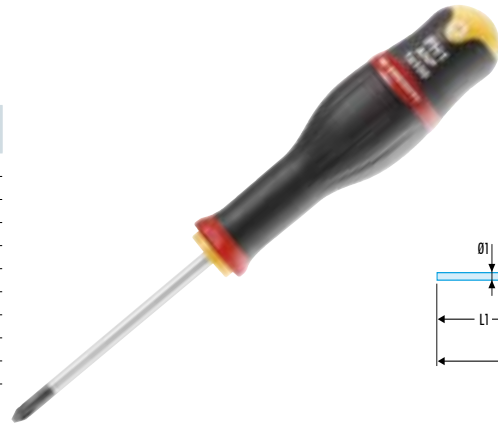


## ▶ Protwist® screwdrivers for Phillips® heads

### ANP For Phillips® heads - round blades

- Extra-long blades for increased accessibility.
- Matt chrome blade, hardened black tip.

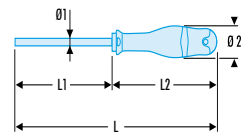
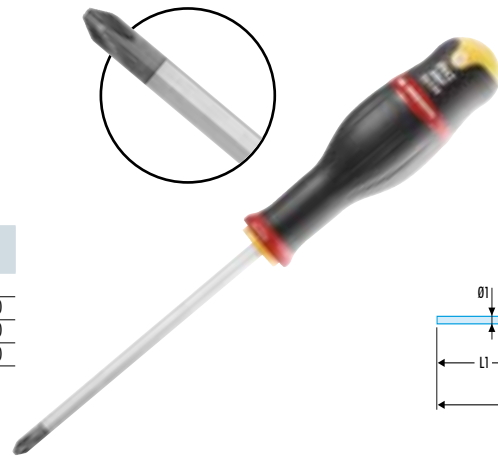
Φ	Phillips® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
	<b>ANPOX75</b>	PH.0 3,0 x 75	25 x 103	178	45
	<b>ANP1X75</b>	PH.1 4,5 x 75	30 x 109	184	73
	<b>ANP1X100</b>	PH.1 4,5 x 100	30 x 109	209	76
	<b>ANP1X250</b>	PH.1 4,5 x 250	30 x 109	359	99
	<b>ANP2X100</b>	PH.2 6,0 x 100	36 x 120	220	120
	<b>ANP2X125</b>	PH.2 6,0 x 125	36 x 120	245	126
	<b>ANP2X250</b>	PH.2 6,0 x 250	36 x 120	370	153
	<b>ANP2X400</b>	PH.2 6,0 x 400	36 x 120	520	186
	<b>ANP3X150</b>	PH.3 8,0 x 150	40 x 125	275	194
	<b>ANP4X200</b>	PH.4 10,0 x 200	40 x 125	325	277



### AWP For Phillips® heads - hexagonal blades

- Hexagonal blades for optimum resilience and performance.
- Matt chrome blade, hardened black tip.

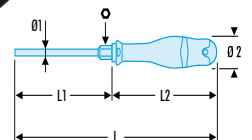
Φ	Phillips® no.	● 1 x 1L mm	Ø2 x L2 mm	L mm	ΔΔ g
	<b>AWP1X100</b>	PH.1 5,0 x 100	30 x 109	209	80
	<b>AWP2X125</b>	PH.2 6,0 x 125	36 x 120	245	130
	<b>AWP3X150</b>	PH.3 8,0 x 150	40 x 125	275	200
	<b>AWP4X200</b>	PH.4 10,0 x 200	40 x 125	325	280



### AWPH For Phillips® heads - power series

- Hexagon blade with bolster for unscrewing tight screws.
- Matt chrome blade, hardened black tip.

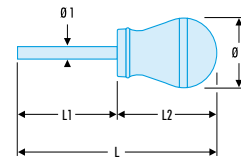
Φ	Phillips® no.	● 1 x 1L mm	Ø2 x L2 mm	L mm	⊘ mm	ΔΔ g
	<b>AWPH1X100</b>	PH.1 5,0 x 100	30 x 109	209	8	70
	<b>AWPH2X125</b>	PH.2 6,0 x 125	36 x 120	245	10	130
	<b>AWPH3X150</b>	PH.3 8,0 x 150	40 x 125	275	12	200
	<b>AWPH4X200</b>	PH.4 10,0 x 200	40 x 125	325	14	280



## ANP For Phillips® heads - short blades

- Short blade and stubby handle for working in confined spaces.
- Matt chrome blade, hardened black tip.

FACOM	Phillips® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
ANP1X25	PH.1	4,5 x 25	36 x 56	81	38
ANP1X35	PH.1	4,5 x 35	36 x 56	91	39
ANP2X35	PH.2	6,0 x 35	36 x 56	91	44

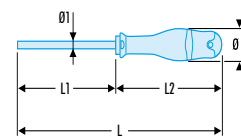
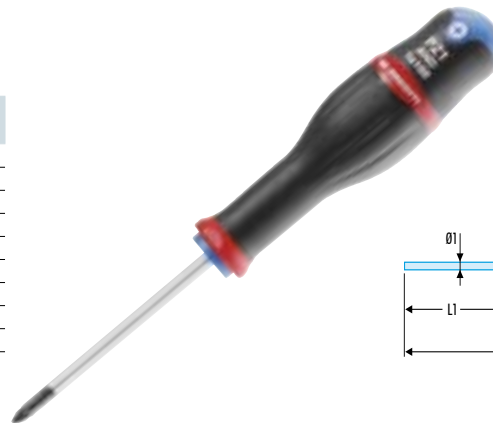


## ▶ Protwist® screwdriver for Pozidriv® heads

### AND For Pozidriv® heads - round blades

- Round matt chrome blade.
- Hardened black tip.

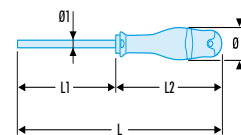
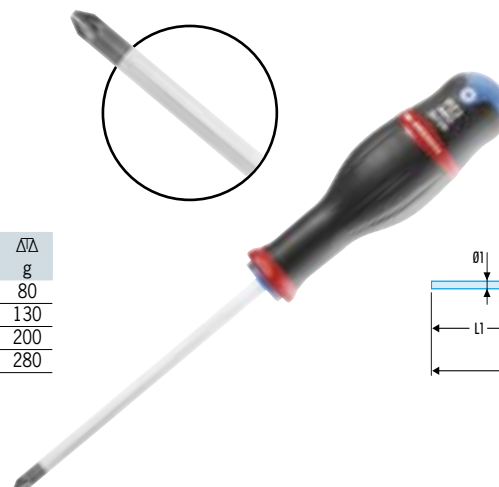
FACOM	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
ANDOX75	PZ.0	3,0 x 75	25 x 103	178	45
AND1X75	PZ.1	4,5 x 75	30 x 109	184	73
AND1X100	PZ.1	4,5 x 100	30 x 109	209	76
AND1X250	PZ.1	4,5 x 250	30 x 109	359	99
AND2X100	PZ.2	6,0 x 100	36 x 120	220	120
AND2X125	PZ.2	6,0 x 125	36 x 120	245	126
AND2X250	PZ.2	6,0 x 250	36 x 120	370	153
AND3X150	PZ.3	8,0 x 150	40 x 125	275	194
AND4X200	PZ.4	10,0 x 200	40 x 125	325	277



### AWD For Pozidriv® heads - hexagonal blades

- Hexagonal blades for optimum resilience and performance.
- Matt chrome blade, hardened black tip.

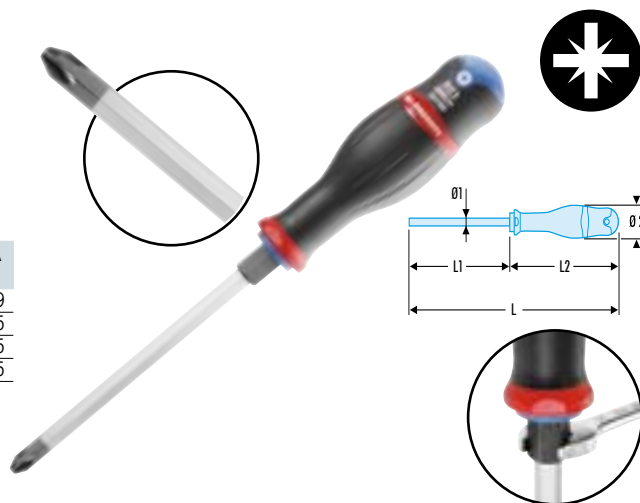
FACOM	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
AWD1X100	PZ.1	5,0 x 100	30 x 109	209	80
AWD2X125	PZ.2	6,0 x 125	36 x 120	245	130
AWD3X150	PZ.3	8,0 x 150	40 x 125	275	200
AWD4X200	PZ.4	10,0 x 200	40 x 125	325	280



### AWDH For Pozidriv® heads - power series

- Hexagon blade with bolster for unscrewing tight screws.
- Matt chrome blade, hardened black tip.

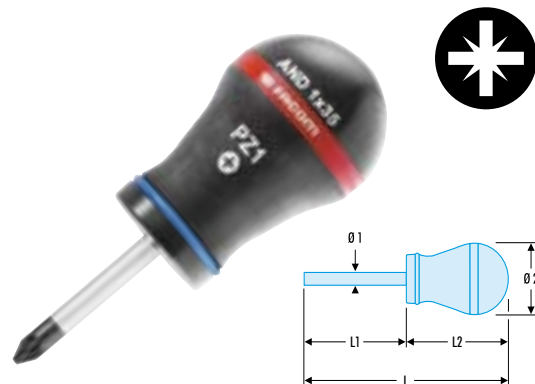
AWDH	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	Ø mm	ΔΔ g
<b>AWDH1X100</b>	PZ.1	5,0 x 100	30 x 109	209	8	209
<b>AWDH2X125</b>	PZ.2	6,0 x 125	36 x 120	245	10	245
<b>AWDH3X150</b>	PZ.3	8,0 x 150	40 x 125	275	12	275
<b>AWDH4X200</b>	PZ.4	10,0 x 200	40 x 125	325	14	325



### AND For Pozidriv® heads - short blades

- Short round blade and stubby handle for working in confined spaces.
- Matt chrome blade, hardened black tip.

AND	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>AND1X25</b>	PZ.1	4,5 x 25	36 x 56	81	38
<b>AND1X35</b>	PZ.1	4,5 x 35	36 x 56	91	40
<b>AND2X35</b>	PZ.2	6,0 x 35	36 x 56	91	45

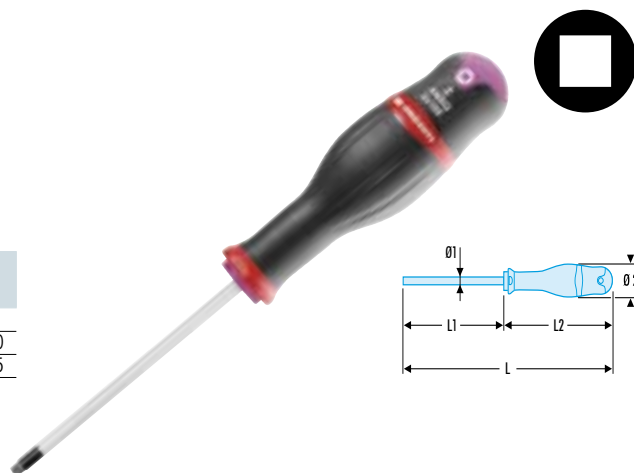


## ▶ Protwist® screwdrivers for square drive heads

### ANSQ For square drive heads

- Matt chrome blade, hardened black tip.

ANSQ	Robertson® n°	Ø2 x L2 mm	Ø2 x L2 mm	Ø1 x L1 mm	ΔΔ g
<b>ANSQ1X75</b>	SQ 1	30 x 109	30 x 109	184	73
<b>ANSQ2X100</b>	SQ 2	36 x 120	220	220	5,0 x 100
<b>ANSQ3X125</b>	SQ 3	40 x 125	250	250	6,0 x 125



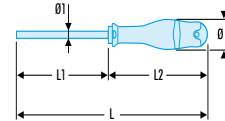
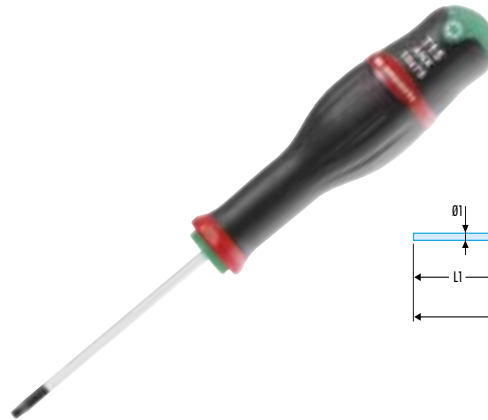


## ► Protwist® screwdrivers for Torx® and Resistorx® heads

### ANN for Torx® heads

- Meets Torx® specifications.
- Matt chrome blade, hardened black tip.

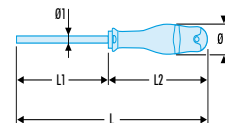
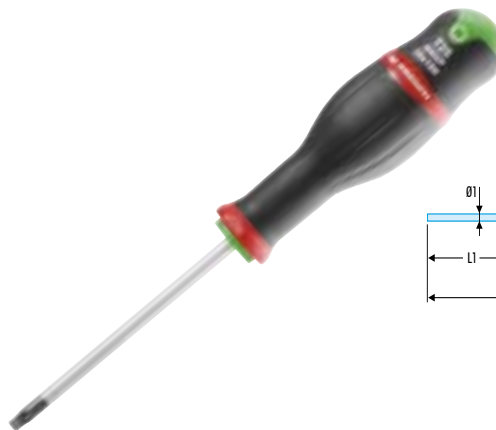
⇒	Torx N°	Ø1 x L1 mm	I* mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ANX6X50</b>	T.6	2,5 x 50	1,65	19 x 94	144	20
<b>ANX7X50</b>	T.7	2,5 x 50	1,97	19 x 94	144	20
<b>ANX8X50</b>	T.8	2,5 x 50	2,30	25 x 103	153	35
<b>ANX9X75</b>	T.9	3,0 x 75	2,48	25 x 103	178	45
<b>ANX10X75</b>	T.10	3,0 x 75	2,74	30 x 109	184	50
<b>ANX15X75</b>	T.15	3,5 x 75	3,26	30 x 109	184	61
<b>ANX20X100</b>	T.20	4,0 x 100	3,84	36 x 120	220	67
<b>ANX20X150</b>	T.20	4,0 x 150	3,84	36 x 120	270	73
<b>ANX25X100</b>	T.25	5,0 x 100	4,40	36 x 120	220	113
<b>ANX27X100</b>	T.27	5,5 x 100	4,96	36 x 120	220	113
<b>ANX30X125</b>	T.30	6,0 x 125	5,49	36 x 120	245	126
<b>ANX40X150</b>	T.40	7,0 x 150	6,60	40 x 125	275	173



### ANXP for Torx Plus® heads

- Meets Torx Plus® specifications.
- Matt chrome blade, hardened black tip.

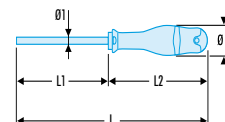
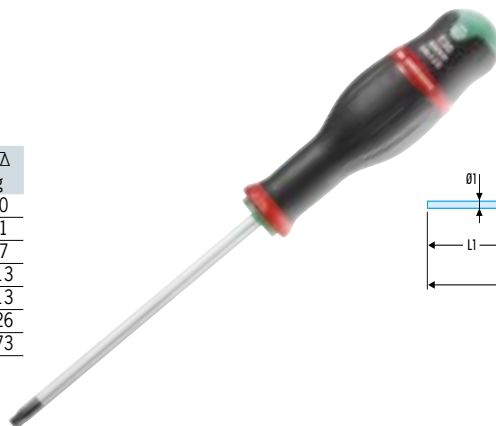
⇒	Torx® n°	I* mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ANXP5X50</b>	IP 5	1,42	2,5 x 50	19 x 95	144	20
<b>ANXP6X50</b>	IP 6	1,65	2,5 x 50	19 x 95	144	20
<b>ANXP7X50</b>	IP 7	1,97	2,5 x 50	19 x 95	144	20
<b>ANXP8X50</b>	IP 8	2,30	2,5 x 50	25 x 103	153	35
<b>ANXP9X75</b>	IP 9	2,48	3,0 x 75	25 x 103	178	45
<b>ANXP10X75</b>	IP 10	2,74	3,0 x 75	30 x 109	184	50
<b>ANXP15X75</b>	IP 15	3,26	3,5 x 75	30 x 110	184	61
<b>ANXP20X100</b>	IP 20	3,84	4,0 x 100	36 x 120	220	67
<b>ANXP25X100</b>	IP 25	4,40	5,0 x 100	36 x 120	220	113
<b>ANXP27X100</b>	IP 27	4,96	5,5 x 100	36 x 120	220	113
<b>ANXP30X125</b>	IP 30	5,49	6,0 x 125	36 x 120	245	126
<b>ANXP40X150</b>	IP 40	6,60	7,0 x 150	40 x 125	275	173



### ANXR For Resistorx® heads

- Meets Resistorx® specifications.
- Matt chrome blade, hardened black tip.

⇒	Resistorx® n°	I* mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ANXR10X75</b>	TT 10	2,74	3,0 x 75	25 x 109	184	50
<b>ANXR15X75</b>	TT 15	3,26	3,5 x 75	30 x 110	185	61
<b>ANXR20X100</b>	TT 20	3,84	4,0 x 100	36 x 120	220	67
<b>ANXR25X100</b>	TT 25	4,40	5,0 x 100	36 x 120	220	113
<b>ANXR27X100</b>	TT 27	4,96	5,5 x 100	36 x 120	220	113
<b>ANXR30X125</b>	TT 30	5,49	6,0 x 125	36 x 120	245	126
<b>ANXR40X150</b>	TT 40	6,60	7,0 x 150	40 x 125	275	173

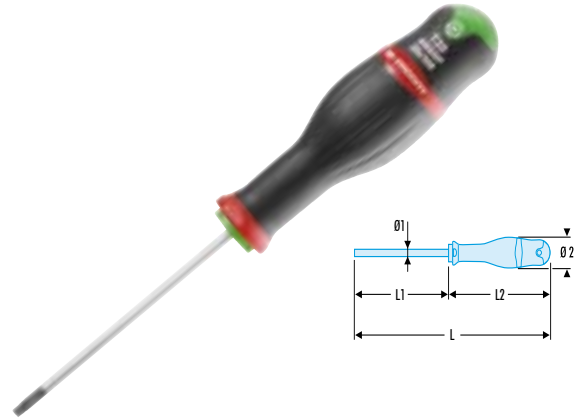


## ANXRP for Torx Plus® Tamper Resistant heads

- Meets Torx Plus® specifications.
- Matt chrome blade, hardened black tip.



Resistorx® n°	T	mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
ANXRP10X75	T 10	2,74	3,0 x 75	30 x 109	184	50
ANXRP15X75	T 15	3,26	3,5 x 75	30 x 110	185	61
ANXRP20X100	T 20	3,84	4,0 x 100	36 x 120	220	67
ANXRP25X100	T 25	4,40	5,0 x 100	36 x 120	220	113
ANXRP27X100	T 27	4,96	5,5 x 100	36 x 120	220	113
ANXRP30X125	T 30	5,49	6,0 x 125	36 x 120	245	126
ANXRP40X140	T 40	6,60	7,0 x 150	40 x 125	275	173



## ► Set of Protwist® screwdrivers - sand-blasted tips

### 6-piece set of screwdrivers for slotted and Phillips® heads

#### ASP.J6

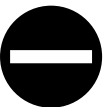
Qty	Contents
6	● AS3,5X75 - AS4X100 - AS5,5X100 - ASF6,5X150 ● ASP1X100 - ASP2X125



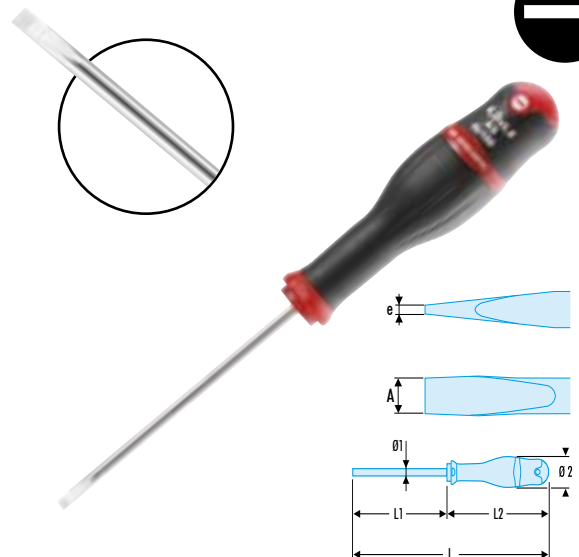
## ► Protwist® screwdrivers - sand-blasted tips

### AS - ASF For slotted heads

- Shiny chrome blade, sand-blasted tip.
- AS : machined blades - ASF : forged blades.



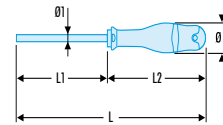
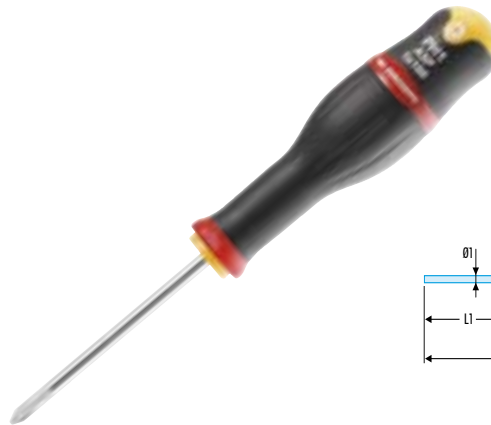
E x A mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
AS2,5X75	0,4 x 2,5	2,5 x 75	19 x 95	21
AS3,5X75	0,6 x 3,5	3,5 x 75	25 x 104	41
AS3,5X100	0,6 x 3,5	3,5 x 100	25 x 104	43
AS4X100	0,8 x 4,0	4,0 x 100	30 x 109	47
AS5,5X100	1,0 x 5,5	5,5 x 100	30 x 110	82
AS5,5X150	1,0 x 5,5	5,5 x 150	30 x 110	91
AS6,5X150	1,2 x 6,5	6,5 x 150	36 x 120	140
ASF5,5X100	1,0 x 5,5	5,0 x 100	30 x 110	76
ASF6,5X150	1,2 x 6,5	6,0 x 150	36 x 120	120
ASF8X150	1,2 x 8,0	7,0 x 150	40 x 125	149
ASF10X200	1,6 x 10,0	9,0 x 200	40 x 125	214



## ASP for Phillips® heads

- Shiny chrome blade, sand-blasted tip.

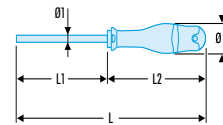
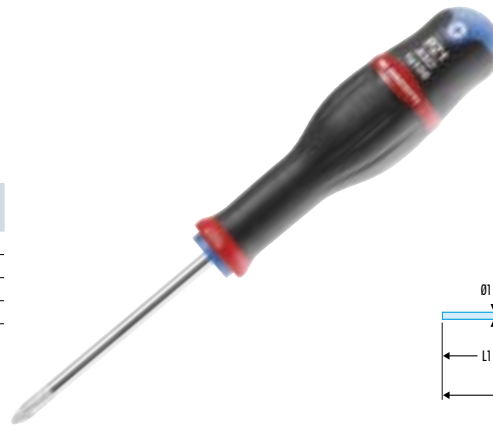
➤	Phillips® n°	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ASPOX75</b>	PH 0	3,0 x 75	25 x 104	179	45
<b>ASP1X100</b>	PH 1	4,5 x 100	30 x 110	210	76
<b>ASP2X125</b>	PH 2	6,0 x 125	36 x 120	245	126
<b>ASP3X150</b>	PH 3	8,0 x 150	40 x 125	275	194



## ASD for Pozidriv® heads

- Shiny chrome blade, sand-blasted tip.

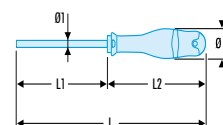
➤	Pozidriv® n°	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ASDOX75</b>	PZ 0	3,0 x 75	25 x 104	179	45
<b>ASD1X100</b>	PZ 1	4,5 x 100	30 x 110	210	76
<b>ASD2X125</b>	PZ 2	6,0 x 125	36 x 120	245	126
<b>ASD3X150</b>	PZ 3	8,0 x 150	40 x 125	275	194



## ASX for Torx® heads

- Meets Torx® specifications.
- Shiny chrome blade, sand-blasted tip.

➤	Torx® n°	I★ mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ASX10X75</b>	T 10	2,74	3,0 x 75	30 x 109	184	50
<b>ASX15X75</b>	T 15	3,26	3,5 x 75	30 x 110	185	61
<b>ASX20X100</b>	T 20	3,84	4,0 x 100	36 x 120	220	73
<b>ASX25X100</b>	T 25	4,40	5,0 x 100	36 x 120	220	113
<b>ASX30X125</b>	T 30	5,49	6,0 x 125	36 x 120	245	126





## New Screwdriver

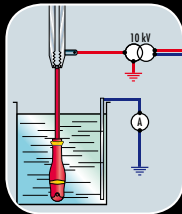
# Protwist®

**1000 VOLTS**  
EN 60900

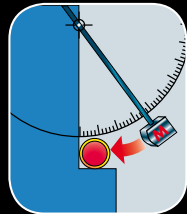
### FACOM VE-SERIES 1,000 V SCREWDRIVERS

Tools built for electrical safety to European standard EN 60900 specifications, and designed for working on live components up to 1,000 V AC and 1,500 V DC. For your safety, every screwdriver is tested to 10,000 V for 10 seconds at the end of the manufacturing cycle.

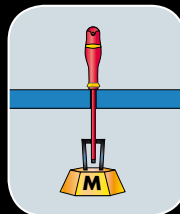
Tested in accordance with EN 60900.



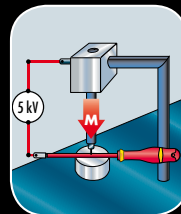
Electrical resistance



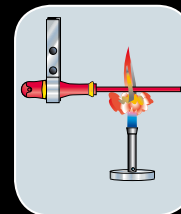
Impact resistance



Pull-off resistance



Pull-off resistance



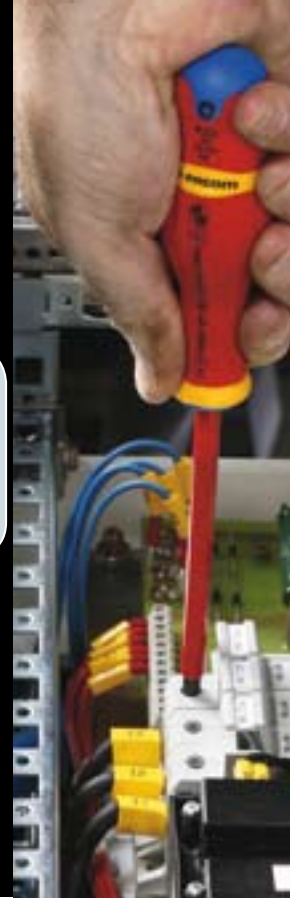
Combustion test



#### Safety first

Working on live components is hazardous. For your safety it is important that you

- Ensure that the insulation is not damaged by :
  - heat (-20 to 70° working temperature),
  - chemicals,
  - cuts or perforations.
- Visually check insulation before use.



## ▶ 1,000 V insulated Protwist® sets and modules

### A.VE 1,000 V insulated screwdriver sets

	Number of screwdrivers	Contents
<b>AD.J5VE</b>	5	● A3,5x100VE - A4x100VE - A5,5x125VE ⊕ AD1x100VE - AD2x125VE
<b>AP.J5VE</b>	5	● A3,5x100VE - A4x100VE - A5,5x125VE ⊕ AP1x100VE - AP2x125VE
<b>AD.J8VE</b>	8	● A2,5x75VE - A3x75VE - A3,5x75VE - A4x100VE - A5,5x125VE - A6,5x150VE ⊕ AD1x100VE - AD2x125VE



### 8-piece 1,000 V insulated screwdriver module

#### MOD.A1VE

	Number of screwdrivers	Contents	Tray
<b>MOD.A1VE</b>	8	● A3,5x100VE - A4x100VE - A5,5x125VE - A6,5x150VE ⊕ AP1x100VE - AP2x125VE ⊕ AD1x100VE - AD2x125VE	PL.764



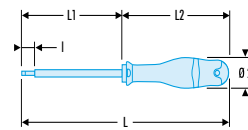
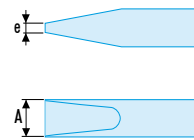
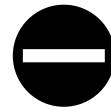
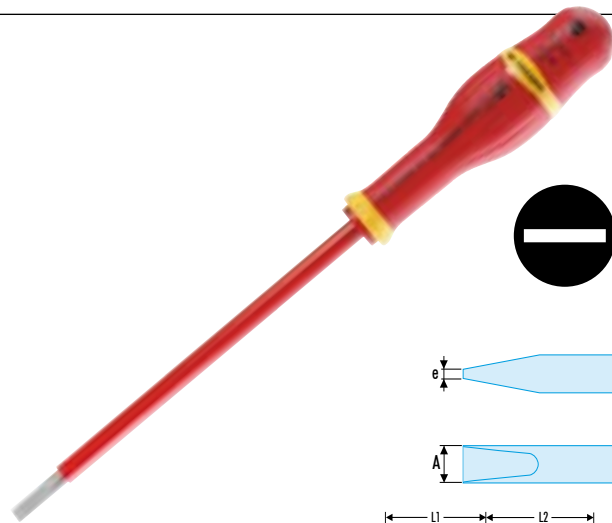
## ▶ Protwist® 1,000 V insulated screwdrivers for slotted heads

### A.VE For slotted heads

▷ NF ISO 2380-1, NF ISO 2380-2, DIN ISO 2380-1, DIN ISO 2380-2.

- 1,000 V sheathed round blade.
- Machined blade up to 5.5 inclusive. Hollowed blade from 6.5 to 12.

Ref	E x A mm	l x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
A2X75VE	0,4 x 2,0	18 x 40	19 x 95	170	23
A2,5X50VE	0,4 x 2,5	18 x 50	25 x 103	153	30
A2,5X75VE	0,4 x 2,5	18 x 75	25 x 103	178	32
A3X75VE	0,5 x 3,0	18 x 75	25 x 103	178	38
A3X100VE	0,5 x 3,0	18 x 100	25 x 103	202	39
A3,5X75VE	0,6 x 3,5	18 x 75	25 x 104	179	42
A3,5X100VE	0,6 x 3,5	18 x 100	25 x 104	204	44
A4X100VE	0,8 x 4,0	18 x 100	30 x 110	210	48
A4X150VE	0,8 x 4,0	18 x 150	30 x 110	260	53
A5,5X125VE	1,0 x 5,5	18 x 125	30 x 110	235	88
A5,5X150VE	1,0 x 5,5	18 x 150	30 x 110	260	92
A5,5X200VE	1,0 x 5,5	18 x 200	30 x 110	310	106
A6,5X150VE	1,2 x 6,5	18 x 150	36 x 120	270	120
A6,5X200VE	1,2 x 6,5	18 x 200	36 x 120	320	170
A8X150VE	1,2 x 8,0	18 x 150	40 x 125	275	160
A8X200VE	1,2 x 8,0	18 x 200	40 x 125	325	180
A10X200VE	1,6 x 10,0	18 x 200	40 x 125	325	240
A12X250VE	2,0 x 12,0	18 x 250	40 x 125	375	360



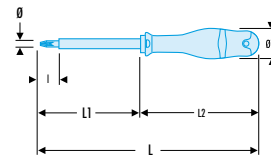
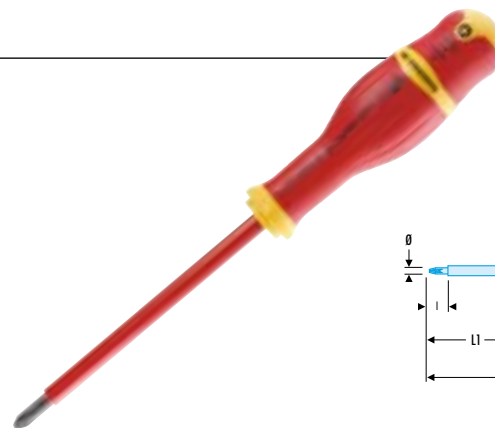
## ▶ 1,000 V insulated Protwist® screwdrivers for cross-heads

### AP.VE For Phillips® heads

▷ NF ISO 8764-1, NF ISO 8764-2, DIN ISO 8764-1, DIN ISO 8764-2.

- 1,000 V sheathed round blade.

Ref	Phillips® no.	Ø mm	l x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
APOX75VE	PH.0	3	18 x 75	25 x 104	179	46
AP1X100VE	PH.1	4,5	18 x 100	30 x 110	210	77
AP2X125VE	PH.2	6	18 x 125	36 x 120	245	127
AP3X150VE	PH.3	8	18 x 150	40 x 125	275	195
AP4X200VE	PH.4	10	18 x 200	40 x 125	325	278

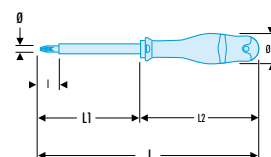
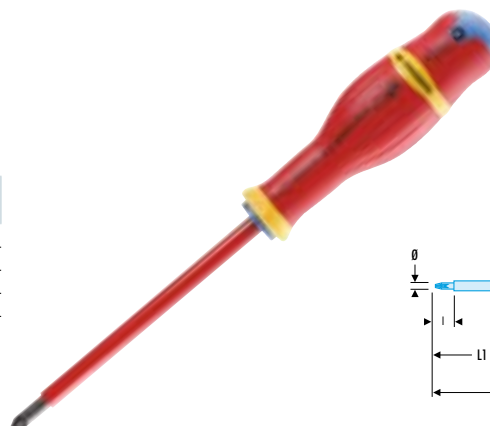


### AD.VE For Pozidriv® heads

▷ NF ISO 8764-1, NF ISO 8764-2, DIN ISO 8764-1, DIN ISO 8764-2.

- 1,000 V sheathed round blade.

Ref	Pozidriv® no.	Ø mm	l x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
AD0X75VE	PZ.0	3	18 x 75	25 x 104	179	46
AD1X100VE	PZ.1	4,5	18 x 100	30 x 109	209	77
AD2X125VE	PZ.2	6	18 x 125	36 x 120	245	127
AD3X150VE	PZ.3	8	18 x 150	40 x 125	275	195





## 1,000 V insulated screwdrivers

**1000VOLTS**  
EN 60900

**Borneo®**

**Special screwdrivers for combination pattern heads used on switchgear.**

**Special pattern**

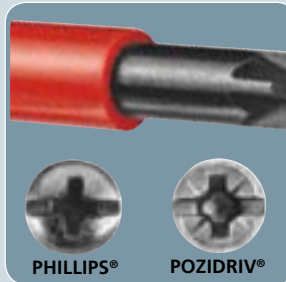
- Specific driver pattern suitable for switches, relays, circuit-breakers, boxes, terminals, etc.

**Powerful tightening**

- Torque transmission considerably higher than with a conventional screwdriver.

**Drive integrity**

- More positive coupling preventing slippage, reduced wear of both fastener and screwdriver.
- More secure fit avoiding damage to enclosures and casings.



PHILLIPS®

POZIDRIV®



**Safety first**

**1,000 V safety**

- Screwdrivers to European standard EN 60900.
- Most switchgear has combination Pozidriv®/slotted heads (Facom ADB series screwdrivers), but some uses Phillips®/slotted heads (Facom APB series screwdrivers). Clean results can only be achieved with correct screwdriver/fastener contact.

► **BORNEO® screwdriver sets for electrical terminals**

**AB.VE Borneo® combination head screwdriver sets**

- Supplied in a box..

Code	Qty	Contents
AB.J4VE	4	⚡/⚡ APB1X100VE - APB2X125VE ⚡/⚡ ADB1X100VE - ADB2X125VE
ADB.J7VE	7	⚡/⚡ ADB1X100VE - ADB2X125VE ⚡ A2,5X75VE - A3,5X100VE - A4X100VE - A5,5X125VE - A6,5X150VE
APB.J7VE	7	⚡/⚡ APB1X100VE - APB2X125VE ⚡ A2,5X75VE - A3,5X100VE - A4X100VE - A5,5X125VE - A6,5X150VE





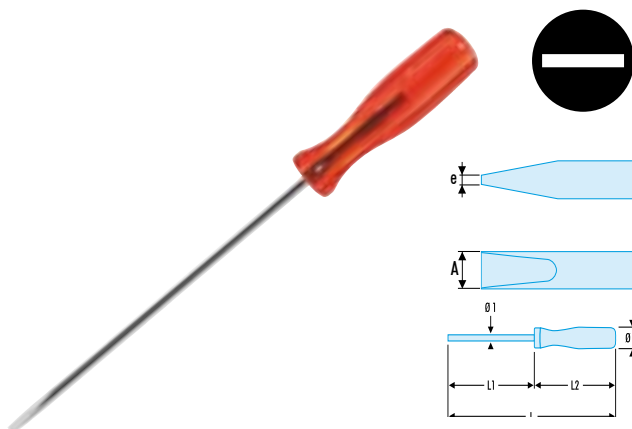


## ► ISORYL screwdrivers for slotted heads

### AR For slotted heads - machined blades

- Shank machined for access into recesses.
- Polished chrome finish.

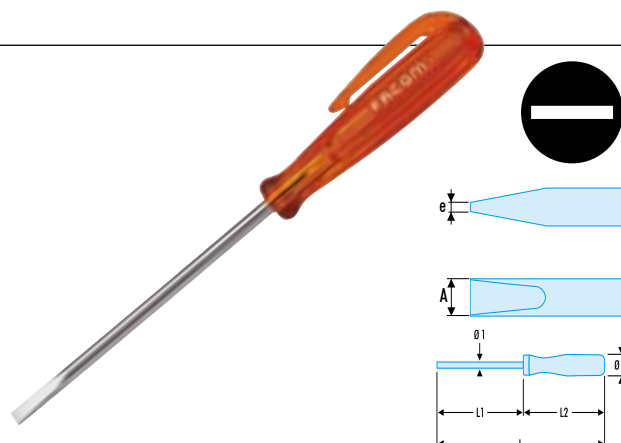
➤	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>AR.2X40</b>	0,4 x 2	0,2	2 x 40	16 x 70	110	13,5
<b>AR.2,5X50</b>	0,4 x 2,5	0,2	2,5 x 50	16 x 70	120	15
<b>AR.2,5X75</b>	0,4 x 2,5	0,2	2,5 x 75	16 x 70	145	16
<b>AR.3X75</b>	0,5 x 3	0,3	3 x 75	16 x 70	145	17,5
<b>AR.3,5X75</b>	0,6 x 3,5	0,4	3,5 x 75	20,5 x 80	155	31
<b>AR.3,5X100</b>	0,8 x 4	0,4	3,5 x 100	20,5 x 80	180	33
<b>AR.4X100</b>	0,8 x 4	0,5	4 x 100	24 x 90	190	45
<b>AR.4X150</b>	0,8 x 4	0,5	4 x 150	24 x 90	240	50
<b>AR.5,5X100</b>	1 x 5,5	0,6	5,5 x 100	28 x 100	200	71
<b>AR.5,5X150</b>	1 x 5,5	0,6	5,5 x 150	28 x 100	250	80
<b>AR.6,5X100</b>	1,2 x 6,5	0,7	6,5 x 100	30 x 110	210	102
<b>AR.6,5X150</b>	1,2 x 6,5	0,7	6,5 x 150	30 x 110	260	114
<b>AR.8X150</b>	1,2 x 8	0,7	8 x 150	30 x 110	260	141



### ARA For slotted heads - pocket clip handle

- Polished chrome finish.

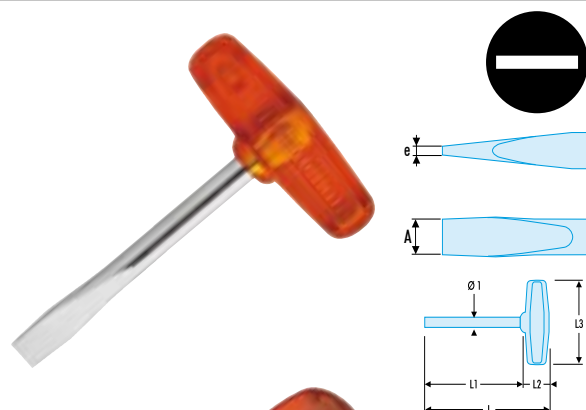
➤	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ARA.2,5X50</b>	0,4 x 2,5	0,2	2,5 x 50	13 x 60	110	10
<b>ARA.2,5X75</b>	0,4 x 2,5	0,2	2,5 x 75	13 x 60	135	11
<b>ARA.3,5X50</b>	0,6 x 3,5	0,4	3,5 x 50	13 x 60	110	12
<b>ARA.3,5X75</b>	0,6 x 3,5	0,4	3,5 x 75	13 x 60	135	14



### AGT For slotted heads - forged blades - Tee handle

- High torque capability.
- Chrome finish.

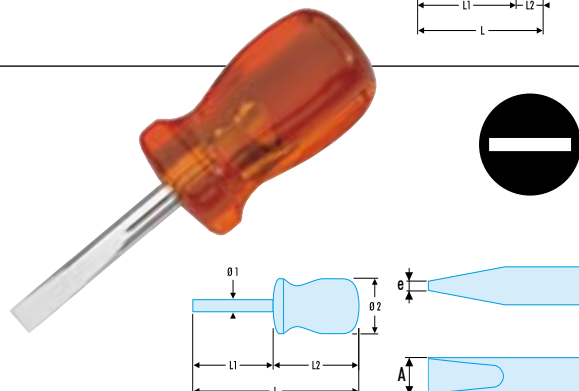
➤	e x A mm	t mm	L2 x L3 mm	Ø1 x L1 mm	L mm	ΔΔ g
<b>AGT.8X100</b>	1,2 x 8	1	30 x 85	8 x 100	130	150
<b>AGT.10X100</b>	1,6 x 10	1	30 x 85	10 x 100	130	160



### ARB For slotted heads - short blades

- For use in confined spaces.
- Polished chrome finish.

➤	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ARB.4X40</b>	0,8 x 4	0,5	4,0 x 40	29 x 50	90	38
<b>ARB.5,5X40</b>	1,0 x 5,5	0,6	5,5 x 40	29 x 50	90	39
<b>ARB.6,5X40</b>	1,2 x 6,5	0,7	6,5 x 40	29 x 50	90	42

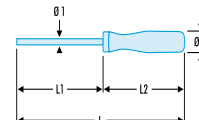
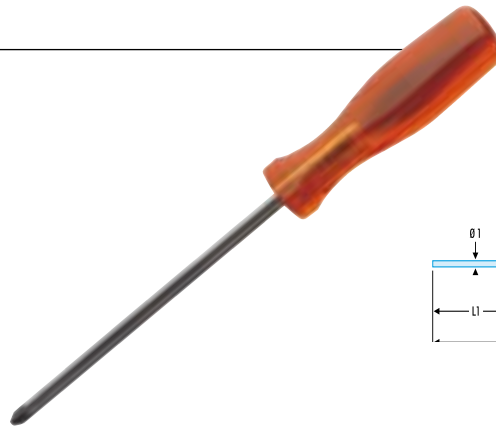


## ► ISORYL screwdrivers for Pozidriv® heads

### AD For Pozidriv® heads

- High-strength alloy steel blade.
- Burnished finish.

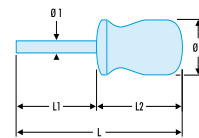
⇒	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>AD.0X50</b>	PZ.0	4 x 50	20,5 x 80	130	31
<b>AD.1X75</b>	PZ.1	4 x 75	24 x 90	165	55
<b>AD.2X100</b>	PZ.2	6 x 100	28 x 100	200	77
<b>AD.2X125</b>	PZ.2	6 x 125	28 x 100	225	81
<b>AD.3X150</b>	PZ.3	8 x 150	30 x 110	260	142



### ADB For Pozidriv® heads - short blades

- For use in confined spaces.
- Burnished finish.

⇒	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ADB.1X40</b>	PZ.1	5 x 40	29 x 50	90	38
<b>ADB.2X40</b>	PZ.2	6 x 40	29 x 50	90	44

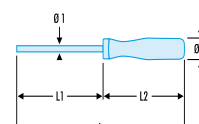
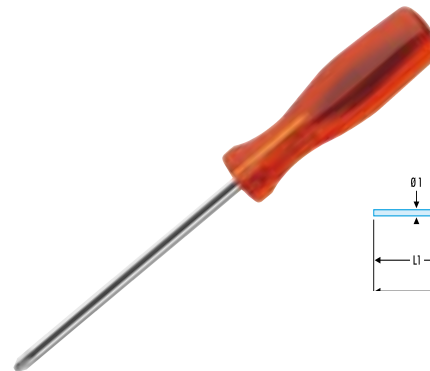


## ► ISORYL screwdrivers for Phillips® heads

### AP For Phillips® heads

- Chrome finish.

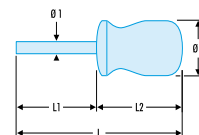
⇒	Phillips® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>AP.0X50</b>	PH.0	4 x 50	20,5 x 80	130	31
<b>AP.0X75</b>	PH.0	4 x 75	20,5 x 80	155	33
<b>AP.1X75</b>	PH.1	5 x 75	24 x 90	165	55
<b>AP.1X100</b>	PH.1	5 x 100	24 x 90	190	59
<b>AP.2X100</b>	PH.2	6 x 100	28 x 100	200	77
<b>AP.2X125</b>	PH.2	6 x 125	28 x 100	225	81
<b>AP.3X150</b>	PH.3	8 x 150	30 x 110	260	142
<b>AP.4X200</b>	PH.4	10 x 200	34 x 120	320	246



### APB For Phillips® heads - short blades

- For use in confined spaces.
- Chrome finish.

⇒	Phillips® no.	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>APB.0X40</b>	PH.0	4 x 40	29 x 50	90	33
<b>APB.1X40</b>	PH.1	5 x 40	29 x 50	90	36
<b>APB.2X40</b>	PH.2	6 x 40	29 x 50	90	40



## ► Wood-handle screwdriver sets

### Wood-handle screwdriver sets

Ref	Icon	Contents	Number of screwdrivers	ΔΔ g
ATH.JS5	•	• ATH.5,5x100 - 6,5x100 - 8x150 8x175 - 10x200	5	837
ATHH.JS5	•	• ATHH.5,5x100 - 6,5x125 - 8x150 10x175 - 12x200	5	952
AGH.JS5	•	• AGH.5,5x100 - 6,5x125 - 8x150 10x175 - 12x200	5	992\1262
ATHH.PJ3	•	• ATHH.P1 - P2 - P3	3	372
ATHH.J7	•	• ATHH.4x90 - 5,5x100 - 6,5x125 8x150 - 10x17 - 12x200 - 14x250	7	1262
AJT.2	•	• ATHH.5,5x100 - 6,5x125 - 8x150\10x175 • ATHH.P1 - P2 • ATHH.D1 - D2	8	908



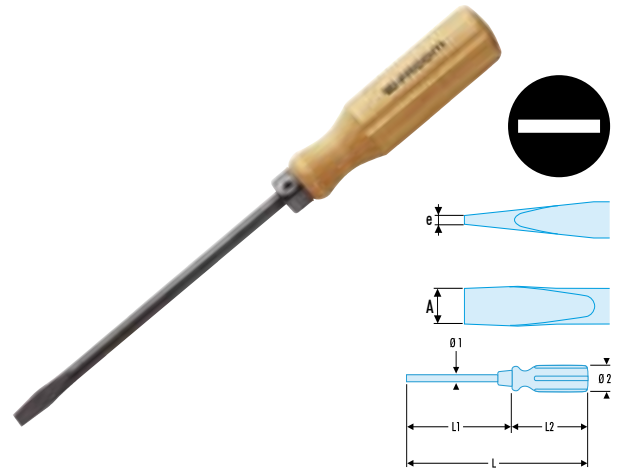
## ► Wood-handle screwdrivers for slotted heads

### ATH For slotted heads - forged blades

► NF ISO 2380-1, NF ISO 2380-2, DIN ISO 2380-1, DIN ISO 2380-2.

- Through-blade withstands gentle impact on end to free seized fasteners.
- Metal insert to spread impact area
- Full blade length forged and hardened.
- Winged shank for secure fit within handle.
- Burnished finish.

Ref	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	L mm	ΔΔ g
ATH.5,5X100	1,0 x 5,5	0,6	5 x 100	22 x 105	205	65
ATH.6,5X100	1,2 x 6,5	0,7	6 x 100	26 x 110	210	86
ATH.8X150	1,2 x 8,0	0,7	7 x 150	28 x 120	270	130
ATH.8EX175	1,6 x 8,0	1,0	7 x 175	32 x 130	305	177
ATH.10X200	1,6 x 10,0	1,0	9 x 200	32 x 130	330	222
ATH.12X250	2,0 x 12,0	1,2	10 x 250	32 x 130	380	335

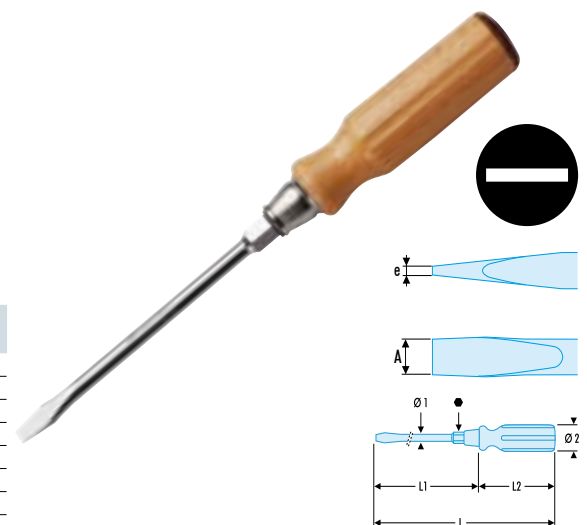


### ATHH For slotted heads - forged blades with hexagonal bolster

► NF ISO 2380-1, NF ISO 2380-2, DIN ISO 2380-1, DIN ISO 2380-2.

- Through-blade withstands gentle impact on end to free seized fasteners.
- Forged and hardened blade with hex shoulder to take a wrench for extra leverage.
- Winged shank for secure fit within handle.
- Steel shock-absorbing ferrule; leather end-pad to cushion impact.
- Polished chrome finish.

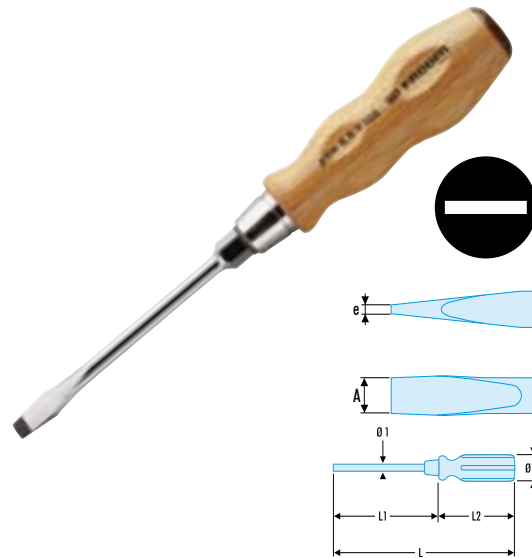
Ref	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	Ø3 mm	L mm	ΔΔ g
ATHH.4X90	0,8 x 4,0	0,5	4,5 x 90	25 x 100	6	190	49
ATHH.5,5X100	1,0 x 5,5	0,6	5,5 x 100	25 x 100	8	200	58
ATHH.6,5X125	1,2 x 6,5	0,7	6,5 x 125	26 x 115	10	240	99
ATHH.6,5X175	1,2 x 6,5	0,7	6,5 x 175	26 x 115	10	290	110
ATHH.8X150	1,2 x 8,0	0,7	8,0 x 150	28 x 120	13	270	160
ATHH.10X175	1,6 x 10,0	1,0	9,0 x 175	30 x 125	13	300	207
ATHH.12X200	2,0 x 12,0	1,2	10,0 x 200	32 x 130	17	330	278
ATHH.14X250	2,5 x 14,0	1,5	10,0 x 250	32 x 135	17	385	331



## AGH For slotted heads - "High torque" forged blades with hexagonal bolster

- Ergonomic varnished beechwood handle for powerful rotation.
- Through-blade withstands gentle impact on end to free seized fasteners.
- Forged and hardened blade with hex bolster to take a wrench for extra leverage.
- Winged shank for secure fit within handle.
- Steel shock-absorbing ferrule; leather end-pad to cushion impact.
- Chrome finish, burnished tip.

ED	e x A mm	t mm	Ø1 x L1 mm	Ø2 x L2 mm	● mm	L mm	ΔΔ g
<b>AGH.5.5X100</b>	1,0 x 5,5	0,6	5,0 x 100	33 x 110	6	210	49
<b>AGH.6.5X125</b>	1,2 x 6,5	0,7	6,0 x 125	33 x 110	8	235	64
<b>AGH.8X150</b>	1,2 x 8,0	0,7	8,0 x 150	38 x 120	10	270	110
<b>AGH.8X200</b>	1,2 x 8,0	0,7	8,0 x 200	38 x 120	13	320	160
<b>AGH.10X175</b>	1,6 x 10,0	1,0	9,0 x 175	38 x 120	13	295	190
<b>AGH.10X200</b>	1,6 x 10,0	1,0	9,0 x 200	38 x 120	13	320	207
<b>AGH.12X200</b>	2,0 x 12,0	1,2	10,0 x 200	42 x 130	17	330	278
<b>AGH.12X250</b>	2,0 x 12,0	1,2	10,0 x 250	42 x 130	17	380	331
<b>AGH.14X250</b>	2,5 x 14,0	1,2	11,0 x 250	42 x 130	17	380	351

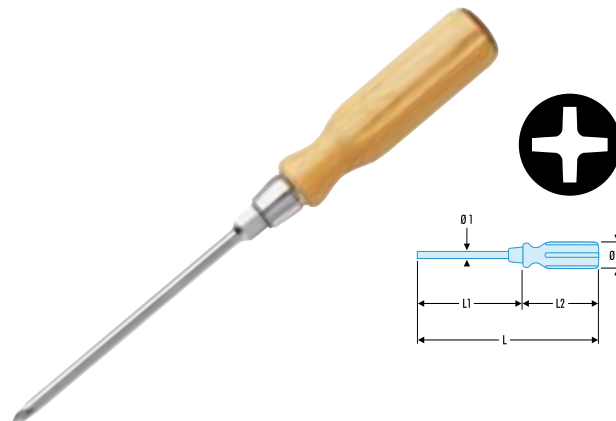


## ▶ Wood-handle screwdrivers for cross-heads

### ATHH.P For Phillips® heads - blades with hexagonal bolster

- Through-blade withstands gentle impact on end to free seized fasteners.
- Forged and hardened blade with hex bolster to take a wrench for extra leverage.
- Winged shank for secure fit within handle.
- Steel shock-absorbing ferrule; leather end-pad to cushion impact.
- Polished chrome finish.

ED	Phillips® no.	Ø1 x L1 mm	Ø2 x L2 mm	● mm	L mm	ΔΔ g
<b>ATHH.P1</b>	PH.1	5 x 100	25 x 100	8	200	60
<b>ATHH.P2</b>	PH.2	6 x 125	26 x 110	10	235	92
<b>ATHH.P3</b>	PH.3	8 x 150	28 x 120	13	270	160



### ATHH.D For Pozidriv® heads - blades with hexagonal bolster

- Through-blade withstands gentle impact on end to free seized fasteners.
- Forged and hardened blade with hex bolster to take a wrench for extra leverage.
- Winged shank for secure fit within handle.
- Steel shock-absorbing ferrule; leather end-pad to cushion impact.
- Burnished finish.

ED	Pozidriv® no.	Ø1 x L1 mm	Ø2 x L2 mm	● mm	L mm	ΔΔ g
<b>ATHH.D1</b>	PZ.1	5 x 100	25 x 100	8	200	60
<b>ATHH.D2</b>	PZ.2	6 x 125	26 x 115	10	240	92
<b>ATHH.D3</b>	PZ.3	8 x 150	28 x 120	13	270	160





## ▶ multi-blade screwdrivers

**New**

### AM Multi-blade sets

- Compact set offering a selection of drive patterns.
- Double-ended blades.
- Handle fits 1/4" hexagon shank on blades.
- Blade retaining spring within handle.
- AM.1 comes in a plastic box.
- AM.2-AM.3-AM.4 come in a compact wallet.

# Protwist®



Handle	●	⊕	⊕	⊕	Torx Plus® Tamper resistant	Qty	ΔΔ g
<b>AM.1</b>	AM.D	AMZ.S 4-6,5 AMZ.S 5,5-7	AMZ.P 0-1 AMZ.P 2-3		AMZ.X 10-15 AMZ.X 20-25 AMZ.X 30-40	16	775
<b>AM.2</b>	AM.D	AMZ.S 4-6,5 AMZ.S 5,5-7	AMZ.P 1-2	AMZ. D1-2		5	350
<b>AM.3</b>	AM.D	AMZ.S 4-6,5 AMZ.S 5,5-7	AMZ.P 1-2		AMZ.X 10-15 AMZ.X 20-25 AMZ.X 30-40	7	450
<b>AM.4</b>	AM.D	AMZ.S 4-6,5 AMZ.S 5,5-7			AMZ.XRP 10-15 AMZ.XRP 20-25 AMZ.XRP 30-40	5	350

### AMZ Reversible blades

- Length 175 mm.
- Length outside the handle 125 mm.
- Chrome finish.

ΔΔ : 40 g.

Pattern	Contents
<b>AMZ.S4-6,5</b>	0,8 x 4 - 1,2 x 6,5
<b>AMZ.S5,5-7</b>	1 x 5,5 - 1,5 x 7
<b>AMZ.PO-1</b>	PH.0 - PH.1
<b>AMZ.P2-3</b>	PH.2 - PH.3
<b>AMZ.P1-2</b>	PH.1 - PH.2
<b>AMZ.DO-1</b>	PZ.0 - PZ.1
<b>AMZ.D2-3</b>	PZ.2 - PZ.3
<b>AMZ.D1-2</b>	PZ.1 - PZ.2
<b>AMZ.H2,5</b>	2,5
<b>AMZ.H3</b>	3
<b>AMZ.H4</b>	4
<b>AMZ.H5</b>	5
<b>AMZ.H6</b>	6
<b>AMZ.X8-9</b>	T.8 - T.9
<b>AMZ.X10-15</b>	T.10 - T.15
<b>AMZ.X20-25</b>	T.20 - T.25
<b>AMZ.X30-40</b>	T.30 - T.40
<b>AMZ.XRP10-15</b>	Tamper Torx® Plus TT+10-15
<b>AMZ.XRP20-25</b>	Tamper Torx® Plus TT+20-25
<b>AMZ.XRP30-40</b>	Tamper Torx® Plus TT+30-40
<b>AMZ.E</b>	Porte-embout 6 pans 1/4"



**New**

## Blade handle

### AM.D

- 1/4" hexagon drive.
- Length 133 mm,
- Ø : 35 mm.
- ΔΔ : 100 g.

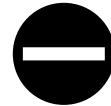
**Protwist**®



## "Radio" model

### AMR

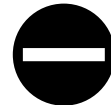
- Supplied with 3 blades for slotted heads Ø 1,5 - 2 - 2,5 mm, stored in handle.
- Polished chrome finish.
- Length with blade 105 mm.
- ΔΔ : 14 g.



## "Junior" model

### AMJ

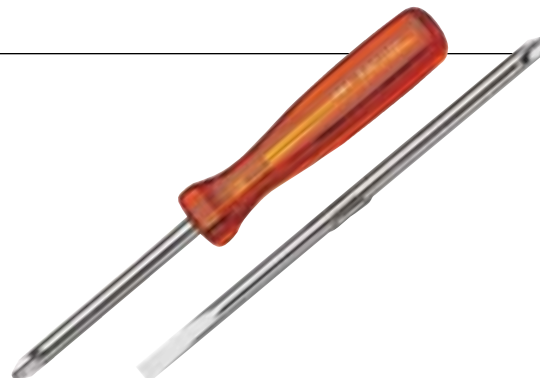
- Supplied with 3 blades for slotted heads Ø 3,5 - 4 - 5.5 mm, stored in handle.
- Polished chrome finish.
- Length with blade 150 mm.
- ΔΔ : 57 g.



## "Standard" model

### AMS

- Supplied with 2 reversible blades :
  - For slotted heads Ø 5.5 and Phillips® no. 1.
  - For slotted heads Ø 6,5 and Phillips® no. 2.
- Wallet set.
- Polished chrome finish.
- Length with blade 165 mm.
- ΔΔ : 101 g.



## ▶ Bit drivers

### Spiral ratchet driver for 1/4" hexagon bits

#### AAM.PE





- Time savings of up to one third for screws with long threads.
- Quick-release chuck for 1/4" (6.35 mm) 1-series bits.
- 3-position ratchet : screw, unscrew, tighten.
- Shank locks in retracted position.
- Polished chrome finish.
- Length 305 mm extended; 230 mm closed.
- $\Delta\Delta$  : 345 g.



New

### Ratchet bit drivers

#### ACL.1

- High quality 45 tooth mechanism for speed, precision, strength and durability.
- One-handed 3-position selector ring (screw, unscrew and tighten).
- Cap with 7 bit storage compartments.
- Cap can serve as an additional mini bit-holder for difficult-to-reach screw locations.
- Partly hollow handle for storing additional bits or screws.
- Bi-material, ergonomic handle for a powerful, comfortable screwing action.
- Very low blade return torque.
- Powerful magnetic adaptor holds the bit and the screw.
- Contains 8 bits :
  -  For slotted heads : 4 - 6,5.
  -  For Phillips® : PH1 - PH2.
  -  For Pozidriv® : PZ1 - PZ2.
  -  For hexagon socket heads : 4 - 6.




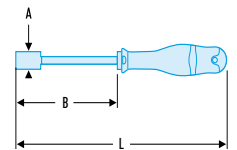
**Protwist**®

New

### AM Bit driver

- AM.H : spring-clip model.  
AM.M1 : short-reach magnetic model.  
AM.M2 : long-reach magnetic model.

	A mm	B mm	L mm	$\Delta\Delta$ g
<b>AM.H</b>	11	75	180	80
<b>AM.M1</b>	10	63	180	120
<b>AM.M2</b>	10	125	245	150



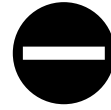
**Protwist**®

## ► Voltage-tester screwdrivers

### AV.BT Voltage-tester screwdrivers (very low voltage)

- For very low voltage.
- AV.BT1 : Standard model
- AV.BT2 : Clip model.
- Supplied with 50 cm lead complete with jack and alligator clip.

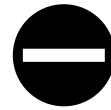
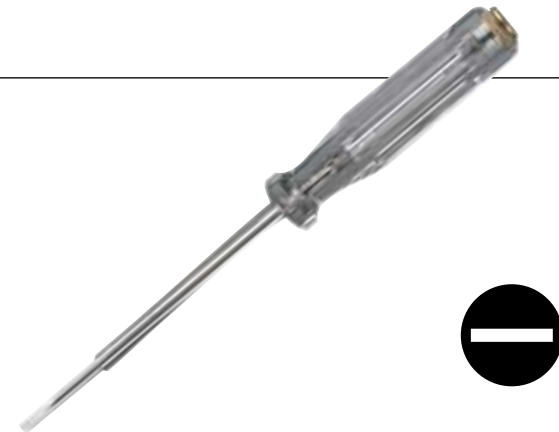
AV	Tension Volt	Ø x Blade mm	L mm	ΔΔ g
AV.BT1	6 - 24	4 x 104	196	53
AV.BT2	6 - 24	3 x 53	138	27



### AV.HT Voltage-tester screwdrivers (low voltage)

- AV.HT4P : Standard model
- AV.HT3P : Clip model.

AV	Tension Volt	Ø x Blade mm	L mm	ΔΔ g
AV.HT1B	90 - 480	3,5 x 100	190	45
AV.HT2B	110 - 250	3 x 62	140	20

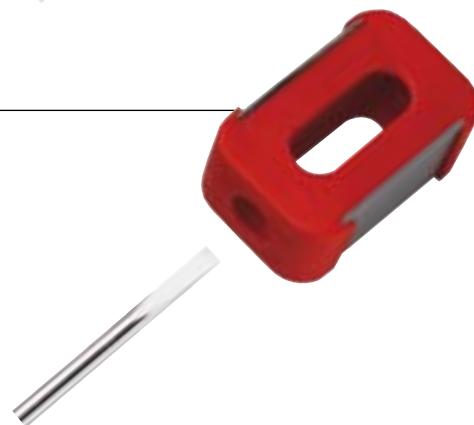


## ► Magnetiser / Demagnetiser

### Magnetiser-demagnetiser

**837**

- Magnetizes driver blade to hold screw in position.
- Demagnetizes driver after use.
- ΔΔ : 73 g.

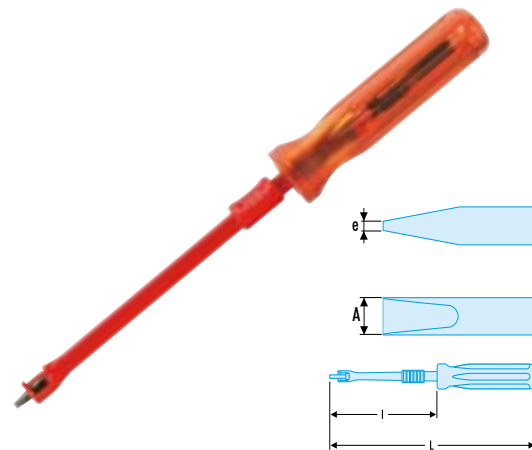


## ► Screw starters

### Screw starters

- AFR for slotted heads.
- ⊕ AFP for Phillips® heads.
- ⊕ AFD for Pozidriv® heads.
- Starting and driving with one tool.
- Thumb-operated slide. Spring holds screw head against the blade.

AV	e x A mm	Phillips® no.	Pozidriv® no.	l mm	L mm	ΔΔ g
AFR.2.5X75	0,4 x 2,5			75	150	22
AFR.3X100	0,5 x 3			100	190	37
AFR.4X125	0,6 x 4			125	225	64
AFR.5X150	0,7 x 5			150	260	95
AFP.0		PH.0		125	225	64
AFP.1		PH.1		150	260	96
AFP.2		PH.2		175	285	118
AFD.1			PZ.1	150	255	96
AFD.2			PZ.2	175	280	120



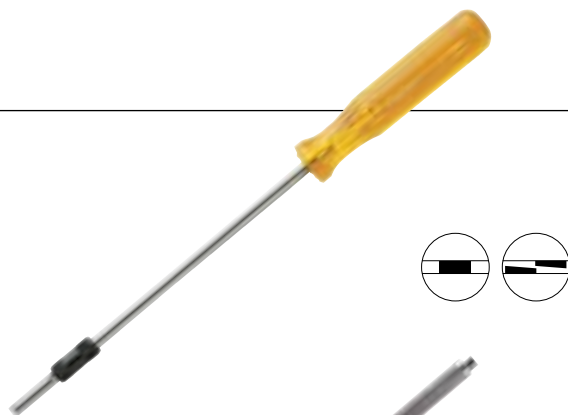


## Screw starters for slotted heads

### AF

- Sleeve slides to lock wedge-shaped tips into the slot.
- For slots 0.5 to 1.5 mm wide.
- Screwdriver required for subsequent tightening or loosening.
- Blade length 150 mm.
- Total length 240 mm.

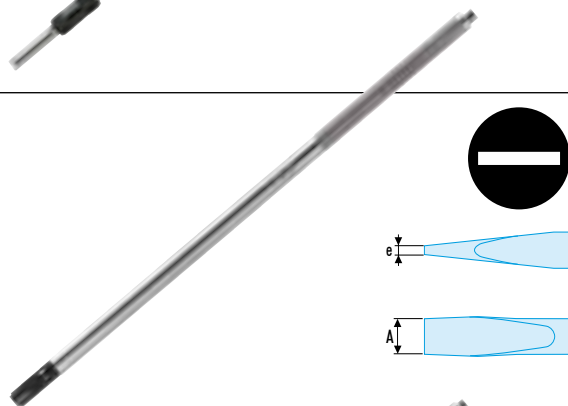
ΔΔ : 56 g.



## AFU Screw starters for slotted heads

- Sleeve rotation locks tip into slot.
- AFU.2 handle is tipped with a magnet.
- Finely knurled steel handle.

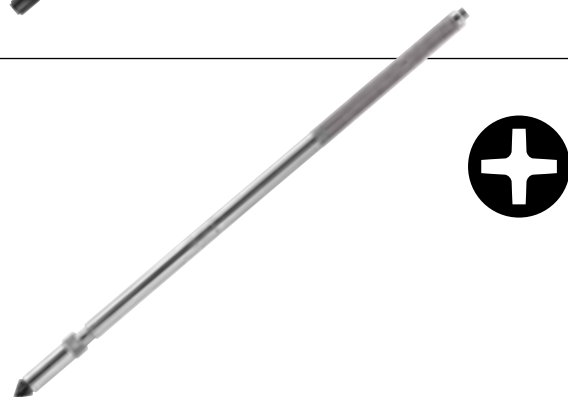
➤	e x A mm	L mm	ΔΔ g
<b>AFU.0</b>	0,5 x 3,8	135	18
<b>AFU.1</b>	0,8 x 7,0	130	18
<b>AFU.2</b>	0,8 x 7,0	300	31



## AFUX Screw starters for cross-heads

- Sleeve slides to lock tip into head.
- AFUX.2 handle is tipped with a magnet.
- Finely knurled steel handle.

➤	Phillips® no.	L mm	ΔΔ g
<b>AFUX.1</b>	PH.1	130	23
<b>AFUX.2</b>	PH.2	300	39

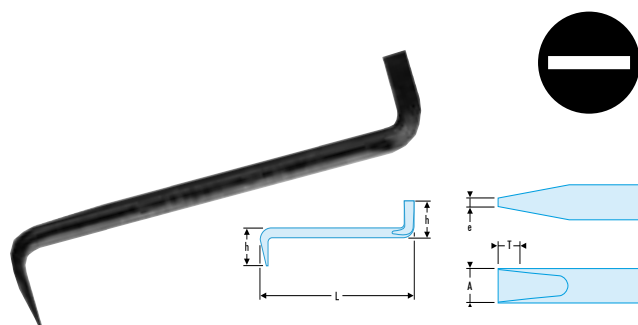


## ► Offset screwdrivers

### ARZ and AKZ Offset screwdrivers for slotted heads

- ARZ Round-blade
- AKZ Square blade.
- Double-ended in perpendicular planes.
- Quarter-turns by reversing the tool.
- Burnished finish.

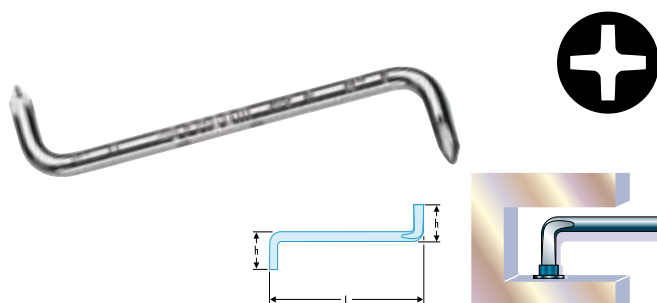
➤	Shank cross-section	e x A mm	t mm	h mm	L mm	ΔΔ g
<b>ARZ.4</b>	•	0,8 x 4,0	0,5	13,0	86	10
<b>ARZ.5,5</b>	•	1,0 x 5,5	0,6	14,0	95	19
<b>ARZ.6,5</b>	•	1,2 x 6,5	0,7	16,0	110	31
<b>AKZ.6</b>	■	1,2 x 8,0	0,7	17,5	123	38
<b>AKZ.8</b>	■	1,6 x 10,0	1,0	20,0	175	92



### APZ Offset screwdrivers for Phillips® heads

- Different size at each end.
- For use in confined spaces.
- Chrome finish.

➤	Phillips® no.	h mm	L mm	ΔΔ g
<b>APZ.A</b>	PH.0 - PH.1	18	86	17
<b>APZ.B</b>	PH.1 - PH.2	20	142	40
<b>APZ.C</b>	PH.3 - PH.4	22	205	138



## FACOM keys

### Strong and durable :

- Silicon alloy, for strength and wear resistance.

### Guaranteed safe :

- Precise, constant heat treatment controls the hardness of the key, to ensure that, if overloaded, it will fail by twisting before breaking cleanly and without splintering.

### Perfect fit in the screw :

- Keys cut, not sheared, to give a clean, regular face.



### A comprehensive range

- Hexagon keys available in three lengths, with standard and spherical heads (series 82 and 83).
- Torx and Resistorx® keys (series 89).
- Special pattern keys : XZN, groove sockets and Bristol (series 80, 81 and 85).
- Hexagonal tee-handle keys (series 84 TC).
- Hexagonal and Torx® tee-handled nut spinners (series 84TZ and 89TX).
- Protwist® hexagonal and spherical head nut spinners (series AWHH and AWSH).

### ... and tool holders to suit every need.

- JP sleeve sets of hexagonal and Torx® keys.
- Multi-blade hexagonal and Torx® drivers.
- Ring, wallet or module sets.



## Facom JP sleeve set

### PRACTICAL AND COMPACT

#### Maximum compactness :

- Folds flat.

#### Easy tool storage and selection :

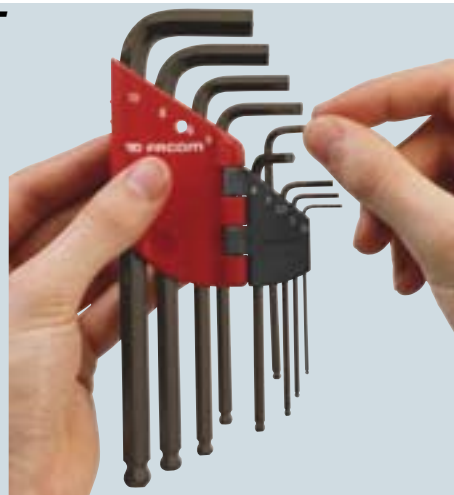
- Flat sleeve-case, hinged flap.

#### Strong and durable :

- Elastomer chosen for its wear resistance, good durability, its resistance to chemicals and weather variations.

#### Convenient hanging hole..

System available for hexagon and Torx® key series.



## ▶ Key sleeve sets

### JP Sleeve sets of hexagon keys

▷ NF/ISO 2936, DIN ISO 2936.

- Keys supplied in compact sleeve-case with hinged flap for instant selection of size needed

82H : Short keys.

83H : Long keys.

83SH : Long spherical head keys.

83S.L : Extra-long keys.

🔑	Keys series	Hexagon key size mm / "	Wallet only	ΔΔ g
<b>82H.JP9</b>	82H	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10	JP9	260
<b>82H.JP8U</b>	82H	3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	JP8U	235
<b>83H.JP9</b>	83H	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10	JP9	350
<b>83SH.JP7</b>	83SH	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6	JP9	290
<b>83SH.JP9</b>	83SH	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10	JP9	450
<b>83SH.JPA</b>	83SH	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8		270
<b>83SH.JP6U</b>	83SH	3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4	JP8U	300
<b>83SH.JP8U</b>	83SH	3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	JP8U	365
<b>83S.JP9L</b>	83S.L	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8 - 10	JP9	350



### Set of 6 hexagon keys 83R for safety fasteners

#### 83R.JP6

- Sleeve-set contains sizes 2 - 2,5 - 3 - 4 - 5 - 6.

ΔΔ : 350 g.



### 89.JP Sleeve set of Torx® keys

- Meets Torx® et Resistorx®.
- 89 Torx® keys.
- 89L Long Torx® keys.
- 89 Resistorx® keys.
- 89S Long Torx® keys with spherical heads.

🔑	Keys series	Torx® n°	ΔΔ g
<b>89.JP6</b>	89	10 - 15 - 20 - 25 - 30 - 40	230
<b>89.JP8</b>	89	10 - 15 - 20 - 25 - 27 - 30 - 40 - 45	330
<b>89.JP8L</b>	89L	10 - 15 - 20 - 25 - 27 - 30 - 40 - 45	360
<b>89R.JP6</b>	89R	10 - 15 - 20 - 25 - 30 - 40	220
<b>89S.JP8</b>	89S	10 - 15 - 20 - 25 - 27 - 30 - 40 - 45	230





## Multi-blade handle

### POWERFUL AND ERGONOMIC

#### 90° stop

Provides positive leverage for safe and powerful rotation.

#### Blade at 180°.

For fast pre-tightening in screwdriver position.

#### Holder swings 180°.

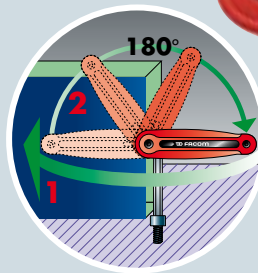
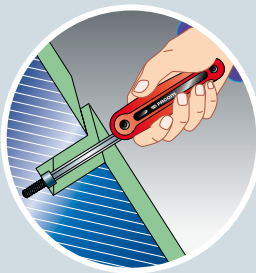
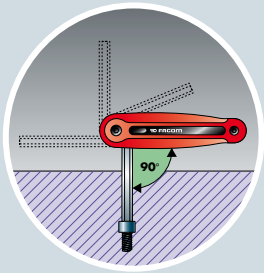
For fast re-positioning without removing the blade from the fastener.



#### Composite construction.

- Metal frame for 30% more strength.
- Resin side pieces for comfortable handling.

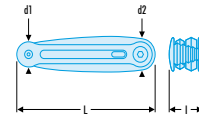
For hexagon and Torx® keys.



## ▶ Folding key sets

### 86H Folding sets of hexagon keys

- Compact holder.
- Comfortable grip.
- 90° stop for high torque.
- Silicon steel keys derived from series 82H.
- Phosphate finish.



	mm / °	d1	d2	l	L	ΔΔ
<b>86H.JE7A</b>	2,5 - 3 - 4 - 5 - 6 - 8 - 10	24	30	32	138	405
<b>86H.JE7B</b>	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6	18	22	28	118	147
<b>86H.JU6</b>	5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	24	30	32	138	420
<b>86H.JU7</b>	1/16 - 5/64 - 3/32 - 1/8 - 5/32 - 3/16 - 1/4	18	22	28	118	142

### 89.JM Folding set of Torx® keys

- Meets Torx® specifications.
- 89A.JM8 : Torx®.
- 89R.JM8 : Resistorx®.
- Compact holder, comfortable grip.

	Torx® n°	d1	d2	l	L	ΔΔ
<b>89A.JM8</b>	8-10-15-20-25-27-30-40	24	30	32	138	170
<b>89R.JM8</b>	8-10-15-20-25-27-30-40	24	30	32	138	160







## ▶ Ring sets

### 87HL Long hexagonal key ring sets



- Keys from 83H series.
- Silicon steel.
- Phosphate finish.

	 mm/°	$\Delta\Delta$ g
<b>87HL.JE8</b>	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8	150
<b>87HL.JU8</b>	5/64 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16	175



### 87H Short hexagonal key ring sets

- Keys from 82H series.
- Silicon steel.
- Phosphate finish.

	 mm/°	$\Delta\Delta$ g
<b>87H.JE8</b>	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 8	150
<b>87H.JU8</b>	5/64 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16	175



### 89 Torx® key ring set

#### 89.JA8

- Meets Torx® specifications.
  - Comprises 8 Torx® keys no. T 8 - 10 - 15 - 20 - 25 - 27 - 30 - 40.
- $\Delta\Delta$  : 107 g.



## ▶ Wallet sets

### JL / JU Wallet sets of hexagonal keys

82H : Short keys.

83H : Long keys.

83SH : Long spherical head keys.

JL = Set of metric keys

JU = Set of inch keys.

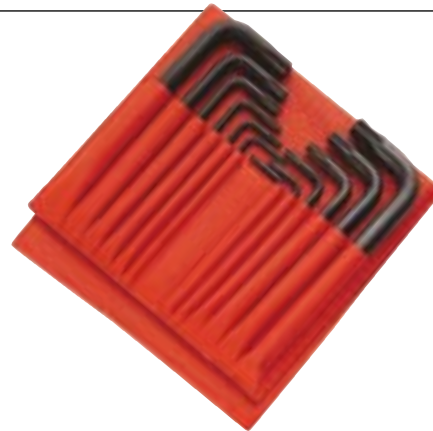
➤	Keys series	● mm / °	ΔΔ kg
<b>82H.JE10</b>	82H	0,9 - 1,5 - 2 - 2,5 - 3 - 3,5 - 4 - 4,5 - 5 - 6	0,122
<b>82H.JL10</b>	82H	2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10	0,433
<b>82H.JL12</b>	82H	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 12	0,6
<b>82H.JL13</b>	82H	3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 14 - 17 - 19	2,22
<b>82H.JU7</b>	82H	0,028 - 0,035 - 0,050 - 3/64 - 1/16 - 5/64 - 3/32	0,011
<b>82H.JU10</b>	82H	1/16 - 5/64 - 3/32 - 1/8 - 3/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	0,433
<b>82H.JU13</b>	82H	3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 9/16 - 5/8 - 3/4	2,08
<b>83H.JL10</b>	83H	2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10	0,585
<b>83H.JL12</b>	83H	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 12	0,81
<b>83H.JL13</b>	83H	3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 14 - 17 - 19	3,04
<b>83H.JU10</b>	83H	1/16 - 5/64 - 3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	0,44
<b>83SH.JL10</b>	83SH	2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10	0,585
<b>83SH.JL12</b>	83SH	1,5 - 2 - 2,5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 12	0,81
<b>83SH.JU8</b>	83SH	3/32 - 1/8 - 5/32 - 3/16 - 7/32 - 1/4 - 5/16 - 3/8	0,435



### 89.JL Wallet set of Torx® keys

- Meets Torx®.

➤	Keys series	Torx® n°	ΔΔ g
<b>89.JL8</b>	89	8 - 10 - 15 - 20 - 25 - 27 - 30 - 40	110
<b>89.JL12</b>	89	7 - 8 - 9 - 10 - 15 - 20 - 25 - 27 - 30 - 40 - 45 - 50	271



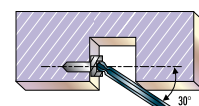
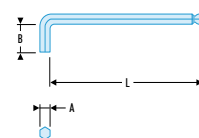
## ▶ Hexagonal keys

### 83SH Metric long hexagonal keys with spherical head

▷ ISO 2936, DIN ISO 2936, NF ISO 2936

- Silicon steel.
- Spherical head gives up to 30° working angle.
- Phosphate finish.

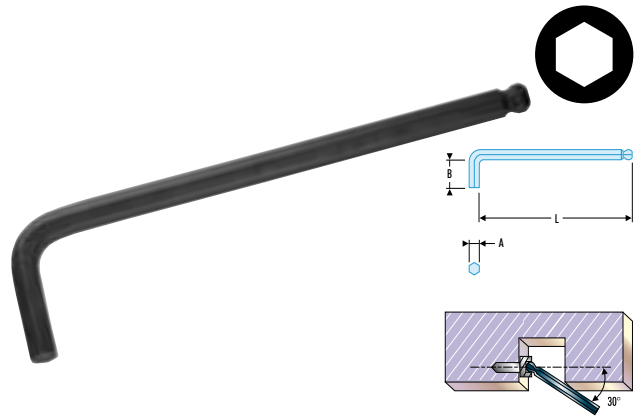
➤	A mm	B x L mm	ΔΔ g
<b>83SH.1,5</b>	1,5	14 x 62	1
<b>83SH.2</b>	2	16 x 75	2
<b>83SH.2,5</b>	2,5	18 x 85	4
<b>83SH.3</b>	3	20 x 90	7
<b>83SH.4</b>	4	25 x 100	15
<b>83SH.5</b>	5	28 x 115	24
<b>83SH.6</b>	6	32 x 135	42
<b>83SH.7</b>	7	34 x 140	57
<b>83SH.8</b>	8	36 x 150	80
<b>83SH.9</b>	9	38 x 160	110
<b>83SH.10</b>	10	40 x 170	140
<b>83SH.12</b>	12	45 x 190	225



## 83SH - Inch long hexagonal keys with spherical head

- Same specification as metric keys 83SH.

➤	A "	B x L mm	ΔΔ g
<b>83SH.3/32</b>	3/32	17 x 85	4
<b>83SH.1/8</b>	1/8	20 x 90	7
<b>83SH.5/32</b>	5/32	25 x 100	13
<b>83SH.3/16</b>	3/16	28 x 115	22
<b>83SH.7/32</b>	7/32	32 x 135	34
<b>83SH.1/4</b>	1/4	32 x 140	46
<b>83SH.5/16</b>	5/16	36 x 150	80
<b>83SH.3/8</b>	3/8	38 x 170	128

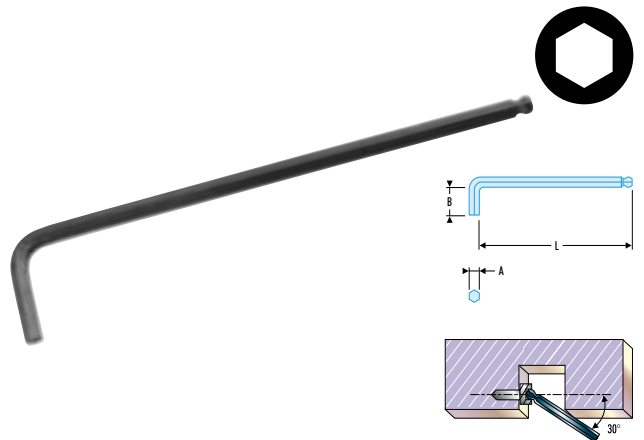


## 83S.L Metric extra-long hexagonal keys with spherical head

▷ DIN ISO 2936.

- Longer lengths offer greater leverage, higher torque and improved in-line access.
- Phosphate finish.

➤	A mm	B x L mm	ΔΔ g
<b>83S.1,5L</b>	1,5	14 x 89	1,7
<b>83S.2L</b>	2	16 x 100	4
<b>83S.2,5L</b>	2,5	18 x 111	6
<b>83S.3L</b>	3	20 x 124	10
<b>83S.4L</b>	4	25 x 138	20
<b>83S.5L</b>	5	28 x 159	36
<b>83S.6L</b>	6	32 x 179	58
<b>83S.7L</b>	7	34 x 188	83
<b>83S.8L</b>	8	36 x 198	115
<b>83S.10L</b>	10	40 x 221	200
<b>83S.12L</b>	12	45 x 247	322

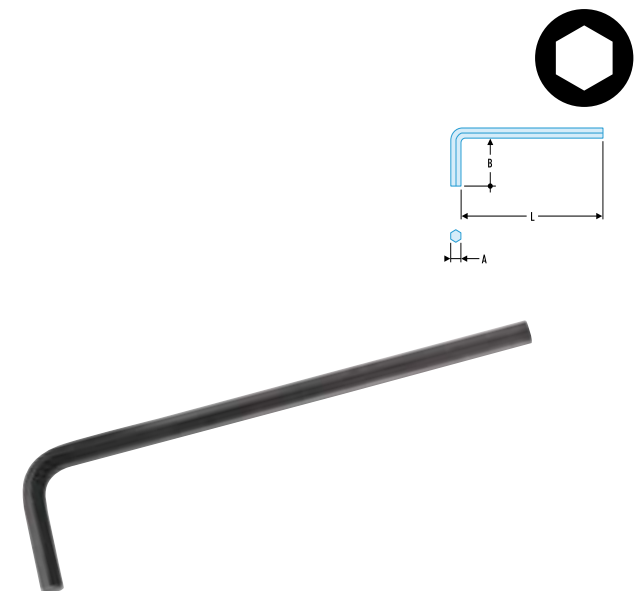


## 83H Metric long hexagonal keys

▷ ISO 2936, DIN ISO 2936, NF ISO 2936.

- Silicon steel.
- Phosphate finish.

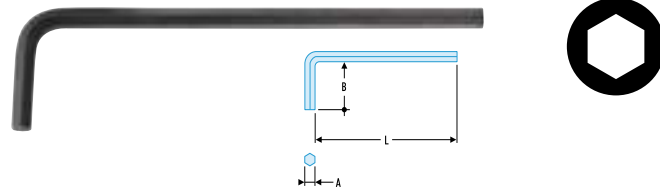
➤	A mm	B x L mm	ΔΔ g
<b>83H.1,5</b>	1,5	14 x 62	1
<b>83H.2</b>	2	16 x 75	2
<b>83H.2,5</b>	2,5	18 x 85	4
<b>83H.3</b>	3	20 x 90	7
<b>83H.3,5</b>	3,5	25 x 95	10
<b>83H.4</b>	4	25 x 100	15
<b>83H.4,5</b>	4,5	26 x 110	18
<b>83H.5</b>	5	28 x 115	24
<b>83H.6</b>	6	32 x 135	42
<b>83H.7</b>	7	34 x 140	57
<b>83H.8</b>	8	36 x 150	80
<b>83H.9</b>	9	38 x 160	110
<b>83H.10</b>	10	40 x 170	140
<b>83H.11</b>	11	42 x 180	180
<b>83H.12</b>	12	45 x 190	225
<b>83H.13</b>	13	50 x 200	286
<b>83H.14</b>	14	56 x 215	361
<b>83H.15</b>	15	58 x 225	435
<b>83H.16</b>	16	60 x 235	515
<b>83H.17</b>	17	63 x 245	602
<b>83H.18</b>	18	66 x 255	713
<b>83H.19</b>	19	70 x 265	830
<b>83H.22</b>	22	80 x 275	1010
<b>83H.23</b>	23	85 x 285	1160
<b>83H.24</b>	24	90 x 299	1310
<b>83H.27</b>	27	100 x 315	1380
<b>83H.32</b>	32	125 x 364	1470



## 83H Inch long hexagonal keys

▷ For information : DIN ISO 2936, NF ISO 2936.

- Silicon steel.
- Phosphate finish.



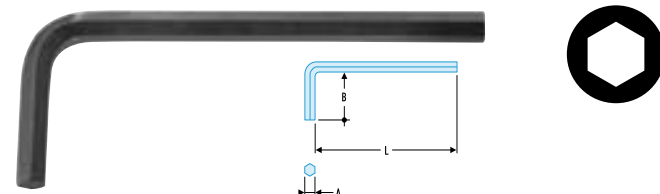
83H	A "	B x L mm	ΔΔ g
83H.050	050	14 x 62	0,8
83H.3/64	3/64	14 x 58	1
83H.1/16	1/16	13 x 62	2
83H.5/64	5/64	16 x 75	3
83H.3/32	3/32	17 x 85	4
83H.7/64	7/64	18 x 90	5
83H.1/8	1/8	20 x 90	7
83H.9/64	9/64	22 x 95	10
83H.5/32	5/32	25 x 100	13

83H	A "	B x L mm	ΔΔ g
83H.3/16	3/16	28 x 115	22
83H.7/32	7/32	32 x 135	34
83H.1/4	1/4	32 x 140	46
83H.5/16	5/16	36 x 150	80
83H.3/8	3/8	38 x 170	128
83H.7/16	7/16	42 x 180	186
83H.1/2	1/2	45 x 190	263
83H.9/16	9/16	56 x 215	376

## 82H Metric short hexagonal keys

▷ ISO 2936, DIN ISO 2936, NF ISO 2936.

- Silicon steel.
- Phosphate finish.



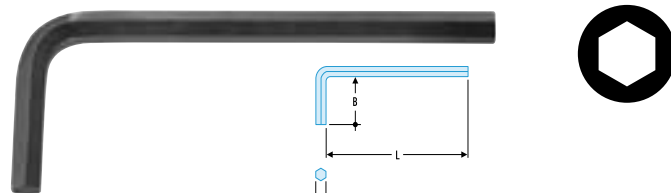
82H	A mm	B x L mm	ΔΔ g
82H.0,9	0,9	12 x 38	0,3
82H.1,3	1,3	13 x 45	0,7
82H.1,5	1,5	13 x 45	0,9
82H.2	2	16 x 50	2
82H.2,5	2,5	17 x 62	3
82H.3	3	20 x 65	5
82H.3,5	3,5	22 x 66	8
82H.4	4	25 x 70	10
82H.4,5	4,5	26 x 75	15
82H.5	5	28 x 80	20
82H.6	6	32 x 90	30
82H.7	7	34 x 95	45
82H.8	8	36 x 100	60
82H.9	9	38 x 105	80
82H.10	10	40 x 112	100

82H	A mm	B x L mm	ΔΔ g
82H.11	11	42 x 118	130
82H.12	12	45 x 125	165
82H.13	13	50 x 135	205
82H.14	14	55 x 140	260
82H.15	15	58 x 150	310
82H.16	16	60 x 154	370
82H.17	17	63 x 160	440
82H.18	18	66 x 170	540
82H.19	19	70 x 180	640
82H.22	22	80 x 200	950
82H.23	23	85 x 210	1100
82H.24	24	90 x 224	1250
82H.27	27	100 x 250	1300
82H.32	32	125 x 315	1420

## 82H Inch short hexagonal keys

▷ For information : DIN ISO 2936, NF ISO 2936.

- Silicon steel.
- Phosphate finish.



82H	A "	B x L mm	ΔΔ g
82H.028	028	10 x 33	0,3
82H.035	035	11 x 35	0,4
82H.050	050	12 x 38	0,4
82H.3/64	1/64	12 x 38	0,5
82H.1/16	1/16	13 x 45	0,7
82H.5/64	5/64	16 x 50	2
82H.3/32	3/32	17 x 62	3
82H.7/64	7/64	18 x 60	4
82H.1/8	1/8	20 x 65	6
82H.9/64	9/64	22 x 66	8
82H.5/32	5/32	25 x 70	10
82H.3/16	3/16	28 x 80	16

82H	A "	B x L mm	ΔΔ g
82H.7/32	7/32	32 x 90	24
82H.1/4	1/4	32 x 90	33
82H.5/16	5/16	36 x 100	59
82H.3/8	3/8	40 x 112	90
82H.7/16	7/16	42 x 118	135
82H.1/2	1/2	45 x 125	202
82H.9/16	9/16	55 x 140	273
82H.5/8	5/8	60 x 160	383
82H.11/16	11/16	63 x 170	540
82H.3/4	3/4	70 x 175	623
82H.7/8	7/8	80 x 200	955
82H.1'	1'	90 x 235	1450

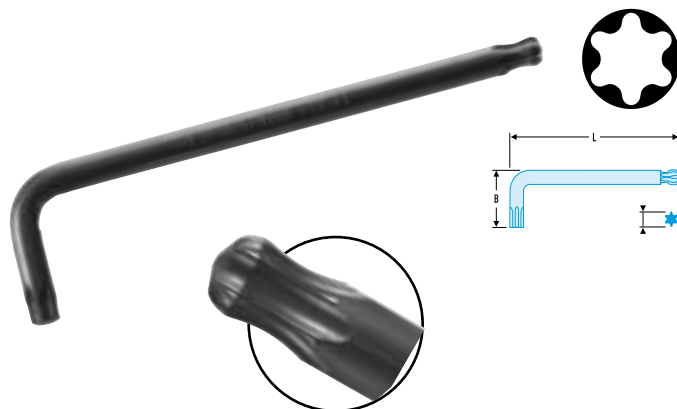


## ► Torx® keys

### 89S Long Torx® keys with spherical head

- Meets Torx® specifications.
- Spherical head provides a 20° working range for difficult-to-reach screws.
- Burnished finish.

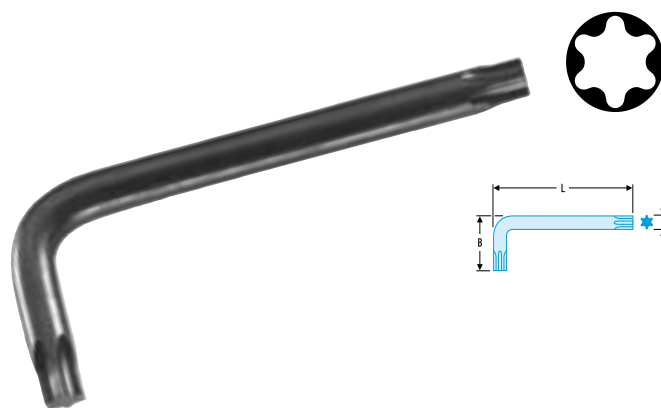
89S	Torx® n°	I★ mm	B x L mm	ΔΔ g
89S.15	T15	3,26	21,0 x 93,0	8
89S.20	T20	3,84	23,0 x 99,0	10
89S.25	T25	4,40	24,5 x 104,5	18
89S.27	T27	4,96	26,0 x 110,0	23
89S.30	T30	5,49	30,0 x 120,5	30
89S.40	T40	6,60	32,5 x 131,5	45
89S.45	T45	7,77	37,0 x 138,0	63



### 89 Short Torx® keys

- Meets Torx® specifications.
- Burnished finish.

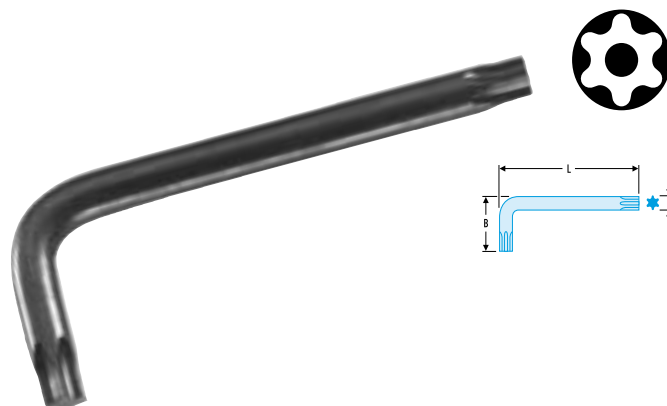
89	Torx® n°	I★ mm	B x L mm	ΔΔ g
89.6	T6	1,65	18 x 51	3
89.7	T7	1,97	18 x 51,5	3
89.8	T8	2,30	18 x 51,5	3
89.9	T9	2,48	19,5 x 51,5	4
89.10	T10	2,72	19,5 x 53	4
89.15	T15	3,26	21,5 x 57	6
89.20	T20	3,84	24 x 61	8
89.25	T25	4,40	25,5 x 63,5	11
89.27	T27	4,96	27 x 67,5	16
89.30	T30	5,49	30 x 76	20
89.40	T40	6,60	34 x 83,5	31
89.45	T45	7,77	37 x 88,5	43
89.50	T50	8,79	41 x 106	62
89.55	T55	11,17	48 x 121	70



### 89R Short Resistorx® keys

- Meets Resistorx® specifications.
- For safety fasteners.
- Burnished finish.

89R	Torx® n°	I★ mm	B x L mm	ΔΔ g
89R.10	T10	2,72	20 x 54	4
89R.15	T15	3,26	21 x 57	6
89R.20	T20	3,84	24 x 61	8
89R.25	T25	4,40	25 x 65	11
89R.30	T30	5,49	30 x 76	20
89R.40	T40	6,60	33 x 83	31



## ► Nut spinners - Tee-handle keys

### 7-piece spherical head tee-handle hexagon key module

#### MOD.84TZS

Key	Ø	Plateau	ΔΔ kg	
MOD.84TZS	6 pans	84TZ 3 - 84TZS.4 - 5 - 6 - 7 - 8 - 10	PL.329	0,996

### 7-piece tee-handle Torx® key module

#### MOD.89TX

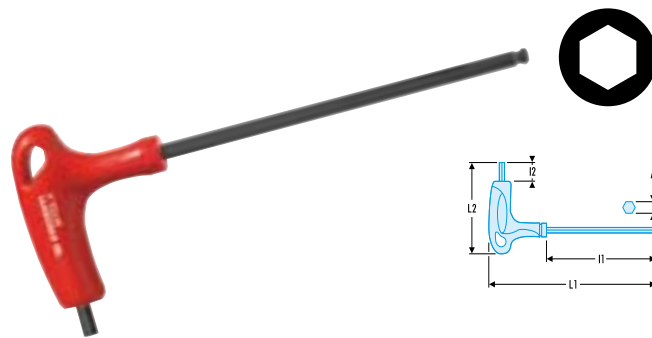
- ★ 89.TX 10 - 15 - 20 - 25 - 27 - 30 - 40.
- Tray PL.328.

Key	Plateau	ΔΔ kg		
MOD.89TX	Torx®	89.TX 10 - 15 - 20 - 25 - 27 - 30 - 40	PL.328	0,648

### 84TZS Metric hexagon keys with spherical head

- Ergonomic tee-handle allows effective use of either end of key.
- Spherical head gives a working angle of up to 30°. Short shank provides extra torque for tightening.
- Polished phosphate finish.
- Silicon steel.

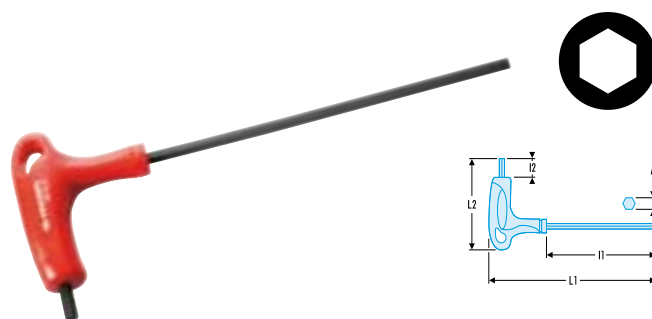
Key	A mm	l2 x l1 mm	L2 x L1 mm	ΔΔ g
84TZS.4	4	12 x 130	77 x 183	58
84TZS.5	5	12 x 130	77 x 183	70
84TZS.6	6	15 x 175	95 x 240	112
84TZS.7	7	15 x 175	95 x 240	120
84TZS.8	8	15 x 175	95 x 240	125
84TZS.10	10	15 x 175	95 x 240	192



### 84TZ Standard metric hexagon keys

- Ergonomic tee-handle allows effective use of either end of key.
- Polished phosphate finish.
- Silicon steel.

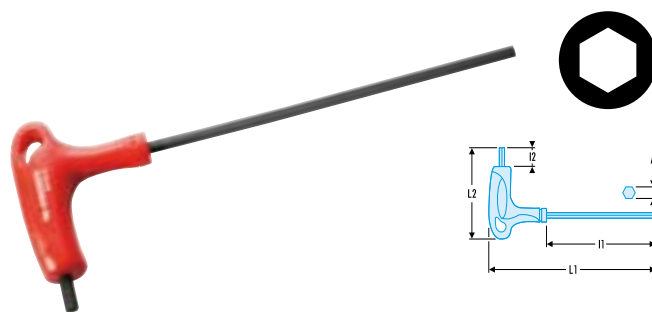
Key	A mm	l2 x l1 mm	L2 x L1 mm	ΔΔ g
84TZ.2,5	2,5	11 x 90	63 x 133	9
84TZ.3	3	11 x 90	63 x 133	12
84TZ.4	4	12 x 130	77 x 183	58
84TZ.5	5	12 x 130	77 x 183	70
84TZ.6	6	15 x 175	95 x 240	112
84TZ.8	8	15 x 175	95 x 240	125
84TZ.10	10	15 x 175	95 x 240	192



### 84TZ Standard inch hexagon keys

- Ergonomic tee-handle allows effective use of either end of key.
- Polished phosphate finish.
- Silicon steel.

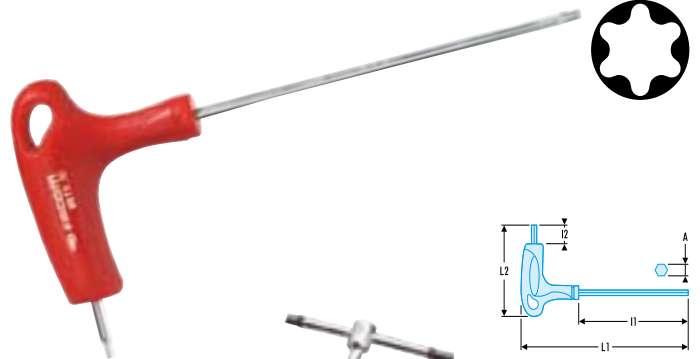
Key	A "	l2 x l1 mm	L2 x L1 mm	ΔΔ g
84TZ.5/32	5/32	12 x 130	77 x 183	58
84TZ.3/16	3/16	12 x 130	77 x 183	65
84TZ.7/32	7/32	15 x 175	95 x 240	80
84TZ.1/4	1/4	15 x 175	95 x 240	115
84TZ.5/16	5/16	15 x 175	95 x 240	125
84TZ.3/8	3/8	15 x 175	95 x 240	180



## 89TX Torx® nut spinners

- Ergonomic handle allows effective use of either end of key.
- Chrome finish, sand-blasted tips.

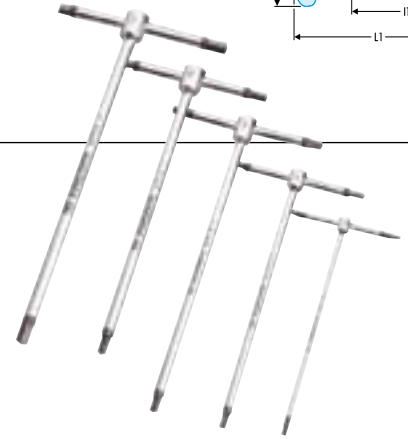
➤	Torx® n°	T* A mm	l2 x l1 mm	L2 x L1 mm	ΔΔ g
89TX.6	T6	1,65	11 x 90	63 x 133	7
89TX.7	T7	1,97	11 x 90	63 x 133	8
89TX.8	T8	2,30	11 x 90	63 x 133	9
89TX.9	T9	2,48	11 x 90	63 x 133	10
89TX.10	T10	2,72	11 x 90	63 x 133	12
89TX.15	T15	3,26	11 x 90	63 x 133	15
89TX.20	T20	3,84	12 x 130	77 x 183	40
89TX.25	T25	4,40	12 x 130	77 x 183	55
89TX.27	T27	4,96	12 x 130	77 x 183	60
89TX.30	T30	5,49	15 x 175	95 x 240	90
89TX.40	T40	6,60	15 x 175	95 x 240	105
89TX.45	T45	7,77	15 x 175	95 x 240	125
89TX.50	T50	8,79	15 x 175	95 x 240	170



## 5-piece set of tee-handle keys

### 84TC.JE5

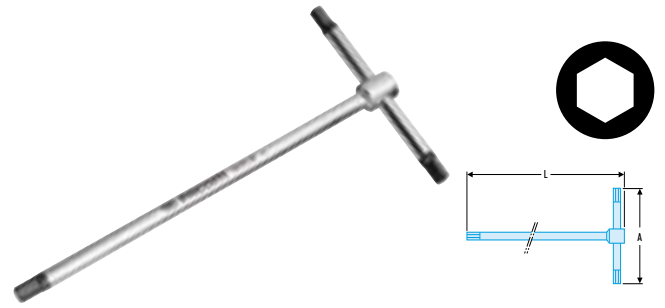
- Contains models 84TC.3 - 4 - 5 - 6 - 8 mm.
- ΔΔ : 519 g.



## 84TC Metric tee-handle hexagon keys

- All 3 ends with hexagon.
- Burnish-tipped chrome finish.

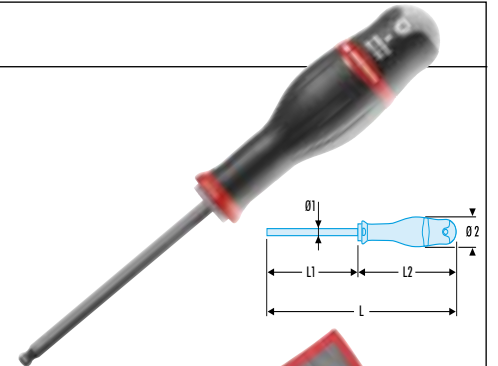
➤	● mm	A mm	L mm	ΔΔ g
84TC.3	2,0	62,5	125	22
84TC.4	4,0	62,5	125	22
84TC.3	3,0	75,0	150	26
84TC.4	4,0	90,0	180	63
84TC.5	5,0	105,0	210	100
84TC.6	6,0	105,0	210	145
84TC.8	8,0	125,0	250	220
84TC.10	10,0	150,0	300	440
84TC.12	12,0	160,0	320	645
84TC.14	14,0	170,0	340	680



New

## AWSH Hexagon nut drivers - spherical head

➤	● mm	●l1xL1 mm	Ø2 x L2 mm	L mm	ΔΔ g
AWSH2X75	2	2,0 x 75	19 x 94	169	31
AWSH2,5X75	2,5	2,5 x 75	19 x 94	169	33
AWSH3X75	3	3,0 x 75	19 x 94	169	35
AWSH4X75	4	4,0 x 75	25 x 103	178	45
AWSH5X100	5	5,0 x 100	30 x 109	209	80
AWSH6X100	6	6,0 x 100	36 x 120	220	120
AWSH8X100	8	8,0 x 100	36 x 120	220	180



## Set of hexagon nut drivers with spherical head

### AWSH.JT6

➤	Contents	Qty
AWSH.JT6	● AWSH2X75 - AWSH2,5X75 - AWSH3X75 - AWSH4X75 - AWSH5X100 - AWSH6X100	6

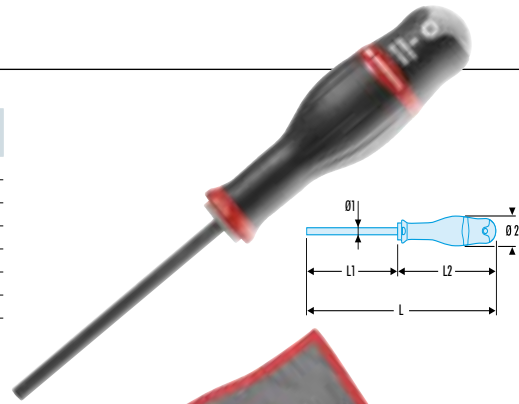
**Protwist**®



**New**

## AWHH Hexagon nut spinners

Ref	Ø mm	Ø2 x L2 mm	L mm	●1xL1 mm	ΔΔ g
<b>AWHH2X75</b>	2	19 x 94	169	2,0 x 75	31
<b>AWHH2,5X75</b>	2,5	19 x 94	169	2,5 x 75	33
<b>AWHH3X75</b>	3	19 x 94	169	3,0 x 75	35
<b>AWHH4X75</b>	4	25 x 103	178	4,0 x 75	45
<b>AWHH5X100</b>	5	30 x 109	209	5,0 x 100	80
<b>AWHH6X100</b>	6	36 x 120	220	6,0 x 100	120
<b>AWHH8X100</b>	8	36 x 120	220	8,0 x 100	180



## Set of hexagon nut spinners

### AWHH.JT6

Ref	Contents	Qty
<b>AWHH.JT6</b>	● AWHH2X75 - AWHH2,5X75 - AWHH3X75 - AWHH4X75 - AWHH5X100 - AWHH6X100	6

**Protwist**®



## ► Special pattern keys

### Set of keys for spline sockets (XZN)

#### 80.JL7

- Set of 7 keys type 80 : M5 - M6 - M8 - M10 - M12 - M14 - M16.
- Supplied in a wallet.
- ΔΔ : 918 g.



### Set of keys for groove sockets

#### 81.JL7

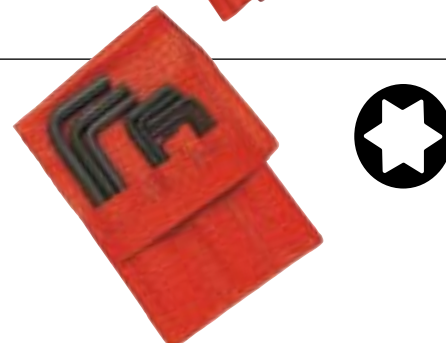
- Set of 7 keys type 81 M5 - M6 - M8 - M10 - M12 - M14 - M16.
- Supplied in a wallet.
- ΔΔ : 907 g.



### 10-piece wallet set of keys for Bristol sockets

#### 85.JU10

- Set of 10 keys type 85033-048-060-072-096-111-133-145-168-183.
- Supplied in a wallet.
- ΔΔ : 37 g.





**Correct bit selection**

















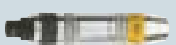



**QUALITY - DURABILITY**

The Facom bit range offers a versatile choice, but no single product covers all applications. It is therefore essential to match hardness with usage and carry out tests, where necessary to select the most appropriate type of bit.














**Choosing the right bit for your needs**

**1 - According to the type of screw-driving method used :**

Driving method/ Bit type	Manual E.g. : bit driver	Powered E.g. : screw gun	Impact E.g. : impact screwdriver
 STANDARD	 	 	
 TORSION	 	 	
 TITANIUM TORSION	 	 	
 IMPACT			 

-  Occasional
-  Recommended
-  Ideal

**2 - According to the hexagon drive :**

Fittings	 STANDARD	 High Perf'	 TITANIUM High Perf'	 IMPACT
∅ 1/4" 1-series	 Page 345	 Page 355	 Page 356	
∅ 1/4" with groove 6-series	 Page 349	 Page 356	 Page 357	
∅ 5/16" 2-series	 Page 351			 Page 362
∅ 1/2" 3-series				 Page 363

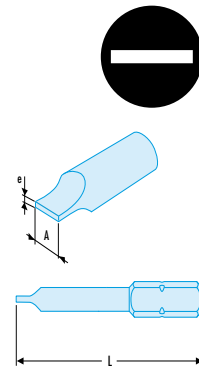
## ▶ Standard bits

### ▶▶ Standard 1-series - 1/4" (6.35 mm) drive bits

#### ES.1 Bits for slotted heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2380-1, ISO 2351-1.

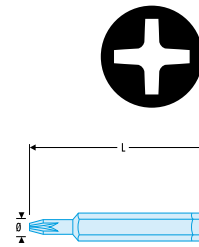
ES	e x A mm	Length mm	ΔΔ g
ES.133	0,5 x 3,0	25	5
ES.133,5	0,6 x 3,5	25	5
ES.134	0,6 x 4,0	25	6
ES.134,5	0,6 x 4,5	25	6
ES.135,5	0,8 x 5,5	25	8
ES.136,5	1,2 x 6,5	25	9
ES.138	1,2 x 8,0	25	12



#### EP.1 Bits for Phillips® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

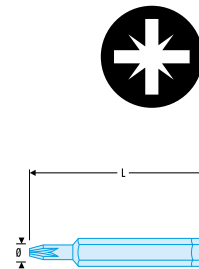
EP	Phillips® no.	Length mm	ΔΔ g
EP.100	PH.0	25	7,2
EP.101	PH.1	25	8,0
EP.111	PH.1	50	14,4
EP.102	PH.2	25	8,0
EP.122	PH.2	50	14,4
EP.103	PH.3	25	14,4



#### ED.1 Bits for Pozidriv® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

ED	Pozidriv® no.	Length mm	ΔΔ g
ED.100	PZ.0	25	6
ED.101	PZ.1	25	7
ED.111	PZ.1	50	11
ED.102	PZ.2	25	7
ED.112	PZ.2	50	12
ED.103	PZ.3	25	12

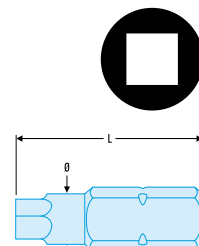


#### ECAR.1 Bits for square socket heads

▷ ISO 1173, DIN 3126.

• 1/4" (6,35 mm) drive.

ECAR	no.	Ø mm	L mm	ΔΔ g
ECAR.101	1	3,5	25	8
ECAR.102	2	6	25	10
ECAR.103	3	6	25	12

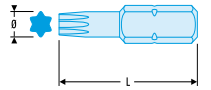


## EX.1 Bits for Torx® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Meets Torx® specifications.

№	Torx® n°	I★ mm	L mm	ΔΔ g
EX.106	T6	1,65	25	5
EX.107	T7	1,97	25	5
EX.108	T8	2,30	25	5
EX.109	T9	2,48	25	5
EX.110	T10	2,72	25	5
EX.115	T15	3,26	25	5
EX.120	T20	3,84	25	6
EX.125	T25	4,40	25	6
EX.127	T27	4,96	25	6
EX.130	T30	5,49	25	6
EX.140	T40	6,60	25	6

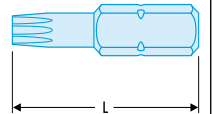


## EXP.1 Bits for Torx Plus® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Meets Torx Plus® specifications.

№	Torx® n°	L mm	ΔΔ g
EXP.106	IP6	25	5
EXP.107	IP 7	25	5
EXP.108	IP 8	25	5
EXP.109	IP 9	25	5
EXP.110	IP 10	25	5
EXP.115	IP 15	25	5
EXP.120	IP 20	25	6
EXP.125	IP 25	25	6
EXP.127	IP 27	25	6
EXP.130	IP 30	25	6
EXP.140	IP 40	25	6

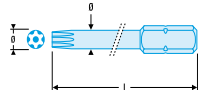


## EXR.1 Bits for Resistorx® heads

▷ ISO 1173, DIN 3126, NF ISO 1173

- Meets Resistorx® specifications.
- For Resistorx safety fasteners.®.
- Long reach provides access to recessed fasteners.

№	Torx® n°	I★ mm	Ø mm	L mm	ΔΔ g
EXR.110	IP 10	2,72		25	5
EXR.115	IP 15	3,26		25	6
EXR.120	IP 20	3,84		25	6
EXR.125	IP 25	4,40		25	6
EXR.127	IP 27	4,96		25	6
EXR.130	IP 30	5,59		25	6
EXR.140	IP 40	6,60		25	6
EXR.110L	IP 10	2,72	5,2	70	8
EXR.115L	IP 15	3,26	5,2	70	8
EXR.120L	IP 20	3,84	5,6	70	9
EXR.125L	IP 25	4,40	5,6	70	11
EXR.130L	IP 30	5,59	6,0	70	14
EXR.140L	IP 40	6,60	7,1	70	17

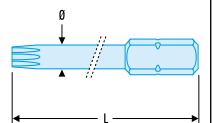


## EXRP.1 Bits for Torx Plus® Tamper Resistant heads

▷ ISO 1173, DIN 3126, NF ISO 1173

- Meets Torx® specifications.

№	Torx® n°	L mm	ΔΔ g
EXRP.108	IPR 8	25	5
EXRP.110	IPR 10	25	5
EXRP.115	IPR 15	25	6
EXRP.120	IPR 20	25	6
EXRP.125	IPR 25	25	6
EXRP.127	IPR 27	25	6
EXRP.130	IPR 30	25	6
EXRP.140	IPR 40	25	6

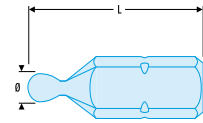


## ETS.1 Bits for metric hexagon socket heads with spherical head

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Spherical head gives a working angle of up to 30°.

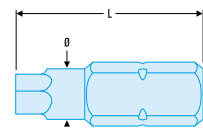
🔪	⌀ mm	L mm	ΔΔ g
<b>ETS.102,5</b>	2,5	25	5
<b>ETS.103</b>	3	25	5
<b>ETS.104</b>	4	25	5
<b>ETS.105</b>	5	25	6
<b>ETS.106</b>	6	25	6



## EH.1 Bits for metric hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-3.

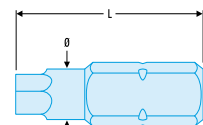
🔪	⌀ mm	Length mm	ΔΔ g
<b>EH.101,5</b>	1,5	25	5
<b>EH.102</b>	2	25	5
<b>EH.102,5</b>	2,5	25	5
<b>EH.103</b>	3	25	5
<b>EH.104</b>	4	25	5
<b>EH.105</b>	5	25	6
<b>EH.106</b>	6	25	7
<b>EH.107</b>	7	25	8
<b>EH.108</b>	8	25	9
<b>EH.110</b>	10	25	11



## EH.1 Bits for inch hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-3.

🔪	⌀ "	Length mm	ΔΔ g
<b>EH.101/8</b>	1/8	25	5
<b>EH.105/32</b>	5/32	25	5
<b>EH.103/16</b>	3/16	25	5
<b>EH.107/32</b>	7/32	25	6
<b>EH.101/4</b>	1/4	25	7



## EV.1 Bits for spline socket heads (XZN)

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-3.

🔪	Ø	L mm	ΔΔ g
<b>EV.104</b>	M4	25	5
<b>EV.105</b>	M5	25	5
<b>EV.106</b>	M6	25	6
<b>EV.108</b>	M8	25	7
<b>EV.110</b>	M10	25	8





### Bits for Tri-wing heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

▣	Tri-Wing screw® no.	Length mm	ΔΔ g
<b>ETRI.101</b>	1	25	5,5
<b>ETRI.102</b>	2	25	5,5
<b>ETRI.103</b>	3	25	5,5
<b>ETRI.104</b>	4	25	5,5
<b>ETRI.105</b>	5	25	5,5



### For BNAE heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

▣	BNAE no.	Length mm	ΔΔ g
<b>EBNA.104</b>	4	25	5
<b>EBNA.105</b>	5	25	5
<b>EBNA.106</b>	6	25	6



### ETOR 1/4" bits for Torq Set® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2380-1, ISO 2351-1.

▣	Torq-Set® screw n°	Length mm	ΔΔ g
<b>ETOR.100</b>	0	25	5,5
<b>ETOR.101</b>	1	25	5,5
<b>ETORM.102</b>	2	25	6
<b>ETORM.103</b>	3	25	6
<b>ETORM.104</b>	4	25	6
<b>ETORM.105</b>	5	25	6
<b>ETORM.106</b>	6	25	6
<b>ETORM.108</b>	8	25	6
<b>ETORM.110</b>	10	25	6
<b>ETORM.101/4</b>	1/4	32	13

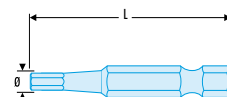
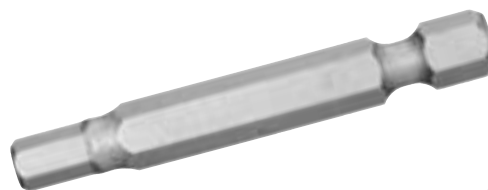




## EH.6 Bits for hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-3.

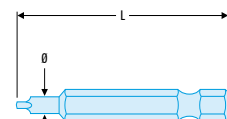
➤	Ø mm	L mm	ΔΔ g
<b>EH.603</b>	3	50	14,4
<b>EH.604</b>	4	50	14,4
<b>EH.605</b>	5	50	15,0
<b>EH.606</b>	6	50	15,5
<b>EH.608</b>	8	50	18,0



## ECAR.6 Bits for square socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

➤	Ø no.	L mm	ΔΔ g
<b>ECAR.601</b>	1	50	10
<b>ECAR.602</b>	2	50	12
<b>ECAR.603</b>	3	50	15



## EF.6DM Magnetic hex nut setters

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Magnet holds fastener on bit.

➤	⌀ A mm	L mm	ΔΔ g
<b>EF.6DM5,5L</b>	5,5	70	31
<b>EF.6DM7L</b>	7	70	36
<b>EF.6DM8L</b>	8	70	42
<b>EF.6DM10L</b>	10	70	49
<b>EF.6DM13L</b>	13	70	63



## EF.6D Hex nut setters

▷ ISO 1173, DIN 3126, NF ISO 1173.

➤	⌀ A mm	L mm	ΔΔ g
<b>EF.6D5,5L</b>	5,5	70	26
<b>EF.6D7L</b>	7	70	32
<b>EF.6D8L</b>	8	70	37
<b>EF.6D10L</b>	10	70	44
<b>EF.6D13L</b>	13	70	58

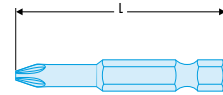
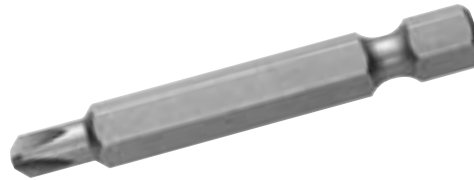


## ETORM 1/4" drive bits with groove for Torq Set® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.



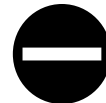
ETORM	Torq-Set® screw n°	Length mm	ΔΔ g
ETORM.602	2	50	12
ETORM.603	3	50	12
ETORM.604	4	50	12
ETORM.605	5	50	12
ETORM.606	6	50	12
ETORM.608	8	50	12
ETORM.610	10	50	12
ETORM.601/4	1/4	50	12



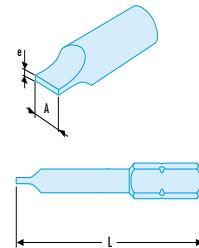
## ▶▶ 2-series 5/16" (7.94 mm) drive bits

### ES.2 Bits for slotted heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2380-1, ISO 2351-1.



ES	e x A mm	Length mm	ΔΔ g
ES.206,5	1,2 x 6,5	41	11
ES.208	1,2 x 8,0	41	13
ES.210	1,6 x 10,0	41	19
ES.212	2,0 x 12,0	41	23

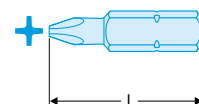


### EP.2 Bits for Phillips® heads

▷ ISO 1173, DIN 3126, NF ISO 1773, ISO 8764-1, ISO 2351-2.



EP	Phillips® no.	Length mm	ΔΔ g
EP.201	PH.1	32	10
EP.202	PH.2	32	11
EP.203	PH.3	32	11
EP.204	PH.4	32	14

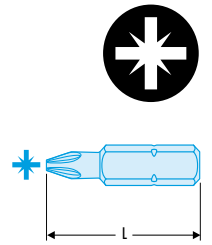




## ED.2 Bits for Pozidriv® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

ED	Pozidriv® no.	L mm	ΔΔ g
ED.201	PZ.1	32	10
ED.202	PZ.2	32	11
ED.203	PZ.3	32	11
ED.204	PZ.4	32	12

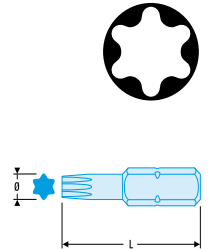


## EX.2 Bits for Torx® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Meets Torx®.
- Length 35 and 70 mm.

ED	Torx® n°	I★ A mm	Ø mm	L mm	ΔΔ g
EX.220	T20	3,84		35	13
EX.225	T25	4,40		35	13
EX.227	T27	4,96		35	13
EX.230	T30	5,49		35	15
EX.240	T40	6,60		35	15
EX.245	T45	7,77		35	15
EX.250	T50	8,79		35	18
EX.255	T55	11,77		35	31
EX.220L	T20	3,84	5,6	70	25
EX.225L	T25	4,40	5,6	70	25
EX.230L	T30	5,49	6	70	30
EX.240L	T40	6,60	7	70	30
EX.245L	T45	7,77	Hex.7,94	70	40
EX.250L	T50	8,79	Hex.7,94	70	55



## EH.2 Bits for hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-2.

- Metric and inch.

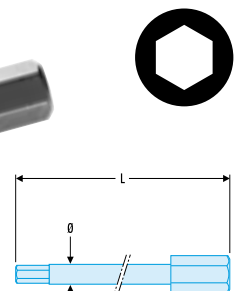
ED	Ø mm	L mm	ΔΔ g
EH.204	4	30	8
EH.205	5	30	9
EH.206	6	30	11
EH.208	8	30	13
EH.210	10	30	17
EH.201/4	1/4	30	12
EH.205/16	5/16	30	15
EH.203/8	3/8	30	19



## EH.2L Long-reach bits for hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2936, ISO 2351-3.

ED	Ø mm	Ø mm	L mm	ΔΔ g
EH.204L	4	4,8	70	15
EH.205L	5	6,0	70	19
EH.206L	6	7,0	70	23
EH.207L	7	8,9	70	28
EH.208L	8	8,9	70	29
EH.210L	10	11,3	70	42



## EV.2 Bits for spline socket heads (XZN)

▷ ISO 1173, DIN 3126, NF ISO 1173.

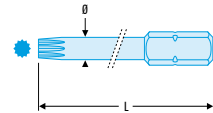
Ref	Ø	Length mm	ΔΔ g
EV.206	M6	28	9
EV.208	M8	28	10
EV.210	M10	32	15
EV.212	M12	36	21



## EV.L Long-reach bits for spline socket heads (XZN)

▷ ISO 1173, DIN 3126, NF ISO 1173.

Ref	Ø	L mm	Ø mm	ΔΔ g
EV.205L	M5	70	6,0	26
EV.206L	M6	70	7,0	27
EV.208L	M8	70	7,5	28
EV.210L	M10	70	10,0	39



## ETORM.2 Bits for Torq Set® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

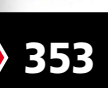
Ref	Torq-Set® s- crewn°	Length mm	ΔΔ g
ETORM.208	8	32	14
ETORM.210	10	32	14
ETORM.201/4	1/4	32	14
ETORM.205/16	5/16	32	14
ETORM.203/8	3/8	32	14



## EBNA.2 Bits for BNAE heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

Ref	BNAE no.	Length mm	ΔΔ g
EBNA.204	4	35	9
EBNA.205	5	35	9
EBNA.206	6	35	10
EBNA.208	8	35	10



## ▶▶ 1-series 1/4" (6.35mm) drive bit set

### AME.B Box set of 9 bits + bit holder

- "Torsion" bits for Phillips® and Pozidriv® heads.
- Spring-clip bit holder EF.6P1.
- Compact box 115 x 52 x 21 mm.



AME	mm	no.	no.	mm	no.	n°	ΔΔ
AME.B3	0,6 x 4,5 - 1 x 5,5 - 1,2 x 6,5	1 - 2 - 3	1 - 2 - 3				100
AME.B4	0,6 x 4,5 - 1 x 5,5		1 - 2	2,5 - 3 - 4 - 5 - 6			100
AME.B5	0,6 x 4,5 - 1 x 5,5	1 - 2			10 - 15 - 20 - 25 - 30		103
AME.B6					8 - 9	10 - 15 - 20 - 25 - 27 - 30 - 40	125

### POCKET 6 Folding bit driver + bit sets

- 6 drivers in 1.
- Bits stored in handle.
- Magnetic bit holder. Ø 1/4".
- Closes to a compact size.
- EFPZ includes bits for slotted and Pozidriv® heads.
- EH includes hexagon bits.

AME	mm	no.	mm	ΔΔ
EFPZ	4,5 - 6,5 - 8	1 - 2 - 3		200
EH			2,5 - 3 - 4 - 5 - 6 - 7	200



### "Fitters" set

#### AME.JE1

- Comprising 16 tools :
  - x15 1/4" drive bits and 1 hinged bit holder.
  - ● Torsion type for slotted heads 0.5 x 4 - 0.6 x 4.5 - 0.8 x 5.5 - 1.2 x 6.5 mm
  - ⊕ High Perf' type for Phillips® heads PH0 - 1 - 2 - 3
  - ⊕ High Perf' type for Pozidriv® heads PZ1 - 2.
  - ○ : For hexagon heads 2 - 2.5 - 3 - 4 - 5 mm.
  - Bit holder with hinged handle AMH.142.
- Supplied in a case 125 x 95 x 28 mm.
- ΔΔ : 250 g.



### "Motor mechanics" set




#### AME.JE2

- Comprising 16 tools :
  - x15 1/4" drive bits and 1 hinged bit holder.
  - ● High Perf' type for slotted heads 0.5 x 4 - 0.6 x 4.5 - 0.8 x 5.5 - 1.2 x 6.5 mm,
  - ⊕ ⊕ : High Perf' type for Pozidriv® heads PZ.0 - 1 - 2
  - ○ : For hexagon heads 2.5 - 3 - 4 - 5 mm.
  - ⊕ : For Torx® heads no. T 10 - 20 - 25 - 30
  - Bit holder with hinged handle AMH.142.
- Supplied in a case 125 x 95 x 28 mm.
- ΔΔ : 250 g.



## Ratchet wrench and bit set



### 65.PEJ13

- Wrench 68 A. PE.
- 13 bits.
-  For Torx® Tamper Resistant® heads : EXR.110 - EXR.115 - EXR.120 - EXR.125 - EXR.130 - EXR.140.
-  : For hexagon socket heads : EH.103 - EH.104 - EH.105 - EH.106.
-  : For Pozidriv® heads : ED.101T - ED.102T - ED.103T.
- BP.102.
- PL.367 A.
- ΔΔ : 400 g.



## ▶▶ Bit modules

### Bit modules

	Comprising		ΔΔ g
<b>MOD.E20L</b>	EH.204L - 205L - 206L - 207L - 208L - 210L EV.205L - 206L - 208L - 210L EX.230L - 240L - 245L - 250L EXR.110L - 115L - 120L - 125L - 130L - 140L Bit holders SJ.236 - R.235 - S.236	PL.624	755
<b>MOD.E41</b>	ED.101T-102T-103T - EH.104-105-106-107 - EH.204L-205L-206L-207L-208L-210L - EH.208-210 - EV.205L-206L-208L-210L - EV.206-208-210 - EX.230L-240L-245L-250L - EX.245-250-255	PL.621	895




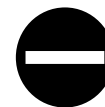
## ▶ High Perf' bits

### ▶▶ 1-series 1/4" (6.35 mm) drive High Perf' bits

#### ES.1T High Perf' bits for slotted heads


▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2380-1, ISO 2351-1.

	e x A mm	Length mm	ΔΔ g
<b>ES.134T</b>	0,5 x 4	25	2
<b>ES.134,5T</b>	0,6 x 4,5	25	3
<b>ES.135,5T</b>	0,8 x 5,5	25	3
<b>ES.145,5T</b>	1 x 5,5	25	4
<b>ES.136,5T</b>	1,2 x 6,5	25	4
<b>ES.148T</b>	1,6 x 8	25	8



#### EP.1T Bits for Phillips® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

	Phillips® no.	L mm	ΔΔ g
<b>EP.101T</b>	PH.1	25	3,5
<b>EP.102T</b>	PH.2	25	4,0
<b>EP.103T</b>	PH.3	25	4,2





**ED.1T Bits for Pozidriv® heads**

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

ED	Pozidriv® no.	L mm	ΔΔ g
<b>ED.101T</b>	PZ.1	25	3,5
<b>ED.102T</b>	PZ.2	25	4,0
<b>ED.103T</b>	PZ.3	25	4,2

**▶▶ 6-series 1/4" (6.35 mm) drive High Perf' bits with groove****EP.6 Bits for Phillips® heads**

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

ED	Phillips® no.	L mm	ΔΔ g
<b>EP.601T</b>	PH.1	50	8,7
<b>EP.602T</b>	PH.2	50	10,0
<b>EP.603T</b>	PH.3	50	11,5

**ED.60T Bits for Pozidriv® heads**

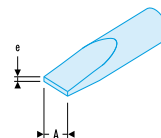
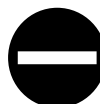
▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

ED	Pozidriv® n°	Length mm	ΔΔ g
<b>ED.601T</b>	PZ.1	50	8,7
<b>ED.602T</b>	PZ.2	50	10,0
<b>ED.603T</b>	PZ.3	50	11,5

**▶ Titanium High Perf' bits****▶▶ 1-series 1/4" (6.35 mm) drive titanium High Perf' bits****ES.12T Bits for slotted heads**

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 2380-1, ISO 2351-1.

ED	e x A mm	L mm	ΔΔ g
<b>ES.124,5T</b>	0,6 x 4,5	25	3
<b>ES.125,5T</b>	0,8 x 5,5	25	3
<b>ES.175,5T</b>	1,0 x 5,5	25	4
<b>ES.126,5T</b>	1,2 x 6,5	25	4
<b>ES.128T</b>	1,6 x 8	25	8



## EP.13T Bits for Phillips® heads


▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

	Phillips® no.	L mm	ΔΔ g
<b>EP.131T</b>	PH.1	25	3,5
<b>EP.132T</b>	PH.2	25	4,0
<b>EP.133T</b>	PH.3	25	4,2



## ED.13T Bits for Pozidriv® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.


	Pozidriv® no.	L mm	ΔΔ g
<b>ED.131T</b>	PZ.1	25	3,5
<b>ED.132T</b>	PZ.2	25	4,1
<b>ED.133T</b>	PZ.3	25	4,2

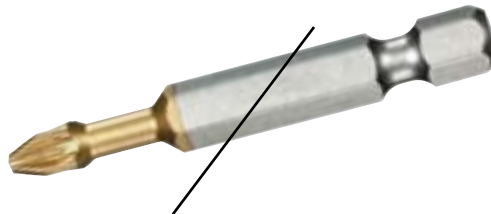


## ▶▶ 6-series 1/4" (6.35 mm) drive titanium High Perf' bits with groove

### EP.6T Bits for Phillips® heads


▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

	Phillips® no.	Length mm	ΔΔ g
<b>EP.631T</b>	PH.1	50	8,7
<b>EP.632T</b>	PH.2	50	10,0
<b>EP.633T</b>	PH.3	50	11,5



### ED.6T Bits for Pozidriv® heads

▷ ISO 1173, DIN 3126, NF ISO 1173, ISO 8764-1, ISO 2351-2.

	Pozidriv® no.	Length mm	ΔΔ g
<b>ED.631T</b>	PZ.1	50	8,7
<b>ED.632T</b>	PZ.2	50	10,0
<b>ED.633T</b>	PZ.3	50	11,5







## ▶ Bit holders and accessories

### ▶▶ Bit holders and accessories for hand screw-driving applications

**New**

#### Ratchet bit drivers

##### ACL.1




- High quality 45 tooth mechanism for speed, precision, strength and durability.
- One-handed 3-position selector ring (screw, unscrew and tighten).
- Cap with 7 bit storage compartments.
- Cap can serve as an additional mini bit-holder for difficult-to-reach screw locations.
- Partly hollow handle for storing additional bits or screws.
- Bi-material, ergonomic handle for a powerful, comfortable screwing action.
- Very low blade return torque.
- Powerful magnetic adaptor holds the bit and the screw.
- Contains 8 bits :
  -  For slotted heads : 4 - 6,5.
  -  For Phillips® : PH1 - PH2.
  -  For Pozidriv® : PZ1 - PZ2.
  -  For hexagon socket heads : 4 - 6.



**Protwist**®

#### Magnetic bit driver with in-handle bit storage compartment

##### AFM.2

- Easy-to-reach in-handle storage for quick bit selection.
- End cap fits perfectly onto the handle and remains firmly in place during tightening.
- Fitted with a powerful magnetic adaptor. Magnet holds the screw on the bit.
- Polyamide handle and end cap highly resistant to impact and workshop chemicals.
- Contains six 1/4" drive bits 25mm long.
  -  For slotted heads : 0.5 x 4 mm - 0.8 x 5.5 mm
  -  For Phillips® heads no. 1 and 2
  -  For Pozidriv® heads no. 1 and 2
- Chrome finished hardened steel blade.
- Supplied in a reusable transparent plastic sleeve.
- Total weight : 218 g (including 41g sleeve).



**New**

## AM Bit driver

- AM.H : spring-clip model.
- AM.M1 : short-reach magnetic model.
- AM.M2 : long-reach magnetic model.

	A mm	B mm	L mm	ΔΔ g
<b>AM.H</b>	11	75	180	80
<b>AM.M1</b>	10	63	180	120
<b>AM.M2</b>	10	125	245	150



**Protwist®**

## 1/4" - 5/16" bit holder wrench

### 65.PE

- Takes bits :
- Series 1 : hexagonal 1/4"
- Series 2 : hexagonal 5/16"
- Used for installing 1/4" and 5/16" aircraft fasteners.
- 5° increments.
- Heads angled at 15°.
- Bits retained by spring-clip.
- Knurled head for fast pre-tightening.
- Length : 150 mm
- Satin chrome finish.
- ΔΔ : 74 g



## Socket adaptor - 1/4" - 1/4"

### ECR

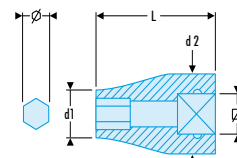
- For using 1/4" sockets with drivers A.400, A.440, A.301MT and A.341MT.
- Length 25 mm.
- ΔΔ : 15 g.



## Spring-clip bit holders for 1-series 1/4" (6.35 mm) drive bits

- Bit holder R.245 includes a spring clip for secure bit retention. For infrequent bit changes, the square drive has a hole for ball or plunger lock.
- Bit holders R.235, J.235, SJ.235 include a standard clip for frequent bit changes.

	∅	∅	d1 mm	d2 mm	L mm	ΔΔ g
<b>R.235</b>	1/4	1/4	11,3	11,3	22	10
<b>R.245</b>	1/4	1/4	11,3	11,3	22	10
<b>J.235</b>	1/4	3/8	11,3	18,0	30	26
<b>SJ.235</b>	1/4	CDX	11,3	18,6	30	28

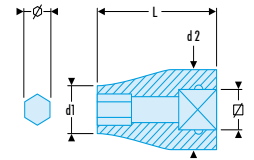




## J-SJ-S Spring-clip bit holders for 2-series 5/16" (7.94 mm) drive bits

- For manual use.

Ref	Ø "	Ø mm	d1 mm	d2 mm	L mm	ΔΔ g
<b>J.236</b>	5/16	3/8	14	18,0	30	30
<b>SJ.236</b>	5/16	CDX	14	18,6	30	32
<b>S.236</b>	5/16	1/2	14	23	36	54



## ▶▶ Bit holders and accessories for non-impact powered screw-driving applications

### EF Bit holders with lock-ring

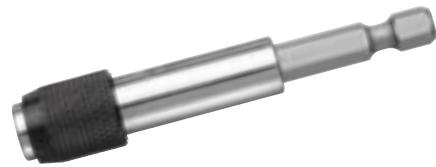
Ref	Ø "	Ø mm	Length mm	ΔΔ g
<b>EF.R</b>	1/4	1/4	30	26
<b>EF.J</b>	1/4	3/8	43	48
<b>EF.S</b>	1/4	1/2	50	88



### Magnetic bit-holder with lock-ring

#### EF.6P6

- For quick bit changes.
  - Magnet holds fastener on bit.
  - Length 77 mm.
- ΔΔ : 41 g.



### Bit-holder with lock-ring

#### EF.6P5

- For quick bit changes.
  - Length 51 mm.
- ΔΔ : 31 g.



### Short-reach spring-clip bit holder

#### EF.6P1

- Length 57 mm.
- ΔΔ : 30 g.



## Magnetic bit holder

### EF.6P3

- Copper-beryllium body.
  - Length 74 mm.
- ΔΔ : 39 g.



## Magnetic bit holder

### EF.6P4

- Length 75 mm.
- ΔΔ : 36 g.



## Socket holder ☑ 1/4"

### EF.6R

- Socket locking plunger.
  - Length 50 mm.
- ΔΔ : 16 g.



## Long-reach socket holder ☑ 1/4"

### EF.6RL

- Socket locking plunger.
  - Length 100 mm.
- ΔΔ : 38 g.



## Socket holder ☑ 3/8"

### EF.6J

- Socket locking plunger.
  - Length 50 mm.
- ΔΔ : 25 g.



## Long-reach socket holder ☐ 3/8"

### EF.6JL

- Socket locking plunger.
- Length 100 mm.
- ΔΔ : 80 g.



## ► Impact bits

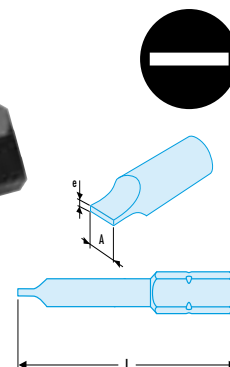
### ►► 2-series 5/16" (7.94 mm) drive impact bits

#### ENS.2 Bits for slotted heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- For use with impact drivers.
- Burnished finish.

☞	e x A mm	L mm	ΔΔ g
ENS.205,5	0,8 x 5,5	41	10
ENS.206,5	1,2 x 6,5	41	12
ENS.208	1,2 x 8,0	41	14
ENS.210	1,6 x 10	41	19
ENS.212	2,0 x 12,0	41	22
ENS.214	2,5 x 14,0	41	28
ENS.215,5	1,0 x 5,5	41	10
ENS.218	1,6 x 8,0	41	19



#### ENP.2 Bits for Phillips® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- For use with impact drivers.
- Burnished finish.

☞	Phillips® no.	L mm	ΔΔ g
ENP.201	PH.1	32	14
ENP.202	PH.2	32	14
ENP.203	PH.3	32	14
ENP.204	PH.4	32	14



#### END.2 Bits for Pozidriv® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- For use with impact drivers.
- Burnished finish.

☞	Pozidriv® no.	L mm	ΔΔ g
END.201	PZ.1	32	10
END.202	PZ.2	32	10
END.203	PZ.3	32	11
END.204	PZ.4	32	12



## ENH.2 Bits for hexagon socket heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- For use with impact drivers.
- Burnished finish.



ENH	mm	L mm	ΔΔ g
ENH.204	4	30	9
ENH.205	5	30	10
ENH.206	6	30	11
ENH.208	8	30	13
ENH.210	10	30	17



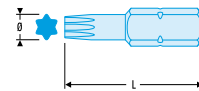
## ENX.2 Bits for Torx® heads

▷ ISO 1173, DIN 3126, NF ISO 1173.

- Meets Torx® specifications.
- For use with impact drivers.
- Burnished finish.



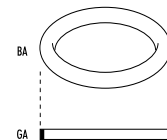
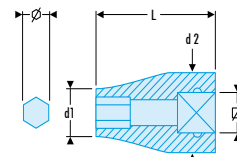
ENX	Torx® no.	I★ mm	L mm	ΔΔ g
ENX.220	T.20	3,84	35	13
ENX.225	T.25	4,40	35	13
ENX.227	T.27	4,96	35	13
ENX.230	T.30	5,49	35	15
ENX.240	T.40	6,60	35	15
ENX.245	T.45	7,77	35	15
ENX.250	T.50	8,79	35	18
ENX.255	T.55	11,77	35	31



## NJ-NS.236A Impact bit-holders

- For your safety, always use locking rings and pins.
- Burnished finish.

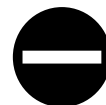
EN	□ "	○ "	Ø d1 mm	Ø d2 mm	GA	BA	L mm	ΔΔ g
NJ.236A	3/8	5/16	14,0	19	GA.15A	BA.16A	37	35
NS.236A	1/2	5/16	15,5	25	GA.20A	BA.20A	40	65



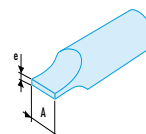
## ▶▶ 3-series 1/2" (12.7 mm) drive impact bits

### ENS.3 Bits for slotted heads

- For use with impact tools.
- Burnished finish.



ENS	e x A mm	L mm	ΔΔ g
ENS.312	2,0 x 12	50	40
ENS.314	2,5 x 14	50	46
ENS.316	2,5 x 16	50	59

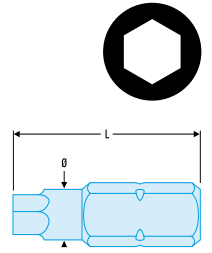




### ENH.3 Bits for metric hexagon socket heads

- For use with impact tools.
- Burnished finish.

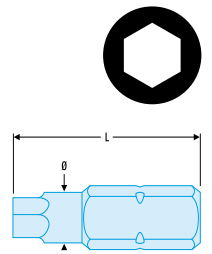
ENH	Ø mm	L mm	ΔΔ g
ENH.303	3	50	20
ENH.304	4	50	22
ENH.305	5	50	22
ENH.306	6	50	24
ENH.307	7	50	24
ENH.308	8	50	24
ENH.310	10	50	30
ENH.311	11	50	40
ENH.312	12	50	45
ENH.314	14	50	55
ENH.317	17	50	73
ENH.319	19	50	86



### ENH.3 Bits for inch hexagon socket heads

- For use with impact tools.
- Burnished finish.

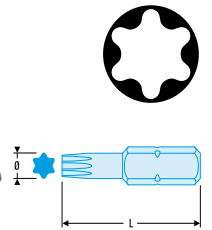
ENH	Ø inch	L mm	ΔΔ g
ENH.301/2	1/2	50	48
ENH.309/16	9/16	50	57
ENH.305/8	5/8	50	65
ENH.303/4	3/4	50	86
ENH.307/16	7/16	50	40



### NEX Bits for Torx® heads

- Meets Torx® specifications.
- For use with impact tools.

ENH	Torx® no.	T mm	L mm	ΔΔ g
NEX.25A	T.25	4,40	50	18
NEX.27A	T.27	4,96	50	18
NEX.30A	T.30	5,49	50	20
NEX.40A	T.40	6,60	50	25
NEX.45A	T.45	7,77	50	25
NEX.50A	T.50	8,79	50	30
NEX.55A	T.55	11,17	50	38
NEX.60A	T.60	13,20	50	45
NEX.70A	T.70	15,49	50	55

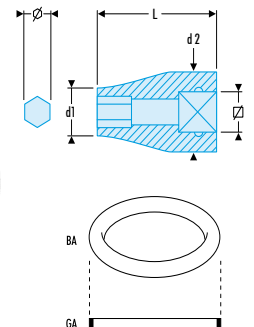


### NJ-NS.237A Impact bit-holders

▷ ISO 1174-2, DIN 3121, NF ISO 1174-2.

- For use with impact tools.
- For your safety, always use locking rings and pins.
- Burnished finish.

ENH	Ø <sub>1</sub> inch	Ø <sub>2</sub> inch	Ø <sub>1</sub> d1 mm	Ø <sub>2</sub> d2 mm	GA	BA	L mm	ΔΔ g
NJ.237A	3/8	1/2	19	19	GA.15A	BA.16A	37	40
NS.237A	1/2	1/2	20	25	GA.20A	BA.20A	40	40



## ▶▶ Impact bit set

### 14-piece 1/2" drive impact bit set

#### NHX.14APF

- Comprising :
  - 2 bit holders  $\square$  1/2",  $\varnothing$  1/2" and 5/16".
  - $\bigcirc$  Hexagonal 6-7-8-10-12 and 14 mm.
  - $\bigcirc$  Torx® no. 30-40-45-50 and 55.
  - $\bigcirc$  Phillips® 2 - 3 and 4.
  - BP.102.
  - PL.402A.
  - $\Delta\Delta$  : 800 g.



### 14-piece 3/8" drive impact bit set

#### JHX.14

- Comprising :
  - 2 bit holders  $\square$  1/2",  $\varnothing$  1/2" and 5/16".
  - $\bigcirc$  Hexagonal 6-7-8-10-12 and 14 mm.
  - $\bigcirc$  Torx® no. 30-40-45-50 and 55.
  - BP.102.
  - PL.402A.
  - $\Delta\Delta$  : 800 g.





## Impact driver

**FOR LOOSENING SEIZED,  
RUSTED OR STUCK FASTENERS  
QUICKLY AND IN COMPLETE SAFETY**

- Choose the correct bit for the screw head pattern and hit the driver with a mallet.
- Hitting the handle of the driver compresses a spring that fires the bit into rotation to loosen the screw. As there is no hard, repeated impact as is the case with impact wrenches, there is less risk of damage to the screw pattern.
- Also suitable for tightening.



### Safety first

- Do not use anything other than a dead-blow hammer to avoid damaging the driver (see section 10).
- Wear eye protection (See section 15).



## ▶ 3/8" series

### Impact driver

#### NJ.260

- 3/8" (9.53 mm)
- Torque 200 N.m.
- Diameter 32 mm.
- Length 160 mm.
- Chrome finish.

ΔΔ : 795 g.



### 12-piece tool set

#### NJ.261M

- Comprising :

⊕ END no. 2-3.

□ ENP no. 2-3.

● ENS 6.5-8-10 mm.

○ ENH 5-6-8 mm.

□ NJ.236A.

□ NJ.260.

- Comes in a plastic box BP.115.

• Tray PL.72A.

ΔΔ : 1.720 kg.



### 16-piece tool set

#### NJ.262

- Comprising :

⊕ END no. 2-3-4

⊕ ENP no. 2-3-4

● ENS 6.5-8-10 mm

⊕ ENX no. 20-25-27-30-40

□ NJ.236A

□ NJ.260.

- Comes in a plastic box BP.115.

• Tray PL.73A

ΔΔ : 1.780 kg.









# 8. Pliers

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**NEW**

## "New generation" Facom pliers

### *New process, better performance*

#### Advantages

- ▶ Designed and manufactured in our own factory
- ▶ On numerically-controlled robotic production machines
- ▶ Machined after heat treatment



**N**  **382**

**NEW**

## "High performance" nippers

### *Reduced cutting effort*

#### Advantages

- ▶ Clean cut
- ▶ Maximum cutting power
- ▶ Optimum accessibility



**N**  **408**



**New pivot pin**  
**Improved performance**

**Advantages**

- ▶ Equal comfort for large hands or small.
- ▶ Double the number of positions.
- ▶ Operator safety



N 373



## ▶ Locking multigrip pliers

### New

## 181 Locking twin slip-joint multigrip pliers



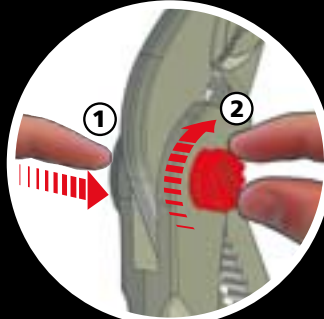
Example for 181.25 pliers



### NEW PIVOT PIN NEW PERFORMANCE!

#### Equal comfort for large hands and small.

- The pivot pin allows you to adjust handle travel to suit the size of your hand.
- More force, less fatigue!**



② = 1/2 tour

#### Double the number of positions.

- Twice the number of positions, for more accurate adjustment.
- Optimum grip on the workpiece!**

Quick, permanent push-button adjustment.



Mini

#### Operator safety

- Gap reduced for increased torsional strength,
- Guaranteed strength and grip!**



Teeth self-gripping on pipes.



Designed to grip nuts without damage.



New!

Integral wire-cutter.

Handle travel adjusts to suit your hand!

Possible number of positions :

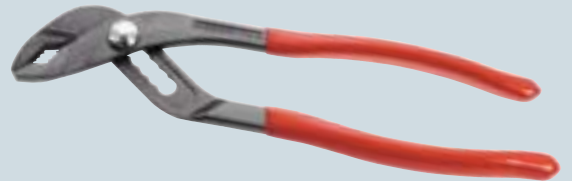
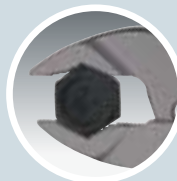
180 mm model : 10 notches = 20 positions / 250 mm : 12 notches = 24 positions / 300 mm : 14 notches = 28 positions.



## SLIP-JOINT MULTIGRIP PLIERS

### SELF-TIGHTENING PLIERS

- Teeth self-gripping on pipes.
- Tightens and loosens nuts without damage.
- Capacity : 46 mm.
- Safe : finger protection.
- Riveted pivot.



# Engineers multigrip pliers

## 181 Locking twin slip-joint multigrip pliers

▷ ISO 8976, DIN ISO 8976, NF ISO 8976.

- Fast, precise push-button adjustment with safety lock.
- Reduced gap :
  - Reduced play.
  - high torsional strength.
- 62 HRc high-frequency treated jaws.
- Finger protection.
- 181.CPE : Chrome finish, ergonomic grips.
- 181.TE : Varnish finish, ergonomic grips.
- 181.G : Varnish finish, PVC grips.

181.18G



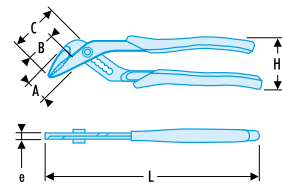
181.25CPE



181.18TE



Ref	L mm	Tube capacity Ø mm	Hex capacity mm	A mm	B mm	C mm	D mm	E mm	ΔΔ g
181.18CPE	185	36	36	24	24	48	22	7,5	270
181.25CPE	250	42	41	33,8	28	55	22	7,5	400
181.18TE	185	36	36	24	24	48	22	7,5	270
181.25TE	250	42	41	33,8	28	55	22	7,5	400
181.18G	180	36	36	24	24	48	14,5	7,5	250
181.25G	245	42	41	33,8	28	55	14,5	7,5	370
181.30G	304	49	46	40,6	33	79	16,3	9	740

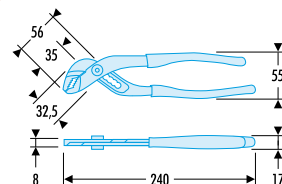


## Standard multigrip pliers

### 170A

▷ ISO 8976, DIN ISO 8976, NF ISO 8976.

- PVC sheathed spatula handle for user comfort.
- ΔΔ : 310 g.



## ► Standard multigrip pliers

180

### SLIP-JOINT MULTIGRIP PLIERS - RIVETED PIVOT PIN



180.VE

#### IDEAL FOR CONFINED SPACES !

- Long slim nose for improved reach in confined spaces.
- 7 positions.
- Capacity (parallel jaws): 44 mm.

44 mm




#### Safe

- Finger clearance.
- Insulated VE model for working on or near live components up to 1,000V AC.
- To european standard EN 60900.

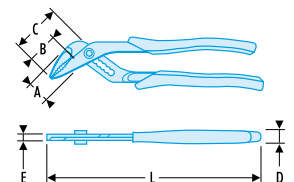
### 180 High-performance multigrip pliers

► ISO 8976, DIN ISO 8976, NF ISO 8976.

- Double heat-treated tips; High wear resistance, hardness 60/62 HRC.
- 4 options :
  - 180.CPE : Chrome finish, ergonomic grips.
  - 180.TE : Varnish finish, ergonomic grips.
  - 180 : chrome finish.
  - 180 VE : Varnish finish, 1,000V insulated grips designed for electrical safety to EN 60900 and , for working on or near live components.



	A	B	C	D	E	L	ΔΔ
	mm	mm	mm	mm	mm	mm	g
<b>180.CPE</b>	30	35	58	22	8	250	360
<b>180.TE</b>	30	35	58	22	8	250	360
<b>180</b>	30	35	58	14	8	250	320
<b>180.VE</b>	30	35	58	22	8	250	360
<b>180A.SE</b>	Description						
	Spare pivot pin						

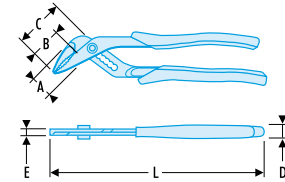
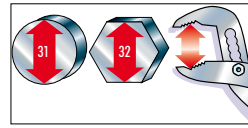


# Engineers multigrip pliers

## 176A "Junior" pliers

176A.CPY : Polished chrome finish, comfortable grips.

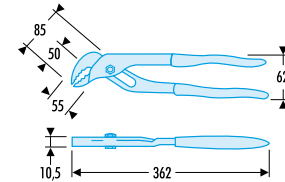
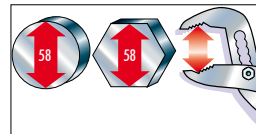
	A	B	C	e	H	L	$\Delta\Delta$
	mm	mm	mm	mm	mm	mm	g
<b>176A.CPY</b>	23,5	23	40	5,6	45	165	160



## "Mammoth" pliers

### 182A.CP

- Powerful, two-handed use ideal for heavy engineering and farm machinery.
  - Forged and hardened to 48 HRC.
  - Thick-gauge jaws withstand torsion.
  - 7 settings.
  - Chrome finish, polished tips.
  - Capacity 58 mm.
- $\Delta\Delta$  : 810 g.

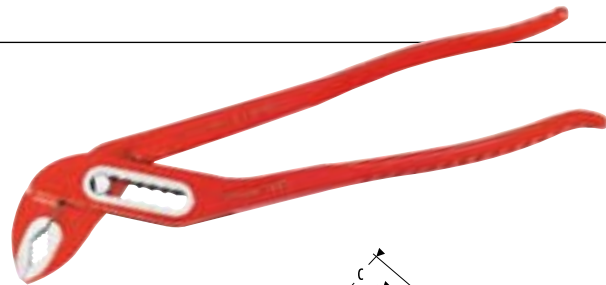


	Description
<b>182.SE</b>	Spare pivot pin

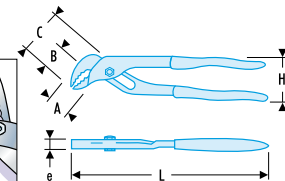
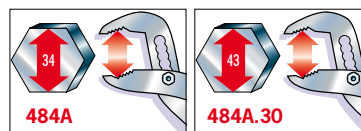
## ► Twin slip-joint multigrip pliers

### 484 Twin slip-joint multigrip pliers

- ▷ ISO 8976, DIN ISO 8976, NF ISO 8976.
  - Inter-slotted jaws distribute load either side of central pin, in two heavy-gauge slots, for optimum safety and durability.
  - 7 settings.
  - Satin finish.
- 484A : capacity 34 mm.  
484A.30, capacity 43 mm.



	e	A	B	C	H	L	$\Delta\Delta$
	mm	mm	mm	mm	mm	mm	g
<b>484A</b>	7,0	33	38	60	50	240	345
<b>484A.30</b>	9,5	38	40	66	52	300	560

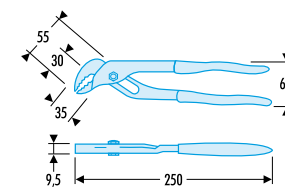
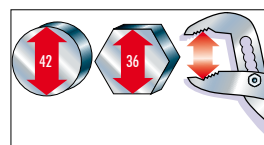
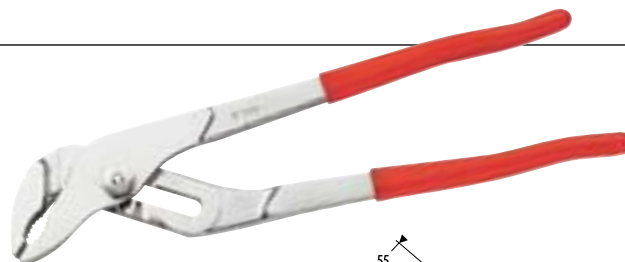


## ► Notch-joint multigrip pliers

### Notch-joint multigrip pliers

#### 480.ECG

- ▷ ISO 8976, DIN ISO 8976, NF ISO 8976.
  - Undercut arcs :
    - Positive engagement of notches provides high power.
    - Pivot pin is not load bearing.
    - Smooth adjustment.
  - 5 settings.
  - Chrome finish, red PVC grips.
- $\Delta\Delta$  : 320 g.





## 482 Notch-joint multigrip pliers

▷ ISO 8976, DIN ISO 8976, NF ISO 8976.

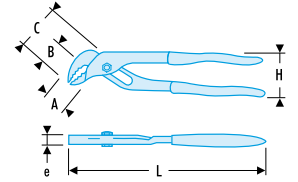
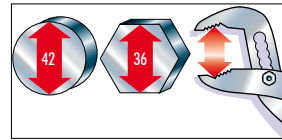
- Undercut arcs :
  - Positive engagement of notches provides high power.
  - Pivot pin is not load bearing.
- Self-gripping teeth.
- 5 settings.
- Presentation :
  - CPE model : Chrome finish, ergonomic grips.
  - EG model : Burnished finish, red PVC grips.

➤	e	A	B	C	H	L	ΔΔ
	mm	mm	mm	mm	mm	mm	g
<b>482.CPE</b>	9,5	35	30	55	60	255	365
<b>482.EG</b>	9,5	35	30	55	60	255	320

482.CPE



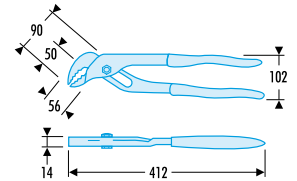
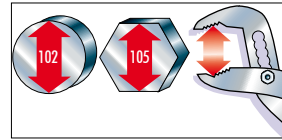
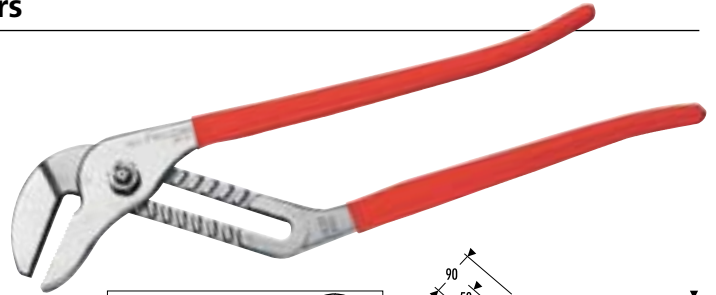
482.EG



## "Extra-wide capacity" straight-jaw pliers

### 481.40

- 11 positions.
- Notch joint.
- Straight serrated jaw.
- Chrome finish, PVC grips.
- Capacity : 105 mm.
- ΔΔ : 1.1 kg.

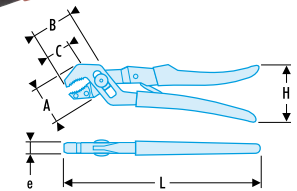
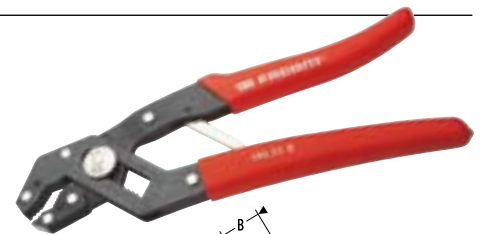
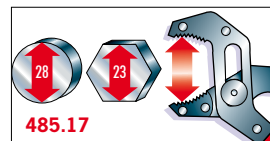
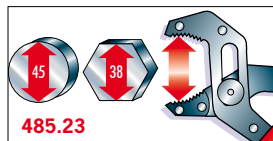


## ▶ Automatic multigrip pliers

### 485 Automatic multigrip pliers

- Burnished finish. PVC grips.
- 485.17 : Capacity Ø 28 mm, Ⓢ 23 mm.
- 485.23 : Capacity Ø 45 mm, Ⓢ 38 mm.

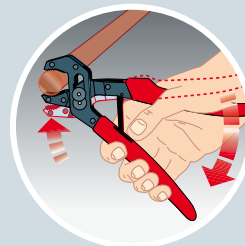
➤	e	A	B	C	H	L	ΔΔ
	mm	mm	mm	mm	mm	mm	g
<b>485.17</b>	7	28	23	42	42	170	150
<b>485.23</b>	10	40	30	57	70	230	380



## Self-adjusting multigrip pliers

### FAST ADJUSTMENT

Instant automatic setting  
with one hand while  
clamping.



# Electrical engineers pliers



## Precision cutters

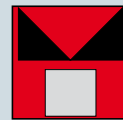
### 3 TYPES OF CUT :



**AXIAL**  
Hard cutting edges  
for all materials.



**SEMI-FLUSH**  
Clean cut in semi-  
hard materials.



**FLUSH**  
Smooth burr-free  
finish.

## ▶ Cutting pliers

### "Compact" diagonal cutters

#### 405.15

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

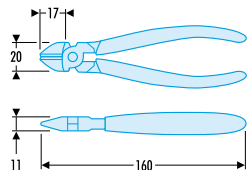
• Capacity :

- hard wire 160 kg/mm<sup>2</sup> : Ø 1.6 mm

- semi-hard wire 100 kg/mm<sup>2</sup> : Ø 1.8 mm.

• Varnished finish, red PVC grips.

ΔΔ : 195 g.



## Diagonal cutters

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

• 405 : Axial cut.

• 416 - 435 : Semi-flush cut, slim nose.

• 425 : Flush cut, nose extended 13 mm.

• Matt burnished finish, red grips - opening spring.



405



425



435

⇒	Ø max mm Cu-Ni	FE 100 Kg/mm <sup>2</sup>	A mm	B mm	C mm	L mm	ΔΔ g
405.12	2,0	1,0	16,0	16,0	8	120	95
405.10	1,4	0,8	11,5	10,5	7	110	60
435	1,3	0,7	13,0	10,5	7	110	60
416	1,0	0,5	11,5	10,5	7	110	60
425	1,2	/	13,0	10,5	7	110	60

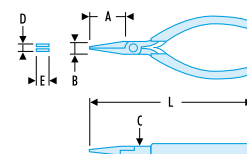
## ▶ Flat nose pliers

### 401 - 421 Flat nose pliers

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

• Smooth jaws with contoured inside edges to protect components.

• Matt burnished finish, red grips.



⇒	A mm	B mm	C mm	D mm	E mm	L mm	ΔΔ g
401	48	14	8	1	5	160	80
421	33	11	7	1	5	130	70

## ▶ Half-round nose pliers

### Half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

• 402 : Short smooth jaws.

• 442 : short serrated jaws with side wire-cutter (2 mm dia. copper, 1 mm dia. steel 100 Kg/mm<sup>2</sup>).

• 403 : Short jaws, angled 40°.

• Matt burnished finish, red grips - opening spring.



403



402

⇒	A mm	B mm	C mm	D mm	L mm	ΔΔ g
402	48	14	8	1,5	160	76
442	42	14	8	3,8	150	88
403	45	14	8	1,2	155	75

## ▶ Wire strippers

### Fine wire strippers

#### 194.12

• Max. AWG 14.

• For light-gauge wire.

• Narrow blades.

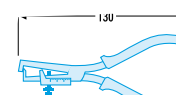
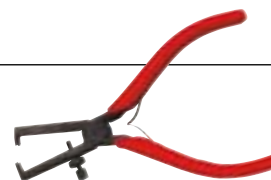
• Cutting depth presetting.

• Burnished finish, PVC grips.

• Ø 1.5 mm single and multi-core wire.

• Cross section 1.8 mm<sup>2</sup>.

ΔΔ : 70 g.





## Facom cutting pliers

### PERFORMANCE !

Facom's cutting pliers are designed to meet the 3 main requirements of professional users.

#### 1- One tool for cutting all materials

- FACOM's universal cutters can cut cleanly through all types of materials: copper wire, semi-hard wire, hard wire, piano wire, steel strip, nylon strip, binding wire, bronze wire, Ertalon, etc....

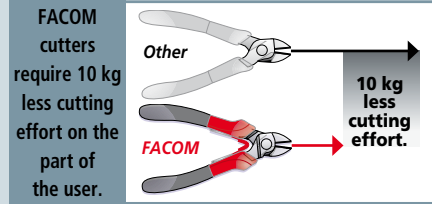


#### 2- A reduced cutting effort

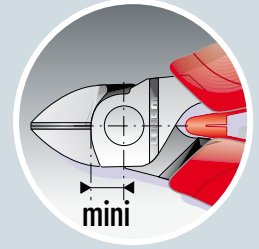
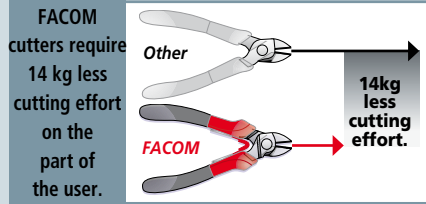
Facom cutting pliers reduce the cutting effort by 20% :

- Optimised cutting-edge geometry - Long lever arm - Pivot pin offset as close as possible to the cutting edges.

For cutting: 4 mm screws



For cutting: Piano wire 200 kg/mm<sup>2</sup>

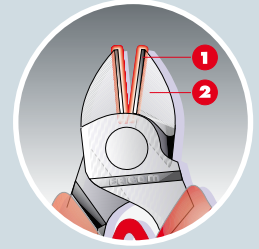


#### 3- Durable cutting power

Very high resistance to wear when used to cut hard wire or subject to intensive use.

- FACOM cutters are made of high strength steel for maximum durability. The cutting edges are double heat treated.

- 1 Very hard cutting edges: 61/63 HRC.
- 2 CHROME-MOLYBDENUM-VANADIUM steel.



#### Cutting capacity

(Max. diameter of wires in "mm" – Tensile strength in "kg/mm<sup>2</sup>")

200 kg/mm <sup>2</sup> Piano wire		160 kg/mm <sup>2</sup> Hard wire		80 kg/mm <sup>2</sup> Semi-hard wire	
Model	Ø max	Model	Ø max	Model	Ø max
192	: 2.0 mm	391	: 1.6 mm	405	: 1.0 mm
190	: 2.0 mm	193	: 1.6 mm	436	: 0.7 mm
187	: 2.0 mm	185	: 1.6 mm	416	: 0.5 mm
171	: 2.5 mm	195	: 1.6 mm		
191A	: 2.5 mm	183	: 1.6 mm		
405.12	: 0.8 mm	491	: 3.6 mm		

#### Copper (electrical fitters cutters)

Model	Ø max	Model	Ø max	Model	Ø max
391	: 3.5 mm	435	: 1.3 mm	425	: 1.2 mm
405	: 2.0 mm	416	: 1.0 mm		

#### Plastic

Model	395	396
-------	-----	-----

#### Four levels of finish

- CPE series chromed
- TE series varnished
- VE-VSE series 1000 Volts insulated
- G series PVC-coated



Série CPE

Chrome-finished pliers



Return spring



Résistance

High-performance materials chosen for their resistance to workshop chemicals (skydrol, chlorotene, acetone, petrol, etc...).

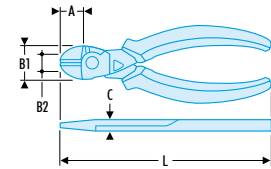
## ▶ Diagonal cutters

### 192.CPE High-performance diagonal cutters

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Cutting edges designed to cleanly cut all types of wire : Piano wire, soft wire and modern materials
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

Ø max mm 200 kg/mm <sup>2</sup>	∅ mm Cu	A mm	B mm	C mm	L mm	ΔΔ g	
<b>192.14CPE</b>	1,5	0,7 - 3,0	15,5	21,5	9,5	145	160
<b>192.16CPE</b>	2,0	0,7 - 4,0	18	24	10	160	200
<b>192.18CPE</b>	2,2	0,7 - 4,5	20	26	11	180	260
<b>192.20CPE</b>	2,5	0,7 - 5,0	22	28	11,5	200	320



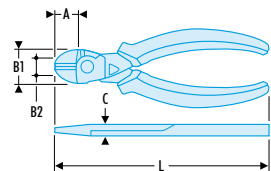
### Electricians diagonal cutters

#### 391.16CPE

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Snipe nose for confined spaces (electrical cabinets, wiring).
- Semi-flush cutting edges, designed to cleanly cut through all types of wire : Hard wires (max. 160 kg/mm<sup>2</sup>), thin copper wires, modern materials
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

∅ mm Cu	B mm	A mm	C mm	L mm	ΔΔ g		
<b>391.16CPE</b>	1,6	0,7 - 3,5	19	21	9	165	190



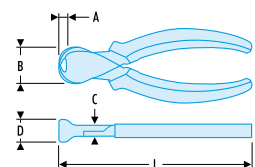
## ▶ End cutters

### 190.CPE High-performance end cutters

▷ ISO 5748, DIN ISO 5748, NF ISO 5748.

- Cutting edge designed to cleanly cut piano wire, hard and soft wire.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

∅ max mm 200 kg/mm <sup>2</sup>	A mm	B mm	C mm	D mm	L mm	ΔΔ g	
<b>190.16CPE</b>	1,6	6,5	28	11,5	23	160	200
<b>190.20CPE</b>	2	7,5	31	13,5	29	200	340







## Facom half-round nose pliers



### A COMPREHENSIVE RANGE TO SUIT EVERY NEED

#### High-performance.

Facom's half-round nose pliers are precision made -machined on numerically-controlled robotic production machinery. For gripping and manipulating all types of components or wires, even in difficult-to-reach places. Perfectly finished, with no sharp edges.

#### Straight and 40° angled short-nose pliers.

- Narrow, finely serrated tips (0.5mm pitch), with a side wire-cutter.

#### Straight and 40° angled long-nose pliers.

- Reinforced, serrated tips (0.8mm pitch), with a tube grip and side wire-cutter. For mechanics, industrial maintenance, automotive trades, etc. Finishes CPE and TE.
- Narrow, finely serrated tips (0.5mm pitch), with a side wire-cutter. For electricians, electrical fitters, delicate tasks. Finishes G and VE (1,000 V insulated - EN60900).

#### Guaranteed cutting accuracy and consistency.

- For cleanly cutting thin copper wire and modern materials, hard wires (max. 1.6mm diameter at 160 kg/mm<sup>2</sup>).



- Industrial, automotive applications, etc...

- Electrical, electromechanical applications, etc...



## ► Half-round nose pliers

### 185-195.CPE Long half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips with a pipe-grip.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).

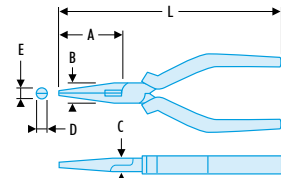
185 : Straight nose.  
195 : 40° angled nose.



195.CPE

185.CPE

E	∅ max mm	∅ maxi mm	D x E	A	B	C	L	ΔΔ
	Cu	160 kg/mm <sup>2</sup>						
185.20CPE	0,7 - 3,5	1,6	2,9 x 3,6	75	18	9	200	192
195.20CPE	0,7 - 3,5	1,6	2,9 x 3,6	69	18	9	200	192

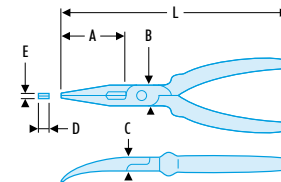
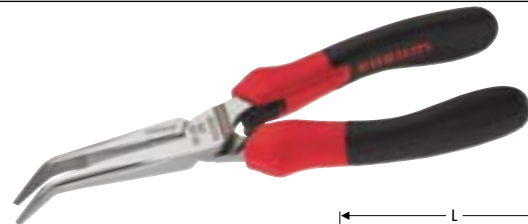


### Half-round long snipe-nose pliers

#### 183.20CPE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).
- 40° angled nose.



E	∅ max mm	∅ maxi mm	D x E	A	B	C	L	ΔΔ
	Cu	160 kg/mm <sup>2</sup>						
183.20CPE	0,7 - 3,5	1,6	2,5 x 3,0	69	18	9	200	185

### 193 - 195.CPE Short half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).

193 : Straight nose.  
195 : 40° angled nose.



193.CPE



195.CPE

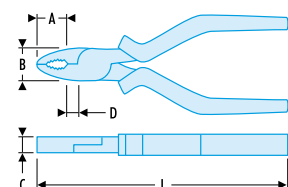
E	∅ mm		D x E	A	B	C	L	ΔΔ
	Cu	160 kg/mm <sup>2</sup>						
193.16CPE	0,7 - 3,0	1,6	2,5 x 3,0	50	17	9	160	177
195.16CPE	0,7 - 3,0	1,6	2,5 x 3,0	50	17	9	160	177

## ► Combination pliers

### 187.CPE Combination pliers

▷ ISO 5746, DIN ISO 5746, NF ISO 5746.

- Cutting edges designed to cut all types of wire : Piano wire, soft wire and modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.



E	∅ max mm	A	B	C	D	L	ΔΔ
	Fe wire 200 kg/mm <sup>2</sup>						
187.16CPE	1,6	34	21	9,5	12	165	195
187.18CPE	1,8	36	23	10	13	185	225
187.20CPE	2	42	26	11,5	15	205	300

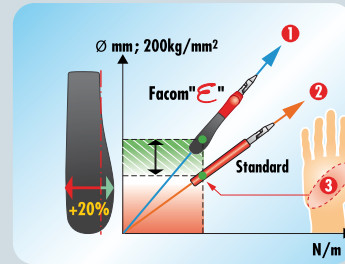


## Series "E" pliers



## ERGONOMIC

Non-slip spatula-shaped pressure area



- The ergonomic features of series "E" pliers represent the culmination of an intensive programme of testing and analysis of tools in service, with additional support from specialist ergonomics laboratories.
- Extended contact area and asymmetric profile fit naturally in the hand. Reduced risk of repetitive strain injury, inflammation and fatigue, especially in intensive use.



## Guard

- Firm, comfortable grip for pushing or pulling pressure.



## Spring

- Comfort and precision. The spring wedges the handles snugly between fingers and palm.

## Three levels of finish

CPE series chromed

TE series varnished

VE series 1,000 V insulated



## Highly resistant materials

- Materials used for handles are chosen for their resistance to workshop chemicals (Skydrol, chloroethene, acetone, petrol, etc.). Spring tested to over one million cycles.



## Safety

Facom 1,000 V insulated safety pliers meet the requirements of European standard **EN 60900**

See the "VE" series range of 1,000 V insulated tools, p.

368

**1000VOLTS**  
EN 60900

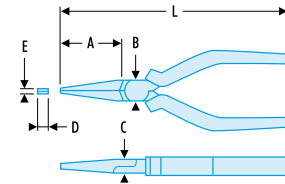
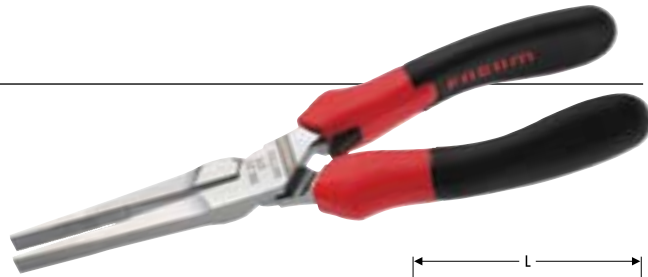


## ► Flat nose pliers

### 188.CPE Flat nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Serrated jaws for a firm grip.
- 188.E : Snipe nose version for confined spaces.



☞	A mm	B mm	C mm	D x E mm	L mm	ΔΔ g
<b>188.16CPE</b>	46	18	9	6,5 x 4,0	168	140
<b>188.20CPE</b>	75	18	9	6,5 x 4,0	200	200
<b>188E.16CPE</b>	46	18	9	3,5 x 2,5	168	130

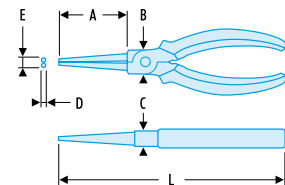
## ► Round-nose pliers

### Round nose pliers

#### 189.17CPE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- For shaping loops, bends or rings.
- Finely serrated jaws for positive grip.
- Ø at end of each tip : 2 mm.



☞	A mm	B mm	D x E mm	C mm	L mm	ΔΔ g
<b>189.17CPE</b>	41	18	2 x 4	9	170	135

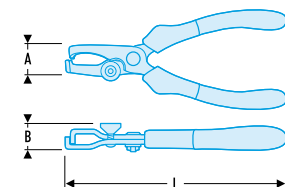
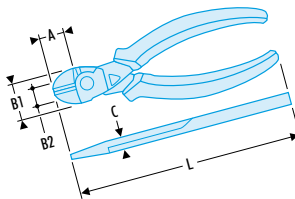
## ► Standard wire strippers

### Wire stripper

#### 189.17CPE

194.17: Standard forged pliers.

- For single and multi-core wires 0.5 to 6 mm<sup>2</sup>.
- Knurled adjustment screw with locknut.
- Metal return spring



☞	⊙ ⊗ mm <sup>2</sup>	A mm	B mm	L mm	ΔΔ g
<b>194.17CPE</b>	0,5 - 6	17	8,5	170	185



## ▶ Diagonal cutters

8E

## Varnished, polished pliers



**Ergonomic !**

- **Spatula-shaped pressure area**  
20% more slip-resistant  
Maximum comfort.  
Reduced pressure on the hand.
- **Return spring**  
Comfort and precision.  
The spring naturally wedges the handles snugly between fingers and palm.
- **Guard**  
Designed to provide a firm, comfortable grip for pushing or pulling pressure.



**Resistant**

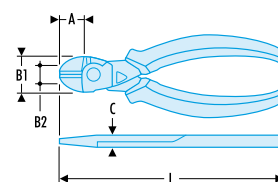
Sleeves made of high-performance materials chosen for their resistance to chemicals High-performance materials chosen for their resistance to workshop chemicals (Skydrol, chlorothene, acetone, petrol, etc...).

## 192.TE High-performance diagonal cutters

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Cutting edges designed to cleanly cut all types of wire : Piano wire, soft wire and modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

E	Ø max mm	∅ mm	A	B	C	L	ΔΔ
	200 kg/mm <sup>2</sup>	Cu	mm	mm	mm	mm	g
192.14TE	1,5	0,7 - 3,0	15,5	21,5	9,5	145	160
192.16TE	2,0	0,7 - 4,0	18	24	10	160	200
192.18TE	2,2	0,7 - 4,5	20	26	11	180	260
192.20TE	2,5	0,7 - 5,0	22	28	11,5	200	320



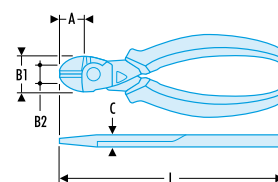
## Electricians diagonal cutters

## 391.16TE

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Snipe nose for confined spaces (electrical cabinets, wiring). Semi-flush cutting edges, designed to cleanly cut through all types of wire : Hard wires (max. 160 kg/mm<sup>2</sup>), thin copper wires, modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

E	∅ mm		B	A	C	L	ΔΔ
	160 kg/mm <sup>2</sup>	Cu	mm	mm	mm	mm	g
391.16TE	1,6	0,7 - 3,5	19	21	9	165	190



## ▶ Half-round nose pliers

### 185-195.TE Long half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips with a pipe-grip.
- Side cutter for copper and steel wire (max 160 kg/mm<sup>2</sup>).

185 : Straight nose.

195 : 40° angled nose.

E	∅ mm		D x E mm	A mm	B mm	C mm	L mm	ΔΔ g
	Cu	160 kg/mm <sup>2</sup>						
<b>185.20TE</b>	0,7 - 3,5	1,6	2,9 x 3,6	75	18	9	200	192
<b>195.20TE</b>	0,7 - 3,5	1,6	2,9 x 3,6	69	18	9	200	192



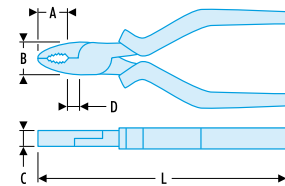
## ▶ Half-round nose pliers

### 187.TE Combination pliers

▷ ISO 5746, DIN ISO 5746, NF ISO 5746.

- Cutting edges designed to cut all types of wire : Piano wire, soft wire and modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

E	∅ max mm Fe wire 200 kg/mm <sup>2</sup>	A mm	B mm	C mm	D mm	L mm	ΔΔ g
<b>187.20TE</b>	2,0	42	26	11,5	15	205	300



## ▶ Flat nose pliers

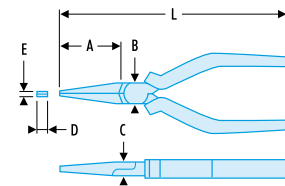
### Flat-nose pliers

#### 188.16TE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Serrated jaws for a firm grip.

E	A mm	B mm	D x E mm	C mm	L mm	ΔΔ g



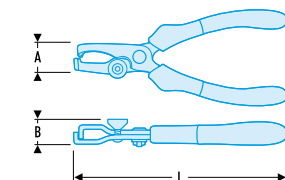
## ▶ Standard wire strippers

### 194.TE Wire stripper

194.17: Standard forged pliers.

- For single and multi-core wires 0.5 to 6 mm<sup>2</sup>.
- Knurled adjustment screw with locknut.
- Metal return spring

E	∅ mm <sup>2</sup>	A mm	B mm	L mm	ΔΔ g



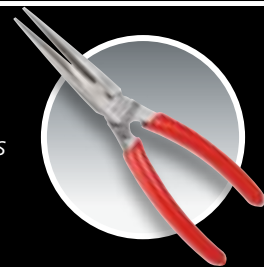
## ▶ Diagonal cutters

## Série "G" Varnished, polished pliers



## PVC GRIPS

- Identical characteristics and specifications to series CPE and TE.

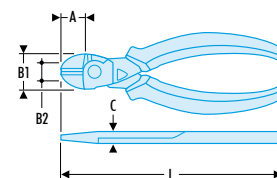
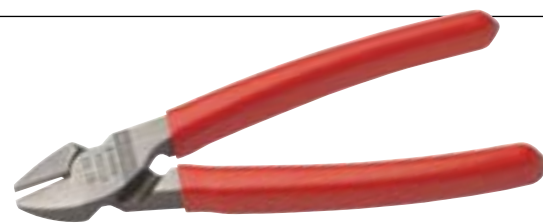


## 192.G High-performance diagonal cutters

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Cutting edges designed to cleanly cut all types of wire : Piano wire, soft wire and modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

Ø	Ø max mm 200 kg/mm <sup>2</sup>	∅ mm Cu	A mm	B mm	C mm	L mm	ΔΔ g
192.14G	1,5	0,7 - 3,0	15,5	21,5	9,5	145	130
192.16G	2,0	0,7 - 4,0	18	24	10	160	170
192.18G	2,2	0,7 - 4,5	20	26	11	180	230
192.20G	2,5	0,7 - 5,0	22	28	11,5	200	290



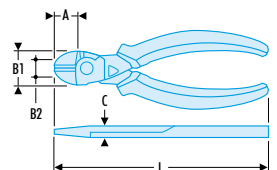
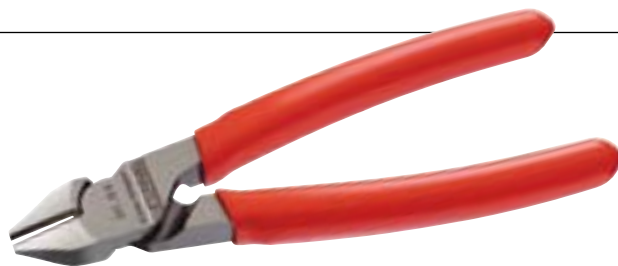
## Electricians diagonal cutters

## 391.16G

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Snipe nose for confined spaces (electrical cabinets, wiring).
- Semi-flush cutting edges, designed to cleanly cut through all types of wire : Hard wires (max. 160 kg/mm<sup>2</sup>), thin copper wires, modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

Ø	160 kg/mm <sup>2</sup>	∅ mm Cu	A mm	B mm	C mm	L mm	ΔΔ g
391.16G	1,6	0,7 - 3,5	21	19	9	165	160



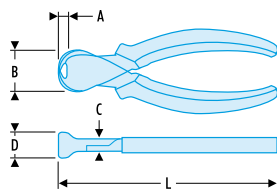
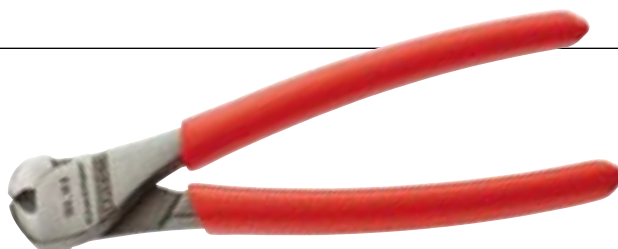
## ▶ End cutters

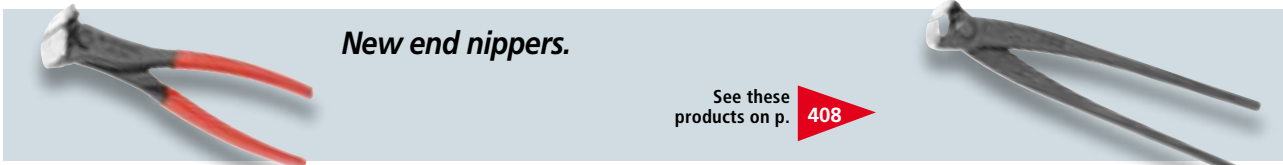
## 190.G High-performance end cutters

▷ ISO 5748, DIN ISO 5748, NF ISO 5748.

- Cutting edge designed to cleanly cut piano wire, hard and soft wire.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

Ø	Ø max mm 200 kg/mm <sup>2</sup>	A mm	B mm	C mm	D mm	L mm	ΔΔ g
190.16G	1,6	6,5	28	11,5	23	160	170
190.20G	2,0	7,5	31	13,5	29	200	310





*New end nippers.*

See these products on p. **408**

## ▶ Half-round nose pliers

### 185 - 195.G Long half-round nose pliers

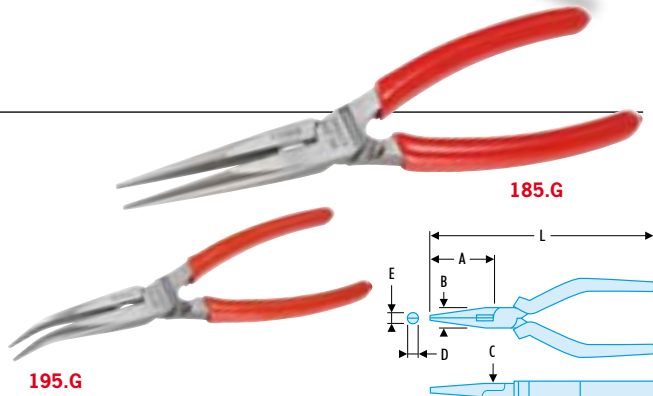
▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips with a pipe-grip.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).

185 : Straight nose.

195 : 40° angled nose.

E	∅ max mm	∅ maxi mm	D x E	A	B	C	L	ΔΔ
	Cu	160 kg/mm <sup>2</sup>	mm	mm	mm	mm	mm	g
<b>185.20G</b>	0,7 - 3,5	1,6	2,9 x 3,6	75	18	9	200	192
<b>195.20G</b>	0,7 - 3,5	1,6	2,9 x 3,6	69	18	9	200	192



### 193 Short half-round nose pliers

#### 193.16EG

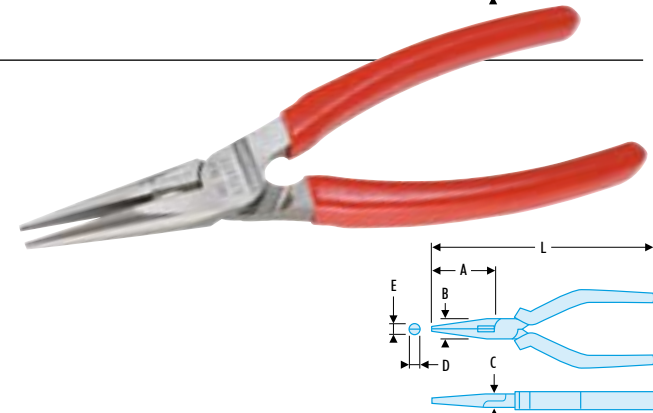
▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).

193 : Straight nose.

• (max 160 Kg/mm<sup>2</sup>).

E	∅ mm	D x E	A	B	C	L	ΔΔ
	Cu 160 kg/mm <sup>2</sup>	mm	mm	mm	mm	mm	g
<b>193.16G</b>	0,7 - 3,0	1,6	2,5 x 3,0	50	17	9	160 177



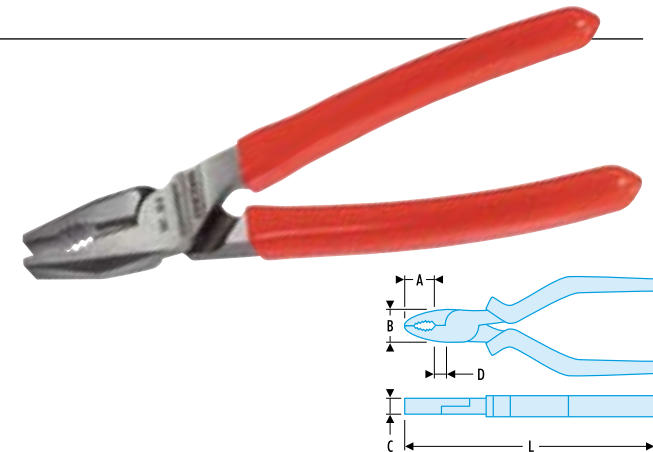
## ▶ Combination pliers

### 187.G Combination pliers

▷ ISO 5746, DIN ISO 5746, NF ISO 5746.

- Cutting edges designed to cut all types of wire : Piano wire, soft wire and modern materials.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

E	∅ max mm	A	B	C	D	L	ΔΔ
	Fe wire 200 kg/mm <sup>2</sup>	mm	mm	mm	mm	mm	g
<b>187.16G</b>	1,6	34	21	9,5	12	165	195
<b>187.18G</b>	1,8	36	23	10,0	13	185	225
<b>187.20G</b>	2,0	42	26	11,5	15	205	300



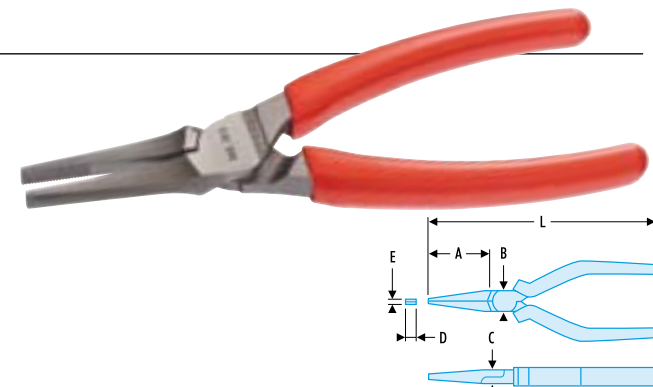
## ▶ Flat nose pliers

### 188.G Flat nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Serrated jaws for a firm grip.

E	A	B	C	D x E	L	ΔΔ
	mm	mm	mm	mm	mm	g
<b>188.16G</b>	46	18	9	6,5 x 4,0	168	140
<b>188.20G</b>	75	18	9	6,5 x 4,0	200	200





## ▶ Diagonal cutters



## "VE" series 1,000 Volt insulated pliers

**1000VOLTS**  
EN 60900



**Spatula-shaped pressure area, 20% more slip-resistant**

**Guard**

- Firm, comfortable grip for pushing or pulling pressure.

**Return spring for added**

- The elastomer spring closes off the metal parts of the tool and prevents the finger slipping towards the uninsulated area.

**Information****Certified electrical safety**

- Compliance with European standard EN 60900
- For working on live components up to 1,000 volts AC.
- Each tool is individually electrically tested to 10,000 volts for 10 seconds.
- Our production site is accredited and certified to produce insulated tools.

**Safety****Prevent damage to insulation from :**

- Heat (-20 to +70°C working temperature)
- Chemicals.
- Cuts or perforations

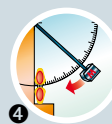
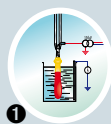
**Visually check the insulation before use.**

**Wear glasses and gloves.**

**Insulation tests**

(to European standard EN 60900)

- 1-10000 V immersion test      2-5000 V after penetration test  
3-Adhesion test after heating to 70°C      4-Impact test after chilling to -25°C  
5-Flame propagation test

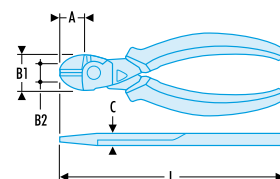
**192.VE 1,000 Volt insulated high-performance diagonal cutters**

▶ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Cutting edges designed to cleanly cut all types of wire : Piano wire, soft wire and modern materials, etc.
  - Long lever arm, offset pivot for minimum cutting effort.
  - High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.
- VDE tested.



Ø	Ø max mm 200 kg/mm <sup>2</sup>	∅ mm Cu	A mm	B mm	C mm	L mm	ΔΔ g
192.14VE	1,5	0,7 - 3,0	15,5	21,5	9,5	145	160
192.16VE	2,0	0,7 - 4,0	18	24	10	160	200
192.18VE	2,2	0,7 - 4,5	20	26	11	180	260




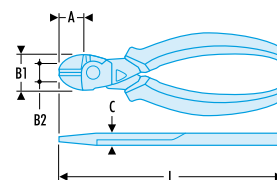
# 1,000 Volt VE series pliers

## 1,000 Volt insulated electricians diagonal cutters

### 391.16VE

▷ ISO 5749, DIN ISO 5749, NF ISO 5749.

- Snipe nose for confined spaces (electrical cabinets, wiring). Semi-flush cutting edges, designed to cleanly cut through all types of wire : Hard wires (max. 160 kg/mm<sup>2</sup>), thin copper wires, modern materials.
  - Long lever arm, offset pivot for minimum cutting effort.
  - High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRc.
- VDE tested. 




391.16VE	∅ mm		B	A	C	L	ΔΔ
	160 kg/mm <sup>2</sup>	Cu	mm	mm	mm	mm	g
	1,6	0,7 - 3,5	19	21	9	165	190

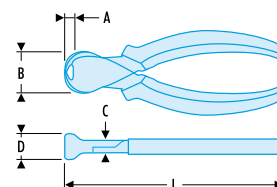
## ▶ End cutters

### 1,000 Volt insulated high-performance end cutters

#### 190.16VE

▷ ISO 5748 - DIN ISO 5748, NF ISO 5748.

- Cutting edge designed to cleanly cut piano wire, hard and soft wire.
  - Long lever arm, offset pivot for minimum cutting effort.
  - High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRc.
- VDE tested. 




190.16VE	∅ max mm	A	B	C	D	L	ΔΔ
	200 kg/mm <sup>2</sup>	mm	mm	mm	mm	mm	g
	1,6	6,5	28	11,5	23	160	200

## ▶ Half-round nose pliers

### 185 - 195.VE 1,000 Volt insulated long half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips.
  - Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).
- 185 : Straight nose.  
195 : 40° angled nose.
- VDE tested. 



185.VE



195.VE

185.20VE	∅ mm		D x E	A	B	C	L	ΔΔ
	Cu	160 kg/mm <sup>2</sup>						
	0,7 - 3,5	1,6	2,9 x 3,6	75	18	9	200	192
195.20VE	0,7 - 3,5	1,6	2,9 x 3,6	69	18	9	200	192




### 193 - 195.VE 1,000 Volt insulated short half-round nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Narrow, finely serrated tips.
- Side cutter for copper and hard steel wire (max 160 kg/mm<sup>2</sup>).

193 : Straight nose.

195 : 40° angled nose.

VDE tested. 

E	∅ mm		D x E mm	A mm	B mm	C mm	L mm	ΔΔ g
	Cu	160 kg/mm <sup>2</sup>						
193.16VE	0,7 - 3,0	1,6	2,5 x 3,0	50	17	9	160	177
195.16VE	0,7 - 3,0	1,6	2,5 x 3,0	50	17	9	160	177



### ► Combination pliers

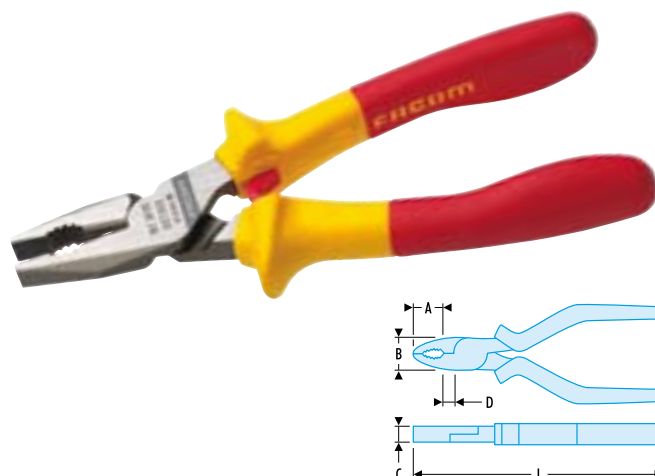
#### 187.VE 1,000 Volt insulated combination pliers

▷ ISO 5746, NF ISO 5746.

- Cutting edges designed to cut all types of wire : Piano wire, soft wire and modern materials, etc.
- Long lever arm, offset pivot for minimum cutting effort.
- High durability Chrome-Molybdenum-Vanadium steel, very hard cutting edges 61/63 HRC.

VDE tested. 

E	∅ max mm Fe wire 200 kg/mm <sup>2</sup>	A mm	B mm	C mm	D mm	L mm	ΔΔ g
187.18VE	1,8	36	23	10,0	13	185	225



### ► Flat nose pliers

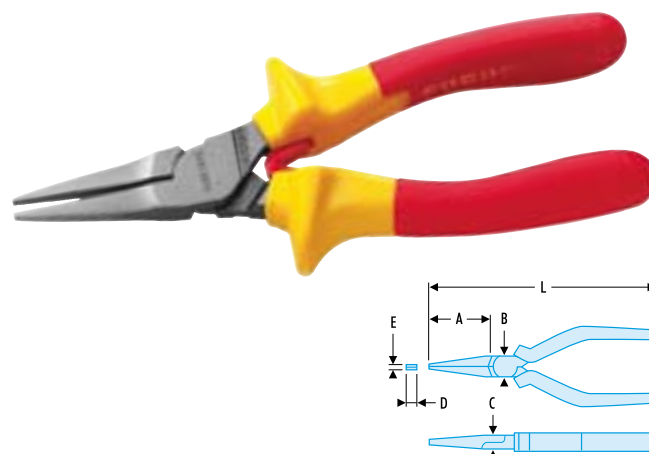
#### 188.VE 1,000 Volt insulated flat nose pliers

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- Serrated jaws for a firm grip.

VDE tested. 

E	A mm	B mm	C mm	D x E mm	L mm	ΔΔ g
188.20VE	75	18	9	6,5 x 4,0	200	200



# 1,000 Volt VE series pliers

## ▶ Round-nose pliers


### 1,000 Volt insulated round-nose pliers

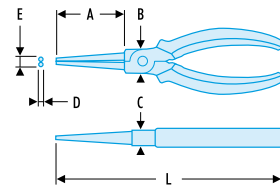
#### 189.17VE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745.

- For shaping loops, bends or rings.
- Finely serrated jaws for positive grip.
- $\varnothing$  at end of each tip : 2 mm.

VDE tested. 

	A	B	C	D x E	L	$\Delta\Delta$
	mm	mm	mm	mm	mm	g
<b>189.17VE</b>	41	18	9	2 x 4	170	135



## ▶ Standard wire strippers

### 1,000 Volt insulated wire stripper


#### 194.17VE

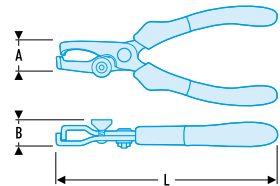
▷ EN 60900.

- For single and multi-core wires 0.5 to 6 mm<sup>2</sup>.

194.17 : Standard forged pliers.


- Knurled adjustment screw with locknut.
- Metal return spring.

	$\odot \otimes$	A	B	L	$\Delta\Delta$
	mm <sup>2</sup>	mm	mm	mm	g
<b>194.17VE</b>	0,5 - 6	17	8,5	170	185




### Multigrip pliers 180.VE - Riveted pivot



For the 180 VE plier range, see p. **374** 



### VSE insulated crimping pliers, wire strippers, etc.

See the electricity section, p. **622** 





## ► High-performance piano wire circlip® pliers



### High-performance circlip® pliers

#### INCREASED POWER AND DURABILITY

##### High-strength calibrated piano wire tips

- Invented by FACOM : reinforced piano wire\* tips : 15% stronger than the best on the market.
- Angled tips for better retention of circlips®.

**HIGH-STRENGTH TIPS**

Capacity markings.  
For easy tool selection.

INVENTED BY  
**FACOM**

Smooth-action joint for.  
**Reduced fatigue.**

Opening spring\*\* for.  
**Smooth operation.**

Forged non-slip pattern for.  
**A firm non-slip grip.**

- \* Except pliers E.9, standard tips.
- \*\* Except size 32.



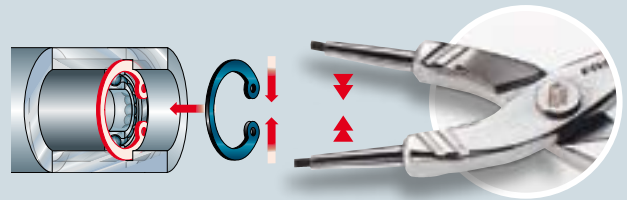
### Inside circlip® pliers

- Straight, 45° or 90° tip profiles.
- Chrome finish.



#### Safety

**Eye protection is recommended**



### 179E Straight-tip "compression" pliers

► DIN 5256, NF E 73-130, ASME B 107.19.

- For inside circlips®.
- 179E.15 /19/24 : with reinforced tips.

№	mm	mm Ø min - max	Length mm	ΔΔ g
179E.9	0,9	8 - 11	140	105
179E.13	1,3	12 - 25	140	105
179E.15	1,8	18 - 30	140	105
179E.18	1,8	18 - 60	185	175
179E.19	2,3	31 - 60	180	175
179E.23	2,3	31 - 100	215	260
179E.24	2,8	65 - 100	215	260
179E.32	3,2	85 - 200	310	395



## 169E 45°-tip "compression" pliers

▷ NF E 73-130, ASME B.107.19.

- For inside circlips®.

↻	mm	mm Ø min - max	Length mm	ΔΔ g
169E.9	0,9	8 - 11	140	110
169E.13	1,3	12 - 25	140	110
169E.18	1,8	18 - 60	180	150
169E.23	2,3	31 - 100	215	210



## 199E 90°-tip "compression" pliers

▷ DIN 5256, NF E 73-130, ASME B 107.19.

- For inside circlips®.

- 199E.15 : with reinforced tips.

↻	mm	mm Ø min - max	Length mm	ΔΔ g
199E.9	0,9	8 - 11	130	105
199E.13	1,3	12 - 25	130	105
199E.15	1,8	18 - 30	130	105
199E.18	1,8	18 - 60	170	175
199E.23	2,3	31 - 100	205	260
199E.32	3,2	85 - 200	290	395



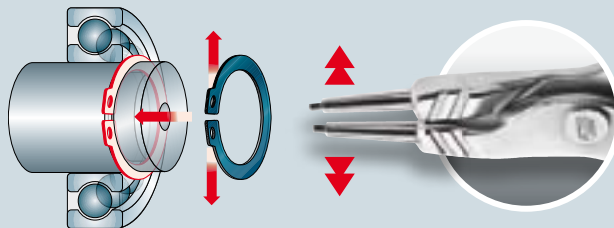
## Outside circlip® pliers

- Straight, 45° or 90° tip profiles.
- Chrome finish.



### Safety

Eye protection is recommended



## 177E Straight-tip "expansion" pliers

▷ DIN 5254, NF E 73-130, ASME B 107.19.

- For outside circlips®.

- 177E.15/19/24 : with reinforced tips.

↻	mm	mm Ø min - max	Length mm	ΔΔ g
177E.9	0,9	3 - 10	150	105
177E.13	1,3	10 - 25	150	105
177E.15	1,8	18 - 30	150	105
177E.18	1,8	18 - 60	180	175
177E.19	2,3	32 - 63	190	120
177E.23	2,3	32 - 100	215	260
177E.24	2,8	65 - 100	215	200
177E.32	3,2	85 - 200	310	395



## 167E 45°-tip "expansion" pliers

▷ NF E 73-130, ASME B 107.19.

- For outside circlips®.

↻	mm	mm Ø min - max	Length mm	ΔΔ g
167E.9	0,9	3 - 10	145	105
167E.13	1,3	10 - 25	145	105
167E.18	1,8	18 - 60	175	175
167E.23	2,3	32 - 100	215	260



## 197E 90°-tip "expansion" pliers

▷ DIN 5254, NF E 73-130, ASME B 107.19.

• For outside circlips®.

➤	mm	mm Ø min - max	Length mm	ΔΔ g
<b>197E.9</b>	0,9	3 - 10	140	105
<b>197E.13</b>	1,3	10 - 25	140	105
<b>197E.18</b>	1,8	18 - 60	170	175
<b>197E.23</b>	2,3	32 - 100	200	260
<b>197E.32</b>	3,2	85 - 200	290	395



## 4-piece circlip® plier module

**MOD.PC1PB**

• Comprising :

- Inside circlip® pliers 177E.18 (straight tip) ,and 197E.18 (90° tip).

- Inside circlip® pliers 179E.18 straight tip ,and 199E.18 (90° tip).

• Tray PL.332.

ΔΔ : 930 g.

▶ **Machined-nose pliers****Machined-nose pliers**

- Inverted cone tips for secure retention of circlips®.
- Special heat-treated steel inserts for optimum strength.
- Spring-assisted opening.
- Varnished finish, PVC sheathing.

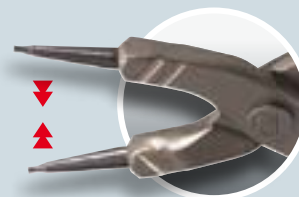
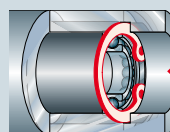
**Inside circlip® pliers**

- Straight, 45° or 90° tip profiles.
- Varnished finish, PVC sheathing.



**Safety**

**Eye protection is recommended**

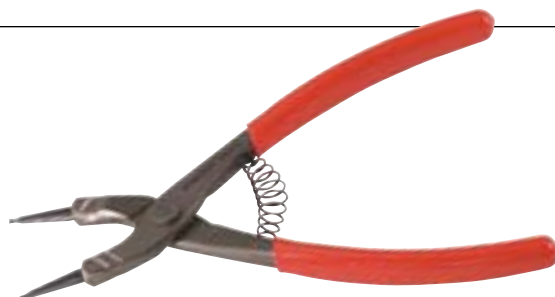


## 179G Straight-tip "compression" pliers

▷ DIN 5256, NF E 73-130, ASME B 107.19.

• For inside circlips®.

➤	mm	mm Ø min - max	Length mm	ΔΔ g
<b>179G.9</b>	0,9	8 - 11	140	120
<b>179G.13</b>	1,3	12 - 25	145	120
<b>179G.18</b>	1,8	18 - 60	185	190
<b>179G.23</b>	2,3	31 - 100	215	275



## 169G 45°-tip "compression" pliers

▷ NF E 73-130, ASME B.107.19.

• For inside circlips®

☞	☞ mm	⊙ mm ∅ min - max	Length mm	ΔΔ g
<b>169G.9</b>	0,9	8 - 11	140	120
<b>169G.13</b>	1,3	12 - 25	140	120
<b>169G.18</b>	1,8	18 - 60	180	190
<b>169G.23</b>	2,3	31 - 100	215	275



## 199G 90°-tip "compression" pliers

▷ DIN 5256, NF E 73-130, ASME B 107.19.

• For inside circlips®.

☞	☞ mm	⊙ mm ∅ min - max	Length mm	ΔΔ g
<b>199G.9</b>	0,9	8 - 11	130	120
<b>199G.13</b>	1,3	12 - 25	130	120
<b>199G.18</b>	1,8	18 - 60	170	190
<b>199G.23</b>	2,3	31 - 100	205	275



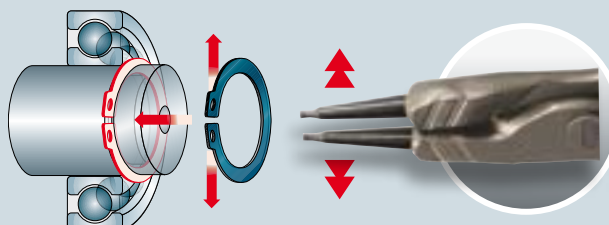
## Outside circlip® pliers

- Straight, 45° or 90° tip profiles.
- Varnished finish, PVC sheathing.



**Safety**

*Eye protection is recommended*



## 177G Straight-tip "expansion" pliers

▷ DIN 5254, NF E 73-130, ASME B 107.19.

• For inside circlips®.

☞	☞ mm	⊙ mm ∅ min - max	Length mm	ΔΔ g
<b>177G.9</b>	0,9	8 - 11	150	120
<b>177G.13</b>	1,3	10 - 25	150	120
<b>177G.18</b>	1,8	18 - 60	180	190
<b>177G.23</b>	2,3	32 - 100	215	275

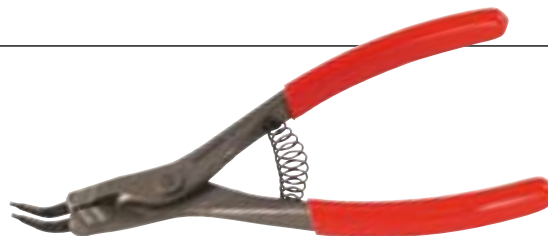


## 167G 45°-tip "expansion" pliers

▷ NF E 73-130, ASME B 107.19.

• For inside circlips®.

☞	☞ mm	⊙ mm ∅ min - max	Length mm	ΔΔ g
<b>167G.9</b>	0,9	3 - 10	145	120
<b>167G.13</b>	1,3	10 - 25	145	120
<b>167G.18</b>	1,8	18 - 60	175	190
<b>167G.23</b>	2,3	32 - 100	210	275



## 197G 90°-tip "expansion" pliers

▷ DIN 5254, NF E 73-130, ASME B 107.19.

• For inside circlips®.

☞	☞ mm	⊙ mm ∅ min - max	Length mm	ΔΔ g
<b>197G.9</b>	0,9	3 - 10	140	120
<b>197G.13</b>	1,3	10 - 25	140	120
<b>197G.18</b>	1,8	18 - 60	170	190
<b>197G.23</b>	2,3	32 - 100	200	275





## 4-piece circlip® plier module®

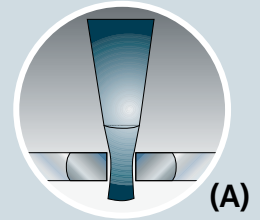
**MOD.PC2PB**

- Comprising :
  - Inside circlip® pliers 177G.18 (straight tip) ,and 197G.18 (90° tip).
  - Inside circlip® pliers 179G.18 straight tip ,and 199G.18 (90° tip).
- Tray PL.332.
- ΔΔ : 930 g.



## Choosing the right circlip® pliers

- Always select the nearest tip diameter to the size of circlip® holes (A)
- Never attempt to reshape the tips of the pliers.
- Safety first : Always wear eye protection when handling circlips®.



## ▶ Large-capacity pliers

## 479-499 Rack-type "compression" pliers for inside circlips®

- Interchangeable tips.
  - Rack holds circlips® compressed for easy fitting and removal.
  - Chrome finish, red PVC grips.
- 479.32 : straight tips.  
499.32 : 45° tips.

🔧	Tips	mm	mm Ø min - max	Length max	ΔΔ g
<b>479.32</b>		3,2	85 - 200	310	480
<b>499.32</b>		3,2	85 - 200	310	480



## 477-497 Rack-type "expansion" pliers for outside circlips® pliers

- Similar overall design to 479-499.
- 477.32 : straight tips.  
497.32 : 45° tips.

🔧	Tips	mm	mm Ø min - max	Length mm	ΔΔ g
<b>477.32</b>		3,2	85 - 200	310	480
<b>497.32</b>		3,2	85 - 200	310	480



## 490.SE Spare tips for pliers 477 to 499

- Each reference includes 2 tips and 2 screws.

🔧	Tips	mm	mm Ø min - max
<b>490.SE28-1</b>		2,8	65 - 120
<b>490.SE32-1</b>		3,2	85 - 200
<b>490.SE38-1</b>		3,8	120 - 200
<b>490.SE28-2</b>		2,8	65 - 120
<b>490.SE32-2</b>		3,2	85 - 200
<b>490.SE38-2</b>		3,8	120 - 200





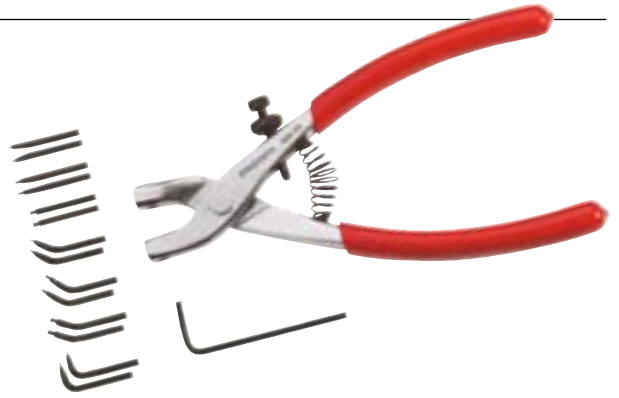
### Inside circlip® pliers

#### 469

- Interchangeable tips for Ø 8 to 63 mm.
- Screw-stop adjustment.
- Spring-assisted opening.
- Chrome finish, red PVC grips.
- Supplied in a wallet with a key and set of tips E1 - E2 - E3 - E5 - E6 - E8 - E9.

ΔΔ : 160 g.

➤	Description
<b>467.01AJ2</b>	Set of spare screws



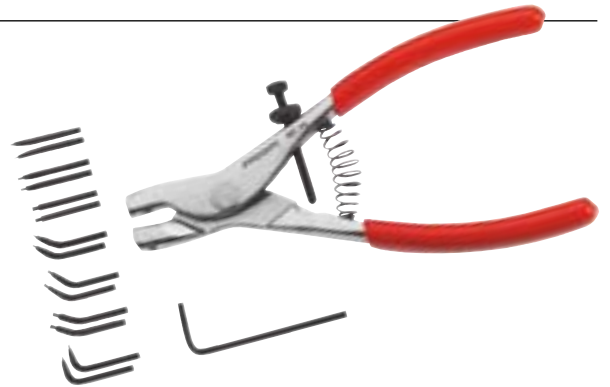
### Outside circlip® pliers.

#### 467

- Interchangeable tips for Ø 3 to 63 mm.
- Screw-stop adjustment.
- Spring-assisted opening.
- Chrome finish, red PVC grips.
- Supplied in a wallet with a key and set of tips E1 - E2 - E3 - E5 - E6 - E8 - E9.

ΔΔ : 160 g.

➤	Description
<b>467.01AJ2</b>	Set of spare screws



### 470E Spare tips for circlip® pliers 467 and 469

- Available as straight, 45° and 90°-tip.
- Each reference includes a set of 2 tips.

➤	Tips	mm	mm Ø min - max	mm Ø min - max
<b>470.E1</b>		0,9	8 - 12	3 - 10
<b>470.E2</b>		0,9	8 - 12	3 - 10
<b>470.E3</b>		0,9	8 - 12	3 - 10
<b>470.E5</b>		1,3	12 - 25	10 - 25
<b>470.E6</b>		1,3	12 - 25	10 - 25
<b>470.E7</b>		1,3	12 - 25	10 - 25
<b>470.E8</b>		1,8	19 - 63	19 - 63
<b>470.E9</b>		1,8	19 - 63	19 - 63
<b>470.E10</b>		1,8	19 - 63	19 - 63



### ▶ Snap-ring pliers

#### 411A Outside snap-ring pliers

- Special tips for snap-rings and spring clips.
- Chrome finish, PVC grips.

➤	mm Ø min - max	Length mm	ΔΔ g
<b>411A.17</b>	15 - 62	150	190
<b>411A.20</b>	60 - 160	190	275

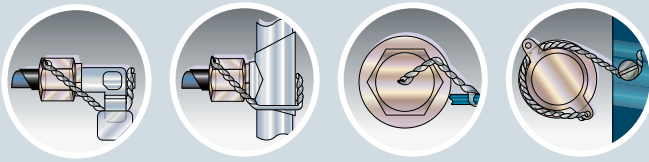




## Facom locking-wire pliers

**Fast twist in lock-wire securing assemblies subject to vibration.**

- For stainless and Inconel wire  $\varnothing$  1 mm.
- Side wire-cutter.
- Slim nose-tip for optimum manoeuvrability.
- 10" model: 3 turns, 125 mm travel.
- 8" model: 2.5 turns, 95 mm travel.

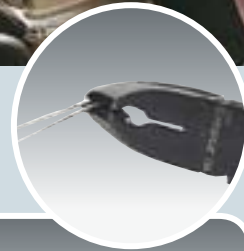


### An extensive range

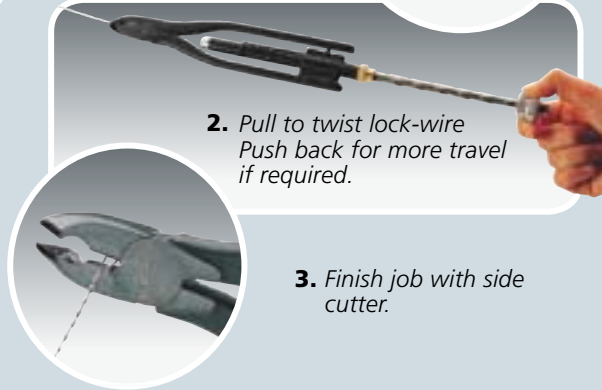
- Compact model for locking fasteners standard pliers cannot reach.
- Automatic-reset model for simplicity and time-saving.
- Reversible model for working in either direction.
- An extensive range



**1.** Both wire ends gripped in nose.



**2.** Pull to twist lock-wire  
Push back for more travel if required.



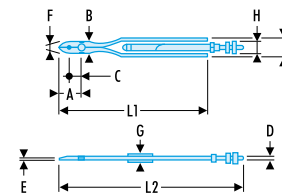
**3.** Finish job with side cutter.

## Locking-wire pliers

### Short locking-wire pliers (8")

- 445.8 : standard model.  $\Delta\Delta$  245 g.
- 445.8R : "automatic" model.  $\Delta\Delta$  245 g.
- 445.8DS : reversible model.  $\Delta\Delta$  260 g.
- For stainless wire  $\varnothing$  1 mm.

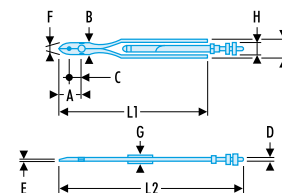
	F	G	A	B	C	D	E	H	$\varnothing$ Stain-less max mm	I	L1	L2	$\Delta\Delta$ g
<b>445.8</b>	3	15	20	15	7	10,5	2,5	22	1	37	170	215	245
<b>445.8R</b>	3	15	20	15	7	10,5	2,5	22	1	37	170	215	245
<b>445.8DS</b>	3	23	21,5	15	7	10,5	2,5	31,5	1	37	170	215	260



### Locking-wire pliers (10")

- 445.10 : standard model.
- 445.10R : "automatic" model
- 445.10DS : reversible model.

	F	G	E	A	B	C	D	H	I	$\varnothing$ Stain-less max mm	L1	L2	$\Delta\Delta$ g
<b>445.10</b>	3	15,5	2,5	30	19	11	11,5	25	40	1	230	360	395
<b>445.10R</b>	3	15,5	2,5	30	19	11	11,5	25	40	1	230	360	400
<b>445.10DS</b>	3	15,5	2,5	30	20	11	11,5	31,5	44	1	230	360	445





## ► "T5" lock-grip pliers

### Ergonomic and safe lock-grip pliers



# T5

**SAFE, PRACTICAL AND ERGONOMIC**

Articulated upper jaw for a clearer view of workpieces.

Thumbscrew jaw adjustment.

Totally enclosed mechanism and screw.

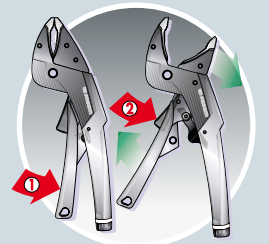
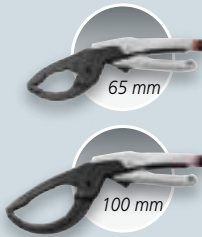
Smooth-action release trigger.

Fixed lower jaw for resting on a workbench or clamping in a vice.

Multipurpose forged and hardened jaws.  
Capacity 40 mm  
65 mm 100 mm

**Smooth, controlled release.**

**ONE-HAND OPERATION**



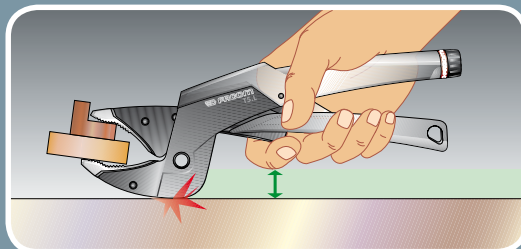
### T5 : Increased safety.

#### No shocks to the hand

- The trigger system eliminates shocks to the hand on release.

#### Hand protection

- Good finger clearance between lever and work surface.



### T5 : More practical and ergonomic.

#### One-hand operation

- The pliers clamp and release with one hand even when very tight.
- Leaves the other hand free to hold components.

#### Controlled release

- The trigger system ensures progressive and controlled release.
- T5 pliers maintain pressure and components remain assembled between the jaws during unclamping.

#### Ergonomic

- Ergonomic sheathed handles and demultiplication reduces fatigue.

# Lock-grip pliers

## T5.L Aluminium-sheathed trigger-release lock-grip pliers

- Ergonomic aluminium sheathing, protects against weld spatter.
- Controlled, progressive release.
- Practical and comfortable : one-handed operation, small grip opening at all jaw openings.
- Forged in Chrome Molybdenum steel with treated jaws for a longer working life.

Ref	Dimensions mm	Opening maxi mm	ΔΔ g
<b>T5.L</b>	250 x 75 x 22	Ø 40 mm	631
<b>T5.L65</b>	290 x 80 x 22	Ø 65 mm	819
<b>T5.L100</b>	320 x 100 x 22	Ø 100 mm	943



**T5.L**



**T5.L65**



**T5.L100**



## Plastic-sheathed trigger-release lock-grip pliers

### T5.1L

- Ideal for on-site maintenance.
  - Controlled, progressive release.
  - Practical and comfortable : One-handed operation, small grip opening.
  - Forged in Chrome Molybdenum steel with treated jaws for a longer working life.
  - Dimensions 250 x 75 x 22 mm.
- ΔΔ : 565 g.





## "Original 500" lock-grip pliers

**LARGE CAPACITY LOCKS ON TO ANY SHAPE**



Round up to 135 mm



Hexagonal up to 125 mm



Angle section up to 70 mm



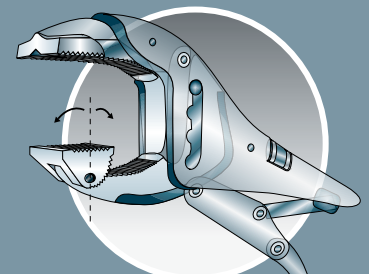
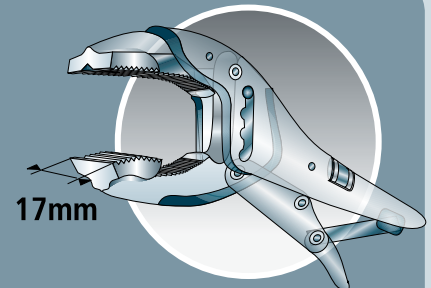
**"ORIGINAL 500" lock-grip pliers feature the efficient slip-joint developed by Facom.**

- Wide opening.
- Constantly parallel jaws.
- Reach beyond edges up to 70 mm high.



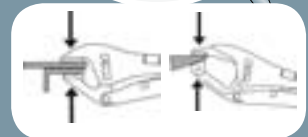
**Jaws engineered for secure grip.**

- 17 mm wide.
- Machined groove in upper jaw holds small round sections.
- Serrations along full jaw length.
- Chrome-molybdenum steel. For better wear resistance.



**Hinged tip versions.**

- To adapt to any grip configuration. Moving-tip option on model 506/516.



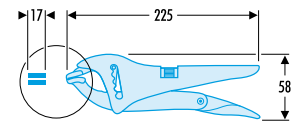
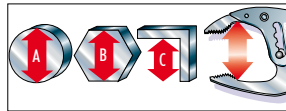


## ► Large-capacity lock-grip pliers

### Short-nose pliers

#### 500

- 4-position slip joint system.
  - Chrome finish.
- ΔΔ : 540 g.

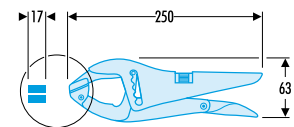
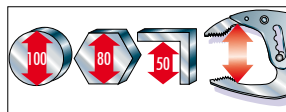


### 501 - 506 Long-nose pliers

- 501 :
  - 4-position slip joint system.
  - Chrome finish.

ΔΔ : 620 g.
- 506 - Type 501 with hinged tip.
  - The hinged jaw tip adapts to any grip configuration.
  - 4-position slip joint system.

ΔΔ : 640 g.

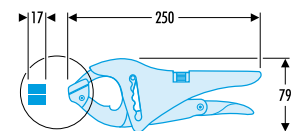
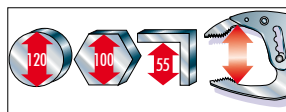


### 511 - 516 5-position slip joint long-nose pliers

- 511 :
  - 5-position slip joint for increased capacity.
  - Chrome finish.

ΔΔ : 680 g.
- 516 - Type 511 with hinged tip.
  - The hinged jaw tip adapts to any grip configuration.
  - 5-position slip joint system.

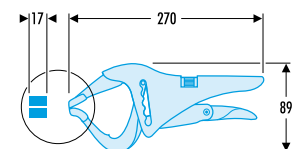
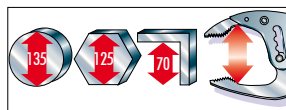
ΔΔ : 695 g.



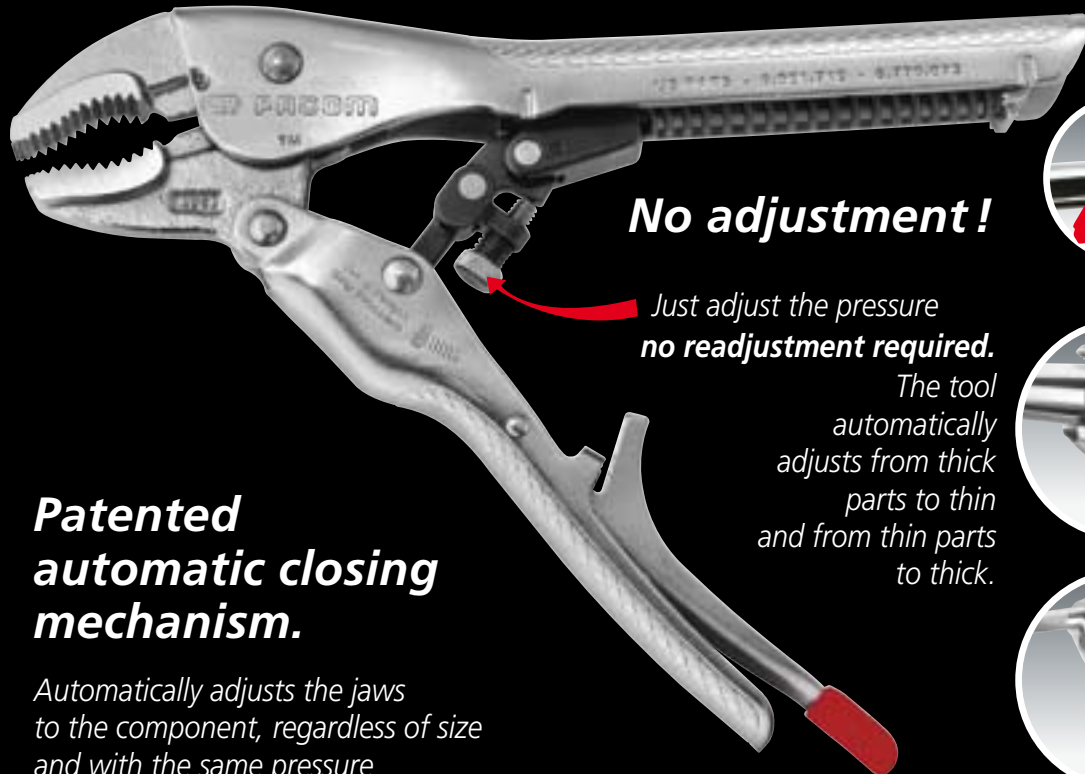
### 5-position slip joint large-capacity pliers

#### 505

- 5-position slip joint, deep jaw.
  - Chrome finish.
- ΔΔ : 720 g.





**New****SERIES 580 : Automatic lock-grip pliers***Ideal for saving time and for production work.***No adjustment !***Just adjust the pressure  
no readjustment required.**The tool  
automatically  
adjusts from thick  
parts to thin  
and from thin parts  
to thick.***Patented  
automatic closing  
mechanism.***Automatically adjusts the jaws  
to the component, regardless of size  
and with the same pressure***► Automatic lock-grip pliers****580 Multi-purpose angle-nose lock-grip pliers**

- Suitable for industrial and automotive production and maintenance applications.
- Forged in Chrome Molybdenum steel with treated jaws for longer working life.
- Non-slip chequered handle.
- One-hand unlocking by internal opening lever.
- Chrome finish, burnished mechanism (patented).

►	L x H mm	A mm	B mm	C mm	ΔΔ g
<b>580.6</b>	150 x 45	30	21	8	235
<b>580.10</b>	250 x 63	38	30	12	642

**Long-nose lock-grip pliers****582.7**

- For holding, placing or removing components where access is difficult.
- Tips designed for holding flat or circular sections.
- Forged in Chrome Molybdenum steel with treated jaws for longer working life.
- Non-slip chequered handle.
- One-hand unlocking by internal opening lever.
- Chrome finish, burnished mechanism (patented).

►	L x H mm	A mm	B mm	C mm	ΔΔ g
<b>582.7</b>	175 x 45	45	61	5,5	256



## ► Compact lock-grip pliers



### 507 series compact lock-grip pliers



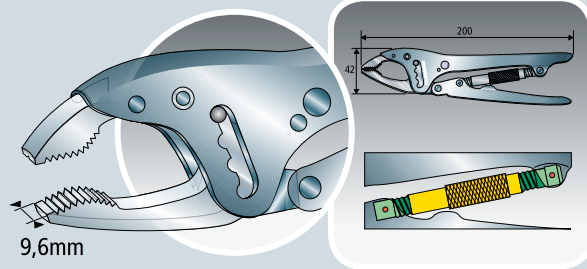
#### The "compact 507" range offers two major benefits

**Versatility** provided by the slip-joint system designed and developed by Facom that combines :

- Wide opening.
- Constantly parallel jaws
- Reach beyond edges.

#### **Slim profile and precision**

- Compact tool with narrow nose.
- Fine adjustment with the unique Facom knurl system.

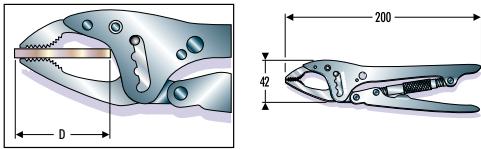


## Short-nose lock-grip pliers

### 507A

- Forged jaws.
- Chrome finish.
- Length 200 mm.

ΔΔ : 330 g.

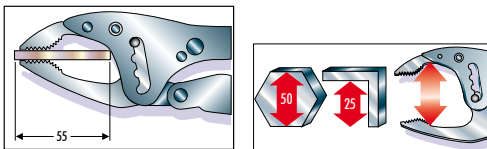


## Long-nose lock-grip pliers

### 509

- Forged jaws.
- Chrome finish.
- Length : 215 mm.

ΔΔ : 370 g.

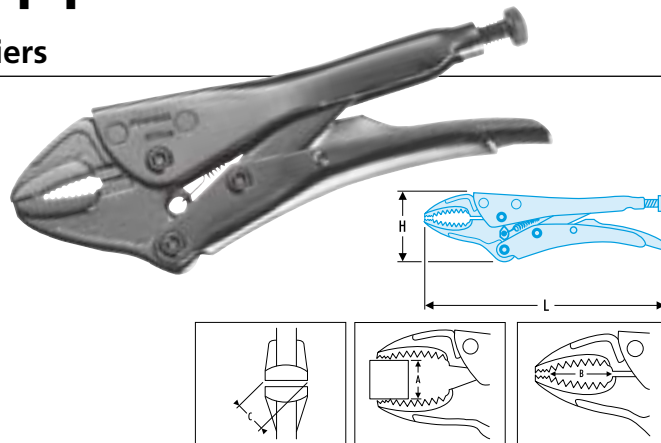


## ► "Single-setting" lock-grip pliers

### 513 Short-nose single setting lock-grip pliers

- Slim jaws.
- Hand-screw adjustment.
- Black cataphoretic finish.

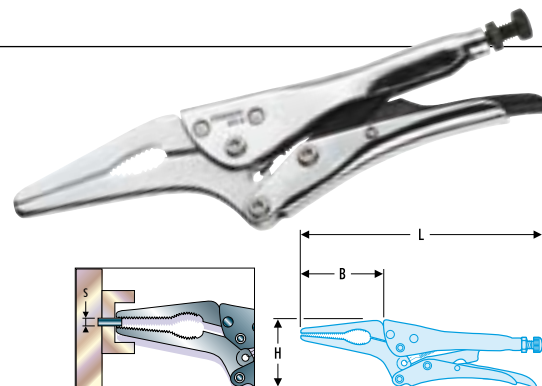
FOB	L x H mm	A mm	B mm	C mm	ΔΔ g
<b>513.5</b>	140 x 49	25	18	6,4	180
<b>513A.7</b>	190 x 59	35	27	9,0	380
<b>513.10</b>	235 x 71	55	35	10,3	628



### 517 Long-reach single setting lock-grip pliers

- For reaching and gripping components in confined spaces.
- Chrome finish.

FOB	S max mm	B mm	H mm	L mm	ΔΔ g
<b>517.6</b>	55	50	48	165	200
<b>517.10</b>	70	80	60	235	430



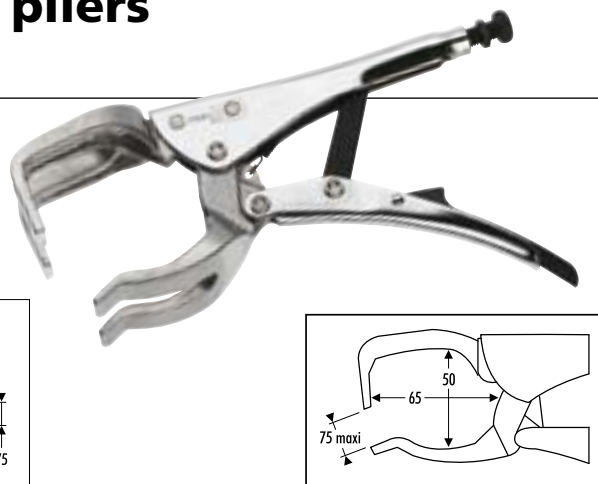
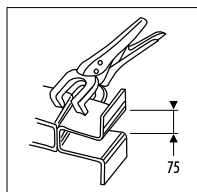
## ► "Metalworking" lock-grip pliers

### Arc-welding lock-grip pliers

#### 502A

- Light alloy spatter-proof jaws.
- Steel body.
- Secure and precise alignment of work pieces.
- Ample clearance for the welding tool.
- Chrome finish.
- Dimensions 280 x 82 x 70 mm.

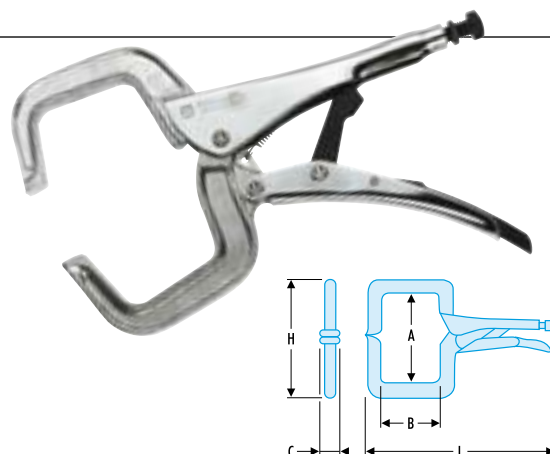
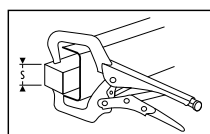
ΔΔ : 735 g.



### 504A "C-clamp" arc-welding lock-grip pliers

- Light alloy spatter-proof jaws.
- Steel body.
- Secure clamp for welding shaped or angled sections, and channels.
- Chrome finish.

FOB	S max mm	A mm	B mm	C mm	H mm	L mm	ΔΔ g
<b>504A.100</b>	80	100	65	12	147	280	655
<b>504A.180</b>	125	180	120	20	240	350	927



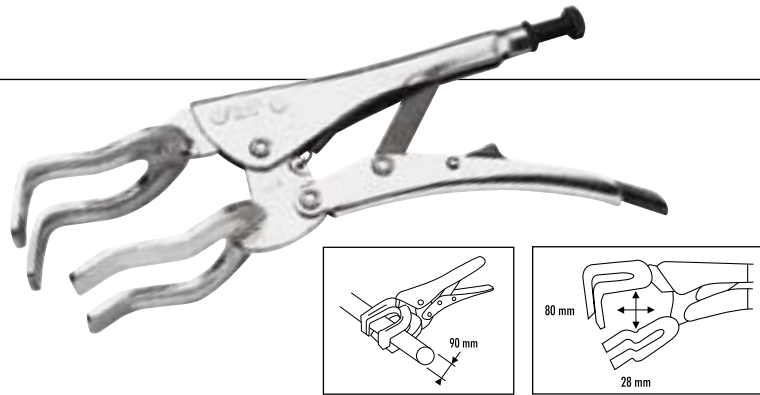
# Lock-grip pliers

## Lock-grip pliers for round sections

### 503

- Secure clamping of round sections.
- Pressed-steel jaws and body.
- Chrome finish.
- Dimensions 280 x 85 x 68 mm.

ΔΔ : 945 g.

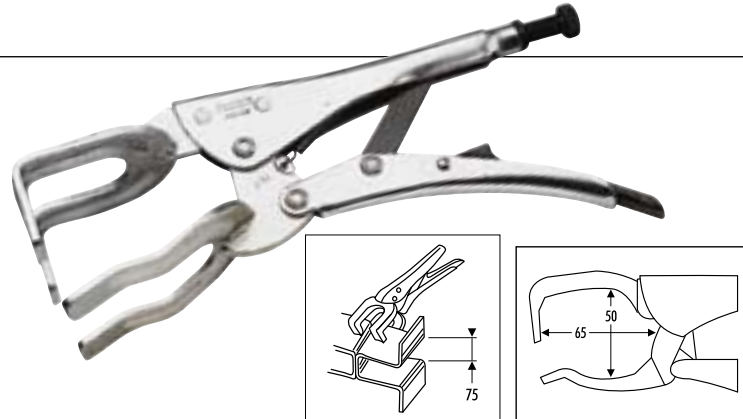


## Lock-grip pliers for angle sections

### 512

- Secure clamping of angle and channel sections.
- Pressed-steel jaws and body.
- Chrome finish.
- Dimensions 280 x 85 x 70 mm.

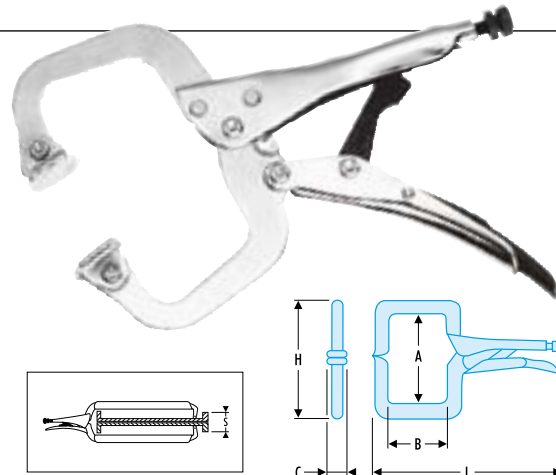
ΔΔ : 953 g.



## 514A - 514A.R Long-reach lock-grip pliers

- Special forged-steel jaws for secure clamping of angle sections and deep channels.
- Pressed-steel body.
- Chrome finish.
- "R" models have hinged shoes at their tips.

	S max mm	A mm	B mm	C mm	H mm	L mm	ΔΔ kg
<b>514.45R</b>	45	60	45	19	90	175	0,270
<b>514A.65</b>	70	100	65	12	150	300	0,905
<b>514A.240</b>	230	100	240	20	165	460	1,420
<b>514A.240R</b>	230	100	240	32	165	460	1,530
<b>514A.400</b>	370	100	400	20	165	630	1,705

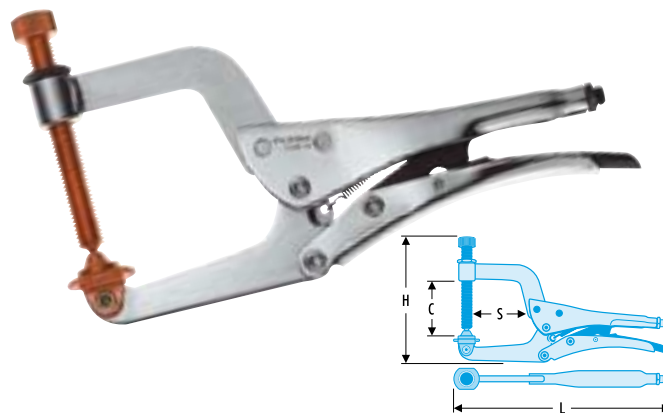


## ► Bar clamp lock-grip pliers

### 520A Lock-grip G-clamps

- Coppered screw with swivel shoe.
- Fine setting with locknut.
- Chrome finish.

	S mm	C mm	L mm	H mm	ΔΔ kg
<b>520A.70</b>	70	70	280	165	1,02
<b>520A.100</b>	70	100	280	196	1,095
<b>520A.170</b>	70	170	280	270	1,250

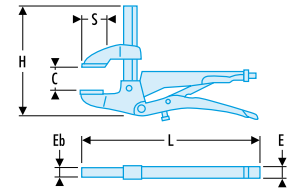




## 521 G-clamp pliers with sliding jaw

- Clamping force 4,000 N, adjustable.
- Zinc-plated, forged and hardened sliding jaw.
- Case-hardened and chromed teeth.
- Lower jaw angle screw-adjustable through 9°.
- Chrome finish.

	C max mm	Eb mm	S mm	E mm	H mm	L mm	ΔΔ kg
<b>521.100</b>	100	15	65	28	190	260	1,02
<b>521.150</b>	150	15	65	28	240	260	1,11
<b>521.200</b>	200	15	65	28	290	260	1,18



## End nippers

### High-performance nippers and cutters

**CUTTING EFFORT REDUCED TO A MINIMUM**  
For tying and cutting in one operation

#### Clean cut.

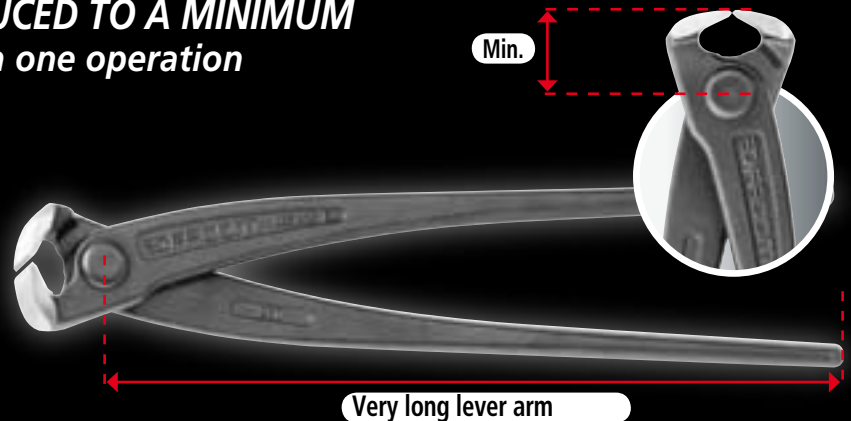
- Cutting edges sharpened after heat treatment for cleanly cutting lacing cord.

#### Maximum cutting power.

- Offset pivot.

#### Maximum accessibility.

- Tapered shape.

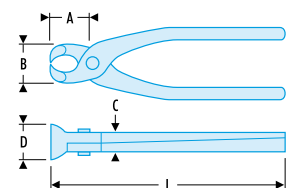


**New**

### 495A Heavy-duty end nippers

▷ ISO 9242, DIN ISO 9242, NF ISO 9242.

- Rounded, semi-rigid handles designed to turn quickly in the hand.
- 60/62 HRc high-frequency hardened cutting edges for long life.
- Cutting capacity;
  - To Ø 4.5 mm on soft wire (300 mm model).
  - Max. on hard wire 160 Kg/mm<sup>2</sup>.
- Burnished finish, polished head.



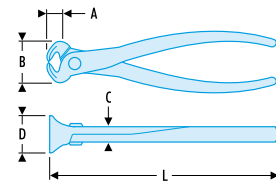
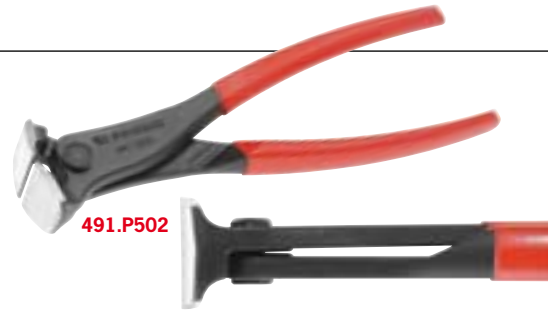
	A mm	B mm	C mm	L mm	D mm	ΔΔ g
<b>495A.20EL</b>	10	28	12	200	20	240
<b>495A.22EL</b>	10,5	31	13	23	23	310
<b>495A.25EL</b>	12	35	14	250	25	390
<b>495A.28EL</b>	12	35	14	280	25	450
<b>495A.30EL</b>	12	35	14	300	25	510

**New**

## 491 End nippers

▷ ISO 5748, DIN ISO 5748, NF ISO 5748.

- Protruding cutting edges, for mild and hard wire (max. 160 Kg/mm<sup>2</sup>).
- Offset pivot for maximum cutting power.
- 60/62 HRC high-frequency hardened cutting edges for long life.
- Burnished finish, polished head, PVC grips.



№	∅ maxi mm 160 kg/mm <sup>2</sup>	A mm	B mm	C mm	D mm	L mm	ΔΔ g
<b>491.18G</b>	2,6	11,5	39	14,6	32	180	300
<b>491.20G</b>	3,0	11,5	39	14,6	32	200	400
<b>491.22G</b>	3,6	12,7	43	14,6	34	220	450



For bolt croppers see p. **503**

For PVC grip pliers see p. **386**

## Special pliers

### ► Plastics cutters

i

## Plastics cutters

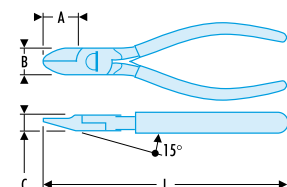
*Special cutters to remove tails and burrs from injection-moulded components*  
*HF hardened cutting edges and flush cut for clean result*

**FLUSH CUT**

## 395 Plastics cutters

- 2 joint and length sizes.
- Polished burnish finish, red PVC grips.
- Spring-assisted opening.

№	∅ maxi mm	A mm	B mm	C mm	L mm	ΔΔ g
<b>395.14</b>	6	20	16	10	140	115
<b>395.16</b>	7	22	18	11	160	150

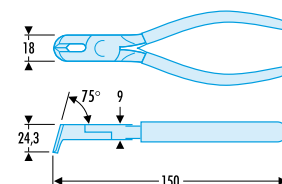


## 75° plastics cutters

## 396

- 75° cutting edges.
- Polished burnish finish, red PVC grips.
- Spring-assisted opening.

△△ : 145 g.

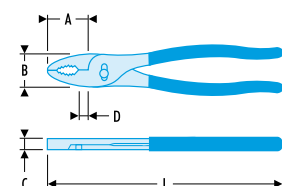


## ▶ Motorists pliers

## 186 Motorists pliers

▷ ISO 9343, DIN ISO 9343, NF ISO 9343, ASME B 107.23 M.

- 2-position adjustable slip-joint.
- Slim nose for accessibility.
- Chrome finish, red PVC grips.



Model	A mm	B mm	C mm	D mm	L mm	△△ g
186.7CPG	31	29	9,0	6,5	166	170
186.8CPG	35	31	10,5	7,5	204	270

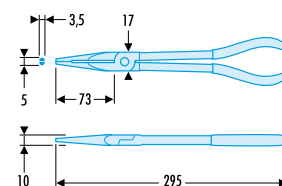
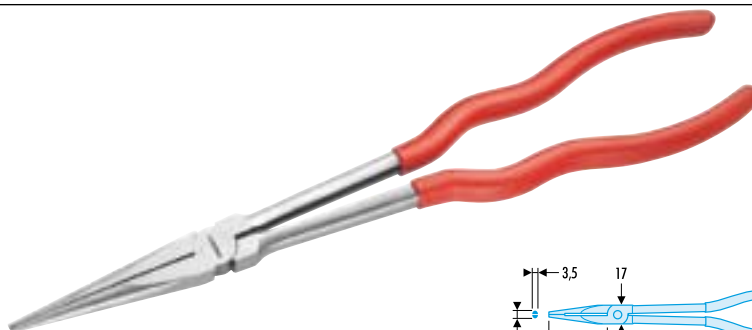
## ▶ Extra-long reach half-round nose pliers

## Extra-long reach half-round nose pliers

## 185.28EG

- For reaching components in confined spaces.
- Serrated jaws.
- Polished, red PVC grips.

△△ : 304 g.



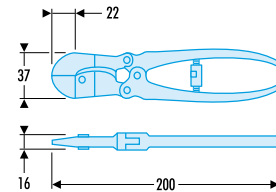
## ► Low-effort cutters

### Diagonal cutters

#### 171.20EL

► ISO 5749, DIN ISO 5749, NF ISO 5749.

- Demultiplication system for increased capacity with minimum cutting effort. Piano wire 200 kg/mm<sup>2</sup> : Ø 2.5 mm.
  - Red paint finish.
- ΔΔ : 515 g.

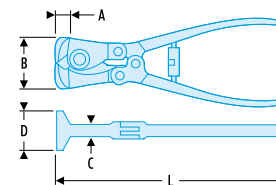


### End-cutters

#### 191A.22EL

► ISO 5748, DIN ISO 5748, NF ISO 5748.

- Compound leverage for increased capacity with minimum cutting effort. Piano wire up to 200 kg/mm<sup>2</sup>.
- Red paint finish.

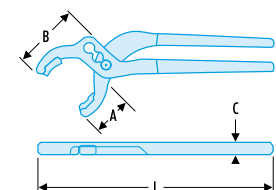


∞	∅ max mm	A mm	B mm	C mm	D mm	L mm	ΔΔ g
191A.22EL	2,5	9	48	17	34	210	660

## ► "Connector" pliers

### 410 Connector pliers

- For handling fragile round components, e.g. screwed connector sleeves, tubes, lamps or wire looms, etc.).
- Replaceable plastic jaws.
- Wide capacity (up to Ø 55 mm) from 3-position slip-joint.
- Polished chrome finish, red PVC grips.
- 2 jaw hardness options :
  - 410 : 410 : Hard jaws - 70 Shore B.
  - 410.S : Soft jaws - 55 Shore B.
- Spare jaws :
  - 410.1 : Set of 2 jaws with screws (hard).
  - 410.S1 : Set of 2 jaws with screws (soft).



∞	A mm	B mm	C mm	L mm	ΔΔ g
410	47	68	10	230	320
410.S	47	68	10	230	320




**"Mechanics" set****184.J2**

- Comprising :
  - Multigrip pliers 170A.
  - Two-position slip-joint pliers 186.7CPG
  - Diagonal cutters 192.18G.
  - Half-round nose pliers 193.16G.
- Supplied as a roll set 260 x 100 x 50 mm.

		
<b>184.J2</b>	N.38A-4B	g 985

**"Maintenance" set****184.J3CPE**

- 12 tools.
- Comprising :
  - Locking multigrip pliers 181.25CPE.
  - Combination pliers 187.18CPE.
  - Diagonal cutters 192.18CPE.
  - End cutters 190.20CPE.
  - Flat-nose pliers 188.16CPE.
  - Straight half-round nose pliers 185.20CPE.
  - Angled half-round nose pliers 195.20CPE
  - Screwdriver for slotted heads AN4x100.
  - Screwdriver for slotted heads AWH6.5X150.
  - Screwdriver for slotted heads ANF6.5X150.
  - Screwdriver for Phillips® heads ANP1X100.
  - Screwdriver for Phillips® heads ANP2X125.

		
<b>184.J3CPE</b>	N.38A-12C	kg 2,2

**"Electrical fitters" set****184.J4CPE**

- Comprising :
  - Combination pliers 187.18CPE.
  - Diagonal cutters 391.16CPE.
  - Wire strippers 194.17CPE.
  - Round-nose pliers 189.17CPE.
  - Half-round nose pliers 195.20CPE.
  - Flat-nose pliers 188.16CPE.
  - 3 screwdrivers for slotted heads, 1,000V insulated A2.5X75VE, A3.5X100VE, A5.5X125VE.
  - Adjustable wrench 113A.8C.

		
<b>184.J4CPE</b>	N.38A-10C	kg 1,7



# Plier sets and modules

## "Electricians" set

### 184.J5VE

- 1,000V insulated tools to EN 60900.
- Comprising :
  - Diagonal cutters 192.16VE.
  - Combination pliers 187.18VE.
  - Half-round nose pliers 185.20VE.
  - 2 screwdrivers for slotted heads A.VE (4x100-5.5x125).
  - Screwdrivers for Pozidriv® heads AD1X100VE.

		$\Delta\Delta$
184.J5VE	N.38A-6F	kg 1,1



## 3-piece CPE plier set

### CPE.3

- Comprising :
    - Locking multigrip pliers 181.25CPE.
    - Diagonal cutters 192.16CPE.
    - Half-round nose pliers 185.20CPE.
  - Supplied in a cardboard box.
- $\Delta\Delta$  : 790 g.



## 4-piece CPE plier set

### CPE.4

- Comprising :
    - Locking multigrip pliers 181.25CPE.
    - Diagonal cutters 192.16CPE.
    - Half-round nose pliers 185.20CPE.
    - Combination pliers 187.18 CPE.
  - Supplied in a cardboard box.
- $\Delta\Delta$  : 1.02 kg.



## 3-piece set of 1,000 Volt pliers to EN 60900

### VE.3

- Comprising :
    - Multigrip pliers 180.VE.
    - Diagonal cutters 391.16VE.
    - Angled half-round nose pliers 195.20VE.
  - Supplied in a cardboard box.
- $\Delta\Delta$  : 790 g.



New

**Foam 4-piece plier module****MODM.CPE1**

- Comprising :
  - 192.16CPE : diagonal cutters.
  - 185.20CPE : half-round nose pliers.
  - 181.25CPE : locking twin slip-joint multigrip pliers
  - 501 : large-capacity lock-grip pliers
- Foam tray PM.MODCPE1.
- ΔΔ : 1.480 kg.

**3-piece "mechanics" CPE plier module****MOD.CPE**

- Comprising :
  - Half-round nose pliers 185.20CPE.
  - Combination pliers 187.18CPE.
  - Diagonal cutters 192.16CPE.
- Tray PL.627.
- ΔΔ : 942 g.

**3-piece "mechanics" TE plier module****MOD.TE**

- Comprising :
  - Half-round nose pliers 185.20TE.
  - Combination pliers 187.18TE.
  - Diagonal cutters 192.16TE.
- Tray PL.627.
- ΔΔ : 942 g.

**3-piece EN 60900-compliant 1,000 Volt VE plier module****MOD.VE**

- Comprising :
  - Multigrip pliers 180.VE.
  - Diagonal cutters 391.16VE.
  - Wire strippers 194.17VE.
- Tray PL.622.
- ΔΔ : 950 g.

**2-piece adjustable plier module****MOD.PR9**

- Comprising :
  - Locking multigrip pliers 181.25CPE.
  - Trigger-release lock-grip pliers T5.L.
- Tray PL.330.
- ΔΔ 1.160 kg.

**2-piece adjustable plier module****MOD.PR4**

- Comprising :
  - Multigrip pliers 180.CPE.
  - Trigger-release lock-grip pliers T5.L.
- Tray PL.330.
- ΔΔ : 1.158 kg.



# Plier sets and modules

## 2-piece adjustable plier module

### MOD.PR6

- Comprising :
    - Locking multigrip pliers 181.25CPE.
    - Large capacity lock-grip pliers 501.
  - Tray PL.330.
- ΔΔ : 1.19 kg.



## 2-piece adjustable plier module

### MOD.PR8

- Comprising :
    - Multigrip pliers 180.CPE.
    - Short-nose lock-grip pliers 500.
  - Tray PL.330.
- ΔΔ : 1.094 kg.



## 2-piece adjustable plier module

### MOD.PR1

- Comprising :
    - Notch-joint multigrip pliers 482.CPE.
    - Short-nose lock-grip pliers 500.
  - Tray PL.330.
- ΔΔ : 1.1 kg.



## 2-piece adjustable plier module

### MOD.PR7

- Comprising :
    - Multigrip pliers 180.TE.
    - Trigger-release lock-grip pliers T5.L.
  - Tray PL.330.
- ΔΔ : 1.158 kg.



## 2-piece adjustable plier module

### MOD.PR5

- Comprising :
    - Multigrip pliers 180.TE.
    - Short-nose lock-grip pliers 500.
  - Tray PL.330.
- ΔΔ : 1.094 kg.





















# 9. Measuring, marking-out, metrology





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**NEW**

**Series 897 stainless steel tape measures**



*Professional quality stainless steel and bi-material tape measures*

**Advantages**

- ▶ Stainless steel case
- ▶ Soft grip
- ▶ Nylon blade and high strength hook



**N** **442**

**NEW**

**Series 893**



*ABS case - Nylon blade*

**Advantages**

- ▶ Compact
- ▶ Sturdy
- ▶ Easy to maintain



**N** **443**

*Easy, efficient and reliable*

**Advantages**

- ▶ Easy to read
- ▶ Fast
- ▶ Efficient, reliable data transmission
- ▶ IP65 : Resistant to water and dust



N 420



## Metrology - Introduction to the Standards



### DIN 862

- Vernier and digital caliper measurements from 0 to 2,000mm.
- Vernier or circular scale reading to 0.1 / 0.05 / 0.02mm.

• **Dimensional standard**

Length of rule	Height of lower jaw	Height of upper jaw	Total thickness for inside measurement	Extent of depth gauge
	a1 mm	a1 mm	a1 mm	a1 mm
160	40	8	5	100
200	60	10	10	
250	75			
250	90			

• **Accuracy**

Length of rule	limit of error in $\mu\text{m}$			
	Accuracy			Digital reading
	0.1 1/10ème	0.05 1/20ème	0.02 1/50ème	0.01 1/100ème
50	50	20	20	
100				
200				
300		30	30	

• **Hardness of measuring surfaces.**

- +/- 53 HRC for stainless steel.

• **Digital display measurements.**

- Rate of displacement > standard (0.5 m/s).
- Error notification in case of :
  - Excessive speed.
  - Low power.

### DIN 861- Part 1 - Outside micrometers - Standard design.

**Mechanical and digital display micrometer.**

• **Dimensional standard.**

- Anvil diameter 6.5, 7.5 or 8 mm.
- Tolerance of flatness of measuring surfaces 0.6 $\mu\text{m}$ .
- The locking lever must not alter the reading by more than 2 $\mu\text{m}$ .
- Thimble graduation.

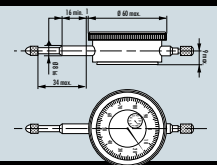
Range of measurement	Bias error	Tolerance of parallelism Applied force = 10N	Frame bending tolerance Applied force = 10N
	$\mu\text{m}$	$\mu\text{m}$	$\mu\text{m}$
0-25	4	2	2
25-50	4	2	2
50-75	5	3	3
75-100	5	3	3

**Other specifications covered by the standard.**

- **Maximum force applied to the measured component between 5 and 10N.**
- **The quality of the materials used and their elasticity under load.**

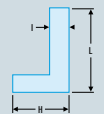
### DIN 878 - Dial gauges to 1/100 mm

- **Dimensional standard.**
- **Definition of accuracy.**
- **Measuring force - between 0.3N and 1.5N.**



### DIN 875 - Engineers squares

- **Accuracy class.**
- **Perpendicularity tolerance of 2 surfaces.**
- **Flatness of edges.**
- **Legal markings.**



Perpendicularity tolerance in $\mu\text{m}$	Tolerance of flatness in $\mu\text{m}$			
	Dimensions	Accuracy class		
		0	1	2
75	7	14	28	
100	7	15	30	
150	8	18	35	
200	9	20	40	
250	10	23	45	
300	11	25	50	
500	15	35	70	
	LxH mm	0	1	2
	50	3	5	10
	70	3	5	11
	75	3	6	11
	100	3	6	12
	130	3	7	13
	150	4	7	14
	165	4	7	15
	200	4	8	16
	250	5	9	18
	300	5	10	20
	330	5	11	
	500	7	14	28

Dimensions	H	
	Classe 00/0/1	Classe 2
L		
75	50	50
100	70	70
150	100	100
200	130	130
250	165	165
300	200	175
500	330	250

## ► Digital calipers

# New

## DIGITAL DISPLAY MEASUREMENTS

### EASY, EFFICIENT AND RELIABLE

#### Easy to use

- Clear, easy-to-read LCD screen.
- More intuitive to use.
- Quick and easy to operate.
- Easier data transmission.

#### Reliable

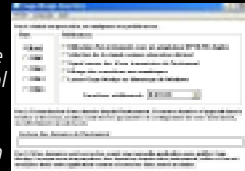
- DIN 862.
- Ingress protection (IP) - IEC529.
- Protection against dust and liquids
- For perfect reliability under all operating conditions.
- IP 6x = No dust penetration.
- IP x5 = Protected against water jets from any direction during for 3 minutes.
- Patented inductive measuring system.
- RS 232 connection.
- PC data transmission utility.



#### Efficient data transmission

- Gagewedge utility program developed for FACOM.
- Reliable data recording.
- Saves time, simple and easy to use.
- Compatible with the entire FACOM digital range.
- Easy RS232 cable connection between the measuring instrument and the PC.

Free download from [www.Facom.com](http://www.Facom.com)



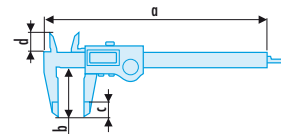
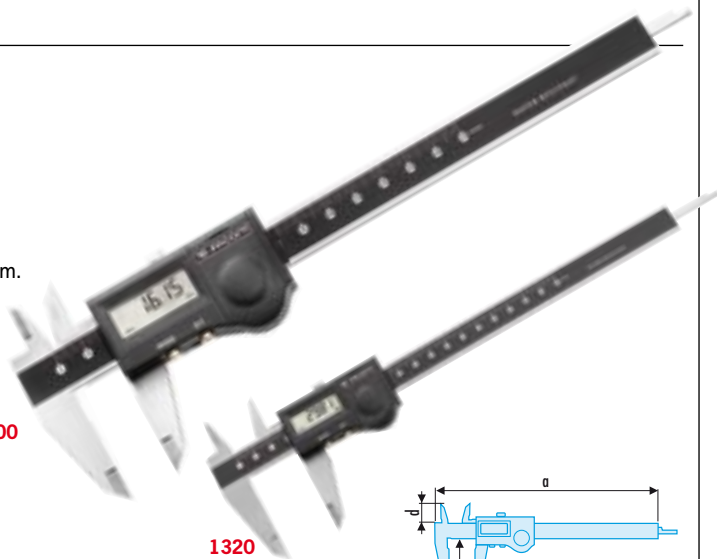
# New

### 1300 - 1320 Digital calipers

- To DIN 862.
- Accuracy 0.01 mm.
- Resistant to water and cutting oil - IP 65.
- IP 6x = No dust penetration.
- IPx5 = Protected against water jets from any direction during 3 minutes.
- Ground stainless steel mechanism.
- Reading rule with patented inductive measuring system.
- Flat depth gauge.
- 6 mm LCD display.
- Floating zero.
- mm/inch conversion.
- Automatic shutoff.
- Battery life approximately 3,500 hours
- Supplied in a case with a certificate of conformity.
- RS 232 port.

1300

1320



Model	Capacity mm	Resolution mm	Repeatability mm	Bias error $\mu\text{m}$	a mm	c mm	d mm	b mm	$\Delta\Delta$ g
1300	150	0,01	10 $\mu\text{m}$	20 $\mu\text{m}$	233	10	16	40	465
1320	200	0,01	10 $\mu\text{m}$	30 $\mu\text{m}$	290	14	20	50	400

Model	Description
1300.C2	PC connection cable
Gagewedge	Data transmission software - via cable 1300.C2 Available from <a href="http://www.facom.com">www.facom.com</a> or upon request



## ▶ Digital depth gauge

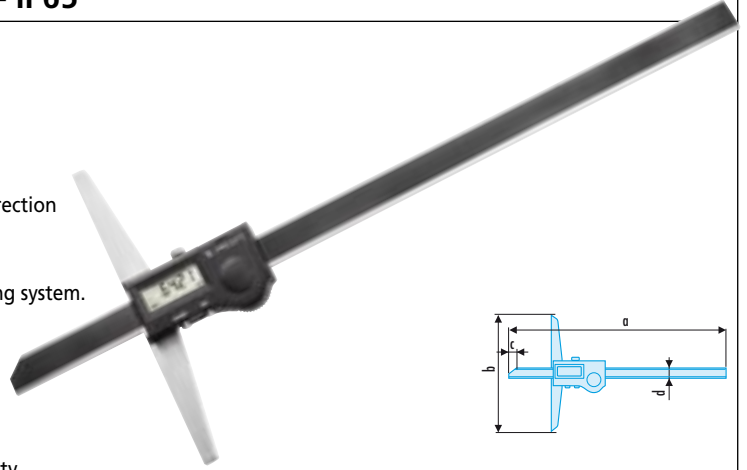
**New**

### Digital depth gauge 300 mm - IP65

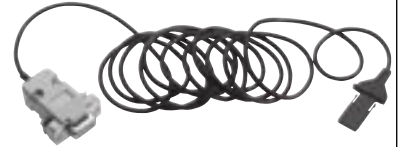
**1350**

▷ To DIN 862.

- Accuracy 0.01 mm.
- Resistant to water and cutting oil - IP 65.
- IP 6x = No dust penetration.
- IP x5 = Protected against water jets from any direction for 3 minutes.
- Ground stainless steel mechanism.
- Reading scale with patented inductive measuring system.
- 6 mm LCD display.
- Floating zero.
- mm/inch conversion.
- Automatic shutoff.
- Battery life approximately 3,500 hours.
- Supplied in a case with a certificate of conformity.
- RS 232 port.



Model	Capacity mm	Resolution mm	Repeatability mm	Bias error $\mu\text{m}$	a mm	b mm	c mm	d mm	$\Delta\Delta$ g
<b>1350</b>	300	0,01	10 $\mu\text{m}$	20 $\mu\text{m}$	372	150	10	16	928
					Description				
<b>1300.C2</b>	PC connection cable								
<b>Gagewedge</b>	Data transmission software - via cable 1300.C2 Available from <a href="http://www.facom.com">www.facom.com</a> or upon request								



## ▶ Digital micrometer

### Outside digital micrometer 0-25 mm

**1355**

▷ DIN 863.

- Floating zero.
- Preset.
- Metric/inch units.
- MAX, MIN, MAX-MIN tolerances.
- RS 232 port.
- Design features :
  - non-rotating setting rod.
  - carbide anvil  $\varnothing$  8 mm.
- Battery life up to 2,000 hours.
- Accuracy 0.002 mm.
- Supplied with a FACOM certificate of conformity.

$\Delta\Delta$  : 810 g.



Model	Description
<b>1300.C2</b>	PC connection cable
<b>Gagewedge</b>	Data transmission software - via cable 1300.C2 Available from <a href="http://www.facom.com">www.facom.com</a> or upon request



## ► Digital indicator

### Digital indicator - IP51

#### 1365

▷ To DIN 878.

- Measuring range 0-12.5 mm.
- Accuracy 0.001 mm.
- mm/inch conversion.
- 6 mm LCD display.
- Clamping stem (8 mm dia.)
- Interchangeable M2.5 contact points.
- Display pivots through 270°.
- Floating zero.
- Zero set at any position.
- Allows measurements to be made using 2 separate references.
- Measurement memorisation (display hold).
- RS 232 connection - For transmitting reading to a statistical processing system.
- Supplied with a FACOM certificate of conformity.

ΔΔ : 213 g.



Description
1300.C2 Gagewedge
PC connection cable Data transmission software - via cable 1300.C2 Available from <a href="http://www.facom.com">www.facom.com</a> or upon request

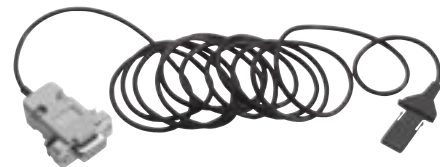
## ► Accessories

### PC connection cable

#### 1300.C2

- This cable can be used to connect the various items of metrology equipment to a PC.

ΔΔ : 55 g.





## ► Vernier calipers

### MECHANICAL METROLOGY

#### IMPROVED PERFORMANCE

##### Compliance with DIN 862

- Dimensional regulation.
- Hardness of measuring faces.
- Accuracy and limit of error in  $\mu\text{m}$ .
- Standard of quality and readability of graduations.

##### Technical specifications

- Ground stainless steel
- Lock screw for reliable readings without risk of slippage.
- Vernier with guide.
- Natural hand position.
- Increased comfort.

##### Perfect reading quality

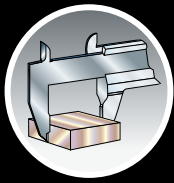
- Good contrast and anti-reflection.
- Excellent readability.
- Chemically formed graduation markings for perfect resistance to wear and chemical agents.

##### Accuracy

- To 1/50 - 1/20 - 1/10 mm.

##### Traceability

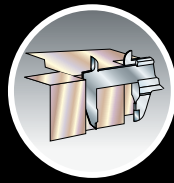
- Supplied with a numbered certificate of conformity.



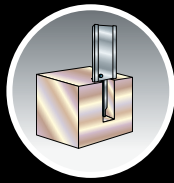
Outside measurement.



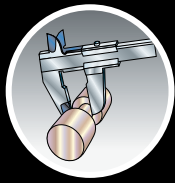
Inside measurement.



Step measurement.



Depth measurement.



Throat measurement.



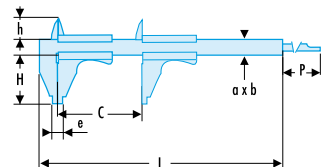
##### Extra service

Have your measuring instruments inspected each year by an accredited organisation to guarantee their accuracy.

### 805 Universal vernier caliper to 1/50 mm

► DIN 862.

- Class 0.
- Accurate to 0.02 mm (1/50 mm).
- Inside, outside and depth measurements.
- Matt stainless steel rule.
- Minimum rule hardness 40 HRc.
- Flat depth gauge.
- Vernier with thumb positioning guide.
- Minimum vernier life expectancy 20,000 cycles.
- Vernier screw lock.
- Supplied in a case with a certificate of conformity.



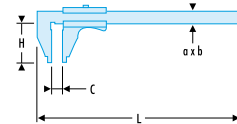
Ref	Accuracy mm	Bias error $\mu\text{m}$	a x b mm	C mm	H mm	L mm	$\Delta\Delta$ g
805.1	0,02	20 $\mu\text{m}$	16 x 3	150	40	228	290
805.2	0,02	30 $\mu\text{m}$	17x3,5	200	50	290	419


## Workshop vernier caliper to 1/50 mm

### 805.M

▷ DIN 862.

- Class 0.
- Accurate to 0.02 mm (1/50 mm).
- Measuring range 200 mm.
- Inside and outside measurements (down to 10 mm bores).
- Matt stainless steel rule.
- Minimum rule hardness 40 HRc.
- Vernier with thumb positioning guide.
- Minimum vernier life expectancy 20,000 cycles.
- Vernier screw lock.
- Graduations resistant to chemical products.
- Perfect contrast for optimum reading quality.
- Supplied in a case with a certificate of conformity.



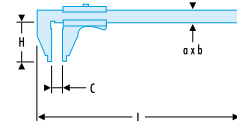
	Accuracy mm	Bias error $\mu\text{m}$	a x b mm	C mm	L mm	H mm	$\Delta\Delta$ g
<b>805.M</b>	0,02	30 $\mu\text{m}$	17x3,5	200	290	60	423


## Workshop vernier caliper to 1/50 mm - 300 mm capacity

### 805.S

▷ DIN 862.

- Accurate to 0.02 mm (1/50 mm).
- Measuring range 200 mm.
- Inside and outside measurements (down to 10 mm bores).
- Matt stainless steel rule.
- Minimum rule hardness 40 HRc.
- Vernier with thumb positioning guide.
- Minimum vernier life expectancy 20,000 cycles.
- Vernier screw lock.
- Fine adjustment screw.
- Supplied in a case with a certificate of conformity.



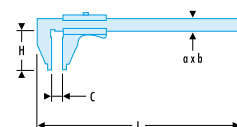
	Accuracy mm	Bias error $\mu\text{m}$	a x b mm	C mm	H mm	L mm	$\Delta\Delta$ g
<b>805.S</b>	0,02	30 $\mu\text{m}$	20 x 4	200	100	418	941


## Universal vernier caliper to 1/20 mm

### 816

▷ DIN 862.

- Accurate to 0.05 mm (1/20 mm).
- Inside, outside and depth measurements.
- Matt stainless steel rule.
- Minimum rule hardness 40 HRc.
- Flat depth gauge.
- Vernier with thumb positioning guide.
- Minimum vernier life expectancy 20,000 cycles.
- Vernier screw lock.
- Supplied in a case with a certificate of conformity.



	Accuracy mm	Bias error $\mu\text{m}$	a x b mm	C mm	L mm	H mm	$\Delta\Delta$ g
<b>816</b>	0,05	50 $\mu\text{m}$	16 x 3	150	228	40	288

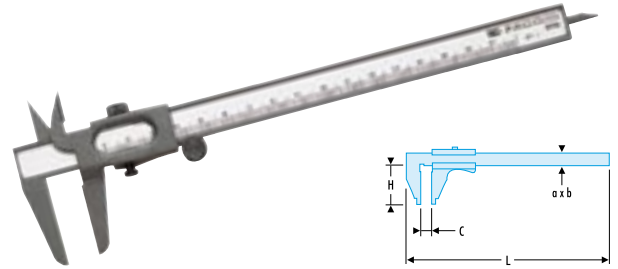


## Pocket vernier caliper to 1/10 mm

### 815A

- Inside, outside and depth measurements.
- Screw lock.
- Thumbscrew adjustment.
- Matt rule.
- Supplied in an individual FACOM wallet.

	Reading mm	a x b mm	C mm	L mm	H mm	$\Delta\Delta$ g
<b>815A</b>	0,1	15 x 2	160	230	37	120

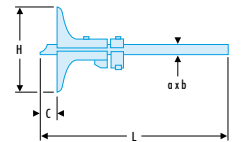


## ▶ Mechanical depth gauge

### 811 Mechanical depth gauges to 1/50 mm

- ▷ DIN 862.
- Class 0.
- Accurate to 0.02 mm (1/50 mm).
- Matt stainless steel rule.
- Minimum rule hardness 40 HRC.
- Measuring faces hardened to minimum 53 HRc.
- Vernier with thumb positioning guide.
- Minimum vernier life expectancy 20,000 cycles.
- Vernier locked by fine adjustment screw.
- Supplied in a case with a certificate of conformity.

	Accuracy mm	Bias error $\mu\text{m}$	a x b mm	C mm	H mm	L mm	$\Delta\Delta$ g
<b>811B</b>	0,02	20 $\mu\text{m}$	10 x 4	160	100	240	465
<b>811C.250</b>	0,02	30 $\mu\text{m}$	10 x 4	250	100	330	491



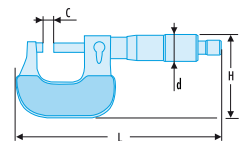
## ▶ Mechanical micrometer

### 806 Micrometers to 1/100 mm

- ▷ DIN 863.
- Resolution 0.01 mm.
- Carbide anvil 6.5 mm dia.
- Ratchet thimble with torque limiter :
- Strictly limits the maximum force applied to the measured component to between 5 and 10 Nm.
- Thimble diameter 18 mm.
- 50-division thimble (one turn = 0.5 mm).
- Heat-insulating plates.
- Supplied complete with :
  - a pin-type calibration key.
  - a gauge block key from model 806C.50.
- Packaged in a plastic case.
- Supplied with a certificate of conformity.

	Measuring range mm	Bias error $\mu\text{m}$	Parallelism of measuring faces	Flatness of measuring surfaces/Max.
<b>806.C25</b>	0-25 mm	4 $\mu\text{m}$	2 $\mu\text{m}$	0,4 $\mu\text{m}$
<b>806C.50</b>	25-50 mm	4 $\mu\text{m}$	2 $\mu\text{m}$	0,4 $\mu\text{m}$
<b>806C.75</b>	50-75 mm	5 $\mu\text{m}$	3 $\mu\text{m}$	0,4 $\mu\text{m}$
<b>806C.100</b>	75-100 mm	5 $\mu\text{m}$	3 $\mu\text{m}$	0,4 $\mu\text{m}$

	Measuring range mm	Gauge block
<b>806.C25</b>	0-25 mm	
<b>806C.50</b>	25-50 mm	25 mm +/- 1,5 $\mu\text{m}$
<b>806C.75</b>	50-75 mm	50 mm +/- 2 $\mu\text{m}$
<b>806C.100</b>	75-100 mm	75 mm +/- 2,5 $\mu\text{m}$

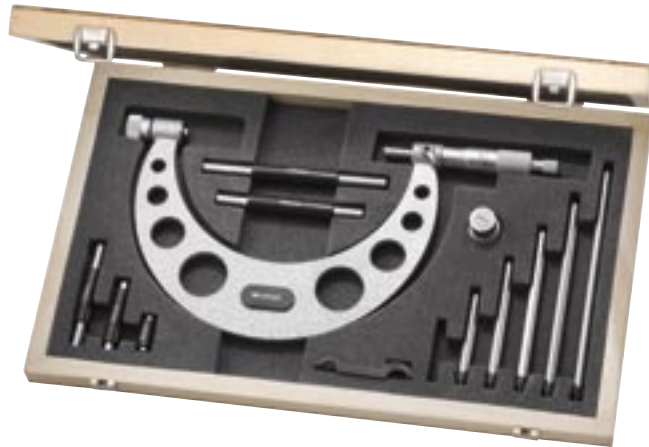


## Multi-range mechanical outside micrometer to 1/100 mm

### 807C

▷ DIN 863.

- Measuring range 0 to 150 mm.
- Resolution 0.01 mm.
- Ratchet thimble with torque limiter.
- Strictly limits the maximum force applied to the measured component to between 5 and 10 N.m.
- Thimble diameter 18 mm.
- Carbide anvil 6.5 mm dia.
- Interchangeable fixed anvil.
- Set of 6 extensions.
- Heat-insulating plates.
- Anvil locking device.
- Packaged in a wooden case.
- Supplied with a certificate of conformity.



⇒	Gauge block
<b>807C.CALE25</b>	25 mm +/- 1,5µm
<b>807C.CALE50</b>	50 mm +/- 2µm
<b>807C.CALE75</b>	75 mm +/- 2,5µm
<b>807C.CALE100</b>	100 mm +/- 3µm
<b>807C.CALE125</b>	125 mm +/- 3,5µm

## Friction mechanical outside micrometer to 1/100 mm

### 806.F

▷ DIN 863.

- Resolution 0.01 mm.
- Carbide anvil 6.5 mm dia.
- Ratchet thimble with torque limiter.
- Strictly limits the maximum force applied to the measured component to between 5 and 10 N.m.
- Thimble diameter 18 mm.
- Anvil locking device.
- Packaged in a plastic case.
- Supplied with a certificate of conformity.



⇒	Capacity mm	Parallelism of measuring faces	Flatness of measuring surfaces/Max.	Bias error µm
<b>806.F</b>	0-25	2µm	0,4µm	4µm

## ▶ Metrology module

### Metrology module

#### MOD.MET

- 805.1 Vernier caliper to 1/50 mm, capacity 150 mm.
- 806.F Micrometer to 1/100 mm, range 0 to 25 mm.
- 814.M Screw pitch gauge, 23 blades from 25 to 300.
- 804 Metric feeler gauges from 4/100 to 1 mm.
- Tray PL.634.

ΔΔ : 0.930 kg.





## ► Metrology set

### 8-piece metrology and inspection set

#### 809.J2

- Comprising :
  - 805.M Vernier caliper to 1/50 mm, capacity 200 mm.
  - 803.300M Stainless rule 300 mm.
  - 811 Depth gauge to 1/50 mm, capacity 160 mm, fine adjustment screw.
  - 818B.15 Plain square 150 mm, class I.
  - 236 Carbide scriber.
  - 256.4 Centre punch.
  - 806.C25 Micrometer to 1/100 mm, range 0 to 25 mm.
  - 1901.05 Dividers, capacity 150 mm.
- Supplied in a case 365 x 260 x 30 mm.

ΔΔ : 2.1 kg.



### 10-piece metrology and inspection set

#### 809.J3

- Comprising :
  - 805.M Vernier caliper to 1/50 mm, capacity 200 mm.
  - 806.C25 Micrometer to 1/100 mm, range 0 to 25 mm.
  - 806C.50 Micrometer to 1/100 mm, range 25 to 50 mm.
  - 811 Depth gauge to 1/50 mm, capacity 160 mm, fine adjustment screw.
  - 818B.15 Plain square 150 mm, class I.
  - 819B.15 Flanged square 150 mm, class I.
  - 1901.05 Dividers, capacity 150 mm.
  - 236 Carbide scriber.
  - 803.300M Stainless rule 300 mm.
  - 256.4 Centre punch.
- Supplied in a case 410 x 280 x 40 mm.

ΔΔ : 3.56 kg.



## ► Dial indicator

### Dial gauge to 1/100 mm

#### 812A.1

- Plunger travel 10 mm with totalizing pointer.
- Rotating scale Ø 57 mm.
- Interchangeable stylus.
- Flat back can be replaced by back fitted with 8 mm lug.

ΔΔ : 345 g.

Code	Description
812.PF	Back fitted with lug
812A.1A	Steel ball stylus
812A.1B	Flat stylus Ø 2 mm tip
812A.1C	Long stylus Ø 2 mm, effective length 15 mm

### Shock-resistant gauge to 1/100 mm

#### 812.ANT

- Similar design to 812A.1.
- Shock resistant to protect mechanism.
- Tolerance adjustment.

ΔΔ : 335 g.

Code	Description
812.PF	Back fitted with lug
812A.1A	Steel ball stylus



## Dial gauge to 1/100 mm with lever

### 812.P

- Travel 0.8 mm.
  - Rotating scale  $\varnothing$  31 mm.
  - Supplied with 2 mounting stems  $\varnothing$  4 and 8 mm.
  - Anvil  $\varnothing$  2 mm.
- $\Delta\Delta$  : 154 g.

	Description
<b>812.PF</b>	Back fitted with lug
<b>812A.1C</b>	Long stylus $\varnothing$ 2 mm, effective length 15 mm



## ► Magnetic bases

### Magnetic stand

#### 812.2

- Magnetic base with screw. Ground surfaces.
  - Adherence force 300 N (30 kg).
  - Post height 245 mm.
  - Beam height range 40 to 210 mm.
  - Base 52 x 40 x 47 mm.
- $\Delta\Delta$  : 1.52 kg.



### Hinged magnetic stand

#### 812.3

- Effective radius 280 mm.
  - Vertical lifting force 600 N (60 kg).
  - $\varnothing$  M8 thread.
  - Base 50 x 55 x 60 mm.
- $\Delta\Delta$  : 1.9 kg.

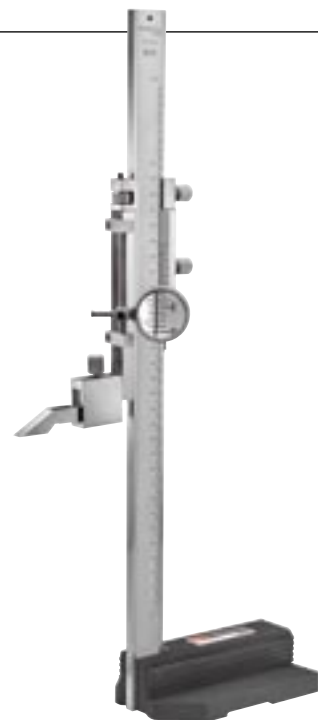


## ► Surface gauges

### Precision surface gauge to 1/50 mm - 300 mm capacity

#### 796B

- ▷ NF E 11 - 106.
  - Class 0.
  - Bias error =  $\pm$  28 $\mu$ m.
  - Repeatability error =  $\pm$  12 $\mu$ m.
  - Accurate to 0.02 mm (1/50 mm).
  - Hardened stainless steel rule, anti-glare matt finish.
  - Section 25 mm.
  - Minimum rule hardness 40 HRc.
  - Maximum measuring capacity 300 mm.
  - Stainless scriber.
  - Minimum hardness 53 HRc.
  - Better scribing quality.
  - Fine adjustment screw.
  - Adjustable magnifying lens.
  - Dial gauge attachment supplied as standard for gauge with 8 mm dia. stem (DIN 878).
  - Total overall dimensions 455 mm x 90 mm.
  - Supplied with a certificate of conformity.
- $\Delta\Delta$  : 3.280 kg.



	Serial no.	Description
<b>796B.04</b>	A02 0001 → mars 01	Scriber
<b>796C.04</b>	A03 0001 → A04 0001 →	Scriber



## Engineers surface gauge

### 795A

- Non-graduated.
- Fine adjustment screw on rocker arm.
- Cast-iron base.
- True face with 90° vee-groove.
- Post Ø 10 mm.

ΔΔ : 1.745 kg.

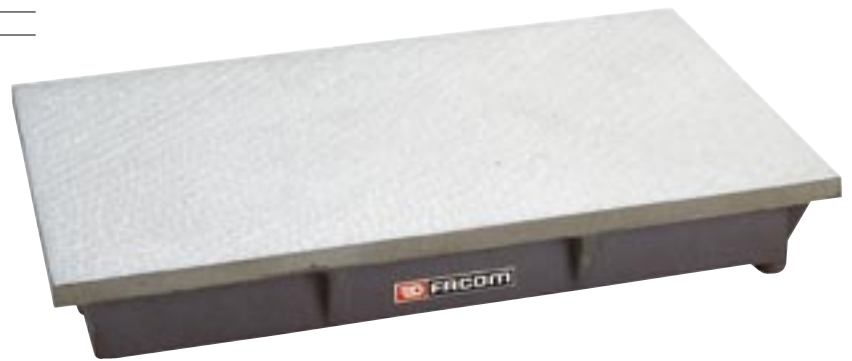


## Surface plates

### 1200 Cast-iron surface plates

▷ DIN 876, Class II.

➤	Dimensions mm	ΔΔ kg
1200.30	300 x 200	7
1200.40	400 x 250	16
1200.50	500 x 300	22
1200.60	600 x 400	35



## Pairs of vees

### 1202.00 Pairs of steel vees, 20 microns

▷ ISO 8512-1, DIN 876-2.

- Vee-blocks with four 90 notches.
- Matching pair with identification number stamped on top.

➤	Vee widths mm	Overall size mm	ΔΔ kg
1202	30 x 40 x 50 x 60	120 x 120 x 38	7,371
1202.00	20 x 30 x 40 x 50	95 x 70 x 35	2,808



## Rules



### A FACOM SPECIALITY? RIGOROUS EXPERTISE

#### Tight production control

#### Rigorous selection of materials guaranteeing the highest quality

- Compromise between rigidity and flexibility
- Matt surface for perfect readability
- Smooth finish for fine, clean markings

#### Chemical engraving

- Deep markings
- Perfect contrast
- Resistant to wear and chemical agents

#### A range of over 50 references

- Stainless steel or duralumin
- Rigid, semi rigid, flexible
- Graduation mm - 1/2mm

#### Information

European directive 2004/22/EC, necessary harmonisation and change

Measuring Instrument Directive - Annex MI-008 - material measures. Harmonisation of the regulations for the 25 member States. Entry into force in France on 30 October 2006. Gradual implementation as pattern approvals expire. NB : Only measurements > 500 mm are considered in legal metrology (OIML 35). No pattern and regulatory marking approvals are required for measurements < 500 mm.



## ▶ Class I stainless steel rules with calibration certificate



### Class I stainless steel rules with calibration certificate

Like metrology and torque-control instrumentation, measuring tools are often used in quality-certification procedures. Facom class I stainless-steel rules, with Cofrac-approved calibration certificate, are suitable for this application.

These rules may be utilized as a standard for periodic inspection of rules and tapes by a quality-control department, or for direct measurement. Calibrated rules are measured at 10 cm intervals, numbered and supplied complete with their certificate.



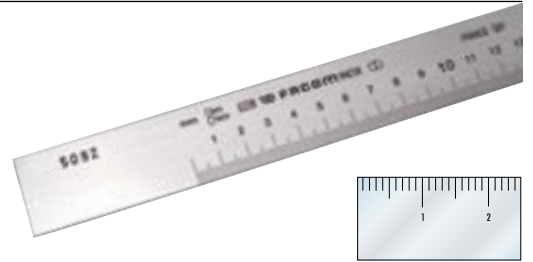


## Class I stainless steel rule - 1,000 mm long

### DELA.61058.10C

- Etched on one side.
- 1 edge in mm.
- 18 % Cr - 8 % Ni.
- Anti-glare finish.

☞	Length mm	Cross-section mm	ΔΔ g
<b>DELA.61058.10C</b>	1000	30 x 1	191

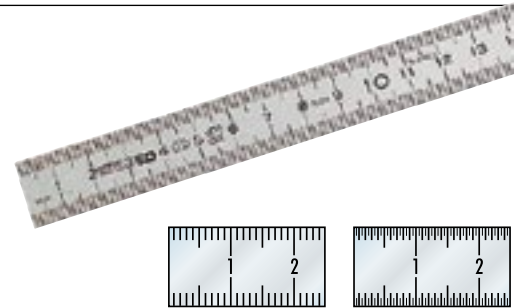


## ▶ Class II rules

### 803 Flexible stainless 2-sided rules

- Etched on both sides, except 803.1000M (etched on 1 side, upper edge in 1/2 mm, lower edge mm).
- 1 side mm on both edges - 1 side 1/2 mm.
- 18 % Cr - 8 % Ni.
- Anti-glare matt satin finish.
- \* Rules of 500 mm or more conform to precision class II regulations.

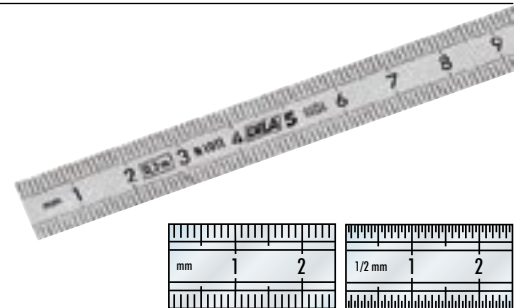
☞	Length mm	Cross-section mm	ΔΔ g
<b>803.200M</b>	200	13 x 0,4	10
<b>803.300M</b>	300	13 x 0,5	16
<b>803.500M</b>	500	20 x 0,5	40
<b>803.1000M</b>	1000	25 x 0,5	100



### DELA.1051 Flexible stainless 2-sided rules

- Etched on both sides.
- 1 side mm both edges, 1 side 1/2 mm.
- 18 % Cr - 8 % Ni.
- Anti-glare finish.

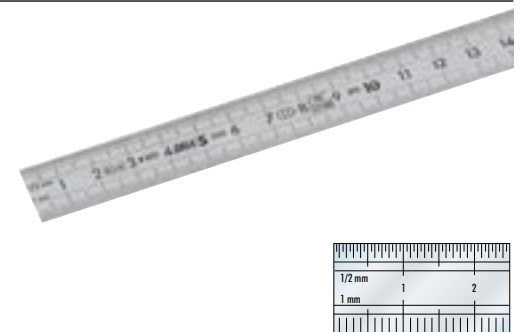
☞	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1051.02</b>	150	13 x 0,5	8,5
<b>DELA.1051.03</b>	200	13 x 0,5	10,9
<b>DELA.1051.04</b>	250	13 x 0,5	13,5
<b>DELA.1051.05</b>	300	13 x 0,5	16,1
<b>DELA.1051.06</b>	500	20 x 0,5	40,4



### DELA.1021 Flexible stainless 1-sided rules

- Etched on one side.
- 1 edge mm, 1 edge 1/2 mm.
- 18 % Cr - 8 % Ni.
- Anti-glare finish.

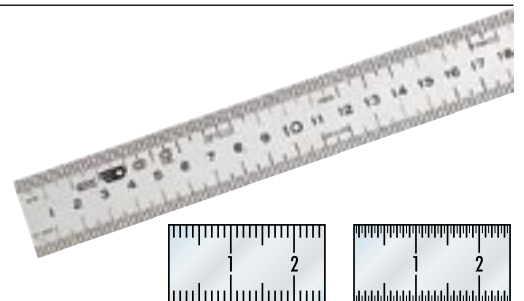
☞	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1021.02</b>	150	13 x 0,5	8,5
<b>DELA.1021.03</b>	200	13 x 0,5	10,9
<b>DELA.1021.05</b>	300	13 x 0,5	16,1
<b>DELA.1021.06</b>	500	20 x 0,5	40,4
<b>DELA.1021.07</b>	1000	25 x 0,5	100
<b>DELA.1021.08</b>	1500	25 x 0,5	152
<b>DELA.1021.09</b>	2000	25 x 0,5	200



### 803 SR Semi-rigid stainless 2-sided rules


- Etched on both sides, except 803.SR1000 (1 side).
- 1 edge mm, 1 edge 1/2 mm.
- 18 % Cr - 8 % Ni.
- Anti-glare matt satin finish.

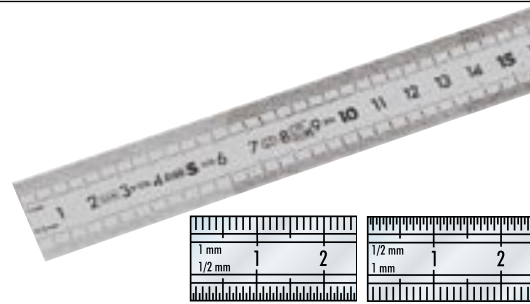
☞	Length mm	Cross-section mm	ΔΔ g
<b>803.SR300</b>	300	30 x 1	62
<b>803.SR500</b>	500	30 x 1	100
<b>803.SR1000</b>	1000	30 x 1	200



## DELA.1056 Semi-rigid short stainless 2-sided rules


- Etched on both sides.
- 1 edge mm, 1 edge 1/2 mm.
- 18% Cr - 8% Ni.
- Anti-glare finish.

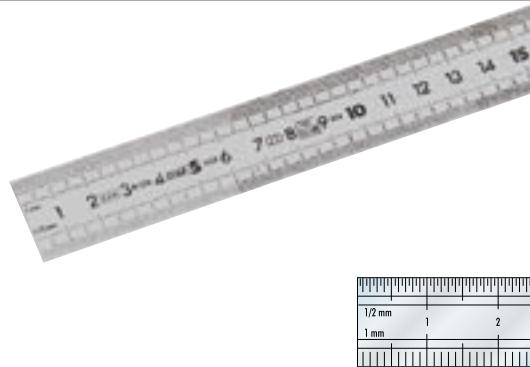
	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1056.01</b>	300	30 x 0,8	60
<b>DELA.1056.02</b>	500	30 x 0,8	100



## DELA.1056 Semi-rigid long stainless 1-sided rules


- Etched on one side.
- 1 edge mm, 1 edge 1/2 mm.
- Graduations in mm on both edges at 3,000, 4,000 and 5,000 mm.
- 18% Cr - 8% Ni.
- Anti-glare finish.

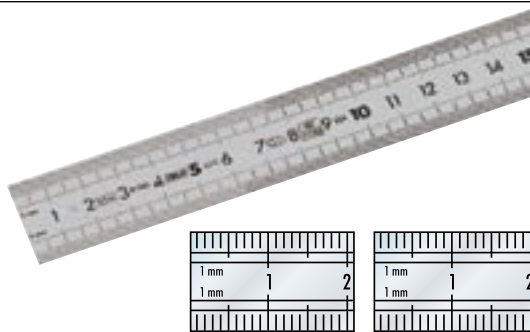
	Length mm	Cross-section mm	ΔΔ kg
<b>DELA.1056.03</b>	1000	30 x 0,8	0,191
<b>DELA.1056.04</b>	1500	30 x 0,8	0,290
<b>DELA.1056.05</b>	2000	30 x 0,8	0,380
<b>DELA.1056.06</b>	3000	30 x 1,0	0,709
<b>DELA.1056.07</b>	4000	30 x 1,0	0,946
<b>DELA.1056.08</b>	5000	30 x 1,0	1,168



## DELA.1061 Semi-rigid short duralumin 2-sided rules


- Etched on both sides.
- Both edges in mm.
- Anti-glare finish.

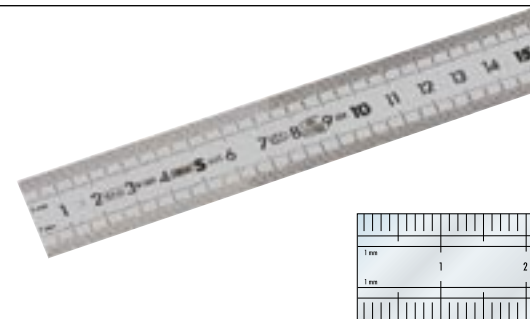
	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1061.01</b>	300	30 x 1,2	33
<b>DELA.1061.02</b>	500	30 x 1,2	53



## DELA.1061 Semi-rigid long 1-sided rules

- Etched on one side.
- Both edges in mm.
- Anti-glare finish.


	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1061.03</b>	1000	30 x 1,2	110
<b>DELA.1061.04</b>	1500	30 x 1,2	150
<b>DELA.1061.05</b>	2000	30 x 1,2	200

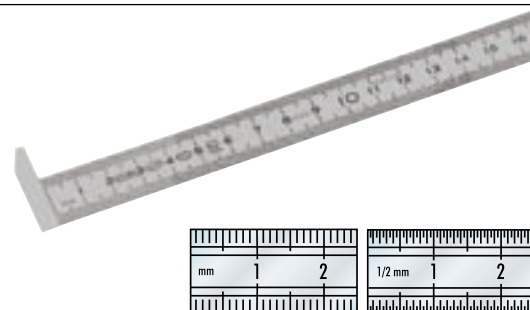


## ▶ Assorted rules

### DELA.1052 Stainless rules with heel

- Etched on both sides.
- 1 side mm, 1 side 1/2 mm.
- 18% Cr - 8% Ni.
- Anti-glare finish.

	Length mm	Cross-section mm	ΔΔ g
<b>DELA.1052.02</b>	200	13 x 0,5	12
<b>DELA.1052.03</b>	300	13 x 0,5	17
<b>DELA.1052.04</b>	500	20 x 0,8	44



## ► Engineers rules

### Stainless steel straight edge

#### 809.IN500

▷ DIN 847/1, NF E 11.105

- Supplied in a wooden case.
- Class I, flatness.  $(4 + L/60) \mu\text{m}$ , where L is the length in mm.
- Stainless steel.

➤	L mm	Cross-section mm	$\Delta\Delta$ kg
<b>809.IN500</b>	500	50 x 10	2,9



### Graduated stainless rule

#### 809.ING500

▷ DIN 874-1, NF E 11.105

- Supplied in a wooden case.
- Class I, flatness.  $(4 + L/60) \mu\text{m}$ , where L is the length in mm.
- Graduations with offset zero.

➤	L mm	Cross-section mm	$\Delta\Delta$ kg
<b>809.ING500</b>	500	50 x 10	2,9

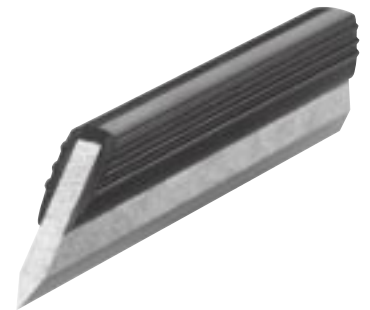


### 809 Stainless filament rules

▷ DIN 874, NF E 11.104

- For checking a plane or an edge.
- Hard stainless steel with insulating grip.
- Supplied in a sheath.

➤	Length mm	Flatness m	$\Delta\Delta$ g
<b>809.75</b>	75	2	80
<b>809.100</b>	100	2	125
<b>809.150</b>	150	3	200
<b>809.200</b>	200	3	280



## Precision measurement

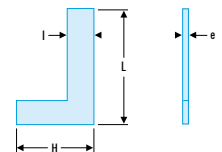
### ► Precision squares

#### 818.CLO Precision try square, Class O

▷ DIN 875, NF E 11-103.

- Accuracy  $\pm (5 + h/50) \mu\text{m}$ , where h is height in mm.
- Stainless steel.
- Ground faces and outside edges.


➤	L x H mm	l x e mm	$\Delta\Delta$ kg
<b>818.75CLO</b>	75 x 50	15 x 5	0,140
<b>818.100CLO</b>	100 x 70	20 x 5	0,220
<b>818.150CLO</b>	150 x 100	28 x 6	0,455
<b>818.200CLO</b>	200 x 130	32 x 7	0,760
<b>818.300CLO</b>	300 x 200	40 x 8	1,765

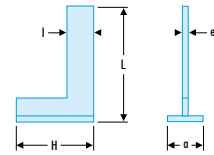


## 819.CLO Precision flanged square, Class O

▷ DIN 875, NF E 11-103.

- Accuracy  $\pm (5 + h/50)$   $\mu\text{m}$ , where h is height in mm.
- Stainless steel.
- Ground faces and outside edges.


	L x H mm	l x e mm	a mm	$\Delta\Delta$ kg
<b>819.75CLO</b>	75 x 50	15 x 5	15	0,175
<b>819.100CLO</b>	100 x 70	20 x 5	20	0,280
<b>819.150CLO</b>	150 x 100	28 x 6	28	0,600
<b>819.200CLO</b>	200 x 130	32 x 7	32	1,095
<b>819.300CLO</b>	300 x 200	40 x 8	40	2,337

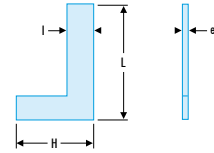


## 818B Try squares, Class I

▷ DIN 875, NF E 11-103.

- XC12 steel square.
- Ground faces and edges.


	L x H mm	l x e mm	$\Delta\Delta$ kg
<b>818B.10</b>	100 x 70	20 x 5	0,13
<b>818B.15</b>	150 x 100	25 x 6	0,24
<b>818B.20</b>	200 x 130	30 x 7	0,41
<b>818B.30</b>	300 x 180	30 x 7	0,88

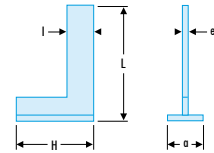


## 819B Flanged squares, Class I

▷ DIN 875, NF E 11-103.


- Similar to try squares but with screwed flange.
- Supplied with a certificate of conformity.

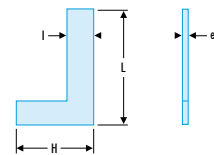
	L x H mm	l x e mm	a mm	$\Delta\Delta$ kg
<b>819B.10</b>	100 x 70	20 x 5	20	0,25
<b>819B.15</b>	150 x 100	25 x 6	25	0,47
<b>819B.20</b>	200 x 130	30 x 7	30	0,8
<b>819B.25</b>	250 x 160	30 x 7	30	0,98
<b>819B.30</b>	300 x 180	30 x 7	30	1,205



## DELA.1256 90° try squares, Class II

▷ DIN 875, NF E 11-103.


	L x H mm	l x e mm	$\Delta\Delta$ kg
<b>DELA.1256.02</b>	100 x 70	20 x 5	0,125
<b>DELA.1256.04</b>	150 x 100	20 x 5	0,29
<b>DELA.1256.06</b>	200 x 130	30 x 7	0,515
<b>DELA.1256.07</b>	250 x 165	30 x 7	0,58
<b>DELA.1256.08</b>	300 x 200	30 x 7	0,7
<b>DELA.1256.09</b>	400 x 265	40 x 7	1,42
<b>DELA.1256.10</b>	500 x 330	40 x 7	1,8

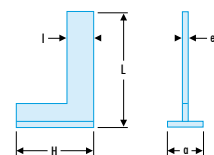


## DELA.1257 90° flanged squares, Class II

▷ DIN 875, NF E 11-103.

- Screwed flange.
- Perfect fit between flange and face.

	L x H mm	l x e mm	a mm	$\Delta\Delta$ kg
<b>DELA.1257.02</b>	100 x 70	20 x 5	20	0,2
<b>DELA.1257.04</b>	150 x 100	20 x 5	20	0,39
<b>DELA.1257.06</b>	200 x 130	30 x 7	30	0,715
<b>DELA.1257.07</b>	250 x 165	30 x 7	30	0,85
<b>DELA.1257.08</b>	300 x 200	30 x 7	30	1,02
<b>DELA.1257.09</b>	400 x 265	40 x 7	40	2
<b>DELA.1257.10</b>	500 x 330	40 x 7	40	2,6





## ► Squares

### 817 Bevels

- Steel. Ground faces and edges.

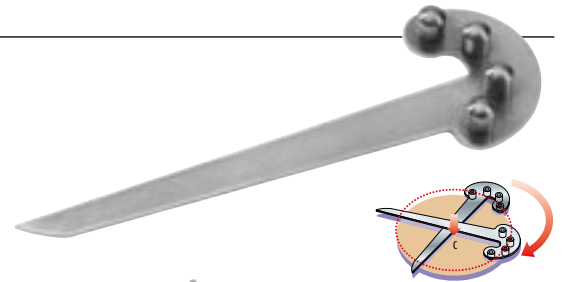
►	e mm	H mini - maxi mm	L mm	ΔΔ g
<b>817.15</b>	15	19 - 145	150	350
<b>817.20</b>	15	24 - 195	200	580
<b>817.25</b>	15	24 - 240	250	720
<b>817.30</b>	15	24 - 285	300	810



### Centre-square

#### DELA.1290.00

- Steel square with 4 symmetrical pins.
  - Locates the centre of a circle in 2 easy steps.
- ΔΔ : 100 g.



### DELA.1272 Flanged double-mitre square

- ▷ DIN 875, NF E 11-103.
- 30, 45, 60, 90 angles.

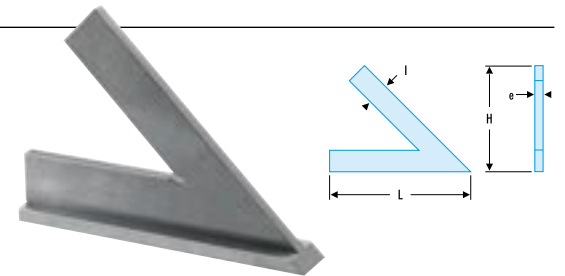
►	Long-blade length mm	ΔΔ g
<b>DELA.1272.01</b>	100	270
<b>DELA.1272.02</b>	120	310
<b>DELA.1272.03</b>	150	600
<b>DELA.1272.04</b>	200	720



### 45° flanged square

#### DELA.1292.00

►	L x H mm	l x e mm	ΔΔ g
<b>DELA.1292.00</b>	150 x 150	26 x 7	324



## ► Protractors

### Engineers protractor

#### DELA.1885.00

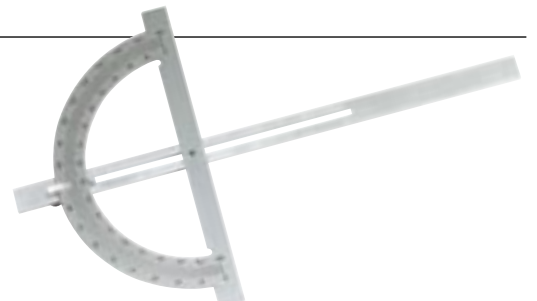
- Ground stainless steel.
  - Protractor base marked in mm.
  - Graduated 0 to 180 in both directions.
  - Protractor Ø 85 mm.
  - Rule length 170 mm.
  - Sight-hole with pointer for easy readings.
- ΔΔ : 50 g.



### Wide-arc protractor

#### DELA.1880.00

- Rule length 400 mm.
  - Hardened steel.
  - Open protractor for angle readings 10 to 170.
  - Ø 200 mm protractor.
  - Degree graduations.
  - Sliding rule with locking screw.
- ΔΔ : 420 g.



## Basic bevel protractors

### DELA.1897.02

- Stainless steel, without acute angle attachment.
  - Accurate to within 5 minutes of arc.
  - Length 300 mm.
  - Supplied in a case 370 x 145 x 35 mm.
- $\Delta\Delta$  : 400 g.



## Precision bevel protractor

### 813B.S


- Hardened stainless steel.
  - Anti-glare matt chrome finish.
  - Measuring range 0 to 360.
  - Minimum vernier reading 5 minutes of arc.
  - Dial diameter 70 mm.
  - Dimensions 315 x 75 x 20 mm.
  - Rotating dial with vernier and dial locking screw.
  - 2 rules with bevelled ends at 45 and 60 :
    - 1 short rule 20 mm x 16 mm.
    - 1 long rule 300 mm x 16 mm.
  - Offset rule 85 mm x 16 mm.
  - Sliding rule locking screw.
  - Magnifying lens.
  - Cast iron support base 70 mm x 30 mm.
  - Complete with a fitted rigid case 325 x 125 x 47 mm.
- $\Delta\Delta$  : 1.466 kg

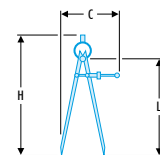


# Marking-out


## ► Dividers, calipers, compasses

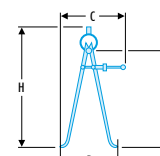
### DELA.1901 Dividers

	L mm	H mm	B mm	C mm	$\Delta\Delta$ g
DELA.1901.03	100	148	100	67	70
DELA.1901.04	125	165	125	77	80
DELA.1901.05	150	195	150	85	90
DELA.1901.07	200	245	200	100	160
DELA.1901.08	250	300	250	125	200
DELA.1901.09	300	350	300	140	240
DELA.1901.11	500	575	500	225	485




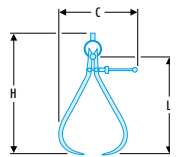
### DELA.1902 Inside calipers

	L mm	H mm	B mm	C mm	$\Delta\Delta$ g
DELA.1902.04	150	170	160	82	80
DELA.1902.06	200	225	210	100	165
DELA.1902.08	300	325	315	125	230



## DELA.1903 Outside calipers


	L mm	H mm	B mm	C mm	$\Delta\Delta$ g
DELA.1903.06	200	230	200	140	180
DELA.1903.07	250	280	250	165	210
DELA.1903.08	300	330	300	200	255

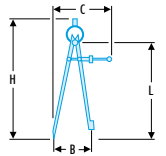


## Pencil compass

## DELA.1905.05



- Pencil  $\varnothing$  8 mm.

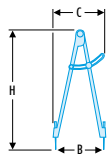
	L mm	H mm	B mm	C mm	$\Delta\Delta$ g
DELA.1905.05	250	300	250	125	210




## 823 Wing dividers

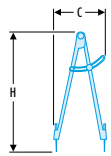
- Straight, rigid, polished steel legs, interchangeable hardened points.

	 Points only	H mm	B mm	C mm	$\Delta\Delta$ g
823.19	823.19SE1	190	220	70	235
823.25	823.25SE1	250	300	94	370



## DELA.1908 Point wing dividers

	H mm	B mm	C mm	$\Delta\Delta$ g
DELA.1908.03	220	220	68	180
DELA.1908.04	250	250	68	190



## Scribers

## Steel scriber

## 234

- Hardened chrome-vanadium steel tips.
  - Tip  $\varnothing$  4 mm.
  - Length 190 mm.
  - Polished chrome finish.
- $\Delta\Delta$  : 20 g.



## Scriber with interchangeable steel tips

## 234.S

- Hardened HSS tips.
  - Tips  $\varnothing$  4 mm.
  - Body  $\varnothing$  8 mm.
  - Length 260 mm.
- $\Delta\Delta$  : 58 g.



	Description
234.SP2	Set of 2 spare tips.

## Steel scriber

### DELA.1586.00

- Plastic body.
- Tip  $\varnothing$  4 mm.
- Body  $\varnothing$  8 mm.
- Length 210 mm.
- $\Delta\Delta$  : 20 g.



## Carbide pen scriber

### DELA.1589.00

- Hexagonal steel body with clip.
- Re grindable tip, length 12 mm,  $\varnothing$  2.5 mm.
- Length 150 mm.
- $\Delta\Delta$  : 35 g.



## Retractable carbide scriber

### 233A

- Body with clip.
- Double-dressed tungsten-carbide tip.
- Length 145 mm.
- Tip  $\varnothing$  2 mm.
- Body  $\varnothing$  8 mm.
- $\Delta\Delta$  : 16 g.



	Description
<b>233.P5</b>	Set of 5 spare tips

## Monobloc carbide scriber

### 236

- Inset tungsten-carbide tip for marking hard surfaces  $\varnothing$  2 mm.
- Octagonal body  $\varnothing$  12 mm.
- Length 180 mm.
- $\Delta\Delta$  : 30 g.



## Square tips

- Hardened steel point, square blade. Isoryl handle. For starting holes, chamfering, deburring, etc.

	Handle $\varnothing$ x L mm	Length mm	Blade $\square$ x L mm	$\Delta\Delta$ g
<b>AP.6x80</b>	30 x 110	190	6 x 80	72
<b>AP.8x125</b>	34 x 120	245	8 x 125	132

AP.8x125

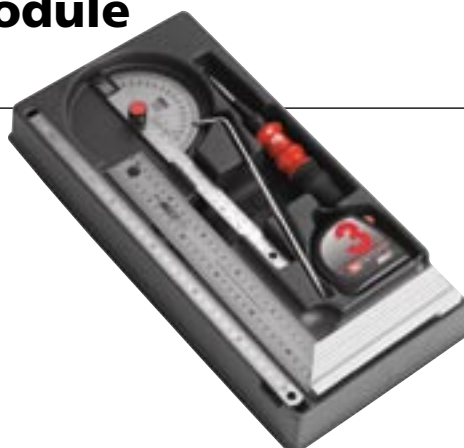


## ▶ Measuring and marking-out module


### Measuring and marking-out module

#### MOD.234


- 257G. Automatic centre punch.
- 234 Scriber.
- 893.316 Tape measure 3 m.
- DELA.1051.05 Rule 300 mm long.
- DELA.1885.00 Protractor.
- DELA.1223.02 Try and mitre square 300 mm long.
- Tray PL.633.
- $\Delta\Delta$  : 1.05 kg.







## European standards



### MID 2004/22/EC - A PASSPORT FOR EUROPE

**European Harmonisation**

- Applicable in the 25 Member States.
- A common procedure for the verification, bringing into conformity and inspection of measuring instruments.

**Scope**

- Material measure comprising marks whose distances are given in legal units of length.
- Placing products on the market.
- Putting into use.

**Entry into force**

- 30 October 2006.
- Gradual implementation over a period of 10 years.

### The main changes

**Bringing into conformity**

- The principle of quality assurance.
- Manufacturing process approval.
  - Includes the design and production phases.
  - The MID ensures that the products are manufactured under conditions guaranteeing the best quality.
- Choice of conformity modules according to :
  - Quality management system.
  - Expected flexibility of the manufacturing process.
  - Desired marketing flexibility.

**Manufacturer's liability**

- Assumes liability for product design and manufacture.
- Guarantees product compliance.
  - By applying CE marking.
  - By establishing declarations of conformity.

**Regulatory markings**

Length	Accuracy	Make	CE approval	M + the last two numbers of the year
<b>5 M</b>	<b>11</b>	<b>FACOM</b>	<b>CE</b>	<b>M07</b>
<b>XXXX</b>	<b>T1001</b>	<b>20°</b>	<b>50N</b>	
Certified body No. : 0122 for NMI	Type examination certificate No. (Only according to choice of module)	Information regarding normal conditions of use	Only for 5m long tape measures (does not apply to rigid or semi- rigid tape measures)	

**Implementation transition period**

- Does not concern EN tape measures already in use.
- Approval of current models
  - Replacement by MID when pattern approval is renewed.
- New products must comply with MID.



## Short tape measures

### EXCEPTIONAL ABRASION WEAR AND CORROSION RESISTANCE

#### Blade

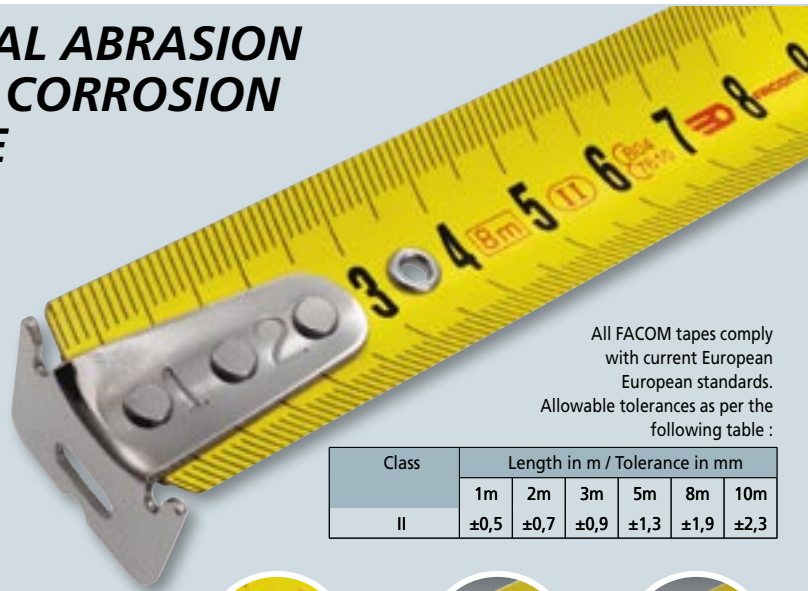
- High protection nylon coating.
- Professional-quality blade for all uses, ideal for intensive use.
- Optimum readability.  
Matt anti-glare finish.

#### High rigidity

- Up to 2.90m vertically and 2.30m horizontally without bending for the 25mm wide blade.

#### Hook

- Tensile strength exceeds 1,000 N (100 kg)
- Wide, protective hook.
- Hardened steel. Equipped with a stainless steel reinforcing plate. Sliding hook for hooking or internal and external measuring.



All FACOM tapes comply with current European standards.  
Allowable tolerances as per the following table :

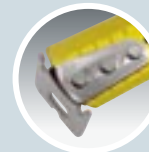
Class	Length in m / Tolerance in mm					
	1m	2m	3m	5m	8m	10m
II	±0,5	±0,7	±0,9	±1,3	±1,9	±2,3



Hardened, concave, carbon steel



High contrast, bold figures, differentiated graduations, red "tens" markers



Wide, hook

SELECTION GUIDE	Stainless steel case 897. nylon-coated blade	ABS case 893 nylon-coated blade	800 series stainless steel case, varnish-coated blade	ABS case 893F nylon-coated blade. Direct reading
2 M				
3 M				
5 M				<b>DIRECT READING :</b> For directly measuring the distance between two faces. 893.316F 
8 M				
10 M				



## ► Stainless steel case series

**New**

**SERIES 897**



**PROFESSIONAL  
QUALITY STAINLESS  
STEEL AND  
BI-MATERIAL TAPE  
MEASURES**



**Blade lock**

Ergonomic 2-position lock.  
Simple, effortless  
operation.



**Soft coating**

Comfortable, non-slip grip.  
Prevents shocks when  
dropped.  
Stainless steel case.



**Facom hook**

Corner protection  
to prevent accidental  
cutting.  
3 rivets for increased  
pulling resistance.



**Belt clip**

Stainless steel.

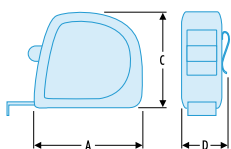
**Facom blade**

High performance nylon  
coating.

**New**

**897 Stainless steel case tape measure**

- Case with stainless steel reinforcing plate.
- Soft, heavy-duty, impact-resistant coating.
- Matt, anti-glare nylon-coated blade.
- Covering 3-rivet hook with stainless steel reinforcing plate.
- Horizontal and vertical blade rigidity : see table.
- Internal measurement obtained by adding dimension A (see table).
- Stainless steel belt clip.



№	I	L mm	A mm	D x C mm	Rigidity Max Vertical mm	Rigidity Max Horizontal m
<b>897.216</b>	2	16	70	32 x 64	1,6	1,5
<b>897.319</b>	3	19	70	32 x 64	2,2	1,9
<b>897.525</b>	5	25	78	41 x 72	2,8	2,4
<b>897.825</b>	8	25	90	40,5 x 82	2,8	2,4
<b>897.1025</b>	10	25	90	40.50x82	2,8	2,4



# Short tape measures

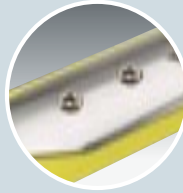


## Heavy-duty hook

**TENSILE STRENGTH EXCEEDS 1,000 N (100 KG)**



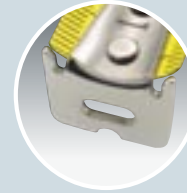
Non-slip serrations.



With stainless steel reinforcing plate.



Multi rivets.



Wide hook with protective lugs. Multi-functional.

## ▶ ABS Case Series



## Series 893

### COMPACT AND TOUGH



#### Easily accessible tape lock

For keeping a measurement, making comparative measurements, marking-out, etc.



#### Stainless steel belt clip

• For easy carrying.



#### Wrist strap hole

• Avoids dropping the tape, frees the hand. Hole (except 893.316F)

#### Functional case

• Base and bearing face at 90°. Rounded additional length.

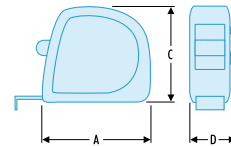


## ABS case tape measure - 2 metres with lock

### 893.213

- 2 m x 13 mm matt, anti-glare, nylon-coated blade.
- Blade rigidity : 1.30 m vertically - 1.20 m horizontally.
- 2-rivet hook with stainless steel reinforcing plate.
- Internal measurement obtained by adding dimension A (see table).
- Ergonomic ABS case.
- Blister card presentation (145x96 mm).

	↔	↕	A	C x D	ΔΔ
	m	mm	mm	mm	g
<b>893.213</b>	2	13	55	53 x 24	78

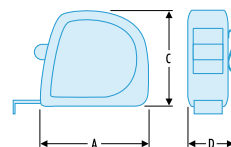


## ABS case tape measure - 3 metres with lock

### 893.316

- 3 m x 16 mm matt, anti-glare, nylon-coated blade.
- Blade rigidity : 1.80 m vertically - 1.50 m horizontally.
- 2-rivet hook with stainless steel reinforcing plate.
- Internal measurement obtained by adding dimension A (see table).
- Ergonomic ABS case.
- Blister card presentation (145x96 mm).

	↔	↕	A	C x D	ΔΔ
	m	mm	mm	mm	g
<b>893.316</b>	3	16	60	60 x 27	126



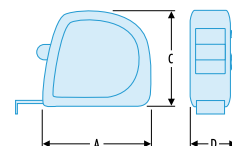


### ABS case tape measure - 3 metres top reading with lock

#### 893.316F

- 3 m x 16 mm matt, anti-glare, nylon-coated blade.
- Printed on both sides, for directly reading internal measurements in the window.
- Covering 2-rivet hook with stainless steel reinforcing plate.
- Ergonomic ABS case.
- Blister card presentation (145x96 mm).

	Blade	Blade	A	C x D	ΔΔ
	m	mm	mm	mm	g
<b>893.316F</b>	3	16	60	60 x 27	121

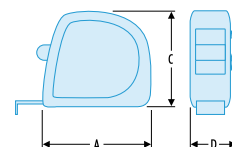


### ABS case tape measure - 5 metres with lock

#### 893.519

- 5 m x 19 mm matt, anti-glare, nylon-coated blade.
- Blade rigidity : 2.30 m vertically - 1.80 m horizontally.
- Covering 3-rivet hook with stainless steel reinforcing plate.
- Internal measurement obtained by adding dimension A (see table).
- Ergonomic ABS case.
- Blister card presentation (170x120 mm).

	Blade	Blade	A	C x D	ΔΔ
	m	mm	mm	mm	g
<b>893.519</b>	5	19	70	68 x 31	197

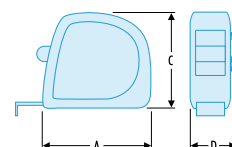


### ABS case tape measure - 8 metres with lock

#### 893.825

- 8 m x 25 mm matt, anti-glare, nylon-coated blade.
- Blade rigidity : 2.90 m vertically - 2.30 m horizontally.
- Covering 3-rivet hook with stainless steel reinforcing plate.
- Internal measurement obtained by adding dimension A (see table).
- Ergonomic ABS case.
- Blister card presentation (170x120 mm).

	Blade	Blade	A	C x D	ΔΔ
	m	mm	mm	mm	g
<b>893.825</b>	8	25	85	81,5 x 37,5	200

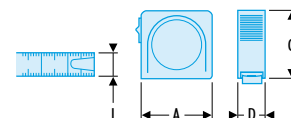


## ► Metal Case Series

### 800A-801A "Stainless" 2, 3 metres

- 2-rivet blade
- 16 mm wide, rigid up to 1.10m
- Compact.

	Blade	Blade	A	D x C	ΔΔ
	m	mm	mm	mm	g
<b>800A</b>	2	16	50	21,4 x 50	90
<b>801A</b>	3	16	60	21,4 x 60	125



## ► Metric and inch export series



### Ruban export mm/inches

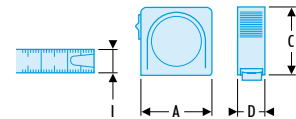


- Hardened steel blade, concave for stiffness.
- Yellow background, protective coating.
- Identical casing to equivalent metric series.

### 800A-801A.EX 2, 3 metres - 6, 10 FEET

- Same specifications as 800A-801A series.

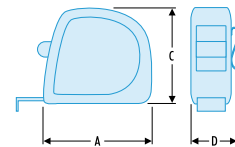
E	E		A	D x C	ΔΔ	
	m	ft				mm
<b>800A.EX</b>	2	6	16	50	21,4 x 50	90
<b>801A.EX</b>	3	10	16	60	21,4 x 60	125



### DELA.25-35-55.EX 2, 3, 5 metres - 6, 10, 16 FEET

- Same specifications as DELA.25-35-55 series.

E	E		A	D x C	ΔΔ	
	m	ft				mm
<b>DELA.25.00EX</b>	2	6	16	64	33 x 62	98
<b>DELA.35.00EX</b>	3	10	16	64	33 x 62	124
<b>DELA.55.00EX</b>	5	16	19	76	44 x 71	202





## Long tape measures

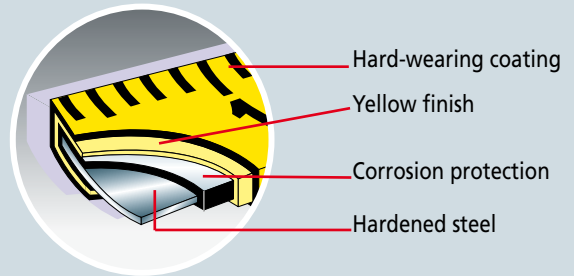


### FACOM DESIGNS AND DEVELOPS A RANGE OF PROFESSIONAL-GRADE LONG TAPES

*Plastiver tapes are ideal for outdoor applications, e.g. building sites.*

*Stringent inspection procedures ensure that our tapes conform to precision class I, II or III.*

#### STEEL TAPE : Class I and II



#### PLASTIVER TAPE : Class III



32 glass-fibre strands coated with PVC. centimetres marked in black and metres in red for excellent readability.

### ▶ Class I corrosion resistant steel tape



## Corrosion resistant steel tape.

#### Definition of class I

The particularly exacting tolerances of class I are limited to  $\pm 1/10$  millimetre per metre. Class I tapes are supplied complete with a COFRAC calibration certificate. They have the zero mark approximately 10 cm after the beginning of the tape.



#### Calibration certificate

These tapes come with a COFRAC-approved calibration certificate in line with ISO 9000 certification procedures. For 10m and 20m tapes, checks are made every metre. For 30m and 50m tapes, checks are at 5-metre intervals.

## DELA.62881 Open frames

- Paint-finish steel frame with folding winder.
- Tape guide-rollers.
- Loop with retractable claw.
- Zero mark 10 cm from loop.

DE	Length m	Width mm	Weight g
<b>DELA.62881.01C</b>	10	13	369
<b>DELA.62881.02C</b>	20	13	604



## DELA.62883 Challenger

- Ergonomic revolver handle with folding winder.
- Loop with retractable claw.
- Zero mark 10 cm from loop.
- Carrier case 325 x 275 x 56 mm.

DE	Length m	Width mm	Weight g
<b>DELA.62883.03C</b>	30	13	1270
<b>DELA.62883.04C</b>	50	13	1720



## ▶ Class II corrosion resistant steel tape

### DELA.2881 Open frames

- Paint-finish steel frame with folding winder.
- Tape guide-rollers.
- Loop with retractable claw.

DE	Length m	Width mm	Weight g
<b>DELA.2881.01</b>	10	13	369
<b>DELA.2881.02</b>	20	13	604
<b>DELA.2881.03</b>	30	13	874



### Class II Challenger tape measure - 50 m

#### DELA.2883.04

- Ergonomic revolver handle with folding winder.
- Loop with retractable claw.
- Carrier case 325 x 275 x 56 mm.

DE	Length m	Width mm	Weight g
<b>DELA.2883.04</b>	50	13	1720



### DELA.2831 Contoured cases

- Sealed ABS casing with retractable handle.
- Corrosion resistant tape.
- Folding winder.

DE	Length m	Width mm	Weight g
<b>DELA.2831.01</b>	10	10	175
<b>DELA.2831.03</b>	20	10	339
<b>DELA.2831.05</b>	30	10	493





## ▶ Class III Plastiver tape

### DELA.8947 Discover

- Closed synthetic case with folding winder.
- Graduated on both sides.
- Loop fitted with claw.
- Fast rewind.

	⊞ m	⊞ mm	ΔΔ g
DELA.8947.02	10	15	161
DELA.8947.03	20	15	318



### Class III Verajour tape measure - 20 m long

#### DELA.2882.20

- Open steel frame with folding winder.
- Graduated on both sides.
- Loop fitted with claw.
- Fast rewind.

	⊞ m	⊞ mm	ΔΔ g
DELA.2882.20	20	15	480



## Levels

### ▶ Engineers levels

#### DELA.3151 Two-vial levels

- Accuracy 0.4 mm/m
- Trued steel base with grooves for round objects.
- Adjustable horizontal vial with guard.

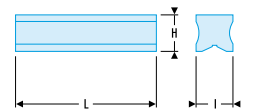
	L mm	ΔΔ g
DELA.3151.01	200	400
DELA.3151.02	300	550



#### 3067 Precision straight levels

- ▷ DIN 877.
- Stabilized cast iron.
- Comes in a wooden case with a certificate of conformity.
- Accuracy 0.04 mm/m.
- Non-slip insulating side pads.
- Colourless Plexiglas vial guard.
- Prismatic base with 140 vee.
- Ether spirit.

	L mm	I mm	H mm	ΔΔ kg
3067.200	200	40	42,5	1,62
3067.300	300	50	47	2,58

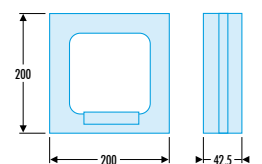


#### Frame level

##### 3071.200

- ▷ DIN 877.
- Stabilized cast iron.
- Comes in a wooden case with a certificate of conformity.
- Accuracy 0.04 mm/m.
- Non-slip insulating side pads.
- Colourless Plexiglas vial guard.
- Prismatic base with 140° vee.
- Ether spirit.

ΔΔ : 4.3 kg.



## DELA.3180 Round screw-down level

- Spherical vial.
- Nickel-plated brass.
- Multi-directional level checks.

⇒	∅	ΔΔ
	mm	g
DELA.3180.02	25	12
DELA.3180.03	30	20
DELA.3180.05	50	80

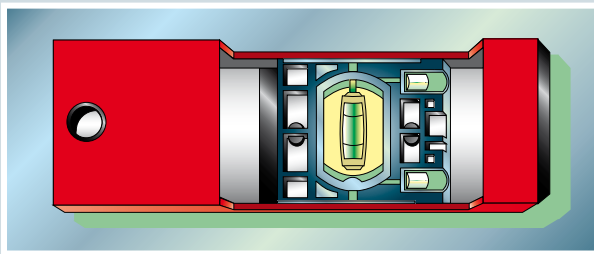


## ▶ Builders levels



### Levels

## EASY-TO-USE PROFESSIONAL QUALITY TOOLS



### Accuracy

- The accuracy of a level is defined by 2 elements :
  - The quality of machining of the flat faces,
  - The quality and positioning of the vial.
- Vial integral with the body of the level.



### Readability

- Vial machined from a solid acrylic block :
  - Anti-reflective
  - Anti-parallax
- Does not become clouded over time.
- High impact resistance.

### Durability

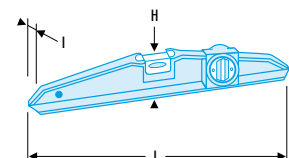
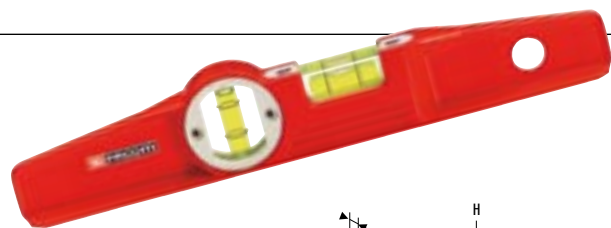
- Unbreakable synthetic caps.
- Impact-protection system providing maximum protection. to the face.
- Rigid.
- Leak proof and highly impact-resistant acrylic glass.

## ▶▶ Trapezoidal levels

### 307AM Magnetic levels

- ▷ DIN 877.
- Accuracy 0.75 mm/m when used upside down.
- Solid die-cast lightweight alloy body.
- Electrostatic powder coating.

⇒	L	H	l	ΔΔ
	mm	mm	mm	g
307AM.25	250	45	22	200
307AM.40	400	50	23	420
307AM.50	500	50	23	540
307AM.60	600	50	23	680

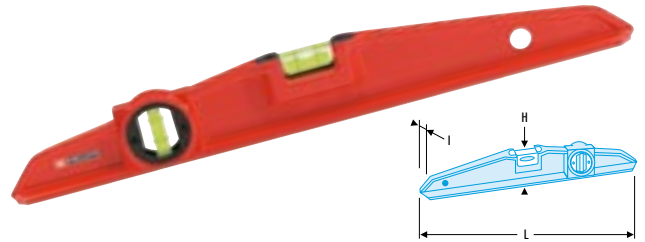


### 307A Standard levels

▷ DIN 877.

- Similar to 307AM but non-magnetic.

▣	L mm	H mm	I mm	ΔΔ g
<b>307A.25</b>	250	45	22	200
<b>307A.40</b>	400	50	23	420
<b>307A.50</b>	500	50	23	540
<b>307A.60</b>	600	50	23	680



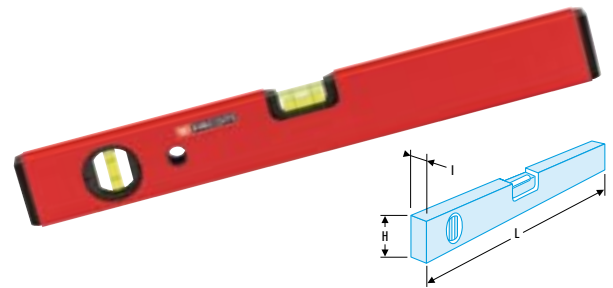
### ▶▶ Box section levels

#### 320 Standard levels, 1 machined faces

▷ DIN 877.

- Accuracy 0.75 mm/m when used upside down.
- Extruded lightweight alloy body.
- Electrostatic powder coating.
- 1 horizontal vial and 1 plumb vial.

▣	L mm	H mm	I mm	ΔΔ g
<b>320.40</b>	400	50	21	300
<b>320.50</b>	500	50	21	370
<b>320.60</b>	600	50	21	480
<b>320L.200</b>	2000	50	21	2000

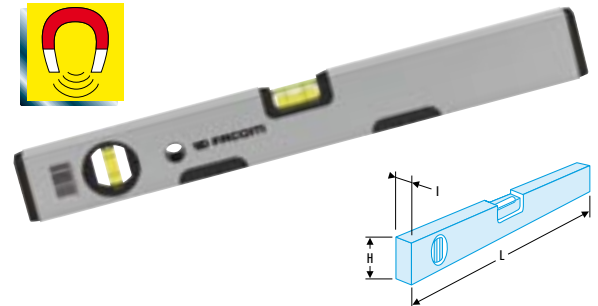


#### 309M Magnetic levels

▷ DIN 877.

- Accuracy 1 mm/m when used upside down.
- Extruded lightweight alloy body.
- Smooth anodised finish (easy to clean).
- 1 horizontal vial and 1 plumb vial.

▣	L mm	H mm	I mm	ΔΔ g
<b>309M.40</b>	400	50	21	300
<b>309M.50</b>	500	50	21	400

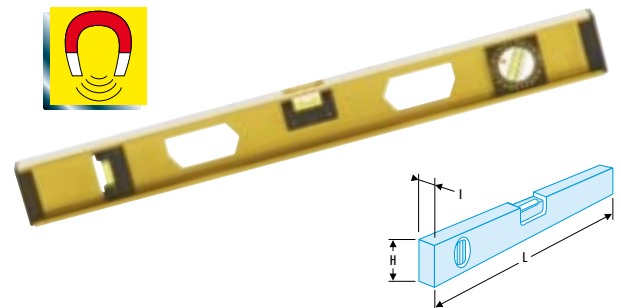


#### 311A Magnetic levels, 1 machined face

▷ DIN 877.

- Accuracy 0.5 mm/m when used upside down.
- 1 horizontal, 1 plumb and 1 protractor vial.

▣	L mm	H mm	I mm	ΔΔ kg
<b>311A.50</b>	500	54	25	0,57
<b>311A.60</b>	600	54	25	0,663
<b>311A.80</b>	800	54	25	0,88
<b>311A.100</b>	1000	54	25	1,08

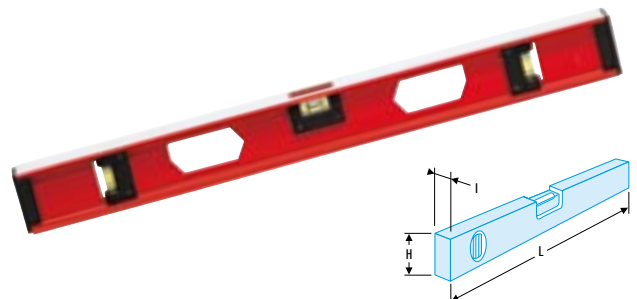


#### 310B Standard levels, 2 machined faces

▷ DIN 877.

- Accuracy 0.5 mm/m when used upside down.
- 1 horizontal vial and two plumb vials.

▣	L mm	H mm	I mm	ΔΔ g
<b>310B.40</b>	400	54	25	420
<b>310B.50</b>	500	54	25	520
<b>310B.60</b>	600	54	25	600





## Folding rules

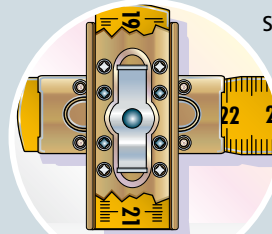
### FOLDING RULES ARE THE BUILDERS' TRADITIONAL MEASURING TOOL

#### The FACOM DELA range features 4 models

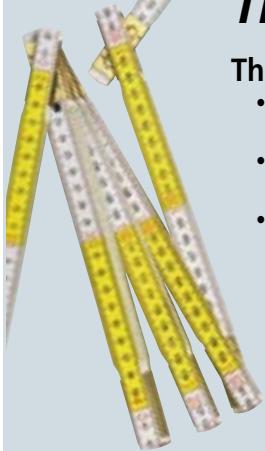
- 2 duralumin, 1 wooden and 1 synthetic rule, complying with the requirements of precision class III.
- The blades are locked into position either by brass springs or by embossed notches.
- Typical specifications for measuring instruments.

#### Tolérances de précision

Length	1 m	2 m
Class	± 1,0 mm	± 1,4 mm



Springs are located within the trim inlaid in the wood, preventing expansion of the joints in damp conditions.



## ► Class III Duralumin rules

### 5-blade rule, 1 m

#### DELA.625.00

- Deep etching.
- Graduated on both sides in mm.
- Brass springs.
- Satin finish.
- 15 mm wide.

ΔΔ : 92 g.

### 10-blade rule, 2 m

#### DELA.626.00

- Deep etching.
- Graduated on both sides in mm.
- Brass springs.
- Satin finish.
- 15 mm wide.

ΔΔ : 162 g.

## ► Class III hardwood rules

### 10-blade rule, 2 m

#### 802.B2

- Hornbeam for flexibility and strength.
- Abrasion-resistant varnish for high performance.
- Unique locking system for smoothness and accuracy.
- Decimals highlighted in red.
- Graduated in mm on 2 edges both sides.
- 16 mm wide.

ΔΔ : 135 g.

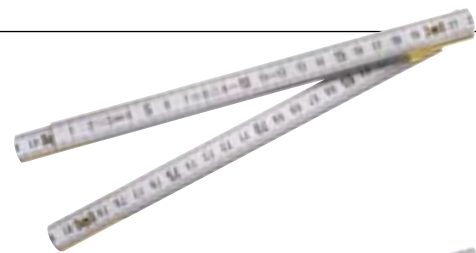
## ► Class III synthetic rules

### 10-blade rule, 2 m

#### DELA.401.00

- Graduated in mm on 2 edges both sides.
- Washable.
- Locks at 90° or 180°.

			Number of blades	ΔΔ g
DELA.401.00	m	mm	10	105





## ▶ Chalk line reels

### DELA.13299 "Profil" chalk line reels

- Ergonomic aluminium casing. Wear-resistant line entry.
- Fast rewind.
- Polycotton line Ø 1 mm, with hook.

	Length m	ΔΔ g
<b>DELA.13299.30</b>	30	265
<b>DELA.13299.15</b>	15	250

	Length m	Description	ΔΔ g
<b>DELA.3226.01.CORD</b>	100	Spare line	100



### DELA.3298 Chalk line reels and plumb lines

- Metal case with folding handle for reel lock.
- Line Ø 1.5 mm.

	Length m	ΔΔ g
<b>DELA.3298.15</b>	15	240
<b>DELA.3298.30</b>	30	250

	Length m	Description	ΔΔ g
<b>DELA.3225.02</b>	25	Spare line	50



### Grodel chalk line

#### DELA.3400.00

- Building site and construction model.
- Heavy-duty synthetic casing with folding handle.
- Large chalk reservoir.
- Line Ø 3 mm.

	Length m	ΔΔ g
<b>DELA.3400.00</b>	30	500

	Description
<b>DELA.3403.00</b>	Spare line (30 m)



## ▶ Powder and unbleached cotton twine

### Blue chalk powder

	ΔΔ g
<b>DELA.3402.00</b>	100
<b>DELA.3404.00</b>	360



## ▶ Plumb lines

### Plumb lines

- DELA.3210 Cone plumb-line, with clearance plate and 4m line Ø 2 mm.
- DELA.3224.00 Engineers plumb-line, with 4m line Ø 2 mm.

	Ø mm	ΔΔ g
<b>DELA.3210.02</b>	35	160
<b>DELA.3224.00</b>	16	125

	Description
<b>DELA.3226.03</b>	Spare line (45 m)



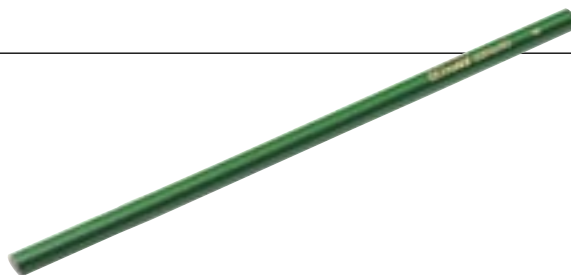
## ► Pencils

### Masons hard pencil (2 x 30 cm)

#### DELA.3303.00

- Rectangular lead pencil ideal for marking-out.
- Available loose.

	a x b cm	ΔΔ g
DELA.3303.00	1 x 30	18

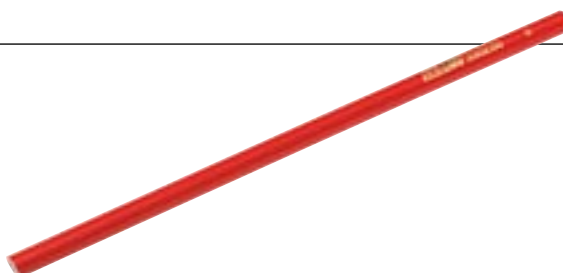


### Joiners soft pencil (1 x 30 cm)

#### DELA.3302.00

- Rectangular lead pencil ideal for marking-out.
- Available loose.



	a x b cm	ΔΔ g
DELA.3302.00	1 x 30	15



## ► Chalk

### DELA.3312 Wax markers

- Suitable for all surfaces including metal.
- Withstands temperatures up to 1200°C.

	Colour		A mm	B mm	ΔΔ g
DELA.3312.02P1	■	12	13	92	210
DELA.3312.03P1	■	12	13	92	210
DELA.3312.04P1	□	12	13	92	210



### French chalks


#### DELA.3310.00

- Tapered chalk sticks for marking metal.
- Cross section 10 x 10, length 100 mm.
- Colour white.
- Box of 50.
- ΔΔ : 1.3 kg.



## ► Letter and number stencils

### DELA.13250 Alphabet sets of 26 capitals 30 to 100 mm high


	Height mm	ΔΔ g
DELA.13250.06	30	100
DELA.13250.08	40	180
DELA.13250.10	50	275
DELA.13250.12	70	490
DELA.13250.13	80	540
DELA.13250.15	100	800



## ▶ Number and letter punches in 60 HRC carbon steel

### 292A Punch sets, 26 letters + dot


- Supplied in a plastic box.

▣	Length mm	 mm	Characters height mm	Cross-section mm	ΔΔ kg
<b>292A.2</b>	70	110 x 40 x 80	2	8 x 8	0,8
<b>292A.3</b>	70	110 x 40 x 80	3	8 x 8	0,8
<b>292A.4</b>	70	110 x 40 x 80	4	8 x 8	0,8
<b>292A.5</b>	75	110 x 40 x 80	5	10 x 10	1,34
<b>292A.6</b>	75	110 x 40 x 80	6	10 x 10	1,35
<b>292A.8</b>	83	145 x 55 x 90	8	13 x 13	2,52
<b>292A.10</b>	90	145 x 55 x 90	10	15 x 15	3,75



### 293A Punch sets, 9 numerals

- Supplied in a plastic box.

▣	Length mm	 mm	Characters height mm	Cross-section mm	ΔΔ kg
<b>293A.2</b>	70	40 x 40 x 80	2	8 x 8	0,265
<b>293A.3</b>	75	40 x 40 x 80	3	8 x 8	0,270
<b>293A.4</b>	75	40 x 40 x 80	4	8 x 8	0,275
<b>293A.5</b>	75	40 x 40 x 80	5	10 x 10	0,460
<b>293A.6</b>	75	40 x 40 x 80	6	10 x 10	0,460
<b>293A.8</b>	83	55 x 55 x 90	8	13 x 13	0,925
<b>293A.10</b>	90	55 x 55 x 90	10	15 x 15	1,275



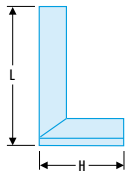
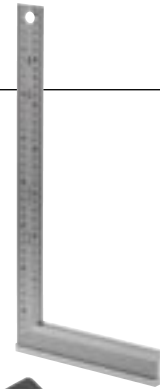
## Joiners squares

### DELA.1223 Stainless try and mitre squares

- ▷ NF E 73-205.

- Stainless steel blade, mm markings both sides, protective sheath.
- Anti-glare. Deep graduations.
- Anodized aluminium stock.

▣	L x H mm	ΔΔ g
<b>DELA.1223.01</b>	200 x 120	160
<b>DELA.1223.02</b>	250 x 140	200
<b>DELA.1223.03</b>	300 x 170	240
<b>DELA.1223.04</b>	400 x 200	300



### Measuring and marking-out module

#### MOD.234

- 257G. Automatic centre punch.
- 234 Scriber.
- 893.316 Tape measure 3 m.
- DELA.1051.05 Rule 300 mm long.
- DELA.1885.00 Protractor.
- DELA.1223.02 Try and mitre square 300 mm long.
- Tray PL.633.

ΔΔ : 1.05 kg.

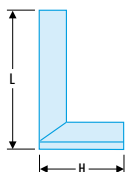
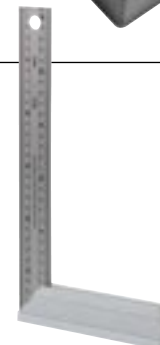


### DELA.1234 Duralumin try and mitre squares

- ▷ NF E 73-205.

- Duralumin blade, mm markings both sides, protective sheath.
- Anti-glare. Deep graduations.
- Anodized aluminium stock.

▣	L x H mm	ΔΔ g
<b>DELA.1234.01</b>	200 x 120	140
<b>DELA.1234.02</b>	250 x 140	175
<b>DELA.1234.03</b>	300 x 170	200
<b>DELA.1234.04</b>	400 x 200	260



## Double mitre squares

### DELA.1206.03

- Steel blade, fruitwood stock.
- Length 300 mm, height 170 mm.

	Blade length mm	$\Delta\Delta$ g
DELA.1206.03	300	160



# Measuring tools for construction

## DELA.1207-1208 Standard and sliding bevels

- Hardwood stock, steel blade, brass fittings.

	Blade length mm	$\Delta\Delta$ g
DELA.1207.02	250	150
DELA.1207.03	300	180
DELA.1208.02	250	120
DELA.1208.03	300	140



## DELA.1210 Sliding bevels

- Polypropylene stock.
- Steel blade.

	Blade length mm	$\Delta\Delta$ g
DELA.1210.01	200	80
DELA.1210.02	250	90
DELA.1210.03	300	100



## DELA.1276 Metal-stock sliding bevels

- Cast metal stock.
- Steel blade.
- Blade locking screw in stock end.

	Blade length mm	$\Delta\Delta$ g
DELA.1276.02	250	260
DELA.1276.03	300	270



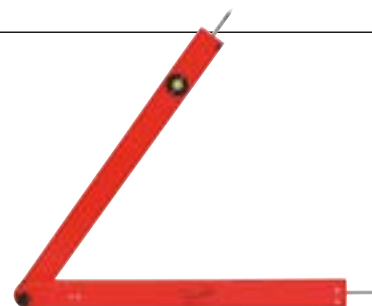
## ▶ Angle reader

### Angle reader

#### DELA.7598.00

- Analogue display of measurements from 0 to 180°.
- Direct reading.
- Thumbscrew locks angle.
- Integral horizontal and vertical vials.
- Option to replace one point with a marker (field dividers).
- Arm length 600 mm.

$\Delta\Delta$  : 1.32 kg.





## ▶ Sounding tapes

### DELA.5111 Earthed sounding line Yellow-finish steel tape

- Corrosion-resistant hardened steel tape finished in yellow.
- Suitable for explosive environments.
- Earthed to prevent electrical discharges.
- 900g weight attached by swivel-joint to keep the tape kink free.
- Stored in carrier case 325 x 278 x 53 mm.

➤	L m	l mm	ΔΔ kg
<b>DELA.5111.20</b>	20	13	2,3
<b>DELA.5111.30</b>	30	13	2,5



### 5112 Earthed plumb-rule sounding line Black etched steel tape

- Etched black tape with highlighted numbers and graduations.
- Suitable for corrosive and chemical environments.
- Corrosion-resistant.
- Earthing system.
- 900g weight attached by swivel-joint to keep the tape kink free.
- Stored in carrier case 325 x 278 x 53 mm.

➤	L m	l mm	ΔΔ kg
<b>5112.20</b>	20	13	2,4
<b>5112.30</b>	30	13	2,75



## ▶ Spare parts

### 5116 Yellow-finish tape with ballast

➤	L m	l mm	ΔΔ kg
<b>5116.20A</b>	20	13	1,255
<b>5116.30A</b>	30	13	1,400



### 5117 Black etched tape with ballast

➤	L m	l mm	ΔΔ kg
<b>5117.20A</b>	20	13	1,255
<b>5117.30A</b>	30	13	1,400

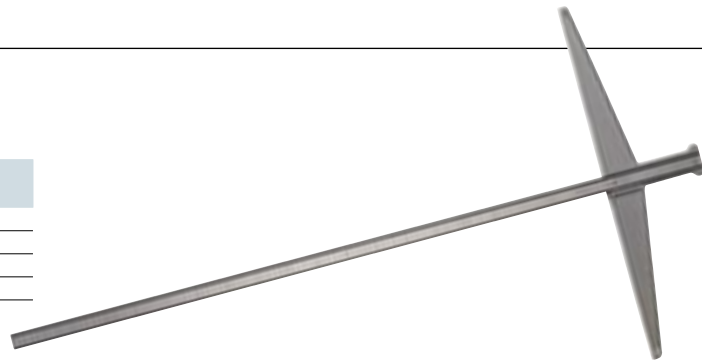


## ► Outage and innage gauges

### DELA.5360 Outage gauge, top zero

- Rule in AU4G. Graduations in mm.
- Support cross-section 15 x 25 x 15 mm.
- Cross-bar length 60 cm.

⇒	Length mm	Cross-section mm	ΔΔ kg
<b>DELA.5360.01</b>	500	21,5 x 1,2	1
<b>DELA.5360.02</b>	600	21,5 x 1,2	1,05
<b>DELA.5360.06</b>	1000	21,5 x 1,2	1,2
<b>DELA.5360.07</b>	1500	21,5 x 1,2	1,24



### DELA.5300 Innage gauge, bottom gauge

- Graduations in mm, figured in cm. Rule in AU4G.
- Support cross-section 15 x 25 x 15 mm.

⇒	Length mm	Cross-section mm	ΔΔ kg
<b>DELA.5300.03</b>	2000	21,5 x 1,2	0,75
<b>DELA.5300.05</b>	3000	21,5 x 1,2	1
<b>DELA.5300.06</b>	3500	21,5 x 1,2	1,16



### DELA.5301 Innage gauge

- Support cross-section 20 x 40 x 20 mm. Rule in AU4G.
- Graduations in mm, figured in 1/2 dm.

⇒	Length mm	Cross-section mm	ΔΔ kg
<b>DELA.5301.03</b>	4000	33,4 x 1,2	3,4
<b>DELA.5301.05</b>	5000	33,4 x 1,2	4,1



### Brass slide

#### DELA.5023.00

- Dimensions 15 x 25 x 15 mm.
  - Fits series 5360 and 5300.
- ΔΔ : 90 g.



### Sliding guard

#### DELA.5046.01

- Dimensions 15 x 25 x 15 mm.
  - Fits series DELA.5360 and DELA.5300.
- ΔΔ : 650 g.

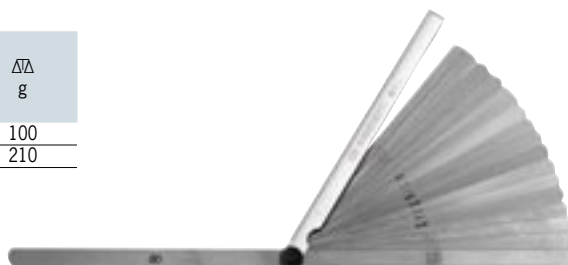


## ▶ Feeler gauges

### Long metric feeler gauges

- Rounded tips.

	Number of blades	Blade length mm	Blade width mm	Blade thickness in 1/100 mm	ΔΔ g
<b>804.L</b>	19	150	10	4-5-6-7-8-9-10-15-20-25	100
<b>804.SL</b>	19	250	10	30-35-40-50-60-70-80-90-100	210



### Metric feeler gauges

- Blade length 90 mm.

	Number of blades	Blade profile	Width x length of blades in mm	Blade thickness in 1/100 mm	ΔΔ g
<b>804</b>	19		10 x 90	4-5-6-7-8-9-10-15-20-25-30	60
<b>804.P</b>	19		10 x 90	35-40-50-60-70-80-90-100	60



### Non-magnetic metric feeler gauges

#### 804.AM

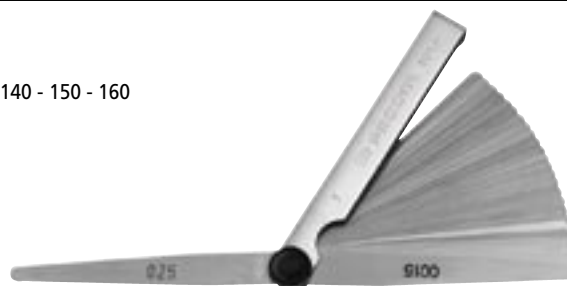
- Blade thickness in 1/100 mm.
  - 19 blades : 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - 50 - 55 - 60 - 65 - 70 - 75 - 80 - 85 - 90 - 95 - 100.
  - Brass blades 1000 mm long.
  - Width : 10 mm.
  - Tapered tips.
- ΔΔ : 110 g.



### Inch feeler gauges

#### 804.U

- Blade thickness in 1/10,000".
  - 26 blades : 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 80 - 90 - 100 - 110 - 120 - 130 - 140 - 150 - 160 - 170 - 180 - 190 - 200 - 210 - 220 - 230 - 240 - 250.
  - Tapered tips.
  - Length : 3 1/2" (88.9 mm).
  - Width : 15/32".
- ΔΔ : 83 g.



## ▶ Radius gauges

### Radius gauges

- For internal and external radii.
- Hardened steel blades. 3 models cover radii from 1 mm to 25 mm.



	Number of blades	mm	Set contents	ΔΔ g
<b>DELA.1786.00</b>	34	1 -> 7	1-1.25-1.50-1.75-2-2.25-2.50-2.75-3-3.5-4-4.50-5-5.50-6-6.50-7	65
<b>DELA.1787.00</b>	32	7,5 -> 15	7.50-8-8.50-9-9.50-10-10.50-11-11.50-12-12.5-13-13.50-14-14.50-15	80
<b>DELA.1790.00</b>	30	15,5 -> 25	15.50-16-16.50-17-17.50-18-18.50-19-19.50-20-21-22-23-24-25	125

## ► Screw pitch gauges

### 814 Screw pitch gauges



Code	Thread forms	Number of blades	Pitch recognition	ΔΔ g
<b>814.M</b>	Metric thread	60 cutting gauge + 31 blades	25 - 30 - 35 - 40 - 45 - 50 - 55 - 60 - 65 - 70 - 75 - 80 85 - 90 - 100 - 110 - 120 - 125 - 130 - 140 - 150 - 160 170 - 175 - 180 - 190 - 200 - 225 - 250 - 275 - 300	53
<b>814.NI</b>	I.S.O thread	60 cutting gauge + 25 blades	0.25 - 0.30 - 0.35 - 0.40 - 0.45 - 0.50 - 0.60 - 0.70 0.75 - 0.80 - 1.00 - 1.25 - 1.50 - 1.75 - 2.00 - 2.50 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 5.50 - 6.00 - 6.50 - 7.00	35
<b>814.WH</b>	Whitworth thread	55 cutting gauge + 29 blades	4 - 4.5 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 16 - 18 - 19 20 - 22 - 24 - 25 - 26 - 28 - 30 - 32 - 34 - 36 - 38 - 40 - 48 - 60	40
<b>814.G</b>	Gas thread	8 blades	Female threads : 11 - 14 - 19 - 28 Male threads : 11 - 14 - 19 - 28	20

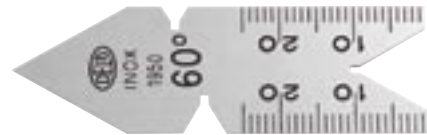
## ► Miscellaneous gauges

### Angle gauge

#### DELA.1950.00

- 60 screw pitch gauge. Stainless steel.
- Graduated in mm on one side and 1/2 mm on the other. Useful for lathe-tool and thread angles.

ΔΔ : 30 g.



### Drill gauge

#### DELA.1952.00

- Gives correct drill-bit cutting angle of 120.
- Cutting edge gauge graduated 0-20 in mm and 1/2 mm.
- Stainless steel.

ΔΔ : 50 g.

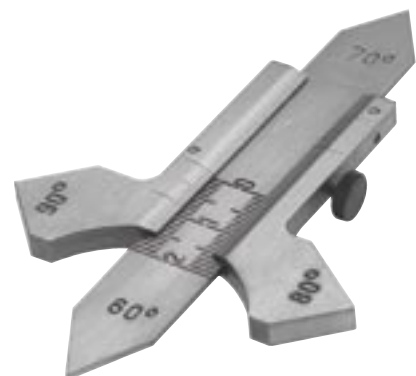


### Welders gauge

#### DELA.1960.00

- Gives correct 60, 70, 80 and 90 weld fillet angles.
- Includes 1/10 vernier for measuring weld seams.
- Steel.

ΔΔ : 76 g.







# 10. Hammers and striking tools

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- Hickory handle hammers..... 464
- Club and sledge hammers and wooden mallets ..... 467

## ▶ Soft-faced hammers and mallets 468



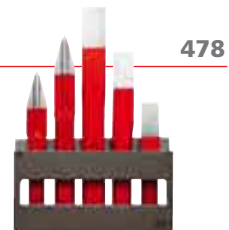
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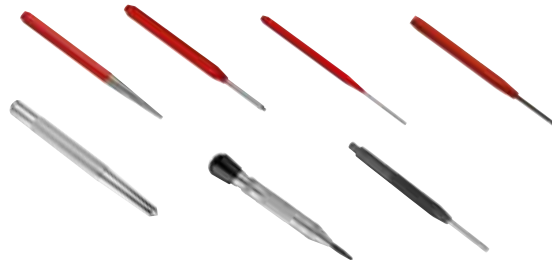


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# 10 Hammers - mallets

## ▶ Graphite handle hammers

**New**

## GRAPHITE HANDLE HAMMERS



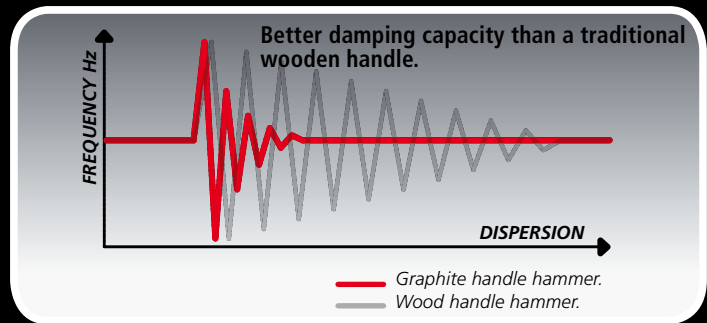
### THE SAFE HAMMER

#### Maximum safety.

- Permanent epoxy resin head-to-handle connection.
- Unbreakable.

#### Absolute comfort

- Anti vibration : absorbent material and narrow upper handle profile to reduce vibration.



#### Positive grip.

- Soft elastomer handle for a comfortable hold.
- Wider guard to prevent loss of grip.

#### A combination of 3 materials for a perfect result.

##### 1- Graphite :

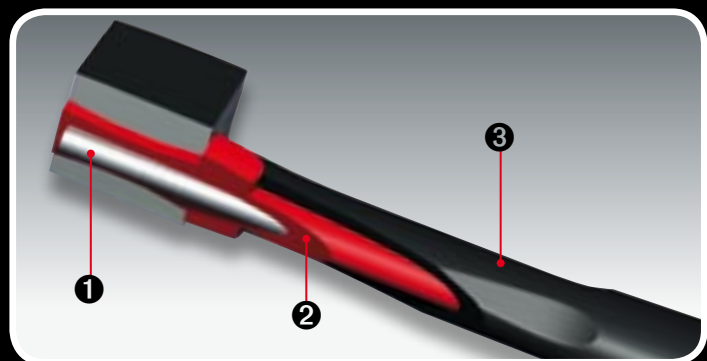
For strength. No risk of breakage.

##### Polypropylene :

For reduced vibration.

##### Elastomer :

For a perfect grip and excellent resistance to corrosive workshop liquids.



Safety first

Wear eye protection.





New

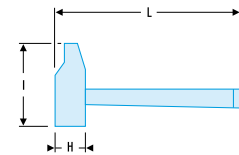
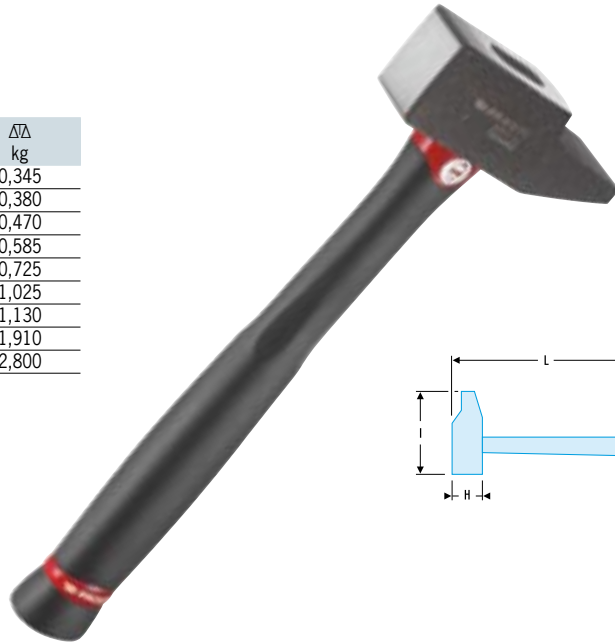
## 200C Graphite handle "riveting" engineers hammer

▷ NF E 71-014, ISO 15601.

- Graphite core safety handle.

№	l mm	H mm	L mm	$\Delta\Delta$ kg
<b>200C.26</b>	80	25	245	0,345
<b>200C.28</b>	88	28	270	0,380
<b>200C.30</b>	93	30	270	0,470
<b>200C.32</b>	100	32	300	0,585
<b>200C.36</b>	106	35	300	0,725
<b>200C.40</b>	108	40	330	1,025
<b>200C.42</b>	117	42	330	1,130
<b>200C.50</b>	138	50	360	1,910
<b>200C.60</b>	151	60	380	2,800

**Profiber**



New

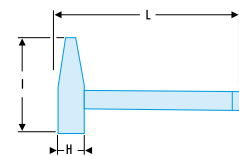
## 205C Graphite handle "DIN" engineers hammer

▷ ISO 15601, DIN 1041, NF ISO 15601.

- Graphite core safety handle.

№	l mm	H mm	L mm	$\Delta\Delta$ kg
<b>205C.20</b>	96	19	280	0,250
<b>205C.30</b>	106	23	300	0,380
<b>205C.50</b>	122	27	320	0,580
<b>205C.80</b>	132	33	350	0,960
<b>205C.100</b>	137	36	360	1,140

**Profiber**





New

WOOD HANDLE HAMMERS



SAFE, ERGONOMIC AND COMFORTABLE

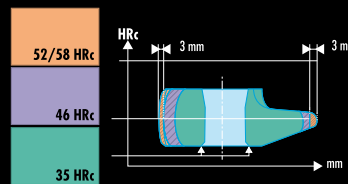
Head.

"High security" triple wedge handle attachment :

- 2 steel + 1 wooden wedge for a better distribution contact surfaces between the handle and the head.

Head very firmly secured on the handle

- Precise heat treatment of the head.



Handle.

Hickory :

- Excellent mechanical strength.
- Unaffected by climatic differences.

Octagonal handle profile :

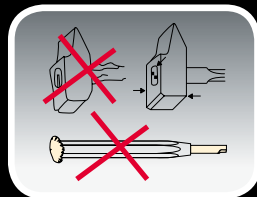
- Exclusive to FACOM.
- Best compromise between mechanical strength and absorption of vibration.



Growth ring

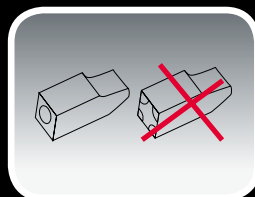
Our handles are made only from blocks with a strictly defined number of growth rings as this determines the rate of growth of the tree.

Fast growth, few rings, low density wood and thus low mechanical strength.



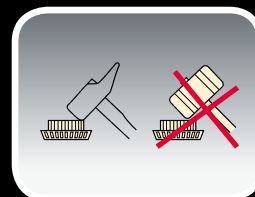
Always inspect a hammer before use. If damaged in any way, discard it. Watch out for :

- Excessively worn or mushroomed head.
- Suspect fit.
- Scored handle.

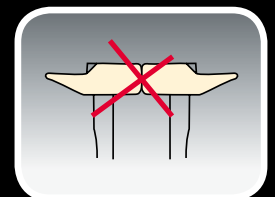


For safety, the hammer should hit dead square in the centre of the face.

Facom hammers are quality tools. Steady precise blows will prolong tool life.



Flying chips are dangerous. never hammer materials harder than 46 HRC. Use a FACOM mallet instead.



Always choose the, correct head, of appropriate weight and size :

the FACOM range includes models for all applications.



Safety first

Wear eye protection

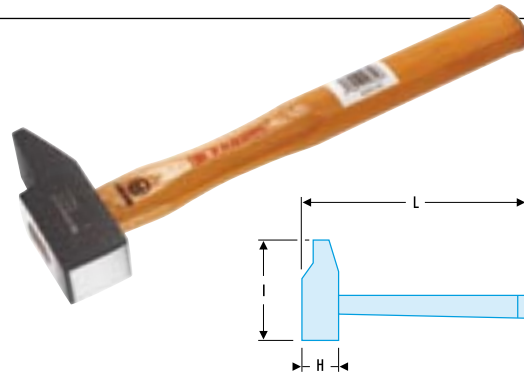


## 200H Riveting hammers

▷ NF E 71-014, ISO 15601.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

➤	l mm	H mm	L mm	Hickory	ΔΔ kg
<b>200H.26</b>	80	25	245	210.MHB01	0,345
<b>200H.28</b>	88	28	270	210.MHB02	0,380
<b>200H.30</b>	93	30	270	210.MHB03	0,470
<b>200H.32</b>	100	32	300	210.MHB04	0,585
<b>200H.36</b>	106	35	300	210.MHB04	0,725
<b>200H.40</b>	108	40	330	210.MHB05	1,025
<b>200H.42</b>	117	42	330	210.MHB05	1,130
<b>200H.50</b>	138	50	360	210.MHB06	1,910
<b>200H.60</b>	151	60	380	210.MHB27	2,800



## Impact tool module

### MOD.MI1

200H.32 Hammer.

208A.32CB Mallet.

263.20 Chisel.

256.6 Centre punch.

248. Long drift punches 4 - 5 - 6 mm.

- Complete with tray PL.333.

ΔΔ : 1.800 kg.

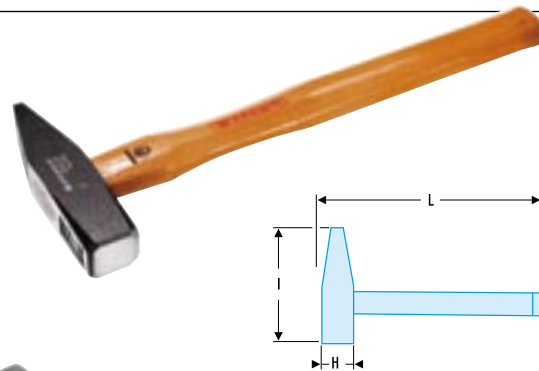


## 205H "DIN" engineers hammers

▷ ISO 15601, DIN 1041, NF ISO 15601.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

➤	l mm	H mm	L mm	Hickory	ΔΔ kg
<b>205H.20</b>	96	19	280	210.MHB12	0,250
<b>205H.30</b>	106	23	300	210.MHB13	0,380
<b>205H.50</b>	122	27	320	210.MHB14	0,580
<b>205H.80</b>	132	33	350	210.MHB15	0,960
<b>205H.100</b>	137	36	360	210.MHB16	1,140



## Impact tool module 205

### MOD.MI3

- Comprising :

- 205H.50 Hammer.

- 208A.32CB Mallet.

- 263.18 Chisel.

- 256.6 Centre punch.

- 248. Long drift punches 4 - 5 - 6 mm.

- Tray PL.333.

ΔΔ : 1.705 kg.

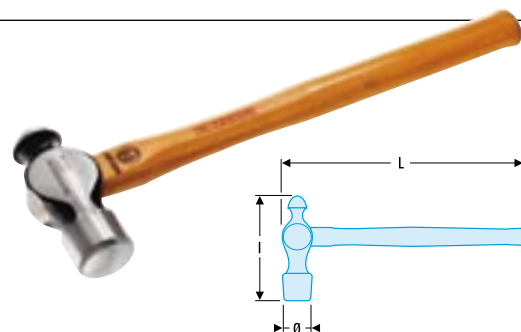


## 202H Ball pein engineers hammers

▷ ISO 15601.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

➤	l mm	Ø mm	L mm	Hickory	ΔΔ kg
<b>202H.1/4</b>	65	20	275	210.MHB07	0,140
<b>202H.1/2</b>	84	26	297	210.MHB08	0,280
<b>202H.1</b>	104	31	322	210.MHB09	0,430
<b>202H.1'1/2</b>	123	37	363	210.MHB10	0,840
<b>202H.2</b>	128	40	394	210.MHB11	1,110



## Impact tool module 202

**MOD.MI4PB**

202H.1/2 Hammer.

208A.32CB Mallet.

263.18 Chisel.

256.6 Centre punch.

248. Long drift punches 4 - 5 - 6 mm.


• Complete with tray PL.333.

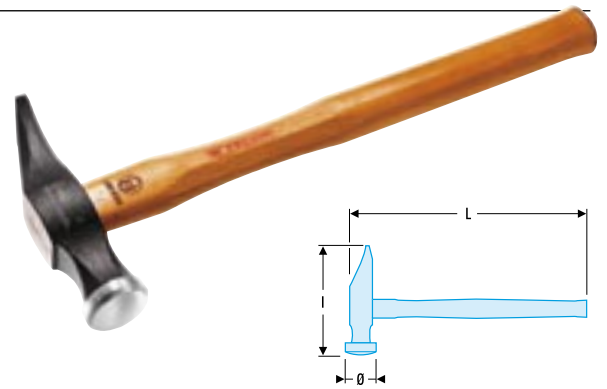
ΔΔ : 1.45 kg.

**860H Round face dinging hammers**

▷ ISO 15601, NF ISO 15601.

• Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

▣	l mm	Ø mm	L mm	 Hickory	ΔΔ kg
<b>860H.22</b>	104	22	280	210.MHB25	0,180
<b>860H.26</b>	114	26	297	210.MHB26	0,340
<b>860H.28</b>	118	28	297	210.MHB26	0,370
<b>860H.30</b>	123	30	314	210.MHB28	0,440
<b>860H.32</b>	134	32	339	210.MHB29	0,570
<b>860H.36</b>	139	36	339	210.MHB29	0,700
<b>860H.40</b>	149	40	377	210.MHB31	0,920

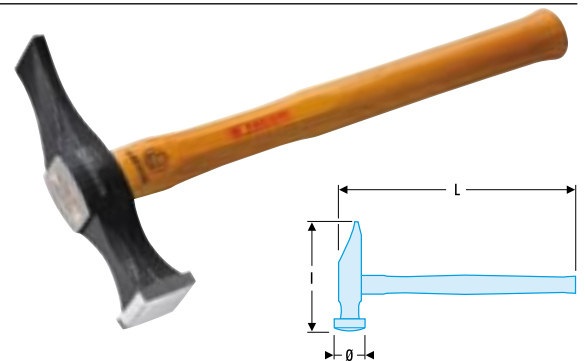
**Square face dinging hammer****859A.28**

▷ ISO 15601.

• Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).


ΔΔ : 560 g.

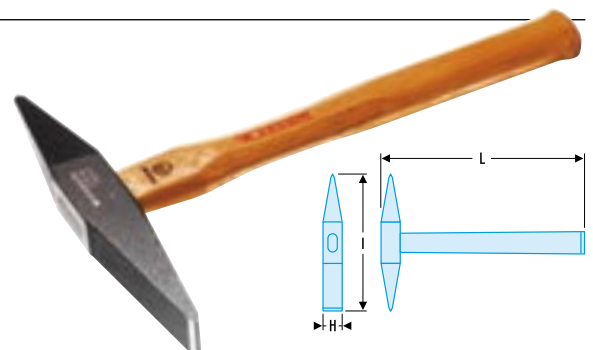
▣	Handles	l mm	H mm	L mm	ΔΔ kg
<b>859H.28</b>	210.MHB34	140	28	319	0,560

**213H Welders chipping hammers**

▷ ISO 15601, DIN 6465, NF ISO 15601.

• Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

▣	l mm	H mm	L mm	 Hickory	ΔΔ kg
<b>213H.30</b>	170	21	270	210.MHB32	0,340
<b>213H.40</b>	180	21	270	210.MHB32	0,480





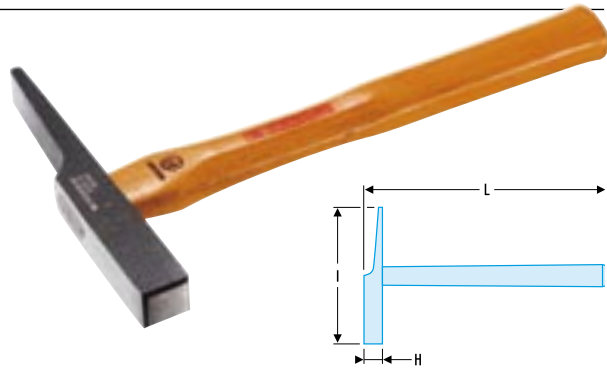
# Hammers - mallets

## 203H Electricians hammer

▷ ISO 15601, NF E 71-011.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).



	I mm	H mm	L mm	 Hickory	$\Delta\Delta$ kg
<b>203H.16</b>	141	16	237	210.MHB17	0,160
<b>203H.18</b>	142	18	237	210.MHB18	0,200

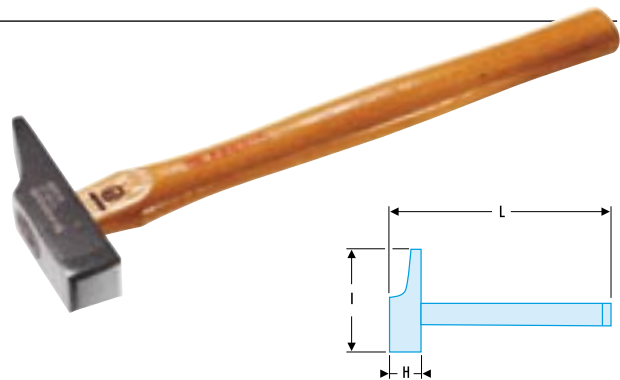


## 215H Joiners hammers

▷ ISO 15601, NF E 71-012.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

	I mm	H mm	L mm	 Hickory	$\Delta\Delta$ kg
<b>215H.20</b>	91	20	264	210.MHB19	0,210
<b>215H.22</b>	99	22	283	210.MHB20	0,270
<b>215H.26</b>	109	26	285	210.MHB21	0,360

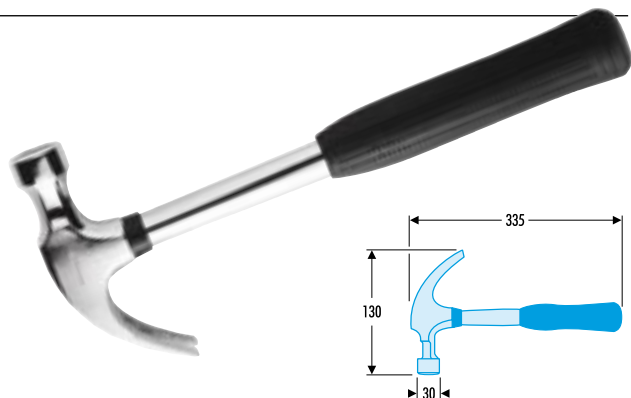


## Claw hammer

### 204

- Permanent tubular handle, Neoprene grip.
- Balanced head with nail claw.
- Polished chrome finish.

$\Delta\Delta$  : 800 g.





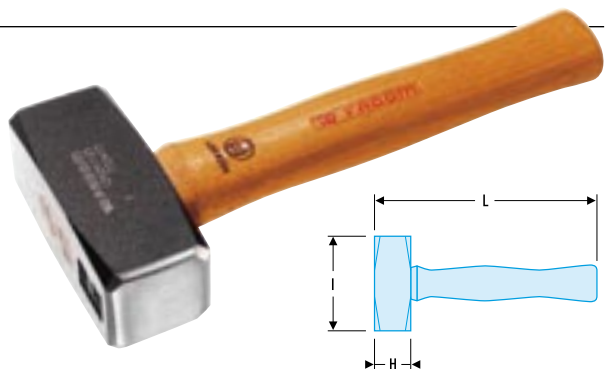
## ► Club and sledge hammers and wood mallets

### 1262H Bevelled edge club hammers

▷ ISO 15601, DIN 6475, NF ISO 15601.

- Hickory handle, "high security" triple wedge design (1 wooden and 2 metal wedges).

	I mm	H mm	L mm	 Hickory	$\Delta\Delta$ kg
<b>1262H.100</b>	100	40	245	210.MHB22	1,000
<b>1262H.125</b>	105	43	248	210.MHB23	1,250
<b>1262H.150</b>	115	45	254	210.MHB24	1,500





## Sledge hammer

### 1263A.400

▷ ISO 15601, DIN 6475, NF ISO 15601.

- "High security" hickory handle.

Code	Handles	l mm	H mm	L mm	ΔΔ kg
1263H.400	210.MHB35	175	60	880	4,800
Code	Description				
210.MH45	Spare sledge hammer handle				

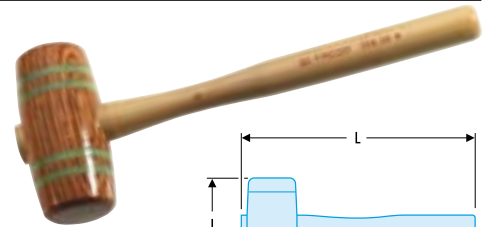


## 209 Wood mallets

▷ DIN 7462.

- Compressed laminated wood.
- Inset glass-fibre bands.
- Hornbeam handle.

Code	Ø mm	L mm	l mm	ΔΔ g
209.50	50	290	100	320
209.60	60	320	120	500
209.70	70	360	140	760



# Soft face hammers

## ▶ Dead-blow hammers



### Dead-blow hammers

**SAFE, ERGONOMIC AND COMFORTABLE**

**Deadening the blow**

- The head is half-filled with steel balls, the mass of which has sufficient inertia to counteract any tendency to bounce back. After striking, the face of the hammer remains in position, without the damaging effects of rebound when Hammering home an accurate fit. The nylon or polyurethane striking faces remove the risk of lying chips when hitting hard metal objects. Steel body and handle.





**"Monobloc" polyurethane hammer**

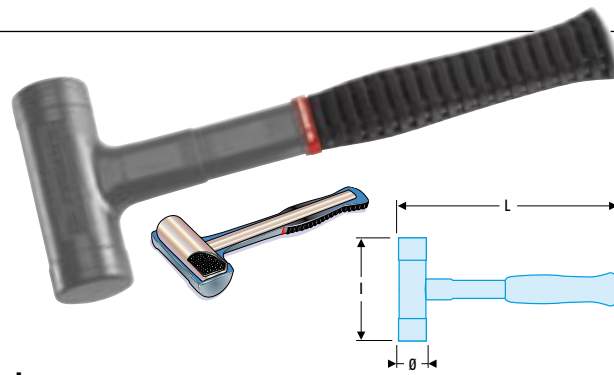
- In addition to the dead-blow feature the soft-face hammer 216 is fully moulded in a polyurethane shell.
- This monobloc design protects the head from splitting and the balls escaping in the workshop.
- The chemical-resistant polyurethane moulding gives the tips a far longer service life than conventional soft-faced hammers.

# Soft face hammers

## 216 Dead-blow hammers, monobloc

- Steel-ball dead-blow design.
- Polyurethane encapsulated steel body and handle.
- Shore hardness D63 on striking faces.
- Ergonomic PVC grip.

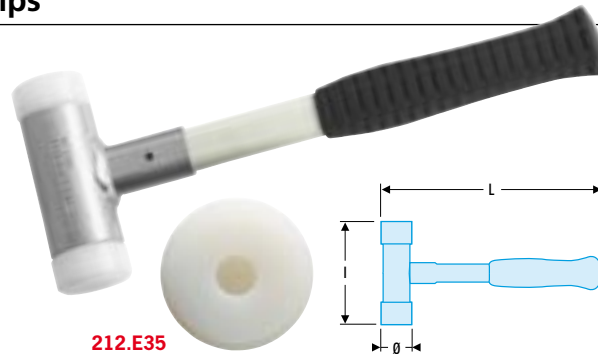
	∅	L	l	ΔΔ
	mm	mm	mm	kg
<b>216.40</b>	40	298	110	0,72
<b>216.50</b>	50	308	115	0,95
<b>216.60</b>	60	315	120	1,4



## 212A Dead-blow hammers, interchangeable tips

- Glass-fibre handle.
- Steel body.
- Easily replaceable, special nylon tips. Shore hardness D74.
- Ergonomic ribbed PVC grip.
- Stove-enamel hammer finish.

	L	l	∅	Bits	ΔΔ
	mm	mm	mm		kg
<b>212A.35</b>	305	112	35	212.E35	0,69
<b>212A.40</b>	310	117	40	212.E40	0,76
<b>212A.50</b>	320	120	50	212.E50	1,07
<b>212A.60</b>	330	138	60	212.E60	1,68



## ► Interchangeable-tip mallets

### 207A - 208A Adaptable-tip mallets

207A : Lightweight-series, aluminium body.

208A : Heavyweight-series, brass body.

- Mallets are available with a limited number of tip combinations only, but you can customize your mallet by selecting a body and two tips of your choice.

	Lightweight/Heavyweight	∅	Bits	ΔΔ
		mm		kg
<b>207A.25CB</b>	Lightweight-series	25	EC - EB	0,135
<b>207A.32CB</b>	Lightweight-series	32	EC - EB	0,205
<b>207A.40CB</b>	Lightweight-series	40	EC - EB	0,350
<b>207A.50CB</b>	Lightweight-series	50	EC - EB	0,350
<b>207A.60CB</b>	Lightweight-series	60	EC - EB	0,528
<b>208A.25CB</b>	Heavyweight-series	25	EC - EB	0,220
<b>208A.32CB</b>	Heavyweight-series	32	EC - EB	0,345
<b>208A.32AB</b>	Heavyweight-series	32	EA - EB	0,390
<b>208A.32BB</b>	Heavyweight-series	32	EB - EB	0,375
<b>208A.40CB</b>	Heavyweight-series	40	EC - EB	0,615
<b>208A.40CC</b>	Heavyweight-series	40	EC - EC	0,626
<b>208A.50CB</b>	Heavyweight-series	50	EC - EB	1,050
<b>208A.60CB</b>	Heavyweight-series	60	EC - EB	1,663

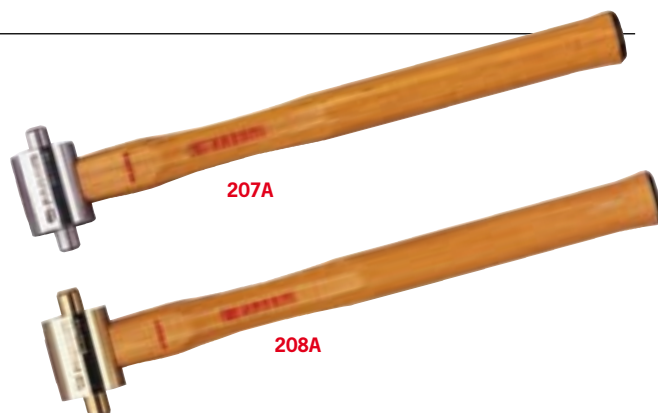


### 207A - 208A Mallet bodies

207A : Lightweight aluminium body, hickory handle.

208A : Heavyweight brass body, hickory handle.

	Lightweight/Heavyweight	Length	∅	Hickory	ΔΔ
		mm	mm		kg
<b>207A.25</b>	Lightweight-series	280	25	210.MH12	0,135
<b>207A.32</b>	Lightweight-series	300	32	210.MH13	0,195
<b>207A.40</b>	Lightweight-series	323	40	210.MH14	0,270
<b>207A.50</b>	Lightweight-series	350	50	210.MH15	0,410
<b>207A.60</b>	Lightweight-series	363	60	210.MH16	0,610
<b>208A.25</b>	Heavyweight-series	280	25	210.MH12	0,235
<b>208A.32</b>	Heavyweight-series	300	32	210.MH13	0,340
<b>208A.40</b>	Heavyweight-series	323	40	210.MH14	0,525
<b>208A.50</b>	Heavyweight-series	350	50	210.MH15	0,830
<b>208A.60</b>	Heavyweight-series	363	60	210.MH16	1,260



# 10 Soft face hammers

## Spare parts

### ■ Tips

EA : Neoprene tips. Shore hardness A75.

Replacement for rubber mallets.

EB : Cellulose tip. Shore hardness D69 ±2.

Replacement for wood and leather mallets.

EC : Polyamide tip. Shore hardness D72 ±2.

Replacement for soft-metal mallets (copper, lead, brass, aluminium).



Ref	Material	Ø mm
EA.25	Neoprene	25
EA.32	Neoprene	32
EA.40	Neoprene	40
EA.50	Neoprene	50
EA.60	Neoprene	60
EB.25	Cellulose	25
EB.32	Cellulose	32
EB.40	Cellulose	40
EB.50	Cellulose	50
EB.60	Cellulose	60
EC.25	Polyamide	25
EC.32	Polyamide	32
EC.40	Polyamide	40
EC.50	Polyamide	50
EC.60	Polyamide	60

## ► Drifts

### 214 Standard drifts

- Steel body.
- Interchangeable nylon tips.
- For use with a hammer or by hand for fitting or removing small components and bearings.
- Replacements for bronze and brass drifts.

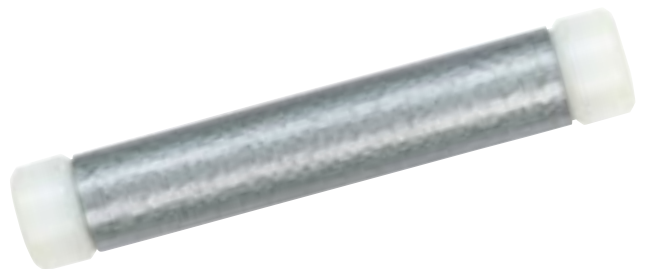
Ref	Ø mm	L mm	Bits	ΔΔ g
214.10	10	168	212.E10	100
214.12	12	170	212.E12	130
214.15	15	175	212.E15	200



### 214.R Dead-blow drifts

- Steel body filled with steel balls preventing rebound after striking.
- Interchangeable nylon tips.
- Large-diameter drifts which can be used on their own for fitting components gently.

Ref	Ø mm	L mm	Bits	ΔΔ g
214.R20	20	150	212.E20	220
214.R25	25	150	212.E25	330
214.R30	30	155	212.E30	460
214.R35	35	155	212.E35	650

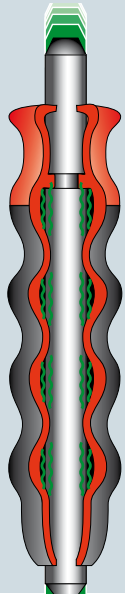


## ► Multi-impact tool sets



### Multi-impact system

#### DRIFTS AND PUNCHES



##### Parts protection

- Interchangeable tips of differing hardness for parts that must not be marked.
- High quality, precision tools.

##### Multi-solution

- Tips of 3 different materials : brass, aluminium and polyamide
- Extensive range of sizes.

##### Comfort and safety

- Exclusive sheathed, shock-absorbing handle.
- Slide-action for an increased shock-absorbency.
- Positive grip.



### Brass/Polyamide/Aluminium drift punch set

#### 217.GJ1

- Capacity Ø 10 to 20 mm.
- 19-piece set comprising :
  - 1 seethed anti-vibration handle 217.G16.
  - 5 steel tips Ø 10, 12, 14, 16 and 18 mm. Effective length 60 mm.
  - 3 brass tips Ø 12, 16, 20 mm. Effective length 40 mm.
  - 3 polyamide tips Ø 12, 16, 20 mm. Effective length 40 mm.
  - 1 extension 217.R12, effective length 100 mm.
  - 3 brass tips for extension Ø 12, 16, 18 mm. Effective length 20 mm.
  - 3 polyamide tips for extension Ø 12, 16, 18 mm. Effective length 20 mm.
- Complete with plastic case 265 x 230 x 50.
- $\Delta\Delta$  : 1.35 kg.



### Sheathed handle

#### 217.G16

- Shock-absorbing handle.
- M10 x 150 threaded bit holder.
- Dimensions : 170 x 36 x 36 mm.



	Ø mm	L mm	$\Delta\Delta$ g
217.G16	16	170	292





## Set of tips for 217.GJ1

➤	Set contents	Ø mm	Handle	ΔΔ g
<b>217E.A10J3</b>	3 aluminium tips	10	217.G16	59
<b>217E.ALP12</b>	1 aluminium, 1 brass and 1 polyamide tip	12	217.G16	80
<b>217E.A14J3</b>	3 aluminium tips	14	217.G16	88
<b>217E.ALP16</b>	1 aluminium, 1 brass and 1 polyamide tip	16	217.G16	117
<b>217E.A18J3</b>	3 aluminium tips	18	217.G16	135
<b>217E.LP20J4</b>	2 brass and 2 polyamide tips	20	217.G16	252
<b>217E.LPJ6</b>	3 brass and 3 polyamide tips	12/16/18	217.R12	122



## Extension


### 217.R12

- M8 x 125 threaded bit holder extension.
- Dimensions : 120 x 16 x 16 mm.

➤	Ø	L mm	ΔΔ g
<b>217.R12</b>	12	105	100



## Sheathed series



### Sheathed series - A step forward

**NEW ULTRA-COMFORTABLE ANTI-ROLL SHEATH**

**Ergonomic**

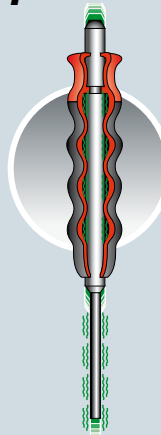

- Shock-absorbing.
- Elastic sheath.
- Partly free-sliding sheath.
- More stable, more positive grip.
- Protects the hand.

**Safe**

- Choice of best steels.
- Very precise heat treatment with different harnesses.
- DIN 7255.
- FACOM specifications.
- Better shock absorbance and elasticity to avoid the risk of breakage.

**Precise and Powerful**

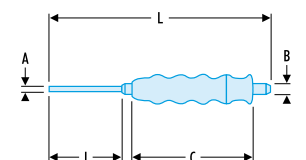
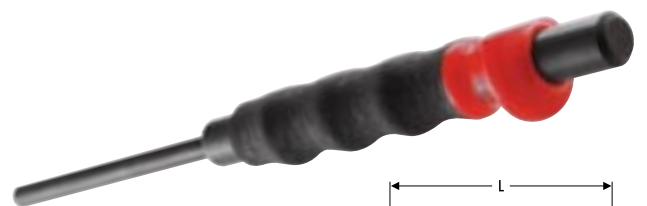
- Comfortable grip ensures an accurately aimed blow.
- Stability of tool ensures a more powerful blow.

## 249G Sheathed drift punches

- Long shank.
- Head hardened to 43 HRC.
- Shank hardened to 58 HRC.

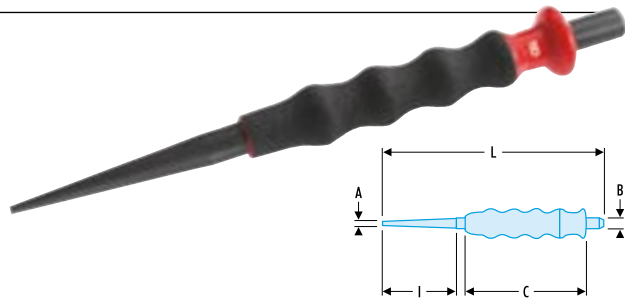
➤	Ø A mm	Ø B mm	I mm	L mm	C mm	ΔΔ g
<b>249.G2</b>	1,95	8	35	140	105	88
<b>249.G3</b>	2,95	8	45	150	105	90
<b>249.G4</b>	3,95	10	60	190	105	94
<b>249.G5</b>	4,95	10	70	200	105	98
<b>249.G6</b>	5,90	12	80	210	105	142
<b>249.G8</b>	7,90	12	86	216	105	158
<b>249.G10</b>	9,80	14	100	230	105	181
<b>249.G12</b>	11,80	16	130	280	105	380
<b>249.G14</b>	13,80	18	140	290	105	490
<b>249.G16</b>	15,70	18	160	310	105	580



## 247G Sheathed nail sets

- Head hardened to 36-44 HRC.
- Tip hardened to 52-60 HRC.

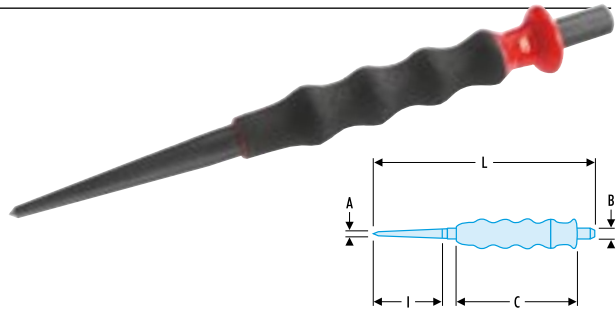
⇒	∅ A mm	∅ B mm	I mm	L mm	C mm	ΔΔ g
<b>247.G2</b>	1,9	10	55	185	105	102
<b>247.G3</b>	2,9	10	55	185	105	106
<b>247.G4</b>	3,9	10	55	185	105	109
<b>247.G5</b>	4,9	10	55	185	105	112
<b>247.G6</b>	5,9	10	55	185	105	115
<b>247.G8</b>	7,8	12	55	185	105	173



## 255G Sheathed centre punches

- Head hardened to 36-44 HRC.
- Tip hardened to 57-60 HRC.

⇒	∅ A mm	∅ B mm	I mm	L mm	C mm	ΔΔ g
<b>255.G2,5</b>	2,5	10	55	185	105	104
<b>255.G4</b>	4	10	55	185	105	110
<b>255.G6</b>	6	10	55	185	105	116
<b>255.G8</b>	8	12	55	185	105	174
<b>255.G10</b>	10	14	55	185	105	210



## Sets of sheathed impact tools

- Sets of punches and nail sets.

⇒	Set contents
<b>249.GJ5</b>	249.G3 - 4 - 5 - 6 - 8
<b>249.GJ7</b>	249.G2 - 3 - 4 - 5 - 6 - 8 - 10
<b>249.G247GJ12</b>	249.G2 - 3 - 4 - 5 - 6 - 8    247.G2 - 3 - 4 - 5 - 6 - 8
<b>249.GJ4</b>	249.G10 - 12 - 14 - 16



## Sheathed drift punch modules

### MOD.CG

- 6 drift punches 249G : 2-3-4-5-6-8 mm.
- 4 nail sets 247G : 4-5-6-8 mm.
- 1 centre punch 255.G6.
- Tray PL.330.

ΔΔ : 1.47 kg.

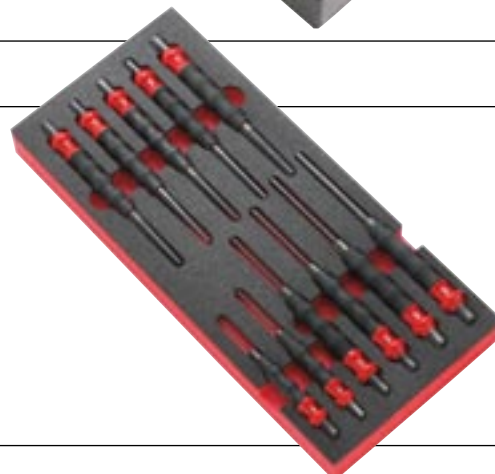


## Foam modules of sheathed drift punches

### MODM.CG

- 6 drift punches 249G : 2-3-4-5-6-8 mm.
- 4 nail sets 247G : 4-5-6-8 mm.
- 1 centre punch 255.G6.
- Tray PM.MODCG.

ΔΔ : 1.47 kg.



**New**



### Sheathed automatic centre punch

#### 257.G

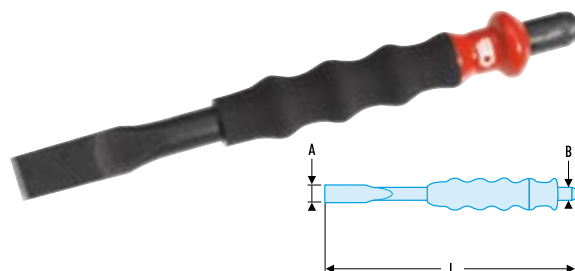
- Simply press the end to release spring impact.
  - Impact adjustable from 15 to 25 kg by turning the end.
  - Ergonomic Facom handle.
  - Tip hardened to 57-60 HRc.
- ΔΔ : 175 g.



### 263.G Sheathed chisels

- Engineers chisels.
- Hardness :
  - Edge = 57 - 60 HRc
  - Striking head = 36 - 44 HRc.
- Angle of edge : 60°.

➤	L mm	A mm	Ø B mm	ΔΔ g
<b>263.G19</b>	190	15	12	165
<b>263.G20</b>	200	20	16	305
<b>263.G22</b>	220	25	18	415

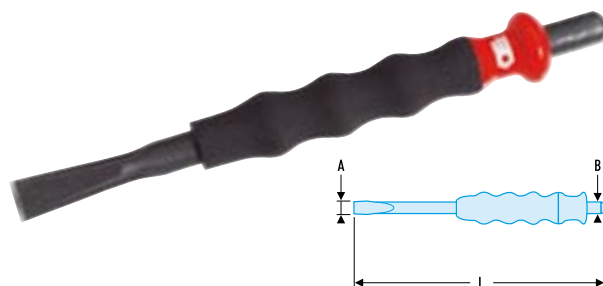


### Sheathed cape chisels

#### 265.G18

- Hardness :
  - Edge : 57-60 HRc.
  - Striking head : 36- 44 HRc.

➤	L mm	A mm	Ø B mm	ΔΔ g
<b>265.G18</b>	180	10	10	110



### Set of sheathed tools

#### 263.GJ4

- Comprising :
    - Flat chisels 263.G 19, 20, 22 .
    - Cape chisel 265.G18
  - Supplied in a cardboard box.
- ΔΔ : 1.005 kg.D : 1,005 kg.



### Sheathed drift punch, flat chisel and cape chisel modules

#### MOD.CG1

- 249.G 12-14-16 mm.
  - 263.G 19-20-22.
  - 265.G 18.
  - Tray PL.611.
- ΔΔ : 3 kg.

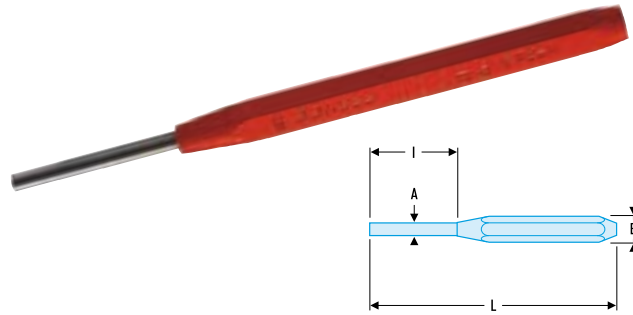


## ► Drift punches

### 249 Standard drift punches

- Hexagonal shank, high-strength steel tip, hardened to 52-58 HRC.

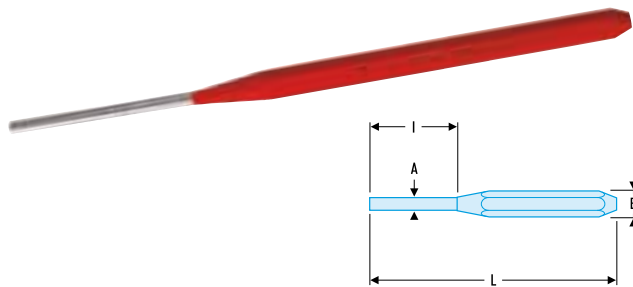
⇒	∅ A mm	B mm	l mm	L mm	ΔΔ g
<b>249.2</b>	1,9	8	25	105	30
<b>249.3</b>	2,9	8	30	120	35
<b>249.4</b>	3,9	10	35	135	65
<b>249.5</b>	4,9	10	40	150	75
<b>249.6</b>	5,9	12	45	165	120
<b>249.8</b>	7,9	12	50	180	140
<b>249.10</b>	9,9	16	55	195	170



### 248 Long drift punches

- Hexagonal shank, high-strength steel tip, hardened to 52-58 HRC.

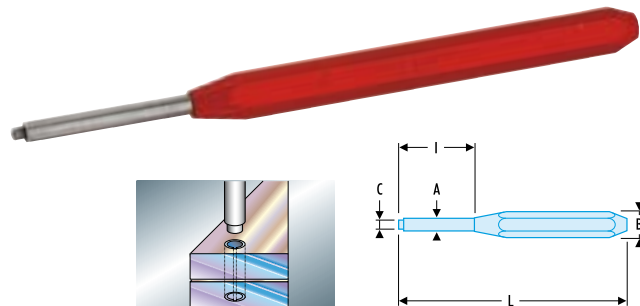
⇒	∅ A mm	B mm	l mm	L mm	ΔΔ g
<b>248.2</b>	1,9	8	35	165	45
<b>248.3</b>	2,9	8	40	170	50
<b>248.4</b>	3,9	8	50	175	55
<b>248.5</b>	4,9	10	55	180	85
<b>248.6</b>	5,9	10	60	185	90
<b>248.8</b>	7,9	12	65	190	135
<b>248.10</b>	9,9	12	75	200	200



### 246 Drift punches for spring pins

- Shouldered tip accurately centres into split pins.

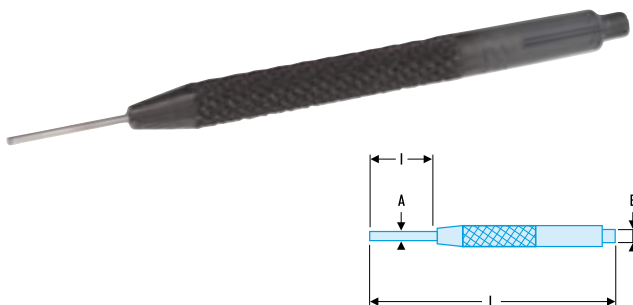
⇒	∅ A mm	B mm	∅ C mm	l mm	L mm	ΔΔ g
<b>246.2</b>	1,9	8	1,0	25	105	30
<b>246.3</b>	2,9	8	1,8	30	120	35
<b>246.4</b>	3,9	10	2,4	35	135	45
<b>246.5</b>	4,9	10	3,0	40	150	75
<b>246.6</b>	5,9	12	3,6	45	165	120
<b>246.8</b>	7,9	12	5,1	50	180	140



### 251A Precision sleeved drift punches

- The centre slides within a guide to prevent distortion, even in smaller sizes.
- Nickel shank, polished tip.

⇒	∅ A mm	B mm	l mm	L mm	ΔΔ g
<b>251A.1</b>	0,9	5	12	70	5
<b>251A.1,5</b>	1,4	6	15	80	10
<b>251A.2</b>	1,9	6	18	83	10
<b>251A.2,5</b>	2,4	7	21	92	18
<b>251A.3</b>	2,9	7	24	95	20
<b>251A.3,5</b>	3,4	8	27	97	25
<b>251A.4</b>	3,9	8	30	100	30
<b>251A.5</b>	4,9	10	33	109	45
<b>251A.6</b>	5,9	12	36	112	65



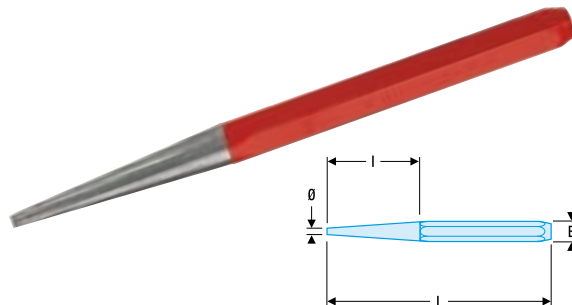


## ► Nail sets

### 247 Standard nail sets

- Hexagonal shank, high-strength steel tip, hardened to 40-46 HRc.
- Paint-finish shank, polished tip.

►	Ø mm	B mm	L mm	l mm	ΔΔ g
<b>247.2</b>	1,6	8	105	40	35
<b>247.3</b>	2,0	8	120	45	40
<b>247.4</b>	2,8	10	135	50	70
<b>247.5</b>	4,0	10	150	55	80
<b>247.6</b>	4,8	12	160	60	120
<b>247.8</b>	7,0	12	180	65	140

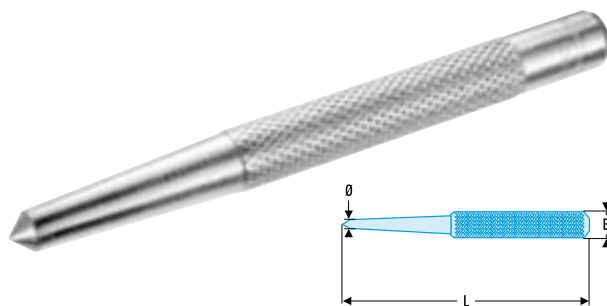


## ► Centre punches

### 256 Precision centre punches

- ▷ NF E 71-211.
- Forged in chrome-vanadium steel, hardened to 52-58 HRc.
- Knurled body.
- Chrome finish.

►	Ø mm	B mm	L mm	ΔΔ g
<b>256.2,5</b>	2,5	7	100	25
<b>256.4</b>	4	8	105	35
<b>256.6</b>	6	10	115	60
<b>256.8</b>	8	12	130	100
<b>256.10</b>	10	14	130	135



### Automatic centre punch

#### 257

- Simply press the end to release spring impact.
- Impact strength adjusted by turning the knurl.
- Effective load 11 to 22 kg.
- Chromed body, greased tip.
- Length : 140 mm, shank Ø 16 mm, tip Ø 3.5 mm.
- ΔΔ : 135 g.



►	Description
<b>257.07</b>	Interchangeable tip

## ► Sets

### Punch sets

- JS in rack.
- JT in wallet.
- For 249.JT7 : wallet N.38A-7B.
- For 248.JT7 : wallet N.38A-7B.
- For 251A.JT9 : wallet N.38A-9C.
- For 247.265JT10 : wallet N.38A-10B.

►	Set contents	L x l x H mm	Stand	ΔΔ kg
<b>249.JS7</b>	249.2-3-4-5-6-8-10	120x195x45	CKS.31A	0,868
<b>249.JT7</b>	249.2-3-4-5-6-8-10	230x120	-	0,755
<b>248.JS6</b>	248.2-3-4-5-6-8	120x190x45	CKS.29A	0,588
<b>248.JT7</b>	248.2-3-4-5-6-8-10	265 x 120	-	0,695
<b>246.JS6</b>	246.2-3-4-5-6-8	120x190x45	CKS.29A	0,593
<b>246.JT6</b>	246.2-3-4-5-6-8	200x165	-	0,545
<b>251A.JS9</b>	251A.1-1.5-2-2.5-3-3.5-4-5-6	120x115x45	CKS.32A	0,354
<b>251A.JT9</b>	251A.1-1.5-2-2.5-3-3.5-4-5-6	180 x 120	-	0,260
<b>247.249JS12</b>	247.2-3-4-5-6-8 / 249.2-3-4-5-6-8	120x180x47	CKS.33A	1,076
<b>247.265JT10</b>	247.3-4-5 / 256.4-6 / 249.3-4-5 / 263.20 / 265.18	180x120 / 240x60	-	1,155



## Impact tool module

### MOD.MI1

200H.32 Hammer.  
 208A.32CB Mallet.  
 263.20 Chisel.  
 256.6 Centre punch.  
 248. Long drift punches 4 - 5 - 6 mm.  
 • Complete with tray PL.333.  
 $\Delta\Delta$  : 1.800 kg.



## Foam module of impact tools

**New**

### MODM.MI1

200H.40 Hammer.  
 208A.32CB Mallet.  
 263.20 Chisel.  
 256.6 Centre punch.  
 248. Long drift punches 4 - 5 - 6 mm.  
 • Complete with tray PM.MODMI1.  
 $\Delta\Delta$  : 1.8 kg.



## Impact tool module 205

### MOD.MI3

205A.50 Hammer.  
 208A.32CB Mallet.  
 263.18 Chisel.  
 256.6 Centre punch.  
 248. Long drift punches 4 - 5 - 6 mm.  
 • Complete with tray PL.333.  
 $\Delta\Delta$  : 1.710 kg



## Foam module of impact tools

**New**

### MODM.MI3

205H.100 Hammer.  
 208A.32CB Mallet.  
 263.20 Chisel.  
 256.6 Centre punch.  
 248. Long drift punches 4 - 5 - 6 mm.  
 • Complete with tray PM.MODMI3.  
 $\Delta\Delta$  : 1.8 kg.



## Impact tool module 202

### MOD.MI4

202H.1/2 Hammer.  
 208A.32CB Mallet.  
 263.18 Chisel.  
 256.6 Centre punch.  
 248. Long drift punches 4 - 5 - 6 mm.  
 • Complete with tray PL.333.  
 $\Delta\Delta$  : 1.45 kg.

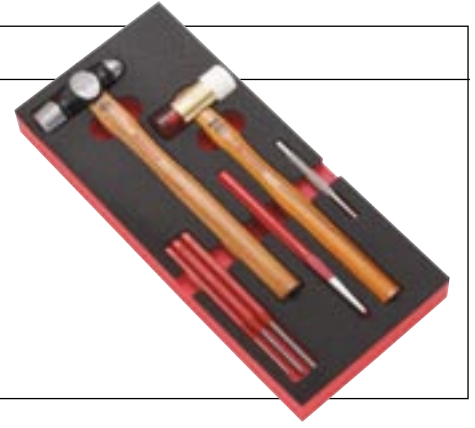


New

## Foam module of impact tools

**MODM.MI4**

- 202.A1 Hammer.
- 208A.32CB Mallet.
- 263.20 Chisel.
- 256.6 Centre punch.
- 248. Long drift punches 4 - 5 - 6 mm.
- Complete with tray PM.MODMI4.
- ΔΔ : 1.8 kg.



## ▶ Flat chisels - Cape chisels

## 263 Flat chisels - 265 Cape chisels

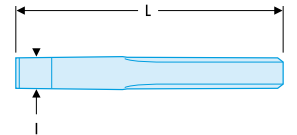
263 : Constant-profile flat chisels.

263.P : Chisels with guard.

265 : Constant-profile cape chisel.

- Forged in chrome-vanadium steels, tip hardened to 57 HRc.
- Regrindable tip.
- Head treated against mushrooming.
- Paint finish.
- Ø 85 mm guard (263.P).

Ref	l mm	L mm	ΔΔ g
263.15	21	150	200
263.18	21	180	250
263.20	24	200	350
263.22	24	220	400
263.25	27	250	520
263.30	27	300	640
263.P25	27	250	610
263.P30	27	300	710
265.18	8	180	240
265.20	10	200	330
265.22	12	220	370



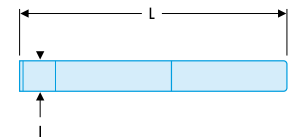
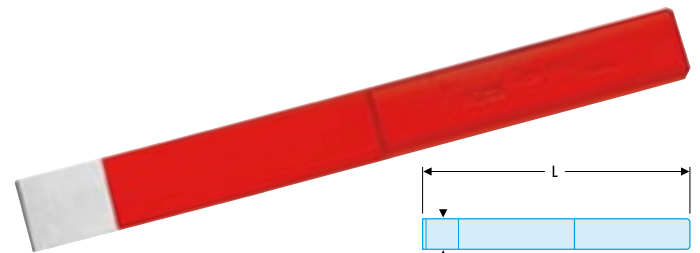
## 259 Flat chisels

259 : Slim-profile chisel.

259.P : Slim chisel with guard. Ø 85 mm.

- Forged in chrome-vanadium steels, tip hardened to 57 HRc.
- Paint finish.

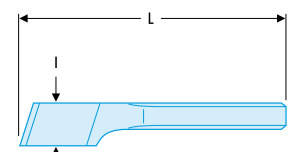
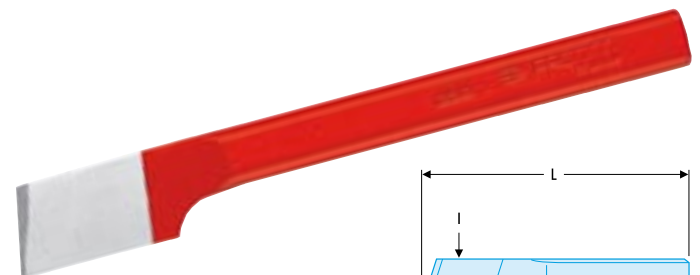
Ref	l mm	L mm	ΔΔ g
259	26	235	240
259.P	26	235	350



## Special chisels

- Forged in chrome-vanadium steels, tip hardened to 57 HRc.
- Regrindable tip.
- Head treated against mushrooming.
- Paint finish.
- Ø 85 mm guard.

Ref	l mm	L mm	ΔΔ g
258	25	200	220
260.P	60	250	630

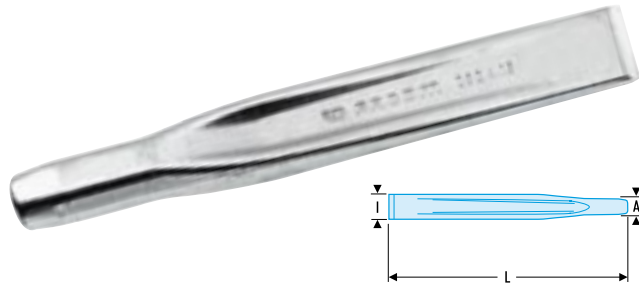


## 262A Round-headed ribbed chisels

▷ Standard UNI 7506.

- Forged chisel with rounded edges for improved grip.
- Cylindrical head for increased safety.
- Tip hardness 57 to 59 HRC.
- Tip angle 60°.
- Zinc finish.

➤	L mm	l mm	A mm	ΔΔ g
<b>262A.15</b>	150	21	16	170
<b>262A.18</b>	180	24	18	250
<b>262A.20</b>	200	26	18	340
<b>262A.25</b>	260	29	21	500



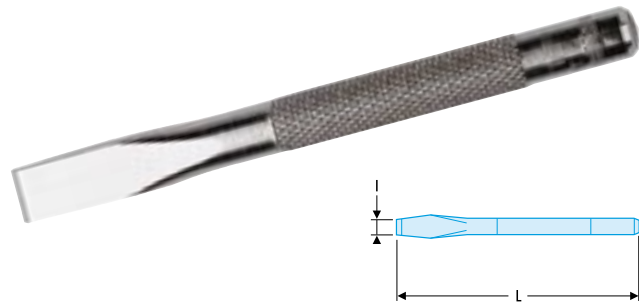
## Precision chisels

252 : Precision flat chisel.

254A : Precision cape chisels.

- Knurled body.

➤	l mm	L mm	ΔΔ g
<b>252.8</b>	10	115	40
<b>252.10</b>	12	125	70
<b>254A.8</b>	8	115	40
<b>254A.10</b>	10	120	60



## Chisel sets

➤	Set contents	L x l x H mm	Stand	ΔΔ kg
<b>263.265JS5</b>	263.15-20-25 265.18-22	255 x 180 x 30	CKS.81A	1,85
<b>252.254JS4</b>	252.8-10 254A.8-10	120 x 180 x 25	CKS.28A	0,27



## Chisel sets

### 262A.JS4

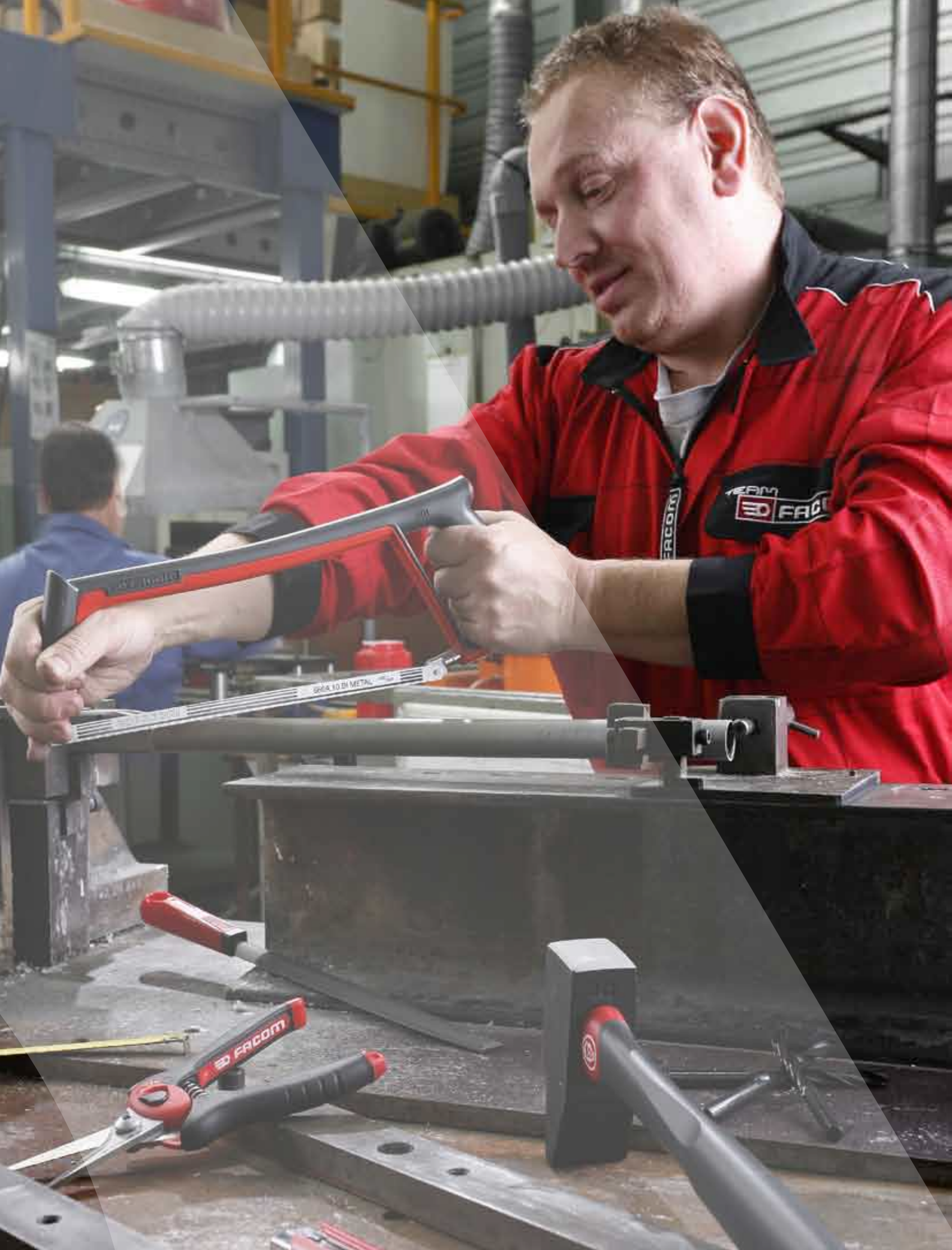
For your safety :

- Always check the state of your tools before use.
- Do not use tools showing signs of wear, mushrooming, chipping or cracking.
- Wear eye protection and gloves.

➤	Set contents	L x l x H mm	Stand	ΔΔ kg
<b>262A.JS4</b>	262A.15-18-20-25	180 x 30 x 250	CKS.80B	1,44







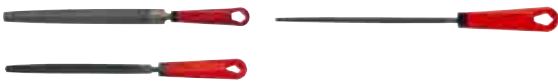
# 11. Sawing, cutting, drilling

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*Safety for professional applications***Advantages**

- **UTILITY KNIFE 844.S18**

- ▶ Ergonomic handle
- ▶ Stainless steel blade guide
- ▶ 6-blade loader for automatic blade change



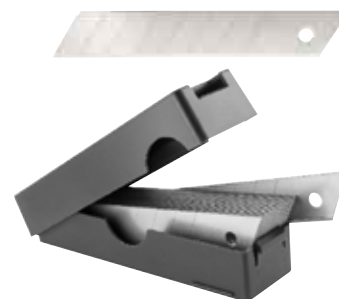
- **SAFETY KNIFE 844.D**

- ▶ Maximum safety: blade automatically retracts after use
- ▶ Used with trapezoid blades



- **SNAP-OFF BLADES**

- ▶ 7 to 12 segments
- ▶ Ideal for all everyday cutting tasks



- **TRAPEZOID BLADES**

- ▶ High strength
- ▶ Clean cut
- ▶ Intensive use





*For an effortless, clean cut*

### Advantages

- ▶ Precision blades
- ▶ 2 opening positions to adjust to the size of your hand
- ▶ Locks in closed position
- ▶ Comfortable bi-material handle



N ▶ 510



► Hacksaw frame

**Workshop hacksaw frame 603E**

**OPTIMUM BLADE USAGE**



360°  
Blade rotation through 360° without removal.



1kg  
Spring pre-tensioning for easy blade fitting and adjustment.



Machined and shouldered pins for secure blade retention.



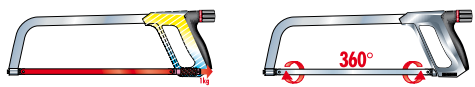
45°  
45° cutting angle increments.



Hacksaw frame

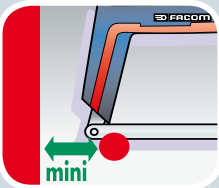
**603E**

- ▷ DIN 6473, NF E 73-073.
- Tension : in excess of 100 kg ; 20, 000 PSI.
- Metal bow takes 300 mm blade
- 429 x 137 mm.
- ΔΔ : 760 g.

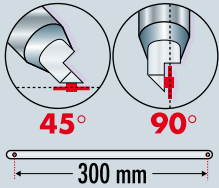


**"Travelling" hacksaw frame 601**

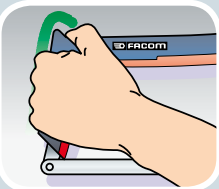
**PRACTICAL AND COMPACT**




mini  
Minimum clearance to start cutting.




45° 90°  
300 mm  
2 blade positions on machined and shouldered pins.



Left-hand rest.



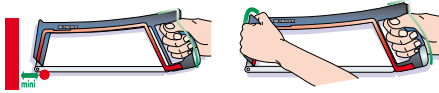
Compact: stored in a 5-compartment box and in roller-cabinet modules.



## Hacksaw frame

### 601

- Impact-resistant steel/resin construction.
- Blade tension 80 kg
- 385 x 145 mm.
- ΔΔ : 590 g.



## Saw, tape measure and files module

### MOD.601

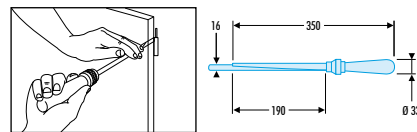
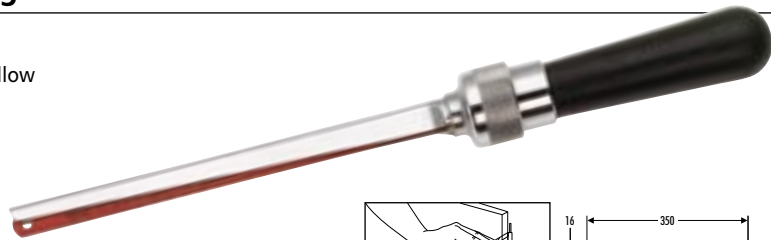
- Comprising :
  - 601 : Hacksaw frame
  - 660A.10 : 10 hacksaw blades.
  - 234.5 : Scriber
  - 803-300M : Rule.
  - 5 files with handle : PAM.B300EM; DRD.MD250EM; CAR.MD200EM; TRI.MD200EM; RD.M200EM.
  - 1712 : Tape measure.
- Tray PL.335 (complete drawer).
- ΔΔ : 2.3 kg.



## Straight frame with blade backing

### 606A

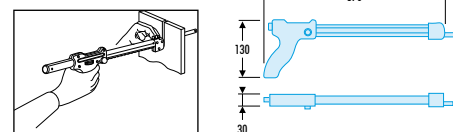
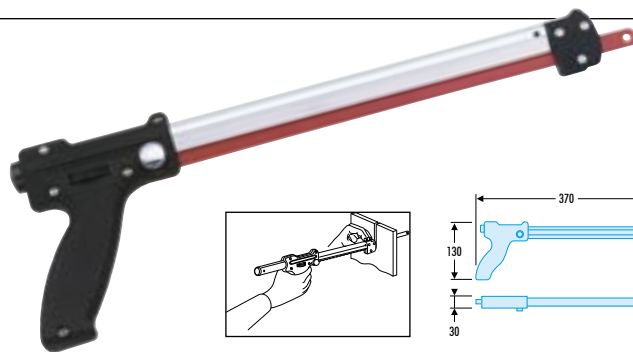
- Blade can be set to protrude beyond the backing to allow insertion into narrow gaps.
- ΔΔ : 410 g.



## Revolver frame with sliding blade-guide

### 605.B

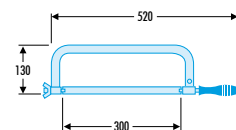
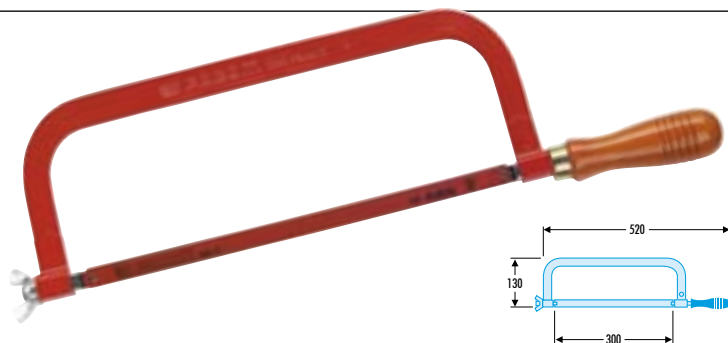
- Sliding guide steadies blade throughout cutting stroke.
- A thumbscrew can lock the guide to keep blade end clear.
- Takes 300 mm blade.
- ΔΔ : 780 g.



## Hacksaw frame

### 599

- ▷ NF E 73-073, DIN 6473.
- Flat bow.
- Wood handle.
- Takes 300 mm blade.
- ΔΔ : 600 g.



## ▶ Hacksaw blades

### 660A. Bimetal blades

▷ ISO 2336-1, DIN 6494, NF 73-072.

- High-alloy HSS teeth with spring-steel back. Flexibility and tooth hardness combine to ensure long service in a variety of applications and where difficult access prevents steadying the workpiece.
  - Blade length 300 mm.
  - Available in multiples of 10 blades. E.g. : 20 x 660A. 10 = 20 blades.
- ΔΔ : 2.5 kg.



Code	Teeth/cm	Teeth/inch
660A.8	8	18
660A.10	10	24
660A.12	12	32

### 666A Super HSS blades

▷ ISO 2336-1, DIN 6494, NF 73-072.

- Recommended for a wide range of heavy-duty applications such as die, tool and stainless steel.
  - Blade length 300 mm.
  - Available in multiples of 10.
- E.g. : 20 x 666A. 10 = 20 blades.
- ΔΔ : 2.5 kg.



Code	Teeth/cm	Teeth/inch
666A.8	8	18
666A.10	10	24
666A.12	12	32

## Files



### File selection guide

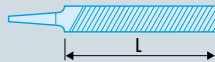
#### FACOM technical specifications.

- Made from high carbon-content steels.
- Optimum heat treatment for each application.
  - 64 to 66 HRC for engineers files.
  - 53 to 56 HRC for rasps.
  - 65 to 67 HRC for sharpening files.

#### File selection recommendations.

Four criteria apply :

1. Shape or cross-section.
2. Pattern according to material.
3. Grade according to operation.
  - Standard files :
    - B Bastard cut for rough filing,
    - MD Second cut for general purpose,
    - D Smooth cut for finishing.
  - Precision files :
    - T0 Bastard cut for rough filing,
    - T2 for normal smooth filing
    - T4 for finishing.
4. File length.
  - Lengths quoted are always without tang.



MAIN SHAPES		
FLAT PAM 	HALF ROUND DRD 	ROUND RD 
KNIFE CT 	THREE-SQUARE TRI 	SQUARE CAR 



PATTERN SELECTION ACCORDING TO MATERIAL		Steel	Cast Iron	Brass	Hard plastics, wood etc.	Aluminium and soft materials
Double cut for steel and metals. 		●	●	●	●	
Single cut for good surface finish, sharpening saws, lathe filing and fitters' requirements. 		●				
Dreadnaught, for soft materials, sheet metal, etc. Leaves a smooth finish. 		●		●	●	●
Rasp for soft materials and wood. Produces a rough surface. 					●	●

## Handles for files and rasps

MAN : Varnished wood handles with nickel-plated steel ferrule.

Supplied in boxes of 12.

MP : Plastic handles. Supplied singly.



	Files	Length files mm
<b>MAN.0</b>	Flat, half-round, round	300
<b>MAN.1</b>	Three square straight	175
	Three square straight	200
	Flat, half-round, flat warding, cant, pillar, three-square straight	250
<b>MAN.2</b>	Square, three-square	300
	Flat warding, cant, pillar, knife, three-point square	150
	Three-square tapered	175
	Flat, half-round, three-square, flat warding, cant, pillar, knife	200
<b>MAN.3</b>	Round	250
	Flat, half-round, flat warding, cant, pillar, knife	100
	Flat, half-round, three-square	150
<b>MAN.4</b>	Square, round	200
	Round three-square tapered	100
	Round, three-square tapered	125
<b>MP.0</b>	Round, three-square tapered	150
	Three square straight	250
<b>MP.1</b>	Flat half-round aluminium, flat, half-round, square, round, three-square, Milled, turners	300
	Three square, three-square straight	200
<b>MP.2</b>	Flat, half-round, round, flat warding, cant, pillar, knife, Turners	250
	Three square straight	175
<b>MP.3</b>	Flat, half-round, flat warding, cant, pillar, knife	200
	Flat, half-round, three-square, flat warding, cant, pillar, knife, three-square straight	150
<b>MP.4</b>	Square, round	200
	Flat, half-round, flat warding, cant, pillar, knife	100
	Round, Round for chainsaws	150
	Round for chainsaws	200

## File card

### 270.A

- For cleaning electrodes and threads.
- Integral thickness gauge (5/10mm).
- 185 x 30 x 25 mm.

ΔΔ : 42 g.

	Description
<b>270.C</b>	Spare card



## File sets

### Set of 5 files

#### STG

• Set of 5 files with varnished wood handles, for general engineering and automotive applications.

• Comprising :

- PAM.B 300.
- DRD.MD 250.
- CAR.MD 200.
- TRI.MD 200.
- RD.MD 200.

• Supplied in grey hammer-finish wall-rack CKS.35A.

ΔΔ : 1.265 kg.





## Set of 9 files

### STU

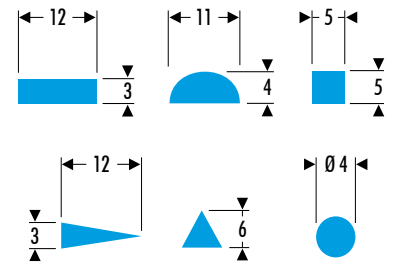
- Set of 9 files and rasps for engineering and industrial maintenance.
- Comprising :
  - PAM.B300.
  - PAM.MD200.
  - DRD.B300.
  - DRD.MD200.
  - RD.MD200.
  - CAR.MD200.
  - TRI.MD150.
  - PDE.MD125.
  - RAB.DRDMD250.
- Supplied in grey hammer-finish wall-rack CKS.35A.
- ΔΔ : 2.146 kg.



## CLE Sets of 6 locksmiths files

### CLE

- ▷ NFE 75-001, NFE 75-002
- Geneva pattern with wooden handle.
- Available in 3 different cuts.
  - CLE.BAM100 (6 bastard cut files).
  - CLE.MDAM100 (6 second cut files).
  - CLE.DAM100 (6 smooth cut files).
- In plastic wallet : 200 x 105 x 11 mm.
- ΔΔ : 205 g.



## AS.RI Set of rifflers

- ▷ NFE 75-001, NFE 75-002
- Ideal for mould makers and jewellers.

Ref	Number of rifflers	Cut	Length mm	ΔΔ g
AS.12RI180T0	12	0	180	341
AS.12RI180T2	12	2	180	338
AS.6RI180T0	6	0	180	182
AS.6RI180T2	6	2	180	170



## Module of 5 files 200 mm long with handle

### MOD.LIMPB

- Flat, half-round, round, square, three-square.
- PAM.B200EM flat.
- DRD.MD200EM half-round.
- CAR.MD200EM square.
- TRI.MD200EM three-square.
- RD.MD200EM round.
- Tray PL.606.
- ΔΔ : 950 g.



## ► Engineers files

### PAM - PAM.EM Flat files

▷ NFE 75-001, NFE 75-002

- PAM : Flat files.
- PAM.EM : Flat files with handle.
- 1 safe edge.
- 1 single-cut edge.



File type	l x e mm	Length mm	$\Delta\Delta$ g
<b>PAM.MD100</b>	Second cut 12 x 3	100	12 29
<b>PAM.MD200</b>	Second cut 20 x 5	200	12 163
<b>PAM.MD300</b>	Second cut 30 x 7	300	6 454
<b>PAM.MD150EM</b>	Second cut 15 x 3,5	150	6 118
<b>PAM.MD200EM</b>	Second cut 20 x 5	200	6 209
<b>PAM.MD250EM</b>	Second cut 25 x 6	250	6 351
<b>PAM.D100</b>	Smooth cut 12 x 3	100	12 29
<b>PAM.D200</b>	Smooth cut 20 x 5	200	12 163
<b>PAM.D300</b>	Smooth cut 30 x 7	300	6 454
<b>PAM.D200EM</b>	Smooth cut 20 x 5	200	6 209

File type	l x e mm	Length mm	$\Delta\Delta$ g
<b>PAM.B100</b>	Bastard cut 12 x 3	100	12 29
<b>PAM.B200</b>	Bastard cut 20 x 5	200	12 163
<b>PAM.B300</b>	Bastard cut 30 x 7	300	6 454
<b>PAM.B200EM</b>	Bastard cut 20 x 5	200	6 209
<b>PAM.B250EM</b>	Bastard cut 25 x 6	250	6 351
<b>PAM.B300EM</b>	Bastard cut 30 x 7	300	6 528

### DRD - DRD.EM Half-round files

▷ NFE 75-001, NFE 75-002

- DRD : Half-round files.
- DRD.EM : Half-round files with handle.

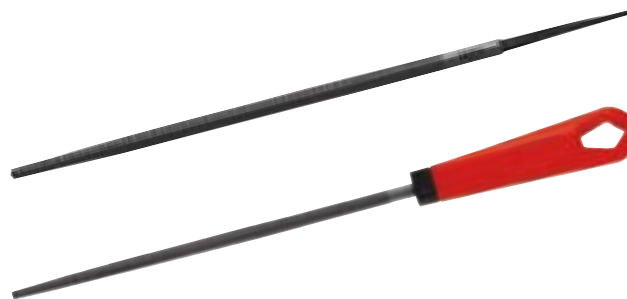


File type	l x e mm	Length mm	$\Delta\Delta$ g
<b>DRD.B200</b>	Bastard cut 21 x 6	200	12 133
<b>DRD.B300</b>	Bastard cut 30 x 8,5	300	6 445
<b>DRD.B200EM</b>	Bastard cut 21 x 6	200	6 186
<b>DRD.B300EM</b>	Bastard cut 30 x 8,5	300	6 466
<b>DRD.MD100</b>	Second cut 11 x 3,5	100	12 26
<b>DRD.MD200</b>	Second cut 21 x 6	200	12 133
<b>DRD.MD300</b>	Second cut 30 x 8,5	300	6 445
<b>DRD.MD200EM</b>	Second cut 21 x 6	200	6 186
<b>DRD.MD250EM</b>	Second cut 25 x 7	250	6 293
<b>DRD.D200</b>	Smooth cut 21 x 6	200	12 133
<b>DRD.D300</b>	Smooth cut 30 x 8,5	300	6 445

### RD - RD.EM Round files

▷ NFE 75-001, NFE 75-002

- RD : Round files.
- RD.EM : Round files with handle.




File type	Length mm	Ø mm	$\Delta\Delta$ g
<b>RD.B100</b>	Bastard cut 100	4	12 11
<b>RD.B125</b>	Bastard cut 125	5	12 20
<b>RD.B200</b>	Bastard cut 200	8	12 62
<b>RD.B250</b>	Bastard cut 250	10	12 143
<b>RD.B300</b>	Bastard cut 300	12	6 231
<b>RD.B250EM</b>	Bastard cut 250	10	6 156
<b>RD.MD100</b>	Second cut 100	4	12 11
<b>RD.MD125</b>	Second cut 125	5	12 20
<b>RD.MD200</b>	Second cut 200	8	12 62
<b>RD.MD300</b>	Second cut 300	12	6 231
<b>RD.MD150EM</b>	Second cut 150	6	6 56
<b>RD.MD200EM</b>	Second cut 200	8	6 101
<b>RD.D100</b>	Smooth cut 100	4	12 11
<b>RD.D200</b>	Smooth cut 200	8	12 62

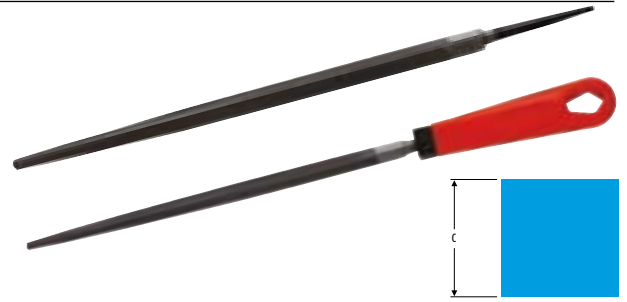


## CAR - CAR.EM Square files

▷ NFE 75-001, NFE 75-002

- CAR : Square files.
- CAR.EM : Square files with handle.


File type	c x c mm	Length mm		$\Delta\Delta$ g
<b>CAR.B200</b>	Bastard cut	8 x 8	200	12 87
<b>CAR.B300</b>	Bastard cut	12 x 12	300	6 318
<b>CAR.MD200</b>	Second cut	8 x 8	200	12 87
<b>CAR.MD300</b>	Second cut	12 x 12	300	6 318
<b>CAR.MD200EM</b>	Second cut	8 x 8	200	6 129
<b>CAR.D200</b>	Smooth cut	8 x 8	200	12 87

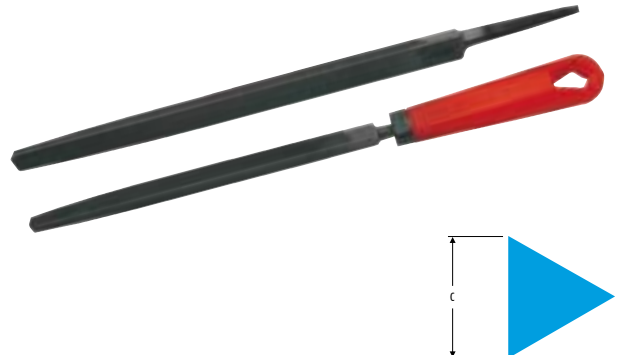


## TRI - TRI.EM Three-square files

▷ NFE 75-001, NFE 75-002.

- TRI : Three-square files.
- TRI.EM : Three-square files with handle.

File type	Length mm	c mm		$\Delta\Delta$ g
<b>TRI.B150</b>	Bastard cut	150	11 12	78
<b>TRI.B200</b>	Bastard cut	200	15 12	159
<b>TRI.B300</b>	Bastard cut	300	21 6	431
<b>TRI.MD150</b>	Second cut	150	11 12	78
<b>TRI.MD200</b>	Second cut	200	15 12	159
<b>TRI.MD300</b>	Second cut	300	21 6	431
<b>TRI.MD150EM</b>	Second cut	150	11 6	114
<b>TRI.MD200EM</b>	Second cut	200	15 6	208
<b>TRI.D150</b>	Smooth cut	150	11 12	78
<b>TRI.D200</b>	Smooth cut	200	15 12	159




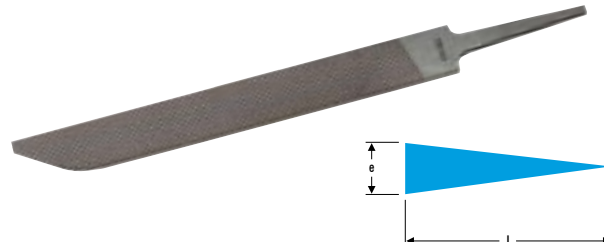
## Knife file

### CT.MD250

▷ NFE 75-001, NFE 75-002

- Single-cut knife edge.
- Safe edge.

File type	l x e mm	L mm		$\Delta\Delta$ g
<b>CT.MD250</b>	Second cut	26 x 6	250	12 186




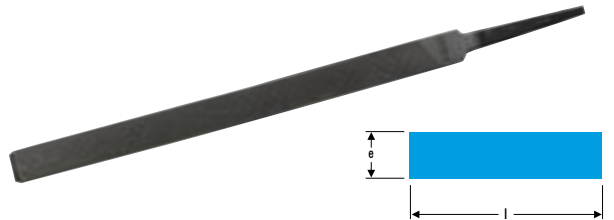
## Pillar file

### PIL.MD200

▷ NFE 75-001, NFE 75-002

- 1 safe edge.
- 1 single-cut edge.


File type	l x e mm	L mm		$\Delta\Delta$ g
<b>PIL.MD200</b>	Second cut	14 x 7	200	12 150

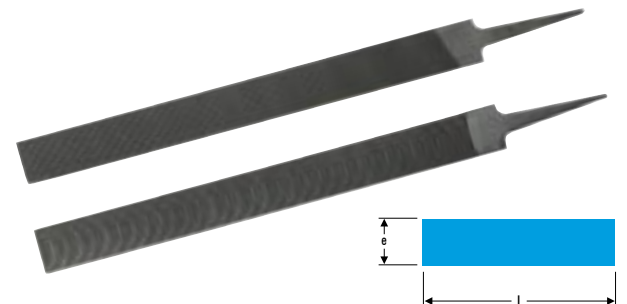


## ► Milled files

### FR Milled files

- FR.C : Rigid dreadnought files.
- FR.O : Rigid millenicut files.
- Designed for non-ferrous metals, bronze, brass, laminates and plastics.
- 2 safe edge.

File type	l x e mm	Teeth per cm	Length mm		$\Delta\Delta$ g
<b>FRC.B300</b>	Bastard cut	30 x 7,5	3,5	300	6 377
<b>FRC.MD300</b>	Second cut	30 x 7,5	4,7	300	6 393
<b>FRO.B300</b>	Bastard cut	30 x 7,5	3,5	300	6 375
<b>FRO.MD300</b>	Second cut	30 x 7,5	4,7	300	6 382



## ► Saw files

### Round file for chainsaws with handle

#### TRO.5,6EM

▷ NFE 75-001, NFE 75-002.

- Double-cut.

File type	Length mm	Ø mm	Ø mm	g	ΔΔ g
TRO.5,6EM	200	7/32	5,6	6	69



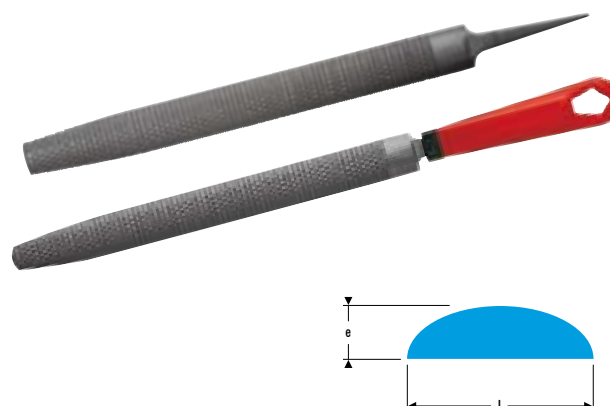
## ► Wood rasps

### RAB.DRD - RAB.DRDEM Half-round rasps

▷ NFE 75-001, NFE 75-002

- RAB.DRD : Half-round rasps.
- RAB.DRDEM : Half-round rasps with handle.

File type	l x e mm	Length mm	g	ΔΔ g
RAB.DRDB250	25 x 7	250	12	256
RAB.DRDB300EM	30 x 8,5	300	6	480
RAB.DRDMD250	25 x 7	250	12	256
RAB.DRDMD300	30 x 8,5	300	6	447
RAB.DRDMD250EM	25 x 7	250	6	315
RAB.DRDD250	25 x 7	250	12	256



### RAB.RD - RAB.RDEM Round rasps

- RAB.RD : round rasp.
- RAB.RDEM : round rasp with handle.

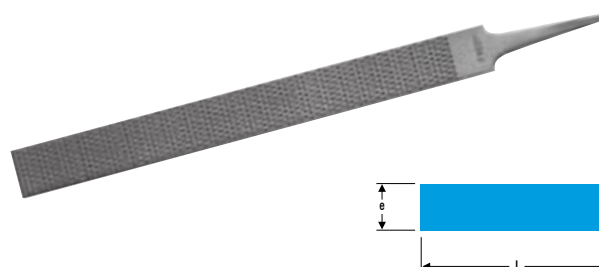
Length mm	Ø mm	g	ΔΔ g	
RAB.RD250	250	10	12	168
RAB.RD250EM	250	10	6	204



### RAB.P Flat rasps

▷ NFE 75-001, NFE 75-002

File type	l x e mm	Length mm	g	ΔΔ g
RAB.PB250	25 x 6	250	12	316
RAB.PB300	30 x 7	300	6	503
RAB.PMD250	25 x 6	250	12	316
RAB.PMD300	30 x 7	300	6	503





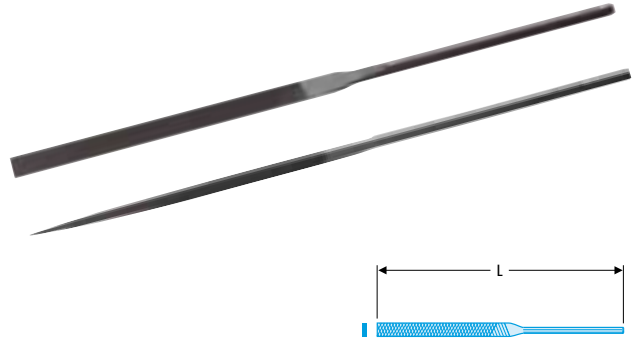
## ► Precision files

### AIG Round shank needle files

▷ NFE 75-001, NFE 75-002

- 3 styles.
- Available with T2 cut for precision work.
- Choice of 3 lengths : 140, 160, 180 mm.
- In boxes of 12.

➤	File type	Length mm	$\Delta\Delta$ g
<b>AIG.RD160T2</b>	Round	160	90
<b>AIG.RD180T2</b>	Round	180	135
<b>AIG.PAM140T2</b>	Square	140	90
<b>AIG.PAM160T2</b>	Square	160	110
<b>AIG.PAM180T2</b>	Square	180	147
<b>AIG.TRI180T2</b>	Three-square	180	147



### Selections of needle files

▷ NFE 75-001, NFE 75-002

- AS.6L : 6 needle files (RD.DRD.DPE.CAR.TRI.PAM).
- AS.12L : 12 needle files (RD, DED, PDE, FS, CT, CAR, TRI, PAM, BAR, PAMBR, CRO, OV).
- T0 for rough filing, T2 for precision filing, T4 for finishing.
- Packaging : BC : cardboard box; BP : plastic box; TP : plastic wallet.


➤	File type	Packaging	Length mm	$\Delta\Delta$ g
<b>AS.12LBC100T0</b>	T0	BC	100	41
<b>AS.12LBC100T2</b>	T2	BC	100	42
<b>AS.12LBP140T0</b>	T0	BP	140	114
<b>AS.12LBP140T2</b>	T2	BP	140	108
<b>AS.12LBP140T4</b>	T4	BP	140	109
<b>AS.6L140T0</b>	T0	TP	140	86
<b>AS.6L140T2</b>	T2	TP	140	85
<b>AS.12LBP160T0</b>	T0	BP	160	136
<b>AS.12LBP160T2</b>	T2	BP	160	135
<b>AS.12LBP160T4</b>	T4	BP	160	134
<b>AS.6L160T0</b>	T0	TP	160	99
<b>AS.6L160T2</b>	T2	TP	160	98
<b>AS.12LTP180T0</b>	T0	TP	180	236
<b>AS.12LTP180T2</b>	T2	TP	180	233
<b>AS.12LTP180T4</b>	T4	TP	180	232
<b>AS.6L180T2</b>	T2	TP	180	115

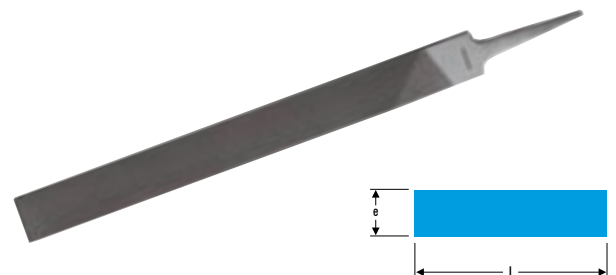


### ALP and ALDRD Second-cut files for aluminium

▷ NFE 75-001, NFE 75-002

- 2 double-cut faces :
- 1 double-cut edge.
- 1 safe edge.

➤	l x e mm	Length mm		$\Delta\Delta$ g
<b>ALP.300</b>	30 x 7	300	6	437
<b>ALDRD.300</b>	30 x 8,5	300	6	475

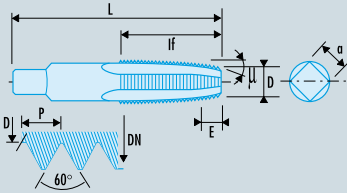


# Workshop drill bits, taps and dies

## Taps



### Tap selection guide



- Ground-thread backed-off taps.
- ISO metric RH thread.
- 6H machining.
- Set of 2 (ref. T2) for soft metals : 1 taper tap, 1 bottoming tap.
- Set of 3 (ref. T3) for hard metals : 1 taper tap, 1 second tap, 1 bottoming tap.

Max. hardness : 70 daN/mm<sup>2</sup> :  
 - for taps 227 and 80 daN/mm<sup>2</sup>  
 - for taps 227.S.

Types	D	E
Second	= 6 P	6°
Bottoming DN - 1.2p.	= 3.5 P	9°
Bottoming 18°	= 2 P	18°

### 227 Standard taps

▷ ISO 2857, ISO 529; NF ISO 529, NF EN 22857.

227.T3 Set of 3 taps : taper, second and bottoming.

227.T2 Set of 2 taps : taper and bottoming.

• HSS steel.

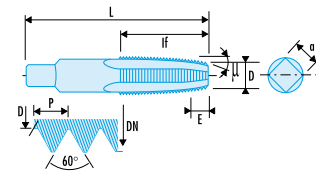
Ref	Taps	DN mm	a mm	P mm	L mm	ΔΔ g
227.3X50T3	x3	3	2,50	0,50	48	17
227.4X70T3	x3	4	3,15	0,70	53	23
227.5X80T3	x3	5	4	0,80	58	37
227.6X100T3	x3	6	5	1	66	50
227.7X100T3	x3	7	5,6	1	66	61
227.8X125T3	x3	8	6,3	1,25	72	83
227.9X125T3	x3	9	7,1	1,25	72	98
227.10X150T3	x3	10	8	1,50	80	137
227.12X175T3	x3	12	7,1	1,75	89	147
227.14X200T3	x3	14	9	2	95	242
227.16X200T3	x3	16	10	2	102	306
227.3X50T2	x2	3	2,5	0,50	48	5
227.4X70T2	x2	4	3,15	0,70	53	8
227.5X80T2	x2	5	4	0,80	58	15
227.6X100T2	x2	6	5	1	66	23
227.8X125T2	x2	8	6,3	1,25	72	42
227.10X150T2	x2	10	8	1,50	80	72
227.12X175T2	x2	12	7,1	1,75	89	79



227.T3



227.T2



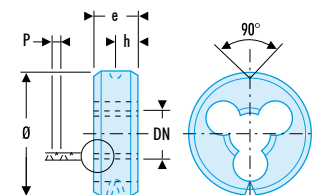
## Dies

### 221 Split dies

▷ ISO 261, DIN ISO 261, NF ISO 261.

- ISO metric RH thread.
- Chrome-vanadium HSS hardened to 62/64 HRC (234 daN/mm<sup>2</sup>).
- Tapered adjusting screw

Ref	DN mm	e mm	P mm	Ø mm	h mm	ΔΔ g
221.4X70	4	8	0,70	25,4	3,5	27
221.5X80	5	8	0,80	25,4	3,5	29
221.6X100	6	9	1	25,4	3,5	29
221.8X125	8	9	1,25	25,4	3,5	30
221.9X125	9	9	1,25	25,4	3,5	30
221.10X150	10	13	1,50	38,1	6	79
221.12X175	12	13	1,75	38,1	6	89
221.14X200	14	13	2	38,1	6	79
221.16X200	16	13	2	38,1	6	74
221.18X250	18	15	2,50	38,1	8	75



## ▶ Threading and tapping tool sets

### Tap and die sets

- For threads  $\varnothing$  3 - 12 and  $\varnothing$  3 to 18 mm.
- Sets 221.227SJ1 and 221.227SJ2 include cobalt steel taps 227.S.

Icon	mm	x	Icon	Icon	Icon	$\varnothing$ mm	$\Delta\Delta$ kg
<b>221.227J1</b>	470 x 195 x 53	9 x 2	9	2	2	M3-M12	3,1
<b>221.227SJ1</b>	470 x 195 x 53	9 x 2	9	2	2	M3-M12	3,1
<b>221.227J2</b>	540 x 284 x 58	12 x 2	12	2	3	M3-M18	5,7
<b>221.227SJ2</b>	540 x 284 x 58	12 x 2	12	2	3	M3-M18	5,7

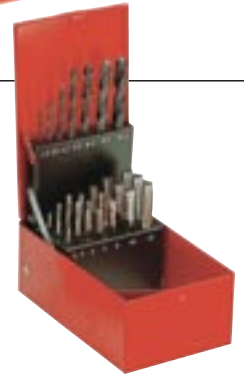


221.227J1

### Tap and drill-bit sets

- Each set includes 3 taps (taper, second, bottoming) and equivalent drill bit 222A.T.
- Set 227.SJ2A includes cobalt-steel taps 227.S.

Icon	x	$\varnothing$	$\varnothing$ mm	mm	$\Delta\Delta$ kg
<b>227.J2A</b>	3 x 7	M3→M12	2,5-3,3-4,2-5-6,8-8,5-10,2	172 x 105 x 57	1,1
<b>227.SJ2A</b>	3 x 7	M3→M12	2,5-3,3-4,2-5-6,8-8,5-10,2	172 x 105 x 57	1,1



### Tap set

- Each set includes 3 taps (taper, second, bottoming).
- Set 227.SJ1 includes cobalt-steel taps 227.S.

Icon	x	mm	$\varnothing$ mm	$\Delta\Delta$ g
<b>227.J1</b>	3 x 7	118 x 118 x 31	M3→M12	720
<b>227.SJ1</b>	3 x 7	118 x 118 x 31	M3→M12	720



## ▶ Thread restoring tools

### 237 Thread restoring tools

- For female and male threads.

Icon	P	Length mm	Thread pattern	$\Delta\Delta$ g
<b>237.A</b>	75-100-125-150-175-200-250-300	230	SI	119
<b>237.B</b>	80-100-125-150-175-200-250-300	230	ISO	123
<b>237.C</b>	10F-11F-12F-14F-16F-18F-20F-24F	230	WHITWORTH	125



## ▶ Tools for taps and dies

### 830A.L Long ratcheting tap wrenches

- Ideal for cutting threads in tight recesses.
- Two-way ratchet.
- Ratchet lock.
- Polished chrome finish.

Icon	max mm	Icon	Length mm	$\Delta\Delta$ g
<b>830A.5L</b>	5	M6	250	230
<b>830A.10L</b>	8	M12	300	413



# Workshop drill bits, taps and dies

## 830A Short ratcheting tap wrenches

- Two-way ratchet.
- Ratchet lock.
- Polished chrome finish.

	max mm		Length mm	ΔΔ g
<b>830A.5</b>	5	M6	85	164
<b>830A.10</b>	8	M12	105	316



## 830A.RN Repair kits

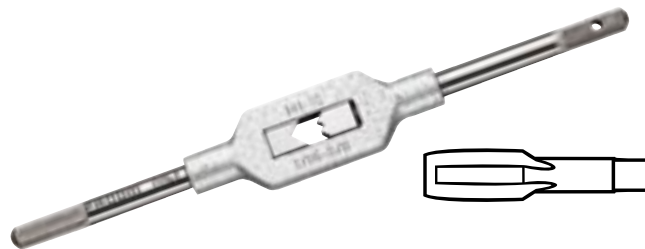
- Comprising chuck and spring.

	For	ΔΔ g
<b>830A.5RN</b>	830A.5/830A.5L	13
<b>830A.10RN</b>	830A.10/830A.10L	13

## 831 Adjustable tap wrenches

- Pressure-cast Zamak body. Machined and hardened clamp.
- Grey hammered finish.

	min - max		Length mm	ΔΔ g
<b>831.1</b>	2 - 8	M3→M7	180	96
<b>831.2</b>	4 - 11	M5→M12	300	296
<b>831.3</b>	5 - 16	M6→M20	385	703



## 832 Die stocks

- Pressure-cast Zamak body for accurate centring of the die.
- Grey hammered finish.

	For Ø	Length mm	Ø mm	Ø °	ΔΔ g
<b>832.1'</b>	3x50→9x125	220	25,4	1	116
<b>832.1'1/2</b>	10x150→18x250	325	38,1	1-1/2	408



## ▶ Workshop drill bits

### 222A.TJ Sets of ground twist drills

▷ ISO 235, DIN 338, NF ISO 235.

- For steel up to 700 MPa, stainless steel, grey cast-iron and aluminium alloy.

	x	Ø min - max mm	x mm	mm	ΔΔ kg
<b>222A.TJ19</b>	19	1 - 10	0,5	165 x 110 x 35	0,73
<b>222A.TJ25</b>	25	1 - 13	0,5	190 x 110 x 54	1,39
<b>222A.TJ50</b>	50	1 - 5,9	0,1	135 x 120 x 35	0,76
<b>222A.TJ81</b>	81	2 - 10	0,1	235 x 210 x 145	3,7



### Set of ground twist drills

#### 222A.TJ32

- For steel up to 700 MPa, stainless steel, grey cast-iron and aluminium alloy.
- 20 drill bits 222A.T Ø 1 to 10.5 mm in 1/2 mm increments.
- 12 drill bits, tapping and riveting dimensions :
  - Ø d1.9-2.1-2.6-2.9-3.2-3.3-3.8-4.2-5.1-6.8-7.9- 10.2 mm.
- Dimensions : 170 x 110 x 50 mm.

ΔΔ : 1.17 kg.





## Ground twist drills

• For steel up to 700 MPa, stainless steel, grey cast-iron and aluminium alloy.

• Available in the following sizes :

- Ø 1 to Ø13 mm : in 1/2 mm increments

Ordering information : For a 6.5 mm drill bit

quote reference 222A.T6.5.



## 222.J Drill bit sets

• Hot-rolled high-speed steel drills for steels up to 400 MPa hardness.

Ref	x	Ø min - max mm	x mm	mm	ΔΔ kg
<b>222.J19</b>	19	1 - 10	0,5	165 x 110 x 68	0,73
<b>222.J25</b>	25	1 - 13	0,5	190 x 110 x 54	1,36



## Drill bits

### 222

• For steel up to 400 MPa.

• Available in the following sizes :

- Ø 1 to Ø 13 mm : in 1/2 mm increments

△ Ordering information : For a drill bit. Ø 6.5 mm :

quote reference 222.6,5.



## Set of drill bits for sheet metal

### 222.TLJ10

• Comprising :

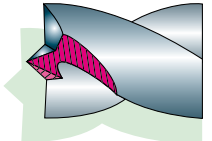
- 10 drill bits Ø 3-3.5-4-4.2-4.5-5-5.5-6-8-10.

• Ground in high-speed steel.

• For thin gauges

• Service case 155 x 110 x 35 mm.

ΔΔ : 150 g.



## Set of 3 reaming bits

### 229A.J3

• Capacity : Ø 3 to 30.5 mm.

• In a steel case : 120 x 100 x 38 mm.

• Supplied with lubricant.

ΔΔ : 555 g.

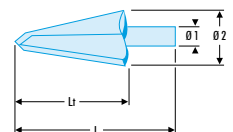


## 229A Reaming bits

• HSS for drilling, deburring and reaming thin sheet steel and non-ferrous metals.

• Max. recommended thickness 4 mm.

Ref	Ø 2 min - max mm	Ø1 mm	Lt mm	L mm	ΔΔ g
<b>229A.1</b>	3 - 14	6	37	59	21
<b>229A.2</b>	5 - 20	8	41	71	45
<b>229A.3</b>	16 - 30,5	9	48	76	131



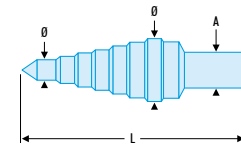
# Workshop drill bits, taps and dies

## 229A.ST Stepped bits

- Complies with the standards.
- For precision-drilling straight bores in all materials.
- Split point : no pilot hole required.
- More aggressive cut for easier drilling and no burrs.
- Better shaving removal.
- Less vibration, quieter operation.
- Parallel shank with 3 flats for positive rotation.
- Laser-engraved diameter markings in a groove.
- 678006 : Special ISO gland.
- 678014 : PG size step drill.
- Shank diameter 10 mm.



	Ø min - max mm	A mm	L mm	ΔΔ g
<b>229A.ST0</b>	4-5-6-7-8-9-10-11-12	6	65	25
<b>229A.ST1</b>	4-6-8-10-12-14-16-18-20	8	75	65
<b>229A.ST2</b>	4-6-9-12-15-18-21-24-27-30-33-36-39	10	107	315
<b>229A.ST3</b>	6-9-13-16-19-21-23-26-29-32-35-38	10	100	320
<b>678006</b>	6,5-8,5-10,5-12,5-16,5-20,5-25,5-29-32,5-36,5-40,5	10	96	310
<b>678014</b>	6-9-12,5-15,2-18,6-20,4-22,5-26-28,3-30,5-34-37	10	100	300



## Masonry drill bits

### ► Bits for impact machinery

#### Set of 7 push-fit drill bits

##### 223.MHJ7

- SDS plus shank profile.
- Tungsten carbide tip insert.
- Comprising :
  - 3 drills : 110 mm long, Ø 5 - 6 - 8 mm.
  - 4 drills : 160 mm long, Ø 6 - 8 - 10 - 12 mm
- In a steel case : 185 x 100 x 25 mm.
- ΔΔ : 507 g.



#### Set of 6 drill bits for straight chucks

##### 223.MJ6

- For carbide-chuck machinery Ø 13 mm.
- Machined bit with ground spiral and sharpened carbide insert
- Ø 4 - 5 - 6 - 7 - 8 - 10 mm.
- In a plastic case : 140 x 70 x 20 mm.
- ΔΔ : 175 g.



### ► Bits for hammer drills

#### Set of 7 short drill bits for straight chucks

##### 223.SJ7

- Sharpened carbide tip inserts.
- Ground from stock with L-groove.
- Ø 4 - 5 - 6 - 7 - 8 - 10 - 12 mm.
- In a steel case : 155 x 100 x 30 mm.
- ΔΔ : 355 g.

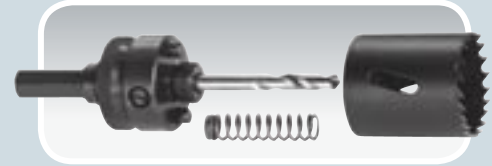




## Bimetal HSS holesaw

For cutting holes through standard materials and metals used in mechanical engineering, sheet-metalworking and plumbing.

- High-speed steel teeth, hardness > 63 HRC.
- Holesaw back in thick sheet steel to minimise vibration.
- Side slots and holes for chip removal.
- Spring helps eject cut-out pieces.



Quick assembly : chuck, pilot drill, spring, blade.

## ▶ Variable pitch holesaw

### 609A Variable pitch holesaw

- Variable pitch 4 to 6 mm (4/6T).
- Softer cut and reduced vibration. Cutting depth 34 mm.

Ø	Ø mm	L mm	ΔΔ g
609A.16	16	51	27
609A.19	19	51	31
609A.22	22	51	43
609A.24	24	51	52
609A.25	25	51	57
609A.27	27	51	66
609A.29	29	51	77
609A.32	32	51	92
609A.35	35	51	100
609A.38	38	51	74
609A.40	40	45	82
609A.44	44	45	102
609A.51	51	45	125
609A.54	54	45	140
609A.57	57	45	152
609A.60	60	45	167
609A.64	64	45	185
609A.65	65	45	192
609A.67	67	45	195
609A.68	68	45	205



Ø	Ø mm	L mm	ΔΔ g
609A.70	70	45	217
609A.76	76	45	250
609A.79	79	45	267
609A.80	80	45	270
609A.83	83	45	291
609A.86	86	45	300
609A.102	102	45	419

Ø	Description
609A.M1	Chuck and drill for holesaws → 22 to 29 mm
609A.M2	Chuck and drill for holesaws → > 29 mm

## ▶ Holesaw sets

### 609A Set of variable-pitch holesaws with chucks

Ø	mm	Ø mm	ΔΔ kg
609A.J1	322 x 136 x 53	22 - 29 - 35 - 44 - 51 - 64	1,8
609A.J3	322 x 136 x 53	19 - 22 - 29 - 35 - 38 - 44 - 51 - 57 - 64	2,1



### Case set of 5 holesaws

#### 693898

- Comprising :
  - Holesaws Ø 38, 40, 65, 67 and 68 mm.
  - 1 chuck fitted with a pilot drill.
  - 1 spring.
- Supplied in a shockproof polypropylene case BP.115 and tray PL.643.
- Case dimensions : 325 x 135 x 55 mm.
- Special electricians set (Recess boxes, etc.).



# Mills, scrapers

## VFA Cutters

- Tungsten carbide.
- Right-hand spiral.

no.	Ø x H mm	max rpm	ΔΔ g
VFA.600	1 6 x 18	50000	24
VFA.602	2 6 x 18	50000	24
VFA.604	3 6 x 18	50000	24
VFA.606	4 6 x 18	50000	22
VFA.608	5 6 x 18	50000	20
VFA.610	6 6 x 18	50000	20
VFA.1200	1 12 x 25	20000	52
VFA.1202	2 12 x 25	20000	52
VFA.1204	3 12 x 25	20000	50
VFA.1206	4 12 x 25	20000	30
VFA.1208	5 12 x 25	20000	35
VFA.1210	6 12 x 20	20000	38



## Set of 90° cone bits

### 229.TTJ4

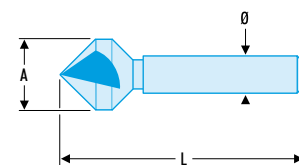
- Comprising :  
- 4 bits 229.TT2 to 229.TT5 and lubricant.
  - In a steel case 120 x 100 x 38 mm.
- ΔΔ : 450 g.



## 229.TT 90° cone bits

- 3 HSS cutting edges for countersunk screw holes.

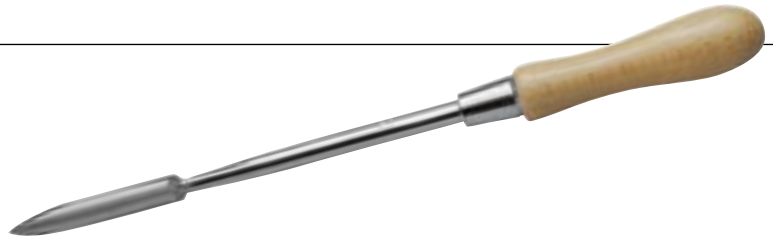
	A mm	Ø mm	L mm	ΔΔ g
229.TT2	10,4	6	50	11
229.TT3	16,5	10	60	30
229.TT4	20,5	10	63	48
229.TT5	25,0	10	67	66





**Three-square scraper****231**

- High quality steel blade, polished chrome finish.
  - Varnished wood handle.
  - Shank length : 200 mm.
- ΔΔ : 180 g.

**Half-round curved scraper****232**

- Polished chrome blade.
  - Varnished wood handle.
  - Blade length 200 mm.
- ΔΔ : 180 g.

**Flat scraper****329**

- Polished chrome blade.
  - Varnished wood handle.
  - Blade length 200 mm.
- ΔΔ : 185 g.

**Set of 3 stainless steel scrapers****235.J1**

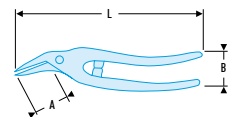
- Dimensions :
  - Length : 215mm.
  - Width : 32mm straight, 32mm angled and 50mm straight.
- Weight of set 427 g.

**Set of 3 flexible spatulas****237.J1**

- Dimensions :
  - Length : 215mm.
  - Width : 32mm, 50mm and 75mm.
- Weight of set 273 g.

**Metal shears****883 Scroll shears**

- Specially-shaped nose for accurately following detailed patterns.
  - Steel end stops.
- 883B.G Left-cut scroll shears.  
883B Right-cut scroll shears.  
883.32 Right cut large-capacity scroll shears.
- Epoxy paint finish.

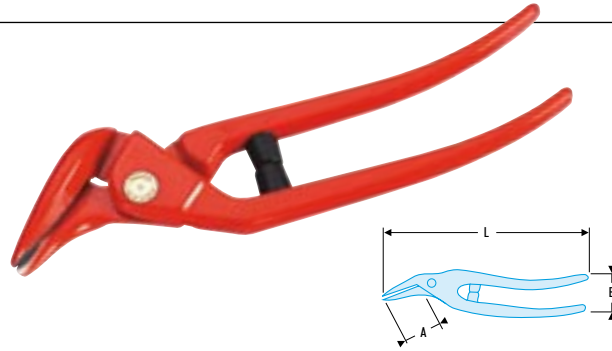


Ref	Capacity in mm		L mm	A mm	B min - max mm	ΔΔ g
	Stainless 80 kg/mm <sup>2</sup>	Capacity in mm				
<b>883B.G</b>	0,8	1	260	46	43 - 170	535
<b>883B</b>	0,8	1	260	50	43 - 170	527
<b>883.32</b>	0,9	1,2	320	73	47 - 170	763

## 884 Panel shears

- The bottom-blade clearance makes these shears ideal for continuous straight cuts in large panels, leaving clean edges.
- End stop.
- Epoxy paint finish.

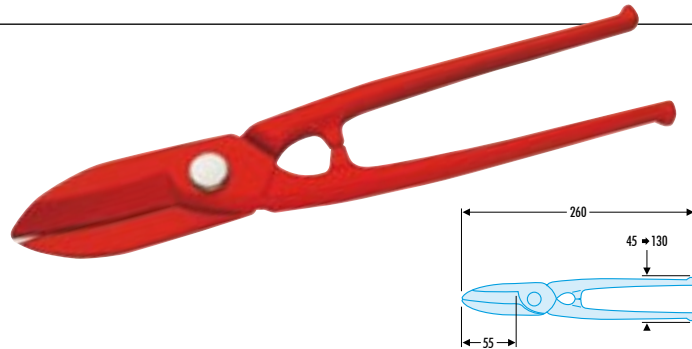
⇒	Capacity in mm		L mm	A mm	B min - max mm	ΔΔ g
	Stainless 80 kg/mm <sup>2</sup>	Capacity in mm				
<b>884B</b>	0,8	1	260	40	43 - 130	670
<b>884.30</b>	0,9	1,2	300	52	45 - 150	840



## General-purpose shears

### 880

- 2 wide blades.
  - Capacity :  
- Stainless 80 kg/mm<sup>2</sup> : 0.5 mm.  
- Semi-hard steel : 0.8 mm.
  - Forged steel end stop.
  - Epoxy paint finish.
- ΔΔ : 520 g.



## 882A-884A Two-hand shears

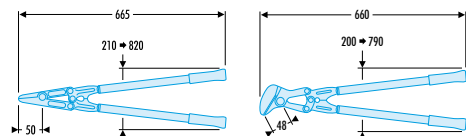
- Very high demultiplication.
- Forged steel end stop.
- Cutting capacity for blued sheet 120 kg/mm<sup>2</sup> : 2.0 mm (882A.65) and 2.5 mm (884A.65).
- Zinc-coated blades, tubular handles with neoprene grips.



⇒	ΔΔ kg
<b>882A.65</b>	2,134
<b>884A.65</b>	2,406

⇒	Description	ΔΔ kg
<b>882A.L65</b>	Spare blades	0,767
<b>884A.L65</b>	Spare blades	1,06

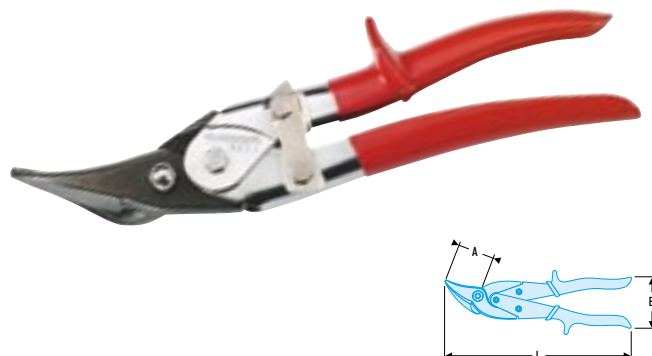


## Right-cut universal scroll shears

### 882A

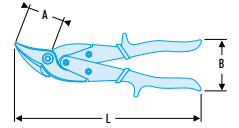
- Compound joint for easy action.
- Forged, hardened and burnished blades.
- Red sheathed grips with guard.
- Inset opening spring.
- Lock-closed catch.
- Cutting capacity  
- Stainless 80 kg/mm<sup>2</sup> : 0.8 mm.  
- Semi-hard steel : 0.8 mm.

⇒	L mm	A mm	B min - max mm	ΔΔ g
<b>882A</b>	250	32	45 - 130	474



## 982 Compound scroll shears

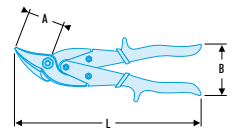
- Comply with ASME B 107.16M - 1998.
- Panel-type shears with slightly serrated cutting edges to prevent workpiece slip.
- Good demultiplication and inset opening spring.
- Forged chrome molybdenum blades.
- Ergonomic non-slip bi-material grips.
- Colour-coded according to direction of cut.
  - Red = left cut.
  - Green = Right cut.
- Jaw lock catch.
- Cutting capacity.
  - Stainless 80 kg/mm<sup>2</sup> : 0.8 mm.
  - Semi-hard steel : 1.2 mm.



🔪	L mm	B min - max mm	A mm	ΔΔ g
<b>982</b>	245	65 - 190	45	378
<b>982.G</b>	245	65 - 190	45	382

## 985 "Aircraft" shears

- Forged chrome molybdenum blades.
- High demultiplication allows long runs without effort.
- Good demultiplication and inset opening spring.
- Slightly serrated cutting edges prevent workpiece slip.
- Ergonomic non-slip bi-material grips.
- Colour-coded according to direction of cut.
  - Left cut = Red (985LE).
  - Right cut = Green (985RI).
  - Straight cut = Yellow (985ST).
- Jaw lock catch.
- Cutting capacity.
  - Stainless 80 kg/mm<sup>2</sup> : 0.8 mm.
  - Semi-hard steel : 1.2 mm.

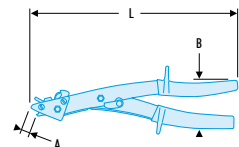


🔪	L mm	B min - max mm	A mm	ΔΔ g
<b>985.LE</b>	255	60 - 150	55	399
<b>985.RI</b>	255	60 - 150	55	400
<b>985.ST</b>	255	65 - 165	55	390

## Nibblers

### 887A

- Inset opening spring and high demultiplication allow effortless cutting along intricate patterns, removing a strip 2.8 mm wide.
- Die and blade system severs the strip at end of run.
- Top blades cut wire up to 2 mm in semi-hard steel and 2.5 mm in mild steel.
- Lock-closed catch.
- Cutting capacity
  - Stainless 80 kg/mm<sup>2</sup> : 0.8 mm.
  - Semi-hard steel : 1 mm.



🔪	L mm	B min - maxi mm	A mm	ΔΔ g
<b>887A</b>	260	7	45 - 110	520
🔪	Description			ΔΔ g
<b>887A.L1</b>	Spare blade			20

# Bolt croppers and cable cutters

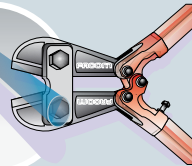


## 990.B Bolt croppers

### Powerful

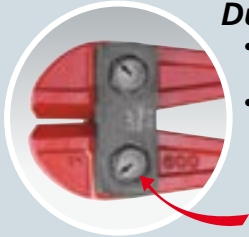
- Increased steel-cutting capacity up to 160 kg/mm<sup>2</sup>.

160 kg/mm<sup>2</sup>



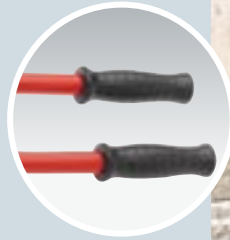
### Durable

- Harder blades for a more durable cut.
- Body specially treated to reduce play to a minimum.
- High performance chrome blades.
- Eccentric screw adjustment of play between blades.



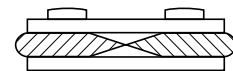
### Efficient

- Minimum cutting effort.
- Handgrip with guard for greater comfort



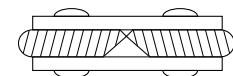
## 990.B Axial cut bolt croppers

no.	Ø max mm		Length		160 kg/mm <sup>2</sup>		ΔΔ kg
	60 kg/mm <sup>2</sup>	140 kg/mm <sup>2</sup>	mm	"	160 kg/mm <sup>2</sup>	160 kg/mm <sup>2</sup>	
990.B0	0	7	450	18	5,5	1,7	
990.B1	1	10	600	24	7	2,8	
990.B2	2	13	750	30	8	4,2	
990.B3	3	16	900	35	9	6,4	
990.B4	4	18	1050	41	10	8,6	



## 990.RB Flush-cut bolt croppers

no.	Ø max mm		Length		160 kg/mm <sup>2</sup>		ΔΔ kg
	60 kg/mm <sup>2</sup>	140 kg/mm <sup>2</sup>	mm	"	160 kg/mm <sup>2</sup>	160 kg/mm <sup>2</sup>	
990.RB00	00	6	350	12	5	1	
990.RB0	0	7	450	18	5,5	1,7	



## 990.LB Replacement blades for series 990.B (with screws)

- Bolt-cropper blades are consumables and subject to normal wear. Facom guarantees their conformity to dimensional standards and suitability for recommended applications.
- Actual service life is dependent on conditions of use.

no.	For axial cut		ΔΔ kg
	bolt croppers	bolt croppers	
990.LB0	990.B0		0,65
990.LB1	990.B1		1,05
990.LB2	990.B2		1,65
990.LB3	990.B3		2,4
990.LB4	990.B4		3,4
990.LRB00		990.RB00	0,45
990.LRB0		990.RB0	0,65





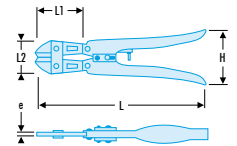
## ▶ Mini croppers and wire cutters

### Small bolt cropper

#### 997A.20

- Forged, hardened blades.
- Cutting capacity :
  - Max. Piano wire  $\varnothing$  2mm at 200kg/mm<sup>2</sup>.
  - Soft wire  $\varnothing$  4mm at 60 kg/mm<sup>2</sup>.
- Compact, lightweight tool with demultiplication system designed to cut hard and semi-hard wire, piano wire, bolts, rivets, pins and nails, etc.
- Ergonomic hardened pressed-steel handles with adjustable, shock-absorbing end stop.
- Spring-assisted opening.
- Blades lock in closed position.
- Bronzed blades, painted grips.

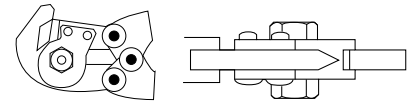
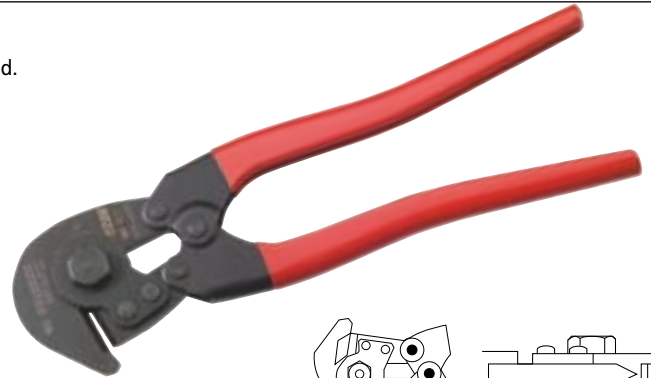
	E	H	L	L1	L2	$\Delta\Delta$
	mm	mm	mm	mm	mm	g
<b>997A.20</b>	4,5	57	210	54,5	40	275



### "Parrot nose" steel wire cutter

#### 997A.P22

- For cutting hard wire up to 200 kg/mm<sup>2</sup> :  $\varnothing$  2 mm using one hand.
- Maximum capacity :  $\varnothing$  8 mm.
- Blades hardened to 240 kg/mm<sup>2</sup>.
- 235 x 80 mm.
- $\Delta\Delta$  : 400 g.



## ▶ Copper and aluminium cable cutters

### 412 Cable cutters

412B.10 "Compact" cable cutters, capacity 10 mm.

- Integral opening spring.
- Lock closed catch.
- Cross proof design.

412.16 "Compact" cable cutters, capacity 16 mm.

- Heavy-duty head, cross proof design.
- Safety stop.

412.30-412.42 □Heavy-duty□ cable cutters.

- Powerful action, cuts without crushing electric cables.
- Safety stop.

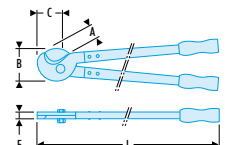
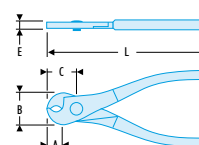


412.30

412B.10

	D min - max	$\leq$ max	E	L	A	B	C	$\varnothing$	$\Delta\Delta$	
	mm	$\otimes$ mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	g	
<b>412B.10</b>	53 - 190	45	50	10	170	21	28	40	10	225
<b>412.16</b>	80 - 370	75	85	14	290	28	54	45	16	670
<b>412.30</b>	155 - 1000	185	210	16	600	40	70	60	32	2458
<b>412.42</b>	200 - 1300	400	430	16	800	70	115	90	42	3695

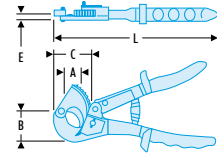
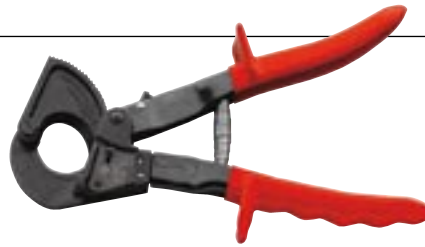
	Description
<b>412.L30</b>	Set of blades for 412.30
<b>412.L42</b>	Set of blades for 412.42



# Cable cutters

## 413 Ratchet cable cutters

- Capacities 32 and 52 mm.
- Ratchet-blade system for easy cut through thick gauge cables.
- Particularly useful in confined spaces.
- Non-slip grips with guards.



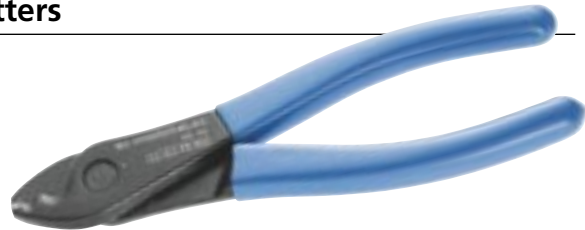
E	E max		E	A	B	C	Ø	L	ΔΔ
	mm <sup>2</sup>	mm <sup>2</sup>							
<b>413A.32</b>	190	210	7,8	34	58	65	32	255	385
<b>413.52</b>	250	400	8,0	53	80	75	52	275	800

## Manual 10 mm dia. copper/aluminium cable cutters

### 985912

- Notched end for stripping wires
- For single and multi-strand cables.

E	Capacity Ø mm		L	ΔΔ
	Multi-strand cable	single strand		
<b>985912</b>	10	8	165	225

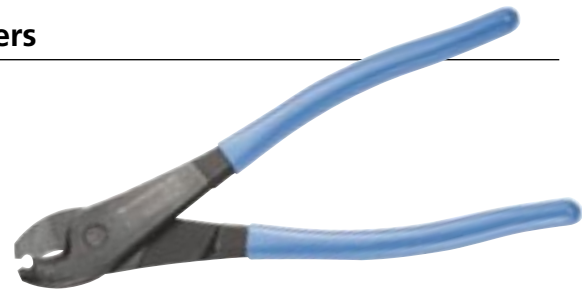


## Manual 18mm dia. copper/aluminium cable cutters

### 985925

- Notched end for stripping wires
- For single and multi-strand cables.

E	Capacity Ø mm		L	ΔΔ
	Multi-strand cable	copper		
<b>985925</b>	18	15	231	350



## Steel cable cutters

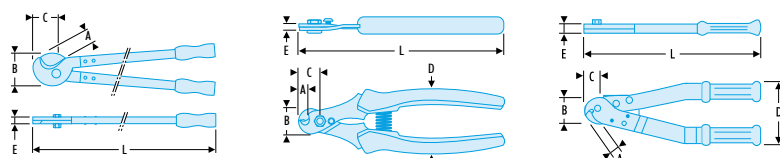
### 996 Cable cutters

- 996.5 "Compact" cable cutters, capacity 5 mm.
- Lightweight tool with blades and cutting angle designed for cutting solid materials and multi-strand cables.
- Push catch to lock closed, simply squeeze handles to release.
- Blades hardened to 60-62 HRC.
- 996.8 "Standard" cable cutters, capacity 8 mm.
- Blade inserts in high-performance steel.
- Compact and powerful with ergonomic grips.
- 996A.12 : Capacity 12 mm.
- 996.16 : Capacity 16 mm.
- Forged blades in high-performance steel.
- Cross proof design.



E	D min - max mm	Ø mm		Ø Rod 60 kg/mm <sup>2</sup>	Ø Rod 60-80 kg/mm <sup>2</sup>	E	A	B	C	L	ΔΔ kg
		Mild steel 60-100 kg/mm <sup>2</sup>	Hard steel 120-150 kg/mm <sup>2</sup>								
<b>996.5</b>	50 - 125	5	-	4	3	8	7	21	12	165	0,165
<b>996.8</b>	115 - 470	8	-	7	6	16	12	42	21	340	0,89
<b>996A.12</b>	-	12	10	-	-	8	16	73	50	600	2,73
<b>996.16</b>	-	16	13	-	-	10	16	115	55	800	4,95

E	Description
<b>996.L8</b>	Spare blades for 996.8
<b>996A.L12</b>	Spare blades for 996A.12
<b>996.L16</b>	Spare blades for 996.16



## 844

### The new utility knife range

A NEW RANGE OF CUTTING TOOLS, DESIGNED FOR PROFESSIONALS

#### Uncompromising safety for Professional applications.

- Recommended by the Health and Safety Committees (CHSCT)..
- Avoids the risk of cuts as a result of handling the blade, or blade slippage.
- Automatic reload model.
- Blade lock feature



844.S18

#### Productivity and efficiency.

- In-handle blade storage allows easy blade changes.
- Time-saving and safe.

#### Especially designed for intensive and daily use.

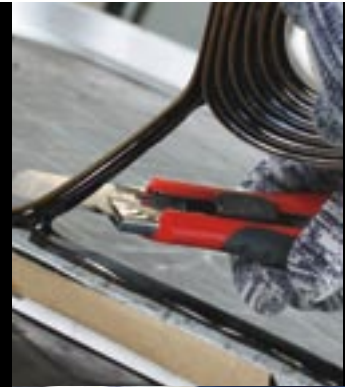
- Stainless steel blade guide providing perfect torsion resistance.
- Ergonomic handle for a more comfortable grip.
- Soft finish to avoid slippage.

#### Rigorous quality.

- Dynamic endurance tested for mechanism lifetime
- Load tested for blade-locking.
- Torsion tested to ensure blade retention.
- Tested for resistance to workshop chemicals.



844.D

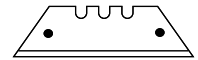


**New**

#### Safety knife with retractable blade

##### 844.D

- Safety knife.
- Blade automatically retracts after use.
- Zamak body.
- ABS cursor, front or side thumb control.
- Supplied with 3 blades (1 factory-mounted and 2 in the body).
- $\Delta\Delta$  : 185 g.

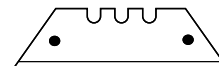


	H min - max mm	L mm	E mini maxi mm
<b>844.D</b>	176	40,5 - 44	21,5 - 27

#### Retractable utility knife with interchangeable blades

##### 844.R

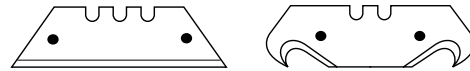
- Choice of 3 blade settings.
- Moulded handle housing 5 blades :
- Zamak body.
- Zinc alloy slide-button.
- $\Delta\Delta$  : 190 g.



## Utility knife with interchangeable blades

### 844C

- Moulded handle housing 5 blades.
  - Supplied in plastic case.
  - Zamak body.
- $\Delta\Delta$  : 145 g.

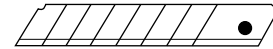


**New**

## 18 mm automatically reloading utility knife

### 844.S18

- Productivity, accessibility, safety
- Automatically reloading snap-off blades.
  - Ergonomic soft ABS handle.
  - Stainless steel blade guide.
  - Blade lock knob.
  - 6-blade cartridge.
- $\Delta\Delta$  : 85 g.



	L mm	Hauteur mm	Epaisseur mm
<b>844.SE18</b>	176	47	23

## Cutter with 18 mm snap-off blades

### 844.SE18

- Snap-off blades
- Ergonomic soft ABS handle.
- Stainless steel blade guide.
- Automatic blade lock.
- 2 spare blades.
- Integral blade snapper.



	L mm	Hauteur mm	Epaisseur mm	$\Delta\Delta$ g
<b>844.SE18</b>	47	47	172	98

## Cutter with 9 mm snap-off blades

### 844.S9

- Snap-off blades
  - Ergonomic soft ABS handle.
  - Stainless steel blade guide.
  - Automatic blade lock.
  - 2 spare blades.
  - Integral blade snapper.
- $\Delta\Delta$  : 19 g.



	L mm	Height mm	Epaisseur mm	$\Delta\Delta$ g
<b>844.SE18</b>	149	47	17	47





844

## Blade selection guide

### OUR CUTTING TOOL EXPERIENCE AT THE SERVICE OF PROFESSIONALS

#### A perfectly cutting blade guarantees your safety.

- A neat, clean cut
- Does not damage the material to be cut.
- Effortless cutting without the risk of blade slippage or pull-out.
- Saves time.



#### A choice of packaging

- 10 blade dispenser for roller cabinets.
- 100 blade dispenser for wall mounting.

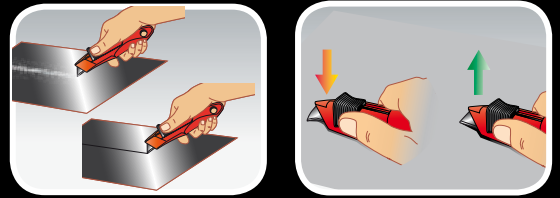


#### Choosing the right blade.

- What material is being cut? Material, thickness.
- On what backing surface will cutting be performed? (Does it need protecting?)
- Is there a risk of slipping? (uneven surface)
- What is the working material?
- What is the frequency of use?
- What is the desired durability?

#### A blade is a compromise between :

- **Hardness** : For a strong cutting section and good stress resistance.
- **Flexibility** : For stress resistance as well as allowing the blade to twist without deforming for a neat cut.
- **Cutting angle** : to guarantee an optimum cut according to the material.



**New**

#### High strength perforated trapezoidal blade

- High strength blade.
- Designed to produce a perfect cut in intensive applications.
- Ideal for cutting :  
- Thick cardboard. - Hoses. - Plastic. - Resilient foam. - Heat-shrinkable tubing.  
- Nylon strip. - Plastic tubes. - Seals.
- Supplied in a 10 or 100 blade dispenser.



	Length mm	Height mm	Thickness mm	ΔΔ kg
<b>844.TTL10</b>	60	19	0,65	0,05
<b>844.TTL100</b>	60	19	0,65	0,35



10 blades



100 blades

#### Standard trapezoidal blade

- Trapezoidal blade for everyday tasks.
- Designed to produce a perfect cut in normal applications.
- Ideal for cutting :  
- Thin cardboard. - Plastic film. - Heat-shrinkable tubing. - Wrapping paper.
- Supplied in a 10 or 100 blade dispenser.



	Length mm	Height mm	Thickness mm	ΔΔ kg
<b>844.TSL10</b>	50	19	0,45	0,05
<b>844.TSL100</b>	50	19	0,45	0,35



10 blades



100 blades

**New**

## High performance safety trapezoidal blade

- High performance trapezoidal blade.
- Rounded corner to avoid risk of accidental cutting.
- Designed to produce a perfect cut in intensive applications.
- Ideal for cutting :
  - Thick cardboard.
  - Hoses.
  - Plastic.
  - Resilient foam.
  - Heat-shrinkable tubing.
  - Nylon strip.
  - Plastic tubes.

	Length mm	Height mm	Thickness mm	$\Delta\Delta$ kg
<b>844.TRL10</b>	60	19	0,65	0,05
<b>844.TRL100</b>	60	19	0,65	0,35



10 blades



100 blades

## High strength hook blade

- High strength hook blade.
- Specially designed to protect the backing during cutting.
- Ideal for cutting :
  - Floor finishes, e.g. carpet, lino, PVC or other laid material.
  - Straps and thick fabric.
- Supplied in a 10 or 100 blade dispenser.

	Length mm	Height mm	Thickness mm	$\Delta\Delta$ kg
<b>844.TCL10</b>	50	19	0,65	0,05
<b>844.TCL100</b>	50	19	0,65	0,35



10 blades



100 blades

## 844.S18L 18 mm snap-off blades

- Snap-off blade.
- Ideal for all everyday cutting applications.
- For cutting :
  - Thick cardboard - Hoses - Plastic - Resilient foam - Heat-shrinkable tubing.
  - Nylon strip - Plastic tubes - Seals.
- Warning, snap-off blades are not designed to withstand excessive torsion forces.
- Supplied in a 10 or 50 blade dispenser.

	Length mm	Height mm	Thickness mm	Number of blades	Number of segments on the blade	$\Delta\Delta$ kg
<b>844.S18L10</b>	110	18	0,53	10	7	0,089
<b>844.S18L50</b>	110	18	0,53	50	7	0,365

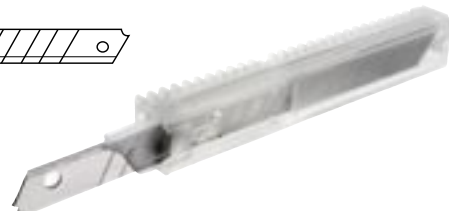
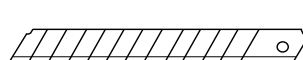


## Pack of ten 9 mm snap-off blades

### 844.S9L10

- 9 mm snap-off blade

	Length mm	Height mm	Thickness mm	Number of blades	Number of segments on the blade	$\Delta\Delta$ kg
<b>844.S9L10</b>	84	9,5	0,43	10	12	0,027



**980** "Cut All" general-purpose shears



**AN EFFORTLESS CLEAN CUT EVERY TIME**

Aluminium sheet (up to 1 mm thick), hard metal sheet (up to 0.5 mm), PVC, cardboard, rubber, floor coverings up to 5 mm thick. Hoses, plastic ties, small diameter pipes, electric cables (up to Ø 2.5 mm), insulating foam, wrapping paper... And many other applications.

**Precise**

- serrated blades, no risk of slipping.

**Smart**

- 2 opening positions, adapts to your hand. (26 mm / 36 mm)

**Safe**

- Locks in closed position.

**Comfortable**

- Non-slip bi-material grips.

**980C - Angled serrated shears**

- Ideal for cutting long lengths
- Keeps the hand away from the cutting operation.




**980 Universal shears**

- 980 : straight blade version.
- 980C : angled blade version.
- 2 opening positions :
  - Blade opening 29 to 36 mm.
  - Handle opening 77 to 102 mm.
- Comfortable : Non-slip bi-material grips.
- Safe : Locks in closed position..
- Accurate : Slightly serrated blade prevents any risk of slippage.
- Cardboard, rubber, PVC, leather 5 mm thick.
- Thin sheet steel 0.5 mm thick, aluminium sheet up to 1 mm thick.
- Electric cables up to 2.5 mm dia.
- Hoses, tubes, insulating foam, etc.

FB	L mm	B mm	C mm	ΔΔ g
<b>980</b>	205	67	49	201
<b>980C</b>	205	67	49	201



## "Stubby" scissors

### 841.0

- Long, strong and pointed blades, with wire cutter.
- Left/right hand.
- Polished chrome finish.

	Blade length mm	Total length mm	ΔΔ g
<b>841.0</b>	43	125	65



## Sheathed electricians scissors

### 841.4

- Plastic moulded sheathing.
- Long blades, with wire cutter.
- Hardened setting screw.

	Blade length mm	Total length mm	ΔΔ g
<b>841.4</b>	56	144	90



## Electricians scissors

### 841

- Long blades, with wire cutter.
- Polished chrome finish.

	Blade length mm	Total length mm	ΔΔ g
<b>841</b>	33	150	94



## Heavy-duty scissors

### 841.7

- Industrial model built and sized to cut leather, rubber, carpet, fabric, etc.
- Right handed handles.
- Polished chrome finish.

	Blade length mm	Total length mm	ΔΔ g
<b>841.7</b>	115	255	420



## Offset scissors

### 841.6

- Strong scissors. Right hand. Offset handles.
- For leather, rubber and other materials.
- Polished chrome finish.

	Blade length mm	Total length mm	ΔΔ g
<b>841.6</b>	115	240	235



## Multi-purpose scissors

- Titanium coated stainless steel scissors for a perfect cut along the full blade length.
- Non-slip bi-material handle for a better grip and comfort of use.

	Blade length mm	Total length mm	ΔΔ g
<b>841.8A</b>	92	227	119
<b>841.9</b>	112	232	135







840 LE

## THE KNIFE DESIGNED AS A TOOL



## Folding knife

**840LE**

- 12C27 stainless steel construction
  - Quick one-handed opening.
  - Right/left hand.
  - Liner lock safety catch and 2 stage release.
  - Universal hanging hook.
  - Closed length 115.5 mm.
  - Total length : 189 mm, blade length : 73.5 mm, closed length : 115.5 mm.
  - Comes with horizontal leather case.
- △△ : 246 g.



## Lock-back knife

**840.4A**

- Polished stainless blade.
  - Rosewood handle and nickel silver bolster.
  - Fits case 840.E.
  - Blade length 78 mm; closed length 105 mm.
- △△ : 160 g.



## Case

**840.E**

- Real leather. Worn on belt.
  - Takes knives 840.3 and 840.4A.
  - Closed length 150 mm.
- △△ : 53 g.



## Pocket knife

**840.2**

- Carbon-steel burnished blade.
  - Black plastic handle unscrews for maintenance.
  - Blade length 75 mm.
  - Closed length : 105 mm.
- △△ : 75 g.



## Locking pocket knife

### 840.3

- Lock-back design.
- Carbon-steel burnished blade.
- Rosewood handle unscrews for maintenance. Hanging clip.
- Supplied with leather thong. Fits case 840.E.
- Blade length 95 mm; closed length 120 mm.

ΔΔ : 127 g.



## Twin-blade electricians knife

### 640180

- Ideal for all common cable cutting and stripping tasks..
- 1 straight hollow ground general-purpose blade.
- 1 short curved blade, specially designed for cable work (640180).
- 1 lock-back for each blade.

	Number of blades	L mm	ΔΔ g
<b>640180</b>	2	42	100



## Single-blade electricians knife

### 631013

- Ideal for all cable cutting and stripping tasks.
- 1 lock-back for each blade.
- Hollow ground blades for increased strength.
- Ergonomic handle providing a firm grip.

	Number of blades	L mm	ΔΔ g
<b>631013</b>	1	30	100



## Electricians knife

### 840B

- Billhook blade 65 mm.
- Black plastic handle.
- Closed length 100 mm.

ΔΔ : 63 g.



## Twin-blade electricians knife

### 843

- Billhook blade 65 mm.
- Straight 80 mm blade
- Wood handle.
- Closed length 100 mm.

ΔΔ : 83 g.



## Electricians knife with wire stripper

### 840.1

- 1 blade with half-moon notch for stripping and vee for cutting.
- Rosewood handle.
- Closed length : 105 mm.

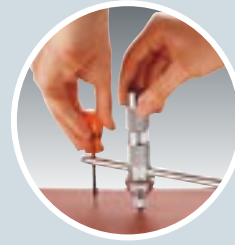
ΔΔ : 64 g.





## Punch kits

These kits are used to cut out clean and accurate circular gaskets in a variety of materials including cardboard, leather, rubber and fabric. To cut holes  $\varnothing$  3 to 50 mm, use a punch 245A.T with a shank 245A.M. To cut holes  $\varnothing$  44 to 420 mm, use calipers with centre-point and cutter. All components are available either separately or in kits.



### "Standard" kit

#### 245.J1

- For making round gaskets.
  - Cutting capacity :  $\varnothing$  3 to 30 mm using a punch and  $\varnothing$  56 to 330 mm using calipers.
  - Supplied in a plastic case BP.115 and tray PL.100A.
  - Dimensions 332 x 143 x 67 mm.
- $\Delta\Delta$  : 1.8 kg.



### "Maintenance" kit

#### 245.J2

- Cutting capacity  $\varnothing$  3 to 50 mm using a punch and  $\varnothing$  44 to 420 mm using calipers.
  - Supplied in a plastic case BP.109 and tray PL.99A.
  - Dimensions : 472 x 195 x 53 mm.
- $\Delta\Delta$  : 3.7 kg.



### Calipers

#### 245A.C

- Cutting capacity  $\varnothing$  44 to 420 mm.
  - Supplied in a plastic case : 260 x 90 x 40 mm.
- $\Delta\Delta$  : 590 g.



## 245A Gasket cutter for calipers

⇒	Ø mm	245.J1	245.J2
245A.T3	3	•	•
245A.T4	4	•	•
245A.T6	6	•	•
245A.T8	8	•	•
245A.T10	10	•	•
245A.T12	12	•	•
245A.T14	14	•	•
245A.T16	16	•	•
245A.T18	18	•	•
245A.T20	20	•	•
245A.T22	22	•	•
245A.T24	24	•	•
245A.T26	26	•	•
245A.T28	28	•	•
245A.T30	30	•	•
245A.T32	32	•	•
245A.T34	34	•	•
245A.T36	36	•	•
245A.T38	38	•	•
245A.T40	40	•	•
245A.T42	42	•	•
245A.T44	44	•	•
245A.T46	46	•	•
245A.T48	48	•	•
245A.T50	50	•	•



⇒	245.J1	245.J2	245.AC
245A.M1	•		
245A.M2	•		
245A.M3	•		
245A.M4	•	•	
245A.P1	•	•	•
245A.C1	•	•	•
245A.B1	•		
245A.B2	•	•	







# 12. Pullers

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Case sets ..... 524

## ▶ Outside pullers - 3 legs 525



Reversible universal 3-leg puller ..... 525  
Slim 3-leg pullers ..... 528  
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## ▶ Outside pullers - 2 legs 539



Reversible universal 2-leg puller ..... 539  
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Tip-type pullers, cage grip ..... 545  
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Tip-type pullers, inside grip ..... 547

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## ▶ Stud extractors – nut splitters 553



Stud extractors ..... 553  
Stud drivers ..... 554  
Nut splitters ..... 555





**NEW**

## U232 self-gripping 2-leg puller



### *Strength and simplicity*

#### Advantages

- ▶ Inside or outside grip
- ▶ Easy leg reversal
- ▶ Anti-rotation system



**N** 540

**NEW**

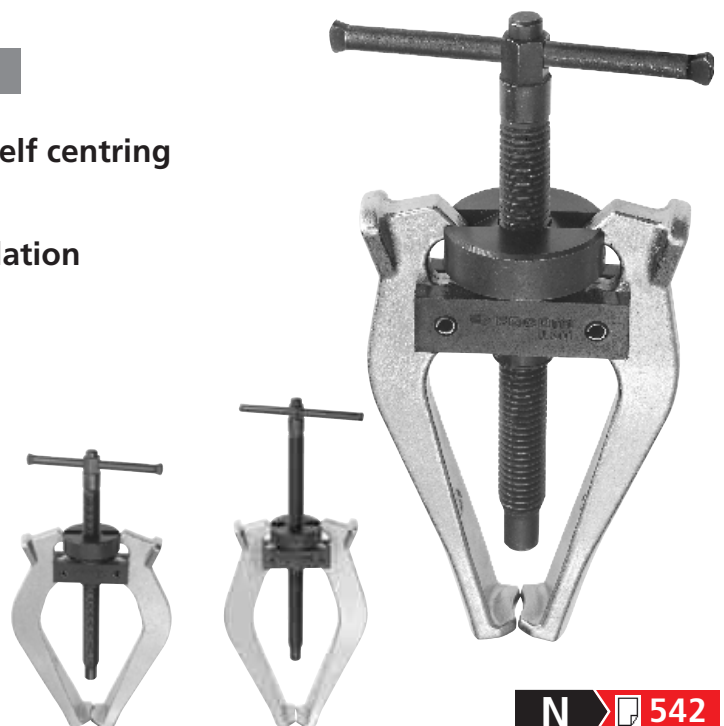
## U301 Wide 2-leg puller range



### *Compact puller with "wrap-around" legs for improved grip*

#### Advantages

- ▶ Self gripping and self centring
- ▶ One-handed installation
- ▶ Safety shear pins



**N** 542

*Effortless 10 Tonne pulling force*

**Advantages**

- ▶ Easy to operate: gradual, effortless transmission of power
- ▶ Added safety: high strength design and safety valve



N 532





## Selection guide












A choice of 90 pullers for all types of components up to 800 mm.

### The right questions to ask when choosing a puller






- What type of component is to be removed? = bearing, pulley, studs or nuts.
- What is the diameter of the component to be removed? = choice of spread.
- How is the component to be gripped? = choice of type of grip : outside grip, inside grip, special grip.
- How is the component to be pulled? = choice of bearing point : on the central axis, on the outside of the component, no available bearing point (= need to use puller accessories).

■ Bearings    
 ■ Pulleys    
 ■ Studs    
 ◀▶ Outside grip    
 ▶◀ Inside grip

Spread ◀ mm ▶	Reach ▲ mm	Force T kN		Characteristics	
<b>Outside grip - Adjustable 2 or 3 leg pullers</b>					
◀7-140 ▶	▲147	3 30	<b>U.306A-140</b>	 System U.306 - 2 or 3 legs - Inside or outside grip - Self gripping - self centring	P526
◀10-180 ▶	▲200	4 40	<b>U.306-180</b>		P526
◀20-260 ▶	▲250	4 40	<b>U.306-260</b>		P526
◀15-170 ▶	▲170	10 100	<b>U.310-170</b>		P527
◀15-250 ▶	▲250	10 100	<b>U.310-250</b>		P527
<b>Outside grip - 3 leg pullers</b>					
◀6-80 ▶	▲90	1 10	<b>U.302</b>	 Compact series slim legs	P528
◀6-150 ▶	▲150	1,1 11	<b>U.302-150</b>		P528
◀6-200 ▶	▲200	1,7 17	<b>U.302-200</b>	 Force	P528
◀25-170 ▶	▲160	7 70	<b>U.20</b>		P529
◀25-260 ▶	▲220	7 70	<b>U.20B</b>		P529
◀30-800 ▶	▲720	- -	<b>U.27AS3</b>	 Heavy duty	P530
◀100-360 ▶	▲400	20 200	<b>U.320</b>		P531
◀100-530 ▶	▲550	30 300	<b>U.330</b>		P531
◀100-650 ▶	▲695	100 1000	<b>U.60B</b>		P531
◀45-270 ▶	▲260	10 100	<b>U.312H</b>	 Very heavy duty Heavy duty hydraulic	P532
◀100-360 ▶	▲265	20 200	<b>U.320H</b>		P536
◀100-530 ▶	▲395	30 300	<b>U.330H</b>		P536
<b>Inside or outside grip - 2 leg pullers</b>					
◀20-80 ▶	▲85	2 20	<b>U.32T2-8</b>	 Lockable reversible 2-leg puller	P539
▶90-140 ◀					
◀20-120 ▶	▲85	2 20	<b>U.32T2-12</b>	 Lockable reversible 2-leg puller	P539
▶90-180 ◀					
◀20-160 ▶	▲140	6 60	<b>U.32T6-16</b>	 Lockable reversible 2-leg puller	P539
▶130-250 ◀					
◀20-200 ▶	▲140	6 60	<b>U.32T6-20</b>	 Lockable reversible 2-leg puller	P539
▶130-290 ◀					
◀25-250 ▶	▲170	15 150	<b>U.32T15-25</b>	 Lockable reversible 2-leg puller	P539
▶180-380 ◀					
◀25-360 ▶	▲170	15 150	<b>U.32T15-35</b>	 Lockable reversible 2-leg puller	P539
▶180-480 ◀					
◀25-500 ▶	▲270	15 150	<b>U.32T15</b>	 Lockable reversible 2-leg puller	P539
▶180-530 ◀					
◀25-65 ▶	▲65	1,5 15	<b>U.232-65</b>	 Reversible 2-leg puller	P540
▶55-90 ◀					
◀30-90 ▶	▲100	3 30	<b>U.232-90</b>	 Reversible 2-leg puller	P540
▶75-110 ◀					
◀45-130 ▶	▲100	3 30	<b>U.232-130</b>	 Reversible 2-leg puller	P540
▶75-160 ◀					
◀45-160 ▶	▲145	4 40	<b>U.232-160</b>	 Reversible 2-leg puller	P540
▶120-200 ◀					
◀45-210 ▶	▲145	4 40	<b>U.232-210</b>	 Reversible 2-leg puller	P540
▶120-250 ◀					
◀65-270 ▶	▲190	5 50	<b>U.232-270</b>	 Reversible 2-leg puller	P540
▶140-340 ◀					
◀65-340 ▶	▲190	5 50	<b>U.232-340</b>	 Reversible 2-leg puller	P540
▶140-390 ◀					

Spread ◀ mm ▶	Reach ▲ mm	Force T kN		Characteristics			
<b>Outside grip - 2 leg pullers</b>							
◀10-35▶	▲37	-	-	<b>U.14A</b>		Compact series slim legs	P.541
◀10-45▶	▲58	-	-	<b>U.14L</b>		P.541	
◀10-80▶	▲90	0,9	9	<b>U.301</b>		P.541	
◀10-150▶	▲150	1	10	<b>U.301-150</b>		P.541	
◀15-200▶	▲200	1,3	13	<b>U.301-200</b>		P.541	
◀10-50▶	▲70	1	10	<b>U.301P</b>		Compact series wide legs	P.542
◀10-100▶	▲100	1,1	11	<b>U.301M</b>		P.542	
◀10-110▶	▲130	1,7	17	<b>U.301L</b>		P.542	
◀10-55▶	▲75	1	10	<b>U.35P</b>		wide legs	P.543
◀10-75▶	▲90	4	40	<b>U.35</b>		P.543	
◀15-75▶	▲130	3	30	<b>U.35L</b>		P.543	
◀40-180▶	▲245	7	70	<b>U.34</b>			P.543
◀10-85▶	▲120	1,5	15	<b>U.42</b>		Slim legs with yoke	P.544
◀10-85▶	▲180	1,5	15	<b>U.42B</b>		P.544	
◀10-150▶	▲130	6	60	<b>U.52</b>			P.544
◀130-156▶	▲80	-	-	<b>DM.31</b>		Special for grooved pulleys pitch = 3.56mm	P.544
◀45-175▶	▲	-	-	<b>DM.50</b>		P.766	
<b>Special inside grip</b>							
▶23-130◀	▲140	3	30	<b>U.306A-130N</b>		System U.306	P.526
▶50-170◀	▲190	4	40	<b>U.306-170N</b>		P.526	
▶50-230◀	▲190	4	40	<b>U.310-230N</b>		P.528	
<b>Inside grip - Adaptable 2 or 3 leg pullers</b>							
▶32-70◀	▲ -	-	-	<b>U.51B</b>			P.546
▶70-160◀	▲ -	-	-	<b>U.28</b>		P.546	
▶6-60◀	▲ -	-	-	<b>U.49P1 à U.49AD10</b>		P.547	
▶20-200◀	▲240	-	-	<b>U.23D5 à U.23D32</b>		P.545	
<b>Stud extractors</b>							
◀3-50▶	▲ -	-	-	<b>285</b>		Flush broken studs, right-hand thread	P.553
◀6-14▶	▲ -	-	-	<b>885</b>		Flush broken studs, right and left-hand thread	P.554
◀5-20▶	▲ -	-	-	<b>286A</b>		Multi-diameter tool for removing/refitting or pulling studs	P.554
◀15-27▶	▲ -	-	-	<b>286PL</b>		P.554	
◀6-16▶	▲ -	-	-	<b>287B</b>		Single-diameter tool for removing/refitting or pulling studs	P.555
<b>Separators - Beams - Threaded adaptors</b>							
◀5-250▶	▲ -	-	-	<b>U.53T</b>		Separators	P.551
◀25-95▶	▲100	-	-	<b>U.23K</b>		Beams	P.551
◀40-400▶	▲350	-	-	<b>U.53K</b>		P.551	
Ø M4-M14	▲ -	-	-	<b>U.53E</b>	Threaded adaptors	P.552	

## Slide hammers

Compatible pullers					
U.49P1 → U.49P4	M8	0,2	<b>U.49L</b>		P.549
U.49P5 → U.49P9	Tr1/2	1,0	<b>U.49AM</b>		P.549
U.49P5 → U.49P9 / U.49AD10 / U.35(L) / U.42(L) / U.32T2	M16	1,6	<b>U.306M</b>		P.549
U.20(B) / U.310(-230N) / U.32T6-16 / U.32T6-20	M22	5,2	<b>U.2</b>		P.549



### Information

The quoted pulling powers are the actual powers obtained in the laboratory under normal working conditions. All our pullers are designed to provide maximum safety and reliability.



### Safety

As soon as access allows, use a 3-leg rather than a 2-leg configuration. Check that the puller is properly aligned with the axis before applying the pulling force.





## FACOM, YOUR PULLER SPECIALIST

**FACOM : designer and manufacturer.**

- A comprehensive range.



- Your safety : our priority.
  - The design, choice of materials and optimisation of Facom's pullers ensure guaranteed safety and reliability.
  - Facom has developed a "force limiting" safety system consisting of a shear pin that fails when the maximum allowable torque is reached (series U.306/310 and U.20)



**Pullers : it pays to be ready.**

- Saves time : having the right puller readily to hand allows a speedy response in the event of a breakdown, and a quick resumption of production.
- A sound investment : when a machine breaks down, each second of lost production represents a great deal of money. A puller often pays for itself after just one use.



### Pullers : safety first

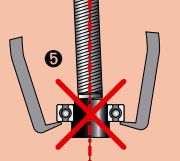
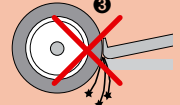
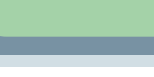
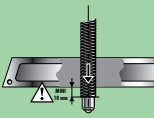
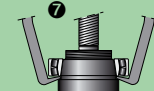
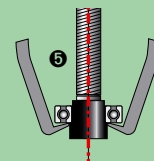
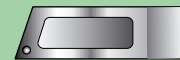


#### FACOM'S 10 TIPS :

Pulling components can involve very high forces.

The operation can therefore be very hazardous, which is why pullers require professional handling

- 1 Wear eye protection and gloves (see section 15).
- 2 Always ensure that a puller is in good condition and that the screw is evenly lubricated.
- 3 Never modify a puller Do not grind or weld the legs. Modifications can be very dangerous for the user and invalidates the guarantee.
- 4 Wherever possible, select a 3-leg puller for optimum load distribution.
- 5 Position the legs carefully, making sure that the puller is straight in relation to the line of traction.
- 6 Where possible, use a net (or sheet) to cover both the puller and the part being removed, in case the assembly springs apart suddenly.
- 7 Before applying pressure, check that the component is free to move, i.e. that all brackets, pins and nuts have been removed.
- 8 Never stand behind a puller - stay to one side.
- 9 Ask any bystanders to keep their distance.
- 10 Apply pressure to the puller screw progressively. Do not use impact wrenches.



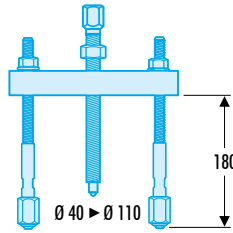
# Workshop puller kits

## ► Workshop panels

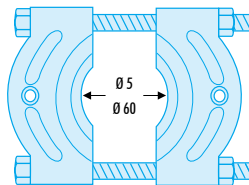
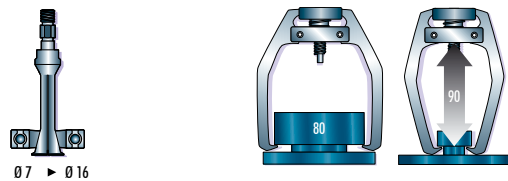
### Light-engineering kit

#### U.JA1

- Comprising :
  - 2 slim-leg outside grip pullers = U.301 and U.302 (Spread : 15 to 80 mm).
  - 4 inside expansion pullers = U.49P1 to U.49P4 (Spread : 6 to 18 mm).
  - + slide hammer U.49L.
  - 1 outside separator for difficult applications = U.53T1 (Spread : 5 to 60 mm) and beam U.53K1.
- Display panel PK.2.



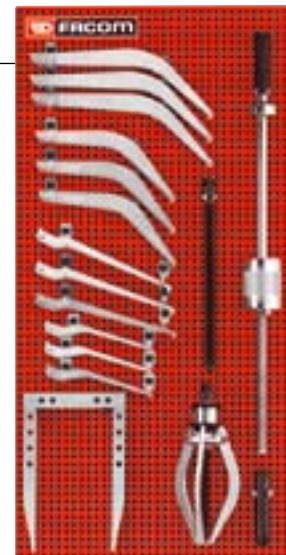
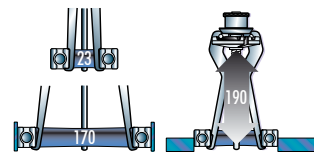
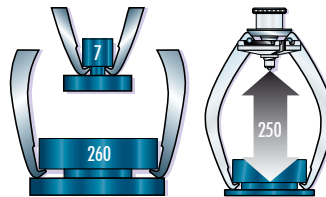
	Dimensions mm	$\Delta\Delta$ kg
<b>U.JA1</b>	444 x 444	4,3



### 4-Tonne kit

#### U.J2

- Comprising :
  - 1 outside leg puller = U.306A140 (Spread : 7 to 140 mm).
  - 2 sets of 3 long legs for outside grip = U.306G10 (Spread : 10 to 180 mm) and U.306G15 (Spread : 20 to 260 mm).
  - 2 sets of 3 long legs for inside grip = U.306G2 (Spread : 23 to 130 mm) and U.306G20 (Spread : 60 to 170 mm).
  - 1 long screw with end cap U.306-3
  - 1 beam U.40 (attached using ring and nut U.306A1, supplied with the kit).
  - 1 slide hammer U.306M.
- Display panel PK.1.

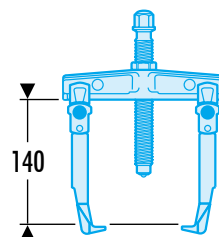


	Dimensions mm	$\Delta\Delta$ kg
<b>U.J2</b>	444 x 888	12,4

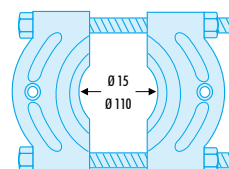
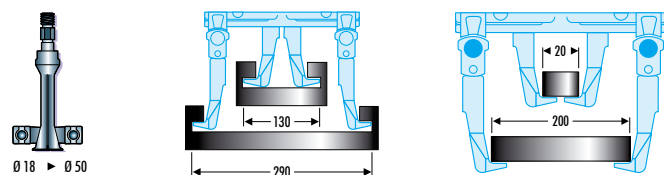
### General engineering kit

#### U.JA3

- Comprising :
  - 1 sliding-leg puller = U.32T6-20 outside grip (Spread : 20 to 200 mm) / inside grip (Spread : 130 to 290 mm).
  - 1 separator U.53T2 (Spread : 15 to 110 mm) and beam U.53K2.
  - 4 expansion pullers U.49P5 to U.49P8 (Spread : 18 to 50 mm).
  - 1 slide hammer U.306M with adaptor U.49BR1.
  - 30-tonne jack U.33A.
- Display panel PK.1.



	Dimensions mm	$\Delta\Delta$ kg
<b>U.JA3</b>	444 x 888	15,5





## ► Case sets

### Light-engineering kit

#### U.301BJ1

- Comprising :
  - 1 outside puller U.301 (Spread : 10 to 80 mm).
  - 4 expansion pullers U.49P1 to U.49P4 (Spread : 6 to 18 mm).
  - 1 beam U.53 KLO.
- Supplied in a plastic case BP 112 and tray PL.182B.

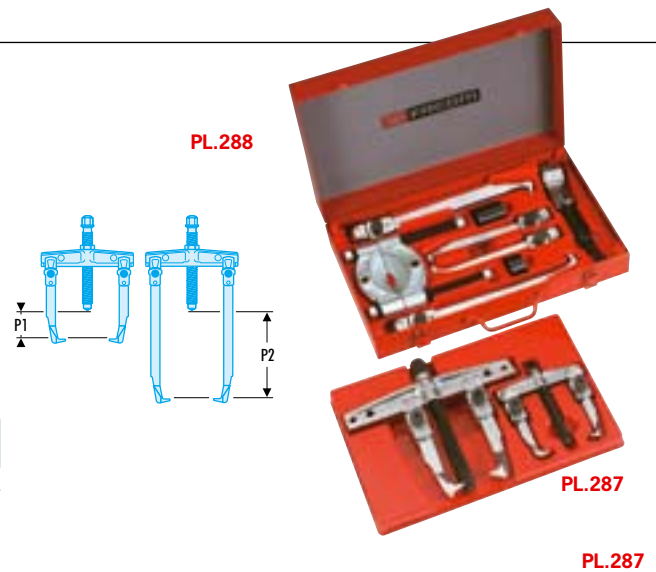


	Dimensions mm	$\Delta\Delta$ kg
<b>U.301BJ1</b>	390 x 170 x 170	2,1

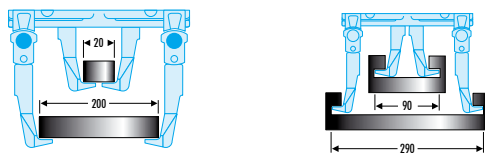
### General engineering kit

#### U.102T

- Comprising :
  - U.32T2-8 : 2-tonne sliding-leg puller and set of long legs; reach P1 : 85 mm, P2 : 185 mm
  - U.32T6-20 : 6-tonne sliding-leg puller and set of long legs; reach P1 : 140 mm, P2 : 280 mm
  - U.53T2 : separator (Spread : 15 to 110 mm).
  - U.33A : 30-tonne jack.
- Supplied in a steel case BT.108 with tray PL.287 and PL.288.



	Dimensions mm	$\Delta\Delta$ kg
<b>U.102T</b>	450 x 270 x 110	14,5



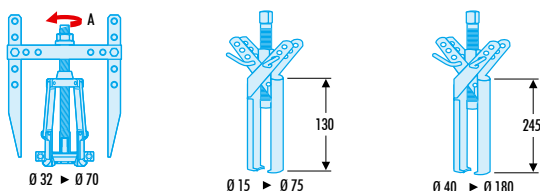
### General engineering kit

#### U.103A

- A complete set offering normal pulling power for all general engineering applications.
- Comprising :
  - U.35L (Spread : 15 to 75 mm) and U.34 (Spread : 40 to 80 mm) : wide-leg outside pullers.
  - U.51B : bearing inside puller (Spread : 32 to 70 mm).
  - U.40 : beam.
  - U.33A : 30-tonne jack.
- Supplied in a steel case BT.108 with tray PL.195A.



	Dimensions mm	$\Delta\Delta$ kg
<b>U.103A</b>	452 x 286 x 111	13,3



# Outside pullers - 3 legs

## ► Reversible universal 3-leg puller

# U.306/310

## Covers 80 % of common applications

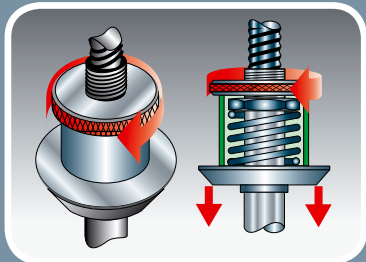
**Exclusive Facom  
body.**  
Easier, safer..



Safe

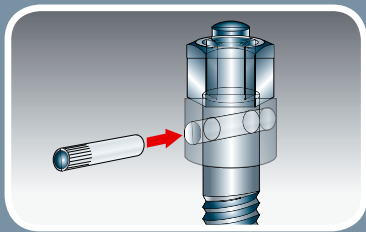
### Locknut

- Tightening the locknut securely locks the legs in place.



### Shear pin

- The pin shears if torque limit is exceeded.

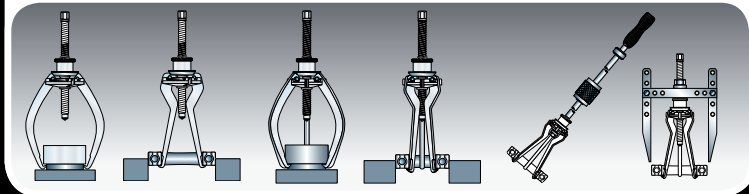


## PRACTICAL, EFFICIENT, VERSATILE

### Versatile

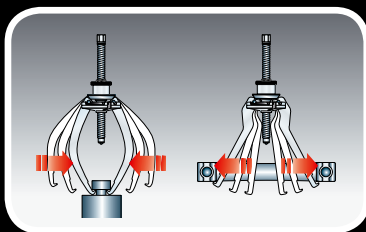
- Based on a single body, the U.306/U.310 system can be configured to perform all routine mechanical engineering pulling operations
- Puller accessories provide a full range of pulling solutions.

Inside or outside configuration 2 or 3-leg pullers, with or without accessories.



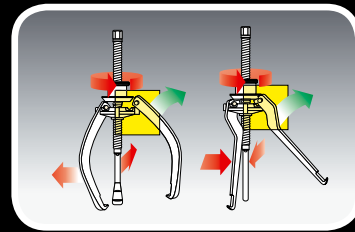
### Easy to use

- Self-gripping.
- Self-centring.



### Easy leg change

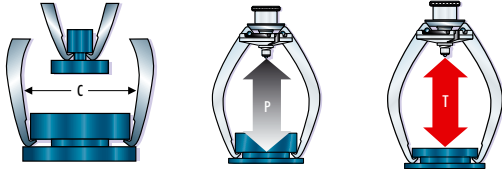
- Compress the spring.
- Remove the leg in place and place the desired new leg.



## U.306 outside pullers

• Puller accessories = Slide hammer U.306M (direct attachment) and beam U.40 (attached using ring and nut U.306A1 to be ordered separately).

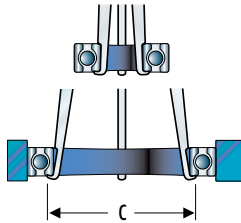
☞	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	● mm	ΔΔ kg
<b>U.306A140</b>	7 - 140	147	3	30	U.306G1	U.306-4	18	1,6
<b>U.306-180</b>	10 - 180	200	4	40	U.306G10	U.306-2	18	3,0
<b>U.306-260</b>	20 - 260	250	4	40	U.306G15	U.306-3 + U.306-3-03	18	3,9



## U.306N Inside pullers

• Puller accessories = Slide hammer U.306M (direct attachment) and beam U.40 (attached using ring and nut U.306A1 to be ordered separately).

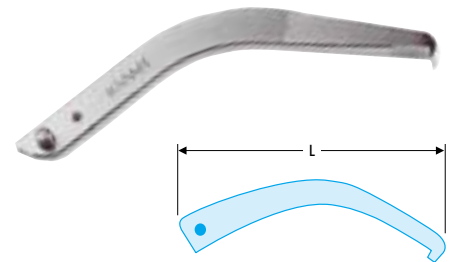
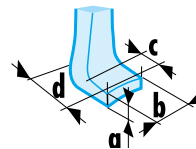
☞	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	● mm	ΔΔ kg
<b>U.306A130N</b>	23 - 130	140	3	30	U.306G2	U.306-4	18	1,3
<b>U.306-170N</b>	50 - 170	190	4	40	U.306G20	U.306-2	18	2,5



## Spare legs for puller U.306

• For your safety, we recommend that all the legs are replaced in the event of a problem.  
• Legs supplied individually.

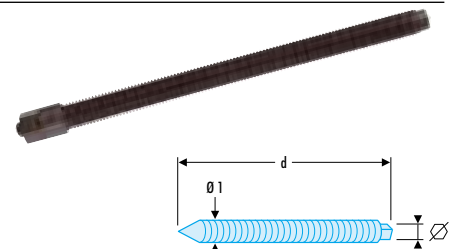
☞	L mm	a mm	b mm	c mm	d mm	Puller	ΔΔ kg
<b>U.306G1</b>	185	4,5	14	4	13	U.306A140	0,210
<b>U.306G10</b>	250	5	14	4	13	U.306-180	0,320
<b>U.306G15</b>	310	6,5	14	4	13	U.306-260	0,450
<b>U.306G2</b>	170	4,5	8	3,5	9,5	U.306A130N	0,180
<b>U.306G20</b>	230	6,5	8	4	12	U.306-170N	0,210



## Spare screws for puller U.306

• Screw supplied individually.

☞	∅ mm	L mm	● mm	Puller	ΔΔ kg
<b>U.306-2</b>	M16	310	18	U.306-180 / U.306-170N	0,410
<b>U.306-3</b>	M16	370	18	U.306-260	0,730
<b>U.306-4</b>	M16	250	18	U.306A140 / U.306A130N	0,340



# Outside pullers - 3 legs

## Inside/outside puller kit

### U.306J1

- Comprising :
  - 1 puller U.306A140.
  - 3 inside legs U.306G2.
  - 2 puller accessories : Slide hammer U.306M and beam U.40 (attached using ring and nut U.306A1, supplied with the kit).
- Spread :
  - outside  $\varnothing$  7 to 140 mm.
  - Inside  $\varnothing$  23 to 130 mm.
- Reach 140 mm.
- Supplied in a steel case BT.102 with tray PL.209.



FACOM	Sizes	$\Delta\Delta$ kg
U.306J1	718 x 189 x 128	11,3

## Inside/outside puller module

### MOD.U306PB

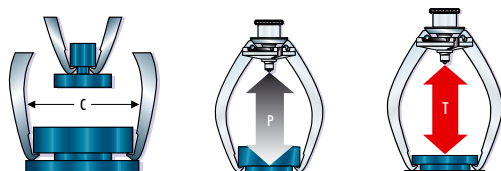
- Comprising :
  - U.306A140 : Puller (Spread : 7 to 140 mm).
  - U.306G2 : 3 inside legs (Spread : 23 to 130 mm).
  - U.306G10 : 3 long outside legs (Spread : 10 to 180 mm).
  - U.14L : Compact puller (Spread : 10 to 45 mm).
  - Tray PL.354
- $\Delta\Delta$  : 4.4 kg.



## U.310 Outside pullers

- Puller with 2 or 3 interchangeable legs.
- Puller accessories (supplied separately) : hydraulic screw U.3 and slide hammer U.2.

FACOM	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	$\varnothing$ mm	$\Delta\Delta$ kg
U.310-170	15 - 170	170	10	100	U.310G1	U.20B1	24	5,2
U.310-250	15 - 250	250	10	100	U.310G2	U.310-250-10	24	6,0





# 12 Outside pullers - 3 legs

## Inside puller

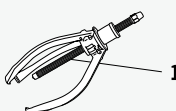
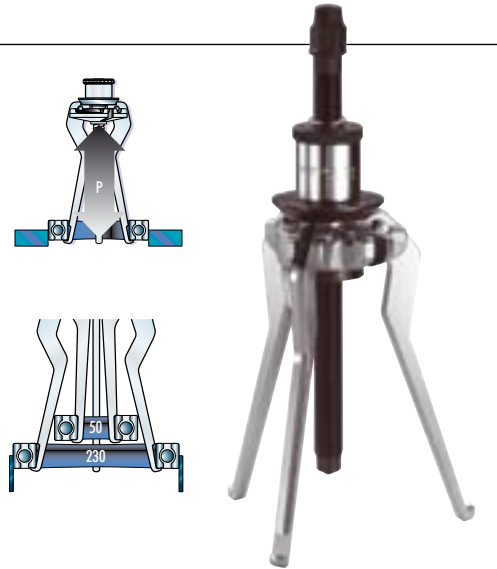
### U.310-230N

- Puller fitted with 3 long legs.
- Puller accessories (supplied separately) : hydraulic screw U.3 and slide hammer U.2.
- Dimensions : 360 x 180 mm.
- $\Delta\Delta$  : 4 kg.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	● mm	Screw	$\Delta\Delta$ kg
<b>U.310-230N</b>	50 - 230	200	10	100	U.310G3	24	U.20B1	4

U.310-170 - U.310-250 - U.310-230N

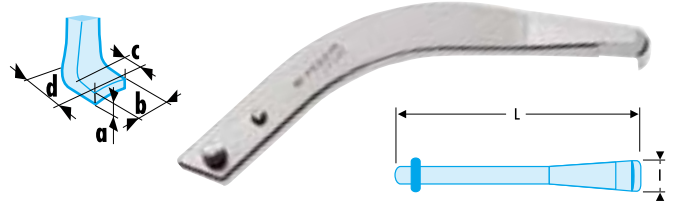
	1
<b>U.310-170</b>	U.20B1
<b>U.310-250</b>	U.310-250-10
<b>U.310-230N</b>	U.20B1

## Spare legs for puller U.310

- For your safety, we recommend that all the legs are replaced in the event of a problem.
- Leg supplied individually.

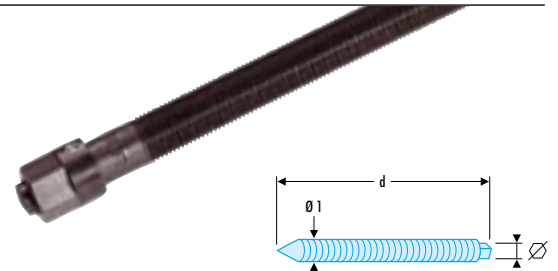
	L mm	a mm	b mm	c mm	d mm	Puller	$\Delta\Delta$ kg
<b>U.310G1</b>	230	6	26	5	19	U.310-170	0,600
<b>U.310G2</b>	310	7	26	5,5	19	U.310-250	0,840
<b>U.310G3</b>	260	10	12	5,5	15	U.310-230N	0,400



## Spare screws for puller U.310

- Screws supplied singly.

	Ø mm	L mm	● mm	Puller	$\Delta\Delta$ kg
<b>U.20B1</b>	M22	355	24	U.310-170 / U.310-230N	0,960
<b>U.310-250-10</b>	M22	355	24	U.310-250	1,100

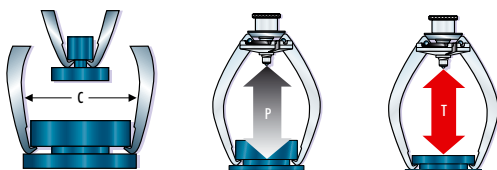


## ► Slim 3-leg pullers

### U.302 Self-gripping slim 3-leg pullers

- Range of pullers with spreads of 80, 150 and 200 mm.
  - Puller accessories (supplied separately): slide hammer U.49AM.
- Using adaptor U.301E1 (U.302 and U.302-150).  
Using adaptor U.301E2 (U.302-200).

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	● mm	$\Delta\Delta$ kg
<b>U.302</b>	17 - 80	90	1,5	15	U.301G	U.301-04	10	0,64
<b>U.302-150</b>	25 - 150	150	1,5	15	U.301-G150	U.301-04-150	10	1,02
<b>U.302-200</b>	25 - 200	200	2,4	24	U.301G-200	U.301-04-200	13	1,74

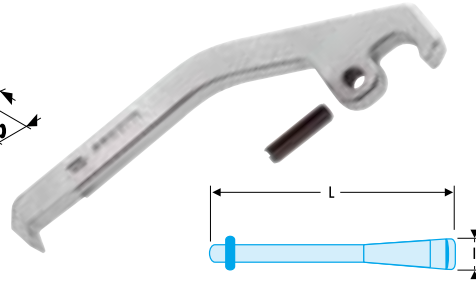
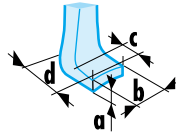


# Outside pullers - 3 legs

## Spare legs for puller U.302

- For your safety, we recommend that all the legs are replaced in the event of a problem.
- Legs supplied individually.

	L mm	a mm	b mm	c mm	d mm	Puller	$\Delta\Delta$ kg
<b>U.301G</b>	130	5	8	7	16	U.302	0.60
<b>U.301G -150</b>	205	6	8	7	17	U.302-150	0.84
<b>U.301G - 200</b>	270	6	8	7	18	U.302-200	0.40



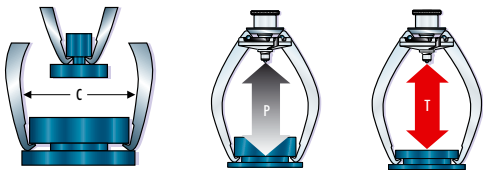
## ► High capacity 3-leg pullers

### Short-reach outside puller

#### U.20

- Shear pin prevents torque exceeding allowable limit.
- Supplied with 2 spare shear pins.
- Fitted with anti-rotation ring U.20-12.
- Puller accessories (supplied separately) : slide hammer U.2 and hydraulic screw U.3.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	$\Phi$ mm	$\Delta\Delta$ kg
<b>U.20</b>	25-170	160	7	70	U.20SE4	U.20-1S	24	3,2

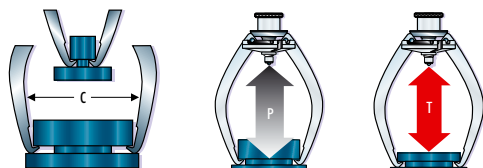


### Long-reach outside puller

#### U.20B

- Shear pin prevents torque exceeding allowable limit.
- Supplied with 2 spare shear pins.
- Fitted with anti-rotation ring U.20-12.
- Puller accessories (supplied separately) : slide hammer U.2 and hydraulic screw U.3.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	$\Phi$ mm	$\Delta\Delta$ kg
<b>U.20B</b>	25-260	220	7	70	U.20BSE4	U.20B1S	24	3,9



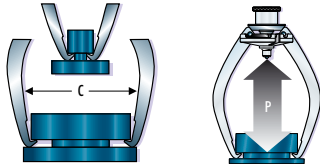
# 12 Outside pullers - 3 legs

## High-capacity outside puller

### U.27AS3

- Can be fitted with long legs U.27D3 and linkage system U.27B3.

▣	C mini - maxi mm	P mm	Ø mm	Screw	ΔΔ kg
U.27AS3	30-460	360	35	U.27-6	12,4

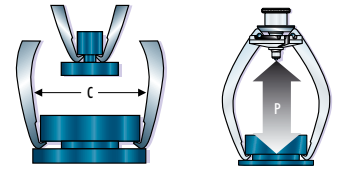


## Set of 3 long legs for U.27AS3

### U.27D3

- 3 long reach legs designed to fit puller U.27AS3.

▣	C mini - maxi mm	P mm	ΔΔ kg
U.27D3	40-460	480	4,6

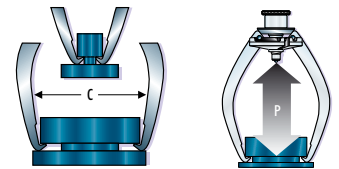


## Set of 3 long links for U.27AS3

### U.27B3

- Long links designed to increase spread of puller U.27AS3 from 460 to 800 mm.

▣	C mini - maxi mm	P mm	ΔΔ kg
U.27B3	50-800	600	20



## U.27AS3 - Attachment options

### LONG LEGS AND LINKS FOR INCREASED VERSATILITY

#### U.27AS3

Fitted with long legs.



Fitted with long links.  
**U.27D3**



Fitted with standard legs and links.  
**U.27B3**  
- Spread : 30 to 460 mm.  
- Max. reach : 360 mm.



Fitted with long legs and links.  
**U.27D3 + U.27B3**

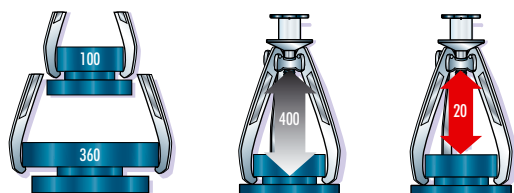
# Outside pullers - 3 legs

## High-capacity outside puller

### U.320

- Force : 20 tonnes; 200 kN.
- Fitted with 3 outside-gripping legs.
- Supplied complete with screw extension : U.320-14.
- Dimensions : 700 x 250 x 250 mm.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	● mm	ΔΔ kg
<b>U.320</b>	100-360	400	20	200	U.320-13A	U.320-01	36	20

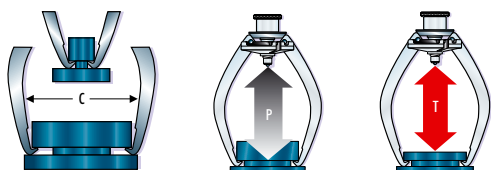


## High-capacity outside puller

### U.330

- Force : 30 tonnes; 300 kN.
- Fitted with 3 outside-gripping legs.
- Supplied complete with screw extension : U.330-14.
- Dimensions : 900 x 300 x 300 mm.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	● mm	ΔΔ kg
<b>U.330</b>	100-530	550	30	300	U.330-08	U.330-02	41	39

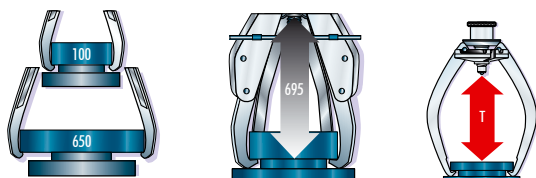


## High-capacity outside puller

### U.60B

- Force : 100 tonnes; 100 kN.
- 4 legs for very high forces.
- Fitted with a screw Ø 50 x 400 mm hardened to 100 kg/mm<sup>2</sup>.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	ΔΔ kg
<b>U.60B</b>	100-650	695	100	1000	66





# 12 Outside pullers - 3 legs

## ► Hydraulic 3-leg pullers

**New**

**U.312H**  
Medium-duty hydraulic puller

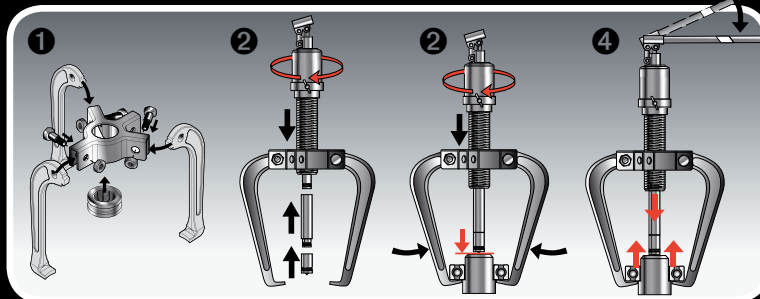
Pullers ▲



**10 TONNES OF EFFORTLESS PULLING FORCE READILY TO HAND**

### Versatile

- Based on a single body that can be fitted with 4 different sizes of legs for bearings  $\varnothing$  45 to 270 mm.
- 2 or 3-leg configurations.
- For light to heavy engineering applications.



- 1/ Assemble the body and the correct legs for the bearing.
- 2/ Position the jack and the puller.
- 3/ Pump the jack. The bearing will be removed safely and effortlessly.

### Practical

The carry case (field servicing) dismantles for easy storage in the drawers of your FACOM JET XL roller cabinets (workshop servicing).



### Safety first

- A safety valve hydraulically limits the jack to 10 tonnes.
- The other mechanical components can withstand much higher forces.



FO8

# Outside pullers - 3 legs

## 10T hydraulic puller set with 4 sets of legs

### U.312HJ4

- Comprising :
  - 10 tonne (100 kN) hydraulic jack U.312-01 + guide U.312-02 + set of 2 extensions U.312-03.
  - A 2 or 3-leg puller body U.312-04 + centring screw U.312-04-01 + set of 3 screws/nuts U.312-04-02.
  - 3 outside-gripping legs U.312G110 : Spread : 45 to 85 mm; Max. reach : 110 mm.
  - 3 outside-gripping legs U.312G160 : Spread : 80 to 170 mm; Max. reach : 160 mm.
  - 3 outside-gripping legs U.312G210, Spread : 90 to 210 mm; Max. reach : 210 mm.
  - 3 outside-gripping legs U.312G260, Spread : 110 to 270 mm; Max. reach : 260 mm.
- Supplied in a plastic case U.312VAL 565 x 412 x 105 mm.
- ΔΔ : 14.4 kg.



## 10T hydraulic puller set with 3 sets of legs

### U.312HJ3

- Comprising :
  - 10 tonne (100 kN) hydraulic jack U.312-01 + guide U.312-02 + set of 2 extensions U.312-03.
  - A 2 or 3-leg puller body U.312-04 + centring screw U.312-04-01 + set of 3 screws/nuts U.312-04-02.
  - 3 outside-gripping legs U.312G160 : Spread : 80 to 170 mm; Max. reach : 160 mm.
  - 3 outside-gripping legs U.312G210, Spread : 90 to 210 mm; Max. reach : 210 mm.
  - 3 outside-gripping legs U.312G260, Spread : 110 to 270 mm; Max. reach : 260 mm.
- Supplied in a plastic case U.312VAL, dimension : 565 x 412 x 105 mm.
- ΔΔ : 13.2 kg.



# 12 Outside pullers - 3 legs

## 10 T hydraulic jack for U.312H

### U.312-01

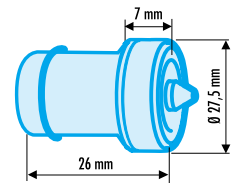
- Hydraulic jack : 10 tonnes; 100 kN pulling force.
- Rod stroke : 80 mm.
- ΔΔ : 2.28 kg.



## Guide tip for U.312H

### U.312-02

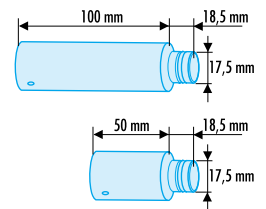
- For jack U.312-01.
- ΔΔ : 0.08 kg.



## Set of 2 extensions for U.312H

### U.312-03

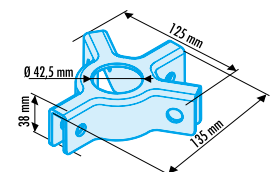
- For jack U.312-01.
- ΔΔ : 0.420 kg.



## 2 or 3-leg body for U.312H

### U.312-04

- This body allows 2 or 3 legs to be mounted using centring nut U.312-04-01 and the set of 3 bolts and nuts U.312-01-02.
- ΔΔ : 0.44 kg.



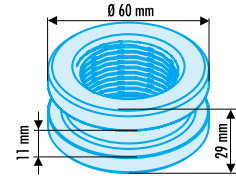
# Outside pullers - 3 legs

## Centring nut for U.312H

### U.312-04-01

- This centring nut allows 2 or 3 legs to be mounted using the body U.312-04-04 and the set of 3 bolts and nuts U.312-01-02.

$\Delta\Delta$  : 0.26 kg.

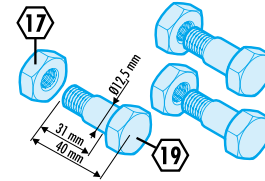


## Set of 3 bolts and 3 nuts for U.312H

### U.312-04-02

- Spare set of 3 bolts and 2 nuts for puller U.312H

$\Delta\Delta$  : 0.2 kg.

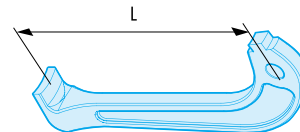
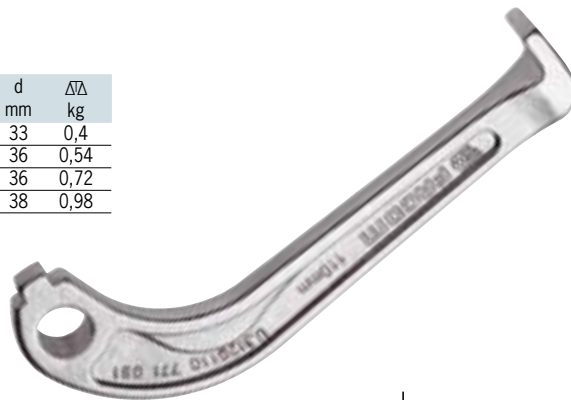


## Spare legs for puller U.312H

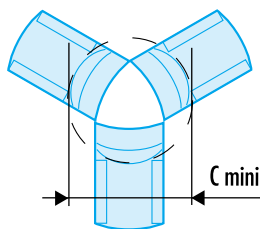
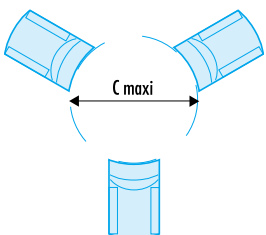
- For your safety, we recommend that all the legs are replaced in the event of a problem.

- Legs supplied individually.

Model	C mini - maxi mm	P maxi mm	T Tonnes	T kN	L mm	a mm	b mm	c mm	d mm	$\Delta\Delta$ kg
U.312G110	45 - 85	110	10	100	150	7	25	15	33	0,4
U.312G160	80 - 170	160	10	100	200	7	25	15	36	0,54
U.312G210	90 - 210	210	10	100	245	7	25	15	36	0,72
U.312G260	110 - 270	260	10	100	295	7	25	15	38	0,98



U.312H				
Model	1	2	3	4
U.312H	U.31201	U.31204	U.31204-01	U.31204-02
Model	5	5	5	5
U.312H	U.312G110	U.312G160	U.312G210	U.312G260

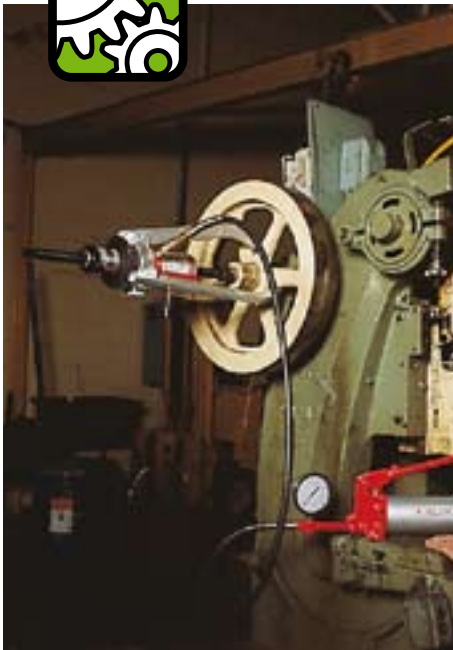




# 12 Outside pullers - 3 legs



## U.320H/U.330H - Heavy-duty Hydraulic pullers

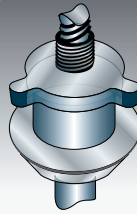


### UP TO 30 TONNES IN COMPLETE SAFETY

Hydraulic models incorporate a hydraulic jack fitted with a standard male coupling. The jack is designed for pressures up to 700 bar and is supplied from a manual or powered pump. Details of these accessories can be found under "Pumps and jacks".

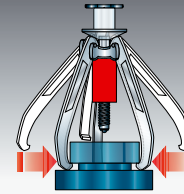
#### Powerful

- Fluid power ensures effortless and fast removal, while the puller remains steady even when applied to rotating components. Hydraulic models are used only with 3 legs.



#### Safe

Legs are secured with a locknut.



#### Automatic

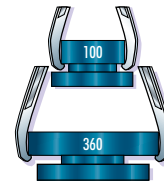
Self-centring. Self-gripping.

### 20 T Hydraulic outside puller

#### U.320H

- Force : 20 tonnes; 200 kN.
- Fitted with 3 outside-gripping legs.
- 1 hollow jack UWG.320 with screw UWG.320H01.
- For use with 700 bar pump UWP.10M.
- Dimensions : 700 x 250 x 250 mm.
- ⚠ 3-leg configuration only when used with hydraulic jack.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Jack	Screw	● mm	△△ kg
<b>U.320H</b>	100-360	265	20	200	U.320-13A	UWG.320	UWG.320H01	21	23

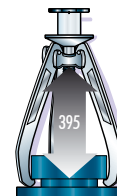
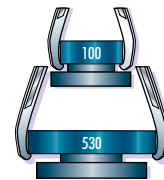


### 30 T hydraulic outside puller

#### U.330H

- Force : 30 tonnes; 300 kN.
- Fitted with 3 outside-gripping legs.
- 1 hollow jack UWG.330 with screw UWG.330H01.
- For use with 700 bar pump UWP.10M.
- Dimensions : 900 x 300 x 300 mm.
- ⚠ 3-leg configuration only when used with hydraulic jack.

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Jack	Screw	● mm	△△ kg
<b>U.330H</b>	100-530	395	30	300	U.330-08	UWG.330	UWG.300H01	21	45



# Outside pullers - 3 legs

## ► Jacks and pumps

### UWG Hollow jacks

- For use with pullers U.320H and U.330H.
- Plunger with tapped through-hole to take a centre screw for pressure or pulling applications.
- Actuated by 700 bar pump UWP.10M.
- Caps clip into plunger, allowing use as lifting jack.

	Force kN	Travel mm	Ø A mm	Ø D mm	H mm	Oil capacity cm <sup>3</sup>	ΔΔ kg
<b>UWG.320</b>	200	50	100	23,8	160	141,5	6,26
<b>UWG.330</b>	300	60	115	29,0	177	257,4	9,5



### Screws for UWG jack

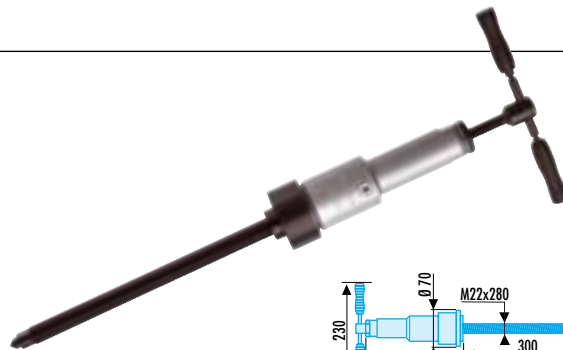
	mm	Length mm	Ø mm	Jacks	ΔΔ kg
<b>UWG.320H01</b>	21	590	27 x 300	UWG.320	2,3
<b>UWG.330H01</b>	25	780	33 x 350	UWG.330	4,5



### Hydraulic screw

#### U.3

- Force : 10 tonnes; 100 kN.
- Thread length : 300 mm.
- Plunger travel : 14 mm.
- Thread : Ø 22 x 200 compatible with Facom pullers U.20, U.20B, U.310, U.28, U.32T6-16, U.32T6-20.
- ΔΔ : 4.53 kg.



### 2-speed hand pump

#### UWP.10M

- Manual pump with pressure gauge and relief valve, giving 2 flow rates :
  - 1st stage : high flow, max. pressure 50 bar.
  - 2nd stage : low flow, max. pressure 700 bar.
- For use with pullers U.320H, U.330H and hollow jacks UWG.320, UWG.330.
- Oil capacity : 1,500 to 2,500 cm<sup>3</sup>.
- Complete with 1.80m hose fitted with female quick coupler WA.1166F.
- Dimensions : 450 x 170 x 160 mm.
- ΔΔ : 12.5 kg.



	Description
<b>WA.21</b>	Hydraulic oil - 2 litres



## U.33A/U.66A - Hydraulic jacks

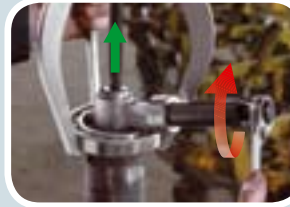


### HYDRAULICALLY-ASSISTED PULLING ACTION

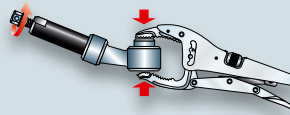
Used in conjunction with mechanical pullers, hydraulic jacks help separate the fittings to be removed



- Place the jack between the component and the puller's screw.
- Centre the loads.
- Apply pressure axially.



- Hold the puller while tightening the screw to allow the plunger to extend.
- The bearing is removed



#### Plunger retraction

- Back off screw to release pressure.
- Use pliers or clamp to push back plunger.



#### Safety first

- During screw tightening, a safety pin will shear if the maximum allowable torque is exceeded.
- When using both puller and jack, make sure generated forces are compatible.
- Never use pneumatic tools.

### 30 tonne jack with mechanical screw

#### U.33A

- Travel 5 mm.
  - Shear-pin rating 110 Nm.
  - Supplied with 2 shims 25 and 50 mm.
  - Ø 33 mm plunger
  - Length : 260 mm, head height : 35 mm.
  - Force : 30 tonnes; 300 kN.
  - 19 mm hexagonal screw.
- ΔΔ : 1.9 kg.



### 120 tonne jack with mechanical screw

#### U.66A

- Travel : 15 mm.
  - Shear-pin rating 550 Nm.
  - Ø 80 mm plunger; Ø 47 mm bore.
  - Head height : 105 mm. Length : 500 mm.\*
  - Force = 120 tonnes.
  - ... mm hexagonal screw.
- ΔΔ : 8.75 kg.

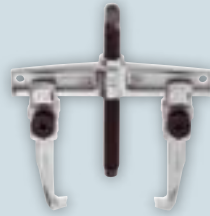
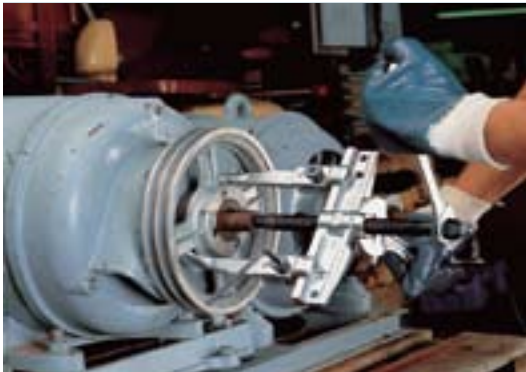


# Outside pullers - 2 legs

## ▶ Reversible universal 2-leg pullers

**U.32T**

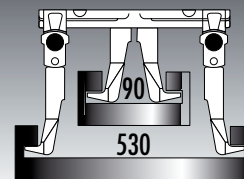
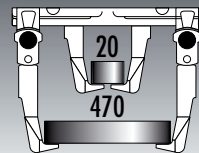
### Lockable 2-leg puller



#### HIGH PERFORMANCE PULLER

For inside and outside puller applications

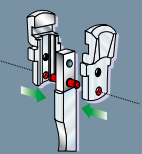
2-leg puller, inside or outside grip



Inside and outside puller spread in millimetres.

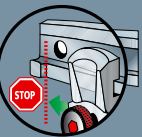


#### Safety first



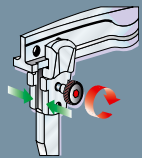
#### Pins

- Leg-mounting pins ensure easy and safe fixing to beam.
- Pins are treated to withstand pulling stresses.



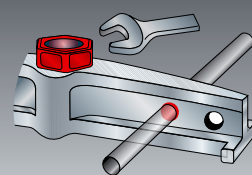
#### Leg retainer

- Beam end-stop prevents legs sliding off.



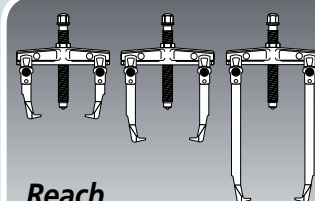
#### Knurled locknut

- Leg assembly locks in any position by hand-tightening the knurled locknut.



#### Rotation prevention

- Tightening the lock-nut with a wrench.
- Passing a rod through holes in the beam.

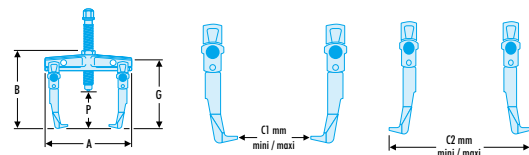


#### Reach

- Long-leg sets are easily fitted to the beam using a unique system of attachment.
- They increase the reach up to 470 mm.

### U.32T Lockable 2-leg sliding-leg puller

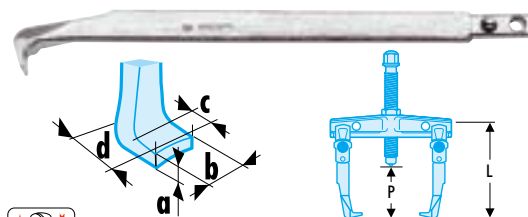
	C1 mm mini-maxi	C2 mm mini-maxi	P maxi mm	T Tonnes	T kN	Screw	● mm	ΔΔ kg
<b>U.32T2-8</b>	20 - 80	90 - 140	85	2	20	U.32T2-1	13	1,1
<b>U.32T2-12</b>	20 - 120	90 - 180	85	2	20	U.32T2-1	13	1,15
<b>U.32T6-16</b>	20 - 160	130 - 250	140	6	60	U.32T6-1	24	3,3
<b>U.32T6-20</b>	20 - 200	130 - 290	140	6	60	U.32T6-1	24	3,5
<b>U.32T15-25</b>	25 - 250	180 - 380	170	15	150	U.32T15-1	35	9,8
<b>U.32T15-35</b>	25 - 350	180 - 480	270	15	150	U.32T15-1	35	13,0
<b>U.32T15-50</b>	25 - 500	180 - 530	270	15	150	U.32T15-1	35	15,0



### U.32TGA Spare legs for U.32T

- For your safety, we recommend that all the legs are replaced in the event of a problem.
- Legs supplied individually without mounting pins.

	Series U32T2	Series U32T6	Series U32T15	P mm	L mm	a mm	b mm	c mm	d mm	ΔΔ kg
<b>U.32T2GA10</b>	•			110	130	8,5	18,0	10	18	0,6
<b>U.32T2GA20</b>	•			185	225	2,5	18	10	18	0,8
<b>U.32T2GA25</b>	•			235	275	2,5	18	10	18	0,9
<b>U.32T6GA15</b>		•		150	180	4	24	15	28,5	1,4
<b>U.32T6GA30</b>		•		280	335	4	24	15	28,5	2,0
<b>U.32T15GA20</b>			•	170	250	5	34	20	36	3,4
<b>U.32T15GA30</b>			•	270	315	4	24	15	28,5	4,2
<b>U.32T15GA40</b>			•	370	445	5	34	20	36	5,0
<b>U.32T15GA50</b>			•	470	545	5	34	20	36	5,8



	1	2
<b>U.32T2-8/-12</b>	U.32T2-1	U.32T2DG
<b>U.32T6-16/-20</b>	U.32T6-1	U.32T6DG
<b>U.32T15-25/-35/-50</b>	U.32T15-1	U.32T15DG



# 12 Outside pullers - 2 legs

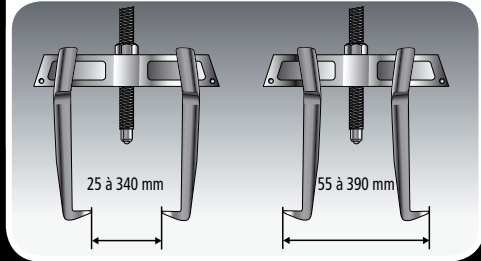
Pullers ▲

New

## U.232 - 2-leg puller

### Strength and simplicity

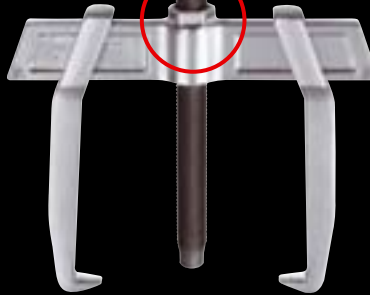
2-leg puller, inside or outside grip



### Anti-rotation system



- Wrench-tightened hexagonal lock-nut.



### Leg reversal

- Legs changed from inside grip to outside grip configuration simply by pressing the pin. No need for tools.



### Leg retainer

- A spring-loaded pin at the end of the beam prevents the legs sliding off.



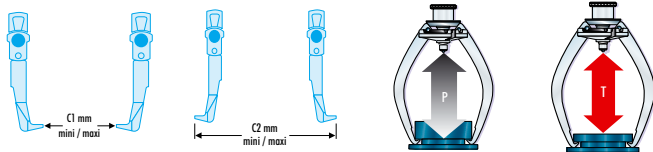
### Leg locking

- The legs are designed to cantilever during pulling, blocking them in place and preventing them sliding along the beam.



### U.232 - 2-leg sliding-leg puller

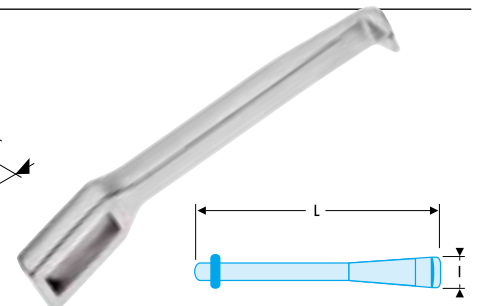
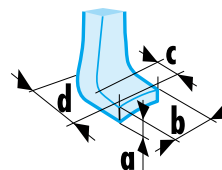
Ref	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	mm	ΔΔ kg
U.232-65	25 - 65	65	1,5	15	U.232G1	U.35P01	13	0,4
U.232-90	30 - 90	100	3	30	U.232G2	U.35SE1	17	0,9
U.232-130	45 - 130	100	3	30	U.232G2	U.35SE1	17	1,0
U.232-160	45 - 160	145	4	40	U.232G3	U.53S2A7	16	2,8
U.232-210	45 - 210	145	4	40	U.232G3	U.53S2A7	16	3,0
U.232-270	65 - 270	190	5	50	U.232G4	U.53S3-07	21	7,5
U.232-340	65 - 340	190	5	50	U.232G4	U.53S3-07	21	8,2



### U.232G Spare legs for U.232 pullers

- For your safety, we recommend that all the legs are replaced in the event of a problem.
- Legs supplied individually.

Ref	L mm	a mm	b mm	c mm	d mm	Puller	ΔΔ kg
U.232G1	100	4	10	10	15	U.232-65	0,08
U.232G2	155	6	10	14	23	U.232-90 / U.232-130	0,19
U.232G3	225	8	14	21	31	U.232-160 / U.232-210	0,56
U.232G4	303	12	17	25	43	U.232-270 / U.232-340	1,57



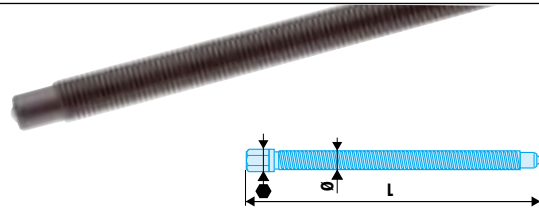
FO8

# Outside pullers - 2 legs

## U.232V Spare screws for U.232 pullers

- Screws supplied singly.

Ref	Ø mm	L mm	● mm	Puller	ΔΔ kg
<b>U.35P01</b>	M12	133	13	U.232-65	0,08
<b>U.35SE1</b>	M16	180	17	U.232-90 / U.232-130	0,20
<b>U.53S2A7</b>	M20	283	16	U.232-160 / U.232-210	0,47
<b>U.53S3-07</b>	M27	344	21	U.232-270 / U.232-340	1,28

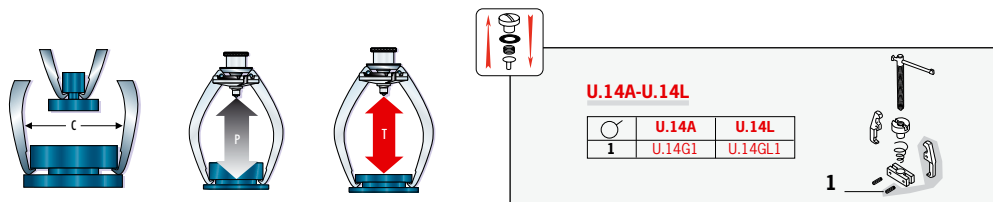


## ► Slim 2-leg pullers

### U.14 Self-gripping slim 2-leg pullers

- Spring loaded, self-gripping 2-leg puller.
- Can be used for disconnecting battery terminals.

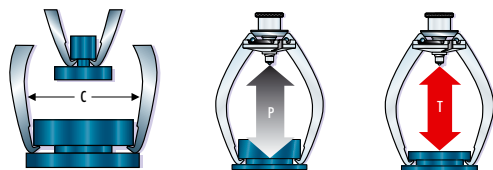
Ref	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Dimensions mm	ΔΔ kg
<b>U.14A</b>	10 - 35	40	0,5	5	70 x 112 x 35	0,31
<b>U.14L</b>	10 - 45	60	0,5	5	85 x 150 x 38	0,36



### U.301 Self-gripping 2 slim-leg puller

- Spread : 80, 150 and 200 mm.
- Can be used with slide hammer U.49AM using adaptor U.301E1 (U.301 and U.301-150) or adaptor U.301E2 (U.301-200).

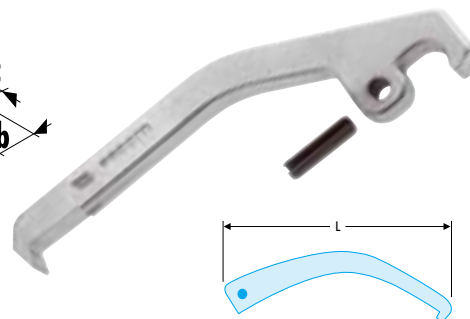
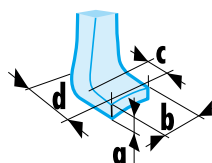
Ref	Screw	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	● mm	ΔΔ kg
<b>U.301</b>	U.301-04	10 - 80	90	0,9	9	U.301G	10	0,46
<b>U.301-150</b>	U.301-04-150	10 - 150	150	0,9	9	U.301G150	10	0,67
<b>U.301-200</b>	U.301-04-200	10 - 200	200	1,3	13	U.301G200	13	1,10



### Spare legs for puller U.302

- For your safety, we recommend that all the legs are replaced in the event of a problem.
- Legs supplied individually.

Ref	L mm	a mm	b mm	c mm	d mm	Puller	ΔΔ kg
<b>U.301G</b>	130	5	8	7	16	U.302	0,60
<b>U.301G-150</b>	205	6	8	7	17	U.302-150	0,84
<b>U.301G-200</b>	270	6	8	7	18	U.302-200	0,40



# 12 Outside pullers - 2 legs

## ► Wide 2-leg pullers

New

U.301 L/M/P - Wide 2-leg puller

**A COMPACT PULLER WITH TWO "WRAP AROUND" LEGS FOR A BETTER GRIP**

**Effective and easy to use**

- Self-gripping, self-centring "body and spring" system.



- 1/ Force-limiting safety rod.
- 2/ Ergonomic finger grips allowing one-handed installation
- 3/ Shear pin.
- 4/ "Wrap-around" legs to grip the part firmly without scratching
- 5/ "Positive" leg angle for optimum grip even under maximum pulling force. Spread : 50, 100 and 110 mm.



**Safety first**

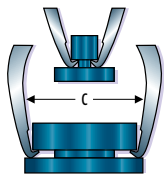
- The rod (1), then the shear pin (3) fail in stages before the yield point of the legs is reached.



### U.301 Self-gripping wide 2-leg puller

- Spread : 50 mm, 100 mm and 110 mm.
- Can be used with slide hammer U.49AM using adaptor U.301E1 (U.301P and U.301M) or adaptor U.301E2 (U.301L).
- Load limiter collapses under excessive applied force.

➤	C min - max mm	P mm	ΔΔ g
<b>U.301P</b>	15 - 50	70	540
<b>U.301M</b>	15 - 100	100	800
<b>U.301L</b>	15 - 110	130	930



Pullers ▲

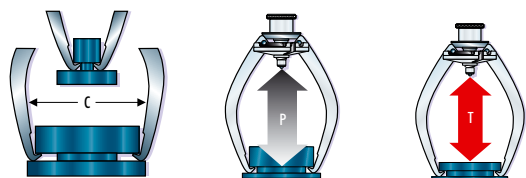
FO8

# Outside pullers - 2 legs

## U.35 Wide 2-leg pullers

- For removing bearings, sprockets and flywheels.
- "Cross-legged" configuration recommended.
- Optional "uncrossed-legged" configuration doubles capacity.
- Puller accessories (sold separately) : slide hammer U.306M for U.35 and U.35L

	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Screw	Ø mm	L mm	● mm	ΔΔ kg
<b>U.35P</b>	10 - 55	75	1	10	U.35P01	M12	133	13	0,39
<b>U.35</b>	15 - 75	90	4	40	U.35SE1	M16	180	17	0,99
<b>U.35L</b>	15 - 75	130	3	30	U.35SE1 + U.35SE3	M16	180	17	1,22



## Heavy-duty 2-leg pullers

### U.34

- Spread : Ø 40 mm to Ø 180 mm.
  - Reach : 245 mm.
  - Maximum pulling force : 7 tonnes, 70 kN.
  - Puller accessory (supplied separately) : slide hammer U.2.
- ΔΔ : 4.4 kg.

	Screw	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Small legs	Large legs	● mm	ΔΔ kg
<b>U.34</b>	U.20B1	40 - 180	245	7	70	U.34-2B3	U.34-2A3	24	4,4



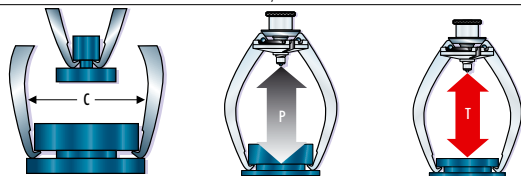


# 12 Outside pullers - 2 legs

## U.42 Pullers with yokes

- Model U.42B has special-purpose legs for gearbox bearings.
- Spare yoke for U.42 and U.42B : U.42SE2.

Model	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	mm	ΔΔ kg
U.42	10 - 85	120	1,5	15	U.42-3	U.42-1	13	1,3
U.42B	10 - 85	180	1,5	15	U.42B3	U.42-1	13	1,6

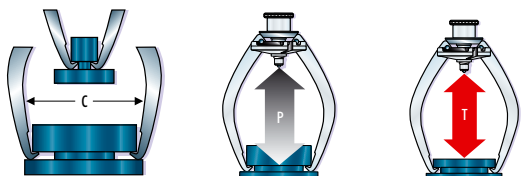


## Puller with yoke

### U.52

- Spare yoke for U.52 : U.52SE2.
- ΔΔ : 1,68 kg.

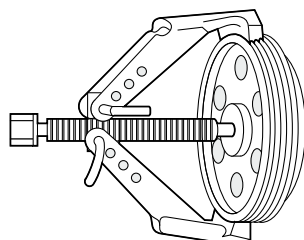
Model	C mini - maxi mm	P maxi mm	T Tonnes	T kN	Legs	Screw	mm	ΔΔ kg
U.52	10-150	160	6	60	U.52-3	U.52-1	17	1,7



## Pulley puller

### DM.31

- For removing crankshaft pulley by gripping the pulley grooves.
  - Pulley capacity : Ø 130 to 156 mm.
- ΔΔ : 1.05 kg.



## ▶ Tip-type pullers, cage grip



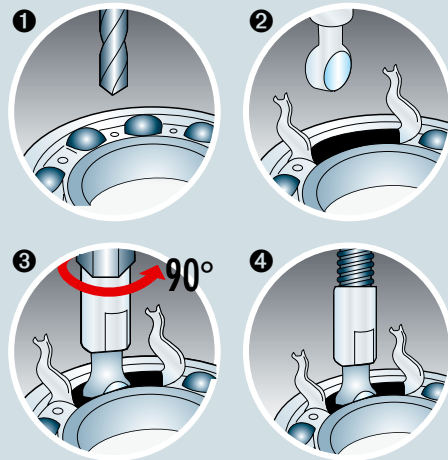
### U.23 - Tip type pullers, cage grip



- The design of this puller is particularly suited to cage-type ball bearings.
- Pressure is distributed over the two races and the tool can be used for both shaft and housing fits.
- Depending on the ball diameter, different pairs of spherical tips should be selected from one of three sets available.

#### Positioning tips in bearings

Drill 2 diametrically opposed holes.  
Bend back cage ends.  
Insert appropriately sized tips into race.  
Turn through 90 degrees to lock.  
Screw beam rods into tips.



### Micro-engineering puller kit

#### U.23J1A

- Comprising :
  - 3 pairs of tips  $\varnothing$  5.5 - 6 - 7.5 mm.
  - Beam U.23K1A.
- Spread :  $\varnothing$  25 mm to  $\varnothing$  95 mm.
- For ISO bearings : 6004 to 6010, 6200 to 6205, 6300 to 6302.
- Supplied in plastic case BP 102 and tray PL.392A.
- $\Delta\Delta$  : 800 g.



### Light engineering puller kit

#### U.23J2

- Comprising :
  - 3 pairs of tips  $\varnothing$  9 - 11 - 12.5 mm
  - Beam U.53K1.
- Spread :  $\varnothing$  40 mm to 110 mm.
- For ISO bearings : 6206 to 6211, 6303 to 6307, 6403 to 6404.
- Supplied in plastic case BP.115 and tray PL.71A.
- $\Delta\Delta$  : 1.84 kg.



### General engineering puller kit

#### U.23J3

- Comprising :
  - 6 pairs of tips  $\varnothing$  16 - 19 - 22 - 25 - 28 - 32 mm
  - Beam U.53K2.
- Spread :  $\varnothing$  70 mm to 190 mm.
- For ISO bearings : 6212 to 6222, 6308 to 6319, 6405 to 6414.
- Supplied in plastic case BP.109 and tray PL.104A.
- $\Delta\Delta$  : 7.3 kg.




### U.23D Pair of tips

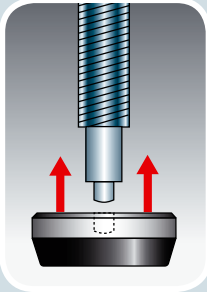
	N° tip	Tapping	$\varnothing$ mm	$\Delta\Delta$ g		N° tip	Tapping	$\varnothing$ mm	$\Delta\Delta$ g
<b>U.23D5</b>	1	M6	5,5	26	<b>U.23D16</b>	7	M16	16,0	125
<b>U.23D6</b>	2	M6	6,0	27	<b>U.23D19</b>	8	M16	19,0	275
<b>U.23D8</b>	3	M6	7,5	30	<b>U.23D22</b>	9	M16	22,0	315
<b>U.23D9</b>	4	10	9,0	39	<b>U.23D25</b>	10	M16	25,0	487
<b>U.23D11</b>	5	10	11,0	44	<b>U.23D28</b>	11	M16	28,0	525
<b>U.23D12</b>	6	10	12,5	45	<b>U.23D32</b>	12	M16	32,0	669



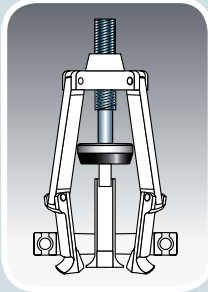
## ► Tip-type pullers, inside grip



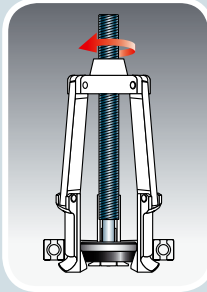
**U.51B - Tip-type puller, inside grip**



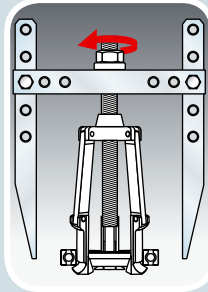
1




2



3



4



- Locate the spreader at end of screw.
- Insert claw ends through bearing.
- Screw claws tight against bearing.
- Fit beam and screw down nut to withdraw bearing.

### Inside grip puller

#### U.51B

- Spread : Ø 32 mm to 70 mm.
  - Puller accessories : beam U.40 or U.30.
  - Complete with 15 spreaders.
  - Supplied in plastic case BP 109 and tray PL.710.
- △△ : 3.4 kg.



### Inside grip puller

#### U.28

- Spread : Ø 70 mm to 160 mm.
  - Spreader application sizes :
    - spreader U.28-8 : 70-100 mm
    - spreader U.28-9 : 100 - 136 mm
    - spreader U.28-10 : 130-160 mm.
  - Puller accessories : slide hammer U.2, beam U.40 or U.30.
- △△ : 3.3 kg.



### Beam for pullers U.28 and U.51B

#### U.30

- For pullers U.28 and U.51B
- △△ : 4.64 kg.



### Inside grip puller and beam kit

#### U.28J1

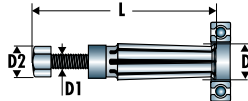
- Comprising :
    - 1 puller U.28
    - 1 beam U.30.
  - Spread : Ø 70 mm to 160 mm.
  - Supplied in steel case BT.111 (396 x 224 x 82 mm) + tray PL.168.
- △△ : 9.5 kg.



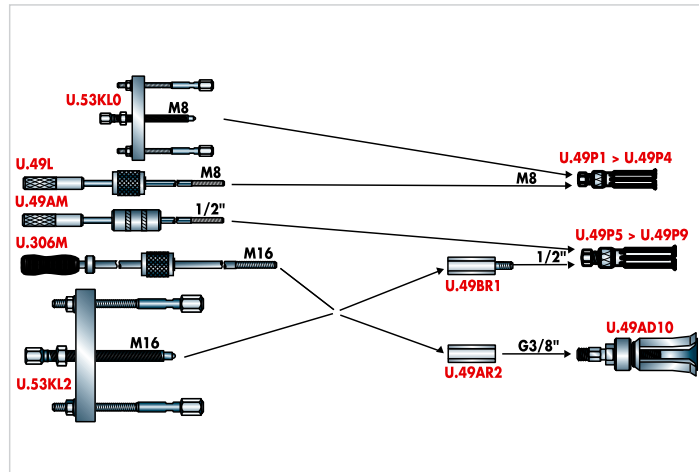
## ► Expansion-type pullers, inside grip

### U.49P inside grip expansion pullers

- More impact-resistant and durable.
- Multiple blades, more flexible and less prone to deformation.
- Easier to use.
- Increased spread.



Model	D mm (mini)	D mm (maxi)	L mm maxi	D2 mm	D1 mm	ΔΔ kg
U.49P1	6,5	8	76	12	M8	0,028
U.49P2	8,5	10	76	12	M8	0,030
U.49P3	10,5	13	88	12	M8	0,042
U.49P4	13	18	100	12	M8	0,068
U.49P5	18	22,5	112	17	1/2"	0,142
U.49P6	22,5	30	139	17	1/2"	0,298
U.49P7	30	38	158	22	1/2"	0,546
U.49P8	38	50	190	1-1/4"	1/2"	1,216
U.49P9	50	60	190	1-1/4"	1/2"	1,424
U.49AD10	70	110	169	10	G 3/8	1,600



### Maintenance puller kit

#### U.49PJ1

- For bearings Ø 8 to 38 mm.
- Comprising :
  - Set of 6 expansion pullers U.49P2 to U.49P7.
  - 2 beams U.53KL0 and U.53KL2.
  - Adaptor U.49BR1.
- Supplied in a plastic case with tray PL.711.

Model	Dimensions mm	ΔΔ kg
U.49PJ1	480 x 240 x 75	3,5



### Light-engineering puller kit

#### U.49PJ2

- For bearings Ø 18 to 50 mm.
- Comprising :
  - 4 expansion pullers U.49P5 to U.49P8.
  - 1 slide hammer U.49AM.
- Supplied in plastic case BP.109 and tray PL.712.

Model	Dimensions mm	ΔΔ kg
U.49PJ2	480 x 240 x 75	5,0





## Light-engineering puller kit

### U.49PJ3

- For bearings  $\varnothing$  6 to 18 mm.
- Comprising :
  - 4 expansion pullers U.49P1 to U.49P4.
  - 1 slide hammer U.49L.
- Supplied in plastic case BP.109 and tray PL.445.

	Dimensions mm	$\Delta\Delta$ kg
<b>U.49PJ3</b>	330 x 140 x 75	1,4



## Heavy-duty puller set

### U.49PJ4

- For bearings  $\varnothing$  30 to 60 mm.
- Comprising :
  - 3 expansion pullers U.49P7 to U.49P9.
  - 1 beam U.53KL2.
  - Adaptor U.49BR1.
- Supplied in plastic case BP 109 and tray PL.713.

	Dimensions mm	$\Delta\Delta$ kg
<b>U.49PJ4</b>	480 x 240 x 75	5,3



## Adapter U.49P

### U.49BR1

- Female thread : M16 X 200.
- Male thread : 1/2".

	$\varnothing$ mm	$\Delta\Delta$ g
<b>U.49BR1</b>	161/2"	101



## Adapter U.49AD10

### U.49AR2

- Female threaded adaptors to fit expansion puller U.49AD10 to slide hammers and centre beam screws.
- Female thread M16x200 and G3/8".
- Length : 75 mm.

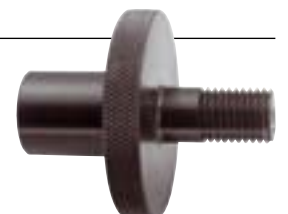
	$\varnothing$ mm	$\Delta\Delta$ g
<b>U.49AR2</b>	16 - G3/8"	108



## Adaptors for attaching U.301 / U.302 to U.49AM

- U.301E1 adaptor for puller U.301, U.302, U.301-150, U.302-150.
- U.302E2 adaptor for puller U.301-200 and U.302-200.
- Locks the legs in position for pulling.

	$\Delta\Delta$ g
<b>U.301E1</b>	233
<b>U.301E2</b>	320



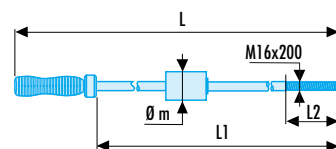
# Slide hammers

## Slide hammer

### U.306M

- Fits pullers type U.306, U.42, U.42B, U.32T2-8, U.32T2-12, U.35, U.35L.
  - Puller accessories : (supplied separately).
  - Expansion pullers U.49P5 to U.49P9 with adaptor U.49BR1.
  - Expansion puller U.49AD10 with adaptor U.49AR2.
  - Male adaptors U.53E4 to U.53E14 with female adaptor U.53H2.
- ΔΔ : 2.7 kg.

	L mm	L1 mm	L2 mm	Ø weight mm	Thread
<b>U.306M</b>	660	530	210	60	M16

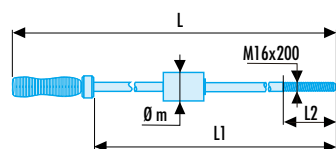


## Slide hammer

### U.49L

- For use with light duty expansion pullers U.49P1 to U.49P4.
  - For bearing inner Ø 6 to 18 mm.
  - Weight 200 g. Length : 300 mm
- ΔΔ : 430 g.

	L mm	L1 mm	L2 mm	Ø weight mm	Thread
<b>U.49L</b>	300	210	15	30	M8

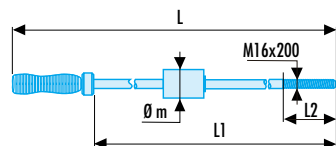


## Slide hammer

### U.49AM

- For use with expansion pullers U.49P5 to U.49P9.
  - For bearing inner Ø 18 to 60 mm.
  - Can be used with male adaptors U.53E4 to U.53E14 with female adaptor U.53H3.
  - Weight 1 kg. Length : 450 mm.
- ΔΔ : 1.6 kg.

	L mm	L1 mm	L2 mm	Ø weight mm	Thread
<b>U.49AM</b>	450	320	20	45	1/2"

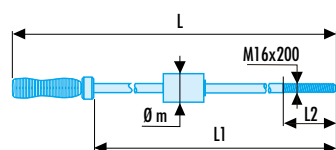


## Slide hammer

### U.2

- Thread M 22 x 200.
  - Length : 760 mm.
  - For use with U.20, U.20B, U.310, U.32T6-16, U.32T6-20, U.28 and plate assembly U.9.
- ΔΔ : 8 kg.

	L mm	L1 mm	L2 mm	Ø weight mm	Thread
<b>U.2</b>	760	600	70	91 / 170	M22



# 12 Separators and beam pullers

## ► Puller kits

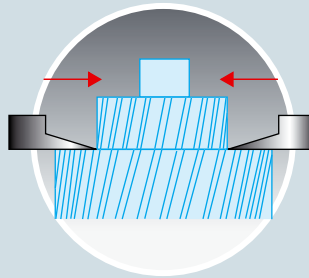
Pullers ▲



### U.53 - Separators, flush grip

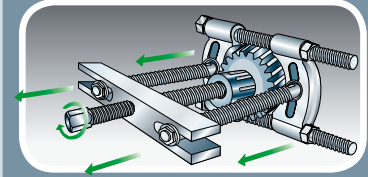


*Bearing separators U.53T fit behind races where ordinary puller claws will not reach.*

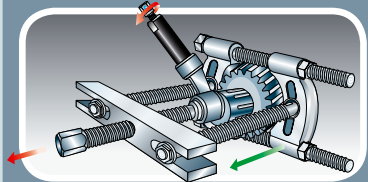


- The wedge-shaped jaws bear against the back of the fitting, pushing it out as they close.
- Separators can be used with beams for mechanical screws or with beams designed specifically for use with hand-operated hydraulically-assisted jacks.

*Separator and beam with hand-operated hydraulic system.*



*Separator and beam with mechanical screw.*



- Beam used with hydraulic press U.33A.
- Only to be used with beams U.53K4 and U.53S4A.



#### Safety first

- Only hand-operated hydraulic systems are to be used in conjunction with separator and beam combinations.

### 60 mm separator and beam puller kit

#### U.53J1

- Comprising :
  - 1 separator U.53T1, capacity =  $\varnothing$  5 to 60 mm.
  - 1 beam puller U.53K1, spread =  $\varnothing$  40 to 110 mm.
- Max. reach : 180 mm.
- 8 sets of male adaptors U.53E M4 - M5 - M6 - M8.
- 2 female adaptors U.53H1.
- Supplied in a plastic case BP.112 and tray PL.296A.
- ΔΔ : 3.4 kg.



### 110 mm separator and beam puller kit

#### U.53J2

- Comprising :
  - 1 separator U.53T2, capacity =  $\varnothing$  15 to 110 mm.
  - 1 beam puller U.53K2, spread =  $\varnothing$  70 to 200 mm.
- Max. reach : 240 mm.
- 8 sets of male adaptors U.53E M8-M10-M12-M14.
- 2 female adaptors U.53H2.
- Supplied in plastic case BP.109 and tray PL.297A.
- ΔΔ : 7.3 kg.



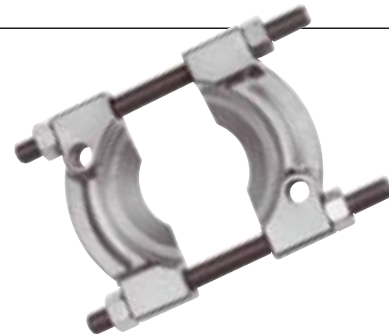
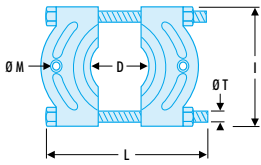
FO8

# Separators and beam pullers

## ► Separators

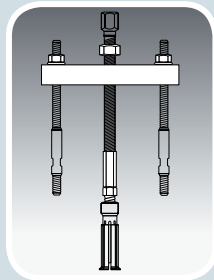
### U.53T Separators

SE	D mini - maxi mm	L mm	l mm	Ø T mm	Ø M mm	For SE	ΔΔ kg
<b>U.53T1</b>	5-60	140	91	M12	M10	U.53K1	0,6
<b>U.53T2</b>	15-110	215	153	M16	M16	U.53K2 U.53S2A	2,3
<b>U.53T3</b>	15-150	290	204	M20	M20	U.53K3	5,1
<b>U.53T4</b>	20-180	360	289	M22	M22	U.53K4 U.53S4A	8,8
<b>U.53T5</b>	25-250	430	316	M22	M22	U.53K4 U.53S4A	11,3

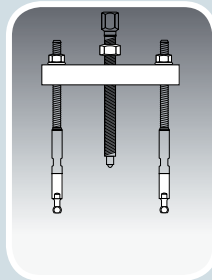


### U.23/U.53 - Beam pullers

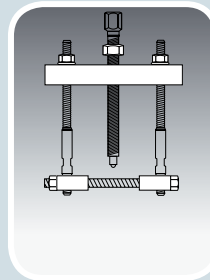
Beams can be used with different types of puller :



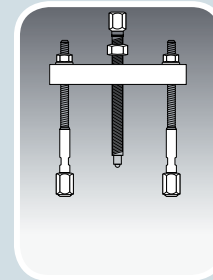
• Expansion bearing puller U.49P.



• Spherical or threaded tip pullers U.23.



• Separator U.53



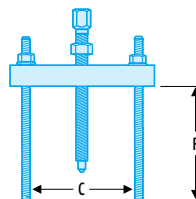
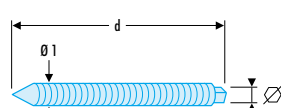
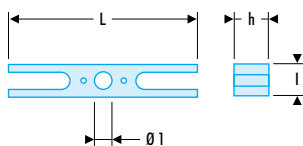
• Extraction via beam alone.

## ► Beams

### U.23K, U.53K tapped beams

- Tapped beams, spread Ø 25 mm to 400 mm.
- For use with separators and spherical or threaded tips.

SE	C mm	P mm	L mm	l mm	h mm	d mm	Ø1 mm	● mm	ΔΔ kg
<b>U.23K1A</b>	25-95	100	105	20	20	155	M10	8	0,4
<b>U.53K1</b>	40-110	180	135	25	25	217	M16	11	0,4
<b>U.53K2</b>	70-200	240	220	30	30	283	M16	11	0,84
<b>U.53K3</b>	75-280	300	320	45	35	283	M20	16	2,4
<b>U.53K4</b>	145-400	350	450	50	50	343	M27	21	5,5

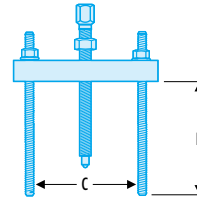
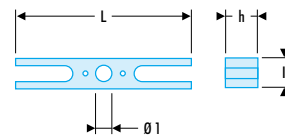
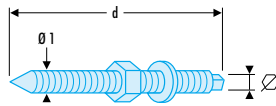




### U.53KL Non-tapped beams

- For removing bearings with expansion pullers U.49P1 to U.49P9 and U.49AD10
- U.53KL0 :  
- for expansion pullers U.49P1 to U.49P4.
- U.53KL2 :  
- for expansion pullers U.49P5 to U.49P9 using adaptor U.49BR1.  
- for expansion pullers U.49AD10 using adaptor U.49AR2.

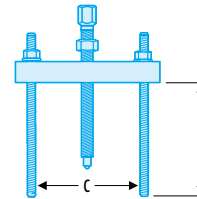
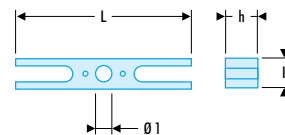
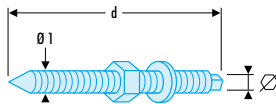
	C mm	P mm	L mm	l mm	h mm	d mm	Ø1	● mm	ΔΔ g
<b>U.53KL0</b>	25-100	125	110	20	20	8,5	M8	6	405
<b>U.53KL2</b>	70 - 200	240	220	30	30	283	M16	11	840



### U.53S Beams for use with jacks

- These 2 non-tapped beams have higher mechanical strength than U.53K versions (size, steel grades and heat treatment), to withstand greater stresses generated by hydraulics.

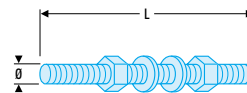
	Force kN	C mm	L mm	l mm	h mm	d mm	Ø1	ΔΔ kg
<b>U.53S</b>	100	120 - 200	283	35	35	280	M20	0,47
<b>U.53S4A</b>	300	170 - 400	450	60	60	420	M33	8,500



### U.53RL Spare tie-rods for beams

- Tie-rods supplied individually, to be ordered in pairs.

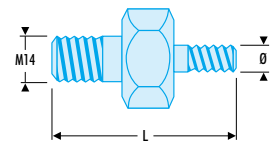
	Ø	For	L mm
<b>U.53R1L</b>	M10	U.53K1	205
<b>U.53R2L</b>	M16	U.53K2, U.53KL2	275
<b>U.53R3L</b>	M20	U.53K3	350
<b>U.53R4LA</b>	M22	U.53K4, U.53S4A	420



## ► Beam puller accessories

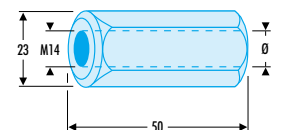
### U.53E Male adaptors

	Ø mm	L mm	ΔΔ g
<b>U.53E4</b>	4	33,5	50
<b>U.53E5</b>	5	35,5	50
<b>U.53E6</b>	6	36,5	50
<b>U.53E8</b>	8	39,5	50
<b>U.53E10</b>	10	42,5	55
<b>U.53E12</b>	12	46,5	60
<b>U.53E14</b>	14	48,5	70



### U.53H Female adaptors to fit male adaptors

	Ø mm	ΔΔ g
<b>U.53H1</b>	10	130
<b>U.53H2</b>	16	110
<b>U.53H3</b>	1/2"	120



# Stud extractors - nut splitters

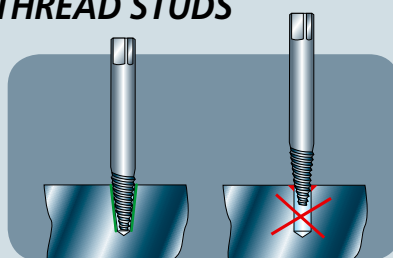
## ► Stud extractors



### 285 - Stud extractors

#### FOR REMOVING SHEARED RIGHT-HAND THREAD STUDS

- 285 stud extractors are designed exclusively for use on right-hand thread studs (99% of cases).
- The extractors' tapered shape requires the use of cone bits. Using traditional cylindrical bits reduces the contact surface between the extractor and the stud, greatly increasing the risk of the extractor breaking in the stud.



- Choose the extractor and corresponding drill bit according to the diameter of the stud to be removed.



- Drill with a 285.F cone bit.



- Push in then unscrew using the corresponding stud extractor.



- The stud is removed

### 285.J Set of right-hand thread stud extractors

- 285.J10 : Set of 5 stud extractors, 5 cone bits and a tap wrench 831.1 (for use with the 4 smaller extractors only).
- Supplied in a plastic case BP.102 (204 x 122 x 52 mm). Tray PL.464.
- 285.J510 : Set of 5 stud extractors and 5 cone bits on a stand.
- 285.J55 : Set of 5 stud extractors on a stand.

285.J10



285.J55

►	Ø mini - maxi mm	mm	Storage	N° 285	N° 285F	ΔΔ g
285.J10	3 - 18	204 x 122 x 52	BP.102 + PL.464	4, 5, 6, 8, 11	F1, F2, F3, F4, F5	470
285.J510	3 - 18	100 x 90 x 25	CKS.25A x 2	4, 5, 6, 8, 11	F1, F2, F3, F4, F5	290
285.J55	3 - 18	100 x 90 x 25	CKS.25A	4, 5, 6, 8, 11	-	150

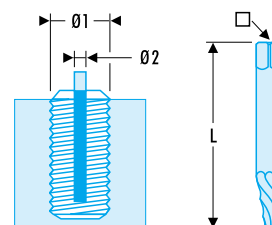


285.J510

### 285 Single right-hand thread stud extractors

- Helical extractors for removing sheared studs after drilling down the centre with bits 285.F.

►	Ø 1 mini - maxi mm	Ø 2 mini - maxi mm	Cone bits 285.F	L mm	□ mm	ΔΔ g
285.4	3 - 6	2,2 - 3,4	285.F1	55	3,0	5
285.5	6 - 8	3,7 - 4,3	285.F2	60	4,0	8
285.6	8 - 11	4,5 - 5,3	285.F3	65	4,5	12
285.8	11 - 14	6,2 - 7,1	285.F4	75	6,0	25
285.11	14 - 18	8,6 - 9,8	285.F5	85	8,5	52
285.14	18 - 24	11 - 12,5	-	90	10,0	86
285.18	24 - 33	14,5 - 16	-	105	14,0	166
285.25	33 - 50	20 - 22,5	-	120	18,0	348



### 285.F Single cone bits for extractors 285

►	For extractor 285	Length mm	Ø mm	ΔΔ g
285.F1	285.4	57	3,5	5
285.F2	285.5	63	4	6
285.F3	285.6	67	5,5	11
285.F4	285.8	80	7,5	23
285.F5	285.11	86	10	43

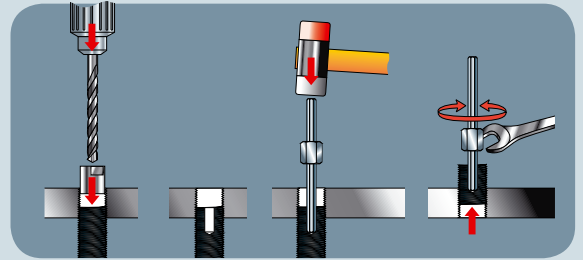




## 885 - Stud extractor

**FOR REMOVING SHEARED RIGHT-HAND, OR LEFT-HAND THREAD STUDS**

- 885 stud extractors are designed exclusively for use on right-hand or left-hand thread.
- The splined rod has a cylindrical shape and can be drilled using standard (cylindrical) drill bits.



• Choose the extractor and corresponding drill bit according to the diameter of the stud to be removed.



• Drill with a standard 222A.T bit. Insert the splined bit using a mallet 216.40.



• Install the hexagonal shoulder. Loosen with a wrench.



• The stud is removed

### Set of right-hand or left-hand thread stud extractors

#### 885

- Extraction by pre-drilling and inserting a splined bit driven via its hexagon shoulder.
- Stud Ø 6 mm to Ø 14 mm.
- Right or left-hand thread.
- Supplied in a case 165 x 130 x 25 mm.
- ΔΔ : 540 g.



### Components for 885 set

885.F : Drill bits.  
885.EH : Extractors.

Ref	Length mm	Ø "	mm	ΔΔ g
885.F1	65	1/8	3,17	3
885.F2	85	3/16	4,76	8
885.F3	100	1/4	6,35	17
885.F4	115	5/16	7,94	30
885.F5	120	11/32	8,73	40
885.EH1		1/4	6	13
885.EH2		5/16	8	20
885.EH3		3/8	10	33
885.EH4		7/16	12	46
885.EH5		1/2	14	60



### ▶ Stud drivers

#### 286A Knurl-type stud drivers - Multi-diameter

- Select the right hole for the stud diameter.
- Tighten or loosen : the offset knurl grips the stud, allowing it to be tightened or loosened.

Ref	Capacity Ø <sub>mm</sub>	Dimensions mm	Ø <sub>mm</sub>	ΔΔ <sub>g</sub>
286A	5 - 20	52 x 54	1/2	12,7
286A.PL	15 - 27	72 x 66	3/4	19,05

Ref	Description
286A.M	Spare knurled wheel for 286A



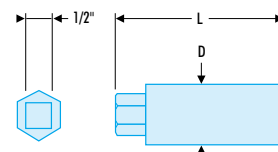
# Stud extractors - nut splitters

## 287B Roller-type stud drivers - Single-diameter

- Capacity :  $\varnothing 6 \text{ mm} > \varnothing 16 \text{ mm}$ .
- Turned by means of the hexagonal drive or a  $\frac{1}{2}'' - 12.7 \text{ mm}$  ratchet.
- Except model 287B.16, which has a through-hole for a bar.
- For tightening or loosening studs.



	Capacity mm	D x L mm	$\varnothing$ mm	$\Delta\Delta$ g
<b>287B.6</b>	6	25 x 65	22	167
<b>287B.7</b>	7	25 x 65	22	166
<b>287B.8</b>	8	25 x 65	22	168
<b>287B.9</b>	9	29 x 75	22	246
<b>287B.10</b>	10	29 x 75	22	242
<b>287B.12</b>	12	29 x 75	22	241
<b>287B.14</b>	14	34 x 75	27	308
<b>287B.16</b>	16	34 x 75	27	340



## Set of roller-type stud drivers

### 287B.JS5

- 5 stud drivers for sizes M6, M7, M8, M9 and M10 (287B.6 to 287B.10).
- Supplied in a rack (CKS.73A).
- Dimensions : 155 x 175 x 35 mm.
- $\Delta\Delta$  : 1.12 kg.



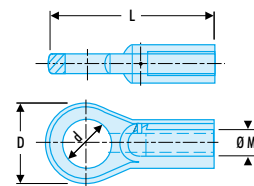
## ▶ Nut splitter

### 289 Nut splitters

- For splitting a worn or jammed nut without damaging the screw thread.

	$\varnothing$ mini - maxi mm	$\varnothing$ M1 mm	$\varnothing$ mm	d mm	D mm	L mm	$\Delta\Delta$ kg
<b>289.19</b>	2 - 8	14 x 150	4 - 13	19	31	92	0,267
<b>289.30</b>	10 - 16	14 x 150	17 - 24	30	50	104	0,310
<b>289.36</b>	18 - 20	20 x 150	24 - 30	36	62	156	1,165
<b>289.54</b>	20 - 30	27 x 300	30 - 30	50	90	198	2

	Description
<b>289.V1</b>	Spare screw for 289.19 and 289.30
<b>289.V2</b>	Spare screw for 289.36
<b>289.V3</b>	Spare screw for 289.54



## Set of 2 nut-splitters for sizes M2 to M8 and M10 to M16

### 289

- Comprising :
  - body 289.19.
  - body 289.30.
  - screw 289.V1.
- Supplied in a plastic tray (PL.173) = 155 x 75 x 35 mm.
- $\Delta\Delta$  : 871 g.







# 13. Lighting

▶ Selection guide – IP rating 558

▶ Inspection 562

▶ Hands free working 559



Head lamp ..... 559  
 Pocket lamp ..... 560



LED inspection lamp ..... 562  
 Pen light ..... 563

▶ General lighting 564



Inspection lamps ..... 564

847 ▶ Lighting standards



## Selection guide



### LIGHTING : THE KEY TO SAFE AND ACCURATE WORK

#### Comfort and Efficiency

- It is essential to use light suitable for the application to avoid tired eyes and accidents at work.
- Engineering or maintenance tasks require an illumination of 300 to 500 lux.
- Inspection, finishing and painting tasks require an illumination of 750 to 1,000 lux.
- The light source must be designed and arranged to avoid uncomfortable glare.

There are a number of lighting technologies to choose from :

TECHNOLOGY	ADVANTAGES	DISADVANTAGES	LIGHTING POWER	FACOM OFFER
Incandescent lamps	Low cost	Poor impact resistance Very high temperature, risk of burns, fire and explosion	200 to 1,000 lux	
Fluorescent and compact fluorescent lamps	Diffuse lighting, low temperature, low consumption	Average impact resistance	300 to 400 lux	777 range
Leds	Very good impact resistance, low temperature, very low consumption, long operating life	Cost, concentrated light beam	300 to 1,000 lux	779 range



#### Safety

For your safety, the supply voltage of inspection lamps used for working inside the body of a vehicle must not exceed 50 V.

24 V IP 55 INSPECTION LAMP



IP 64 INSPECTION LAMP



#### IP rating : What does it mean ? (e.g. for a 4.5 V IP 64 inspection lamp)

1st figure (e.g. : IP 64) : Protection of live components against ingress of solid objects		2nd figure (e.g. : IP 64) : Protection of live components against ingress of liquid	
0	No protection	0	No protection
1	Solid objects greater than 50 mm diameter cannot penetrate	1	Vertically falling drops of water
2	Solid objects greater than 12 mm diameter cannot penetrate	2	Water dripping on the enclosure tilted at 15° from its normal position
3	A steel wire of 2.5 mm diameter cannot penetrate	3	Spraying water at an angle of up to 60° from the vertical
4	A steel wire of 1 mm diameter cannot penetrate	4	Splashing water against the enclosure from any direction
5	Invisible amount of talcum powder deposited when tested in a dust chamber	5	Water projected in jets (6.3 mm) against the enclosure from any direction
6	No talcum powder deposited when tested in a dust chamber	6	Water projected in jets (12.5 mm) against the enclosure from any direction
		7	Immersion to 1 m
		8	Submersible equipment according to manufacturer's specifications



## LED head lamp

### 779.FRT

- Fitted with 4 high-intensity LEDs.
- Washable removable strap.
- Normal and booster power settings (50 and 100%) for adjusting brightness and autonomy.
- Turns through 180°.
- Fitted with a 20 x 3mm belt or helmet clip.
- Autonomy : approximately 50 hours in normal position, 20 hours in booster position.
- Presented on a card with 3 AA alkaline batteries and an interchangeable strap 779.FRT01.
- $\Delta$ : 91g.





**New**

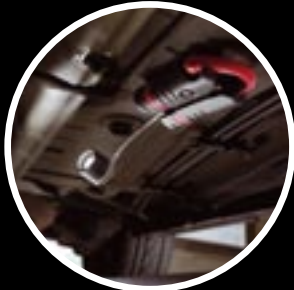
## 779.PC "POCKET" LED light



### HANDS FREE LIGHTING

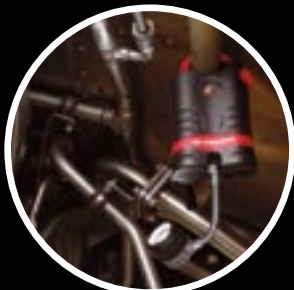
#### Quick and easy to attach.

To illuminate a work area, one hand is often needed to hold the lamp. The FVS Pocket leaves both hands free as it incorporates a range of options for attachment and light direction.



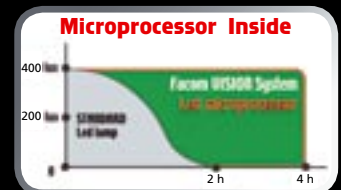
### Long autonomous operation.

FVS Pocket is a genuinely professional lamp, no need to change the batteries. Equipped with a rechargeable LI-ION battery, it provides 4 hours of continuous operation and recharges in only 2 1/2 hours.



### Professional quality.

Designed to the same specifications as FVS, it provides 4 hours of constant illumination and is very resistant to impact, workshop solvents and water (IP55 : see table on page 847).



**779.PC: the only genuinely hands-free pocket lamp.**

# Inspection lamps

## Facom Vision System FVS POCKET

### 779.PC

- Cordless pocket light with rechargeable Lithium-ion battery.
- Battery life : 4 hour quick charging 2 1/2 hours.
- Microprocessor charging and brightness control.
- Constant level of brightness for the entire battery charge life.
- High-powered 1W LED.
- 2 settings :
  - Economy (300 lux at 50 cm).
  - Booster (400 lux at 50 cm).
- Impact-resistant housing.
- Protection rating : IP.55.
- Comes with wall bracket or bench stand, 230V charger, power cord, user manual and wrist strap.



	Sizes	△△ g
<b>779.PC</b>	130 x 65 x 30 mm	210



**779.CL2**

## Cordless inspection lamp



### *FVS : a smart professional quality lamp*

*The power consumption of the LEDs of your FACOM FVS inspection lamp is controlled by a microprocessor. This guarantees that the specified lighting power is maintained for as long as possible, avoiding a sudden loss of brightness.*

*The service life of the Ni-MH batteries is optimised by a temperature sensor controlled by the microprocessor that avoids excessive over-heating of the batteries and allows them to be fully charged, safely and without risk of damage.*

**1,000 lux at 0.5 m  
for 6 hours  
between charges**



## Cordless LED inspection lamp

### **779.CL2**

- Microprocessor control of brightness and battery charge :
  - Guarantees a constant brightness of 800 lux for 6 hours between charges
  - Controlled charge ensures long battery life.
  - 14 high-performance white LEDs.
  - Brightness : 1,000 lux at 0.5 m.
  - High impact-resistant reinforced casing.
  - Does not heat up in operation.
  - Low battery indicated by flashing light.
  - Operator customisation and identification system.
  - Click-stopped hook for hanging and angling the lamp.
  - Charger attaches to wall or workstation.
  - Supplied with charger and 2 m long lead.
  - Protection rating : IP 64.
  - Impact resistance : IK 09.
  - Mains power : 100-240 V.
  - Charging time : 2 1/2 hours for 6 hours operation.
  - Power supply unit with European 2 pin plug.
  - Lamp dimensions : 263 x 50 x 50 mm.
- ΔΔ : 480 g.



## Power supply and attachment kit for 779.CL1

### 779.CL14

- Comprising :
  - A metal restraining bar that attaches to the lamp charger.
  - A 12/24 V compatible power cord.
- Cigar-lighter cord 3 m long.
- Cigar-lighter cord supplied with 2 connectors for all types of socket.
- Compatible only with 779.CL1 and 779.CL2.
- Holds lamp 779.CL2 securely in place in a moving vehicle.



## Pen light

### 836

- Aluminium body and tube.
  - Length : 137mm.
  - Tube diameter : 14mm.
  - Operates using two LR03 AAA (1.5volt) batteries, not included.
  - Adjustable focal length.
  - Supplied with wrist strap
  - Replacement bulb reference : 836.AMP.
- ΔΔ : 29g.





## 230 V inspection lamp

### 777A.230

- Complies with EN60598-1-2-8.
- Ingress protection rating IP 55 (dust and liquids).
- Low consumption : 11 Watts
- Does not become hot.
- Impact resistant 11 Watt fluorescent tube.
- Long-lasting, powerful light.
- Anti-glare hood.
- 300 lux at 50 cm. Glare-free light.
- Long power cord supplied with plug.
- Hydrocarbon-resistant H05 RN-F rubber cable.
- No transformer.
- No cable reel.



➤	Description	Voltage	Length of lead	Lamp IP	ΔΔ kg
<b>777A.230</b>	Inspection lamp	230 V	10 m	55	1,2
➤	Description				
<b>777A.230-24-02</b>	Spare fluorescent tube for 230V and 24V inspection lamps				
<b>777A.03</b>	Spare protective glass for inspection lamps				

## 24 V inspection lamp

### 777A.24

- Complies with EN60598-1-2-8.
- Ingress protection rating IP 55 (dust and liquids).
- Low consumption : 11 Watts
- Does not heat.
- Impact resistant 11 Watt fluorescent tube.
- Long-lasting, powerful light.
- Anti-glare hood.
- 300 lux at 50 cm. Glare-free light.
- Long power cord supplied with plug.
- Hydrocarbon-resistant H05 RN-F rubber cable.
- No transformer.
- No cable reel.



➤	Description	Voltage	Length of lead	Lamp IP	ΔΔ kg
<b>777A.24</b>	Inspection lamp	24 V	10 m	55	1,2
➤	Description				
<b>777A.230-24-02</b>	Spare fluorescent tube for 230V and 24V inspection lamps				
<b>777A.03</b>	Spare protective glass for inspection lamps				


# Inspection lamps

## 230 V inspection lamp

### 777A.230EN

▷ EN 60598 - 2 - 8

- Same specification as 777A.230.
- Reel for quick cable rewind and storage.
- Supplied with swivelling wall bracket.

	Voltage	Length of lead	Lamp IP	IP cable reel	$\Delta\Delta$ kg
<b>777A.230EN</b>	230 V	14.5 m	55	42	4,81

	Description
<b>777A.230EN02</b>	Spare fluorescent tube
<b>777A.03</b>	Spare protective glass for inspection lamps





## 24 V inspection lamp with reel

### 777A.24EN

▷ EN 60598 - 2 - 8.

- Lamp specification as 777A.24.
- Reel for quick cable rewind and storage.
- Supplied with swivelling wall bracket.

	Voltage	Length of lead	Lamp IP	IP cable reel	$\Delta\Delta$ kg
<b>777A.24EN</b>	24 V	14,5 m	55	42	4,38

	Description
<b>777A.230-24-02</b>	Spare fluorescent tube for 230V and 24V inspection lamps
<b>777A.03</b>	Spare protective glass for inspection lamps



## Electric cable reel

### 777A.ENFR

- 2 poles + earth cable.
- Max allowable power in fully unwound cable 1,800 W.
- Lead 12 m long.
- Supplied without a plug as requirements differ widely according to country and market. A plug must therefore be installed by the user.
- IP rating 42.
- Supplied with swivelling wall bracket.

$\Delta\Delta$  : 4.22 kg.







# 14. Power tools

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## ▶ Impact wrenches 574



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## ▶ Drill-drivers 581



## ▶ Sanders 582



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*Professional performance***Advantages**

- ▶ Powerful
- ▶ Long battery life
- ▶ Sturdy
- ▶ Lightweight
- ▶ Battery locks onto the machine by means of a sliding rail system.
- ▶ Ni-MH batteries: increased durability and battery life.



## The ultimate composite impact tool

### Advantages

- ▶ Powerful
- ▶ Quiet
- ▶ Lightweight
- ▶ Durable



N ▶ 575





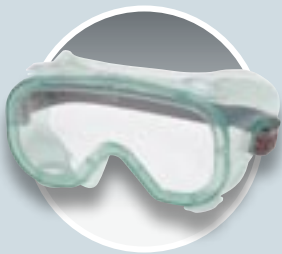
## Safety first



- FACOM power tools comply with the machinery directive 98/37/EC
- FACOM pneumatic tools comply with the safety requirements of European EN 792 for pneumatic tools
- FACOM battery-powered electric tools comply with European standard EN 60745 on hand-held electric tools

*For maximum safety we recommend that you :*

- Always wear eye protection (See page 603) ►
- Always wear gloves and a face-mask (See page 604) ►
- Use only Impact grade sockets and accessories with impact tools (See page 243) ►
- Never remove original guards, safety catches, etc.
- Always switch off air supply before servicing tools



## INFORMATION

**N.m**



The power of impact wrenches needs to be measured under constant and ideal laboratory conditions. The maximum dynamic torques are values measured under these conditions. These make it possible to compare the values of different machines. They are difficult to achieve under normal workshop conditions. It is for this reason that we also measure the capacity of our tools under standard workshop conditions. This gives the guaranteed static torque.





**New**

**CORDLESS RANGE**

## PROFESSIONAL POWER AND PERFORMANCE

POWER

AUTONOMY

STRENGTH



### 1 INTEGRAL LIGHTING

- Perfect visibility in poorly lit working areas.
- Contrasting, directional white light.



### VARIABLE TRIGGER SPEED CONTROL

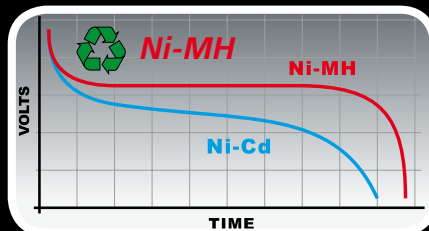
- Controls speed and power to protect the assembly.
- Optimum pre-tightening, precision and total control.

### 3 Ni-MH BATTERIES : CLEAN, EFFICIENT POWER

- No memory effect increased durability and battery life.
- Provides a constant level of power until the battery is completely discharged.
- Increased instantaneous power for quickrelease.
- Lighter than an Ni-Cd battery of equivalent power.
- Respects the environment and complies with the new 2006 European Directive.

### 4 SLIDING LOCK SYSTEM

- Battery locks onto the machine by means of a sliding rail system.
- Ensuring reliability, strength and durability of electrical contacts.
- The "Sliding Lock" system guarantees an optimum current.



### 7 Rotation reverse switch

### 6 Ergonomic Facom design

- Compact and lightweight
- Bi-material construction for reduced vibration and increased working comfort.
- Firm comfortable grip.

### 5 Bumpers

- Integral protective rubber bumpers providing improved impact resistance.
- Protect the machine and its environment.
- Prevents tool sliding on sloping surfaces.



**SLIDING LOCK**





## 19.2V battery-powered 1/2" impact wrench

### CL.C1913

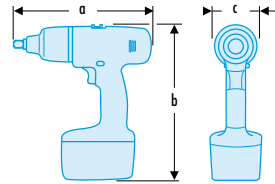
- Always available for quick on-site repairs.
- Powerful, reliable latest generation 19.2 V motor.
- Trigger speed adjustment and power control.
- Accessible, removable carbon brushes enabling simple, immediate repair.
- Integral lighting system for perfect visibility in poorly lit working areas
- Battery locks onto the machine by means of a sliding rail system ensuring reliability, strength and durability of electrical contacts.
- Ni-MH batteries.
- Integral elastomer bumpers.
- For use with FACOM NS Impact series sockets.

Contents of set CL.C1913

- Impact wrench : CL.C1913D - Universal charger : CL.CH919

- 2 Ni-MH batteries : CL.BA19 - Operating instructions

• Weight of machine + battery : 3.1 kg.



	□	a	b	c	ΔΔ
	"	mm	mm	mm	kg
<b>CL.C1913</b>	1/2	252	199	75,5	6,2



## Impact wrench

### CL.C1913

#### Specification

Max torque	330
hard screwdriving (Nm)	220
Free speed (rpm)	2000
Rated impact rate (impacts per minute)	1600
Interchangeable carbon brushes	Yes
Light	Yes
Electronic speed controller	Yes
<b>Battery</b>	
Battery voltage	19,2
Battery capacity (Ah)	2,6
Battery technology	Ni-MH
Approx. charging time (min)	1h30
<b>Dimensions</b>	
Length (mm)	252
Height (mm)	199
Weight including battery (kg)	3,2



### Freedom and power.



- Maximum torque 330 Nm and 2,500 Impacts per minute.
- Freedom of movement inside and outside the workshop, without hoses.
- Fast site repairs.
- 2 Ni-MH batteries providing sufficient power for over 300 operations between charges.

## Smart universal charger

### CL.CH919

- One charger fits all FACOM batteries, from 9.6 to 19.2 V, Ni-Cd or Ni-MH.
- Fast charging.
- Delta Volt (DV) technology stops charging at the optimum time.
- Charge monitoring and "maintenance" mode ensure long battery life.

	Voltage V	Technology	a mm	b mm	c mm	ΔΔ g
<b>CL.CH919</b>	from 9,6 to 19,2 DC	Ni-Mh & Ni-Cd	180	116	67	600



# Electric drill-drivers

## 10 mm / 12 V and 13 mm / 14.4 V battery-powered drill-driver

### CL.P1413

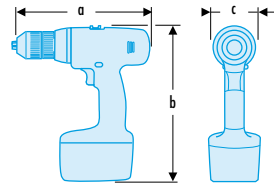
- Trigger speed adjustment and power control.
- No risk of over-torquing when starting or stopping a screwing operation : optimum pre-tightening, precision and protection of the assembly.
- Integral lighting system for perfect visibility in poorly lit working areas
- Battery locks onto the machine by means of a sliding rail system ensuring reliability, strength and durability of electrical contacts.
- Integral elastomer bumpers.
- For use with FACOM 6-series screwdriver bits.

Contents of set CL.P1210

- Drill-driver : CL.P1210D - Universal charger : CL.CH919
- 2 Ni-Cd batteries : CL.BA12 - Operating instructions.

Contents of set CL.P1413

- Drill-driver : CL.P1413D - Universal charger : CL.CH919
- 2 Ni-MH batteries : CL.BA14 - Operating instructions.



	a	b	c	$\Delta\Delta$
	mm	mm	mm	kg
<b>CL.P1413</b>	232	199	64	4,9



## 14 VOLT DRILL-DRIVERS



CL.P1413

### Manoeuvrable and lightweight



- Firm comfortable grip.
- Bi-material handle : reduced vibration and increased working comfort.
- 10 mm chuck.

### Robust and mobile.

- Professional reliability : intensive use and difficult applications.
- 13 mm chuck and carbide jaws for heavy-duty tasks.

Specification	CL.P1413
Max torque - hard screwdriving (Nm)	44
Max torque - soft screwdriving (Nm)	24
Free speed, 1st gear (rpm)	340
Free speed, 2nd gear (rpm)	1180
Electronic speed controller	Yes
Automatic chuck	Yes
Torque settings	Yes
Levels of torque setting	16+1
<b>Battery</b>	
Battery voltage and capacity (Ah)	14,4
Battery voltage and capacity (Ah)	2,6
Battery technology	Ni-MH
Approx. charging time (min)	1h30
<b>Drilling diameter</b>	
Ø max. in wood (mm)	35
Ø max. in steel (mm)	13

## CL.BA Batteries

- Ni-MH batteries : clean, efficient power.

	Voltage V	For	Technologie	Capacité Ah	$\Delta\Delta$ kg
<b>CL.BA19</b>	19,2 DC	CL.C1913D	Ni-Mh	2,6	1,1
<b>CL.BA14</b>	14,4 DC	CL.V146D & CL.P1413D	Ni-Mh	2,6	0,8



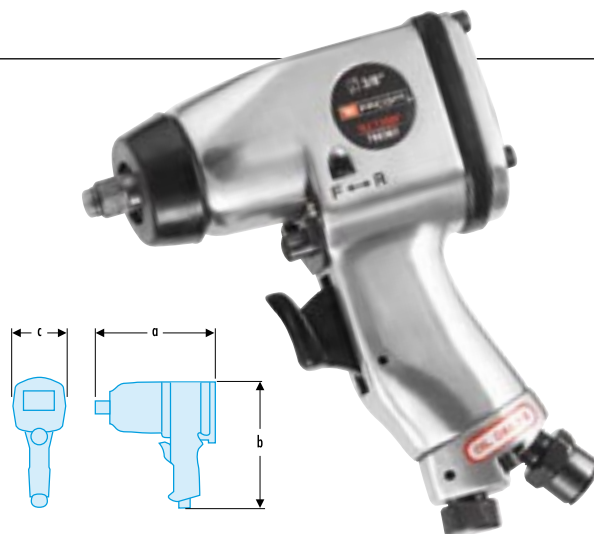
## ► Impact wrenches

### 3/8" impact wrench

#### NJ.1300F

- Speed controller.
- Pressure adjustment knob.
- Direction reversal knob.
- Free speed : 12,500 rpm.
- Recommended dynamic torque : 7 - 68 Nm.
- Maximum dynamic torque : 102 Nm.
- Guaranteed static torque : 82 Nm.
- Impact rate (per minute) : 600.
- Average air consumption : 85 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.

	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NJ.1300F</b>	137	167	49	1,24



### 3/8" impact wrench

#### NJ.2000F

- Very strong, lightweight steel/composite casing.
- Double-hammer mechanism.
- High working torque.
- Free speed : 10,000 rpm.
- Recommended dynamic torque : 30-300.
- Maximum dynamic torque : 380 Nm.
- Guaranteed static torque : 205 Nm.
- Impact rate (per minute) : 1,510.
- Average air consumption : 119 l/min.
- Air inlet thread : 1/4".
- 3 tightening torque settings.
- Direction reversal knob.
- Working pressure : 6.2 bars.

	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NJ.2000F</b>	157	165	58	1,26



## Impact wrench specifications

Reference	NJ.1300F	NJ.2000F	NS.1010F	NS.1090LF	NS.1800F
Square drive	3/8"	3/8"	1/2"	1/2"	1/2"
Free speed (rpm)	12 500	10 000	8 000	8 000	8 000
Recommended dynamic torque (Nm)	7 - 68	30 - 300	30 - 500	30 - 500	65 - 550
Maximum dynamic torque (Nm)	102	380	610	610	813
Guaranteed static torque (Nm)	82	205	400	320	380
Impact rate (per minute)	600	1 510	1 100	1 100	1 200
Weight (kg)	1,24	1,3	2,6	2,82	2,25
Length (mm)	137	157	187	239	180
Average air consumption (l/min)	85	119	113	113	138
Air inlet thread (inches)	1/4	1/4	1/4	1/4	1/4
Ø int. air hose (mm)	10	10	10	10	10
Working pressure (bar)	6,2	6,2	6,2	6,2	6,2



## Impact wrench NS.1800F

**THE ULTIMATE COMBINATION :  
POWERFUL, SILENT AND LIGHTWEIGHT**



Original air circulation system that increases the power of the wrench by over 10%

Composite body :  
• Minimises the weight

Non-slip grips

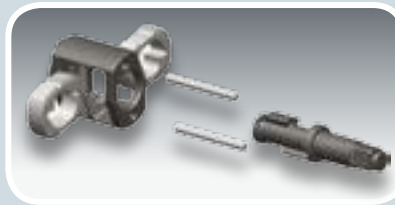
Exhaust in the handle

### Twin-hammer mechanism.

Exclusive double-hammer mechanism.

- Better balance
- More power
- More durable

4-position controller/  
reverser.

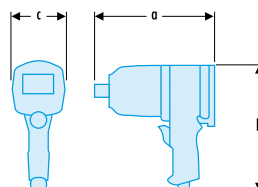


## Composite 1/2" impact wrench

### NS.1800F

- Lightweight aluminium/composite body.
- Pressure and direction control knob.
- Double-hammer mechanism.
- Free speed : 8,000 rpm.
- Recommended dynamic torque : 65 - 550 Nm.
- Maximum dynamic torque : 813 Nm.
- Guaranteed static torque : 380 Nm.
- Impact rate (per minute) : 1,200.
- Average air consumption : 138 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.

	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NS.1800F</b>	180	183	69	2,25



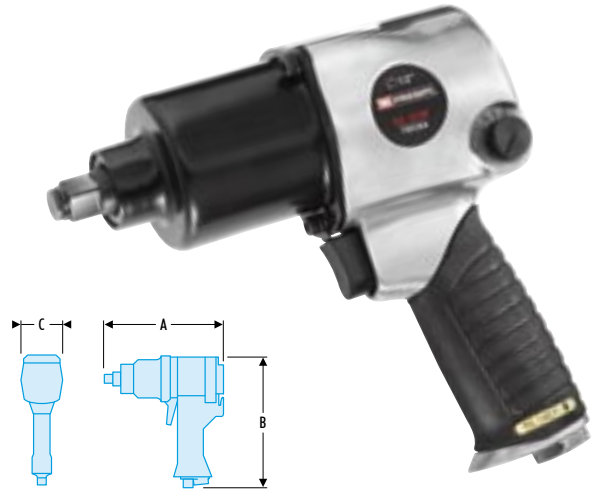


## 1/2" impact wrench

### NS.1010F

- Speed controller.
- Five-position pressure adjustment knob.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 8,000 rpm.
- Recommended dynamic torque : 30 - 500 N..m.
- Maximum dynamic torque : 610 Nm.
- Guaranteed static torque : 400 Nm.
- Impact rate (per minute) : 1,100.
- Average air consumption : 113 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.

	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NS.1010F</b>	187	188	69	2,6



## Long-reach 1/2" impact wrench

### NS.1090LF

- Long-reach impact wrench.
- Five-position pressure adjustment knob.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 8,000 rpm.
- Recommended dynamic torque : 30 - 500 Nm.
- Maximum dynamic torque : 610 Nm.
- Guaranteed static torque : 320 Nm.
- Impact rate (per minute) : 1,100.
- Average air consumption : 113 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.

	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NS.1090LF</b>	239	188	69	2,8



## 1/2" impact wrench set

### NS.1010AE

- Comprehensive set :
- Socket size indicated.
- Compact set.
- Complete with case BP.N5990CE (326x295x106 mm) and tray PL.451.
- Comprising :
  - 1 impact wrench NS.1010F.
  - 13 impact sockets NS.10A, 11A, 12A, 13A, 14A, 16A, 17A, 18A, 19A, 21A, 22A, 24A and 27A.
  - 1 extension NS.215A.
  - 1 universal joint NS.240A
  - 1 male threaded fitting NBB.103.
  - 3 Rings and 3 locking pins (BA and GA).
- ΔΔ : 6.11 kg.



## 1/2" impact wrench set

### NS.1800FE

- Comprehensive set :
  - Socket size indicated.
  - Compact set.
  - Complete with case BP.NS990CE (326x295x106 mm) and tray PL.451.
  - Comprising :
    - 1 impact wrench NS.1800F.
    - 13 impact sockets NS.10A, 11A, 12A, 13A, 14A, 16A, 17A, 18A, 19A, 21A, 22A, 24A and 27A.
    - 1 extension NS.215A.
    - 1 universal joint NS.240A
    - 1 male threaded fitting NBB.103.
    - 3 Rings and 3 locking pins (BA and GA).
- ΔΔ : 5.52 kg.



## ▶▶ 3/4" impact wrenches

### 3/4" impact wrench

#### NK.990F

- Speed controller.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 7,200 rpm.
- Recommended dynamic torque : 130 - 700 Nm.
- Maximum dynamic torque : 1,020 N.m.
- Guaranteed static torque : 790 Nm.
- Impact rate (per minute) : 1,000.
- Average air consumption : 198 l/min.
- Air inlet thread 1/4".
- Working pressure : 6.2 bars.

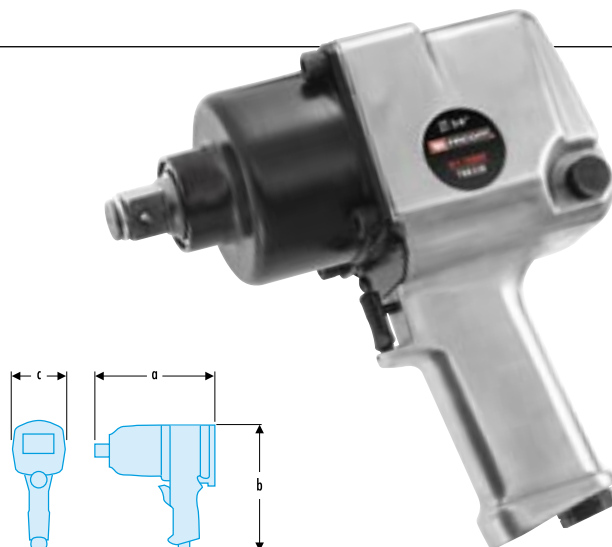


	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NK.990F</b>	235	203	80	4,5

### 3/4" impact wrench

#### NK.1000F

- Speed controller.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 5,500 rpm.
- Recommended dynamic torque 270 - 1,220 Nm.
- Maximum dynamic torque 1,495 Nm.
- Guaranteed static torque : 880 Nm.
- Impact rate (per minute) : 820.
- Average air consumption : 269 l/min.
- Air inlet thread : 3/8".
- Working pressure : 6.2 bars.



	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>NK.1000F</b>	222	233	93	5,6



## Composite 3/4" impact wrench

### NK.2000F

- Speed controller.
- 3 tightening torque settings.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 5,500 rpm.
- Recommended dynamic torque : 270 - 1,220 Nm.
- Maximum dynamic torque : 1,500 Nm.
- Guaranteed static torque : 810 Nm.
- Impact rate (per minute) : 1,050.
- Average air consumption : 600 l/min.
- Air inlet thread : 3/8".
- Working pressure : 6.2 bars.



## 3/4" impact wrench set

### NK.1101E

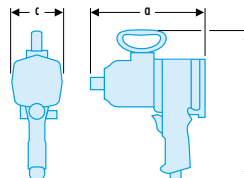
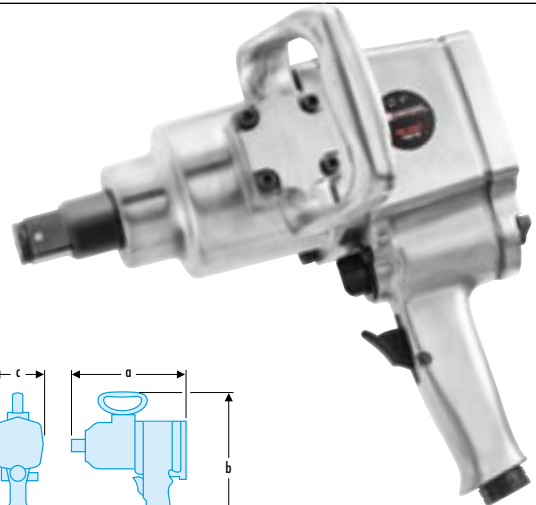
- 15-piece set comprising :
  - 1 impact wrench NK.1000F.
  - 11 impact sockets NK.19A, 21A, 22A, 23A, 24A, 26A, 27A, 28A, 29A, 30A and 32A.
  - 1 extension NK.210A.
  - 1 universal joint NK.240A.
  - 1 sleeve N.610.
  - 3 Rings and 3 locking pins (BA and GA).
- Complete with metal case BT.104 and tray PL.81B.
- ΔΔ : 19.6 kg.



## 1" impact wrench

### NM.1000F

- Speed controller.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 4,400 rpm.
- Recommended dynamic torque : 130-1,650 Nm.
- Maximum dynamic torque : 2,170 Nm.
- Guaranteed static torque : 1500 Nm.
- Impact rate (per minute) : 720.
- Average air consumption : 255 l/min.
- Air inlet thread : 1/2".
- Working pressure : 6.2 bars.

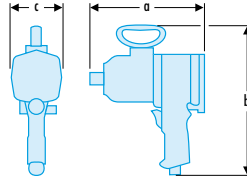
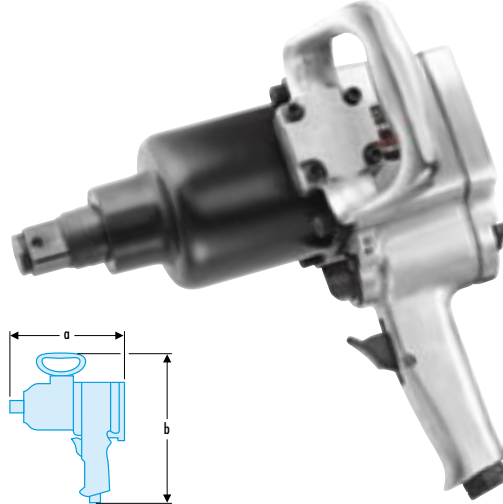


	a mm	b mm	c mm	ΔΔ kg
<b>NM.1000F</b>	300	290	205	9,84

## 1" impact wrench

### NM.1200F

- Air exhaust in the handle
- Speed controller.
- Direction reversal knob.
- Double-hammer mechanism.
- Free speed : 4,200 rpm.
- Recommended dynamic torque : 150-1,800 Nm.
- Maximum dynamic torque : 2,440 Nm.
- Guaranteed static torque : 1700 Nm.
- Impact rate (per minute) : 660.
- Average air consumption : 255 l/min.
- Air inlet thread : 1/2".
- Working pressure : 6.2 bars.

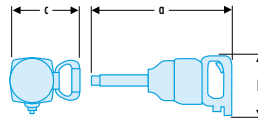


	a mm	b mm	c mm	$\Delta\Delta$ kg
<b>NM.1200F</b>	290	290	218	11,2

## Long-reach 1" impact wrench

### NM.1010LF

- 200 mm long shank.
- Speed controller.
- Direction reversal knob.
- 3-position power control.
- Double-hammer mechanism.
- Free speed : 4,500 rpm.
- Recommended dynamic torque : 130-1,650 Nm.
- Maximum dynamic torque : 2,170 Nm.
- Guaranteed static torque : 1500 Nm.
- Impact rate (per minute) : 720.
- Average air consumption : 255 l/min.
- Air inlet thread 1/2".
- Working pressure : 6.2 bars.



	a mm	b mm	c mm	$\Delta\Delta$ kg
<b>NM.1010LF</b>	523	172	202	11,3

## Impact wrench specifications

Reference	NK.990F	NK.1000F	NK.2000F	NM.1000F	NM.1200F	NM.1010LF
Square drive	3/4"	3/4"	3/4"	1"	1"	1"
Free speed (rpm)	7 200	5 500	5 500	4 400	4 200	4 500
Recommended torque (Nm)	130 - 700	270 - 1 220	270-1220	130 - 1650	150 - 1 800	130 - 1650
Maximum torque (Nm)	1 020	1 495	1500	2 170	2 440	2 170
Guaranteed static torque (Nm)	700	880	810	1 500	1 700	1 500
Impact rate (per minute)	1 000	820	1 050	720	660	720
Weight (kg)	4,55	5,6	3,88	9,84	11,2	11,4
Length (mm)	235	222	221	300	290	523
Average air consumption (l/min)	198	269	600	255	255	255
Air inlet thread (inches)	3/8	3/8	3/8	1/2	1/2	1/2
Ø int. air hose (mm)	13	13	13	19	19	19
Working pressure (bar)	6,2	6,2	6,2	6,2	6,2	6,2





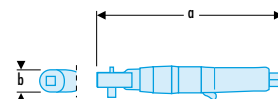
## Ratchets

### 1/4" ratchet

#### V.580F

- Compact size, ideal for confined spaces.
- Free speed : 250 rpm.
- Recommended working torque : 7-27 Nm.
- Average air consumption : 62 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M6

	a mm	b mm	ΔΔ kg
<b>V.580F</b>	176	91	0,5

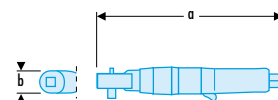


### 3/8" ratchet

#### V.910F

- Compact size.
- Free speed : 250 rpm.
- Recommended working torque : 7-27 Nm.
- Average air consumption : 62 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M6

	a mm	b mm	ΔΔ kg
<b>V.910F</b>	176	91	0,5

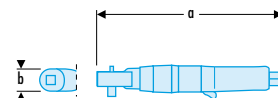


### 1/2" ratchet

#### V.690F

- Composite handle for a better grip and reduced weight.
- Unique head design providing maximum protection against dust.
- Air exhaust turns through 360°.
- Free speed : 280 rpm.
- Recommended working torque : 14-68 Nm.
- Average air consumption : 113 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M10.

	a mm	b mm	ΔΔ kg
<b>V.690F</b>	276	59,4	1,24



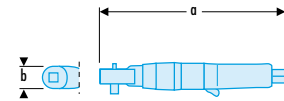
## Ratchet specifications

Reference	V.580F	V.910F	V.690F	V.950F
Square drive	1/4"	3/8"	1/2"	1/2"
Free speed (rpm)	250	250	280	270
Maximum torque (Nm)	27	27	81	108
Weight (kg)	0,5	0,52	1,24	1,62
Length (mm)	176	176	276	313
Average air consumption (l/min)	62	62	113	130
Air inlet thread (inches)	1/4"	1/4"	1/4"	1/4"
Ø int. air hose (mm)	10	10	10	10
Working pressure (bar)	6,2	6,2	6,2	6,2

## 1/2" ratchet

### V.950F

- Unique head design providing maximum protection against dust.
- Air exhaust turns through 360°.
- Free speed : 270 rpm.
- Recommended working torque : 14-95 Nm.
- Average air consumption : 130 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M12.



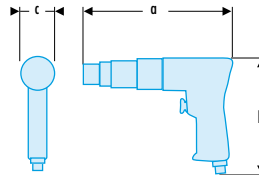
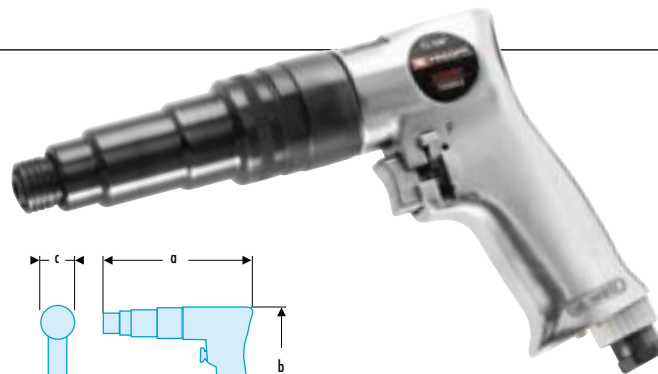
	a	b	$\Delta\Delta$
	mm	mm	kg
V.950F	313	52	1,62

## ► Screwdrivers

### Reversible screwdriver

#### V.620RF

- Free speed : 1,800 rpm.
- Recommended working torque : 13 Nm.
- Average air consumption : 110 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M4.

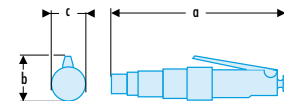


	a	b	$\Delta\Delta$
	mm	mm	kg
V.620RF	216	163	1,2

### Reversible screwdriver

#### V.610RF

- Free speed : 1,800 rpm.
- Recommended working torque : 13 Nm.
- Average air consumption : 110 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Screw size : M4.



	a	b	$\Delta\Delta$
	mm	mm	kg
V.610RF	270	70	1,1

## Screwdriver specifications

Reference	V.620RF	V.610RF
Free speed (rpm)	1 800	1 800
Maximum effective torque (Nm)	13	13
Weight (kg)	1,2	1,1
Length (mm)	176	176
Average air consumption (l/min)	280	280
Air inlet thread (inches)	1/4"	1/4"
Ø int. air hose (mm)	10	10
Working pressure (bar)	6,2	6,2



## Drills

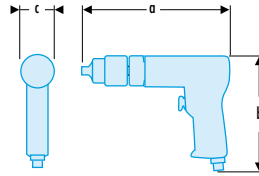
### Drill with self-locking 10 mm chuck

#### V.102MF

- Self-locking steel chuck.
- Free speed : 2,800 rpm.
- Average air consumption : 124 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Motor power rating : 0.44 kW.

	a mm	b mm	c mm	ΔΔ kg
V.102MF	200	135	44	1,33

	Description
V.102MFA1	10 mm chuck



### Drill with self-locking 13 mm chuck

#### V.96F

- Self-locking steel chuck.
- Free speed : 1,300 rpm.
- Average air consumption : 124 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Motor power rating : 0.44 kW.
- Supplied with side handle.

	a mm	b mm	c mm	ΔΔ kg
V.96F	246	137	153	1,5

	Description
V.96FA1	13 mm chuck



## Drill specifications

Reference	V.102MF	V.96F
Chuck capacity	10	13
Free speed (rpm)	2 800	1 300
Motor power rating (kW)	0,6	0,6
Weight (kg)	1,33	1,5
Length (mm)	200	246
Average air consumption (l/min)	113	113
Air inlet thread (inches)	1/4"	1/4"
d int. air hose (mm)	10	10
Working pressure (bar)	6,2	6,2

## Sanders

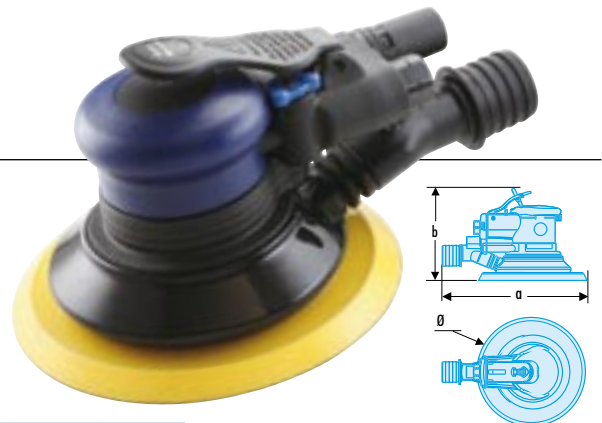
### Orbital sander 152 mm - 5 mm orbit

#### V.252F

- Can connect to a central exhaust unit.
- Speed of rotation : 10,000 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Pad diameter 152 mm.
- Supplied with a 6-hole Velcro pad.
- Orbit 5 mm.
- Average air consumption : 104 l/min.
- Rotation speed control system.

	a mm	b mm	ΔΔ kg
V.252F	225	115	0,74

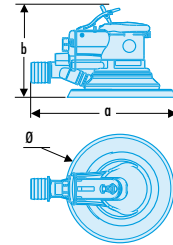
	Description
V.252F1	6 hole Velcro pad



## One-handed orbital sander Ø 150 mm - 2.5 mm orbit

### V.252

- Ultra-light one-handed sander, special high finish.
- Supplied with 6-hole Ø 150 mm.
- Powerful torque, comfortable thermal and vibration-insulated body.
- Compatible with all Ø 29 mm.
- Dust-proof double bearing.
- Speed can be varied during sanding using handle-mounted control.
- Air connection (female thread) 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 380 l/min.
- Noise level : 77,8.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Ø Tray : 150 mm.
- Eccentric offset : 2.5 mm.

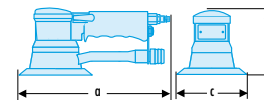


⚙️	a	b	Ø	ΔΔ	⚙️	Description
	mm	mm	mm	kg		
V.256	205	125	150	0,87	V.256A1	6 hole Velcro pad Ø 150 mm.

## Two-handed orbital sander Ø150 mm - 8 mm orbit

### V.252

- Easy to handle, lightweight roughing sander.
- Supplied with 6-hole Ø 150 mm.
- Double bearing, comfortable thermal and vibration-insulated body.
- Compatible with all Ø 29 mm.
- Variable speed control from 5,000 to 10,000 rpm.
- Air connection (female thread) 1/4".
- Recommended air hose (Ø int.) : 8.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 340 l/min.
- Noise level (dB(A)) : 76.1.
- Vibration level : 3 m/s<sup>2</sup>.
- Ø Tray : 150 mm.
- Eccentric offset : 8 mm.

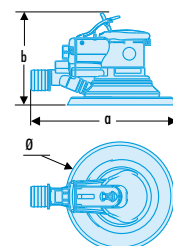


⚙️	a	b	c	ΔΔ	⚙️	Description
	mm	mm	mm	kg		
V.258	305	140	150	1,5	V.258A1	6 hole Velcro pad Ø 150 mm

## Two-handed orbital sander

### V.254F

- Rotation speed control system.
- Can connect to a central exhaust unit.
- Speed of rotation : 9,000 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Pad diameter 152 mm.
- Supplied with a 6-hole Velcro pad.
- Orbit 5 mm.
- Average air consumption : 115 l/min.



⚙️	a	b	Ø	ΔΔ	⚙️	Description
	mm	mm	mm	kg		
V.254F	275	110	150	1,3	V.252F1	6 hole Velcro pad

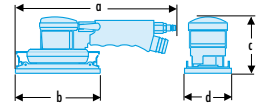


## ▶▶ Vibrating sanders

### Vibrating sander - 95 x 170 mm - 8 holes

#### V.252

- Easy to handle, lightweight roughing sander.
- Supplied with pad and 8-hole abrasive perforator.
- High-quality chrome-plated aluminium motor, comfortable thermally-insulated body.
- Clips for standard abrasives.
- Compatible with all Ø 29 mm.
- Variable speed control from 5,000 to 10,000 rpm.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 360 l/min.
- Noise level : 74.
- Vibration level : 5.4 m/s<sup>2</sup>.
- Eccentric offset : 5 mm.



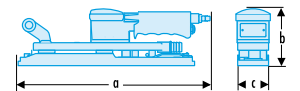
	a mm	b mm	c mm	d mm	ΔΔ kg
V.260	320	170	120	95	1,7

	Description
V.260A1	8 hole punch
V.260SAV50B	95 x 170 mm pad

### Long vibrating sander - 70 x 400 mm - 14 holes

#### V.252

- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 360 l/min.
- Noise level : 73,5.
- Vibration level : 6.8 m/s<sup>2</sup>.
- Ø pad : 70 x 400 mm.
- Eccentric offset : 5 mm.
- Long sound-proofed sander for sanding large areas.
- Supplied with 14-hole Velcro pad 70 x 400 mm.
- High-quality chrome-plated aluminium motor with sealed double bearing.
- Clips for standard abrasives, insulated handle and motor body.
- Compatible with all Ø 29 mm pipe extraction systems.
- Variable speed control from 5,000 to 10,000 rpm.



	a mm	b mm	c mm	ΔΔ kg
V.262	435	129	70	2,5

	Description
V.262SAV51	70 x 400 mm pad

## Vibrating sander specifications

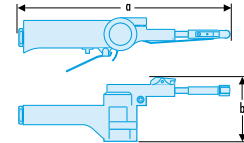
Reference	V.256	V.252F	V.254F	V.258	V.260	V.262
Orbit (mm)	2,5	5	5	8		
Pad dimensions (mm)	150	152	152	150	95 x 170	70 x 400
Free speed (rpm)	10 000	10 000	10 000	10 000	10 000	10 000
Weight (kg)	0,87	0,74	0,8	1,5	1,7	2,5
Length (mm)	205	225	275	305	320	435
Average air consumption (l/min)	380	368	360	340	360	360
Air inlet thread (inches)	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
Ø int. air hose (mm)	8	10	10	8	8	8
Working pressure (bar)	6,2	6,2	6,2	6,2	6,2	6,2

## ▶▶ Belt sanders

### Belt sander - 10 x 330 mm

#### V.252

- Surface roughing and cleaning.
- Multi-position adjustable handle.
- Quick-change belt system.
- Supplied with 3 belts (one ready-mounted) : 2 x 120 grit, 1 x 80 grit.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 15,000 rpm.
- Average air consumption : 400 l/min.
- Noise level : 79,4.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Belt size : 10 x 330 mm.
- Each belt reference corresponds to a single belt.
- Minimum order = 10 belts.

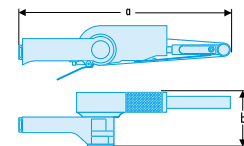
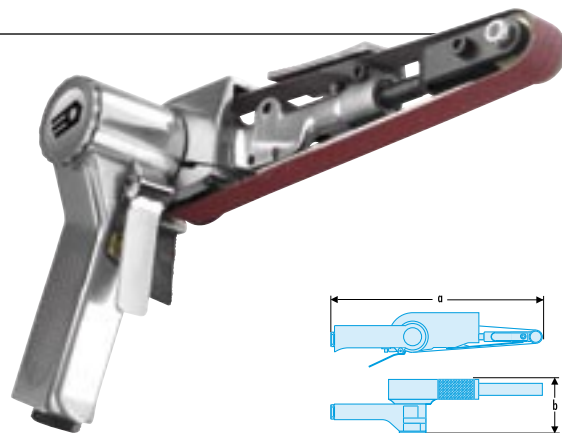


Reference	a mm	b mm	ΔΔ g	Description
V.402	284	76	800	V.402A1 80 grit belt 10 x 330
				V.402A2 120 grit belt 10 x 330

### High capacity belt sander - 20 x 520 mm

#### V.252

- Surface roughing and cleaning.
- Multi-position adjustable handle.
- Quick-change belt system.
- Supplied with 2 belts (one ready-mounted) : 1 x 120 grit, 1 x 80 grit.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6,3 bar.
- Speed of rotation : 17,000 rpm.
- Average air consumption : 400 l/min.
- Noise level : 78.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Belt size : 20 x 520 mm.
- Each belt reference corresponds to a single belt.
- Minimum order = 10 belts.



Reference	a mm	b mm	ΔΔ kg	Description
V.403	353	89	1,15	V.403A1 80 grit belt 20 x 520
				V.403A2 120 grit belt 20 x 520

## Belt sander specifications

Reference	V.402	V.403
Free speed (rpm)	15 000	17 000
Weight (kg)	0,8	1,15
Length (mm)	284	353
Average air consumption (l/min)	400	400
Air inlet thread (inches)	1/4	1/4
Ø int. air hose (mm)	8	8
Working pressure (bar)	6,3	6,3



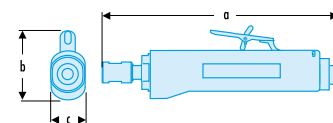
## ► Grinders

### ►► Straight grinders - 6 mm collet

#### Straight grinder - 6 mm collet

##### V.445F

- Front air exhaust.
- Air hose bore 10 mm.
- Speed of rotation : 20,000 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Average air consumption : 180 l/min.

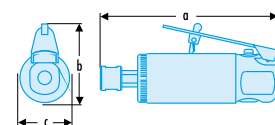


	a mm	b mm	∅ mm	ΔΔ kg
V.445F	207	80	43	0,9

#### Straight grinder

##### V.345F

- Speed of rotation : 20,000 rpm.
- Speed controller.
- Front air exhaust.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Average air consumption : 113 l/min.
- Power : 0.4 hp.



	a mm	b mm	c mm	ΔΔ kg
V.345F	145	58	40	0,5

## Grinder specifications

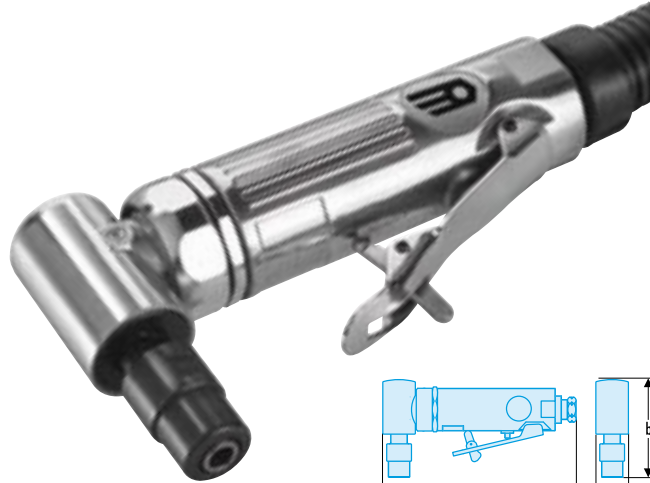
Reference	V.445F	V.345F	V.347
Free speed (rpm)	20 000	22 000	18 000
Collet or shaft diameter (mm)	6	6	6
Weight (kg)	0,96	0,6	0,7
Length (mm)	207	138	158
Average air consumption (l/min)	180	113	300
Air inlet thread (inches)	1/4"	1/4"	1/4"
∅ int. air hose (mm)	10	10	10
Working pressure (bar)	6,2	6,2	6,2

## ▶▶ Angle grinders - 6 mm collet

### Angle grinder - 6 mm collet

#### V.252

- Angle grinder for grinding wheels with shank.
- For cutting and cleaning.
- Compact motor with sturdy blades.
- Compact angled head for difficult-to-reach places.
- Exhaust air duct with integral air supply pipe.
- Supplied with 6 mm collet and 2 open-end wrenches.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 18,000 rpm.
- Average air consumption : 300 l/min.
- Noise level (dB(A)) : 83.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Collet : 6 mm.



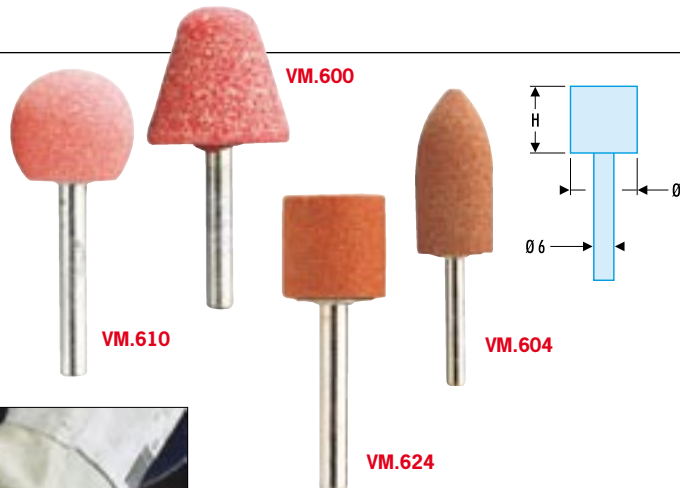
	a	b	c	ΔΔ
	mm	mm	mm	g
<b>V.347</b>	158	78	27	400

## ▶▶ Grinding wheels on 6 mm dia. shank

### Grinding wheels on Ø 6 mm shank

- Specifications to ISO 2933.

	Type	Ø x H mm	Free speed rev/min
<b>VM.600</b>	A.4	30 x 32	17000
<b>VM.602</b>	A.5	30 x 20	30000
<b>VM.604</b>	A.11	28 x 45	18000
<b>VM.606</b>	A.12	20 x 30	30000
<b>VM.610</b>	A.25	25	25000
<b>VM.612</b>	A.26	17	54000
<b>VM.624</b>	W.206	32 x 21	30000



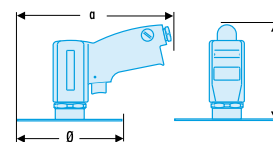


## ► Disc sanders

### Pistol-grip 127 mm rotary disc sander

#### V.401F

- Speed controller.
- Speed of rotation 16,000 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Average air consumption : 120 l/min.

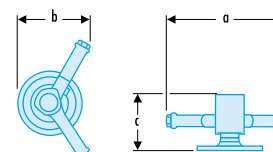


➤	a mm	b mm	ΔΔ kg
V.401F	112	126	1,2
➤	Description		
V.401F1	2 pads - 76 and 127 mm dia.		

### Pistol-grip 178 mm rotary disc sander

#### V.410F

- Two-handed grip.
- Air exhaust in the handle.
- Speed of rotation 4,200 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Average air consumption : 130 l/min.



➤	a mm	b mm	ΔΔ kg
V.410F	198	190	2,6
➤	Description		
V.410FA1	Pad		

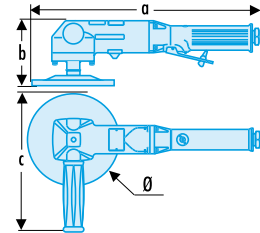
## Disc sander specifications

Reference	V.401F	V.410F	V.411
Pad dimensions (mm)	127	178	175
Free speed (rpm)	18 000	5 000	4 500
Weight (kg)	1,2	2,0	1,8
Length (mm)	160	203	320
Average air consumption (l/min)	450	170	490
Air inlet thread (inches)	1/4	1/4"	1/4"
Ø int. air hose (mm)	10	10	8
Working pressure (bar)	6,2	6,2	6,2

## Angle sander Ø 178 mm

### V.411

- Surface roughing and cleaning.
- Designed for use with 178 mm dia. fibre disc.
- Powerful, 4-blade motor.
- Supplied with handle and one 178 mm dia. fibre pad.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 4,500 rpm.
- Average air consumption : 490 l/min.
- Noise level (dB(A)) : 86.9.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Pad size : 178 mm.



	a mm	b mm	c mm	Ø mm	ΔΔ kg
<b>V.411</b>	320	103	235	175	1,8
	Description				
<b>V.411A1</b>	178 mm dia. pad				

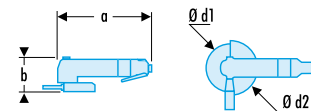
## ▶ Angle grinders/cutters

### Angle grinder/cutter - 100 mm dia.

#### V.462F

- Side handle.
- Speed of rotation : 12,000 rpm.
- Working pressure : 6.2 bars.
- Average air consumption : 120 l/min.
- Air inlet thread : 1/4".
- Power : 0.8 kW.
- Shaft thread 3/8"

	Ø d1 mm	Ø d2 mm	a mm	b mm	ΔΔ kg
<b>V.462F</b>	100	110	220	85	1,6
	Description				
<b>V.460A</b>	deburring wheel 100 mm dia.				

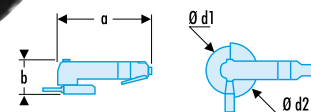


### Angle grinder/cutter - 127 mm dia.

#### V.472F

- Side handle.
- Speed of rotation : 12,000 rpm.
- Working pressure : 6.2 bars.
- Average air consumption : 120 l/min.
- Air inlet thread : 1/4".
- Power : 0.8 kW.
- Shaft thread 3/8"

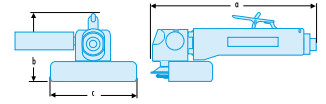
	Ø d1 mm	Ø d2 mm	a mm	b mm	ΔΔ kg
<b>V.472F</b>	125	138	220	85	1,86
	Description				
<b>V.471A1</b>	Deburring wheel Ø 127 mm				
<b>V.471A2</b>	Cutting wheel Ø 127 mm				



## Composite angle grinder/cutter Ø 125 mm

### V.582F

- 1 HP motor for difficult work.
- Air exhaust in handle.
- Free speed : 11,000 rpm.
- Collet or shaft diameter : M14 x 2.
- Average air consumption : 180 l/min.
- Air inlet thread : 1/4".
- Ø int.air hose : 10 mm.

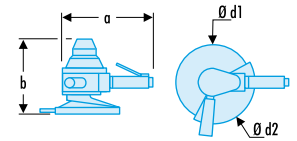


	a mm	b mm	c mm	$\Delta\Delta$ kg
<b>V.582F</b>	225	108	130	1,96

## Vertical angle grinder/cutter Ø 180 mm

### V.482

- Built-in wheel guard.
- Automatically locking control lever.
- Speed/power controller.
- Free speed : 6,000 rpm.
- Motor power rating : 1.5 kW.
- Collet or shaft diameter : 5/8" - 11.
- Average air consumption : 168 l/min.
- Air inlet thread : 1/2".
- Ø int.air hose : 19 mm.



	Ø d1 mm	Ø d2 mm	a mm	b mm	$\Delta\Delta$ kg
<b>V.482</b>	180	204	155	170	4
	Description				
<b>V.480A1</b>	Deburring wheel Ø 180 mm				
<b>V.480A2</b>	Cutting wheel Ø 180 mm				

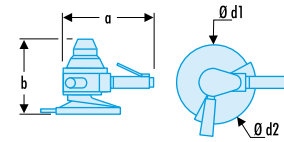
## Grinder/cutter specifications

Reference	V.462F	V.472F	V.582F	V.482	V.492
Free speed (rpm)	12 000	12 000	12 000	6 000	6 000
Dimension	100	125	125	180	230
Weight (kg)	1,8	1,9	1,9	4	4
Length (mm)	229	229	230	155	155
Average air consumption (l/min)	170	170	150	168	168
Air inlet thread (inches)	1/4"	1/4"	1/4"	1/2"	1/2"
Ø int. air hose (mm)	10	10	10	19	19
Working pressure (bar)	6,2	6,2	6,2	6,2	6,2

## Vertical grinder/cutter Ø 230 mm

### V.492

- Built-in wheel guard.
- Automatically locking control lever.
- Speed/power controller.
- Free speed : 6,000 rpm.
- Motor power rating : 1.5 kW.
- Collet or shaft diameter : 5/8" - 11.
- Average air consumption : 168 l/min.
- Air inlet thread : 1/2".
- Ø int.air hose : 19 mm.



	Ø d1 mm	Ø d2 mm	a mm	b mm	ΔΔ kg
<b>V.492</b>	230	254	155	170	4

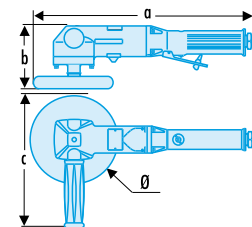
	Description
<b>V.490A1</b>	Deburring wheel Ø 230 mm
<b>V.490A2</b>	Cutting wheel Ø 230 mm

## ▶ Angle polisher

### Angle polisher 178 mm.

### V.902

- Buffing and polishing.
- Heavy-duty machine.
- Supplied with 1 handle, 1 pad 178 mm dia, 1195 mm polishing pad.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 2,000 rpm.
- Average air consumption : 470 l/min.
- Noise level (dB(A)) : 82.4.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Tray : 178 mm.



	a mm	b mm	c mm	Ø mm	ΔΔ kg
<b>V.902</b>	320	103	230	178	1,8

	Description
<b>V.902A1</b>	178 mm pad
<b>V.902A2</b>	195 mm polishing pad.
<b>V.902A3</b>	160 mm foam pad





## ► Power chisels

### Power chisel with hexagonal shank

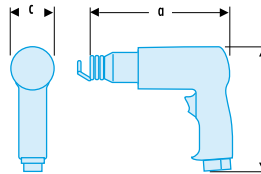
#### V.320FH

- Built-in power regulator.
- Impact rate 3,000/min.
- Working pressure : 6.2 bars.
- Average air consumption : 280 l/min.
- Air inlet thread : 1/4".
- Power : 0.8 kW.
- Piston stroke : 67 mm.



	a mm	b mm	ΔΔ kg
V.320FH	171	160	1,58

	Description
V.320HA1	Straight chisel
V.320HA2	Punch (hexagonal shank)
V.320HA3	Weld point cutter (hexagonal shank)
V.320HA4	Sheet metal cutter (hexagonal shank)
V.320HA5	Double edge sheet-metal cutter (hexagonal shank)
V.320RRN1	Spring



### Power chisel set

#### V.321

- Comprising :
  - 1 Sheet-metal cutter.
  - 1 double edge sheet-metal cutter.
  - 1 weld point cutter.
  - 1 straight chisel.
  - 1 punch.

	Power chisel	ΔΔ kg
V.321AH	V.320FH	6,3



## ► Saws

### Sabre saw

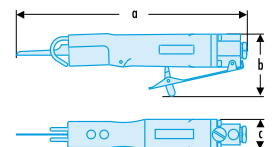
#### V.770F

- Seamless straight and curved cutting.
- Suitable for flat and convex surfaces.
- Adjustable blade guide.
- Supplied with 3 x 10 teeth/cm blades and 3 x 12 teeth/cm blades.
- Strokes per minute : 10,000.
- Average air consumption 220 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.



	a mm	b mm	c mm	ΔΔ kg
V.770F	229	75	36	0,7

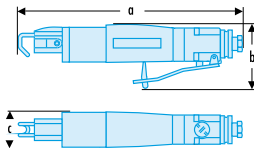
	Description
V.770F1	Set of 6 blades - fine (12 teeth/cm)
V.770F2	Set of 6 blades - standard (10 teeth/cm)



## Super-duty sabre saw

### V.775F

- Suitable for intensive use.
- Anti-vibration rubber handle.
- Air exhaust in handle.
- Supplied with 3 x 10 teeth/cm blades. and 3 x 12 teeth/cm blades.
- Strokes per minute : 5,750.
- Average air consumption : 720 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.

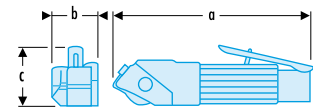


Code	Description
V.770F1	Set of 6 blades - fine (12 teeth/cm)
V.770F2	Set of 6 blades - standard (10 teeth/cm)

## Sabre saw

### V.750A

- For mid-panel straight cuts and wide curves in flat sections, double skins, welded sheet metal.
- Guide ensures precision cutting.
- Clean cut 1 mm wide.
- Cutting depth :
  - 7.5 mm with 45 dia. blade.
  - 10 mm with 50 dia. blade.
- V.750RN1 : Maintenance kit



Code	a mm	b mm	c mm	ΔΔ kg
V.750A	245	56	75	1,4

Code	Ø mm	Thickness to cut mm
V.750A1	45	0,8
V.750A2	50	2,0
V.750A3	50	7,10

## Saw specifications

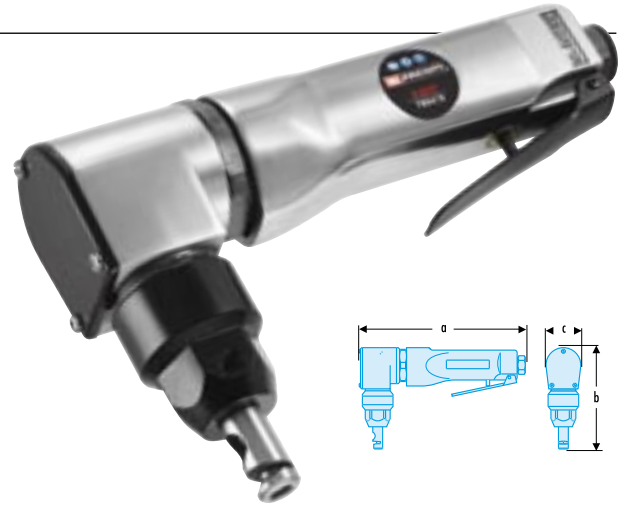
Reference	V.770F	V.775F	V.750A
Free speed (rpm)	...	...	3 000
Weight (kg)	0,6	0,7	1,4
Length (mm)	229	236	245
Average air consumption (l/min)	220	720	...
Air inlet thread (inches)	1/4"	1/4"	1/4"
Ø int. air hose (mm)	10	10	10
Working pressure (bar)	6,2	6,2	6,2

## ► Other

### Nibbler

#### V.850F

- Lever throttle for precise control and low-speed start.
- Can produce rounded edges up to 6.5 mm radius.
- Max. thickness 1.2 mm - speed 1.8 m/min.
- Strokes per minute : 4,300.
- Average air consumption : 110 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.

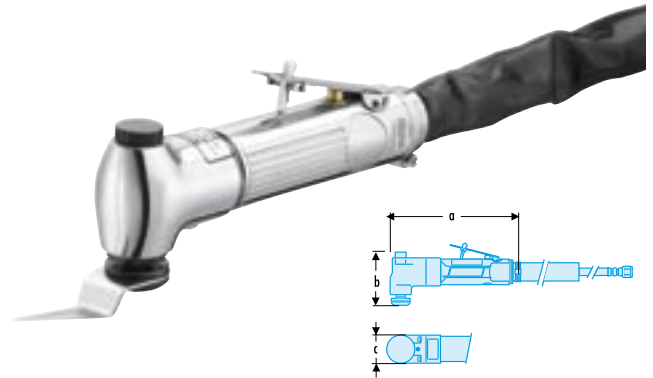


➤	a mm	b mm	c mm	ΔΔ kg
V.850F	179	118	40,5	0,9
➤	Description			
V.850FKR2	Kit			

### Windscreen cutter

#### CAD.P300F

- Faster windscreen replacement.
- Safety trigger.
- Air exhaust in handle.
- 3° pendular motion.
- Supplied with instructions, without blades.
- Strokes per minute : 20,000.
- Average air consumption : 120 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.



➤	a mm	b mm	c mm	ΔΔ kg
CAD.P300F	209	85	45	1,21



## Windscreen cutters



➤ Blade*	Description
CAD.P300A1	Long flat blade 90 mm
CAD.P300A2	Hook blade 36 mm
CAD.P300A4	Curved blade 30 mm
CAD.P300A5	Scraper blade 8 mm
CAD.P300A6	Straight blade 35 mm
CAD.P300A7	Thin straight blade 35 mm
CAD.P300A8	Straight angled blade 35 mm
CAD.P300A9	Hook blade 24 mm
CAD.P300A10	Disc 60 mm
CAD.P300A11	Long angled blade
CAD.P300A12	Long angled blade

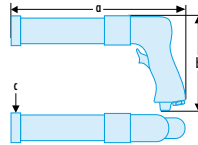
\* Each blade reference corresponds to a single blade

Specifications	CAD.P300
Oscillations per minute	20 000
Weight (kg)	1,21
Length (mm)	208
Average air consumption (l/min)	120
Air inlet thread (inches)	1/4
d int. air hose (mm)	10
Working pressure (bar)	6,2

## Caulking gun - 50 x 215 mm cartridge

### V.801

- For applying silicon, mastics, adhesives, etc.
- Variable flow.
- Automatic pressure release halting flow of mastic.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 10 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-8.
- Pressure 6.2 bar.
- Noise level 70.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Standard cartridge : 50 x 215 mm.

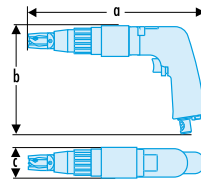
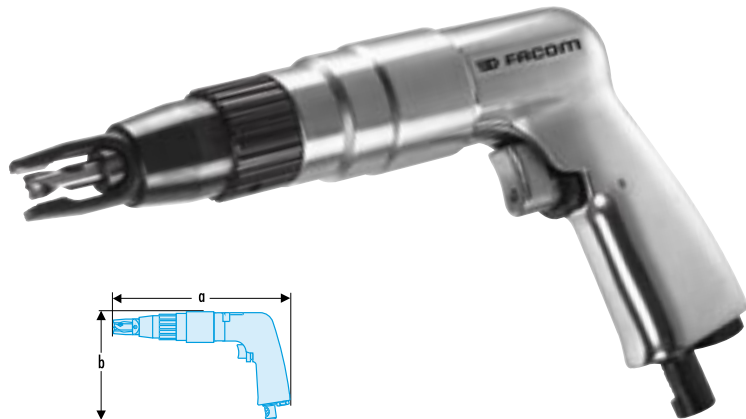


	a	b	c	ΔΔ
	mm	mm	mm	kg
V.801F	305	168	62	1,3

## Spot weld remover

### V.781

- Air connection (female thread) : 1/4".
  - Recommended air hose (Ø int.) : 8 mm.
  - Recommended fitting (thread - Ø int.) : 1/4"-6.
  - Pressure : 6.3 bar.
  - Speed of rotation : 1,800 rpm.
  - Average air consumption : 460 l/min.
  - Noise level (dB(A)) : 74.1.
  - Vibration level : < 2.5m/s<sup>2</sup>.
  - Milling cutter diameter : 8 mm.
  - For accurate removal of spot welds.
  - Caution : not to be used with a stop.
  - Avoids damage to the second layer of metal.
  - Also takes 8.2 mm milling cutters.
  - Supplied with 1 x 8 mm milling cutter.
  - Each milling reference corresponds to a single milling cutter.
- Minimum order per reference = 5.



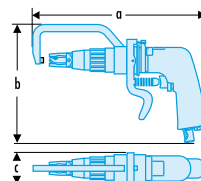
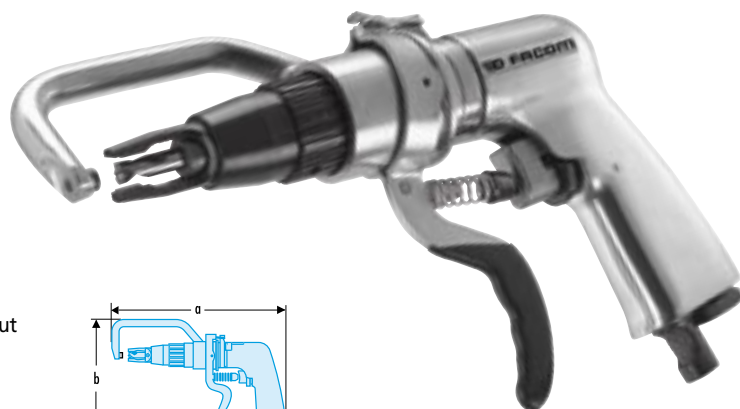
	a	b	c	ΔΔ
	mm	mm	mm	kg
V.781	242	160	46	1,35

	Description
V.781A1	Milling cutter □ 8 mm

## Spot weld remover with stop

### V.781B

- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 1,800 rpm.
- Average air consumption : 460 l/min.
- Noise level (dB(A)) : 74; 1.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Milling cutter diameter : 8 mm.
- For accurate removal of spot welds.
- Fitted with a stop to hold the workpiece in position without slipping.
- Also takes 8.2 mm milling cutters.
- Supplied with 1 milling cutter. Ø 8 mm.
- Each milling reference corresponds to a single milling cutter.
- Minimum order per reference = 5.



	a	b	c	ΔΔ
	mm	mm	mm	kg
V.781B	270	198	53	1,6

	Description
V.781A1	Milling cutter □ 8 mm

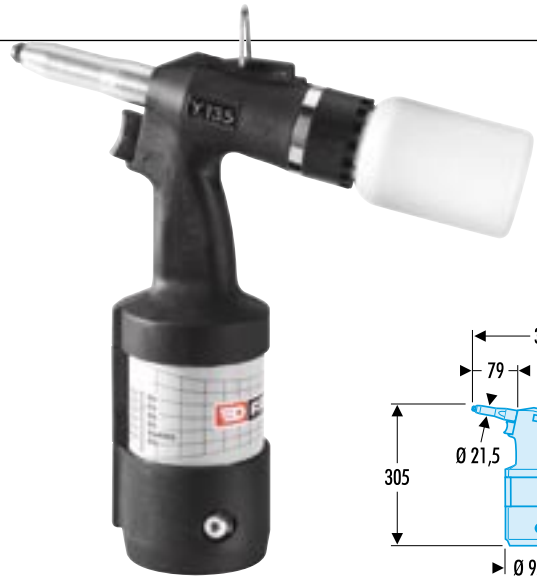




## Suction riveter

### Y.135

- Capacity : Ø 5 mm in any material.
  - Traction travel 17 mm.
  - Force 1,100N.
  - Adjustable pin-suction.
  - Spent-nail holder.
  - Swivel air-connection fits under or to the side of the gun.
  - Supplied with nozzles for 2 - 3 - 4 and 5 mm diameter rivets.
- ΔΔ : 2.47 kg.



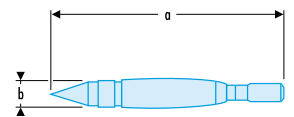
## Engraving pen

### V.820

- With an impact rate of 600 cycles/sec, the tungsten carbide tip will engrave hard materials such as treated steel, stone, glass or ceramic.
- Air control ring.
- Complete with 1.5 m hose, 1/4" threaded male fitting and standard tip.
- Number of cycles : 36,000 impacts per min.
- No-load air consumption : 0.03 m³/min.
- Ø int. air hose : 5 mm.
- Air connection (female thread) : 1/4".
- Working pressure : 5-7 bars.
- Noise level : 78.4 dBA.



Model	a x b mm	ΔΔ g
V.820	160 x 17	360
Description		
V.820A1		Standard tip
V.820A2		Fine tip



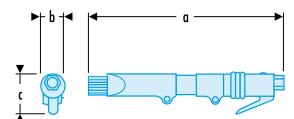
## Rust remover

### V.352

- Cleans, derusts and strips metal surfaces.
- Reaches into cracks and grooves.
- Complete with needles Ø 2 mm.
- Impact rate : 4,200 per minute.
- Average air consumption : 0.135 m³/min.
- Ø int. air hose : 10 mm.
- Air connection (female thread) : 3/8".
- Recommended working pressure : 5-7 bars.



Model	a mm	b mm	c mm	ΔΔ kg
V.352	360	36	75	1,53
Description				
V.352A1				Set of spare needles for rust remover Ø 2 mm
V.352A1D3				Set of spare needles Ø 3 mm
V.352-137D3				Comb for needle Ø 3 mm

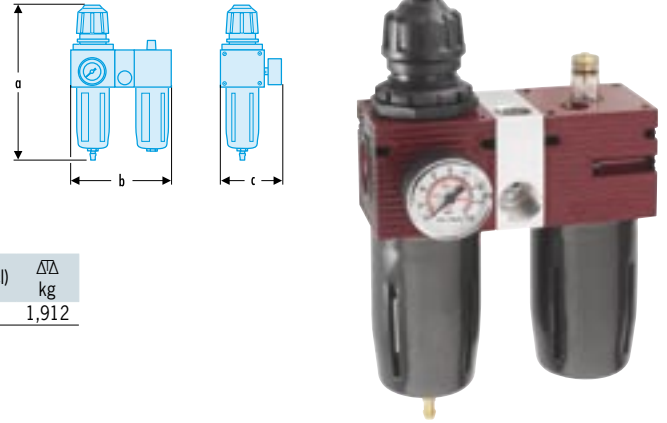




## 3/8" filter-regulator-lubricator + dry air

### N.560D

- Similar specification to N.558D, but with a selector valve for dry air (air jet, paint spraying, etc.) or lubricated air.

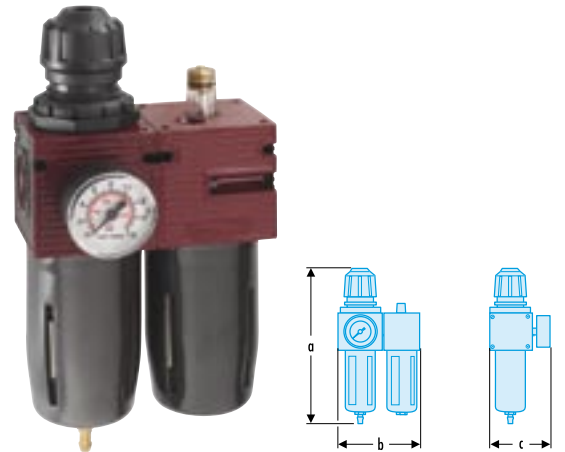


	Thread "	a x b x c mm	Flow (l/min)	Bowl capacity (cl)	$\Delta\Delta$ kg
<b>N.560D</b>	3/8	143 x 145 x 93	2800	16	1,912

## 1/2" filter-regulator-lubricator

### N.565

- Monobloc regulator/filter with sintered bronze filter element.
- Filtration to 40 microns.
- Semi-automatic purge.
- Oil-mist lubricator.
- Max. primary pressure :  
14 bars at 20°C, 8 bars at 50°C with protective tank  
12 bars at 20°C without protective tank
- Secondary pressure range : 0.5 to 8.4 bars.
- Allowable temperature range : - 25°C to + 50°C.
- Recommended oil : Engler viscosity at 50°C : 2 to 2.5.
- Lubricator priming flow rate : 100 l/min.



	Thread "	a x b x c mm	Flow (l/min)	Bowl capacity (cl)	$\Delta\Delta$ kg
<b>N.565D</b>	1/2	231 x 120 x 93	2800	16	1,681

## 2 litres of lubricator oil

### NS.557-04

- Engler viscosity 2 to 2.5 at 50°C.

## ►► Fittings



## Fittings

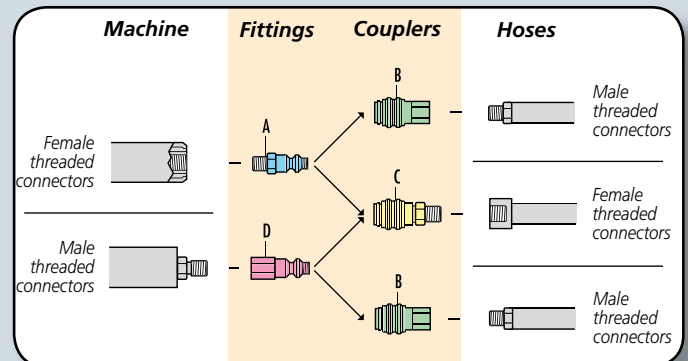
*FACOM air tools can be used with a variety of fitting options offering useful connection flexibility.*

When choosing your connector :

- Check air inlet specification (from table for the relevant tool).
- Select connector type (A to D) from the diagram below.

- Threaded male connectors
- Tapped female connectors
- Threaded male coupler
- Tapped female coupler

- Fitting and coupler specifications are shown below :



## Quick connectors

- Select male and female connectors with the same bore and thread.
- A typical machine with a 1/4" thread and Ø 8 mm bore, would require a fitting NBA.103 or NBB.103 together with a coupler NBA.113 or NBB.113.

⇒	Ø Crossing mm	Thread"
<b>Tapped female coupler</b>		
<b>NBA.101</b>	5,5	1/4
<b>NBA.103</b>	8,0	1/4
<b>NBA.105</b>	11,0	3/8
<b>NBA.106</b>	11,0	1/2
<b>Threaded male connector</b>		
<b>NBB.101</b>	5,5	1/4
<b>NBB.103</b>	8,0	1/4
<b>NBB.105</b>	11,0	3/8
<b>NBB.106</b>	11,0	1/2
<b>Tapped female coupler</b>		
<b>NBA.111</b>	5,5	1/4
<b>NBA.112</b>	5,5	3/8
<b>NBA.113</b>	8,0	1/4
<b>NBA.114</b>	8,0	3/8
<b>NBA.115</b>	11,0	3/8
<b>NBA.116</b>	11,0	1/2
<b>Threaded male coupler</b>		
<b>NBB.111</b>	5,5	1/4
<b>NBB.112</b>	5,5	3/8
<b>NBB.113</b>	8,0	1/4
<b>NBB.114</b>	8,0	3/8
<b>NBB.115</b>	11,0	3/8
<b>NBB.116</b>	11,0	1/2



NBA.101



NBB.101



NBA.111



NBB.111

## Recoil extensions

- Coiled PVC hose fitted with a male threaded connector at each end.

⇒	Ø Crossing mm	Ø Pipe mm	Length m	Thread"	ΔΔ g
<b>N.637</b>	3	4 x 6	4	1/4-3/8	220
<b>N.638</b>	5	8 x 10	10	1/4-3/8	645
<b>N.640</b>	8	10 x 12	8	1/4-3/8	700
<b>N.642</b>	8	10 x 12	8	3/8-3/8	795



## Braided hoses

- Transparent PVC hose, polyester braided.
- Working temperature range -25 à +60° C.
- Supplied in 20 m rolls.

⇒	Ø Pipe mm	Working pressure bars	Ties to use
<b>NB.1</b>	8 x 14	20	NB.11
<b>NB.2</b>	10 x 16	15	NB.12
<b>NB.3</b>	13 x 20	12	NB.13
<b>NB.4</b>	16 x 22	10	NB.14







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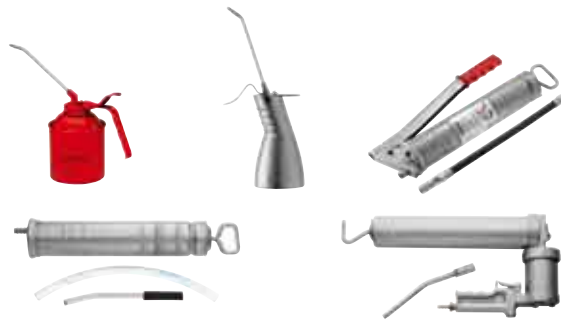
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TEAM

Facom overalls

## FOR FACOM, COMFORT AND PROTECTION ARE OF PARAMOUNT CONCERN

### Ergonomic - Prevents MSD\*

• Elastomer knee-pads for comfort and protection against knee bursitis (housemaid's or clergyman's knee).

\*MSD : Musculo-skeletal disorders.



INCLUDES :  
2 knee pads

Polyamide-reinforced knees.  
Polyester cotton, guaranteed  
for 50 washes at 85°.

Knee pads can be removed  
during washing.

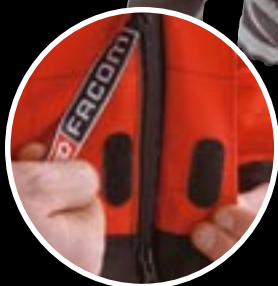
### Strong and durable

• Flaps with strong, non-scratching Velcro strips. (No sharp points and cornerless seams for increased stitch-tear resistance.)

### Soil resistant

### Practical and comfortable

- Two-way polyamide zip fastener (no scratching of bodywork).
- Pockets for mobile telephone and wallet.
- Integral self-adjusting belt (no dangerously hanging belt strap).
- Pants pocket opening.
- Gussets and self-adjusting belt giving complete freedom of movement.



# Personal protection equipment

## ► Protective overalls

### COMB - "TEAM" OVERALLS

- Mechanics overalls with removable knee pads to prevent MSD\*.
  - Polyamide-reinforced knees.
  - Black fabric on all exposed surfaces to keep the overalls looking neat and clean.
  - Gussets and self-adjusting belt giving complete freedom of movement.
  - 35 % cotton, 65 % polyester, washable at 85°C.
- \* MSD : Musculoskeletal disorders.



Size	Chest size cm
COMBS	S 87 - 94
COMBM	M 95 - 102
COMBL	L 103 - 110
COMBXL	XL 111 - 118
COMBXXL	XXL 119 - 126

## ► Safety glasses and goggles



### Why wear eye protection ?

- 1) To protect against projections of solid particles (spectacle type), liquids or chemicals (mask type).
- 2) To protect against UV radiation.

Wear eye protection wherever there is a risk of exposure to particles, chemical products, fumes, splashing, dust, glass fibre, heat or metal shavings.  
Protect your eyes : avoid damage.

It is recommended to wear safety goggles with side shields when operating machine tools, wood-working machinery or shredders.



### Lens care

Regularly examine goggles and replace if any worn, broken or damaged parts are noted (stems, eyepieces, etc.).  
Clean the lenses with warm soapy water. A microfibre cloth can be used to remove grease and dirt from the lenses without damage.

## Safety glasses

### BC.30VSE

▷ EN 166 - European directive EC/89/686.

- Treated against UV rays, fogging and scratching.
  - Optical class 1, protection class 1.2.
  - Adjustable and extendable arms.
  - Soft case included.
- ΔΔ : 75 g.



## Safety goggles

### BC.31VSE

▷ NF EN 166 - European directive EC/89/686.

- Protection for prescription glasses.
  - Optical class 1, protection class 1.2.
  - Synthetic, anti-UV clear lenses.
  - Resistant to scratching and flying chips (Soft case included).
- ΔΔ : 70 g.





## Wrap-around goggles

### BC.5

▷ NF EN 166, NF EN 168.

- General-purpose eye protection.
- Essential when using a grinder, chisel, etc.
- Wrap-around design can accommodate spectacles.

ΔΔ : 82 g.



## Safety glasses

### BC.4

▷ NF EN 166.

- Essential for grinding, brushing or deburring.

ΔΔ : 38 g.



## ▶ Face masks

### Face masks

#### BC.1J20

▷ NF EN 149.

- Pack of 20 dust masks.
- Essential protection against fine sanding dust, etc.

ΔΔ : 226 g.



## ▶ Gloves



### Why wear gloves ?

1) To protect against mechanical hazards : abrasion, cut, tear and perforation-resistant gloves. (leather gloves BC.10, BC.109VSE and BC.110VSE).

2) To protect against chemical hazards : (latex gloves BC.80VSE and BC.91VSE).

3) To protect against electrical hazards : 500 to 1,000 volts (insulating gloves BC.VSE).



## Overgloves

▷ European directive EC/89/686.

- Silicon leather giving mechanical protection.
- Worn over latex insulating gloves.
- Physical/mechanical classification 2, 1, 2, 1 to European standard EN 388.

	Cut	ΔΔ g
<b>BC.109VSE</b>	9 (B)	160
<b>BC.110VSE</b>	10 (C)	160



# Personal protection equipment

## Insulating gloves

▷ EN 60903 - European directive EC/89/686.

- Natural latex, AZMC grade :
- R : resistant to acid, oil and ozone.
- C : resistant to very low temperatures.
- Supplied in an opaque anti-UV pouch.
- Length 360 mm.

ΔΔ : 150 g.

⇒	Cut	Thickness mm	Class	Power supply V
<b>BC.80VSE</b>	9 (B)	0,5	00	500
<b>BC.81VSE</b>	10 (C)	0,5	00	500
<b>BC.90VSE</b>	9 (B)	1	0	1000
<b>BC.91VSE</b>	10 (C)	1	0	1000



## Hide gloves

### BC.10

- Hide gloves with 10 cm cuffs.
- Essential for handling sheet metal, using shears or a saw, and working with any sharp or rough object.

ΔΔ : 155 g.



## ▶ Insulating mats

### Insulating mats

▷ NF C 18.420.

- Rubber mat to insulate operator from any earthing points.
- Thickness 3.2 mm.
- Hardness 60 DIDC.

⇒	Length x width m	ΔΔ kg
<b>BC.20VSE</b>	1 x 0,6	2,5
<b>BC.21VSE</b>	1 x 1,0	4,2



## Miscellaneous maintenance equipment

### Heat gun

#### E.2005

- Electronic temperature control 60 to 600°C.
- Force : 2000 W.
- Air supply : power supply.
- Air flow rate (2 speeds) : 300 and 500 l/min.
- VDE approved.
- Supplied with 2 nozzles : E.2002B1 and E.2002B3.
- Ø 72 x 80 x 330 mm.

E.2002B1 : Distribution nozzle

(ΔΔ 58 g, 75 mm (L) x 75 mm (h) x 33.7 mm (Ø)).

E.2002B2 : Cross-flow nozzle

(ΔΔ 56 g, 75 mm (L) x 80 mm (h) x 33.7 mm (Ø)).

E.2002B3 : Reflector nozzle

(ΔΔ 32 g, 33 mm (L) x 60 mm (h) x 33.7 mm (Ø)).

E.2002B4 : Concentrator nozzle

(ΔΔ 30 g, 20 mm (Ø) x 52 mm (h) x 33.7 mm (Ø)).

ΔΔ : 770 g.



# 15 Miscellaneous maintenance equipment

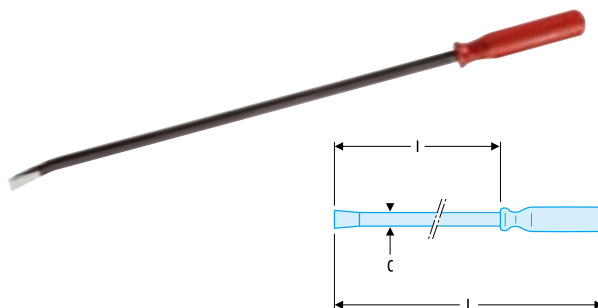
## ► Power levers

### D.3 Power levers

- Sturdy blade minimizing lever spring effect.
- Dimensions 670 x 145 x 40 mm.

ΔΔ : 1.648 kg.

►	L mm	I mm	C°	ΔΔ kg
<b>D.3-7</b>	292	165	3/8	0,275
<b>D.3-12</b>	422	305	3/8	0,345
<b>D.3-18</b>	635	460	1/2	0,81
<b>D.3-24</b>	787	610	1/2	1,03
<b>D.3-30</b>	915	740	5/8	1,71



### Set of 3 power levers

#### D.3J3

- Sturdy blade minimizing lever spring effect.
- Many uses : suspension, running gear, bodywork, etc.
- Presented on a blister tray.
- Set comprising one D.3-7, one D.3-12 and one D.3-18.
- Dimensions 670 x 145 x 40 mm.

ΔΔ : 1.648 kg.

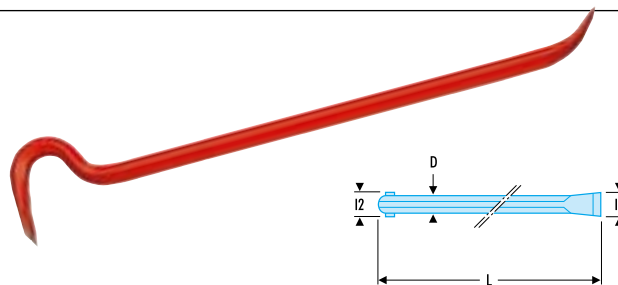


## ► Wrecking bars

### 1260 Wrecking bars

- Forged, one flat end and one nail-claw, hardened to 45 HRC.
- Finished in red, polished and varnished tips.

►	I1 mm	I2 mm	L mm	D mm	ΔΔ kg
<b>1260.50</b>	33	28	495	18	0,92
<b>1260.70</b>	39	35	710	23	1,14

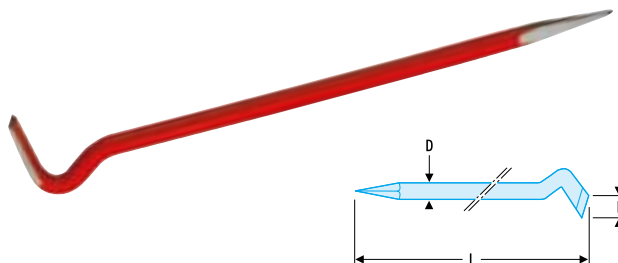


## ► Crowbars

### 268 Round crowbars with crook beak

- Forged, point at one end and a wide, thin flat at the other, hardened to 45 HRC.
- Finished in red, polished and varnished tips.

►	L mm	D mm	I mm	ΔΔ kg
<b>268.3</b>	450	16	32	0,67
<b>268.4</b>	790	20	32	1,97
<b>269</b>	400	18	27	0,59



### Steel wire brush

#### 270A.MA

- 280 x 34 x 60 mm.

ΔΔ : 150 g.



## ► Pipe wrenches



### Pipe wrenches

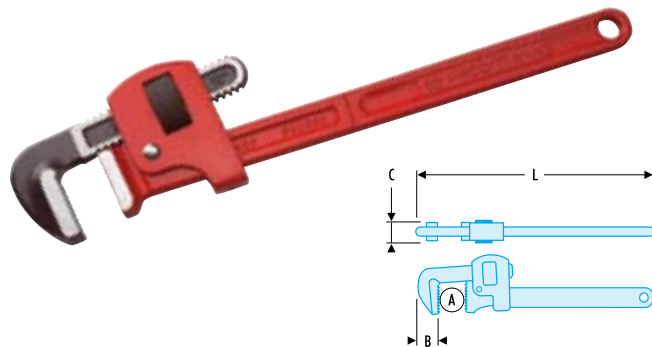
- A range of products geared to building maintenance as well as construction sites.
- Lightweight or special-jaw series to suit every application.



### 131A Steel Stillson models

- Capacity : 0 to 102 mm; 0 to 3 1/2".
- Very heavy duty tool with teeth hardened to 55 HRc.
- Precise adjustment from accurately machined worm gear. Sure handling.

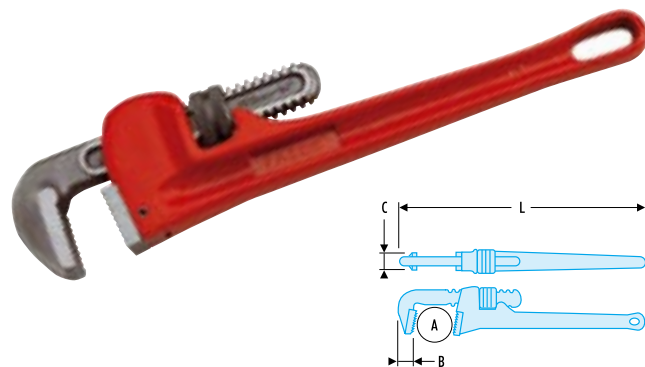
➤	A max		B	C	L		ΔΔ
	mm	"			mm	mm	
<b>131A.8</b>	27	3/4	19,5	12,5	200	8	0,28
<b>131A.10</b>	34	1	25,0	16,0	250	10	0,6
<b>131A.14</b>	49	1" 1/2	29,5	21,0	350	14	1,06
<b>131A.18</b>	60	2	32,0	24,0	450	18	1,8
<b>131A.24</b>	76	2" 1/2	41,5	27,5	600	24	3
<b>131A.36</b>	102	3" 1/2	49,5	30,5	900	36	6



### 134A Cast-iron American model pipe wrenches

- Capacity : 0 to 140 mm; 0 to 5".
- Cast-iron body.
- Interchangeable fixed jaw hardened to 55 HRc.
- Forged steel moving jaw.

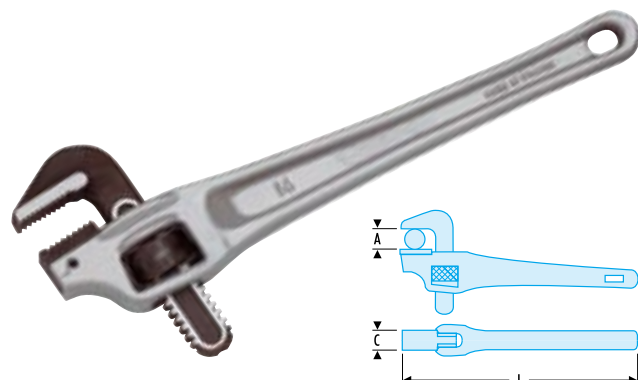
➤	A max		B	C	L		ΔΔ
	mm	"			mm	mm	
<b>134A.8</b>	35	1	15	14,5	200	8	0,4
<b>134A.10</b>	54	1" 1/2	20	17,5	250	10	0,78
<b>134A.14</b>	60	2	26	21,5	350	14	1,5
<b>134A.18</b>	76	2" 1/2	29	26,0	450	18	2,4
<b>134A.24</b>	102	3" 1/2	35	29,5	610	24	4
<b>134A.36</b>	140	5	35,5	43	920	36	9



### 135A Light alloy 90° offset American model pipe wrenches

- Capacity : 0 to 76 mm; 0 to 2 1/2".
- Light alloy body.
- Forged steel jaws hardened to 55 HRc.

➤	A max		C	L		ΔΔ
	mm	"		mm	mm	
<b>135A.14</b>	49	1" 1/2"	34	350	14	0,94
<b>135A.18</b>	60	2	39	450	39	1,48
<b>135A.24</b>	76	2" 1/2"	47	600	47	2,45



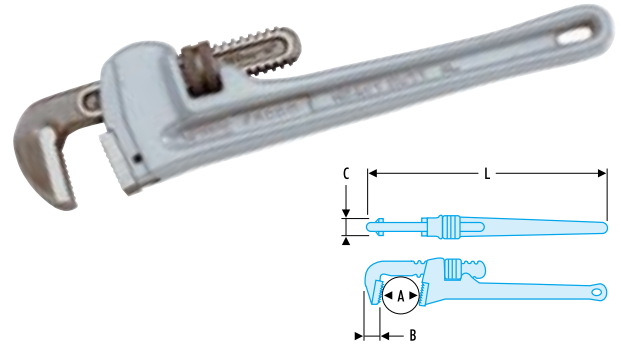


# 15 Pipework tools

## 133A Light alloy American model pipe wrenches

- Capacity : 0 to 140 mm; 0 to 5".
- Performance similar to models 134A.

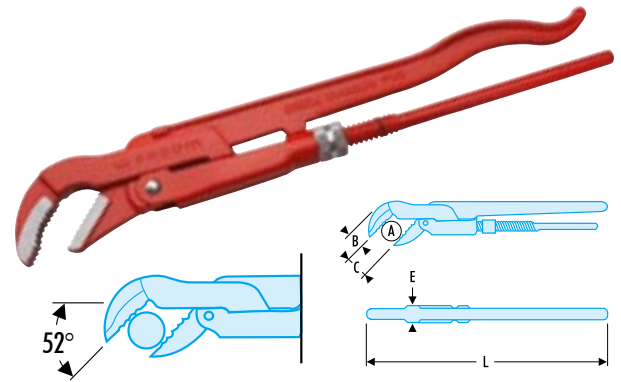
➤	A max		B	C	L	ΔΔ	
	mm	"					
<b>133A.14</b>	60	2	26	21,5	350	14	1
<b>133A.18</b>	76	2 1/2"	30	26,0	450	18	1,56
<b>133A.24</b>	90	3	34	29,5	600	24	2,46
<b>133A.36</b>	140	5	44	32,0	900	36	5,18



## 120A 45° Swedish model pipe wrenches

- ▷ DIN 5234.
- Capacity : 10 to 60 mm; 3/8" to 2".
- High-quality forged steel body.

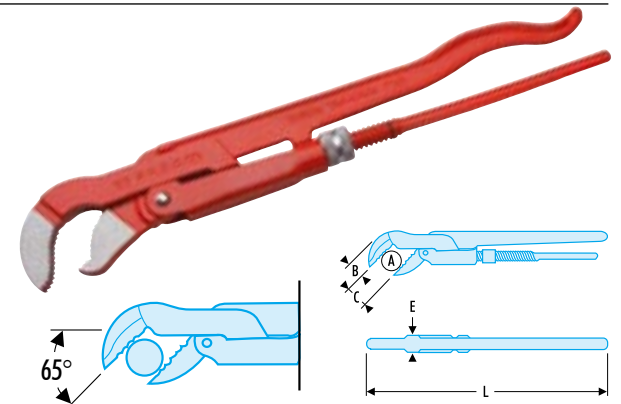
➤	A		C max	B	E	L	ΔΔ
	mm	"					
<b>120A.1/2</b>	21	1/2	29	16	8	240	0,42
<b>120A.1"</b>	34	1	45	19	10	320	0,84
<b>120A.1 1/2"</b>	49	1 1/2"	59	25	13	430	1,45
<b>120A.2"</b>	60	2	76	32	17	560	2,4



## 121A 45° Swedish model pipe wrenches - S-shaped jaw

- ▷ DIN 5234.
- Capacity : 10 to 60 mm; 3/8" to 2".
- High-quality forged steel body.
- Special jaw design grips pipe at three points.

➤	A		C max	B	E	L	ΔΔ
	mm	"					
<b>121A.1"</b>	34	1	48	22	14	345	0,85
<b>121A.1 1/2"</b>	49	1 1/2"	55	26	19	450	1,55
<b>121A.2"</b>	60	2	68	39	21	600	2,3



## ▶ Chain and strap wrenches

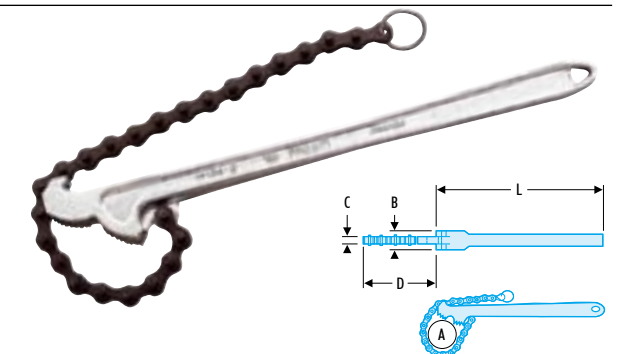
### 136A Dual-purpose models

- Capacity : 60 to 140 mm.
- Hardened steel chain and body.
- Twin set of serrations grip in both directions.

➤	A		D		B	C	L	ΔΔ
	mm	"	mm	"				
<b>136A.2</b>	60-114	2-4"	460	18,5	20	7	360	1,04
<b>136B.4</b>	90-140	3-5"	600	24	30	10	600	3,1

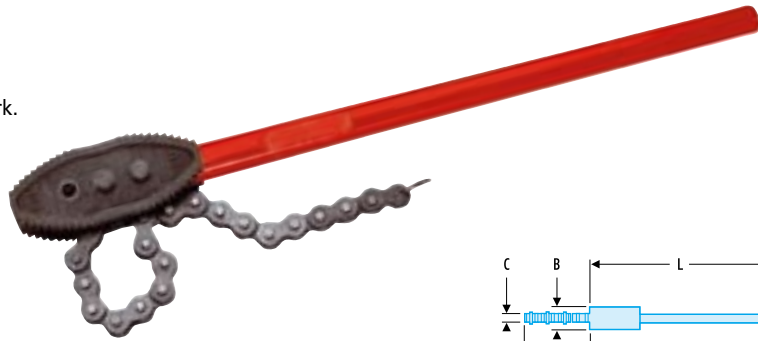
  

➤	Description
<b>136.D2</b>	Spare chain for wrench 136A.2
<b>136A.C4</b>	Spare chain for wrench 136B.4 and 136A.4



## 137A Heavy-duty models

- Capacity : 50 to 180 mm.
- Forged steel handle.
- Teeth hardened to 48 HRc.
- Plate treated against corrosion.
- Ratchet action in both directions for in-channel pipework.



	mm	A "	D "	B mm	C mm	L mm	$\Delta\Delta$ kg	
<b>137A.2'1/2</b>	50-90	2-39/16	415	16	55	20	550	4,5
<b>137A.4'</b>	60-130	23/8-51/8	560	24	60	20	910	8
<b>137A.6'</b>	80-180	33/16-71/8	690	27	80	32	1065	10,5

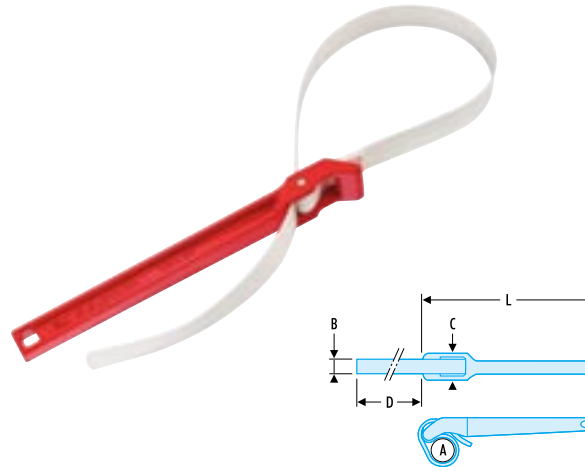
	Description
<b>137A.C2'1/2</b>	Spare chain for wrench 137A. 2'1/2
<b>137A.C4'</b>	Spare chain for heavy-duty wrench 137A.4'
<b>137A.C6'</b>	Spare chain for heavy-duty wrench 137A.6'

## 138A Nylon strap wrenches

- Capacity : 0 to 165 mm.
- Aluminium alloy body.
- Very strong nylon strap.

	A max mm	"	B mm	C mm	D mm	L mm	$\Delta\Delta$ g
<b>138A.17</b>	60	2	30	42	450	315	280
<b>138A.30</b>	125	4	30	42	750	315	290
<b>138A.48</b>	165	6	30	42	1500	315	310

	Description
<b>138.S17</b>	Spare strap for 138A.17
<b>138.S30</b>	Spare strap for 138A.30
<b>138.S48</b>	Spare strap

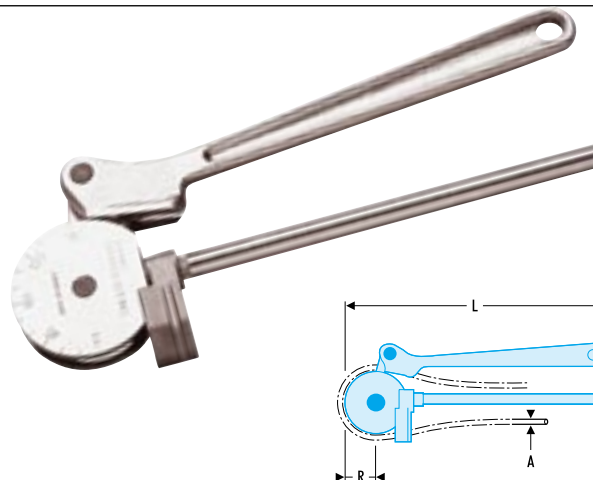


## ► Pipe benders

### 344A Pipe benders

- Capacity : 8 to 18 mm.
- For cold-drawn and annealed copper.
- Ideal for use on site without any other jig.
- Bend angle dial up to 180°.
- Fits inside a tool case.
- Forged and machined steel construction.

	R mm	A mm	A' "	L mm	$\Delta\Delta$ kg
<b>344A.8</b>	14	8	5/16	208	0,34
<b>344A.10</b>	23	10		245	0,7
<b>344A.12</b>	30	12		270	0,9
<b>344A.14</b>	42	14		352	1,8
<b>344A.15</b>	42	15		352	1,9
<b>344A.16</b>	54	16	5/8	380	2,64
<b>344A.18</b>	55	18		380	2,9



# 15 Pipework tools

## 244A.J Pipe bending kits

- Set of bending tools for steel, annealed copper and aluminium pipes.
- Capacity :  
- 244A.J1 : Pipes  $\varnothing$  5 mm (3/16"),  $\varnothing$  6 mm (1/4"),  $\varnothing$  8 mm (5/16") and  $\varnothing$  10 mm (3/8").  
244.J2 Pipes  $\varnothing$  6 mm (1/4"),  $\varnothing$  8 mm (5/16"),  $\varnothing$  10 mm (3/8"),  $\varnothing$  12 mm (1/2").
- Complete with mini-cutter 238A.16 in a steel case.
- Dimensions : 405 x 165 x 55 mm.

	mm	$\Delta\Delta$ kg
<b>244A.J1</b>	405 x 165 x 55	2,8
<b>244.J2</b>	405 x 165 x 55	3,2



## Mini bender

### 244

- Capacity : For thin-wall steel  $\varnothing$  4.75 to 8 mm.
- Annealed copper and aluminium  $\varnothing$  4.75 to 12 mm.
- Can produce templates.
- Designed to take various formers and guides.
- Dimensions : 155 x 100 x 20 mm.

$\Delta\Delta$  : 370 g.



## 244.A Former-and-guide assemblies

	Dimensions		$\Delta\Delta$ g
	"	mm	
<b>244.A5</b>	3/16	5	160
<b>244.A6</b>	1/4	6	200
<b>244.A8</b>	5/16	8	250
<b>244.A10</b>	3/8	10	310
<b>244.A12</b>	1/2	12	365



## Iron-pipe cutter

### Iron-pipe cutter

#### 338B.1

- Precision roller guides for right-angle cuts.
- Can take 3 cutting wheels for 1/3 turn cuts in confined spaces.
- Dimensions : 130 x 34 mm.
- Min. length 255 mm, max. 310 mm.
- Capacity : 10 to 42 mm, 1/8 to 1 1/8".

$\Delta\Delta$  : 1.48 kg.

- 338A.F5 : Set of 5 spare wheels.



## Stainless-pipe cutter

### 337A.2

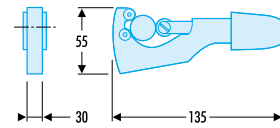
- Precision roller guides for right-angle cuts.
- Can take 3 cutting wheels for 1/3 turn cuts in confined spaces.
- Fitted with a wheel for cutting stainless steel pipes.
- Dimensions : 160 x 34 mm.
- Capacity : 21 to 60 mm, 1/2 to 2".
- Min. length 310 mm, max. 400 mm.
- ΔΔ : 2.7 kg.
- 337.F5 : Set of 5 spare wheels.



## "Precision" stainless-pipe cutter

### 334.32NX

- Comfortable fast-action adjuster.
- Effective pipe guide. 90° cut.
- Grooves for cutting tight against flanges.
- Retractable rotating reamer Ø 3.2 mm.
- Integral spare stainless steel wheel and guide.
- For pipework Ø 6 - 32 mm; 1/4 - 1 1/4".
- ΔΔ : 450 g.
- 334.M5 : Set of 5 spare wheels.

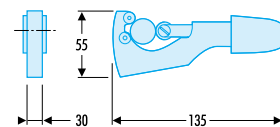


## ▶ Copper-pipe cutter

## "Precision" copper-pipe cutter

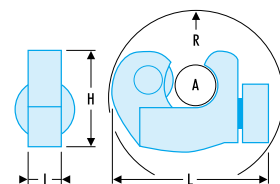
### 334.32

- Comfortable fast-action adjuster.
- Effective pipe guide. 90° cut.
- Grooves for cutting tight against flanges.
- Retractable rotating reamer Ø 3.2 mm.
- Integral spare wheel.
- For pipes Ø 6 - 32 mm; 1/4 - 1 1/4".
- ΔΔ : 450 g.
- 238A.M5 : Set of 5 spare wheels.



## 238 Copper-pipe mini cutter

- Very compact.
- Can be used in situ.
- Minimal working radius.
- : 238A.16, grey.
- Set of 5 spare wheels.
- : 238.16M5 for model 238A.16
- : 238A.M5 for model 238.28.
- : 238.M5 for old model 238.16.



	A	R	H	I	L	ΔΔ	
	mm	mm	mm	mm	mm	g	
<b>238B.16</b>	3-16	1/8-5/8	38	35	21	55	120
<b>238.28</b>	6-28	1/4-11/8	50	50	26	80	205





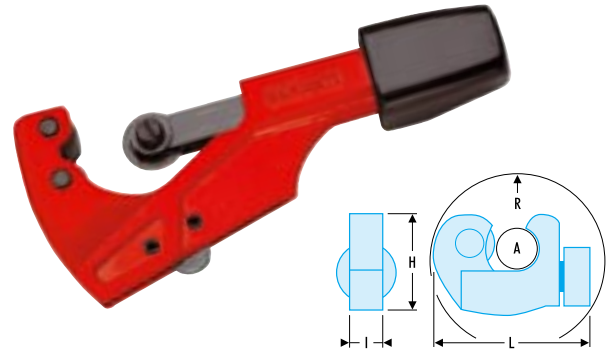
# 15 Pipework tools

## Copper-pipe cutter with reamer

### 238A.32

- Capacity : 3 to 32 mm ; 1/8 to 1 1/4".
- Precision pipe guide.
- Spare wheel in adjuster.
- Integral retractable reamer.
- 238A.M5 : Set of 5 spare wheels.

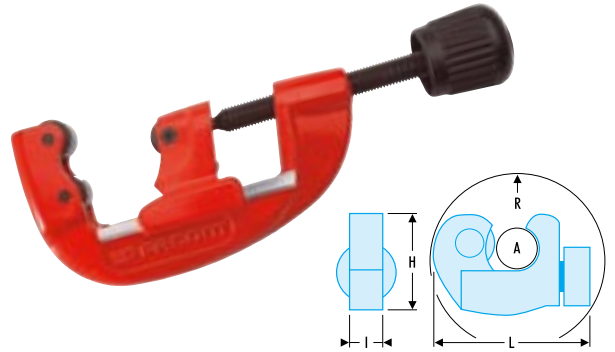
	mm	A "	R mm	H mm	I mm	L mm	ΔΔ g
<b>238A.32</b>	3 - 32	1/8 - 1 1/4	110	70	30	140	310



## 336 Slide-type pipe cutter

- Reamer within metal adjuster.
- 238A.M5 : Set of 5 spare wheels.

	mm	A "	L mm min	H mm	I mm	max maxi	ΔΔ g
<b>336.28</b>	6-28	1/4-1 1/8	134	53	37	165	320
<b>336.60</b>	14-60	9/16-2 3/8	195	85	37	245	604



## Pipe vices



Go to the vice section p.

618

## Plastic-pipe cutter

### 335 Plastic-pipe cutter

335.40 Ratchet-type pipe cutters.

- Cuts cables up to Ø 12 mm : 4 x 2.5 mm<sup>2</sup> max. ; 4 x 3/32 s. inch.
- Fast, burr-free cutting.
- Automatic jaw release.
- Non-return ratchet mechanism.
- Quick pre-setting for smaller diameters.
- Chamfering tool within handle.
- Suitable for cutting electric cables.

335.63 Large capacity ratchet-type PVC pipe cutter.

- Ratchet system for effortless cutting.
- Blade returns to rest position when handles are open.

335.25 Plastic-pipe cutter.

- For Ø 24 mm plastic pipes.
- Patented "V"-shaped blade for a perfect cut on even the thinnest pipes.
- Strong, durable stainless steel blade.
- Can cut flexible multi-strand cables up to 5 x 2.5 mm<sup>2</sup>.

	A max mm	"	L mm	ΔΔ kg
<b>335.25</b>	25	1	195	0,165
<b>335.40</b>	42	1 1/2	230	0,6
<b>335.63</b>	63	2 1/2	430	1,1



335.40



335.63



335.25

## ► Deburring - Chamfering










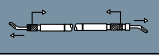

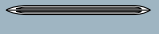

### Deburring/chamfering set

#### 325

- Set of deburring/chamfering tools for steel, aluminium, copper, brass or plastic pipes.
- Effective length of blade-holder 110 mm.
- Case 200 x 110 x 40 mm.



### Kit contents

	<b>325.L35J10</b> Heavy-duty HSS blade for steel and aluminium. Length : 47 mm; Ø 3.2 mm.		<b>325.01</b> Short-blade monobloc deburrer for steel and aluminium.
	<b>325.L20J10</b> Heavy-duty HSS blade for cast iron and brass. Left and right-hand operation. Length : 47 mm; Ø 3.2 mm.		<b>325.04.01</b> Extension for cone bits.
	<b>325.L30J10</b> Heavy-duty HSS blade for outside and inside deburring, in particular of drilled holes. Length : 47 mm; Ø 3.2 mm.		<b>325.F12</b> Tapered bit Ø 12 mm - M7 thread.
	<b>325.L10J10</b> Fine HSS blade for steel and aluminium. Length : 47 mm; Ø 3.5 mm.		<b>325.F20</b> Tapered bit Ø 20 mm - M7 thread.
	<b>325.L1J10</b> HSS blade for steel and aluminium. Length : 23 mm; Ø 2.6 mm.		<b>325.03</b> Extension for blades Ø 2.6 and 3.2 mm.
	<b>325.L2J10</b> HSS blade for cast iron and brass. Left and right-hand operation. Length : 23 mm; Ø 2.6 mm.		<b>325.05</b> Reversible triangular scraper.
			<b>325.02</b> Tool-holder handle for 325.04.01, 325.03, 325.05.

## ► Flanging tools

### Flange press set for S.A.E, DIN, S.A.E./DIN fittings

#### 347

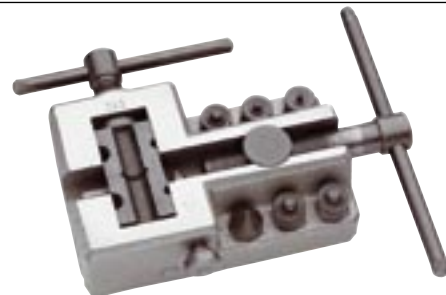
- For copper and steel pipework Ø 4.75 to 12 mm; 3/16" to 1/2".
- Wall thickness : 0.7 to 1 mm.
- Press can be secured in a vice for increased stability.
- Fast and effortless forming.
- Kit includes 11 punches and 10 dies.
- Instructions explain selection according to flange type.
- Steel case : 396 x 224 x 82 mm.
- ΔΔ : 7.9 kg.



### Flange press

#### 243

- ▷ DIN 74234.
- For seamless and rolled pipes Ø 4.75-6-8-9-10 mm; wall thickness 0.7 to 1 mm.
- Can be secured in a vice.
- Dimensions : 170 x 130 x 55 mm.
- ΔΔ : 2.58 kg.



# 15 Pipework tools

## "Refrigeration" flaring tool, metric dies 6 to 14 mm

### 239

- For pipework  $\varnothing$  6 to 14 mm.
- Produces 45° flares in copper pipes without the need for annealing.
- BT.115 : 332 x 143 x 67 mm.
- $\Delta\Delta$  : 1.52 kg.
- 239.MU : Inch dies : For pipework  $\varnothing$  3/16" to 5/8".

	Description
239	Metric die 6mm - 14mm
239.MU	Inch die 3/16" - 5/8"



## "Refrigeration" metric set

### 240.M

- Yoke and die for pipework  $\varnothing$  6-8-10-12-14 mm.
- 238A.32 Pipe cutter.
- Supplied in a plastic case.
- BP.115 : 332 x 143 x 67 mm.
- $\Delta\Delta$  : 1.82 kg.



## "Refrigeration" metric/inch set

### 242

- Yoke.
- Die for pipework  $\varnothing$  6-8-10-12-14 mm.
- Die for pipework  $\varnothing$  3/16"-1/4"-5/16"-3/8"-7/16"-1/2"-5/8".
- 238A.32 Pipe cutter.
- Complete with a plastic case 350 x 125 x 40 mm.
- $\Delta\Delta$  : 2.4 kg.



## Press and mini-bender set

### 243.244J1

- For flanging and bending copper, aluminium, and mild-steel pipework, wall thickness 0.7 to 1 mm.
- Suitable for pipework  $\varnothing$  4.75 - 6 - 8 - 9 - 10 mm.
- Comprising :
- Flange press ref. 243.
- Mini bender 244 and bending formers.
- Pipe cutter 238A.16
- Complete with steel case 405 x 165 x 55 mm.
- $\Delta\Delta$  : 5.4 kg.



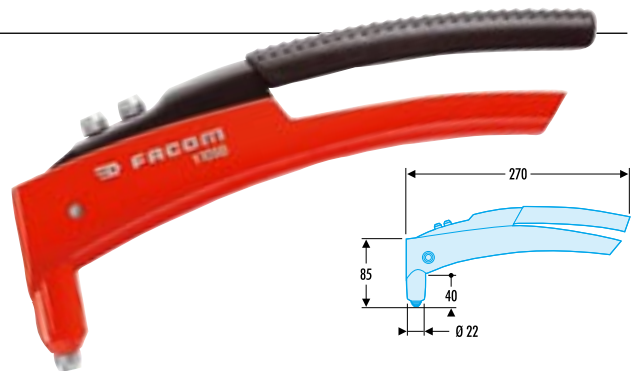
## Riveting

### ► Hand riveters

#### Riveter

### Y.105B

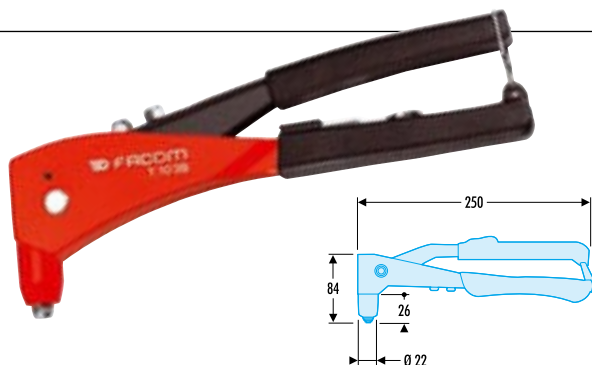
- Capacity :  $\varnothing$  5 mm aluminium rivets and  $\varnothing$  4 mm steel rivets.
- Grips shaped for optimum comfort.
- Return-spring to closed position prevents loss of rivet.
- Cushioning system when pin snaps.
- Supplied with 3 nosepieces  $\varnothing$  3 to 3.2 mm - 4 mm - 4.8 to 5 mm.
- Knurled nosepieces for hand-fitting.
- $\Delta\Delta$  : 632 g.



## Riveter

### Y.103B

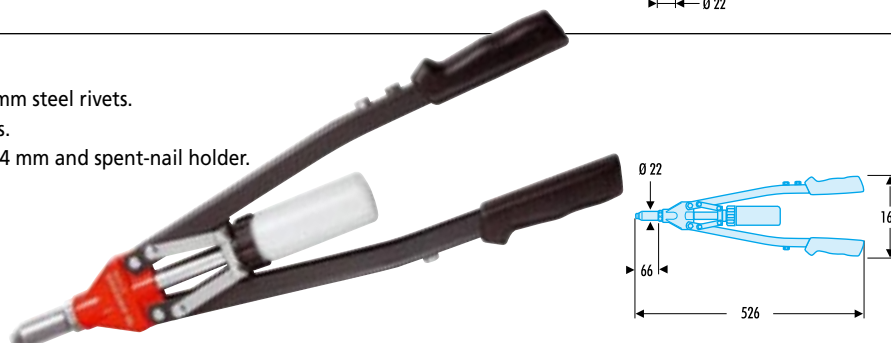
- Capacity :
    - Aluminium rivets 3, 3.2, 4, 4.8 and 5 mm diameter.
    - Steel rivets 3, 3.2 and 4 mm diameter.
  - Spring-loaded to open position.
  - 3 nosepieces with keys for  $\varnothing$  3 to 3.2 mm - 4 mm - 4.8 mm to 5 mm.
- $\Delta\Delta$  : 595 g.



## Two-handed riveter

### Y.116

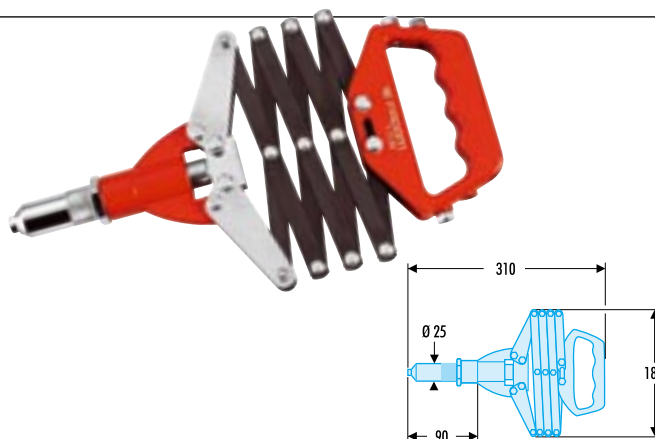
- Capacity :  $\varnothing$  6.4 mm aluminium rivets, 6 mm steel rivets.
  - Absorbers cushion impact when pin snaps.
  - Supplied with 4 nosepieces  $\varnothing$  4 - 5 - 6 - 6.4 mm and spent-nail holder.
- $\Delta\Delta$  : 1.9 kg.



## Extender

### Y.113

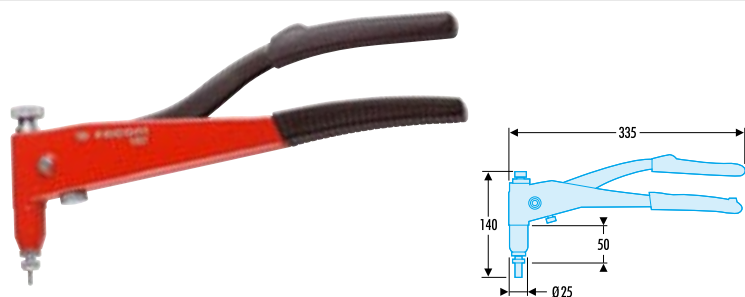
- Capacity :  $\varnothing$  6.4 mm aluminium rivets and  $\varnothing$  5 mm steel rivets.
  - Suitable for intensive use especially on building sites.
  - Supplied with 5 nosepieces  $\varnothing$  3 to 3.2 mm - 4 mm - 4.8 to 5 mm - 6 mm - 6.4 mm.
- $\Delta\Delta$  : 2.15 kg.



## Blind-nut riveter

### Y.107

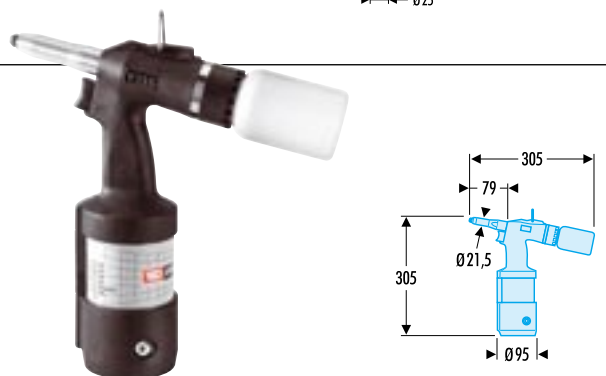
- Capacity : M6 steel nuts and M5 stainless nuts.
  - Supplied with 3 chucks M4 - M5 - M6.
  - Single or two-handed use.
  - Complete with accessories.
- $\Delta\Delta$  : 1.17 kg.



## Suction riveter

### Y.135

- Capacity :  $\varnothing$  5 mm in any material.
  - Traction travel 17 mm.
  - Force 1,100N.
  - Adjustable pin-suction.
  - Spent-nail holder.
  - Swivel air-connection fits under or to the side of the gun.
  - Supplied with nozzles for 2 - 3 - 4 and 5 mm diameter rivets.
- $\Delta\Delta$  : 2.47 kg.





## ► Riveting kits

### Maintenance kit for multi-thickness aluminium rivets

#### Y.RIV1

- Y.105B Riveter.
  - Selection of rivets  $\varnothing$  4 to 4.8 mm with standard head, 4.8 mm with wide head, in popular sizes for joint thickness 1.3 to 13 mm (approx. 450 rivets).
  - Partitioned case with contents list.
  - Case 360 x 300 x 60 mm.
- $\Delta\Delta$  : 2.7 kg.

### Maintenance kit for aluminium and black rivets

#### Y.RIV2

- Y.105B Riveter.
  - Selection of aluminium rivets with standard head 4 x 8 - 4 x 10 - 4.8 x 8 - 4.8 x 10, and black aluminium rivets with standard head 4 x 8 - 4 x 10 (approx. 600 rivets).
  - Case 360 x 300 x 60 mm.
- $\Delta\Delta$  : 2.43 kg.

### Maintenance kit for aluminium rivets

#### Y.RIV3

- Y.105B Riveter.
  - Selection of aluminium rivets with standard head 4 x 8 - 4 x 10 - 4.8 x 8 - 4.8 x 10, and with wide head 4 x 8 - 4 x 10 (approx. 600 rivets).
  - Case 360 x 300 x 60 mm.
- $\Delta\Delta$  : 2.35 kg.

### Blind-nut kit

#### Y.M46

- Comprising :
    - Y.107 Blind-nut riveter.
    - Selection of steel nuts M4 - M5 - M6 in popular sizes for joint thicknesses 0.3 to 3 mm (approx. 100 nuts).
  - Partitioned case with contents list and instructions : 360 x 300 x 60 mm.
- $\Delta\Delta$  : 2.5 kg.

### Riveting module

#### MOD.Y105PB

- Y.105B Riveter.
  - 600 aluminium rivets :
    - Standard head : 4x8 - 4x10 - 4.8x8 - 4.8x10.
    - Black standard head : 4x8 - 4x10.
  - Tray PL.377.
- $\Delta\Delta$  : 1.984 kg.

## Lubrication

### Manual oil syringe

#### 376A

- Capacity : 500 cm<sup>3</sup>.
  - Galvanized steel body.
  - Supplied with : 376A.1 Angled delivery tube.
  - Length 420 mm.
- $\Delta\Delta$  : 830 g.



## Lever-operated grease gun

### 378A

▷ DIN 1284 - Grease cartridge.

- Pressure 400 bars. Air bleed facility.
  - For use with cartridges or bulk grease.
  - Capacity 500 cm<sup>3</sup> or 400 g of grease.
  - Hose to DIN 1283 (static and bursting pressure).
  - Hose constructed of rubber approved to DIN 20024.
  - Hose diameter = 13.1 mm.
  - Hose bending radius = 90 mm.
  - Length : 370 mm excluding hose.
- ΔΔ : 1.356 kg.



## Compact grease gun

### 377A

▷ DIN 1282

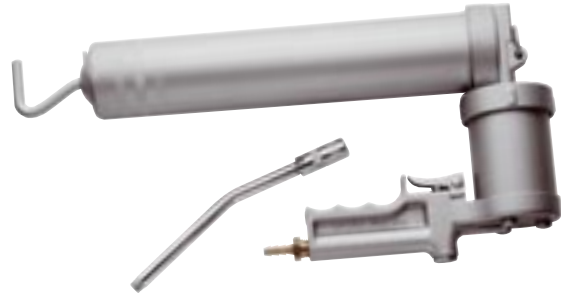
- Nickel finish steel body.
  - Supplied with 1 lube coupler and 1 hydraulic coupler.
  - Capacity 150 cm<sup>3</sup>.
  - Pressure 200 bar.
  - Length : 345 mm Ø 43 mm.
- ΔΔ : 410 g.



## Air-operated grease gun

### 379A

- Aluminium body. Capacity 500 cm<sup>3</sup>, i.e. 400g of grease. 1 cm<sup>3</sup> per stroke.
  - Air pressure 2 to 8 bar (6 bar recommended).
  - Supply hose Ø 8 mm.
  - Cartridge fill or from bulk grease.
  - Length : 179 mm. Height : 380 mm.
  - Complete with angled delivery tube fitted with coupler.
- ΔΔ : 1.7 kg.



## Set of grease fittings

### 380

- Selection of delivery tubes and hoses, with couplers for all common types of grease nipple.
  - Suitable for models 378A and 379A.
  - Case 310 x 110 x 55 mm.
- ΔΔ : 425 g.



## 373 Single-action oil cans

- Pumped delivery. rigid steel body.
- 373.F35 has flexible spout.

⇒	Capacity cm <sup>3</sup>	Tips length mm	Ø mm	ΔΔ g
<b>373.25</b>	250	130	73	210
<b>373.35</b>	350	130	84	236
<b>373.50</b>	500	130	84	277
<b>373.F35</b>	350	130	84	240



## Double-action oil can

### 374A.20

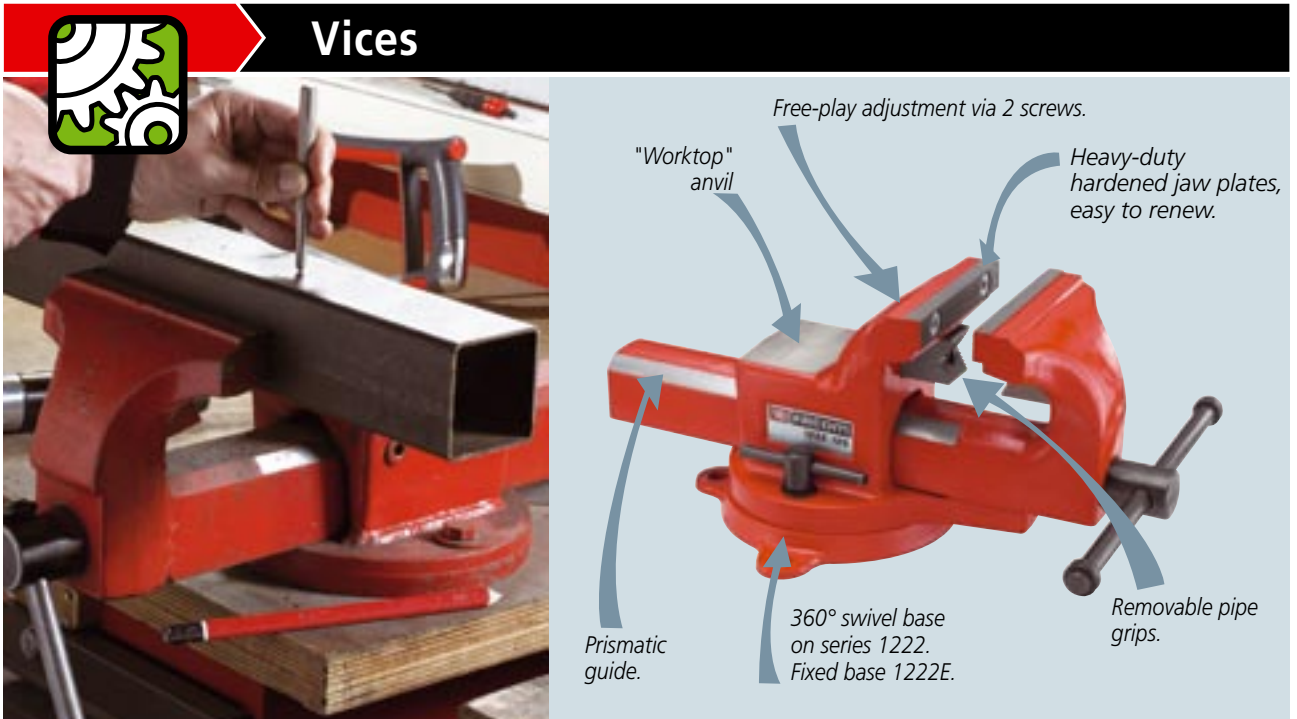
- Double-acting pump.
- Useable in any position. Dispenses drop-by-drop.
- Capacity : 200 ml.
- Impact-resistant zinc body.

⇒	Height mm	Width mm	Depth mm	ΔΔ g
<b>374A.20</b>	271	117	61	442



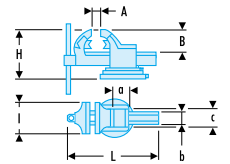
# 15 Vices and clamps

## Vices



### 1222 Engineers vices with 360° swivel base

- Spherical graphite cast-iron vices, minimum failure load 700 N/mm<sup>2</sup>.
- Large prismatic guide/moving jaw support base prevents the guide from bending, vice operation maintained even under heavy loads.
- Interchangeable parallel jaw plates. High wear resistance, hardness 48/53 HRC.
- Removable V-shaped jaws for clamping pipes. Hardness 40/46 HRC.
- Take-up of wear by means of 2 adjustment screws.
- Burnished operating handle.

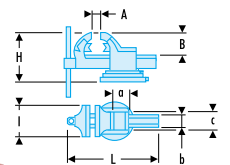


Model	l mm	A max mm	L mm	B mm	a x b mm	c mm	H mm	Max capacity/ tube	ΔΔ kg
1222.100	100	125	325	66	48x68	41,5	140	3/4"	7,24
1222.125	125	150	402	82	60x84	51,5	172	2.1/2"	13,80
1222.150	150	200	492	99	70x96	58,5	201	3"	21,85
1222.175	175	235	551	118	80x110	67,5	237	4"	33,35



### 1222.E Engineers vices with fixed base

- Similar to model 1222 but without swivel base.



Model	H mm	ΔΔ kg
1222.100E	122	6,30
1222.125E	153	12,70
1222.150E	182	20,45
1222.175E	211	30,70



# Vices and clamps

## 1223 Fitters swivel-base vices

- Interchangeable jaw plates.
- Free-play compensation.
- All steel construction.

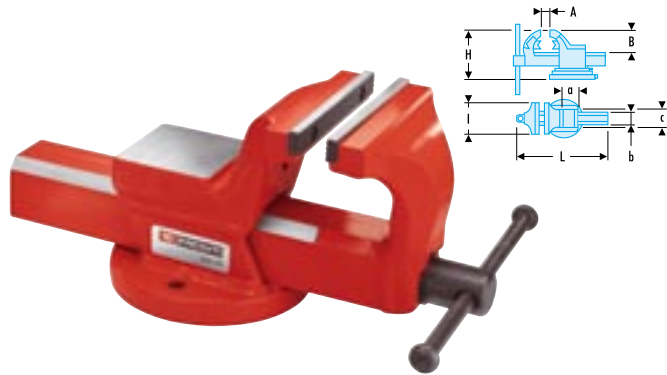
⇒	I mm	A max mm	L mm	B mm	H mm	a x b mm	c mm	ΔΔ kg
<b>1223.90</b>	90	125	300	72	153	55 x 61	45	8
<b>1223.105</b>	105	130	300	72	153	57 x 62	45	8,5
<b>1223.125</b>	125	150	350	90	180	70 x 70	50	12,7
<b>1223.150</b>	150	210	460	107	210	85 x 85	56	21,5



## 1223.E Fitters fixed vices

- Similar to model 1223 but without swivel base.

⇒	H mm	ΔΔ kg
<b>1223.90E</b>	130	6,5
<b>1223.105E</b>	130	7
<b>1223.125E</b>	152	10,5
<b>1223.150E</b>	182	18,7



## 1223.M Vice clamp sets

- To fit vices 1222 and 1223.
- Magnetically secured to vice.
- Material :  
1223.M1 - 1223.M2 : Aluminium prism-face.  
1223.M3 - 1223.M4 : Fibre-face.  
1223.M5 - 1223.M6 : Rubber-face.  
1223.M7 - 1223.M8 : Plastic-face.

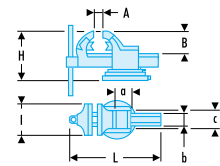
⇒	L mm	ΔΔ g
<b>1223.M1</b>	125	200
<b>1223.M2</b>	150	240
<b>1223.M3</b>	125	200
<b>1223.M4</b>	150	240
<b>1223.M5</b>	125	200
<b>1223.M6</b>	150	240
<b>1223.M7</b>	125	70
<b>1223.M8</b>	150	85

M1 - M2

M3 - M4

M7 - M8

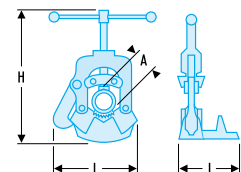
M5 - M6



## 283 Pipe vices

- Base, frame, lock and slide in ductile cast-iron.
- Semi-hard drawn steel screw with square thread.
- Special hardened steel jaw inserts.

⇒	A mín. - máx. mm		L mm	H mm	I mm	ΔΔ kg
<b>283.2</b>	10	60	185	205	130	3,5
<b>283.3</b>	13	90	240	265	150	5,9



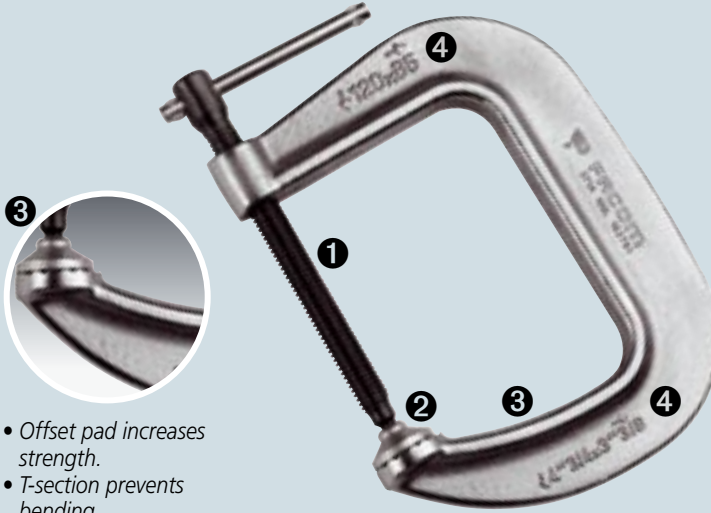


## G-clamps



### G-clamps

The features shown are designed for intensive use.



- Offset pad increases strength.
- T-section prevents bending.



- Double-threaded screw - Strength.
- Speed of opening.



- Zinc-plated swivel shoe.



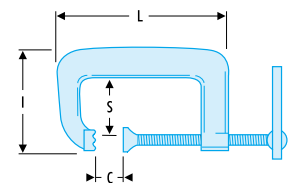
- Throat clearances marked in millimetres and inches.



### 271A Compact G-clamp

- Capacity : 0 to 250 mm and 0 to 97/8".
- Zinc finish, burnished screw.

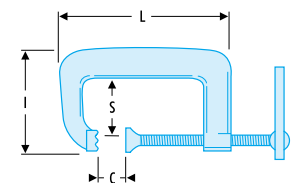
➤	C max mm	S mm	I mm	L mm	ΔΔ kg
271A.40	40	42	75	100	0,3
271A.60	60	57	98	130	0,51
271A.80	80	67	115	167	0,81
271A.100	100	77	131	192	1,17
271A.120	120	88	148	223	1,68
271A.150	150	98	162	262	1,98
271A.200	200	108	185	320	3,24
271A.250	250	118	202	380	3,95



### 271A.L Deep-throat G-clamp

- Capacity : 0 to 150 mm and 0 to 57/8".
- Zinc finish, burnished screw.

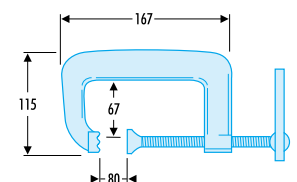
➤	C max mm	S mm	I mm	L mm	ΔΔ kg
271A.80L	80	88	147	186	1,37
271A.100L	100	103	169	212	1,83
271A.120L	120	113	186	244	2,66
271A.150L	150	133	213	288	3,32



### Arc-welding G-clamp

#### 271A.80S

- Capacity : 0 to 80 mm and 0 to 3 1/8".
- Copper-plated screw and brass bolt for earth connection.
- Zinc finish.
- ΔΔ : 920 g.

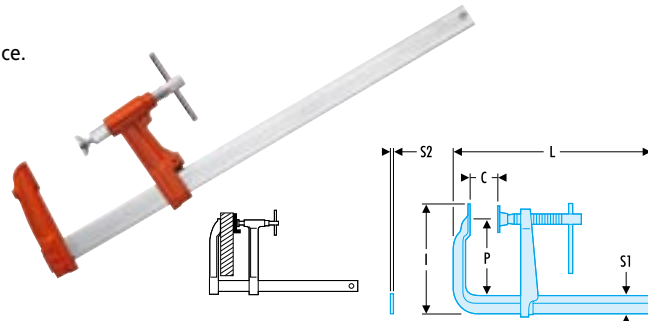


## ► Bar clamps

### 272A Pump-action bar clamp

- Capacity : 0 to 1,500 mm.
- Pump allows precision clamping without rotation.
- Hardened bar with edge notches for positive lock. Ball-joint swivel face.
- Paint finish, zinc-plated bar.

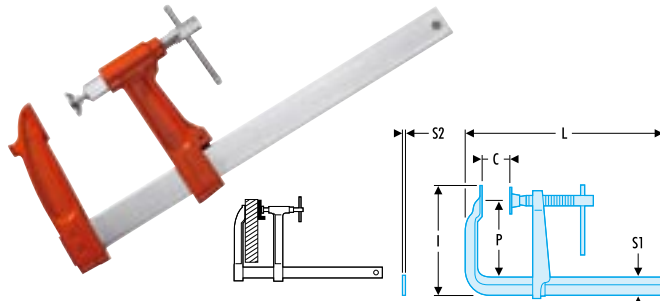
⇒	C max mm	S1 x S2 mm	P mm	I mm	L mm	ΔΔ kg
<b>272A.300</b>	300	30 x 8	80	150	370	1,7
<b>272A.400</b>	400	30 x 8	80	150	470	1,9
<b>272A.500</b>	500	30 x 8	80	150	600	2,1
<b>272A.600</b>	600	35 x 9	100	180	680	2,9
<b>272A.800</b>	800	35 x 9	100	180	880	3,37
<b>272A.1000</b>	1000	35 x 9	100	180	1100	3,84
<b>272A.1200</b>	1200	35 x 9	100	180	1300	4,31
<b>272A.1500</b>	1500	35 x 9	100	180	1600	5



### 272L Deep-throat pump-action bar clamp

- Capacity : 0 to 1,000 mm.
- Throat depth : 150 mm.
- Similar to model 272A but with extended slide and top jaw for wider clamping requirements.

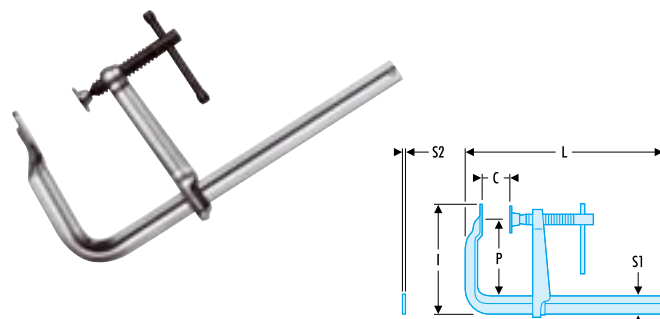
⇒	C max mm	S1 x S2 mm	P mm	I mm	L mm	ΔΔ kg
<b>272.300L</b>	300	40 x 9	150	215	440	3
<b>272.400L</b>	400	40 x 9	150	215	540	3,3
<b>272.600L</b>	600	40 x 9	150	215	740	3,9
<b>272.1000L</b>	1000	40 x 9	150	215	1140	5,1



### 274 Screw-type 6,500 N bar clamps

- Capacity : 0 to 500 mm.
- Clamping force up to 6,500 N.
- Shaped hardened bar, forged top jaw and slide, square-thread screw for powerful clamping.
- 30° swivel face.
- Galvanized finish.

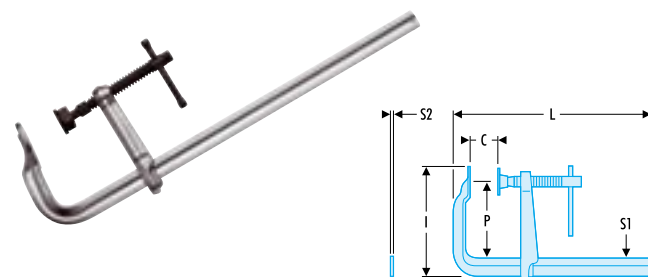
⇒	C max mm	S1 x S2 mm	P mm	I mm	L mm	ΔΔ kg
<b>274.200</b>	200	19,5 x 9,5	100	150	250	0,72
<b>274.300</b>	300	25 x 12	140	190	360	1,6
<b>274.400</b>	400	25 x 12	120	170	460	1,65
<b>274.500</b>	500	25 x 12	120	170	560	2



### 275 Screw-type 12,000 N bar clamps

- Capacity : 0 to 1,000 mm.
- Clamping force up to 12,000 N.
- Wide-section bar and screw for powerful clamping up to 1.2 tonnes between top jaw and slide.
- 35° swivel face.
- Galvanized finish.

⇒	C max mm	S1 x S2 mm	P mm	I mm	L mm	ΔΔ kg
<b>275.300</b>	300	30 x 15	140	180	350	2,8
<b>275.500</b>	500	30 x 15	120	180	560	3
<b>275.800</b>	800	30 x 15	120	180	880	4,2
<b>275.1000</b>	1000	30 x 15	120	180	1100	4,8







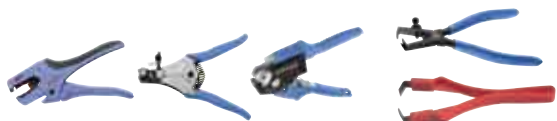
# 16. Electricity

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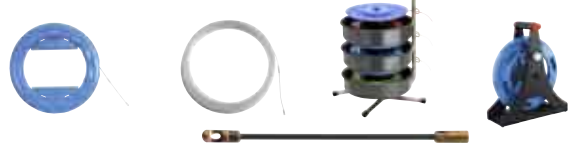
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Section 17 soldering




# 16 Cable sheath strippers

## ▶ Pivoting blade sheath strippers

▶ Pivoting blade sheath stripper



- Extended hook for easy cable placing.
- Ergonomic "low effort" push-button.
- Easy, handy thumbwheel adjustment.
- Rounded handle for a perfect grip.



### Sheath strippers

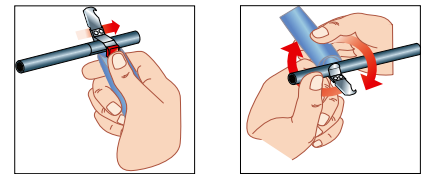
- Ergonomic "low-effort" push-button.
- Spare blade included in the body.
- Easily accessible thumbwheel adjustment.
- Self-pivoting blade.
- 985955 straight blade.
- 985956 hooked blade.

Capacity	∆∆	
∅ mm	g	
985951	16	65
985952	28	65
985953	35	65
985954	50	65
985955	28 LD	75
985956	28 LC	75



985951 - 985952 - 985953 - 985954 - 985955 - 985956

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## ▶ Straight/helical sheath strippers

### Rotary sheath and insulation stripping tool

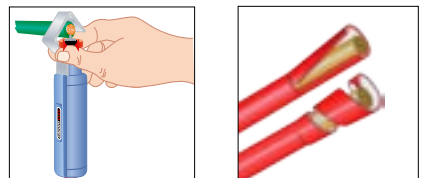
#### 985957

- Perfect for stripping long lengths.
- 2 stripping options :
  - Straight-line stripping.
  - Helical stripping by simply rotating the head.
- Capacity : 4.5 to 29 mm - L : 137 mm.

Capacity	L	∆∆	
∅ mm	mm	g	
985957	4,5 à 29	137	97

985957 - 985958

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# Cable sheath strippers

## ► Multi-function sheath strippers

### Multi-function sheath stripper

#### 985962

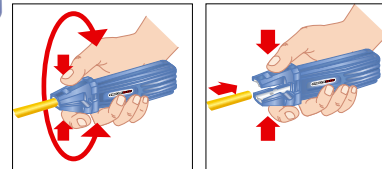
- A tool to strip sheathing and insulation without pre-setting.
- Also suitable for stripping coaxial cables.
- Suitable for stripping cables at the bottom of recessed electrical back-boxes.

Strips sheaths  $\varnothing$  4 ▶ 13 mm.

Strips wires  $\varnothing$  0.5 ▶ 16 mm.

Coaxial cables 4 ▶ 8 mm.

	∅ sheath stripping mm	∅ wire stripping mm	∅ coaxial cables mm	ΔΔ g
<b>985962</b>	4 bis 13	0,5 bis 16	4 bis 8	90



### Sheath and insulation stripper for coaxial and twisted-pair cables

#### 985936

- A tool for easily stripping sheathing and insulation on coaxial, twisted pair (UTP and STP) and fibre optic cables.

	∅ mm	ΔΔ g
<b>985936</b>	11	35



## ► Coaxial cable sheath strippers

### Coaxial cable sheath and insulation stripper

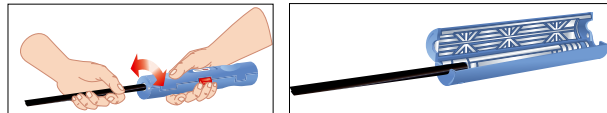
#### 985964

- 2 sides :

A : Sheath stripping.

B : Wire stripping.

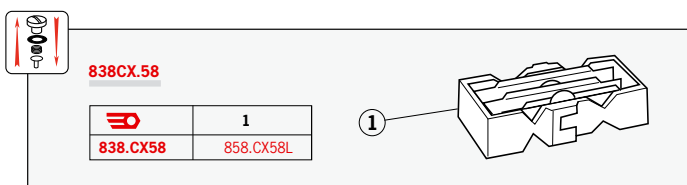
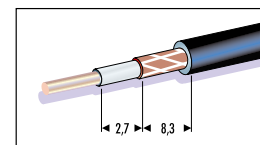
	∅ mm	ΔΔ g
<b>985964</b>	4,8 → 7,5	26



### Model RG.58, RG.59 and RG.62 for coaxial cables

#### 838.CX58

- Preset for stripping coaxial cables in one operation.
- Allows direct fitting of BNC connectors used on computer, video and radio-telephone equipment.
- Compact design and permanent setting (requires tool for adjustment).
- Set of reversible blades for double service life, complete with gauge.



# 16 Standard wire strippers

## ▶ Automatic wire strippers

▶ **Automatic wire stripper**



Swingo

THE ALL-PURPOSE STRIPPER!

One tool for cutting and stripping wires from 0.02 to 10 mm<sup>2</sup>.

- Adjustable stripping depth.
- Soft grips.
- Jaw force adjustment according to temperature conditions : indoors or outdoors working, hard or soft insulation.
- Mechanism designed for smooth, effortless wire stripping.
- Very easy blade change.




Tested to  
150,000  
cycles

New

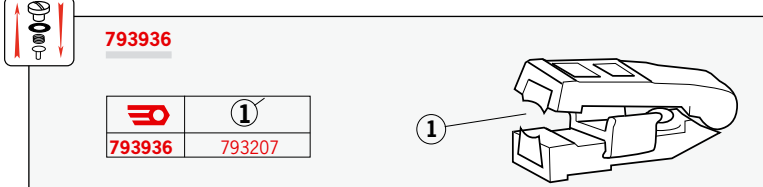
**Swingo**

793936

- Glass-filled nylon body.
- Integral wire cutter :
  - 1.5 mm<sup>2</sup> single-core wire.
  - 10 mm<sup>2</sup> multi-core wire.
- Stripping length setting 3 to 18 mm.
- Stripping capacity 0.02 to 10 mm<sup>2</sup>.

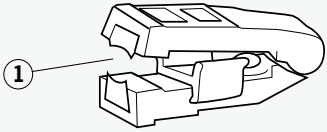


🔪	Capacity mm <sup>2</sup>	Cut	AWG	mm	Coupe multi	ΔΔ g
793936	0,02 → 10 mm <sup>2</sup>	1,5 mm <sup>2</sup>	32 - 8	3 → 18	10 mm <sup>2</sup>	136



793936

	①
793936	793207



## ▶ Small cross-section wire strippers

### Small cross-section wire strippers

- These tools are suitable for stripping small cross-section PVC and Teflon-coated wires.

🔪	∅ mm	AWG	ΔΔ g
986103	0,12 - 0,16 - 0,20 - 0,25 - 0,30 - 0,40	36 - 34 - 32 - 30 - 28 - 26	15
986104	0,25 - 0,30 - 0,40 - 0,50 - 0,60 - 0,80	30 - 28 - 26 - 24 - 22 - 20	15
986105	0,30 - 0,40 - 0,50 - 0,60 - 0,80 - 1,00	28 - 26 - 24 - 22 - 20 - 18	15






# Standard wire strippers

## ▶ Automatic side-entry wire strippers


### Automatic side-entry wire strippers

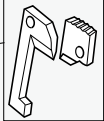
- High precision stripping, one diameter for each conductor.

	 mm <sup>2</sup>	Notch Ø mm	ΔΔ g
<b>986058</b>	1,5 → 4	0,6 - 0,8 - 1 - 1,2 - 1,6 - 2 - 2,5	370
<b>986059</b>	2,4 → 10	2 - 2,4 - 3,1 - 4	370



**986058 - 986059**

	①
<b>986058</b>	175.E
<b>986059</b>	175.T

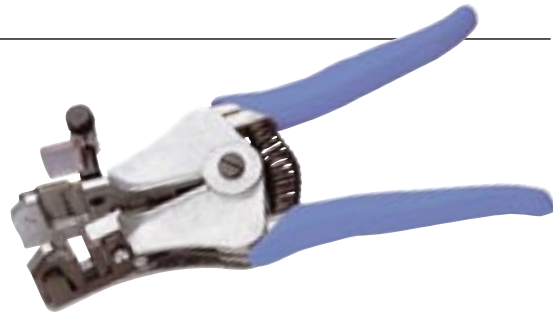




### High-precision Teflon insulation strippers

#### 165.1

- High degree of accuracy gives a clean circular cut without damaging the core. Inset jaws are designed to protect insulation from score marks.
- AWG : 26-24-22-20-18-16.
- Notch Ø : 0.55 - 0.65 - 0.82 - 1.05 - 1.30 - 1.55 mm.
- 165.U : Spare blades.







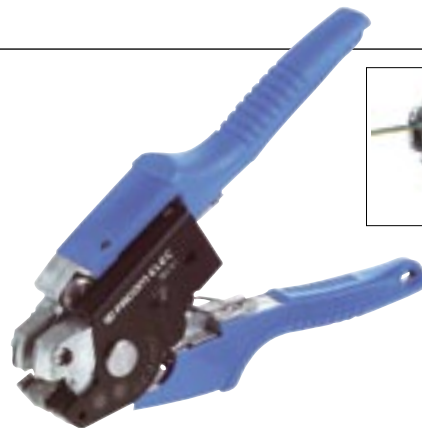
## ▶ Automatic cutting strippers

### Automatic cutting stripper

#### 985761

- Suitable for single or multi-core cables, self-setting to wire gauge.
- Stripped-length thumbwheel adjustment.
- Spare blades 162-L1.
- Cuts and strips in one go.





	 mm <sup>2</sup>	AWG	 mm	 mm	L mm	ΔΔ g
<b>985761</b>	0,4 → 4	21 - 11	0,7 → 2,3	4 → 17	160	340




### Dual automatic cutting stripper


#### 985762

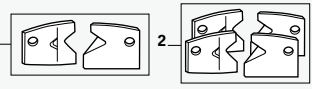
- Cuts and strips wire both sides for faster wiring.
- Wire is automatically pre-stripped to the correct length.
- Spare blades 162-2L1.

	 mm <sup>2</sup>	AWG	 mm	 mm	L mm	ΔΔ g
<b>985762</b>	0,4 → 4	21 → 11	21 → 11	0,7 → 2,3	160	430



**985761 - 985762**

	①	②
<b>985761</b>	162.L1	
<b>985762</b>		162.2L1







## Wire strippers and cutters

### 163

- Stripping and cutting, plus end nippers.
- For multi-core wire :
  - Ø mm 3.0 - 2.4 - 2.0 - 1.7 - 1.3 - 1.0 / Cutting Ø 3 mm
  - mm<sup>2</sup> : 7.0 - 4.5 - 3.0 - 2.3 - 1.3 - 0.8 / Cutting Ø 7 mm
  - AWG : 10.0 - 12.0 - 14.0 - 16.0 - 18.0 - 20.0 / Cutting Ø 10 mm
- 6 precision-machined notches.
- Return spring and catch.
- Length 150 mm.
- ΔΔ : 115 g.

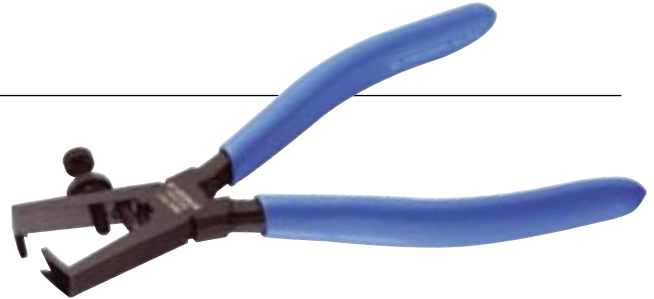


## ► End strippers

### End stripper

#### 985760

- Opening spring and adjusting screw.
- PVC grips.
- For stripping wires 0.5 to 6 mm<sup>2</sup>.

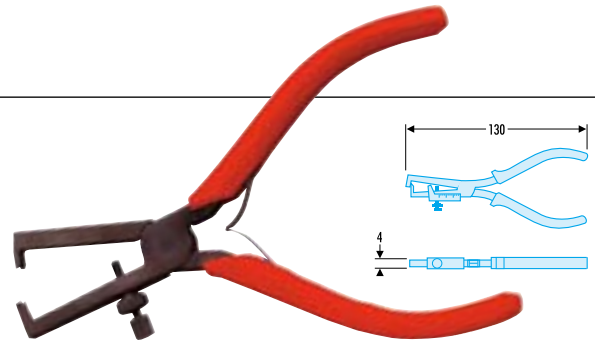


🔧	⊗ ⊙ mm <sup>2</sup>	AWG	mm	ΔΔ g
985760	6	→ 10	7 → 18	160

## Fine wire strippers

### 194.12

- Max. AWG 14.
- For light-gauge wire.
- Narrow blades.
- Cutting depth presetting.
- Burnished finish, PVC grips.
- Ø 1.5 mm single and multi-core wire.
- Cross section 1.8 mm<sup>2</sup>.
- ΔΔ : 70 g.



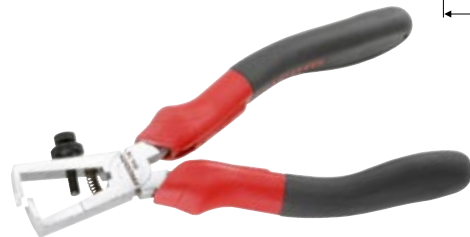
## Wire stripper

### 194.17CPE

- For single and multi-core wires 0.5 to 6 mm<sup>2</sup>.
- 194.17 : Standard forged pliers.
- Knurled adjustment screw with locknut.
- Metal return spring.



🔧	⊗ ⊙ mm <sup>2</sup>	A mm	B mm	L mm	ΔΔ g
194.17CPE	0,5 - 6	17	8,5	170	185



## Coated-wire strippers

### 173A

- Hardened steel. Plastic finger-pads for comfortable use.
- Burnished blades.
- 135 mm long x 10 mm wide.
- ΔΔ : 40 g.



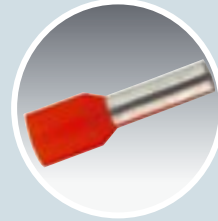


## Crimping plier inspection service

ISO 9000 quality assurance systems require crimping equipment to be periodically checked for compliance with the standards and recommendations. That is why Facom's laboratory offers this service.

### Pliers covered by the inspection service

- Pliers for insulated terminals to IEC 760 - 985753, 985894, 673838.
- Pliers for cable terminals to NFC 20130 - 985754, 985755, 985756, - 985896, 985897, 985895.



## ▶ Crimping pliers for insulated terminals

**673838**

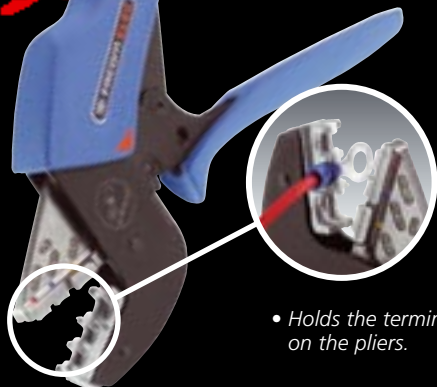
### Crimping pliers for insulated terminals with locator

*Serkan*

#### A THIRD HAND!

Complies with  
NFC 63-023

- Automatically positions the terminal to guarantee a secure attachment.
- Stainless steel dies ensuring good wear resistance.
- Reverse crimping for precision and visibility.
- Left/right-hand operation.
- Soft comfortable grips.



- Holds the terminal on the pliers.
- Perfectly positions the wire in the terminal.
- Holds the terminal and the wire after crimping.

### Ratchet crimping pliers for insulated terminals

**673838**

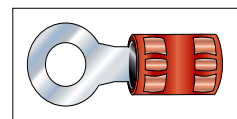
#### FIXED LOWER JAW :

- Easier terminal positioning.
- Stainless steel die.

#### DUAL CRIMP :

- Die location on the insulation.
- Capacity 0.4 to 6 mm<sup>2</sup>.
- Left/right-hand operation.

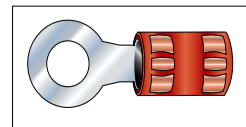
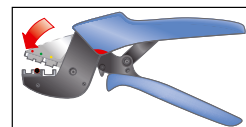
ΔΔ : 0.490 kg.



### Maintenance crimping pliers for insulated terminals

#### 985894

- Dual crimp on insulated terminals, to applicable standards, with grip around both conductor and insulation.
- Stainless steel die.
- Latch remains accessible.
- Good grip in the hand.
- Soft feel.
- To IEC 60352.2 / IEC 60760.
- Reverse crimping : terminal placed in the fixed part for greater efficiency and precision.



➤	Capacity mm <sup>2</sup>	L mm	ΔΔ g
<b>985894</b>	0,4 → 6	230	490

### Production crimping pliers for insulated terminals

#### 985753

- To IEC 760.
- Extended handle for two-hand use.
- Pliers can be released while crimping.
- Dual crimp.
- Comfortable grips.



➤	Capacity mm <sup>2</sup>	L mm	ΔΔ g
<b>985753</b>	0,75 → 6	255	540

### Locator

#### 986007

- Locator for use with pliers 985753 for crimping under the best conditions.



### Checking gauge

#### 986008

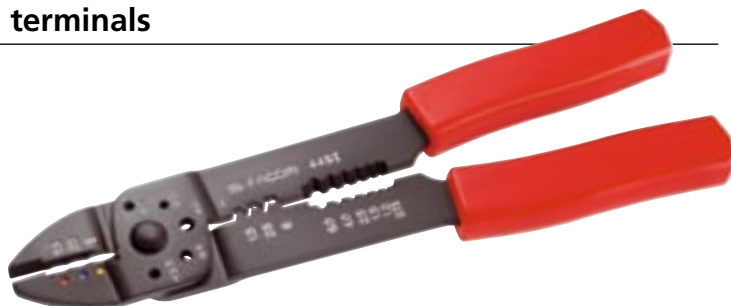
- For use with production crimping pliers 985753.
- Checks height of 3 crimping dies.



### Standard crimping pliers for insulated terminals

#### 4491

- Integral wire-cutter.
  - Insulated terminals 1.5-2.5-6 mm<sup>2</sup>.
  - Bare terminals 1.5-2.5-6 mm<sup>2</sup>.
  - Strips wires 0.75 to 6 mm<sup>2</sup>.
- ΔΔ : 260 g.

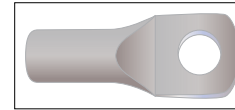


## ▶ Crimping pliers for tubular terminals and sleeves

### Crimping pliers for tubular terminals

#### 985966

- Ratchet system with release mechanism in the event of incorrect operation.
- To NFC 20-130.
- Comfortable grips.
- Extended handle for two-hand use.

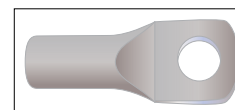


Capacity mm <sup>2</sup>	L mm	ΔΔ g	
985966	4 → 10	255	500

### Crimping pliers for tubular terminals with rotating dies

#### 986095

- Detented 6-position rotating dies 6-10-16-25-35- 50 mm<sup>2</sup>.
- Tool lever can be released during crimping.
- To NFC 20-130.

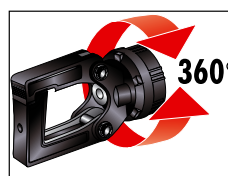
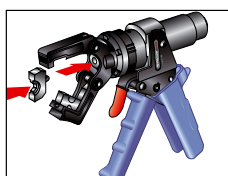


Capacity mm <sup>2</sup>	L mm	ΔΔ g	
986095	6 → 50	390	1185

### Trigger-operated hydraulic crimping pliers for tubular terminals and sleeves

#### 985913

- To NFC.20-130.
- 35 kN.
- 5 to 8 mm adjustable stroke by rotating the notched ring to reduce the number of pump strokes for small cross sections.
- 360° rotating head.
- Automatic release with audible click when crimping complete.
- Release lever returns piston to its original position.
- Supplied in a case.



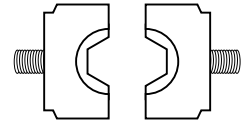


## ▶ Hexagonal crimping dies

### Hexagonal crimping dies

- ▷ Crimp conforms to NFC 20-130.
- For crimping pliers 985913.

Die	Die mm <sup>2</sup>	To NFC20130
985914	6	•
985915	10	•
985916	16	•
985917	25	•
985918	35	•
985919	50	•
985920	70	•
985921	95	•
985922	120	•
985923	150	•



## ▶ Crimping pliers for open-barrel connectors

### Crimping pliers for open-barrel connectors

#### 985757

- 1.5 to 6 mm<sup>2</sup>.

Die	L mm	ΔΔ g
985757	195	250



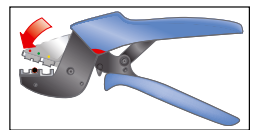
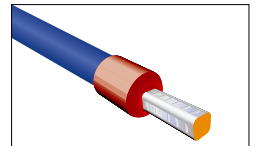
## ▶ Crimping pliers for cable terminals

### Maintenance crimping pliers for cable terminals

#### 985895

- Complies with NFC 63-023.
- Stainless steel dies
- 5 patterns :  
 pattern no. 1 : 0.5 - 0.75 - 1 mm<sup>2</sup>  
 pattern no. 2 : 1.5 mm<sup>2</sup>  
 pattern no. 3 : 2.5 mm<sup>2</sup>  
 pattern no. 4 : 4 mm<sup>2</sup>  
 pattern no. 5 : 6 mm<sup>2</sup>
- Release catch always accessible.
- Soft feel.
- Ergonomic design for enhanced grip.
- Reverse crimping : terminal placed in the fixed jaw for greater efficiency and precision.

Die	Capacity Ø mm <sup>2</sup>	L mm	ΔΔ g
985895	0,5 → 6	230	490

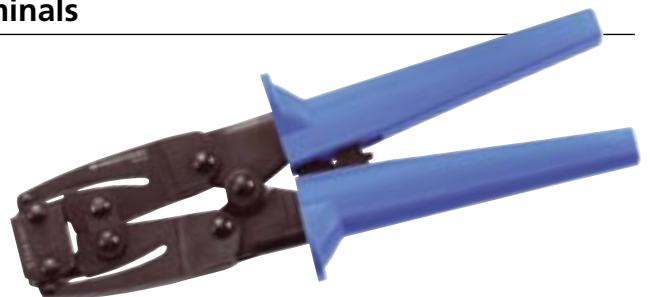


### Self-adjusting crimping pliers for cable terminals

#### 985898

- Crimps : 0.14 - 0.25 - 0.5 - 0.75 - 1 - 1.5 - 2.5 - 4 - 6 mm<sup>2</sup>.
- Ratchet system guarantees a secure crimp.
- Complies with NFC 63-023.
- Easy release in the event of incorrect operation.
- Comfortable grips.

Die	L mm	ΔΔ g
985898	210	500




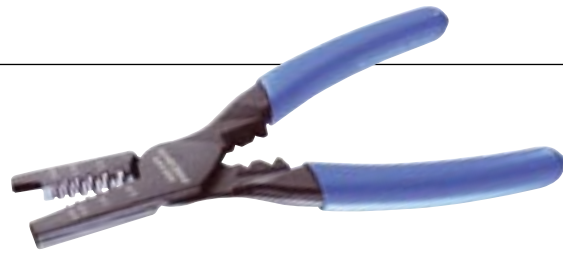
# Crimping pliers

## Standard crimping pliers for cable terminals

### 985899


- End wire-cutter.

	L mm	Capacity mm <sup>2</sup>	ΔΔ g
985899	140	0,5 à 2,5	115



## Production crimping pliers for cable terminals

- Easy release in the event of incorrect operation.
- Comfortable grips.

	Capacity mm <sup>2</sup>	Number of patterns	L mm	ΔΔ g
985754	0,25 → 2,5	2	195	250
985755	0,5 → 6	5	195	250
985756	4 → 10	3	255	500
985896	10 → 25	3	255	500
985897	35 → 50	2	255	500




## ▶ Crimping pliers for data transmission connectors

### Crimping pliers for telephone connectors


#### 985902

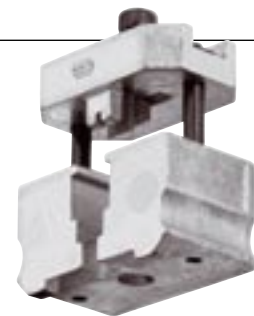
- These pliers come complete with a case and crimping die 986022 for RJ45 connectors.

	L mm	ΔΔ g
985902	205	450



### Crimping dies for telephone connectors

	Ø	ΔΔ g
986014	RJ11	50
986015	RJ9 - RJ22	50
986022	RJ45	50
986026	MMJ	50




### Crimping pliers for coaxial connectors

#### 985758

BNC connectors RG58 - RG59 - RG62

- Precision die for crimping centre pin, sleeve and connector body.
- 5.36 - 5.46 for RG58.
- 6.43 - 6.53 for RG59, RG 62.
- 1.64 - 1.74 for the core.
- Safety ratchet ensures complete crimping.
- Conforms to UTE NFC 93 564.

	L mm	ΔΔ g
985758	195	250



## Crimping pliers for Ethernet connectors

**985901**

Ethernet connectors

- 2 patterns :
  - 10.54 mm for the ferrule.
  - 2.54 mm for the core.

	L mm	ΔΔ g
<b>985901</b>	195	250

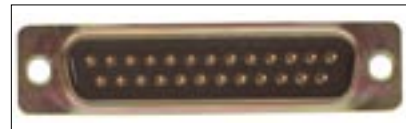


## Crimping pliers for SUB-D connectors

**985524**

- Pliers with locator for increased precision during crimping.

	L mm	ΔΔ g
<b>985524</b>	195	250



## ▶ Sets of terminals

## "Electrical contractors" kit

**449.Z3A**

- Comprising crimping pliers 704382 and a selection of 20 types of insulated terminals and accessories.

- eyes.
- forks.
- sleeves.
- male and female terminals.

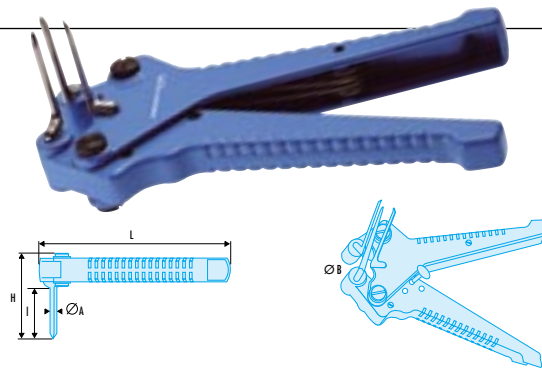
ΔΔ : 1.85 kg.



## ► Sleeving clamps

### Sleeving clamps

►	For wire Ø mm	Ø B (3 positions) mm	Ø A mm	L mm	l mm	H mm	ΔΔ g
<b>985763</b>	1,25 → 4,5	12 16 24	3,5	140	23	52	165
<b>985764</b>	1,75 → 9	13 18 24	4,5	140	30	56	165
<b>985765</b>	3 → 15	14 18 25	5,0	140	40	66	165
<b>640171</b>	10 → 28	19,5 22,5 30	10,0	150	56	82	149



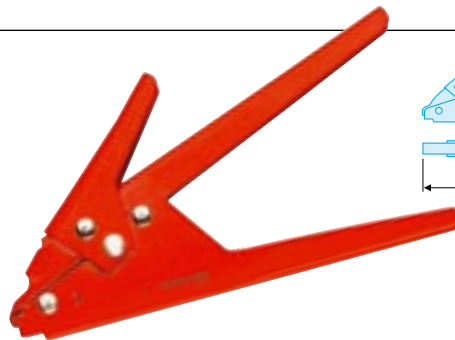
## ► Pliers for plastic cable-ties

### Pliers for plastic cable-ties

#### 455B

- For all tie widths 2.4 to 9 mm.
- Strong, simple tools with good demultiplication.
- Long stroke for fast action.
- Tails cut separately to desired length.
- Replaceable blade and spring.

ΔΔ : 310 g.



### Automatic pliers for plastic cable-ties

#### 986075

- For cable tie widths 2.2 to 4.8 mm.

ΔΔ : 290 g.



## ► Plastic ties

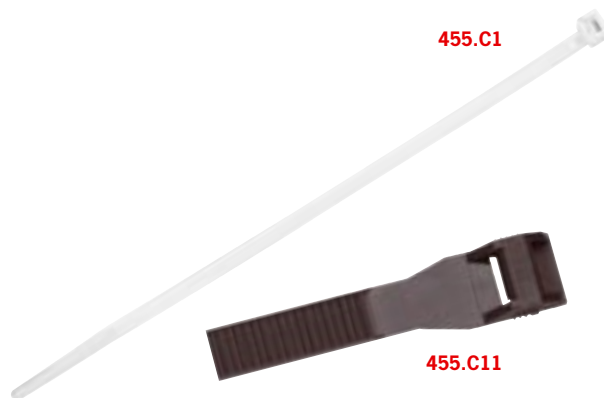
### 455C Plastic ties

- Self-locking head.
- High-strength.
- Two types :
  - nylon 6.6 for indoor use.
  - polyamide 12 for outdoor use.

455.C = Ties.

455.A = Tie.

►	Ties kg max	Ties l x L mm	Ø max mm	Quantity per pack	Material	ΔΔ g
<b>455.C1</b>	18	2,5x100	22	250	Nylon 6.6	85
<b>455.C2</b>	25	3,4x145	40	250	Nylon 6.6	155
<b>455.C3</b>	35	4,8x185	50	100	Nylon 6.6	126
<b>455.C11</b>	40	9,0x183	45	50	Polyamide 12	145
<b>455.C12</b>	48	9,0x265	70	50	Polyamide 12	180
<b>455.C13</b>	48	9,0x355	95	50	Polyamide 12	235
<b>455.A1</b>	-	20x20x6	-	50	Nylon 6.6	26
<b>455.A2</b>	-	21x10x4	-	50	Nylon 6.6	48





## ▶ Sets

## Tie sets

## Sets

- Each case contains a pair of tie fitting pliers 455.
- Dimensions : 325 x 280 x 55 mm.
- 455.J1 Includes ties 455.C1, 455.C2, 455.A1 and 455.A2.  
△△ : 0.94 kg.
- 455.J2 Includes ties 455.C2, 455.C3, 455.A1 and 455.A2.  
△△ : 1.01 kg.
- 455.J3 Includes ties 455.C11 and 455.C12.  
△△ : 1.05 kg.



## ▶ Bonding gun

## Bonding gun

## E.900A

- For bonding plastics, synthetic foam, fabric, wood and laminates used in the building industry, furnishings, electrical and electronic assemblies, and garages.
- Power supply 110-240V (no switch).
- Maximum rating 45 W.
- Melt temperature : 206 °C.
- Pre-heat time : 7 to 10 min.
- Supplied in a cardboard box with three universal bonding sticks.
- Dimensions : 260 x 210 x 60 mm.
- △△ : 620 g.
- E.905J50 : "Refractory" bonding sticks :  
• Pack of 50 bonding sticks : Ø 11.3 mm, length 90 mm.
- E.906J100 : "Universal" bonding sticks :  
• Pack of 100 bonding sticks : Ø 11.3 mm, length 200 mm.

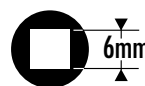
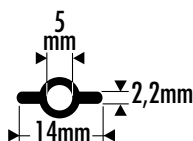
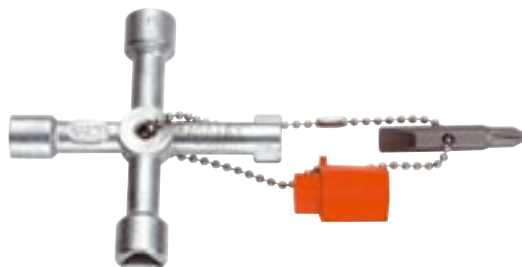


## ▶ Four-way wrench for cabinets

## Four-way wrench for cabinets


## 985548

- Supplied with a 6-point adaptor for  $\square$  1/4" (6.35 mm) bits and a slotted 7 mm / Phillips® no. 2 double-ended bit.
- △△ : 75 g.




# Wire-pullers and accessories

## ► Nylon fish tapes




### Fish tapes

#### 3 TYPES OF WIRE PULLER



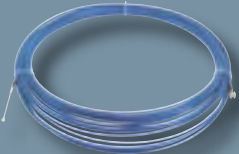
**Nylon**

- Relatively uncongested cable ducts with average bends, Distance < 20 m.
- Very high tensile strength.




**Glass fibre**

- Congested cable ducts with multiple bends, 20 m < distance < 40 m.
- Material has excellent dynamic properties.
- Maintains its efficiency after passing an obstacle.



**Nylon-coated steel**

- Long runs in highways 30 m < distance < 50 m.
- Excellent dynamic properties pushing force for tubes Ø 24 mm and over.



### Nylon fish tapes

- All of our nylon fish tapes come complete with :
  - a flexible fish tape leader
  - a pulling eye.
- Breaking force : 120 kN.

➤	Description	Ø mm
<b>629731</b>	Fish tape 10 m long	4
<b>629757</b>	Fish tape 20 m long	4



### Nylon fish tape 20 m long + carry case

#### 669273

- All of our nylon fish tapes come complete with :
  - a flexible fish tape leader
  - a pulling eye.
- Breaking force : 120 kN.
- For use in relatively uncongested ducts with average bends. Distance < 20 m.

➤	L m	Ø mm
<b>669273</b>	20	4



## ► Glass fibre fish tapes

### Glass fibre fish tapes

- All our glass fibre fish tapes are supplied in a carry case and come complete with :
  - a flexible fish tape leader
  - a pulling eye.
  - a repair kit.
- Breaking force : 120 kN.

➤	Description	Ø mm
<b>629845</b>	Fish tape 20 m long	3
<b>629853</b>	Fish tape 30 m long	3
<b>629861</b>	Fish tape 40 m long	3

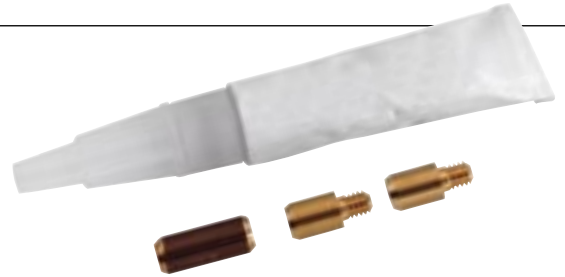


## ▶ Accessories for nylon and glass fibre fish tapes

### Glass fibre fish tape repair kit

**629888**

- 2 threaded ends.
- 1 joint.
- 1 tube of special adhesive.



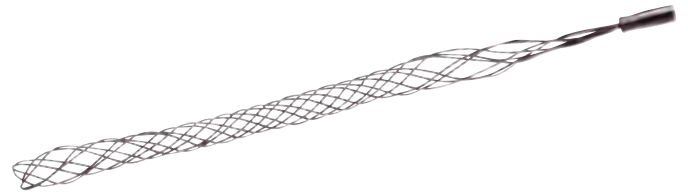
### Pulling grips

**629829**

- Pulling grip for cable  $\varnothing$  4 → 6 mm.

**629837**

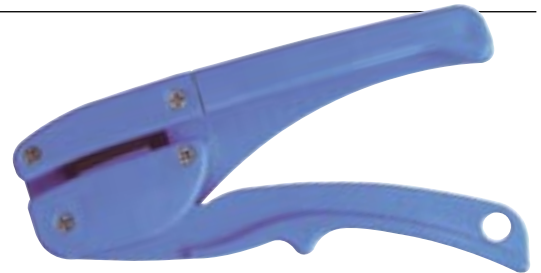
- Pulling grip for cable  $\varnothing$  6 → 12 mm.



### Fish tape pulling pliers

**629773**

- Impact-resistant material.
- For easy pulling without damaging the fish tape or injuring the operator's hand.



### Plastic reel

**629992**

- $\varnothing$  320 mm.
- Accessory compartment.
- For fish tapes 10, 20, 30 or 40 m long.



### Lubricant

**629984**

- To be sprayed on cable before pulling.
- Makes pulling easier.
- 1 litre.



## ► Consumables for nylon and glass fibre fish tapes

### Flexible leader for nylon and glass fibre fish tapes

**629781**

- M4 female threaded section.



### Glass fibre fish tape connecting sleeve

**629802**

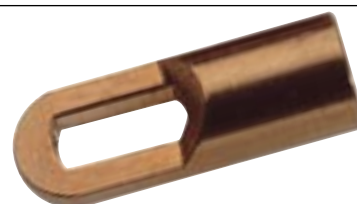
- Breaking force : 100kN.



### Pulling eye

**629790**

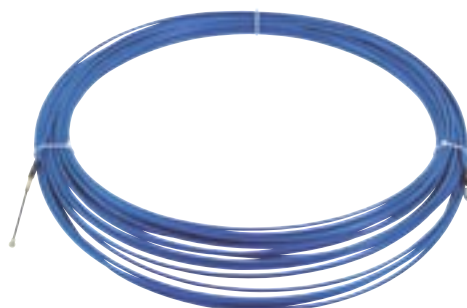
- Female thread.
- Breaking force : 120 kN.




### Nylon-coated steel fish tape

**629896**

- Supplied with :
  - a flexible fish tape leader
  - a guide wheel with connector
  - a snap hook.
- Breaking force : 200 kN.
- High pulling capacity
- Ideal for long cable ducts.



	Description	Ø mm
<b>629896</b>	Fish tape 50 m long	6

## ► Accessories for nylon-coated steel fish tapes

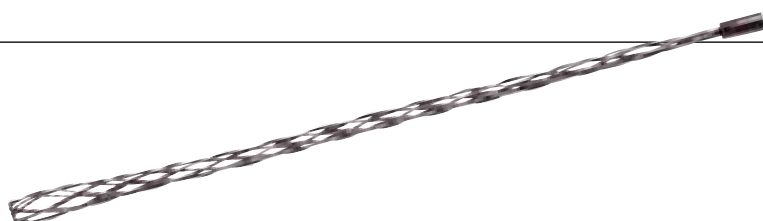
### Pulling grips

**629917**

- Pulling grip for cable Ø 12 → 18 mm.

**629925**

- Pulling grip for cable Ø 18 → 24 mm.



### Swivel joint

**629976**

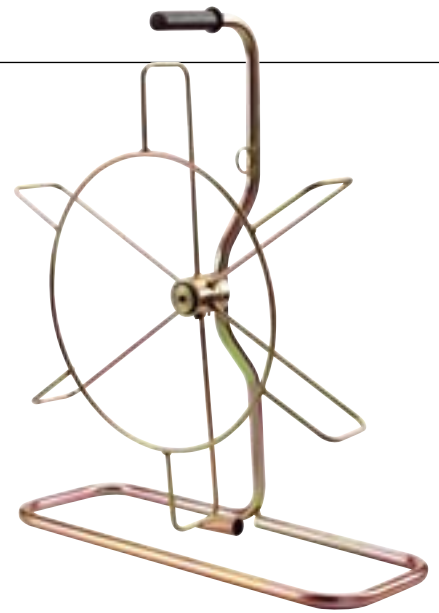
- Ø 12 mm, M5 pitch.
- For connecting two nylon-coated steel fish tapes together.





**Tropic-proof steel reel****629909**

- Resistant to heat and humidity.
- Quickly guides and coils the fish tape.
- Ideal for long runs.
- Ball bearing shaft support.
- Stores up to 150 m of nylon-coated steel fish tape.

**Lubricant****629984**

- To be sprayed on cable before pulling.
- Makes pulling easier.
- 1 litre.

**Flexible fish tape leader****629933**

- Semi-spherical brass steel head.
- M5 female threaded section.

**▶ Consumables for nylon-coated steel fish tapes****Guide wheel****629941**

- Helps the fish tape to run, particularly in cement ducts.

**Connector****629950**

- Breaking force : 400 kN.







## HOLE PUNCH FOR ISO HOLE SIZES

### Hole punches

- 3 section ISO splitting punch.
- Capacity ISO 12 to ISO 63.
- Blanks split into three, thus preventing the actuating screw from jamming.
- Cutting-point geometry ensures longer life.
- Available with or without a thrust-bearing screw.

#### 1 - FOR ORDINARY STEEL ST37

- Max. sheet thickness : 2 mm.
- Pilot hole : - Screw  $\varnothing$  + min. 0.2 mm.

#### 2 - FOR STAINLESS STEEL

- Max. stainless steel plate thickness :  
- 2 mm with screw  $\varnothing$  11.1 mm.  
- 3 mm with screw  $\varnothing$  19 mm.

- Pilot hole :  
- Screw  $\varnothing$  + min. 0.2 mm.

- High alloy cutting edges for increased durability.

### HOLE PUNCH FOR PG HOLE SIZES

- Capacity : PG7 to PG48.

#### 3 - FOR ORDINARY STEEL ST37

- 3-point punch.
- Circular blank automatically drops out after punching with a couple more turns of the wrench.

- Max. thickness :  
- 2 mm with screw  $\varnothing$  9.5 mm.  
- 3 mm with screw  $\varnothing$  19 mm.

- Pilot hole :  
- Screw  $\varnothing$  + min. 0.2 mm.

#### 4 - FOR STAINLESS STEEL

- Max. stainless steel sheet thickness :  
- 2 mm with screw  $\varnothing$  9.5 mm.  
- 3 mm with screw  $\varnothing$  19 mm.

- Pilot hole :  
- Screw  $\varnothing$  + min. 0.2 mm.

- High alloy cutting edges for increased durability.



### FACOM HOLE PUNCHES CAN BE OPERATED IN THE FOLLOWING WAYS :



#### With a wrench

- For hole punches fitted with a thrust-bearing screw.



#### With a hydraulic driver

- For fast hole punching.



#### With a hydraulic pump

- For fast and effortless hole punching.

### DIMENSIONS (mm) :

PG7	PG9	PG11	PG13	PG16	PG21	PG29	PG36	PG42	PG48
12.7	15.2	18.6	20.4	22.5	28.3	37	47	54	60

ISO12	ISO16	ISO20	ISO25	ISO32	ISO40	ISO50	ISO63
12.5	16.5	20.5	25.5	32.5	40.5	50.5	63.5

### CUSTOM SIZE KNOCKOUT PUNCH

- Please consult us for your specific punch size or shape requirements.

### ISO EN 50262 REQUIREMENTS

- This international standard specifies the electrical functions and performance of cable entries.
- It stipulates that only ISO metric threads are to be used for cable glands since September '99.
- The use of PG threads will still be allowed for the maintenance of existing equipment despite no longer being covered by any national or international standard.



**Remember to apply lubricant to the screw/pin for optimum operation of the punch.**

# Hole punches and accessories

## ▶ Standard circular punches for stainless steel sheet

### Punches for PG size holes with actuating screw

- For cutting circular holes in plastic and sheet metal.
- Operated by wrench or ratchet and socket.
- Cuts holes quickly, and cleanly.
- For all PG diameters from PG 7 to PG 48.
- Parts must be lubricated for correct operation.

RECOMMENDATION : the blank will drop more easily if you apply a couple more turns of the wrench after completing the cut.

- Supplied complete with punch, die and screw with thrust bearing.



⇒	PG	Ø PG/mm	Pilot hole Ø/mm	Width across flats (mm)/actuating screw	Max./thickness Mild/steel
985968	7	12,7	11	17	2 mm
985969	9	15,2	11	17	2 mm
985972	11	18,6	11	17	2 mm
985974	13	20,4	11	17	2 mm
985978	16	22,5	11	17	2 mm

⇒	PG	Ø PG/mm	Pilot hole Ø/mm	Width across flats (mm)/actuating screw	Max./thickness Mild/steel
985984	21	28,3	11	17	3 mm
985995	29	37,0	22	27	3 mm
986001	36	47,0	22	27	3 mm
986005	42	54,0	22	27	3 mm
986009	48	60,0	22	27	3 mm

### Punches and dies for PG size holes without screw

- For cutting circular holes in plastic and sheet metal.
- Operated by hydraulic driver 643743 (single position) or 986108 (dual position) or hydraulic pump and cylinder 985944.
- Cuts holes quickly, and cleanly.
- For all PG diameters from PG 7 to PG 48.
- Parts must be lubricated for correct operation.

RECOMMENDATION : the blank will drop more easily if you apply a couple more strokes of the pump after completing the cut.

- Supplied with punch and die.



⇒	PG	Ø PG/mm	Pilot hole Ø/mm	Actuating pin	Max./thickness Mild/steel
985734	7	12,7	11	986064	2 mm
985801	9	15,2	11	986064	2 mm
985817	11	18,6	11	986064	2 mm
985818	13	20,4	11	986064	2 mm
985820	16	22,5	11	986064	2 mm

⇒	PG	Ø PG/mm	Pilot hole Ø/mm	Actuating pin	Max./thickness Mild/steel
985824	21	28,3	22	986065	3 mm
985826	29	37,0	22	986065	3 mm
985829	36	47,0	22	986065	3 mm
985836	42	54,0	22	986065	3 mm
985933	48	60,0	22	986065	3 mm

## ▶ Standard circular punches for ISO size holes

### Punches for ISO size holes with actuating screw

- For cutting circular holes in plastic and sheet metal.
- Operated by wrench or ratchet and socket.
- Cuts holes quickly, and cleanly.
- For all ISO diameters from M12 to M63.
- Parts must be lubricated for correct operation.

SPECIAL FEATURE : the blank is split into three parts and drops automatically at the end of the cutting operation.

- Supplied complete with punch, die and screw with thrust bearing.

⇒	ISO	Ø ISO/en mm	Pilot hole Ø/mm	Width across flats (mm)/actuating screw	Max./thickness Mild/steel
693716	M12	12,5	11	17	2 mm
697590	M16	16,2	11	17	2 mm
693695	M20	20,4	11	17	2 mm
697602	M25	25,4	11	17	2 mm
697611	M32	32,5	22	27	2 mm
697645	M40	40,5	22	27	2 mm
697637	M50	50,5	22	27	2 mm
697653	M63	63,5	22	27	2 mm





### Punches and dies for ISO size holes without screw

- For cutting circular holes in plastic and sheet metal.
- Operated by hydraulic driver 643743 (single position) or 986108 (dual position) or hydraulic pump and cylinder 985944.
- Cuts holes quickly, and cleanly.
- For all ISO diameters from M12 to M63.
- Parts must be lubricated for correct operation.
- SPECIAL FEATURE : the blank is split into three parts and drops automatically at the end of the cutting operation.
- Supplied with punch and die.

➤	ISO	Ø ISO/en mm	Pilot hole Ø/mm	Actuating pin	Max./thickness Mild/steel
<b>693708</b>	M12	12,5	11	657539	2 mm
<b>664499</b>	M16	16,2	11	986064	2 mm
<b>693687</b>	M20	20,4	11	986064	2 mm
<b>664510</b>	M25	25,4	11	986064	2 mm
<b>664536</b>	M32	32,5	22	986064	2 mm
<b>664501</b>	M40	40,5	22	986065	2 mm
<b>664528</b>	M50	50,5	22	986065	2 mm
<b>664544</b>	M63	63,5	22	986065	2 mm



### ▶ Standard circular punches for stainless steel sheet

#### PG Plus punches and dies for stainless steel sheet

- For cutting circular holes in mild and stainless steel sheet.
  - New punch geometry for longer life.
  - Operated by hydraulic driver 643743 (single position) or 986108 (dual position) or hydraulic pump and cylinder 985944.
  - Cuts holes quickly, and cleanly.
  - For all PG diameters from PG9 to PG 48.
  - Parts must be lubricated for correct operation.
- SPECIAL FEATURE : the blank is split into three parts and drops automatically at the end of the cutting operation.
- Supplied with punch and die.

➤	PG plus	Ø PG/mm	Pilot hole Ø/mm	Actuating pin	Max./thickness Stainless sheet
<b>697434</b>	9	15,2	11,5	657547	2 mm
<b>697485</b>	11	18,6	11,5	657547	2 mm
<b>697493</b>	13	20,4	11,5	657547	2 mm
<b>697354</b>	16	22,5	11,5	657547	2 mm
<b>697362</b>	21	28,3	22	986065	3 mm
<b>697371</b>	29	37,0	22	986065	3 mm
<b>697389</b>	36	47,0	22	986065	3 mm
<b>697397</b>	42	54,0	22	986065	3 mm
<b>697418</b>	48	60,0	22	986065	3 mm



# Hole punches and accessories

## ISO Plus punches and dies for stainless steel sheet

- For cutting circular holes in mild and stainless steel sheet.
- New punch geometry for longer life.
- Operated by hydraulic driver 643743 (single position) or 986108 (dual position) or hydraulic pump and cylinder 985944.
- Cuts holes quickly, and cleanly.
- For all ISO diameters from M16 to M63.
- Parts must be lubricated for correct operation.

SPECIAL FEATURE : the blank is split into three parts and drops automatically at the end of the cutting operation.

- Supplied with punch and die.

ISO PLUS	ISO PLUS	Ø ISO/en mm	Pilot hole Ø/mm	Actuating pin	Max./thickness Stainless sheet
697469	M16	16,2	11,5	657547	2 mm
697477	M20	20,4	11,5	657547	2 mm
697506	M25	25,4	11,5	657547	2 mm
697514	M32	32,5	22	986065	3 mm
697522	M40	40,5	22	986065	3 mm
697549	M50	50,5	22	986065	3 mm
697531	M63	63,5	22	986065	3 mm



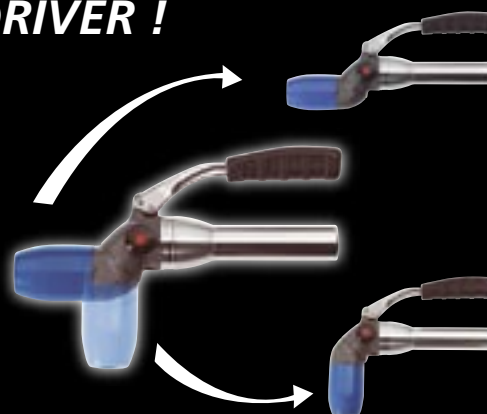
## ► Hydraulic hole punch equipment

**986108**

**Hydraulic punch driver**

### ROTATING HEAD HYDRAULIC DRIVER !

- Two operating positions.
- Fast cutting, short piston stroke.
- Demultiplication of effort for fast, easy working.



## Dual-position hand-operated hydraulic driver and accessories

**986052**

- Set supplied in a plastic box, comprising :
    - 986108 dual-position hand-operated hydraulic driver.
    - 986110 spacer ring no. 1.
    - 986111 spacer ring no. 2.
    - 986064 actuating pin 9.5 mm.
    - 986065 actuating pin 19 mm.
    - 657539 actuating pin 6 mm.
    - 986051 drill bit (11 mm).
  - For cutting holes 12.5 to 63 mm diameter in sheet steel.
  - Cylinder force 7 kN.
  - Pressure 700 bars.
  - Piston stroke 20 mm.
  - Pressure limiter.
- ΔΔ : 2.45 kg.



### Single-position hand-operated hydraulic driver and accessories

#### 653255

- Set supplied in a plastic box, comprising :
  - 643743 Single-position hand-operated hydraulic driver.
  - 986110 spacer ring no. 1.
  - 986111 spacer ring no. 2.
  - 986064 actuating pin 9.5 mm.
  - 986065 actuating pin 19 mm.
  - 657539 actuating pin 6 mm.
  - 986051 drill bit (11 mm).
- For cutting holes 12.5 to 63 mm diameter in sheet steel.
- Piston stroke 20 mm.
- Cylinder force 7 kN.
- ΔΔ : 2.35 kg.



### Hand-operated hydraulic pump

#### 985944

- Supplied in steel case complete with :
  - 1 hose and a set of 4 spacer sleeves.
  - Hydraulic screws 19 mm and 9.5 mm.
  - Drill bit (11 mm).
  - Quick connect hydraulic cylinder.
- Pressure : 700 bars.



### Single-position hand-operated hydraulic driver without accessories

#### 643743

- Driver without accessories.
- Packaged in a cardboard box.
- Piston stroke 20 mm.
- Cylinder force 7 kN.
- ΔΔ : 2.2 kg.



### Dual-position hand-operated hydraulic driver without accessories

#### 986108

- Head pivots 180° providing two working positions :
  - 1 - horizontal for working directly on the cabinet.
  - 2 - turned through 90° for working on a bench.
- Driver supplied on its own without accessories.
- Packaged in a cardboard box.
- Piston stroke 20 mm.
- Cylinder force 7 kN.
- Pressure 700 bars.
- Pressure limiter.
- ΔΔ : 2.3 Kg.




# Hole punches and accessories

## ► Accessories for hole punches

### ISO size step drill Ø 6.5 to 40.5 mm

#### 678006

- For precision-drilling straight bores in all materials.
- No pilot hole required.
- Parallel shank with 3 flats for positive rotation.
- Diameter identification markings.
- 678014 : PG size step drill.
- For drilling steel sheet up to 4 mm thick.
- Shank diameter 10 mm.


	Ø min - max mm	A mm	L mm	ΔΔ g
678006	6,5-8,5-10,5-12,5-16,5-20,5-25,5-29-32,5-36,5-40,5	10	96	310



### PG size step drill Ø 6.5 to 40.5 mm

#### 678014

- For precision-drilling straight bores in all materials.
- No pilot hole required.
- Parallel shank with 3 flats for positive rotation.
- Diameter identification markings.
- 678014 : PG size step drill.
- For drilling steel sheet up to 4 mm thick.
- Shank diameter 10 mm.

	Ø min - max mm	A mm	L mm	ΔΔ g
678014	6-9-12,5-15,2-18,6-20,4-22,5-26-28,3-30,5-34-37	10	100	300



### 11 mm diameter drill bit

#### 986051

- Drill bit Ø 11 mm for drilling pilot holes.



### Lubricating paste

#### 986107

- For lubricating screws and drive shafts.





**Pump only****985945****Hydraulic cylinder****985946****Hydraulic hose 1.8 m long****986062****▶ Hole punch sets and accessories****Single-position hydraulic driver and PG size hole punch set****985510**

- Hole punch set comprising :
    - 1 single-position hydraulic driver.
    - 2 drive shafts Ø 9.5 mm and Ø 19 mm.
    - 2 spacers : no. 1 and no. 2.
    - 1 drill bit Ø 11 mm.
    - storage case.
    - set of 10 circular hole punches Ø 12.7 mm to Ø 60 mm : PG 6, 7, 9, 11, 13, 16, 21, 29, 36, 42, 48.
    - 1 jar of lubricating paste.
- ΔΔ : 2.35 kg.

**Single-position hydraulic driver and ISO size hole punch set****663621**

- Hole punch set comprising :
  - 1 single-position hydraulic driver.
  - 3 drive shafts 6 - 9.5 and 19 mm.
  - 2 spacers : no. 1 and no. 2.
  - 1 storage case.
  - 1 drill bit Ø 11 mm.
  - set of 8 ISO diameter hole punches from M12 to M50 : M 12, 16, 20, 25, 32, 40, 50, 63.
  - 1 jar of lubricating paste.



# Hole punches and accessories

## Dual-position hydraulic driver and PG size hole punch set

### 587110

- Hole punch set comprising :
  - 1 dual-position hand-operated hydraulic driver.
  - 2 drive shafts  $\varnothing$  9.5 mm and  $\varnothing$  19 mm.
  - 2 spacers : no. 1 and no. 2.
  - 1 drill bit  $\varnothing$  11 mm.
  - 1 storage case.
  - set of 10 circular hole punches  $\varnothing$  12.7 mm to  $\varnothing$  60 mm : PG 7, 9, 11, 13, 16, 21, 29, 36, 42, 48.
  - 1 jar of lubricating paste.



## Dual-position hydraulic driver and ISO size hole punch set

### 658689

- Hole punch set comprising :
  - 1 dual-position hydraulic driver.
  - 3 drive shafts 6 - 9.5 and 19 mm.
  - 2 spacers : no. 1 and no. 2.
  - 1 storage case.
  - 1 drill bit  $\varnothing$  11 mm.
  - set of 8 ISO diameter hole punches from M12 to M50 : M 12, 16, 20, 25, 32, 40, 50, 63.
  - 1 jar of lubricating paste.



## PG size hole punch set

### 661600

- Hole punch set comprising :
  - 1 storage case.
  - 1 drill bit  $\varnothing$  11 mm.
  - set of 10 PG diameter hole punches  $\varnothing$  12.7 mm to  $\varnothing$  60 mm : PG 7, 9, 11, 13, 16, 21, 29, 36, 42, 48.
  - 1 jar of lubricating paste.
  - 2 drive screws  $\varnothing$  9.5 and 19 mm.



## ISO size hole punch set

### 702571

- Hole punch set comprising :
  - 1 drill bit  $\varnothing$  11 mm.
  - set of 8 ISO diameter hole punches from M12 to M50 : M 12, 16, 20, 25, 32, 40, 50, 63.
  - 1 jar of lubricating paste.
  - 3 drive screws  $\varnothing$  6 - 9.5 and 19 mm.
  - 1 storage case.



## ▶ Testers

### Multimeters and testers

#### THE RIGHT TESTER FOR YOUR NEEDS !

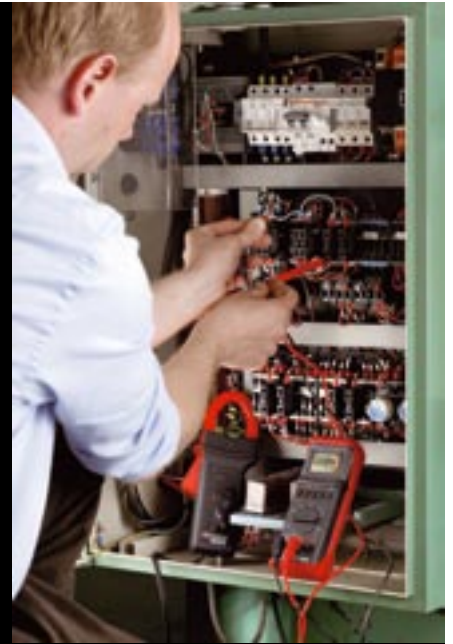


#### Simple and easy to read

- A comprehensive range. Choose the model that best meets your needs.
- Simple, easy to read function selector for minimum risk of error.
- Wide screen providing clear, detailed readings

#### Safe

- Meets safety standard requirements
- Flexible safety leads.
- Protective cover.
- Simple, explicit instructions.



#### Digital display multimeter

##### 711

- Fuse-protected circuits 0.4A HRC - 600 V; 12A HRC - 600 V.
- Performs the following readings :
  - DC and AC voltages 0.1 mV to 600 V.
  - DC and AC current 10  $\mu$ A to 10 A.
  - Resistance 0.1  $\Omega$  to 40 $\Omega$ .
  - Frequency 0.01 Hz to 200 kHz.
  - Capacitance 1 pF to 40  $\mu$ F.
  - Diode test.
  - Continuity test.
- Screen display hold key.
- Backlit screen.
- Automatic stop.
- Bar graph.
- Double insulated  $\square$  IEC 1010-1.
- Protection rating IP 50.
- Powered by two 1.5V batteries (type R6).
- Supplied complete with protective cover and batteries
- Dimensions : 177 x 64 x 42 mm
- $\Delta\Delta$  : 575 g.



#### Clip-on ammeter

##### 711P.500

- Suitable for DC and AC current measurements.
- Simple to use without interrupting or disturbing the circuit.
- For use with multimeter 711 in the mV position.
- Capacity : 0.5 to 600 A.
- $\Delta\Delta$  : 535 g.





## Multimeter, current clamp and thermometer

### 712

- Automatic detection AC/DC voltmeter.
- Ohmmeter, diode and continuity testing with audible beep.
- 400 A AC/DC current clamp, automatic detection.
- Thermometer : ambient temperature.
- Supplied in a pouch, leads and battery included.

$\Delta\Delta$  : 660 g.

Automatic AC/DC detection

1. Stored readings, lead resistance compensation, automatic reset, display hold, automatic selection of measuring range.
2. Min/Max key.
3. Backlit screen.



**New**

## Combined electronic thermometer

### DX.T10

- The DX.T10 can perform either non-contact temperature measurements using the infrared thermometer in conjunction with the laser pointer, or contact temperature measurements by connecting it to a type K thermocouple.

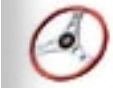
Adjustable emissivity.

	Length mm	Width mm	Height mm	$\Delta\Delta$ g
<b>DX.T10</b>	173	60,5	38	225



## DX.12 Temperature probes

	Description
<b>DX.12-06</b>	Flexible probe
<b>DX.12-08</b>	Bracelet probe
<b>DX.12-11</b>	Standard needle probe
<b>DX.12R</b>	Extension
<b>DX.12-15</b>	Surface contact probe
<b>DX.12-17</b>	Air probe





## Multifunction voltage detector

### SAFE AND SIMPLE TO USE!

Complies with IEC 61243-3 and the requirements of the collection of general provisions for electrical safety UTE C 18-510-1.

Check the absence or presence of voltage before starting work.

Quick testers 709 and 701A can also perform routine electrical tests.

#### Handy :

- 19 mm testing tip spacing (for breakers, sockets, etc.).
- Testing tips stored in the back of the tester.
- Backlit.



### Voltage tester

#### 709

- Safety voltage detector multimeter complying with IEC 61010-1600V cat.III and IEC 61243-3 (Voltage detectors).
- 2,000 point backlit digital display with Hold function.
- Auto-test of the 9 V battery and the complete tester, from the testing tips to the cord, the electronics, etc.
- Testing tip storage system.
- Automatic AC/DC range selection.
- Automatic ON/OFF.
- 19mm testing tip spacing (for breakers, sockets,.)
- Phase/neutral identification (with one hand! ).
- External use : IP 65.
- Supplied with wrist strap
- Characteristics :
- Voltage testing : 12 to 690V AC/DC and 750V DC with warning buzzer for voltages over 50 V.
- Continuity sound test  $R < 2k\Omega$ .
- Operating frequency : DC 50-60 Hz.
- Measurement of resistance up to 2 k $\Omega$ .
- Power supply : 6F229V battery provided.
- Dimensions (mm) : 163 x 63.6 x 40.
- $\Delta\Delta$  : 210 g.



### Multi-function tester

#### 701A

- Multi-function tester.
- Used to check the presence of voltage on a circuit before starting work, in accordance with NF EN 61010-600V cat3 and IEC 61243-3 (Voltage detectors).
- Phase/neutral identification.
- Continuity test.
- 30mA differential circuit-breaker test.
- $\Delta\Delta$  : 205 g.



# 1,000 V insulated tools



## Facom VSE 1,000 V insulated tools

**A COMPREHENSIVE RANGE OF TOOLS FOR WORKING ON OR NEAR LIVE COMPONENTS**



### "Certified" safety



**ALWAYS**

#### Correct use of insulated tools.

Wear insulating gloves and eye protection. Check insulation is sound before using a tool.

- Never use a tool with cracked, cut or damaged insulation in any way.
- Discard tools if their insulation looks unsafe.
- Don't alter the insulation.
- Don't let other people use your insulated tools.
- Always use the correct tool.
- Check that the tool bears standard and approval markings.
- Read safety recommendations and keep the instructions.

#### These products come with safety recommendations

Beware of electrical hazards.

#### • Prevent damage to insulation from :

- Heat (-20 to 70°C working temperature).
- Cuts or perforations.
- Chemicals.

#### • Visually check the insulation before use.

#### • Wear insulating gloves and eye protection.

2-colour insulation :

- Orange = safe
- Yellow = STOP

#### Basic tool

- Facom performance and safety.

#### Insulation

- Certified and accredited Facom production site.
- Tested and approved products.

#### "2-colour warning" insulation :

- ORANGE = 1,000 V protection
- YELLOW VISIBLE = STOP and change tool.

#### Generously-sized guards

- Hand stays clear of the metal.

#### Ribbing on flexible insulation

- More secure grip.

#### Hot markings

- Permanent safety data.
- Traceability.

### Safety colour coding



**ORANGE** : 1,000 V protection



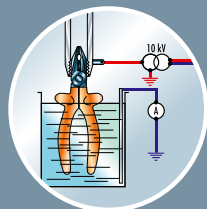
**YELLOW visible** : STOP and change tool.



### Tools to EN 60900 specifications

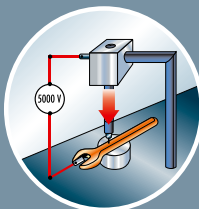
#### Individual production test :

- Each and every tool is tested to 10,000V for 10 seconds at the end of the manufacturing cycle.



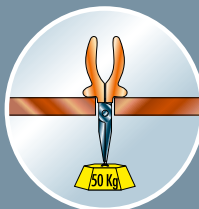
#### Dielectric test

- After 24 hours immersion, the tool is wiped and tested to 10,000 V for 3 minutes between metal and sheath surface. Leakage current does not exceed specified limits.



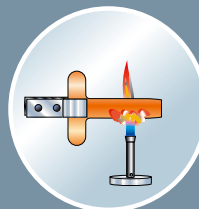
#### Penetration test.

- After a penetration test on the most vulnerable part of the tool, followed by heating and cooling, no breakdown or flashover should occur when 5,000 volts is applied for a period of 3 minutes.



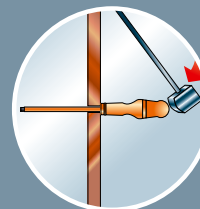
#### Insulation adhesion test

- A 50 kg tear test is carried out for 3 minutes at ambient temperature on a tool heated to 70°C for 168 hours. Sheath and guard should remain bonded to the metal.



#### Non-flammability test

- After exposure to a flame for 10 seconds, flame spread over the tool should not exceed 120 mm high within the next 20 seconds.



#### Impact test

- A standard force is repeatedly applied to the handle end of a tool cooled to -25°C for 2 hours. The sheathing should not crack.



# 16 1,000 V insulated tools

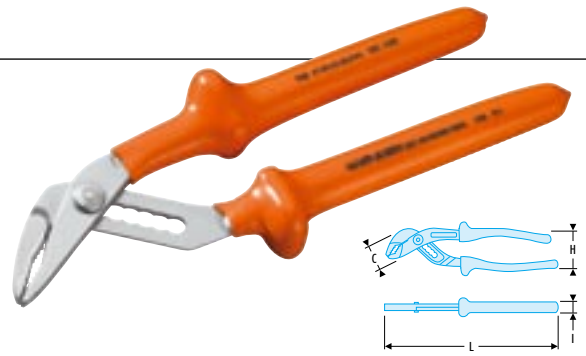
## ▶ Multigrip pliers

### Multigrip pliers

#### 180.VSE

- ▷ ISO 8976, DIN ISO 8976, NF ISO 8976, NF EN 6090, ASME B 107.23 M.
- "2-colour warning" insulation.

↻	C mm	L mm	I mm	H mm	ΔΔ g
<b>180.VSE</b>	40	250	35	85	360



## ▶ Cutting pliers



### FACOM VSE 1000 VOLTS®



Tools built for electrical safety to European standard EN 60900. For working on live components up to 1,000V AC and 1,500V DC.



**SAFETY COLOUR-CODING**



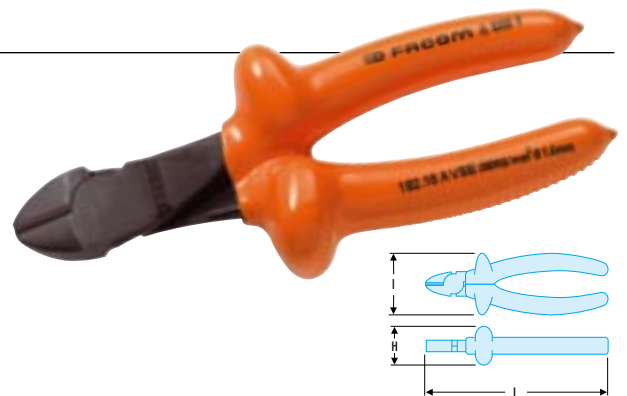
**ORANGE** : 1000 volts protection

**YELLOW VISIBLE** : STOP and change tool.

### 192.AVSE Diagonal cutters for hard wire

- ▷ ISO 5749, DIN 5238, DIN ISO 5749, NF ISO 5749, NF EN 6090.
- Cutting edges heat-treated to exceed 60 HRc hardness.
- "2-colour warning" insulation.
- Burnished nose.

↻	L mm	I mm	H mm	∅ mm 200 kg/mm <sup>2</sup>	ΔΔ g
<b>192.14AVSE</b>	145	70	30	1,4	210
<b>192.16AVSE</b>	165	75	35	1,6	270
<b>192.18AVSE</b>	185	75	40	1,8	370

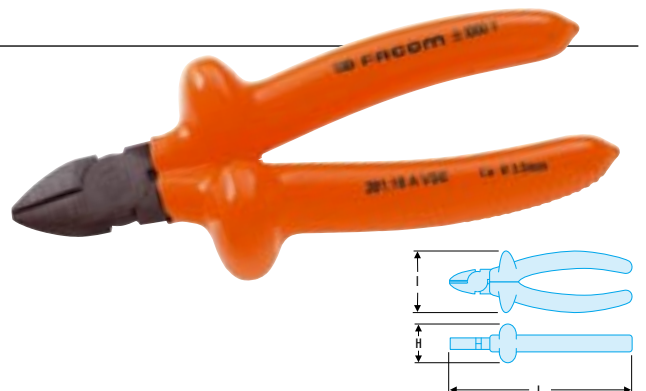


### Diagonal cutters for copper wire

#### 391.16AVSE

- ▷ ISO 5749, DIN 5238, DIN ISO 5749, NF ISO 5749.
- Inset joint.
- "2-colour warning" insulation.
- Burnished nose.

↻	L mm	I mm	H mm	∅ mm Cu	ΔΔ g
<b>391.16AVSE</b>	165	70	35	3,5	270



# 1,000 V insulated tools

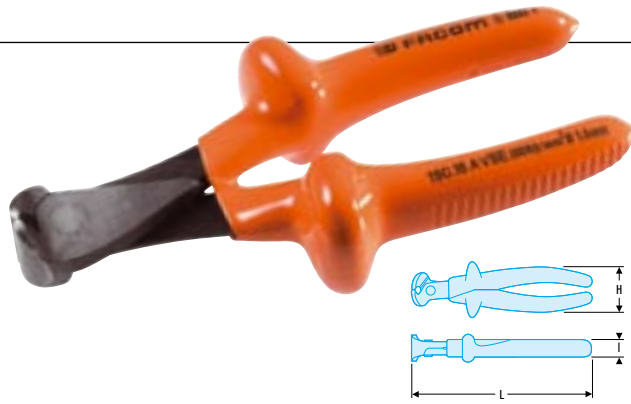
## End cutters for hard wire

### 190.16AVSE

▷ ISO 5748, DIN 5252, NF E 73-104.

- Cutting edges heat-treated to a hardness > 60 HRC.
- "2-colour warning" insulation.
- Burnished nose.

	L	I	H	∅ mm	ΔΔ
	mm	mm	mm	200 kg/mm <sup>2</sup>	g
<b>190.16AVSE</b>	165	77	35	1,6	250



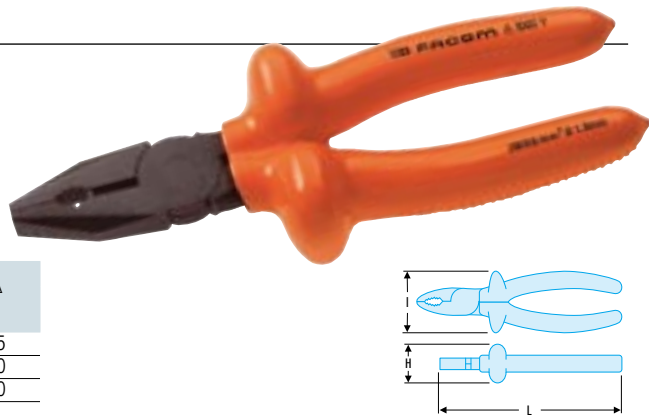
## ► Combination pliers

### Combination pliers

▷ ISO 5746, DIN 5244, NF E 73-103.

- Hardened throughout for overall strength.
- Cutting edges locally heat-treated to a hardness > 60 HRC.
- "2-colour warning" insulation.
- Burnished nose.

	L x I x H	Cu	∅ mm	200	ΔΔ
	mm		140	kg/mm <sup>2</sup>	g
			kg/mm <sup>2</sup>	kg/mm <sup>2</sup>	
<b>187.16AVSE</b>	165 x 65 x 35	3,3	2,0	1,6	265
<b>187.18AVSE</b>	185 x 70 x 35	3,7	2,3	1,8	320
<b>187.20AVSE</b>	205 x 70 x 40	4,0	2,4	2,0	410



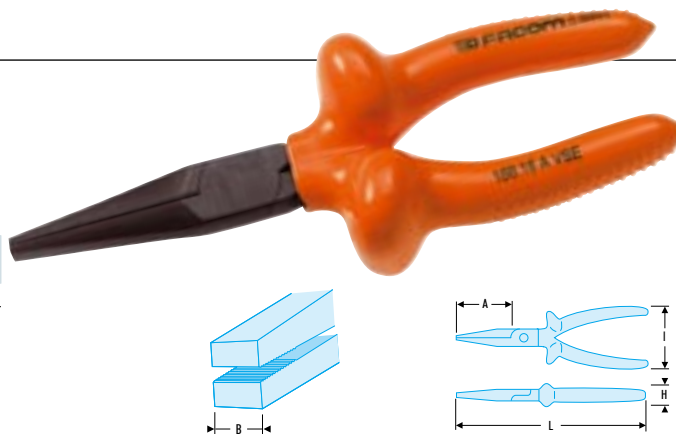
## ► Gripping pliers

### Flat-nose pliers

### 188.16AVSE

- Serrated tips.
- "2-colour warning" insulation.
- Burnished nose.

	A	B	L	I	H	ΔΔ
	mm	mm	mm	mm	mm	g
<b>188.16AVSE</b>	50	7	165	60	37	170



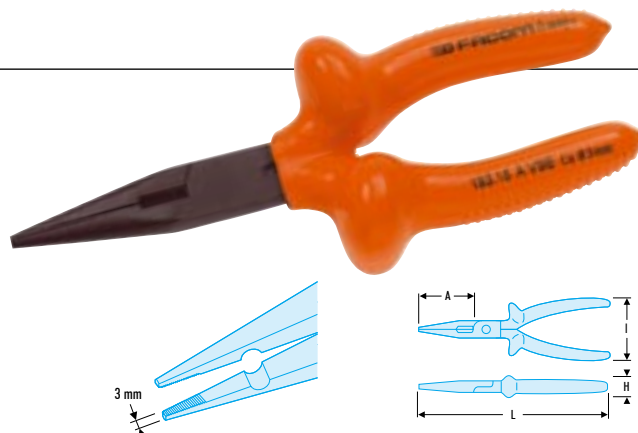
### Half-round nose pliers

### 193.16AVSE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745, NF EN 6090.

- Integral wire cutter.
- Serrated jaws for improved grip.
- "2-colour warning" insulation.
- Burnished nose.

	A	L x I x H	∅ mm	ΔΔ
	mm	mm	Cu 140 kg/mm <sup>2</sup>	g
<b>193.16AVSE</b>	50	170 x 70 x 32	3	180





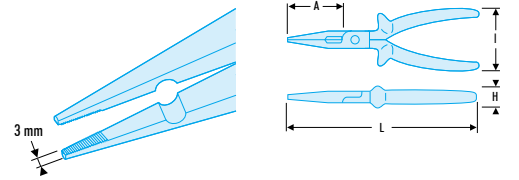
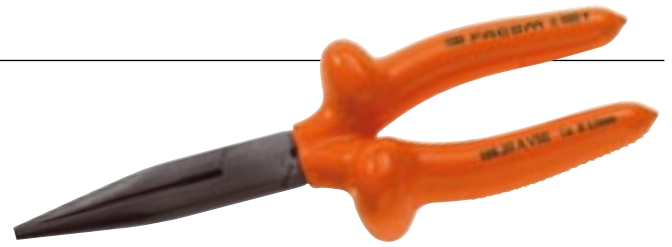
# 16 1,000 V insulated tools

## Long half-round nose pliers

### 185.20AVSE

- Integral wire cutter.
- "2-colour warning" insulation.
- Burnished nose.

E	A	L	I	H	∅ mm		ΔΔ
	mm	mm	mm	mm	Cu	kg/mm <sup>2</sup>	g
185.20AVSE	69	200	65	35	3,5	2	250



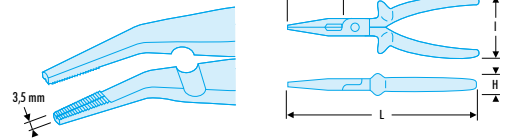
## Long half-round nose pliers

### 195.20AVSE

▷ ISO 5745, DIN ISO 5745, NF ISO 5745, NF EN 6090.

- Integral wire cutter.
- "2-colour warning" insulation.
- Burnished nose.

E	A	L	I	H	∅ mm		ΔΔ
	mm	mm	mm	mm	Cu	kg/mm <sup>2</sup>	g
195.20AVSE	64	200	63	32	3,5	2	250

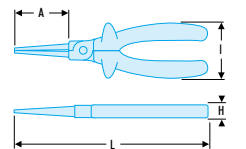


## Round nose pliers

### 189.17AVSE

- Model with long snipe nose, serrated for shaping bends or terminals on all types of wire.
- "2-colour warning" insulation.
- Burnished nose.
- Dimensions 170 x 60 x 33 mm.

E	A	L	I	H	ΔΔ
	mm	mm	mm	mm	g
189.17AVSE	45	170	60	33	175



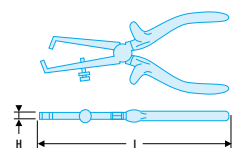
## Wire strippers

### Wire stripper

### 194.17AVSE

- Strips any wire in all common electrical systems up to max. → • ∅ 2.5 mm.
- "2-colour warning" insulation.
- Burnished nose.

E	H	L	ΔΔ
	mm	mm	g
194.17AVSE	8	170	200

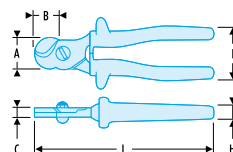


## ▶ 1,000 V insulated cable cutters

### Copper and aluminium cable cutters

- High performance from a compact tool.
- Forged safety stops.
- "2-colour warning" insulation.
- Burnished nose.

➤	A mm	B mm	C mm	L mm	I mm	H mm	∅ mm Cu	ΔΔ g
<b>412.10AVSE</b>	35	25	10	195	80	35	8	390
<b>412.14AVSE</b>	35	30	13	230	80	35	14	510
<b>412.150AVSE</b>	70	60	16	450	155	70	32	220



### Ratchet-type cable cutters

- One-handed operation.
- No cable core distortion.
- Forged and hardened steel blade.
- "2-colour warning" insulation.

➤	A mm	H mm	L mm	∅ <sup>max</sup> mm	Cu ∅	∅ <sup>maxi</sup> mm <sup>2</sup>	Alu ∅	ΔΔ kg
<b>414.45AVSE</b>	135	42	260	45	300	300/4x70	400/4x95	1
<b>414.52AVSE</b>	140	37	280	52	400	400/3x150+1/70	240/4x120	1,05



## ▶ Insulated hacksaw frame

### Hacksaw frame

#### 602.AVSE

▷ DIN 6473, NF E 73-073.

- Frame for 300 mm blade.
- 2 blade positions.
- Butterfly tensioner.
- Supplied with bimetal blade.
- Dimensions : 470 x 130 x 20 mm.

ΔΔ : 590 g.



## ▶ Insulated knife

### Knife

#### 1820.AVSE

- Thick, angled blade with flat tip.
- Soft bi-material handle.
- Blade sheath.
- Effective blade length 60 mm.
- Max. dimensions : 185 x 52 x 25 mm.

ΔΔ : 90 g.

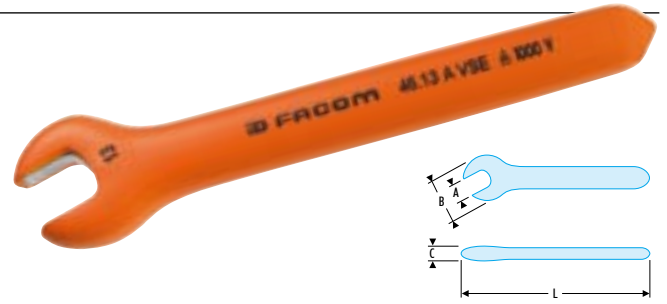


## ▶ Open-end wrenches

### Open-end wrenches

▷ DIN 3114, NF E 74-301.

- Based on combination wrench 40, model 46 is powerful reliable and safe :
- specific heat treatment and oil quenching achieve core hardness without brittling or distortion.
- size tolerances applied by Facom exceed standard specifications.
- "2-colour warning" insulation.



▣	A mm	B mm	C mm	L mm	ΔΔ g
46.8AVSE	8	22	8	105	30
46.9AVSE	9	24	9	105	35
46.10AVSE	10	25	9	105	40
46.11AVSE	11	29	10	115	50
46.12AVSE	12	30	10	125	60
46.13AVSE	13	32	11	135	70
46.14AVSE	14	34	11	145	80

▣	A mm	B mm	C mm	L mm	ΔΔ g
46.15AVSE	15	36	11	145	90
46.16AVSE	16	38	12	155	105
46.17AVSE	17	41	12	155	120
46.18AVSE	18	42	12	160	135
46.19AVSE	19	45	12	165	150
46.21AVSE	21	50	14	185	180

## ▶ Ring wrenches

### Offset ring wrenches

- OGV® ring profile.
- "2-colour warning" insulation.



▣	A mm	B mm	C mm	H mm	L mm	ΔΔ g
55.8AVSE	8	16	8	16	150	50
55.9AVSE	9	17	9	17	151	55
55.10AVSE	10	19	9	17	157	60
55.11AVSE	11	20	10	19	160	70
55.12AVSE	12	21	11	20	165	100
55.13AVSE	13	23	12	20	165	105
55.14AVSE	14	25	12	21	180	120

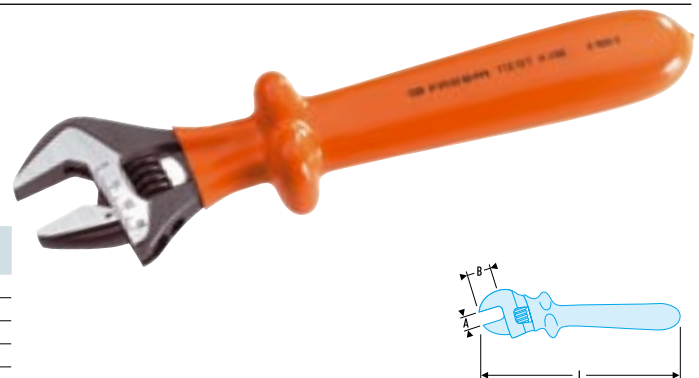
▣	A mm	B mm	C mm	H mm	L mm	ΔΔ g
55.15AVSE	15	26	12	21	183	130
55.16AVSE	16	27	13	26	195	160
55.17AVSE	17	30	14	27	198	180
55.18AVSE	18	30	14	27	215	200
55.19AVSE	19	32	14	27	215	205
55.21AVSE	21	35	16	31	245	300

## ▶ Adjustable wrenches

### Adjustable wrenches

▷ ISO 6787, DIN 3117, NF ISO 6787, ASME B 107.8 M.

- Finger stops.
- "2-colour warning" insulation.
- Graduated head, 15° angle.
- Burnished finish.
- Thumbwheel rotates anti-clockwise.



▣	A mm	B mm	L mm	ΔΔ g
113.8TAVSE	27	24	210	385
113.10TAVSE	30	29	260	655
113.12TAVSE	34	34	310	950
113.15TAVSE	44	44	385	1935

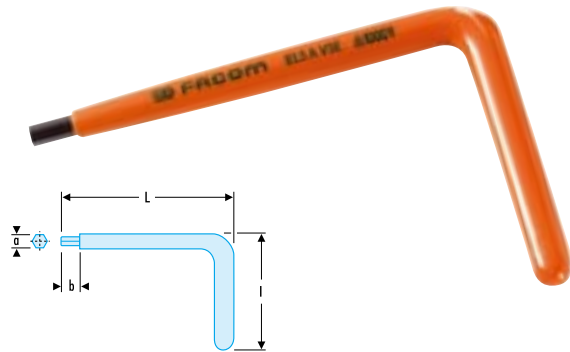
## ▶ Hexagonal keys

### Hexagonal keys

▷ ISO 2936, DIN ISO 2936, NF ISO 2936.

- Hardened alloy-steel exceeds specified strengths.
- "2-colour warning" insulation.

➤	a	b	l	L	ΔΔ
	mm	mm	mm	mm	g
<b>83.3AVSE</b>	3	12	85	125	20
<b>83.4AVSE</b>	4	12	85	125	30
<b>83.5AVSE</b>	5	12	85	125	50
<b>83.6AVSE</b>	6	12	85	125	70
<b>83.8AVSE</b>	8	12	85	125	110
<b>83.10AVSE</b>	10	12	85	125	150
<b>83.12AVSE</b>	12	12	85	125	210



## ▶ Cross wrenches

### Cross wrenches

- 4 insulated 6-point sockets.
- Non-conducting core prevents continuity between ends.
- Injection-moulded single-layer resin insulation.

➤	L	⊙±/mm	ΔΔ
	mm		g
<b>71.1AVSE</b>	140	6 x 8 x 10 x 12	170
<b>71.2AVSE</b>	150	7 x 9 x 11 x 13	210
<b>71.3AVSE</b>	150	8 x 10 x 12 x 14	230

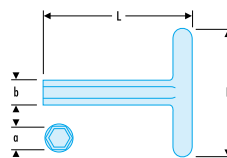


## ▶ Box wrenches

### Box wrenches

- 94T.AVSE : Box wrenches 135 mm long.
- 94TL.AVSE : Box wrenches 300 mm long.

➤	a	b	l	L	ΔΔ
	mm	mm	mm	mm	g
<b>94T.6AVSE</b>	6	13	115	135	150
<b>94T.8AVSE</b>	8	15	115	135	160
<b>94T.10AVSE</b>	10	19	115	135	185
<b>94T.11AVSE</b>	11	23	115	135	185
<b>94T.12AVSE</b>	12	24	115	135	210
<b>94T.13AVSE</b>	13	25	115	135	225
<b>94T.14AVSE</b>	14	26	115	135	240
<b>94TL.10AVSE</b>	10	21	205	300	420
<b>94TL.13AVSE</b>	13	25	205	300	520
<b>94TL.16AVSE</b>	16	30	205	300	800
<b>94TL.17AVSE</b>	17	30	205	300	840
<b>94TL.19AVSE</b>	19	33	205	300	910





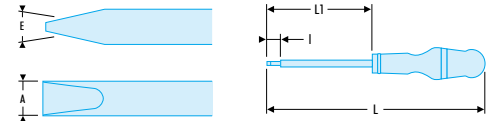
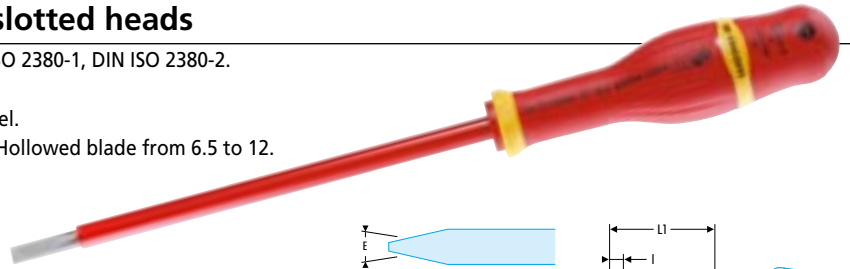
► Insulated screwdrivers for slotted heads

New

**A.VE screwdrivers for slotted heads**

► NF ISO 2380-1, NF ISO 2380-2, DIN ISO 2380-1, DIN ISO 2380-2.

- 1,000 V sheathed round blade.
- Chrome-Molybdenum-Vanadium steel.
- Machined blade up to 5.5 inclusive. Hollowed blade from 6.5 to 12.



➤	E x A mm	l x L mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>A2X75VE</b>	0,4 x 2,0	18 x 40	19 x 95	170	23
<b>A2,5X50VE</b>	0,4 x 2,5	18 x 50	25 x 103	153	30
<b>A2,5X75VE</b>	0,4 x 2,5	18 x 75	25 x 103	178	32
<b>A3X75VE</b>	0,5 x 3,0	18 x 75	25 x 103	178	38
<b>A3X100VE</b>	0,5 x 3,0	18 x 100	25 x 103	202	39
<b>A3,5X75VE</b>	0,6 x 3,5	18 x 75	25 x 104	179	42
<b>A3,5X100VE</b>	0,6 x 3,5	18 x 100	25 x 104	204	44
<b>A4X100VE</b>	0,8 x 4,0	18 x 100	30 x 110	210	48
<b>A4X150VE</b>	0,8 x 4,0	18 x 150	30 x 110	260	53
<b>A5,5X125VE</b>	1,0 x 5,5	18 x 125	30 x 110	235	88
<b>A5,5X150VE</b>	1,0 x 5,5	18 x 180	30 x 110	260	92

➤	E x A mm	l x L mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>A5,5X200VE</b>	1,0 x 5,5	18 x 200	30 x 110	310	106
<b>A6,5X150VE</b>	1,2 x 6,5	18 x 180	36 x 120	270	120
<b>A6,5X200VE</b>	1,2 x 6,5	18 x 200	36 x 120	320	170
<b>A8X150VE</b>	1,2 x 8,0	18 x 180	40 x 125	275	160
<b>A8X200VE</b>	1,2 x 8,0	18 x 200	40 x 125	325	180
<b>A10X200VE</b>	1,6 x 10,0	18 x 200	40 x 125	325	240
<b>A12X250VE</b>	2,0 x 12,0	18 x 250	40 x 125	375	360

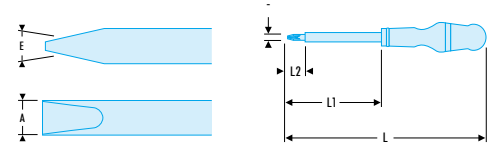
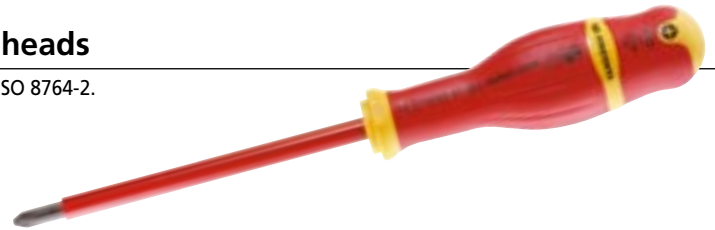
► Screwdrivers for Phillips® heads

New

**AP.VE screwdrivers for Phillips® heads**

► NF ISO 8764-1, NF ISO 8764-2, DIN ISO 8764-1, DIN ISO 8764-2.

- 1,000 V sheathed round blade.
- Chrome-Molybdenum-Vanadium steel.



➤	Phillips® n°	Ø mm	l x L mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>APOX75VE</b>	PH 0	Ø3x60	18 x 75	25 x 104	179	46
<b>AP1X100VE</b>	PH 1	Ø4,5x75	18 x 100	30 x 110	210	77
<b>AP2X125VE</b>	PH 2	Ø6x100	18 x 125	36 x 120	245	127
<b>AP3X150VE</b>	PH 3	Ø8x150	18 x 150	40 x 125	275	195
<b>AP4X200VE</b>	PH 4	Ø10x200	18 x 200	40 x 125	325	278

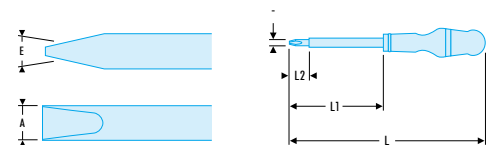
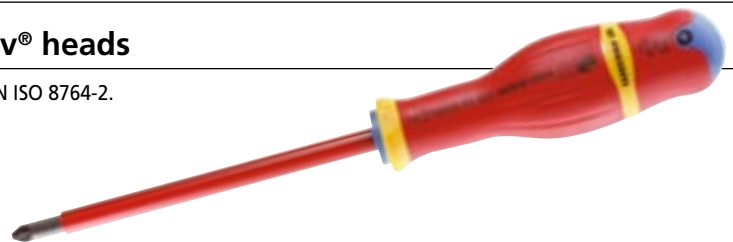
► Screwdrivers for Pozidriv® heads

New

**AD.VE screwdrivers for Pozidriv® heads**

► NF ISO 8764-1, NF ISO 8764-2, DIN ISO 8764-1, DIN ISO 8764-2.

- 1,000 V sheathed round blade.
- Chrome-Molybdenum-Vanadium steel.



➤	Pozidriv® n°	Ø mm	l x L mm	Ø2 x L2 mm	L mm	ΔΔ g
<b>ADOX75VE</b>	PZ 0	Ø3x60	18 x 75	25 x 104	179	46
<b>AD1X100VE</b>	PZ 1	Ø4,5x75	18 x 100	30 x 109	209	77
<b>AD2X125VE</b>	PZ 2	Ø6x100	18 x 125	36 x 120	245	127
<b>AD3X150VE</b>	PZ 3	Ø8x150	18 x 150	40 x 125	275	195


# 1,000 V insulated tools

## ► Insulated screwdriver sets


New

### A.VE 1,000 V insulated screwdriver sets



Ref	Number of screwdrivers	Contents
<b>AD.J5VE</b>	5	<ul style="list-style-type: none"> <li>● A3,5x100VE - A4x100VE - A5,5x125VE</li> <li>⊕ AD1 x 100VE - AD2x125VE</li> </ul>
<b>AP.J5VE</b>	5	<ul style="list-style-type: none"> <li>● A3,5x100VE - A4x100VE - A5,5x125VE</li> <li>⊕ AP1x100VE - AP2x125VE</li> </ul>
<b>AD.J8VE</b>	8	<ul style="list-style-type: none"> <li>● A2,5x75VE - A3x75VE - A3,5x75VE</li> <li>- A4x100VE - A5,5x125VE - A6,5x150VE</li> <li>⊕ AD1x100VE - AD2x125VE</li> </ul>



Borneo®



For our range of borneo®  
1,000 V screwdrivers for electrical terminals.  
See p. 322

## ► FACOM VSE 1,000 V insulated ratchets and sockets

i

### A COMPREHENSIVE RANGE OF TOOLS FOR WORKING ON LIVE COMPONENTS

- 1- Comprehensive range of accessories extensions, Tee handles, etc.
- 2- Variety of socket lengths.
- 3- 1/2", 3/8" and 1/4" square drives for overcoming accessibility problems.



1



2



3



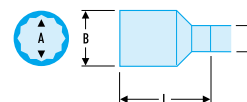


And complete box sets

## ► 1/2" square drive 12-point sockets

### 1/2" square drive 12-point sockets

- For manual use.
- 1/2" (12.7 mm) square drive.



Ref	A mm	B mm	C mm	L mm	ΔΔ g
<b>S.8AVSE</b>	8	17	22	52	70
<b>S.9AVSE</b>	9	18	22	52	70
<b>S.10AVSE</b>	10	19	22	52	75
<b>S.11AVSE</b>	11	20	22	52	75
<b>S.12AVSE</b>	12	22	22	52	75
<b>S.13AVSE</b>	13	23	22	52	75

Ref	A mm	B mm	C mm	L mm	ΔΔ g
<b>S.14AVSE</b>	14	24	22	52	80
<b>S.17AVSE</b>	17	28	22	52	90
<b>S.19AVSE</b>	19	32	22	52	95
<b>S.21AVSE</b>	21	33	22	52	130
<b>S.22AVSE</b>	22	34	22	52	145



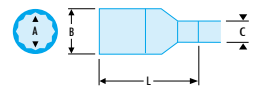
# 16 1,000 V insulated tools

## ▶ Long-reach 1/2" square drive 12-point sockets

### Long-reach sockets

- For manual use.
- 1/2" (12.7 mm) square drive.
- OGV® profile.

▣	A mm	B mm	C mm	L mm	ΔΔ g
<b>S.12LAVSE</b>	12	22	22	77	125
<b>S.13LAVSE</b>	13	23	22	77	135
<b>S.14LAVSE</b>	14	24	22	77	135
<b>S.16LAVSE</b>	16	27	22	77	150
<b>S.17LAVSE</b>	17	28	22	77	161
<b>S.18LAVSE</b>	18	29	22	77	167
<b>S.19LAVSE</b>	19	32	22	77	180

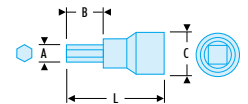


## ▶ 1/2" square drive hexagon bits

### Hexagon bits

- For manual use.
- 1/2" (12.7 mm) square drive.

▣	A mm	B mm	C mm	L mm	ΔΔ g
<b>ST.8AVSE</b>	8	10	22	70	90
<b>ST.10AVSE</b>	10	12	22	70	90
<b>ST.12AVSE</b>	12	12	22	92	145
<b>ST.14AVSE</b>	14	17	22	92	150
<b>ST.17AVSE</b>	17	19	22	92	175



## ▶ Ratchets and accessories □ 1/2"

### 1/2" drive ratchet

#### **S.151AVSE**

- 1/2" (12.7 mm) square drive.
- Sockets and accessories secured by spring-ball.
- Retention force 32 to 38 N
- "2-colour warning" handle insulation.
- Dimensions 265 x 55 x 70 mm.

ΔΔ : 580 g.



### 1/2" handle

#### **S.121AVSE**

- 1/2" (12.7 mm) square drive.
- Sockets and accessories secured by spring-ball.
- Retention force 32 to 38 N.
- "2-colour warning" handle insulation.
- Dimensions 210 x 165 x 25 mm.

ΔΔ : 520 g.



### 1/2" square drive extensions

- 1/2" (12.7 mm) square drive.
- Single-colour insulation.

▣	□ mm	L mm	ΔΔ g
<b>S.210AVSE</b>	22	145	250
<b>S.215AVSE</b>	22	265	470



## ► Case set of sockets

### 12-piece tool set

#### S.400AVSE

- Comprising :
  - 9 sockets, 12-point, sizes 8, 9, 10, 11, 12, 13, 14, 17, 19 mm.
  - 1 ratchet S.151AVSE.
  - Extensions S.210AVSE and S.215AVSE.
- Dimensions 390 x 160 x 68 mm.
- ΔΔ : 2.46 kg.



### 17-piece tool set

#### S.401AVSE

- Comprising :
  - 9 sockets, 12-point, sizes 8, 9, 10, 11, 12, 13, 14, 17, 19 mm.
  - 5 bits, sizes 8, 10, 12, 14, 17 mm.
  - 1 ratchet S.151AVSE.
  - Handle S.121AVSE.
  - Extension S.210AVSE.
- Dimensions 345 x 280 x 65 mm.
- ΔΔ : 3.43 kg.

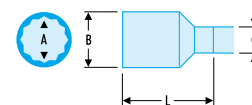


## ► 3/8" square drive sockets

### 3/8" square drive 12-point sockets

▷ ISO 2725-1, DIN 3124, NF ISO 2725-1.

- For manual use.
- 3/8" (9.53 mm) square drive.
- OGV® profile.



Logo	A mm	B mm	C mm	L mm	ΔΔ g
J.8AVSE	8	17	18	43	30
J.9AVSE	9	18	18	43	32
J.10AVSE	10	20	18	43	34
J.11AVSE	11	21	18	46	35
J.12AVSE	12	22	18	46	35
J.13AVSE	13	23	18	46	45

Logo	A mm	B mm	C mm	L mm	ΔΔ g
J.14AVSE	14	25	18	46	45
J.15AVSE	15	25	18	46	45
J.16AVSE	16	27	18	46	45
J.17AVSE	17	27	18	46	48
J.18AVSE	18	29	18	46	66
J.19AVSE	19	31	18	50	68

## ► Long-reach 3/8" square drive sockets

### Long-reach 3/8" square drive 12-point sockets

- For manual use.
- 3/8" (9.53 mm) square drive.
- OGV® profile.

Logo	A mm	B mm	C mm	L mm	ΔΔ g
J.8LAVSE	8	19	18	63	66
J.13LAVSE	13	23	18	63	75
J.14LAVSE	14	23	18	69	98
J.16LAVSE	16	25	18	76	147
J.17LAVSE	17	27	18	76	147
J.18LAVSE	18	28	18	76	157
J.19LAVSE	19	29	18	76	166





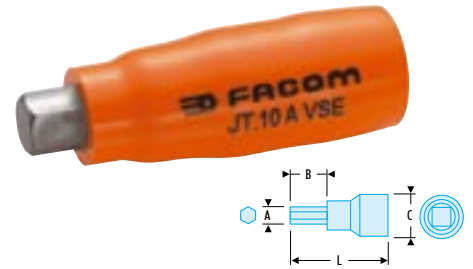
# 16 1,000 V insulated tools

## ▶ 3/8" square drive hexagon bits

### 3/8" square drive hexagon bits

- For manual use.
- 3/8" (9.53 mm) square drive.

➤	A mm	B mm	C mm	L mm	ΔΔ g
JT.4AVSE	4	10	18	66	43
JT.5AVSE	5	10	18	66	43
JT.6AVSE	6	10	18	66	44
JT.7AVSE	7	10	18	66	48
JT.8AVSE	8	10	18	66	56
JT.10AVSE	10	10	18	66	63



## ▶ Ratchets and accessories ☐ 3/8"

### 3/8" drive ratchet

#### J.151AVSE

- 3/8" (9.53 mm) square drive.
  - Sockets and accessories secured by spring-ball.
  - Retention force 13 to 16 N.
  - "2-colour warning" handle insulation.
  - Dimensions 180 x 50 x 48 mm.
- ΔΔ : 250 g.



### 3/8" handle

#### J.121AVSE

- 3/8" (9.53 mm) square drive.
  - Sockets and accessories secured by spring-ball.
  - Retention force 13 to 16 N.
  - "2-colour warning" handle insulation.
  - Dimensions 205 x 165 x 35 mm.
- ΔΔ : 380 g.



### 3/8" square drive extensions

- 3/8" (9.53 mm) square drive.
- Single-colour insulation.

➤	⌀ mm	L mm	ΔΔ g
J.210AVSE	17	150	150
J.215AVSE	17	260	290



## ▶ 3/8" square drive socket and accessory sets

### 9-piece tool set (12 point sockets)

#### J.400AVSE

- Comprising :
    - 6 sockets (12-point), 8, 10, 11, 12, 13, 14 mm.
    - 1 ratchet J.151AVSE.
    - Extensions J.210AVSE and J.215AVSE.
  - Dimensions 390 x 160 x 68 mm.
- ΔΔ : 1.74 kg.



# 1,000 V insulated tools

## 17-piece tool set

### J.401AVSE


- Comprising :
  - 9 sockets (12-point), sizes 8, 10, 11, 12, 13, 14, 15, 17, 19 mm.
  - 5 hexagon bits, 4, 5, 6, 7, 8 mm.
  - 1 ratchet J.151AVSE.
  - 1 handle J.121AVSE.
  - Extension J.210AVSE.
- Dimensions 345 x 280 x 65 mm.
- $\Delta\Delta$  : 2.25 kg.

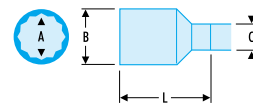


## ▶ 1/4" square drive sockets

### 1/4" square drive sockets

- For manual use.
- 1/4" (6.35 mm) square drive.


	A mm	B mm	C mm	L mm	$\Delta\Delta$ g
<b>R.6AVSE</b>	6	16	22	22	10
<b>R.7AVSE</b>	7	17	22	22	16
<b>R.8AVSE</b>	8	17	22	22	16
<b>R.10AVSE</b>	10	18	22	22	20
<b>R.12AVSE</b>	12	22	22	22	30

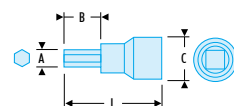


## ▶ 1/4" square drive hexagon bits

### Hexagon bits

- For manual use.
- 1/4" (6.35 mm) square drive.

	A mm	B mm	C mm	L mm	$\Delta\Delta$ g
<b>RT.4AVSE</b>	4	11	22	37	20
<b>RT.5AVSE</b>	5	13	22	37	20
<b>RT.6AVSE</b>	6	14	22	37	20



## ▶ Ratchets and accessories 1/4"

### 1/4" drive ratchet

#### R.151AVSE

- 1/4" (6.35 mm) square drive.
- Sockets and accessories secured by spring-ball.
- Retention force 6 to 9 N.
- "2-colour warning" handle insulation.
- Dimensions 125 x 45 x 35 mm.
- $\Delta\Delta$  : 140 g.



# 16 1,000 V insulated tools

## 1/4" square drive extensions

### R.210AVSE

- 1/4" (6.35 mm) square drive.
- Dimensions 116 x 16.6 mm.
- Single-colour insulation.

➤	L mm	∅ mm	ΔΔ g
R.210AVSE	116	16,6	65



## ▶ 1/4" square drive socket and accessory sets

### Tool set

#### R.400AVSE

- Comprising :
  - 5 sockets 6, 7, 8, 10, 12 mm.
  - 3 hexagon bits, 4, 5, 6 mm.
  - 1 ratchet R.151AVSE.
  - Extension R.210AVSE.
- Dimensions 322 x 136 x 53 mm.
- ΔΔ : 650 g.



## ▶ Insulating gloves

### Insulating gloves

- ▷ EN 60903 - European directive EC/89/686.
- Natural latex, AZMC grade :
  - R : resistant to acid, oil and ozone.
  - C : resistant to very low temperatures.
- Supplied in an opaque anti-UV pouch.
- Length 360 mm.
- ΔΔ : 150 g.

➤	Size	Thickness mm	Class	Power supply V
BC.80VSE	9 (B)	0,5	00	500
BC.81VSE	10 (C)	0,5	00	500
BC.90VSE	9 (B)	1	0	1000
BC.91VSE	10 (C)	1	0	1000



## ▶ Overgloves

### Overgloves

- ▷ European directive EC/89/686.
- Silicon leather giving mechanical protection.
- Worn over latex insulating gloves.
- Physical/mechanical classification 2, 1, 2, 1 to European standard EN 388.

➤	Size	ΔΔ g
BC.109VSE	9 (B)	160
BC.110VSE	10 (C)	160



## ► Safety glasses and goggles



### Why wear eye protection ?

- 1) To protect against projections of solid particles (spectacle type), liquids or chemicals (mask type).
- 2) To protect against UV radiation.

Where eye protection wherever there is a risk of exposure to particles, chemical products, fumes, splashing, dust, glass fibre, heat or metal shavings.  
Protect your eyes : avoid damage.

It is recommended to wear safety goggles with side shields when operating machine tools, wood-working machinery or shredders.



### Lens care

Regularly examine goggles and replace if any worn, broken or damaged parts are noted (stems, eyepieces, etc.).  
Clean the lenses with warm soapy water. A microfibre cloth can be used to remove grease and dirt from the lenses without damage.

## Safety glasses

### BC.30VSE

- ▷ EN 166 - European directive EC/89/686.
  - Treated against UV rays, fogging and scratching.
  - Optical class 1, protection class 1.2.
  - Adjustable and extendable arms.
  - Soft case included.
- ΔΔ : 75 g.



## Safety goggles

### BC.31VSE

- ▷ NF EN 166 - European directive EC/89/686.
  - Protection for prescription glasses.
  - Optical class 1, protection class 1.2.
  - Synthetic, anti-UV clear lenses.
  - Resistant to scratching and flying chips (• Soft case included).
- ΔΔ : 70 g.



## ► Insulating mats

### Insulating mats

- ▷ NF C 18.420.
- Rubber mat to insulate operator from any earthing points.
- Thickness 3.2 mm.
- Hardness 60 DIDC.

	Length x width m	ΔΔ kg
BC.20VSE	1 x 0,6	2,5
BC.21VSE	1 x 1,0	4,2





## ▶ Insulated clips

### Insulated clips

#### BC.25VSE

- Strong resin clips for joining insulating mats.
  - Integral hanging hook.
  - Max. opening 40 mm.
  - Length 155 mm.
- △△ : 70 g.



## ▶ Insulated tool sets

### 9-piece tool set

#### 2180B.VSE

- Basic set for servicing workshop electrical gear.
  - Supplied in leather bag, ref. BV.100.
  - Dimensions 350 x 120 x 120 mm.
- △△ : 2.025 kg.

Ref.	Quantity	Description
BC.90VSE	1	Size 9 low temperature insulating gloves
BV.100	1	Compact leather bag
189.17AVSE	1	Insulated round-nose pliers
194.17AVSE	1	Insulated wire stripper
391.16AVSE	1	Diagonal cutters for copper wire
1820.AVSE	1	1000 V insulated knife
187.18AVSE	1	1000 V insulated combination pliers
A4X100VE	1	Screwdriver
AP1X100VE	1	1000 V insulated screwdriver PH1
A5,5X150VE	1	Screwdriver



### 28-piece tool set

#### 2185C.VSE

- In a chest with modular storage.
  - Basic general-purpose tools supplied in a plastic chest.
  - Spare capacity for additional tools.
  - Dimensions 524 x 320 x 214 mm.
- △△ : 9.300 kg.

Ref.	Quantity	Description
AV.HT1B	1	Voltage tester screwdriver for low voltage 90 to 480 V
BC.109VSE	1	Pair of overgloves, size 9
BC.90VSE	1	Size 9 low temperature insulating gloves
DELA.401.00	1	Plastic folding rule (2 m)
113.10TAVSE	1	Insulated adjustable wrench 30 mm
R.400AVSE	1	10-piece set of insulated 1/4" tools
188.16AVSE	1	1000 V insulated flat-nose pliers
192.16AVSE	1	Insulated cutters for hard wire
194.17AVSE	1	Insulated wire stripper
391.16AVSE	1	1000 V insulated diagonal cutters for copper wire
412.14AVSE	1	1000 V insulated 14 mm copper and aluminium cable cutters
1820.AVSE	1	1000 V insulated knife
187.18AVSE	1	1000 V insulated combination pliers
A5,5X150VE	1	Screwdriver
A8X150VE	1	Screwdriver
BP.10	1	Compact tool box
A6,5X150VE	1	Screwdriver
AP2X125VE	1	1000 V insulated screwdriver PH2
A4X100VE	1	Screwdriver
AP1X100VE	1	1000 V insulated screwdriver PH1



# 1,000 V insulated tools

## 41-piece tool set

### 2187C.VSE

- For fitting electrical gear.
- Supplied in leather case, ref. BV 7B : 445 x 330 x 185 mm.
- ΔΔ : 8.5 kg.

⇒	Quantity	Description
BV.7A	1	Fold-down front leather case
BC.109VSE	1	Size 9 overgloves
BC.90VSE	1	Size 9 low temperature insulating gloves
R.400AVSE	1	10 - piece set of insulated 1/4" tools
113.10TAVSE	1	Insulated adjustable wrench 30 mm
188.16AVSE	1	Insulated flat-nose pliers
194.17AVSE	1	Insulated wire stripper
391.16AVSE	1	Insulated diagonal cutter for copper
412.14AVSE	1	1000 V and 14 mm copper and aluminium cable cutters
46.10AVSE	1	Insulated open end wrench 10 mm
83.3AVSE	3	Insulated 3-4-6 mm key
AV.HT1B	1	Voltage tester screwdriver 90 to 480 V
701A	1	Multifunction tester
BC.31VSE	1	Goggles
46.11AVSE	1	Insulated open end wrench 11 mm
46.12AVSE	1	Insulated open end wrench 12 mm
46.13AVSE	1	Insulated open end wrench 13 mm
46.14AVSE	1	Insulated open end wrench 14 mm
46.17AVSE	1	Insulated open end wrench 17 mm
46.19AVSE	1	Insulated open end wrench 19 mm
46.8AVSE	1	Insulated open end wrench 8 mm
83.4AVSE	1	Insulated 4 mm key
83.6AVSE	1	Insulated 6 mm key
187.18AVSE	1	Insulated combination pliers
APOX75VE	1	1000V insulated screwdriver PH0
APIX100VE	1	1000V insulated screwdriver PH1



⇒	Quantity	Description
AP2X125VE	1	1000V insulated screwdriver PH2
A3,5X100VE	1	Screwdriver
A4X100VE	1	Screwdriver
A6,5X150VE	1	Screwdriver
A5,5X150VE	1	Screwdriver
A8X150VE	1	Screwdriver
189.17AVSE	1	Insulated round-nose pliers

## 42-piece tool set

### 2184C.VSE

- For workshop or on-site electrical work.
- Supplied in leather case, ref. BV 5A.
- Dimensions 425 x 215 x 320 mm.
- ΔΔ : 14.13 kg.

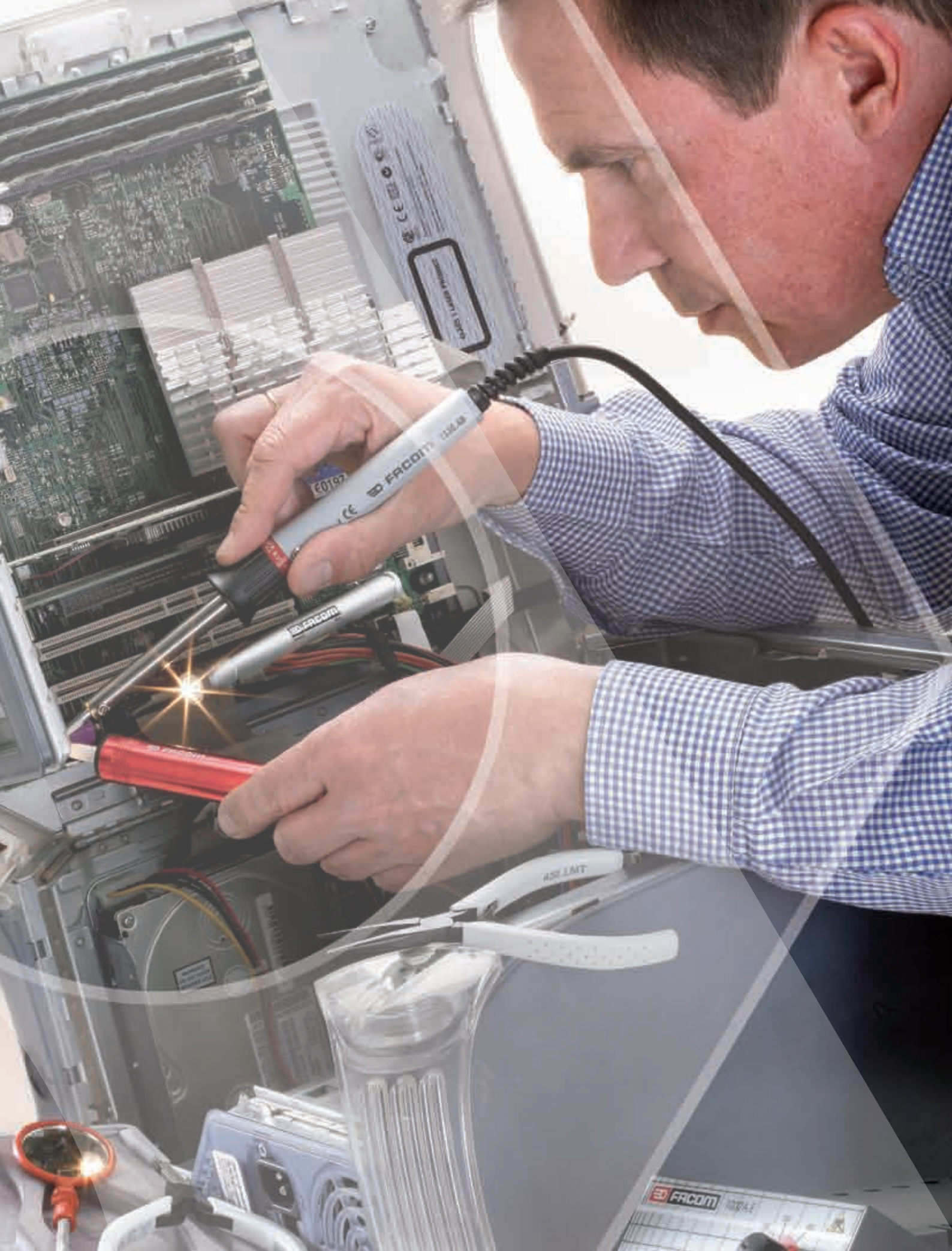
⇒	Quantity	Description
BV.5A	1	Leather drawer case
BC.20VSE	1	Insulating mat 1 m x 0.6 m
BC.90VSE	1	Size 9 low temperature insulating gloves
180.VSE	1	Insulated multigrip pliers
188.16AVSE	1	Insulated flat-nose pliers
46.10AVSE	1	Insulated open end wrench 10 mm
195.20AVSE	1	Insulated long half-round nose pliers
192.16AVSE	1	Insulated cutter for hard wire
391.16AVSE	1	Insulated diagonal cutter for copper
412.14AVSE	1	1000 V and 14 mm copper and aluminium cable cutters
194.17AVSE	1	Insulated wire stripper
46.12AVSE	1	Insulated open end wrench 12 mm
46.13AVSE	1	Insulated open end wrench 13 mm
46.14AVSE	1	Insulated open end wrench 14 mm
46.17AVSE	1	Insulated open end wrench 17 mm
46.19AVSE	1	Insulated open end wrench 19 mm
46.21AVSE	1	Insulated open end wrench 21 mm
46.8AVSE	1	Insulated open end wrench 8 mm
189.17AVSE	1	Insulated round-nose pliers
701A	1	Multifunction tester
83.3AVSE	1	Insulated 3 mm key
83.4AVSE	1	Insulated 4 mm key
83.6AVSE	1	Insulated 6 mm key
94T.10AVSE	1	Insulated box wrench 10 mm
94T.13AVSE	1	Insulated box wrench 13 mm
94T.8AVSE	1	Insulated box wrench 8 mm
414.45AVSE	1	Insulated ratchet-type cable cutter 45 mm
1820.AVSE	1	1000 V insulated knife



⇒	Quantity	Description
DELA.401.00	1	Synthetic folding rule 2 m
187.18AVSE	1	Insulated combination pliers
190.16AVSE	1	Insulated cutter for hard wire
A3,5X100VE	1	Screwdriver
A4X100VE	1	Screwdriver
A5,5X150VE	1	Screwdriver
A6,5X150VE	1	Screwdriver
A8X150VE	1	Screwdriver
APIX100VE	1	1000 V insulated screwdriver PH1
AP2X125VE	1	1000 V insulated screwdriver PH2
A10X200VE	1	Screwdriver
AD1X100VE	1	1000 V insulated screwdriver PZ1
AD2X125VE	1	1000 V insulated screwdriver PZ2







# 17. Electronics

## ▶ Micro-tech electronics pliers 672



## ▶ Anti-static series electronics pliers 684



## ▶ Micro-Tech screwdrivers 690



Series 0 tips – 4 mm drive ..... 692

## ▶ Micro-Tech screwdriver case sets 693



## ▶ Watchmaker screwdriver sets 696



## ▶ Micro-Tech sets 695



## ▶ Special Micro-Tech pliers 700



Circlip pliers ..... 700  
 Truarc® pliers ..... 700  
 Ring pliers ..... 700

## ▶ Tweezers 697



Standard series ..... 697  
 PVC-coated series ..... 698  
 High-precision series ..... 698  
 Specialised tweezers ..... 699  
 Tweezer sets ..... 699

## ▶ Soldering 706



Controlled-heat soldering stations ..... 706  
 Soldering irons for electronics ..... 707  
 Instant heat soldering irons ..... 708  
 Heavy-duty soldering irons ..... 709  
 Gas soldering irons ..... 709  
 Soldering wire ..... 710  
 Soldering accessories ..... 710

## ▶ Miscellaneous tools 701







**Micro-Tech®**

**A SPECIALISED RANGE OF 300 TOOLS DESIGNED AND DEVELOPED WITH THE HELP OF PROFESSIONALS!**

**Dedicated features**

- A range of materials to optimise gripping, cutting or handling of small components.
- Efficient storage for instant selection of the correct tool.
- Antistatic tools providing electrostatic discharge protection.


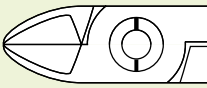

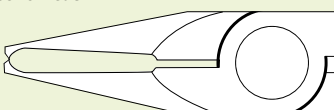

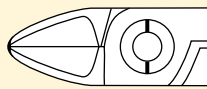



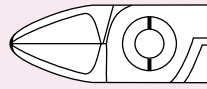


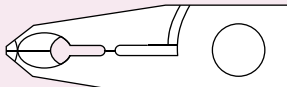
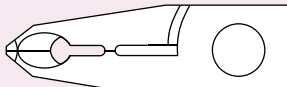
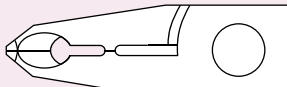
**Choosing the right electronics pliers**

▼ ACCORDING TO CUT : The Facom range offers three types. Choose the one best suited to your needs.

CUTTING EDGES	PATTERN	FEATURES	WIRE TYPE		OPERATION	APPLICATION
AXIAL CUT		Cutting edges are treated to achieve maximum strength and precision cutting of a wide range of materials, from piano wire to copper.	Cu	✓	- Production work. - Day-to-day use. - Maintenance. - Hard materials.	- Customer service (hi-fi) - Machine-tools - Automotive - Domestic appliances
			CuNi alloy CuNi	✓		
			Mild steel 30 HRc	✓		
			Hard steel 50 HRc Piano wire	✓		
SEMI-FLUSH CUT		Micro-chamfered cutting edges ensure high cutting capacity with clean finish. Precision is maintained throughout a long service life even in intensive use. Suitable for semi-hard wire.	Cu	✓	- Clean cut in intensive use - Wiring. - Batch electronics - Semi-hard materials.	- Computers - Telephone exchanges - Video and laser - Micro-Tech® (hi-fi, labs)
			CuNi alloy	✓		
			Mild steel 30 HRc	✓		
			Hard steel 50 HRc Piano wire	✗		
FLUSH CUT		This range is designed to give a through-cut without crushing the wire. Clean-cut ends allow reliable soldering, without damage to electronic components from arcing. Suitable for soft wire only.	Cu	✓	- High-frequency apparatus. - High precision equipment. - Cut-back before soldering. - Electrostatically sensitive components.	- Defence - Aerospace - Aviation - Laboratory
			CuNi alloy	✓		
			Mild steel 30 HRc	✗		
			Hard steel 50 HRc Piano wire	✗		





▼ ACCORDING TO PROFILE\*

NOSE DESIGN		∅ Cu WIRE (mm)	∅ MAX Fe WIRE 30 HRc	∅ MAX PIANO WIRE
		0 0.5 1 1.5 2		
• Bullet nose for strength 	405.8 MT-E 405.MT-E 405.10 MT-E 405.12MT-E 405-E 405.10 RMT-RE 405.12 RMT-RE*	0.2 → 1.0 0.3 → 1.3 0.3 → 1.4 0.4 → 2.0 0.3 → 1.1 0.3 → 1.2 0.4 → 1.5	0.5 0.7 0.8 1.0 0.7 0.8 1.0	 0.4 0.5 0.8 0.4 0.5 0.6
• End nose for reach 	408.MT	0.4 → 1.5	0.5	
• Bullet nose for strength 	406.8-MT-E 406.MT-E 435.MT-E 436.MT-E 415.MT-E 406.RMT-RE* 435.RMT-RE* 415.RMT*-RE*	0.1 → 1.0 0.1 → 1.3 0.1 → 1.3 0.1 → 1.2 0.3 → 2.0 0.1 → 1.1 0.1 → 1.1 0.3 → 1.5	 0.7 0.7 0.7 1.0 0.7 0.7 0.8	
• Pointed nose for control 	416.MT-E 416.PMT-E 416.12 MT-E 416.RMT	0.1 → 1.0 0.1 → 0.8 0.3 → 1.6 0.1 → 0.9	0.5 0.4 0.7 0.5	
• Bullet nose for strength 	407.8 MT-E 407.MT-E 425.MT-E 426.MT-E	0.1 → 0.8 0.1 → 1.3 0.1 → 1.3 0.1 → 1.2	 	
• Pointed nose for control 	417.PMT-E	0.1 → 0.8		
• Angled nose for accuracy 	427.MT-E 429.MT-E 430.MT	0.2 > 0.6 0.2 → 1.0 0.2 → 1.0		
• End nose for reach 	418.MT 428.MT	0.1 → 0.6 0.1 → 0.8		




▶ "Micro-Tech<sup>®</sup>"

▶▶ Bullet-nose cutting pliers





### Bullet nose pliers


- Are stronger than other profiles.
- Have a high cutting capacity and durability that are useful in a wide variety of applications.



**AXIAL CUT**  
All materials, any application.











**SEMI-FLUSH CUT**  
Clean, long-life cut in semi-hard materials.

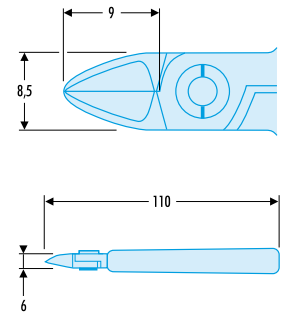


**FLUSH CUT**  
Smooth cut for sound soldered connections.

**Slim-joint models for precision**









- ▷ ISO 9654
- Suitable for miniature electronic components.
- ΔΔ : 60 g.

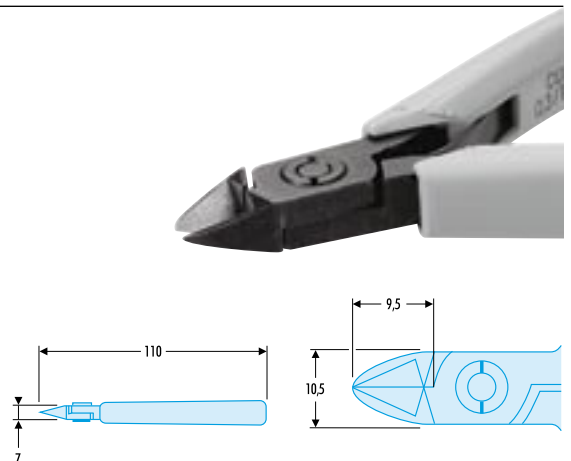
Model	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Piano wire Ø mm
<b>405.8MT</b>		0,2 - 1	0,5	
<b>406.8MT</b>		0,1 - 1		
<b>407.8MT</b>		0,1 - 1		



**Compact models for manoeuvrability**

- ▷ ISO 9654
- Slimmer bullet-nose profile combines cutting performance with manoeuvrability.
  - Available with off-cut retaining system. Model 405.MT is suitable for cutting piano wire d. 0.4 mm
- ΔΔ : 60 g.

Model	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Piano wire Ø mm	Offcut retainer
<b>405.MT</b>		0,3 - 1,3	0,7	0,4	
<b>406.MT</b>		0,1 - 1,3	0,7		
<b>406.RMT</b>		0,1 - 1,1	0,6		•
<b>407.MT</b>		0,1 - 1,3			



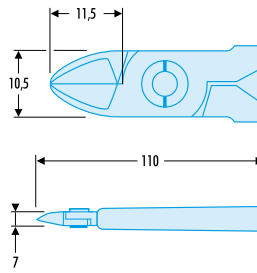
## Stocky models for versatility

▷ ISO 9654

- Clean cut in a variety of materials, from copper to piano wire up to > 0.5 mm.
- Available with off-cut retaining system.

ΔΔ : 60 g.

🔪	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Piano wire Ø mm	Offcut retainer
<b>405.10MT</b>	∧	0,3 - 1,4	0,8	0,5	
<b>405.10RMT</b>	∧	0,3 - 1,2	0,7	0,5	•



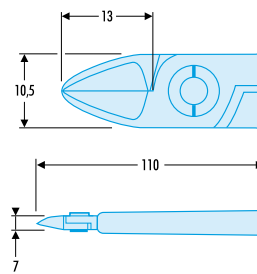
## Long-reach models for accessibility

▷ ISO 9654

- Up to 1.5 to 2 mm more reach than standard cutting pliers
- Available with off-cut retaining system.

ΔΔ : 60 g.

🔪	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Offcut retainer
<b>435.MT</b>	∧	0,1 - 1,3	0,7	
<b>435.RMT</b>	∧	0,1 - 1,1	0,7	•
<b>425.MT</b>	∧	0,1 - 1,3	⊕	



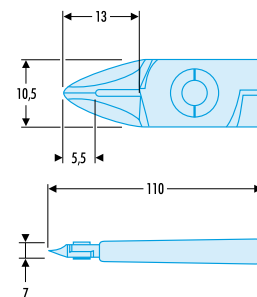
## Slim-nose model with back clearance

▷ ISO 9654

- For cutting behind components and reaching under obstacles such as coils or resistors.

ΔΔ : 60 g.

🔪	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
<b>436.MT</b>	∧	0,1 - 1,2	0,7
<b>426.MT</b>	∧	0,1 - 1,2	⊕



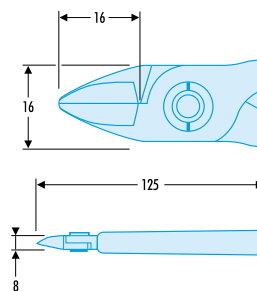
## Heavy-duty models for power

▷ ISO 9654

- For tough applications and repetitive work on a wide range of materials.
- Piano wire 405.12 MT : 0.8 mm; 405.12 RMT : 0.6 mm.
- Available with off-cut retaining system.


ΔΔ : 95 g.

🔪	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Piano wire Ø mm	Offcut retainer
<b>405.12MT</b>	∧	0,4 - 2,0	1,0	0,8	
<b>405.12RMT</b>	∧	0,4 - 1,5	0,9	0,6	•
<b>415.MT</b>	∧	0,3 - 2,0	0,9	⊕	
<b>415.RMT</b>	∧	0,3 - 1,5	0,8	⊕	•






## ►► Pointed-nose cutting pliers

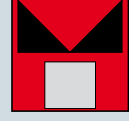


### Pointed-nose pliers

- Are ideal where clearance is restricted and allow better visibility of the wire being cut.



**SEMI-FLUSH CUT**  
Clean, long-life cut in semi-hard materials.





**FLUSH CUT**  
Smooth cut for sound soldered connections.

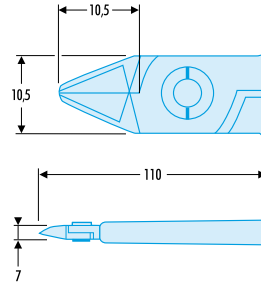
### Pointed models

▷ ISO 9654

- Taper nose for improved accessibility.
- Available with off-cut retaining system.

ΔΔ : 60 g.

	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Offcut retainer
<b>416.MT</b>		0,1 - 1,0	0,5	
<b>416.RMT</b>		0,1 - 0,9	0,5	•






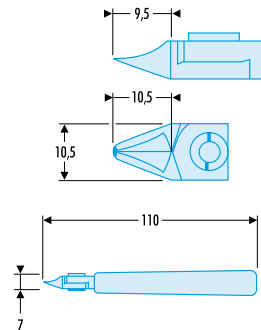
### Pointed slim-nose models for manoeuvrability

▷ ISO 9654

- Slots in and around printed-circuit components, allowing good visibility.

ΔΔ : 60 g.

	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm	Offcut retainer
<b>416.PMT</b>		0,1 - 0,8	0,4	
<b>417.PMT</b>		0,1 - 0,8		



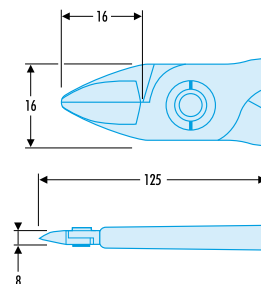
### Heavy-duty taper nose

#### 416.12MT


▷ ISO 9654

- Suitably sized for production applications.
- Semi-flush cut.
- Cu-Ni wire Ø 0.3 to 1.6 mm.
- Fe wire 30 HRc Ø 0.7 mm.

ΔΔ : 95 g.

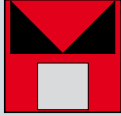


## ▶▶ Angled-nose cutting pliers




### Angled-nose pliers

- Ideal for use on printed circuits, electronic modules and hybrid circuits.
- Designed for cutting right up against the board in the smallest of spaces.
- Flush cutting edges.



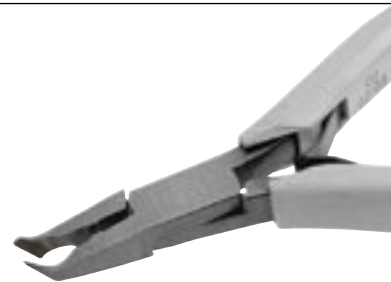
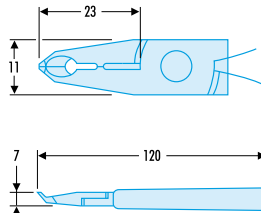
**FLUSH CUT**  
Smooth cut for sound soldered connections.



### 30° cutters

#### 427.MT

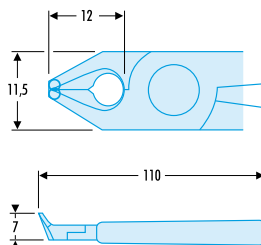
- Cutting edges at 30° with back clearance.
- Flush cut.
- Cu-Ni wire Ø0.2 to 0.6 mm.
- Fe wire 30 HRc
- ΔΔ : 65 g.



### 70° cutters

#### 429.MT

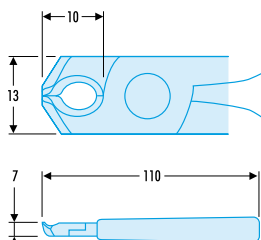
- ▷ ISO 9654.
- Wide edges at 70° with large back clearance.
- Flush cut.
- Cu-Ni wire Ø 0.2 to 1.0 mm.
- Fe wire 30 HRc
- ΔΔ : 60 g.



### 70° narrow cutters


#### 430.MT

- ▷ ISO 9654.
- Narrow edges at 70° with back clearance.
- Flush cut.
- Cu-Ni wire Ø 0.2 to 1.0 mm.
- Fe wire 30 HRc
- ΔΔ : 60 g.




▶▶ End cutters

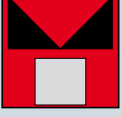
i End cutters



- End cutting edges allow vertical access.
- Extended profile reaches wires or components on crowded boards.



**AXIAL CUT**  
All materials,  
any application.

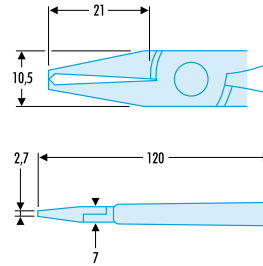


**FLUSH CUT**  
Smooth cut for  
sound soldered  
connections.

### End cutters

#### 418.MT

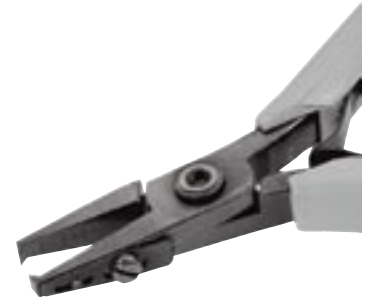
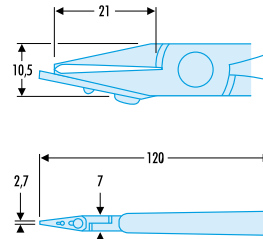
- ▷ ISO 9654
- Long, narrow nose for vertical access.
- Flush cut.
- Cu-Ni wire Ø0.1 to 0.6 mm.
- Fe wire 30 HRC
- ΔΔ : 75 g.



### End cutters with adjustable stop


#### 428.MT

- ▷ ISO 9654.
- Similar to 418 but with 0 to 4 mm adjustment for precision cut at set distance from board.
- Flush cut.
- Cu-Ni wire Ø0.1 to 0.6 mm.
- Fe wire 30 HRC
- ΔΔ : 75 g.




▶▶ Cutting pliers for DIL, DIP and CMS components

i For DIL, DIP and CMS components



- Ideal for use on printed circuits, electronic modules and hybrid circuits.
- Designed for cutting right up against the board in the smallest of spaces.
- Flush cutting edges.



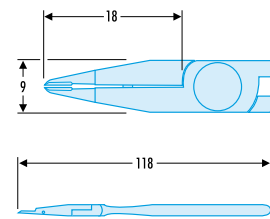
**FLUSH CUT**  
Smooth cut for sound  
soldered connections.

## Diagonal cutter for DIP components

### 437.MT

- Pointed, slim nose allows full access to DIP or SMD components.
- Flush cut.
- Cu-Ni wire  $\varnothing$  0.1 to 0.6 mm.

$\Delta\Delta$  : 40 g.

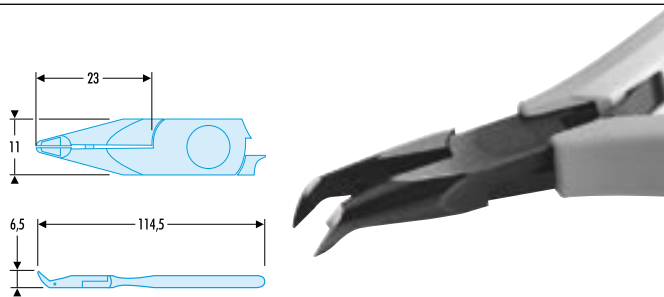


## Inverted 45° cutters

### 419.MT

- Designed to reach DIP pins from behind on crowded boards.
- Flush cut.
- Cu-Ni wire  $\varnothing$  0.1 to 0.5 mm.

$\Delta\Delta$  : 50 g.

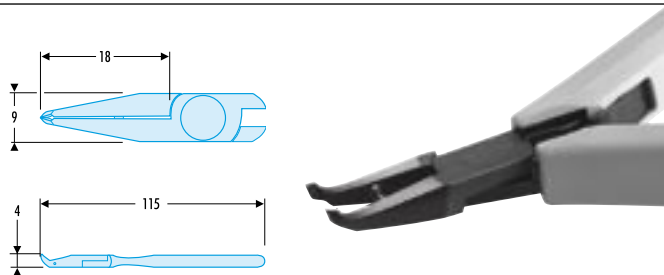


## 45° cutters

### 434.MT

- 45° cutters.
- Nose aligning pins.
- Flush cut.
- Cu-Ni wire  $\varnothing$  0.1 to 0.3 mm.

$\Delta\Delta$  : 40 g.



## Diagonal cutters for DIP and CMS components

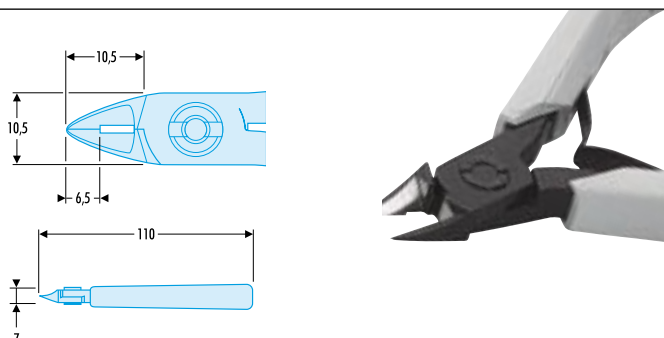
### 417.SPMT

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

- Designed to slot in the 0.65 mm gap between lugs of DIP components. The slender nose of this tool precludes its use for other purposes.

- Flush cut.
- Cu-Ni wire  $\varnothing$  0.1 to 0.6 mm.

$\Delta\Delta$  : 60 g.





## ▶▶ Flat-nose gripping pliers



## Flat-nose pliers



- These pliers serve all professional needs in laboratory, production and maintenance applications.
- The rectangular-section jaws are smooth with contoured inside edges to avoid damage to components.
- Matt black non-reflective finish. Leaf spring.

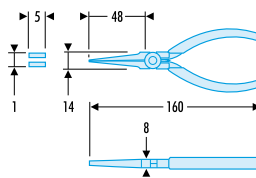
## Extended-nose pliers

**401.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- For extra power.

ΔΔ : 80 g.

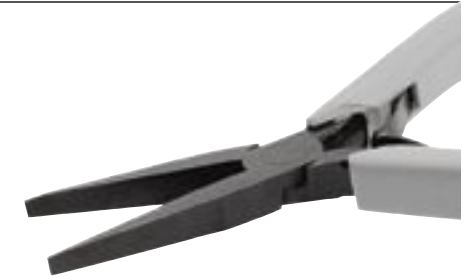
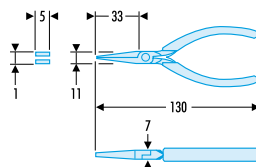


## Rigid long-nose pliers

**421.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

ΔΔ : 70 g.



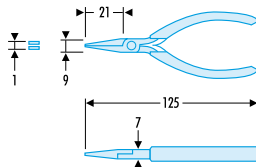
## Shaping pliers

**420.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- Very slim nose.

ΔΔ : 60 g.



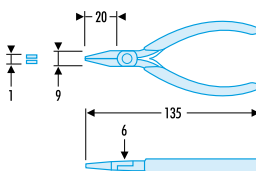
## Short-nose pliers

**431.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- Slim joint for precision work.

ΔΔ : 55 g.



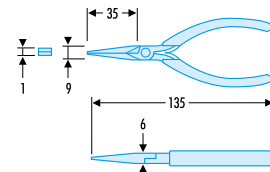
## Snipe-nose pliers

### 431.LMT

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- Slim joint for precision work.

ΔΔ : 80 g.



## Mini combination pliers

### 443.12MT

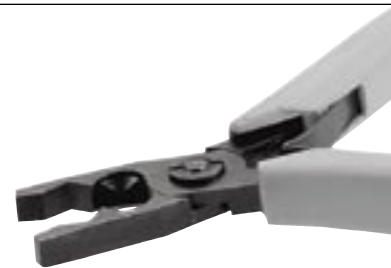
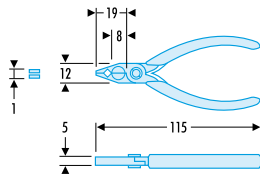
- Side wire-cutter, capacity up to Ø1.7 mm in Cu;

Ø 1 mm in soft iron

- Stocky serrated nose, with tube-grip.

- Matt black anti-glare finish.

ΔΔ : 80 g.



## ▶▶ Half-round nose gripping pliers

### Half-round nose pliers



- These pliers serve all professional needs in laboratory, production and maintenance applications.
- The half-round jaws are smooth with contoured inside edges to avoid damage to components.
- Presentation :
  - Matt black anti-glare finish.
  - Leaf spring.

## "Telephone" pliers

### 442.MT

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

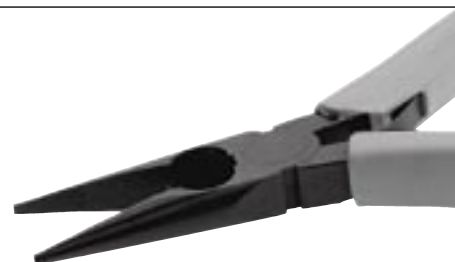
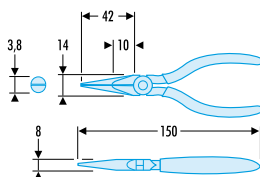
- Long stocky nose with fine end serrations.

- Side wire-cutter.

Ø max. : 2 mm Cu wire.

Ø max. : 1 mm Fe wire 30 HRC.

ΔΔ : 88 g.



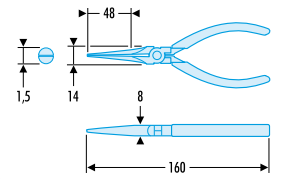
## Extended-nose pliers

**402.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- For extra power.

ΔΔ : 76 g.

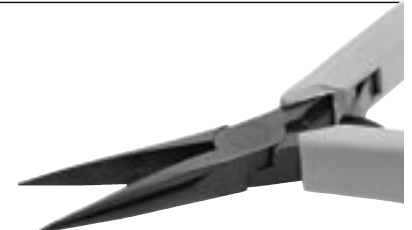
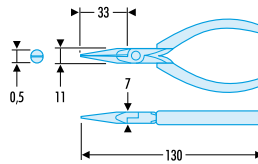


## Rigid long-nose pliers

**422.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

ΔΔ : 70 g.



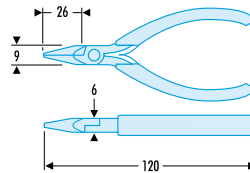
## Short-nose pliers

**432.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- Slim joint.

ΔΔ : 55 g.



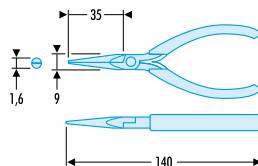
## Snipe-nose pliers

**432.LMT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- Slim joint for precision work.

ΔΔ : 65 g.



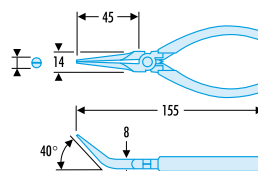
## Extended-nose 40° pliers

**403.MT**

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

- For extra power.

ΔΔ : 75 g.

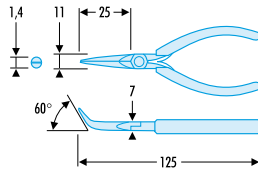


## Rigid-nose 60° pliers

### 423.MT

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

ΔΔ : 70 g.



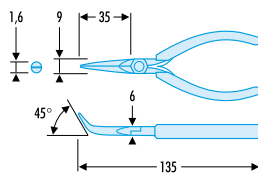
## Thin-nose 45° pliers

### 433.LMT

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

• Slim joint for precision work.

ΔΔ : 75 g.



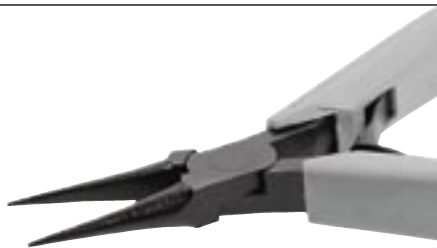
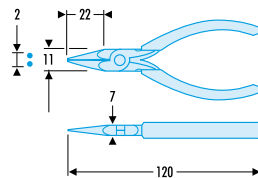
## ▶▶ Round-nose pliers

## Rigid short-nose pliers

### 424.MT

▷ ISO 9655, DIN ISO 9655, NF ISO 9655.

ΔΔ : 55 g.



## ▶▶ Plier module

## "Micro-Tech®" plier module

### MOD.MT1

• Comprising :

- 405.MT - 405.12MT - 406.MT - 406.8MT - 402.MT - 433.LMT.

• PL.612.

ΔΔ : 650 g.





## Static electricity



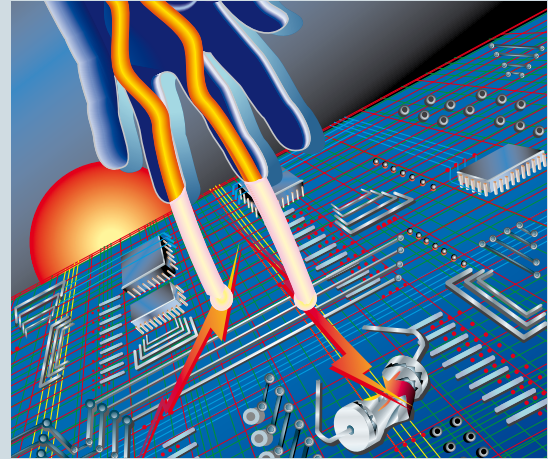
### A DANGER FOR ELECTRONIC COMPONENTS

As they become smaller and more sophisticated, electronic circuits are increasingly at risk from static electricity - especially when the charge can build up to several thousand volts.

#### Controlling electrostatic build-up makes economic sense.

While the cost of a faulty component at acceptance-test stage is relatively small, it starts to increase once the component has reached the board, and escalates markedly once a fault involves sending back a complete unit. But the most important benefit in controlling static electricity is customer satisfaction.

Facom solves the problem with an antistatic range to EN 100-015/1. For safe work on printed circuits, all tools and equipment used should be interlinked and effectively connected to earth. Measurements and tests on antistatic screwdrivers and electronics pliers have been carried out in laboratories approved by the electrical industry.

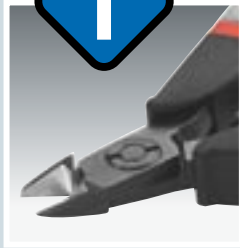


#### Safety first

**Never use antistatic tools when working on live components.**

## Bullet-nose cutting pliers

## Bullet nose pliers



Are stronger than other profiles.

Have a high cutting capacity and durability that are useful in a wide variety of applications.



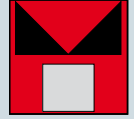
#### AXIAL CUT

All materials, any application.



#### SEMI-FLUSH CUT

Clean, long-life cut in semi-hard materials.



#### FLUSH CUT

Smooth cut for sound soldered connections.

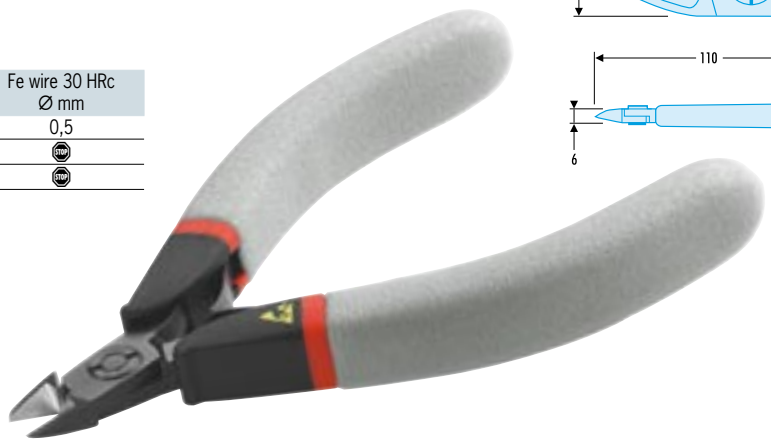
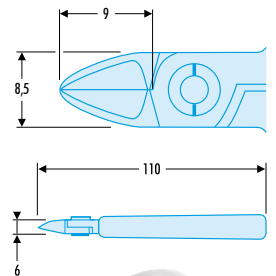
### Slim-joint models for precision

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

- Suitable for miniature electronic components.
- Flush-cut model is longer for increased reach.

△△ 55 g.

Model	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
405.8E		0,2 - 1	0,5
406.8E		0,1 - 1	
407.8E		0,1 - 1	



# Anti-static series electronics pliers

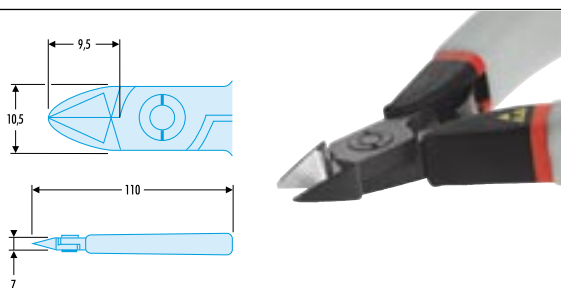
## Compact models for manoeuvrability

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

- Slimmer bullet-nose profile combines cutting performance with manoeuvrability.
- Model 405 is suitable for cutting piano wire  $\varnothing$  0.4 mm.

$\Delta\Delta$  : 65 g.

	Cut	Cu - Ni wire $\varnothing$ mm	Fe wire 30 HRc $\varnothing$ mm
<b>405.E</b>		0,3 - 1,3	0,7
<b>406.E</b>		0,1 - 1,3	0,7
<b>407.E</b>		0,1 - 1,3	



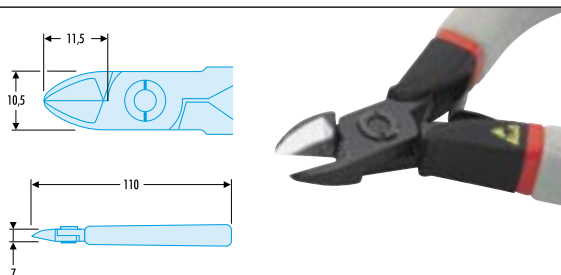
## Stocky models for versatility

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

- Clean cut in a variety of materials, from copper to piano wire  $\rightarrow$  0.5 mm.
- Available with offcut retaining system.

$\Delta\Delta$  : 65 g.

	Cut	Cu - Ni wire $\varnothing$ mm	Fe wire 30 HRc $\varnothing$ mm	Offcut retainer
<b>405.10E</b>		0,3 - 1,4	0,8	
<b>405.10RE</b>		0,3 - 1,2	0,7	•



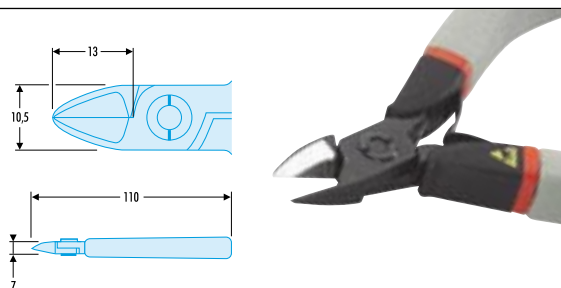
## Long-reach models for accessibility

▷ ISO 9654, DIN ISO 9655, NF ISO 9654.

- Up to 1.5 to 2 mm more reach than standard cutting pliers
- Available with offcut retaining system.

$\Delta\Delta$  : 65 g.

	Cut	Cu - Ni wire $\varnothing$ mm	Fe wire 30 HRc $\varnothing$ mm	Offcut retainer
<b>425.E</b>		0,1 - 1,3		
<b>435.E</b>		0,1 - 1,3	0,7	
<b>435.RE</b>		0,1 - 1,2	0,7	•



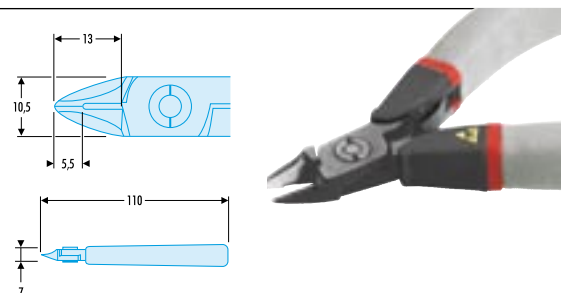
## Slim-nose models with back clearance

▷ ISO 9654, DIN ISO 9655, NF ISO 9654.

- For cutting behind components and reaching under obstacles such as coils or resistors.
- Anti-static user-comfort type only.

$\Delta\Delta$  : 65 g.

	Cut	Cu - Ni wire $\varnothing$ mm	Fe wire 30 HRc $\varnothing$ mm
<b>436.E</b>		0,1 - 1,2	0,7
<b>426.E</b>		0,1 - 1,2	



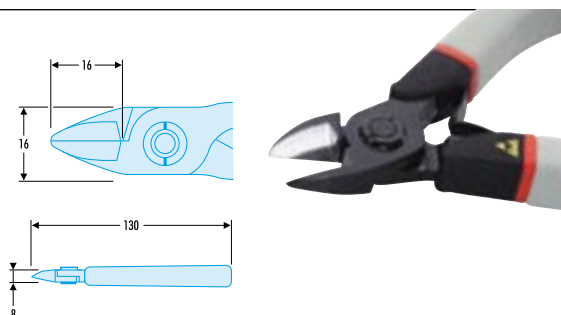
## Heavy-duty models

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.


- For tough applications and repetitive work on a wide range of materials.
- Piano wire : 405.12 C : 0.8 mm ; 405.12 RC : 0.6 mm.
- Available with offcut retaining system.

$\Delta\Delta$  : 105 g.

	Cut	Cu - Ni wire $\varnothing$ mm	Cu - Ni wire $\varnothing$ mm	Offcut retainer
<b>405.12E</b>		0,4 - 2,0	1,0	
<b>405.12RE</b>		0,4 - 1,5	0,9	•
<b>415.E</b>		0,3 - 2,0	1,0	
<b>415.RE</b>		0,3 - 1,5	0,8	•

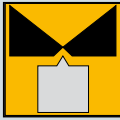


## ▶▶ Pointed-nose cutting pliers

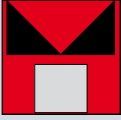


### Pointed-nose pliers

- Are ideal where clearance is restricted and allow better visibility of the wire being cut.



**SEMI-FLUSH CUT**  
Clean, long-life cut in semi-hard materials.





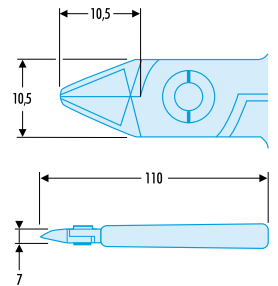
**FLUSH CUT**  
Smooth cut for sound soldered connections.

### Pointed models

#### 416.E






- ▷ ISO 9654, DIN ISO 9654, NF ISO 9654.
- Taper nose for improved accessibility.
- ΔΔ : 65 g.

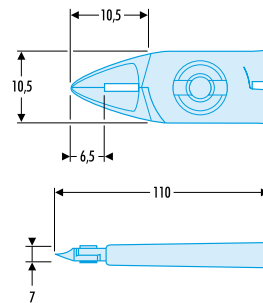
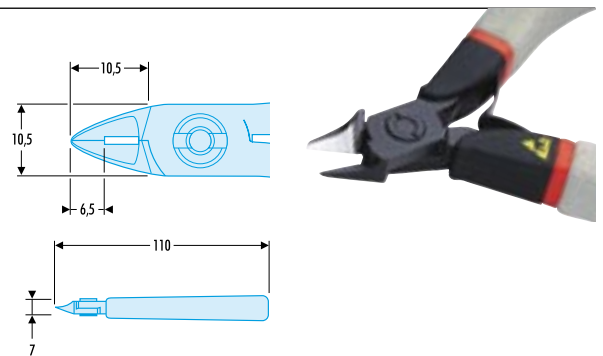
Icon	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
		0,1 - 1,0	0,5



### Pointed slim-nose models for manoeuvrability



- ▷ ISO 9654, DIN ISO 9654, NF ISO 9654.
- Slots in and around printed-circuit components, allowing good visibility.
- ΔΔ : 65 g.

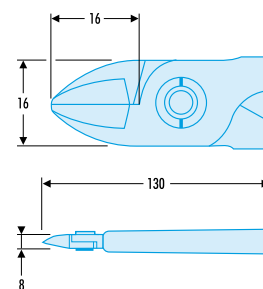
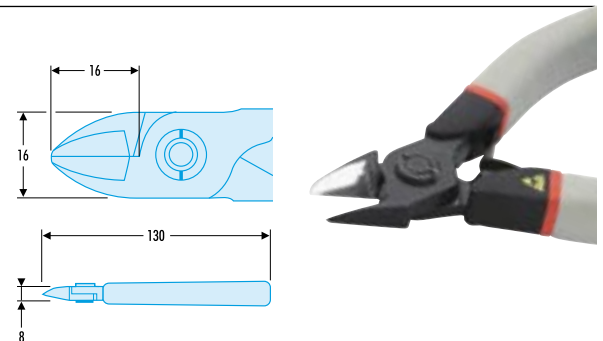
Icon	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
		0,1 - 0,8	0,4
		0,1 - 0,8	



### Heavy-duty taper nose


- ▷ ISO 9654, DIN ISO 9654, NF ISO 9654.
- Suitably sized for production applications.
- ΔΔ : 105 g.

Icon	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
		0,3 - 1,6	0,7




# Anti-static series electronics pliers

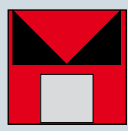
## ▶▶ Angled-nose cutting pliers



### Angled-nose pliers



- Ideal for use on printed circuits, electronic modules and hybrid circuits.
- Designed for cutting right up against the board in the minutest spaces.
- Flush cutting edges.



**FLUSH CUT**  
Smooth cut for sound soldered connections.



### 30° cutters

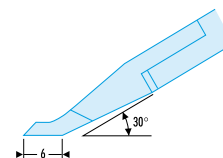
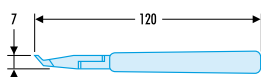
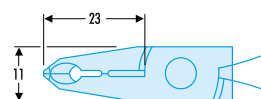
#### 427.E

▷ ISO 9654, DIN ISO 9655, NF ISO 9654.

- "ESD" model.
- Cutting edges at 30° with back clearance.

ΔΔ : 65 g.

	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
<b>427.E</b>		0,2 - 0,6	





### 70° cutters

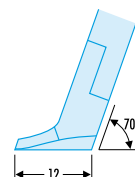
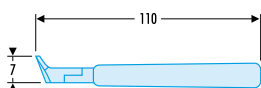
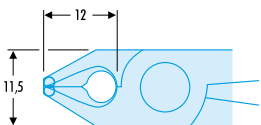
#### 429.E

▷ ISO 9654, DIN ISO 9655, NF ISO 9654.

- "ESD" model.
- Narrow edges at 70° with back clearance

ΔΔ : 66 g.

	Cut	Cu - Ni wire Ø mm	Fe wire 30 HRc Ø mm
<b>429.E</b>		0,2 - 1,0	



## ▶▶ Cutting pliers for DIP and CMS components


### Diagonal cutters for DIP and CMS components

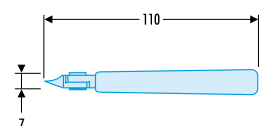
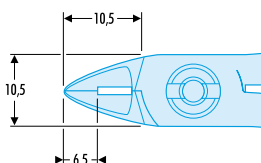
#### 417.SPE

▷ ISO 9654, DIN ISO 9654, NF ISO 9654.

- Designed to slot in the 0.65 mm gap between lugs of DIP components. The slender nose of this tool precludes its use for other purposes.

ΔΔ : 60 g.

	Confort/ESD	Cut	Cu - Ni wire Ø mm
<b>417.SPE</b>	ESD		0,1 - 0,7

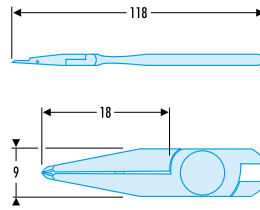




### Diagonal cutters for DIP components

#### 437.E

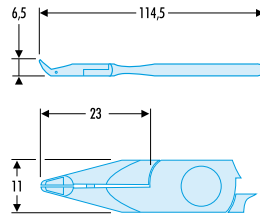
- Pointed, slim nose allows full access to DIP or SMD components.
  - Flush cut.
  - Cu-Ni wire  $\varnothing$  0.1 to 0.6 mm.
- $\Delta\Delta$  : 40 g.



### Inverted 45° cutters

#### 419.E

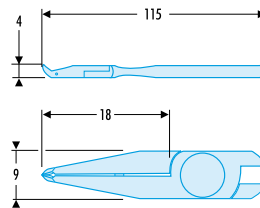
- Designed to reach DIP pins from behind on crowded boards.
  - Flush cut.
  - Cu-Ni wire  $\varnothing$  0.1 to 0.5 mm.
- $\Delta\Delta$  : 50 g.



### 45° ESD cutters

#### 434.E

- Cutting pliers angled at 45°.
  - Nose aligning pins.
  - Cu-Ni wire  $\varnothing$  0.1 to 0.3 mm.
- $\Delta\Delta$  : 40 g.

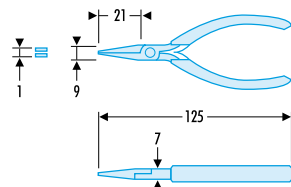


## ▶▶ Gripping pliers

### Flat-nose shaping pliers ESD model

#### 420.C

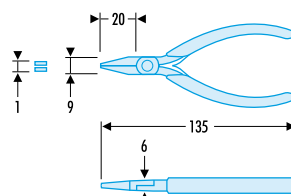
- Very slim nose.
- $\Delta\Delta$  : 65 g.



### Short flat-nose pliers ESD model

#### 431.E

- Slim joint for precision work.
- $\Delta\Delta$  : 65 g.

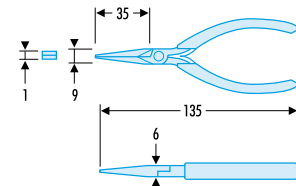


# Anti-static series electronics pliers

## Snipe flat-nose pliers ESD model

### 431.LE

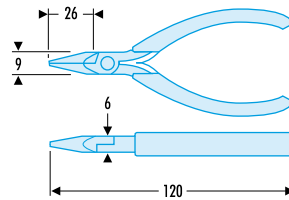
- Slim joint for precision work.
- ΔΔ : 75 g.



## Half-round nose pliers ESD model

### 432.E

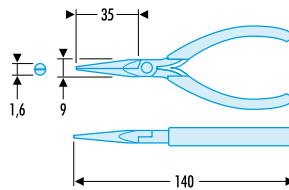
- Slim joint.
- ΔΔ : 70 g.



## Half-round snipe nose pliers ESD model

### 432.LE

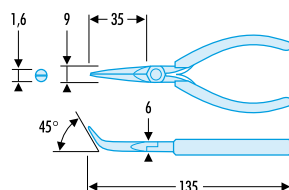
- Slim joint for precision work.
- ΔΔ : 70 g.



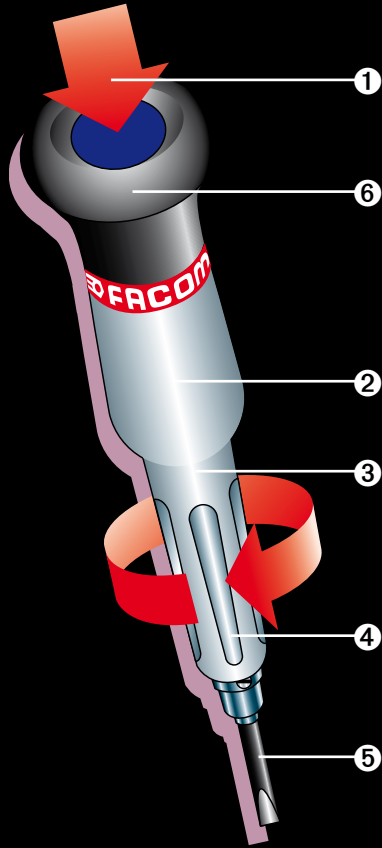
## Half-round angle nose pliers ESD model

### 433.LE

- 45° nose.
  - Slim joint for precision work.
- ΔΔ : 70 g.



## "Micro-Tech<sup>®</sup>" screwdrivers



### 1 Efficient

- The screwdriver end is designed to provide an effective pressure area in each of the three micro-engineering screwdriver positions. This end also rotates to optimize the turning motion.

### 2 Powerful and accurate

- The body comprises a gripping surface designed for optimum torque transmission with handling accuracy. The handle is shaped so fingers can naturally grip the specially designed handle for total tool control.

### 4 Quick and easy to use

- The ribbed cone provides maximum grip for fast pre-tightening. Blade clearance gives a clear view of the job in hand.

### 5 A large choice of blades

- A selection of over 50 high-precision steel or ceramic fixed or replaceable blades.

### 6 Easy identification

- colour-coded by size for instant selection of the correct tool.



Finger-tip grip area







Watch makers grip area



Full palm grip area

### Small screwdriver





- Screw-lock chuck.
- Presentation : Burnished blade.

	 mm	 mm	 mm	 mm	$\Delta\Delta$ g
<b>AE.1,2X35</b>	1,2 x 35	117	■	17 x 82	11,5
<b>AE.1,5X35</b>	1,5 x 35	117	■	17 x 82	11,5
<b>AEP.000X35</b>	2,0 x 35	117	■	17 x 82	11,5
<b>AEP.00X35</b>	2,5 x 35	117	■	17 x 82	11,5



### ● Micro-Tech<sup>®</sup> screwdrivers for slotted heads




- Revolving end.
- Chromed blade, burnished tip.

	 mm	 mm	 mm	 mm	$\Delta\Delta$ g
<b>AEF.1,5X35</b>	1,5 x 35	117	■	17 x 82	12,1
<b>AEF.1,8X35</b>	1,8 x 35	117	■	17 x 82	13,2
<b>AEF.2X35</b>	2,0 x 35	117	■	17 x 82	13,5
<b>AEF.2X75</b>	2,0 x 75	157	■	17 x 82	14,5
<b>AEF.2,5X35</b>	2,5 x 35	117	■	17 x 82	13,3
<b>AEF.2,5X75</b>	2,5 x 75	157	■	17 x 82	14,5
<b>AEF.3X75</b>	3,0 x 75	168	■	21 x 93	21,2
<b>AEF.3,5X75</b>	3,5 x 75	168	■	21 x 93	24,7
<b>AEF.4X75</b>	4,0 x 75	168	■	21 x 93	26,4



## ➔ Screwdrivers for Phillips® and Pozidriv®




Chromed blade, burnished tip.  
Presentation : Burnished blade.

➔			Pattern no.		ΔΔ g
	mm	mm	no.	mm	
<b>AEFP.00X35</b>	2,5 x 35	117	■ PH.00	17 x 82	12,5
<b>AEFP.00X75</b>	2,5 x 75	157	■ PH.00	17 x 82	14,9
<b>AEFP.0X35</b>	3,0 x 35	117	■ PH.0	17 x 82	13,5
<b>AEFP.0X75</b>	3,0 x 75	168	■ PH.0	21 x 93	32,2
<b>AEFP.1X75</b>	4,0 x 75	168	■ PH.1	21 x 93	37,5
<b>AEFD.0X35</b>	3,0 x 35	117	■ PZ.0	17 x 82	13,5
<b>AEFD.0X75</b>	3,0 x 75	168	■ PZ.0	21 x 93	32,2
<b>AEFD.1X75</b>	4,0 x 75	168	■ PZ.1	21 x 93	37,5



## ➔ Screwdrivers for Torx®

Chromed blade, burnished tip.

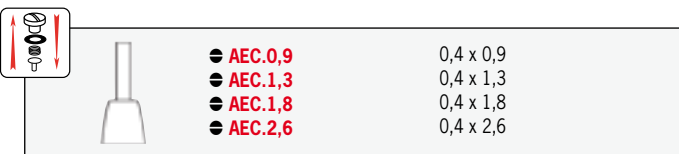
➔			Pattern no.		ΔΔ g
	mm	mm	no.	mm	
<b>AEX.5X35</b>	2,0 x 35	117	■ T x 5	17 x 82	13,0
<b>AEX.6X35</b>	2,0 x 35	117	■ T x 6	17 x 82	13,3
<b>AEX.7X35</b>	2,5 x 35	117	■ T x 7	17 x 82	13,3
<b>AEX.8X75</b>	2,5 x 75	168	■ T x 8	21 x 93	31,7
<b>AEX.9X75</b>	3,0 x 75	168	■ T x 9	21 x 93	32,6
<b>AEX.10X75</b>	3,0 x 75	168	■ T x 10	21 x 93	32,6
<b>AEX.15X75</b>	3,5 x 75	168	■ T x 15	21 x 93	35,0
<b>AEX.20X75</b>	4,0 x 75	168	■ T x 20	21 x 93	40,8



## Ceramic-blade screwdrivers

Removable blade.

➔	Dimensions mm	L mm
<b>AEMC.0,9</b>	● 0,4 x 0,9	116
<b>AEMC.1,3</b>	● 0,4 x 1,3	116
<b>AEMC.1,8</b>	● 0,4 x 1,8	116
<b>AEMC.2,6</b>	● 0,4 x 2,6	116



## 84E Hexagonal drivers ○

• Burnished blade

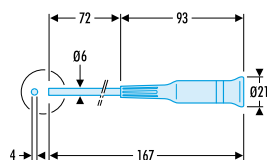
➔	● mm	Total length mm	ΔΔ g
<b>84E.0,9X35</b>	0,90	117	■ 14,4
<b>84E.1,3X35</b>	1,30	117	■ 15,0
<b>84E.1,5X35</b>	1,50	117	■ 15,0
<b>84E.1,5X75</b>	1,50	157	■ 15,0
<b>84E.2X75</b>	2,00	168	■ 30,0
<b>84E.2,5X75</b>	2,50	168	■ 32,0



## Bit driver ○ 4 mm

### AEM.M

- Takes 0-series bits.
  - Burnished shank
  - Size :
    - Overall length 167 mm.
    - Blade length 6 x 72 mm.
    - Handle length 21 x 93 mm.
- ΔΔ : 49.6 g.

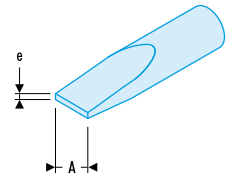




## ▶ 0-series bits - 4 mm drive

## ES.0 Bits for slotted heads

▢	e x A mm	L mm	ΔΔ g
ES.001,8	0,3 x 1,8	28	3,0
ES.002	0,4 x 2,0	28	3,0
ES.002,5	0,4 x 2,5	28	3,1
ES.003	0,5 x 3,0	28	3,1
ES.004	0,5 x 4,0	28	3,2
ES.004,5	0,6 x 4,5	28	3,2



## EP.0 Phillips® head ⬡ 4 mm

▢	Phillips® no.	L mm	ΔΔ g
EP.0X2	PH.00	28	3,2
EP.000	PH.0	28	3,2



## ED.0 Pozidriv® head ⬡ 4 mm

▢	Pozidriv® no.	L mm	ΔΔ g
ED.0X2	PZ.00	28	3,2
ED.000	PZ.0	28	3,2
ED.001	PZ.1	28	3,2



## ES.0 Bits for hexagon socket heads

▢	⬡ mm	L mm	ΔΔ g
EH.000,9	0,9	28	3,0
EH.001,3	1,3	28	3,1
EH.001,5	1,5	28	3,1
EH.002	2,0	28	3,2
EH.002,5	2,5	28	3,2



## ES.0 Spherical head bits for hexagon socket heads

- Spherical head allows up to 30° working angle.

▢	⬡ mm	L mm	ΔΔ g
ETS.001,5	1,5	28	3,1
ETS.002	2,0	28	3,2
ETS.002,5	2,5	28	3,2



## Drive socket adaptor

## ECR.0




- adaptor for using ⬡ 1/4" "radio" sockets with the A.300MT and A.340MT series screwdrivers.
  - 4 mm hexagonal drive.
  - Length 22 mm.
- ΔΔ : 7 g.



# Case set of "Micro-Tech®"

## Case set of 5 "Micro-Tech®" screwdrivers




### AEF.J1

		 mm	Comprising	$\Delta\Delta$ g
AEF.J1	AEFP.00 x 35	178 x 91 x 25	AEF.1,5 x 35 - 1,8 x 35 - 2 x 35 - 2,5 x 35	170



## Case set of 8 "Micro-Tech®" screwdrivers




### AEF.J3

		 mm	Comprising	$\Delta\Delta$ g
AEF.J3	AEFP.00 x 75 - 0 x 75 - 1 x 75	205 x 130 x 31	AEF.2 x 75 - 2,5 x 75 - 3 x 75 - 3,5 x 75 - 4 x 75	384



## Case set of 5 "Micro-Tech®" screwdrivers






### AEF.J5

	Contents 	Contents 	 mm	$\Delta\Delta$ g
AEF.J5	AEF.2x75-2,5x75-3x75	AEFD.0x75-1x75	183 x 109 x 32	230



## Case set of 8 "Micro-Tech®" screwdrivers



### AEF.J6

	Contents 	Contents 	 no.	 mm	$\Delta\Delta$ g
AEF.J6	AEF.2x75-2,5x75-3x75-3,5x75-4x75	AEFP.00x75	AEFD.0x75-1x75	215 x 130 x 31	385



## Case set of 5 "Micro-Tech®" screwdrivers for Phillips®

### AEFP.J1

	 mm	Comprising	$\Delta\Delta$ g
AEFP.J1	183 x 109 x 32	00 x 35 - 00 x 75 - 0 x 35 - 0 x 75 - 1 x 75	267



## Case set of 5 "Micro-Tech®" screwdrivers

## AEF.J2

➤	mm	Comprising	ΔΔ g
AEF.J2	183 x 109 x 32	2 x 75 - 2,5 x 75 - 3 x 75 - 3,5 x 75 - 4 x 75	237



## Case set of 8 interchangeable blade screwdrivers

## AE.J1

➤	mm	Comprising	ΔΔ g
AE.J1	205 x 130 x 31	<ul style="list-style-type: none"> <li>● AE.1x35 - 1,2x35 - 1,5x35 - 1,8x35</li> <li>- 2x35 - 2,5x35</li> <li>● AEP.000x35 - 00x35</li> </ul>	270



## Case set of 5 "Micro-Tech®" screwdrivers for Torx®

## AEX.J1

➤	mm	Comprising	ΔΔ g
AEX.J1	183 x 109 x 32	AEX.6 x 35 - 7 x 35 - 8 x 75 - 9 x 75 - 10 x 75	280



## Case set of 8 "Micro-Tech®" screwdrivers for Torx®

## AEX.J2

➤	mm	Comprising	ΔΔ g
AEX.J2	205 x 130 x 31	AEX.5 x 35 - 6 x 35 - 7 x 35 - 8 x 75 - 9 x 75 - 10 x 75 - 15 x 75 - 20 x 75	335



## Case set of 6 "Micro-Tech®" hexagonal drivers

## 84E.J1

➤	mm	Comprising	ΔΔ g
84E.J1	183 x 109 x 32	84E.0,9 x 35 - 1,3 x 35 - 1,5 x 35 - 2 x 75 - 2,5 x 75	250



## Case set of 9 "Micro-Tech®" wrenches

### 34.JE9

➤	mm	Comprising	➤	ΔΔ g
34.JE9	123 x 95 x 28	34. 3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10	9	176



## Case set of 10 "Micro-Tech®" wrenches

### 39.JE10

➤	mm	Comprising	➤	ΔΔ g
39.JE10	123 x 95 x 28	39. 3,2 - 4 - 5 - 5,5 - 6 - 7 - 8 - 9 - 10 - 11	10	240



## "Micro-Tech®" tool sets

### 16-piece tool set

#### MT.J1

- Plastic case 366 x 180 x 66 mm.
  - Comprising :
    - Screwdrivers AE.1 x 35-1.2 x 35.
    - Screwdrivers AEF.1.5 x 35-1.8 x 35-2 x 35-2.5 x 35.
    - Screwdriver AEP.000 x 35.
    - Screwdriver AEFP.00 x 35 .
    - Hexagonal drivers 84E.0.9 x 35 - 1.3 x 35 - 1.5 x 35.
    - Pliers 405.10MT-432LMT.
    - Scissors 841.1.
    - Scalpel 845.1
    - Tweezers 140AA.
- ΔΔ : 1.075 kg.



### 9-piece tool set

#### MT.J2

- Plastic case 285 x 138 x 26 mm.
  - Comprising :
    - Mirror 834.R1.
    - Spring hook 835.A.
    - Mechanical retriever 826.0.
    - Mechanical retriever 827.2.
    - Screw starters AFE.1-AFEX.1.
    - Pen light 836.
    - Nut starter 825.
    - Pin vice 1817.
- ΔΔ : 627 g.



### 11-piece tool set

#### MT.J3

- Comprising :
    - Screwdrivers AE.1.2 x 35-AEF.1.5 x 35-1.8 x 35-2 x 35-2.5 x 35.
    - Screwdrivers AEFP.000 x 35-00 x 35-0 x 35
    - Tweezers 140A.
    - Pliers 405.10 MT-432 LMT.
  - In a plastic case 285 x 138 x 26 mm.
- ΔΔ : 726 g.





**16-piece bit set****AEM.J1**

Comprising :

- Bit driver AEM.M.
- Bits for slotted heads ES.002 - 002.5 - 003 - 004 - 004.5.
- Bits for Phillips® heads EP.0 x 2 EP.000.
- Bits for Pozidriv® heads ED.0 x 2 ED.000.
- Bits for hexagon heads EH.001.5 - 002 - 002.5.
- Bits for hexagon heads ETS.001.5 - 002 - 002.5.

Case 183 x 109 x 32 mm.

ΔΔ : 237 g.

**26-piece bit and socket set****AEM.J2**

Comprising :

- All items from set AEM.J1 plus.
- Bits for Torx® heads EX.006 - 007 - 008 - 010.
- Socket coupler ECR.0.
- "Radio" sockets R. 3.2 - 4 - 5 - 5.5 - 7.

Plastic case 205 x 130 x 31 mm.

ΔΔ : 340 g.

**Watchmaker screwdriver sets****5-piece set of screwdrivers for slotted heads****HB.1B**

5 screwdrivers for slotted heads ● : 0.8x13 - 1x16 - 1.2x17 - 1.6x19 - 2.5x21.

**6-piece screwdriver set****HB.2B**

3 screwdrivers for Pozidriv® heads ○ 1.5 - 2 - 2.5.  
3 screwdrivers for Phillips® heads ● PH N00 - 0 - 1.  
Chrome finish, burnished blade.

**9-piece set of screwdrivers for slotted heads****HB.4**

9 screwdrivers for slotted heads ● : 0.6x11 - 0.8x11 - 1x12 - 1.2x12 - 1.4x12 - 1.6x15 - 2x15 - 2.5 x 15.5 - 3x15.5.  
Supplied on a carousel.



## ► Standard series

### 140 Straight models

- Non-serrated pointed tips.

Ref	Finish	Length mm	Material	ΔΔ g
<b>140.AA</b>	Satin polish	125	Antimagnetic stainless steel	17
<b>140.AAW13</b>	Non-reflective black	130	Carbon steel	16



### Straight model

#### 148

- Narrow pointed non-serrated tips.
  - Stainless steel.
  - Fine polish finish.
  - Length 130 mm.
- ΔΔ : 15 g.



### Straight model

#### 149

- Long, fine serrated tips, guide pin.
  - Stainless steel.
  - Fine polish finish.
  - Length 155 mm.
- ΔΔ : 18 g.



### Straight model

#### 150

- Long strong serrated tips, guide pin.
  - Stainless steel.
  - Fine polish finish.
  - Length 165 mm.
- ΔΔ : 22 g.



### Model 150 at 40°

#### 151

- Long strong serrated tips, guide pin.
  - Stainless steel.
  - Fine polish finish.
  - Length 155 mm.
- ΔΔ : 22 g.



### Model 149 at 45°

#### 152

- Fine serrated tips, guide pin.
  - Stainless steel.
  - Fine polish finish.
  - Length 150 mm.
- ΔΔ : 19 g.



### Straight model

#### 153

- Cross-over, self-gripping serrated tips.
  - Stainless steel.
  - Fine polish finish.
  - Length 150 mm.
- ΔΔ : 23 g.



### Straight model

#### 154

- Strong rigid tips, serrated for cables.
  - Stainless steel.
  - Fine polish finish.
  - Length 155 mm.
- ΔΔ : 30 g.



## ▶ PVC-coated series

## PVC model

**149.Y**

- Length 155 mm.
- $\Delta\Delta$  : 25 g.



## Gripping model

**146.1Y**

- $\varnothing$  2.5 to 4 mm in-line grip.
- Length 140 mm.
- $\Delta\Delta$  : 25 g.



## PVC model

**152.Y**

- Length 150 mm.
- $\Delta\Delta$  : 25 g.



## Gripping model

**146.2Y**


- $\varnothing$  2.5 to 4 mm right-angle grip.
- Length 140 mm.
- $\Delta\Delta$  : 25 g.



## ▶ High-precision series

## 141 Straight models

- Non-serrated easy-flex snipe tips.

	Length mm	$\Delta\Delta$ g
<b>141.11</b>	110	13
<b>141.12</b>	120	14



## Straight shouldered model

**142.1**

- Non-serrated easy-flex snipe tips.
- Length 112 mm.
- $\Delta\Delta$  : 13 g.



## Offset model at 15

**142.2**

- Non-serrated easy-flex snipe tips.
- Length 117 mm.
- $\Delta\Delta$  : 15 g.



## Curved model

**143**

- Non-serrated easy-flex snipe tips.
- Length 114 mm.
- $\Delta\Delta$  : 14 g.



## Ultra-flat straight model

**144**

- Finely contoured, non-serrated tips.
- Length 120 mm.
- $\Delta\Delta$  : 17 g.



## Splayed straight model

**145**

- Non-serrated tips.
- Tip width 7 mm.
- Length 123 mm.
- $\Delta\Delta$  : 14 g.



## Heavy-duty straight model

### 156

- Serrated snipe tips.
- Length 110 mm.

ΔΔ : 15 g.



## ► Specialised tweezers

### Solid plastic tweezers

#### 150.P1

- Polypropylene, can be sterilised up to 180C.
- Length 125 mm.

ΔΔ : 6 g.



### 150.P Anti-static solid plastic tweezers

To DIN 53482.

- Anti-static glass fibre-reinforced (20%) polyamide.
- Antimagnetic.
- Acid-resistant.
- Heat-resistant up to 200C.
- Non-serrated precision tips.

150.P10 : Straight splayed tips.

150.P11 : Fine, angled tips.



➤	Length mm	ΔΔ g
<b>150.P10</b>	120	5
<b>150.P11</b>	120	5

## Cutting model for very fine wire

### 139

- Carbon alloy steel for perfect cutting edges.
- Very high precision cut.
- Fine polish finish.
- Tip width 10 mm.
- Length 110 mm.

ΔΔ : 27 g.



## ► Tweezer sets

### Tweezer sets

- Sets are supplied in plastic cases.

➤	mm	Comprising	ΔΔ g
<b>147.J5</b>	178x91x24	Set of 5 standard tweezers : 151 - 152 - 140.AA	240
<b>147.J6</b>	205x130x31	Set of 8 standard and sheathed tweezers : 150 - 151 - 153 - 149.Y - 152.Y - 146.1Y - 146.2Y - 140.AA	410
<b>147.J7</b>	205x130x31	Set of 7 high precision tweezers : 140.AA - 141.14 - 142.1 - 142.2 - 143 - 144 - 145	335





## ▶ Circlip pliers

Set of pliers for inside and outside circlips

**470.MT**

- Comprising :
  - Pliers 467.PMT.
  - Pliers 469.PMT.
  - 6 sets of pegs.
- Pliers fitted with return spring and screw stop to prevent circlip distortion and ensure precision of compression or expansion.
- Polished chrome finish. PVC grips.
- Supplied in plastic case 285 x 142 x 46 mm.

▶ Truarc<sup>®</sup>Truarc<sup>®</sup>**1813**

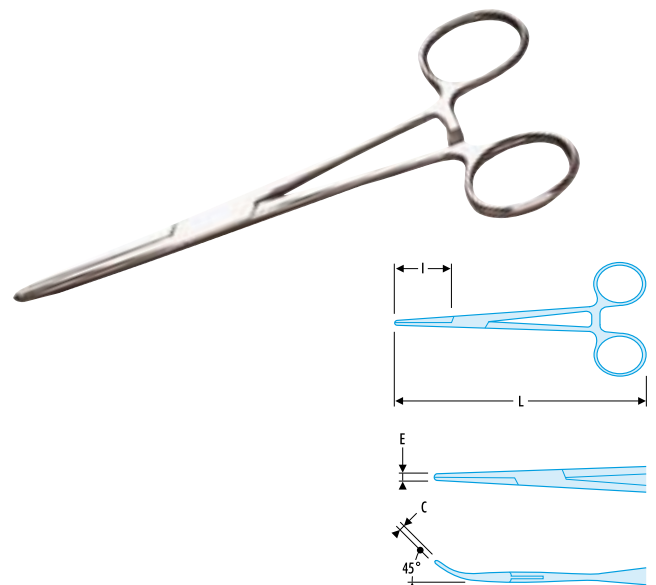
- Holds Truarc clips securely, up to Ø 6 mm. Ideal in confined spaces
- Length : 170 mm.
- ΔΔ : 19 g.



## ▶ Ring pliers

Ring pliers

- 438 Standard straight model.
- 438.1 Slim straight model.
- 439 Standard angled model.
- 439.1 Slim angled model.
- Ideal for miniature work.
- Self-locking.
- For holding components or wire during fitting or soldering.
- Scissor joint.
- Polished chrome finish.



№	E mm	L mm	l mm	C mm	ΔΔ g
<b>438</b>	2,5	140	35	2	30
<b>438.1</b>	2,0	160	38	2	31
<b>439</b>	2,5	140	35	2	33
<b>439.1</b>	2,0	160	38	2	31

# Miscellaneous tools

## Short, very pointed scissors

### 841.1

- Precision cut.
  - Left/right hand.
  - Polished chrome finish, PVC grips.
  - Length 110 mm. Blade length 24 mm.
- ΔΔ : 27 g.



## Long pointed scissors

### 841.2

- Multi-purpose, left/right hand.
  - Polished chrome finish, PVC grips.
  - Length 120 mm. Blade length 42 mm.
- ΔΔ : 36 g.



## Serrated-blade scissors

### 841.3

- Short bullet nose for cutting thin sheet-metals.
  - Left/right hand.
  - Polished chrome finish.
  - Length 105 mm. Blade length 14 mm.
- ΔΔ : 27 g.



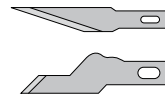
## Scalpel with interchangeable blades

### 845.1

- Clean, accurate cut.
  - Positive blade fitting.
  - 2 blade designs.
  - Length : 150 mm.
  - Scalpel with 10 blades type L1.
- ΔΔ : 15 g.



- Spare blades :
- 845.L1 Set of 10 straight tapered blades.
- 845.L2 Set of 10 offset blades.



## "Micro-Tech®" Hacksaw Frame

### 607.MT

- Secure grip. Lightweight Zamak body. Light-duty saw for plastics, wood and metal.
  - Supplied with 150 mm blade.
  - Overall length 262 mm.
- ΔΔ : 140 g.



## Pin vice

### 1817

- Two-collet chuck at both ends.
  - Takes any cylindrical tool  $\varnothing 0.5$  to  $\varnothing 3.5$ .
  - Length 110 mm.
- ΔΔ : 35 g.



## Precision three-square scraper

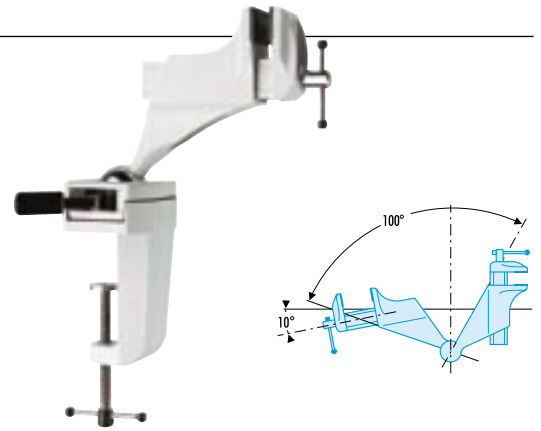
### 1816

- For careful work in small areas.
  - Reversible blade fully retracts into handle for safety.
  - Length 90 mm.
- ΔΔ : 26 g.

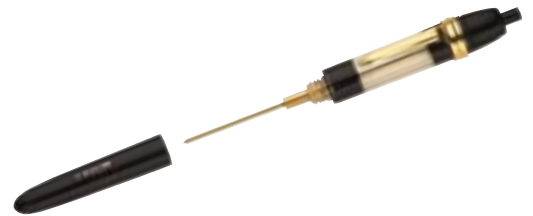


**"Micro-Tech®" Swivel vice****1150.MT**

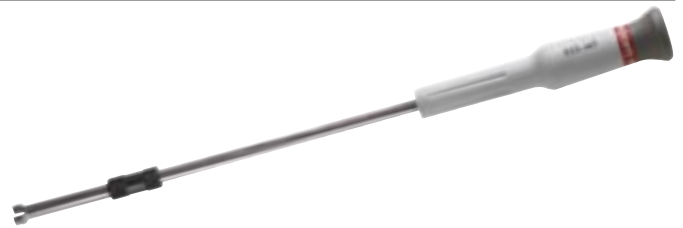
- Designed to achieve optimum accuracy through enhanced operator comfort.
  - Quick-lock lever on ball joint.
  - Clamps securely to any support up to 80 mm thick.
  - Bonded plastic jaws 50 mm.
  - Max. jaw capacity 70 mm.
  - Max. throat depth 38 mm.
- ΔΔ : 1.4 kg.

**Spot oiler****372**

- Accurate lubrication from drop feed by slight pressure on end button.
  - See-through level.
  - Nozzle cap.
  - Metal pocket-clip.
  - Capacity : 5 cm<sup>3</sup>.
- ΔΔ : 20 g wide.

**Nut starter****825.MT**

- Micro-Tech® screwdriver handle with revolving end.
  - Hexagon nut capacity 3 to 14 mm A/F.
  - Shank length 150 mm. Overall length 240 mm wide.
  - Anti-corrosion treatment.
- ΔΔ : 60 g wide.

**Four-claw retriever****826.0**

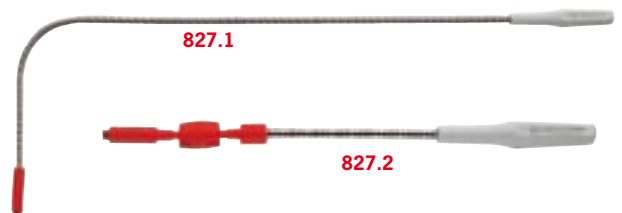
- For recovering small flat components up to Ø 30 mm.
  - Nickel finish.
- ΔΔ : 20 g wide.

**827 Ultra-slim magnetic retrievers**

827.1 : Long-reach flexible model Ø 7 mm head.

827.2 : Ball-joint model Ø 8 mm head.

827	Length mm	Max lifting capacity g	ΔΔ g
827.1	530	120	80
827.2	210	120	26

**Flexible magnetic retriever****827.M**

- Powerful magnet (3 kg).
  - Magnetic flux conductor prevents sticking to sides.
  - Length 560 mm. Adjustable stiffness.
  - Ø 20 mm magnet.
- ΔΔ : 130 g wide.



**New**

## Pen light

### 836

- Aluminium body and tube.
  - Length : 137mm.
  - Tube diameter : 14mm.
  - Operates using two LR03 AAA (1.5volt) batteries, not included.
  - Adjustable focal length.
  - Supplied with wrist strap
  - Replacement bulb reference : 836.AMP.
- ΔΔ : 29g.



## 834 Inspection mirrors

- Mirror in plastic frame.

834 : Fixed, rigid.

834.R1 : Articulated, flexible

834.R2 : Articulated, flexible

834A.RT : Articulated, telescopic.

834	Ø Mirror mm	L mm	ΔΔ g
834	24	175	4
834.R1	36	210	13
834.R2	55	360	40
834A.RT	44	210-700	48

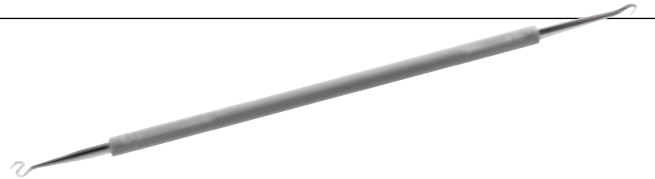


## Spring hook

### 835A

- With push and pull hooks.
- Sleeved chromed shank.
- Length 200 mm wide.

ΔΔ : 13 g wide.

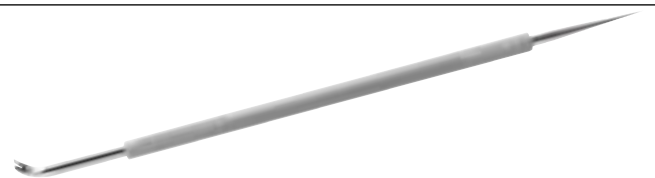


## Separator

### 835.1

- With fork and point Ø0.5 mm.
- Sleeved chromed shank.
- Length 210 mm.

ΔΔ : 15 g.



## Separator

### 835.2

- Supplied with 3 interchangeable ultra-fine curved tips.
- Chrome finish.
- Length 210 mm.

ΔΔ : 25 g.



## 1830 Brushes

For cleaning or dusting.

1830.1 Extra-soft silk brush.

1830.2 Double-ended soft/hard nylon brush.

1830.3 Scouring brush, nylon outer and wire inner bristles.

1830.4 Soft nylon brush.

1830	l mm	L mm	ΔΔ g
1830.1		190	17
1830.2		210	15
1830.3	50	190	35
1830.4	100	230	30



1830.3

1830.4





**"Electronics" set****400.JT1**

- Set of 7 electronics tools for on-site maintenance and laboratory work.
- Comprising :
  - 403.MT Long bent-nose gripping pliers.
  - 405.10RMT Axial cutting pliers.
  - 416.PMT Slim-nose semi-flush cutting pliers.
  - 429.MT 70 cutting pliers.
  - 442.MT Straight-nose gripping pliers.
  - 438.Straight-nose ring pliers.
  - 140.AA Precision tweezers.
- Supplied in a case 185 x 200 x 35 mm.
- △△ : 600 g.

**Flexible magnetic retriever****827B**

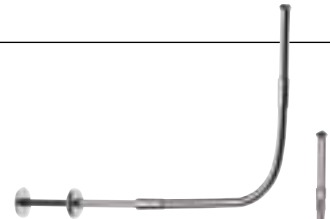
- Ø max. : 12 mm.
- Max lifting capacity 850 g.
- Length 570 mm.
- △△ : 220 g.

**Flexible magnetic retriever with lamp****828**

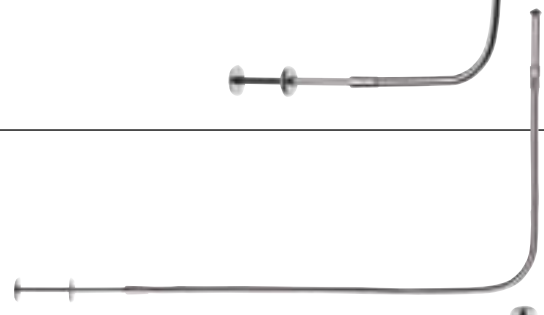
- LR1 battery supplied.
- Ø max. : 15 mm.
- Max lifting capacity 1.2 kg.
- Length : 590 mm.
- △△ : 220 g.

**Flexible mechanical retriever****826.1**

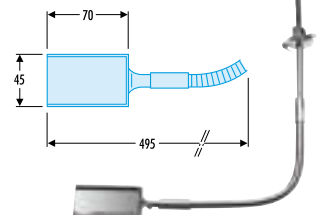
- Ø Max jaw opening capacity 29 mm.
- Length 460 mm.
- △△ : 200 g.

**Flexible mechanical retriever****826.2**

- Ø Max jaw opening capacity 29 mm.
- Length 1,000 mm.
- △△ : 400 g.

**Flexible swivel-mirror****829**

- Mirror adjustment push-button on end of handle.
- △△ : 225 g.

**Set of 2 tuning screwdrivers for slotted heads****HT.3**

- Also available individually.
- Supplied in a wallet.
- Blade sizes :
  - HT.2x2,4 : 2 and 2.4 mm.
  - HT.3x4 : 3 and 4 mm.
- △△ : 26 g.

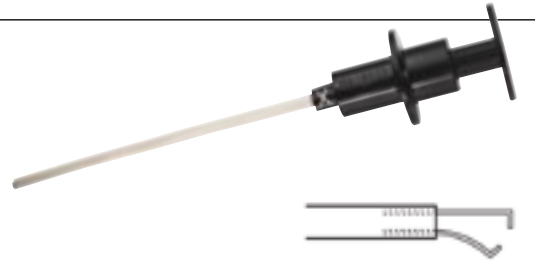


## Black wire-holder

### 1802A.N

- Insulated, with twin claws and flexible tube Ø 3 mm.
- Length 130 mm.

ΔΔ : 10 g.

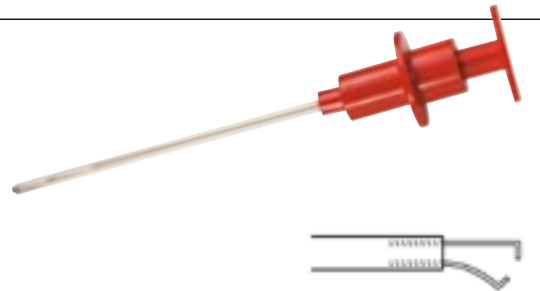


## Red wire-holder

### 1802A.R

- Insulated, with twin claws and flexible tube Ø 3 mm.
- Length 130 mm.

ΔΔ : 10 g.



## Black probe

### 1803A.N

- Insulated, with brass tip and Ø4 mm socket for lead 1804B.
- Complete with protective cap.



## Red probe

### 1803A.R

- Insulated, with brass tip and Ø4 mm socket for lead 1804B.
- Complete with protective cap.



## Black connection lead

### 1804B.N

- Insulated, highly flexible, with retractable shroud.
- Two jacks Ø4 mm for probe and wire holder.
- Length 2.1 m.

ΔΔ : 50 g.



## Red connection lead

### 1804B.R

- Insulated, highly flexible, with retractable shroud.
- Two jacks Ø4 mm for probe and wire holder.
- Length 2.1 m.

ΔΔ : 50 g.



▶ **Controlled-heat soldering stations****60 Watt soldering station****1001A**

- Power supply 230V.
- Includes 60W soldering iron (with stand) operating on 24V supplied from station.
- Reduced heating time.
- High efficiency 60W/350C.
- Ultra-flexible heat-resistant lead.
- Temperature adjustment range 150 to 450 C.
- 285 x 215 x 110 mm.
- $\Delta\Delta$  : 2.8 kg.

**Soldering iron only****1002.60**

- Rating 60W at 350C.
- Heating time 60 seconds to 350 C.
- Silicone rubber lead 1.5m.
- Power supply 24V.
- Complete with tip 1002.P3.
- $\Delta\Delta$  : 60 g.

**60 Watt anti-static model****1002A.E**

- Similar to model 1001A but with anti-static properties.
- Includes 60W soldering iron operating on 24V supplied from station.
- 285 x 215 x 110 mm.
- $\Delta\Delta$  : 2.8 kg.

**Anti-static soldering iron only****1002.60E**

- Similar to model 1001A.60 but with anti-static properties.
- $\Delta\Delta$  : 60 g.







## Dual rating soldering iron (20/40W)

### 1116B.BW

- Power supply 230V.
- Double isolation .
- Ideal for electrical and electronics servicing.
- Normal 20W operation for soldering small components.
- Additional 40W power by pressing button.
- 2-core PVC lead (2 x 0.75"). Length 1.2 m.
- 10 A European plug.
- Complete with tip 1112.30P1.

ΔΔ : 145 g.



Tip : 1112.30P2



## ▶ Instant heat soldering irons

### "Instant heat" 25W/230V model

#### 848.25

- Double isolation .
- Ready to solder in 5 seconds with trigger control.
- Tip cools immediately after the trigger is released.
- Useful tool in a service case, for occasional non-continuous soldering.
- Supplied with 2 standard tips, 1 straight and 1 angled.
- 2-core PVC lead (2 x 0.75"). Length 1.1 m.
- 2-pole plug. Length without lead 220 mm.

ΔΔ : 360 g.



Tips : 848.25P1 (angled) - 848.25P2 (straight)



### 100W/230V model

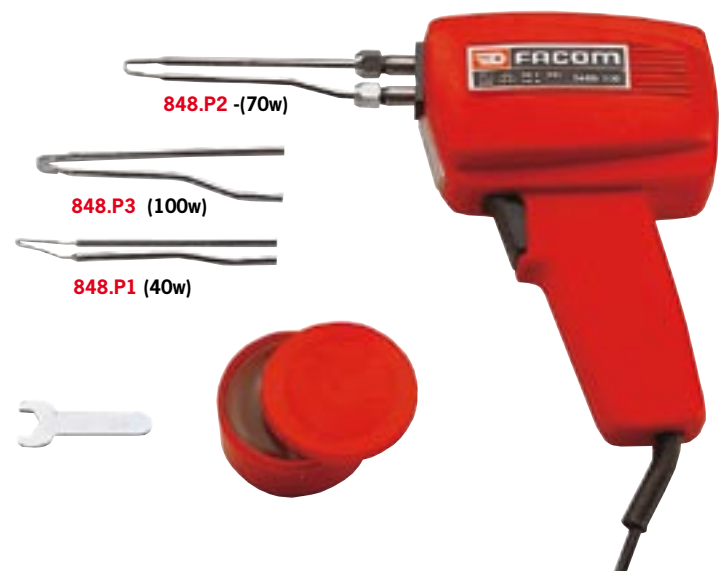
#### 848B.100

- Double isolation .
- Ready to solder in 5 seconds with trigger control.
- Tip cools immediately after the trigger is released.
- Useful tool in a service case, for occasional non-continuous soldering.
- Efficient well-protected spotlight.
- Supplied with 3 stainless tips 40, 70 and 100W, tip-change wrench, reel of solder and flux in a polystyrene box.
- 2-core PVC lead (2 x 0.75"). Length 1.25 m.
- 2-pole plug.
- Length 270 mm.

ΔΔ : 1 kg.



Tip : 848.100P2



## ► Heavy-duty soldering irons

### 947A Heavy-duty soldering irons - 230V

- Ratings from 50 to 400W.
- Supplied with angled tip.
- High-efficiency robust tool.
- Designed for optimum accessibility.
- Bright copper tip.
- Stainless heating tube.
- To EN 60335-2-45.



►	Rating W	Voltage V	Length mm	Peak temp 10%	ΔΔ g
<b>947.50</b>	50	230	266	390	290
<b>947.80</b>	80	230	295	400	330
<b>947A.100</b>	100	230	300	420	440
<b>947A.200</b>	200	230	315	450	675
<b>947A.300</b>	300	230	320	470	960
<b>947A.400</b>	400	230	320	500	960

► p. 711

## ► Gas soldering iron

### Gas soldering iron

#### ONE TOOL - FOUR FUNCTIONS

##### Soldering

(Electronics, etc.)



##### Hot fitting

(Heat-shrinkable tubing, etc.)



##### Blowtorch



##### Hot-cutting

(Plastic, rubber, etc.)



- **Rechargeable butane gas burner.**
- **Integral ignition system** (Piezo-electric system).
- **Adjustable power setting.**
- \* **Safe** : The cap on the end of the nozzle keeps the gas control valve closed.

### Gas soldering iron

#### 1075.G

- 75W equivalent power rating.
- Adjustable gas flow and power output. 45 minutes autonomy at maximum power.
- Max. temperature 1300C.
- Piezo-electric ignition.
- Heating time 40 sec.



**New**



▶ **Solder wire****Solder wire 40SN60PB****661618**

- Reel of tin solder 40SN60PB.
- 40% tin and 60% lead.
- Multi-purpose solder wire (tinning, simple soldering for basic connections, etc.).
- For standard soldering.
- Good mechanical strength.
- Good melting temperature.
- Flux core.

FOB	Ø mm	ΔΔ g
<b>661618</b>	1	500

**Solder wire 60SN40PB****661626**

- Reel of tin solder 60SN40PB.
- 60% tin and 40% lead.
- For technical applications (electric circuits).
- High tin content for improved electrical conductivity.
- Good melting temperature.
- Flux core.

FOB	Ø mm	ΔΔ g
<b>661626</b>	1	250

▶ **Soldering accessories****839 Desoldering pumps**


- Twin seal design: wiper seal ensures optimum efficiency of main seal.
- Set of 5 spare nozzles:
  - 839.E1J5: Standard, white.
  - 839.E2J5: Fine, black, anti-static.
  - 839.E3J5: Fine, white, standard.
  - 839.EJ5

FOB	Ø Embouts mm	L mm	ΔΔ g
<b>839A</b>	3,2	190	75
<b>839A.0</b>	2,0	165	36
<b>839A.1</b>	2,0	200	78
<b>839A.7</b>	2,0	195	78



## 1130 Desoldering braid

- Outstanding absorbency. Protects fragile components from thermal shock.

	Width mm	Length m	ΔΔ g
<b>1130.1</b>	1,6	1,6	15
<b>1130.2</b>	2,7	1,66	18



## Accessory set




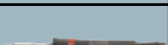

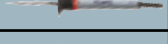

### 1195





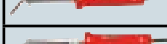

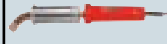
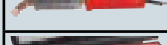
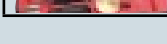
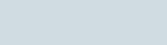
- Plastic wallet set of 3 soldering accessories :
    - double scraper.
    - hook.
    - brush.
- ΔΔ : 35 g.



## Soldering iron tip selection guide



			
	<b>1001A.60</b>	<b>1002.P1</b> (46 mm)	<b>1002.P3</b> (46 mm)
		<b>1002.P2</b> (55 mm)	<b>1002.P4</b> (55 mm)
	<b>1002A.60E</b>	<b>1002.P1</b> (46 mm)	<b>1002.P3</b> (46 mm)
		<b>1002.P2</b> (55 mm)	<b>1002.P4</b> (55 mm)
	<b>1003A.80E</b>	<b>1002.P1</b> (46 mm)	<b>1002.P3</b> (46 mm)
		<b>1002.P2</b> (55 mm)	<b>1002.P4</b> (55 mm)
	<b>1230.15</b>	<b>1230.15P2</b>	<b>1230.15P3</b>
	<b>1024.25</b>	<b>1230.25P2</b>	<b>1230.25P3</b>
	<b>1230.25</b>	<b>1230.25P2</b>	<b>1230.25P3</b>
	<b>1230.30</b>	<b>1230.30P2</b>	<b>1230.30P3</b>
	<b>1230.40</b>	<b>1230.30P2</b>	<b>1230.30P3</b>







		
	<b>947.50</b>	<b>1130.1</b>
	<b>947.80</b>	<b>1130.1</b>
	<b>947A.100</b>	<b>1130.1</b>
	<b>947.200P1</b>	<b>1130.1</b>
	<b>947.300P1</b>	<b>1130.1</b>
	<b>947.50</b>	<b>1130.1</b>
	<b>1075.G</b>	<b>1075.G1</b>





# 18. Automotive

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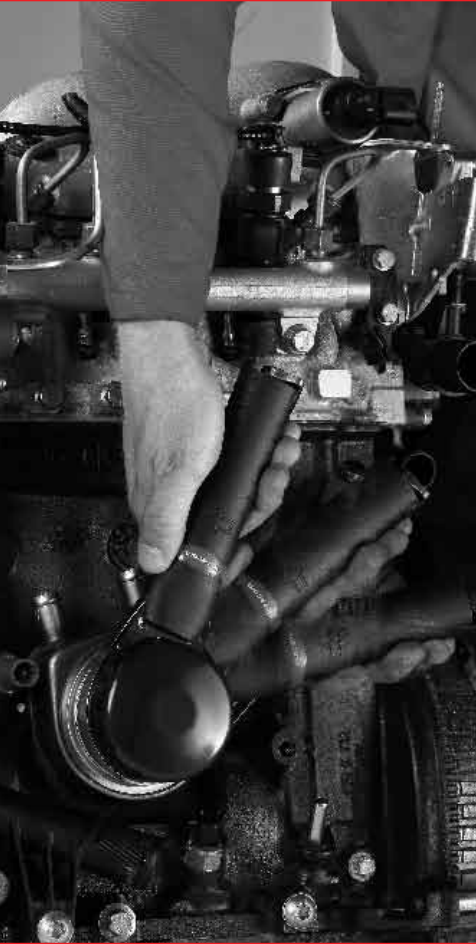
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**NEW**

## U.48 Automatic oil-filter wrench



*Unique, automatic  
and ultra-fast*

### Advantages

- ▶ No adjustment
- ▶ Ratchet effect
- ▶ High torque

**N**  **723**

**NEW**

## DF.17 Pneumatic brake piston tools



*Essential for replacing brake pads.*

### Advantages

- ▶ Fast
- ▶ Easy to use
- ▶ Only 6 flanges

**N**  **770**

*For all maintenance  
and repair operations*



### Advantages

- ▶ Electronic pressure control
- ▶ Automatic stop
- ▶ 5 litre capacity

N 769



### DLS.300 "Suspension" workstation

*For easier, safer servicing*



### Advantages

- ▶ No compressor to carry
- ▶ Guaranteed safety
- ▶ All tools readily to hand

N 781





**New**

## LIFTING EQUIPMENT RANGE



**FOR FACOM, YOUR SAFETY IS PARAMOUNT**

- Each product is tested by the French national testing laboratory (LNE).



- All inspections are recorded in a maintenance log.



- Permanent identification markings.



- Comprehensive safety instructions.



*A range of lifting equipment meeting the latest regulations.*

## ► Mobile lifting equipment

### ►► Trolley jacks

#### Lightweight servicing trolley jack

##### DL.19

- Bi-material aluminium/steel jack.
- Force 2 t.
- Rear carry handle.
- Minimum jacking clearance : 100 mm.
- Wide polyurethane cover on the bearing head.
- Quick-lift device brings jack : into contact in a single movement.
- Universal joint mechanism for accurate control.
- Automatic air release device for constant cylinder efficiency
- Silent-running polyurethane-tyred wheels
- Overload valve, CE
- Dimensions : 680 x 322 x 160 mm.

ΔΔ : 25 kg.



#### 2T "gearbox & engine support" trolley jack

##### DL.20

- Extra flat 80 mm high.
- Effective length 600 mm
- Maximum lift 375 mm.
- 2T lifting capacity.
- Quick-lift device brings jack : into contact in a single movement.
- Jacking control at the end of the jack for easier and improved reach under the vehicle.
- Universal joint mechanism for accurate control.
- Automatic air release device for constant cylinder efficiency
- Silent-running polyurethane-tyred wheels
- Overload valve, CE
- Dimensions : 955 x 349 x 171 mm.

ΔΔ : 48 kg.



#### Plate for DL.20 jack

##### DL.20SUP

- This plate supports a block of high density foam that spreads the load over a large surface area and avoids damage to aluminium crankcases and under-bodies.
- For use on DL.20 and DL.32.
- This plate can also fit the DL.60 and DL.30 pit jacks.
- Dimensions : 300 x 150 x 60 mm.

ΔΔ : 4 kg.



#### 3.2T multi-purpose car and LCV floor jack

##### DL.32

- Maximum lift 504 mm.
- Min. under-body clearance : 145 mm.
- Force 3.2 t.
- Quick-lift device brings jack : into contact in a single movement.
- Automatic air release device for constant cylinder efficiency
- Removable polyurethane cover on the bearing head.
- Silent-running polyurethane-tyred wheels
- Overload valve, CE
- Dimensions : 690 x 337 x 163 mm.

ΔΔ : 38 kg.



## ▶▶ Bottle jacks

### DL.T 5 Bottle jacks - 2 to 20 tonnes

- Supplied with a handle storage support system.
- 12 and 20 T jacks come with a carry handle.
- Screw lift action.
- Treated screw.
- Overload valve
- CE.

➤	Width mm	Length mm	Min height	Max height	Capacity kg	Length of extension screw	Hydraulic displacement	ΔΔ kg
<b>DL.2T</b>	95	95	183	398	2000	50 mm	115 mm	2,6
<b>DL.6T</b>	102	115	219	427	6000	75 mm	133 mm	5,5
<b>DL.12T</b>	134	134	240	473	12000	80 mm	153 mm	8,9
<b>DL.20T</b>	150	159	242	475	20000	80 mm	153 mm	13,5



## ▶▶ Axle stands

### Pair of 2.2T axle stands

#### DL.3

- Capacity 2.2 t.
  - Axle stands with locking pin.
  - 6 height settings from 295 to 492 mm
  - Pin chained to the stand.
  - Polyurethane contact surface protection
  - CE.
  - Tested in the French national testing laboratory (LNE)
  - Folded dimensions : 295 x 210 x 210 mm.
- ΔΔ : 5.5 kg the pair.



## ▶▶ Pit jacks

### Pit jacks

DL.60 :

- "Dead man" safety lowering device
- Safety overload valve.
- Polyurethane wheels.
- Reversible basket.
- Can support DL.20SUP (Optional).
- CE.

DL.30 :

- Initial adjustment three times faster than a traditional jack.
- Quick installation device.

➤	Capacity maxi	Min height	Max height	Load area	ΔΔ kg
<b>DL.30</b>	300 kg	1277 mm	2105 mm	575x543	31
<b>DL.60</b>	600 kg	1167 mm	1997 mm	560x560	39



## 1T folding workshop crane

### DL.10

- 5-stage extending jib.
- Pivoting hydraulic unit controller (270°)
- Rotating hook (2 axes)
- Polyurethane-tyred wheels
- Extra flat (100 mm high) frame with a wide, stable base
- Folded dimensions 450 x 600 mm
- Additional castors for easily moving the folded crane.
- Overload valve, "Dead man" device, CE, Tested by the National testing laboratory (LNE)

ΔΔ : 90 kg.



## Load balancer

### DL.101

- Balances the crane to suit the shape of the component or engine to be hoisted.
- Complete with 4 chains.
- Crank-operated for easy adjustment.
- Maximum load 600 kg
- Distance between chains 330 mm.



## ► Inspection creeper



### When comfort equals efficiency

#### To reduce the risks of backache.

Backache is a frequent cause of absence from work. It is estimated that at least 60 to 70 % of the population will suffer backache during the course of their professional career. Working on the middle or bottom of a vehicle requires suitable, good quality equipment to avoid the risk of injury.



#### Seat DTS.4

- Stability ensured by 4 wheels.
- Easily manoeuvrable.
- Supports the back.



#### Creeper DTS.2

- Adjustable headrest for prolonged horizontal working without pain.
- Six wheels for easy manoeuvrability.

## Inspection creeper

### DTS.1A

- Slim design (95 mm high) for maximum accessibility.
- Thick PVC padding.
- Comfortable and good resistance to automotive fluids.
- Strong steel frame, maximum load : 175 kg
- 6 wheels Ø 60 mm.
- Dimensions : 945 x 430 x 95 mm.

ΔΔ : 7.67 kg.





## Heavy-duty creeper

### DTS.2

- High-strength 18 mm tubular frame.
- Thick PVC padding.
- Comfortable and good resistance to automotive fluids.
- 6 wheels Ø 60 mm.
- Maximum load : 175 kg
- Automatic rack allows instant headrest adjustment.
- Fitted with 2 metal tool shelves.
- Dimensions : 1,020 x 600 x 95 mm.

ΔΔ : 8.6 kg.

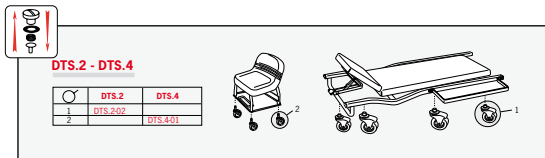


## Mid-height work seat

### DTS.4

- Ideal for working on wheels, brakes and bodywork.
- Thick heavy-duty PVC padding.
- Stability ensured by 4 wheels Ø 75 mm.
- Magnetic surface for fasteners and small components.
- Overall height 0.59 m.
- Seat height 0.42 m.
- L x l : 0.463 x 0.43 m.

ΔΔ : 10 kg.



## Lighting



### THE CORRECT LIGHT : AN ESSENTIAL CONSIDERATION.



Refer to the lighting section for details of our complete range (p.). 556

## ► Protection

### ►► Wing cover

#### Non-magnetic wing cover with suction fasteners

### CR.D2

- Non-scratch, quick-to-install suction fastener system.
- Each suction fastener can support 3 kg.
- Suitable for use with sheet metal, aluminium and composite materials.
- Adapts to all vehicle types.
- Cut-out provided for wheels.
- Easy maintenance.
- Impact and scratch resistant.
- High quality finish.
- Hook closers.

ΔΔ : 480 g.



## ▶ Drain plug wrenches

### Drain plug wrench

#### D.13A

- Chrome finish.
- >> CITROËN, RENAULT, PEUGEOT.
- 8 x 10 mm.
- Length 230 mm.
- ΔΔ : 230 g.



### Engine, gearbox and differential drain plug wrench

#### F.63C

- >> ALFA ROMEO, FIAT, LANCIA.
- 12 mm hexagonal male.
- ΔΔ : 280 g.



### Engine drain plug wrench

#### P.27B

- >> CITROËN, PEUGEOT.
- 10 mm male.
- ΔΔ : 270 g.



### Gearbox and differential drain plug wrench

#### T.33A

- >> RENAULT.
- 10 mm female.
- ΔΔ : 200 g.



### Gearbox drain plug wrench

#### T.173A

- >> RENAULT Espace.
- 10 mm male and female.
- Length 230 mm.
- ΔΔ : 300 g.



### Gearbox and differential drain plug wrench

#### T.273

- >> RENAULT, VOLVO.
- 8 mm male and 10 mm female.
- Length 260 mm.
- ΔΔ : 340 g.



## Selection of 12 drain-plug bits

### D.108J12

- Supplied on a rack.
- Comprising :
  - 4 male bits  $\square$  8-10-10.5 and 13.1 mm.
  - 1 female bit  $\triangleright$  10 mm.
  - 1 female bit  $\square$  10 mm.
  - 6 hexagon male bits 8-10-12-13-14 and 17 mm.
- $\Delta\Delta$  : 550 g.



## 3/8" drain plug bit with 10 mm female square

### D.106-10

- Drive  $\square$  3/8" (Junior).
- $\square$  10 mm.
- $\Delta\Delta$  : 40 g.



## 3/8" drain plug bit with male triangle

### D.109-10

- Drive  $\square$  3/8" (Junior).
- $\triangleright$  10 mm.
- $\Delta\Delta$  : 40 g.



## ► Oil-filter wrenches

### Fast oil-filter wrench

#### U.46ACL


- High-strength smooth stainless steel band wrench.
- Sprung hinged jaw grips filter and provides ratchet effect.
- Resilient glass fibre reinforced composite handle (resistant to hydrocarbons, impact, etc.).
- Multi-thread adjustment screw for fast pre-tightening.
- Dimensions : 290 x 45 x 45 mm.
- Ratchet effect and 5° increments.
- Handle length : 175 mm.
- $\varnothing$  66 to 106 mm filters.
- $\Delta\Delta$  : 345 g.



	Description
U.46CL06	Stainless steel strap

## D.105 3/8" drain plug bits with male square


- Square drive :  $\square$  3/8" (Junior).

	$\square$ mm	$\Delta\Delta$ g
D.105-8	8	30
D.105-10	10	35
D.105-10,5	10,5	35
D.105-13,1	13,1	60



## D.107 3/8" drain plug bits with 10 mm male hexagon.

- Square drive :  $\square$  3/8" (Junior).

	$\varnothing$ mm	$\Delta\Delta$ g
D.107-8	8	30
D.107-10	10	35
D.107-12	12	35
D.107-13	13	40
D.107-14	14	40
D.107-17	17	50



## Drain plug bit

### D.120-16

- XZN pattern  $\varnothing$  16 mm.
- Drive  $\square$  3/8" (Junior).
- >> V.A.G. gearbox.
- $\Delta\Delta$  : 40 g.



## Oil change and filter module

### MOD.U46CLPB

- 13 drain plug bits  $\square$  3/8" :
  - D.105-8-10-10.5-13.1.
  - D.106-10.
  - D.107-8-10-12-13-14-17.
  - D.109-10.
  - D.120-16.
- Fast oil-filter wrench U.46ACL
- Coupler S.230  $\square$  1/2"  $\square$  3/8".
- $\Delta\Delta$  1.1 kg.



## New

## U.48 AUTOMATIC OIL FILTER WRENCH

### UNIQUE, AUTOMATIC AND EFFICIENT



**No adjustment.**

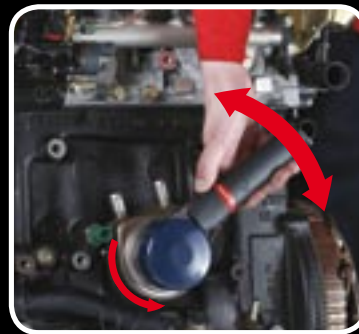
- Fits diameters 66 to 105 mm.
- Universal torquing force regardless of the size of the filter.



Set.



Position and release.



Ratchet effect ensures quick tightening and loosening.

## New

### Automatic oil-filter wrench

#### U.48

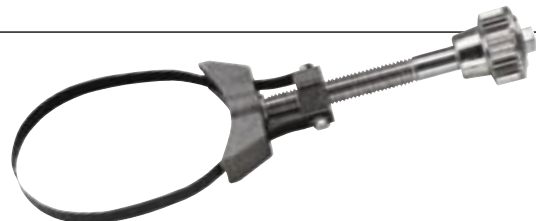
- Ratchet effect :
  - fast ratchet action.
  - allows fast working in even the most congested conditions.
- Optimised automatic tightening :
  - saves time.
  - strap torque control for optimum ratchet effect.
- Filter diameters : 66 to 105 mm.
- ΔΔ : 285 g.



### Adjustable oil-filter wrenches

- For cars and heavy goods vehicles..

	L max	Ø mm	ΔΔ g
<b>U.46</b>	260	65...105	310
<b>U.46PL</b>	300	105...145	350



### Chain wrench

#### D.149

- Suitable for filters Ø 50 to 110 mm.
- Drive  $\square$  1/2".
- ΔΔ : 280 g.





## Self-gripping oil-filter wrench

### D.151A

- Suitable for filters Ø 65 to 120 mm.
- Drive  $\square$  3/8".
- $\Delta\Delta$  : 580 g.



## Self-gripping HGV oil-filter wrench

### D.151PL

- Drive :  $\square$  1/2".
- Diameter : Ø 95 to 165 mm.
- $\Delta\Delta$  : 1.345 kg.



## Cap wrench


### D.163

- For original VOLKSWAGEN, AUDI, SEAT filters, as well as interchangeable Mann® and KNECHT filters.
- $\square$  3/8".
- 19 mm six-point.
- $\Delta\Delta$  : 110 g.



## Cap wrenches with flats


- Drive  $\square$  3/8".

	Filter mm	$\Delta\Delta$ g
D.139	14 point Ø 65.0	135
D.140	14 point Ø 74.0	160
D.141	15 point Ø 92.0	205
D.159	14 point Ø 66.5	140
D.160	15 point Ø 74.0	160
D.161	15 point Ø 79.0	175
D.162	15 point Ø 89.0	200
D.164	8 point Ø 74.0	150
D.165	10 point Ø 92.0	190



## Notched cap wrenches

- For oil and diesel Purflux filters.
- Square drive :  $\square$  3/8".

	Notches	$\varnothing$ mm	$\Delta\Delta$ g
D.154	6	66,0	200
D.155	6	76,0	225
D.156	9	86,0	268
D.157	9	96,0	295





## Spark plug wrench selection guide

**GUARANTEED compliance with ISO 11168**



### A COMPREHENSIVE RANGE

**A range for each application.**

#### **3/8" socket.**

- Ideal for multivalve engines.
- Short- and long-reach range to suit the engine layout.
- The 3/8" range is perfectly suited to recent vehicles.

#### **1/2" socket.**

- Suitable for most engines.
- Short- and long-reach range to suit the engine layout.
- The most widely used range.

#### **Hinged wrenches.**

- Ideal for situations where the engine layout prevents the use of a torque wrench.

#### **3/8" magnetic sockets.**

- For congested environments. Avoids the risk of cross-threading spark plugs.



#### **Safety first**

- Spark plug wrenches must allow sufficient play to enable the plug to engage in the cylinder head without risk of cross-threading. The spark plug's angle of freedom must also be limited to avoid damaging the insulation.
- Whenever possible, always engage the plug in the cylinder head by hand or with the help of the DM.20 spark plug fitter.
- All workshop spark plug sockets are fitted with a 3/8" or 1/2" square drive for tightening with a torque wrench.




# 18 Spark plugs

## ▶ Petrol spark plug wrenches

### ▶▶ 3/8" square drive sockets

#### Sockets 3/8" for 14 mm bihex spark plugs

- Slim sockets for 14 mm plugs.
- Spark plug retainer.
- For new Renault and Peugeot engines.
- 3/8" drive.

	L mm	ΔΔ g
<b>B.J14BH1</b>	90	90
<b>B.J14BH2</b>	250	245



#### Sockets 3/8" for 16, 18 and 21 mm spark plugs

- Sockets with spark plug retainer.

	Ø mm	L mm	ΔΔ g
<b>B.J16A1</b>	16	90	130
<b>B.J16A2</b>	16	250	350
<b>B.J18A1</b>	18	90	190
<b>B.J21A1</b>	20,8	90	200
<b>B.J21A2</b>	20,8	250	650



## Torque tightening of spark plugs



### WHY USE TORQUE TIGHTENING ?

- Cylinder heads are made of aluminium alloy.
- The cylinder heads of modern engines are subjected to increasingly high stresses.
- Reduction of thread diameters.

The J.208-50 torque wrench is ideal for tightening spark plugs. (for 3/8" sockets)..

### RECOMMENDED TORQUES


Thread diameter (mm)	Flat seating (with seals)			Conical seating	
	18	14	12	18	14
Cast-iron cylinder head (Nm)	35-45	25-35	15-25	20-30	15-25
Aluminium cylinder head (Nm)	35-40	25-30	15-20	20-30	10-20

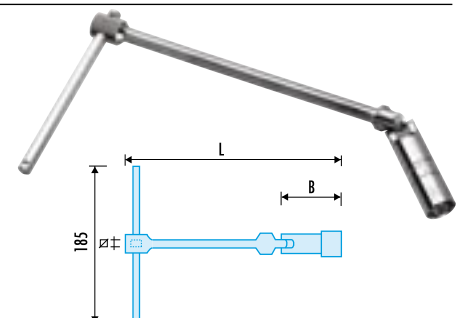
- These values are indicative only. Always refer to the manufacturers' values.

## ▶▶ Hinged wrenches

#### Hinged wrenches 3/8" for 16, 18, 19 and 21 mm spark plugs

- Spark plug retainer.
- Square drive allows use with a torque handle, e.g. D.150.


	Ø mm	L mm	B mm	ΔΔ kg
<b>B.J16R1A</b>	16	385	90	0,175
<b>B.J16R2A</b>	16	465	170	0,825
<b>B.J18R1A</b>	18	385	90	0,760
<b>B.J19R1A</b>	19	385	90	0,760
<b>B.J21R1A</b>	20,8	385	90	0,785
<b>B.J21R2A</b>	20,8	465	170	1,00



## ▶▶ 1/2" square drive sockets

Sockets  $\square$  1/2" for 16, 18 and 21 mm spark plugs

- Sockets with spark plug retainer.

	Ø mm	L mm	ΔΔ g
<b>B.S16A1</b>	16	90	130
<b>B.S16A2</b>	16	250	350
<b>B.S18A1</b>	18	90	190
<b>B.S21A1</b>	20,8	90	200
<b>B.S21A2</b>	20,8	250	650



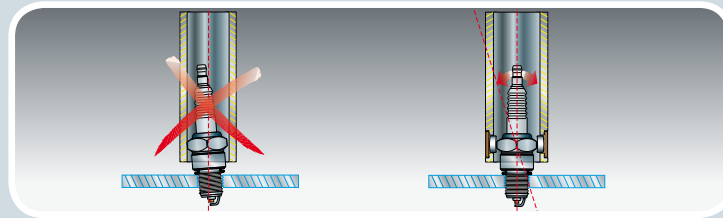
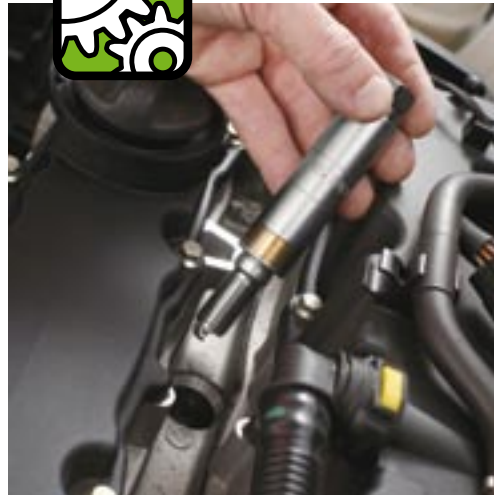
## ▶▶ 3/8" magnetic sockets



### Magnetic spark-plug sockets


#### FOR AN EASIER REACH

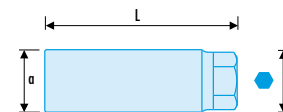
*Ideal for recessed spark plugs and whenever access is difficult. Allows secure handling without damaging the insulation. Especially useful for fitting spark plugs, since the retaining magnets leave sufficient freedom for the thread to engage properly. Minimizes the risk of cross-threading.*



Magnetic sockets  $\square$  3/8" for 16, 18 and 21 mm spark plugs

- Spark plug retaining magnet.
- Polished chrome finish.
- ISO 11168.
- Square drive :  $\square$  3/8".
- Length : 84 mm.


	Ø mm	● mm	a mm	$\square$ "	ΔΔ g
<b>B.J16M1</b>	16	17	22	3/8	105
<b>B.J18M1</b>	18	19	25	3/8	150
<b>B.J21M1</b>	21	22	27,5	3/8	185



## ▶▶ Box wrenches for spark plugs

Box wrenches for 16 and 21 mm spark plugs

- ▷ ISO 11168, NF ISO 11168.
- Models L and M feature spark plug retainers.
- Removable tee-bar gives working angle of 90°.
- Tee-bar storage within wrench body.

	Ø mm	Ø mm	L mm	ΔΔ g
<b>L.16AC</b>	16	22	90	160
<b>L.16AM</b>	16	22	160	235
<b>L.16AL</b>	16	22	300	395
<b>L.21C</b>	20,8	26	90	180
<b>L.21M</b>	20,8	26	160	280
<b>L.21L</b>	20,8	27,5	300	460



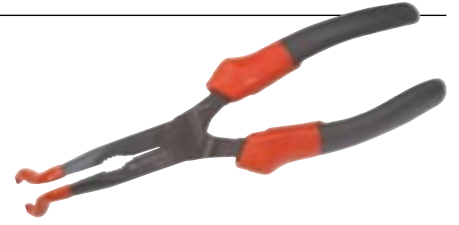


## ▶▶ Spark plug lead pliers

## Spark plug lead pliers

**DM.28**

- For disconnecting spark plugs without harming leads.
- No damage to connectors.
- Dimensions : 198 x 55 x 30 mm.
- $\Delta\Delta$  : 210 g.



## Spark plug lead pliers

**DM.28-9**

- For spark plug leads  $\varnothing$  9 mm.
- Soft non-slip grips.
- Spring-assisted opening.
- Long handles for accessing crowded assemblies.
- Snipe nose for maximum clearance.
- Serrated ends for maximum grip.
- Length : 280 mm.
- $\Delta\Delta$  : 310 g.





## ▶▶ Feeler gauges

## Metric feeler gauges

**804**

- Set of 19 sizes from 4/100 to 100/100 mm.
- Blade length : 90 mm.

	Number of blades	Form of blades	Width x length of blades in mm	Blade thickness in 1/100 mm	$\Delta\Delta$ g
<b>804</b>	19		10 x 90	4-5-6-7-8-9-10-15-20-25-30	60



## Non-magnetic metric feeler gauges

**804.AM**



- Blade thickness in 1/100 mm.
- 19 blades : 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - 50 - 55 - 60 - 65 - 70 - 75 - 80 - 85 - 90 - 95 - 100.
- Brass blades 1000 mm long.
- Width : 10 mm.
- Tapered tips.
- $\Delta\Delta$  : 110 g.



## Long metric feeler gauges - 150 mm long

**804.L**

- Rounded tips.



	Number of blades	Form of blades	Width x length of blades in mm	Blade thickness in 1/100 mm	$\Delta\Delta$ g
<b>804.L</b>	19		10 x 150	4-5-6-7-8-9-10-15-20-25	60



## Metric feeler gauges - tapered tips

**804.P**

- Set of 19 sizes from 4/100 to 100/100 mm.
- Description : tapered tips.
- Blade length : 90 mm.

	Number of blades	Form of blades	Width x length of blades in mm	Blade thickness in 1/100 mm	$\Delta\Delta$ g
<b>804.P</b>	19		10 x 90	4-5-6-7-8-9-10-15-20-25-30	60



## Inch feeler gauges

### 804.U

- Blade thickness in 1/10,000".
- 26 blades : 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 80 - 90 - 100 - 110 - 120 - 130 - 140 - 150 - 160 - 170 - 180 - 190 - 200 - 210 - 220 - 230 - 240 - 250.
- Tapered tips.
- Length : 3 1/2" (88.9 mm).
- Width : 15/32".
- $\Delta\Delta$  : 83 g.



## ▶▶ Spark plug accessories

### Flexible spark plug fitter

#### DM.20

- Helps engage a spark plug thread in any location.
- For all types of spark plug.
- Length : 316 mm.
- $\Delta\Delta$  : 50 g.



### Screw holder

#### D.110

- For starting screws where access is difficult.
- Any head pattern.
- $\varnothing$  6 to 11 mm.
- Length : 305 mm.
- $\Delta\Delta$  : 55 g.



## ▶▶ Spark plug files

### Contact file

#### 276

- Length 130 mm.
- Thickness 1 mm.
- $\Delta\Delta$  : 10 g.



### Diamond file

#### 277

- Length 130 mm.
- Thickness 0.7 mm.
- $\Delta\Delta$  : 10 g.



### File card

#### 270.A

- For cleaning electrodes and threads.
- Dimensions : 185 x 30 x 25 mm.



Image	Description
	Spare card

270.C



# 18 Spark plugs

## ▶▶ Spark plug sets

### GM spark plug module

#### MOD.BJ

- Module for 16 to 21 mm spark plugs and 8, 9, 10 and 12 mm heater plugs.
- Comprising :
  - 1 B.J14BH1
  - 1 B.J.14BH2
  - 1 B.J16A1
  - 1 B.J16A2
  - 1 B.J21A1
  - 1 DM.28-9
  - 1 B.10R8L
  - 1 B.10R9L
  - 1 B.10R10A
  - 1 B.10R12AL
  - 1 J.161
  - 1 D.110
- Tray : PL.161.



### 3/8" spark plug module

#### MOD.BJB

- Petrol spark plug servicing module.
- Comprising :
  - 1 B.J14BH1
  - 1 B.J14BH2
  - 1 B.J16A1
  - 1 B.J16A2
  - 1 B.J18A1
  - 1 B.J21A1
  - 1 DM.28-9
  - 1 DM.20
- Tray PL.669.



### 1/2" spark plug module

#### MOD.BSA

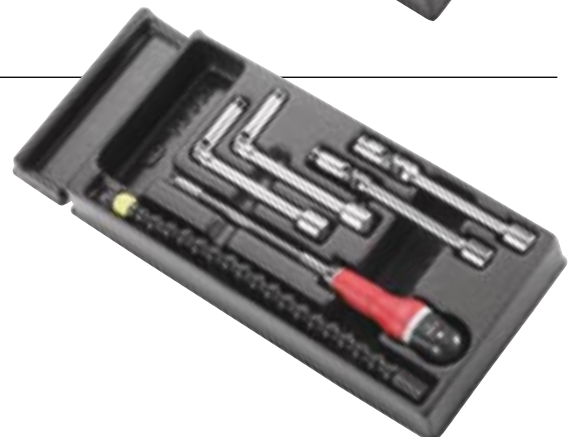
- Petrol spark plug servicing module.
- Comprising :
  - 1 B.S16A1
  - 1 B.S16A2
  - 1 B.S18A1
  - 1 B.S21A1
  - 1 DM.28-9
  - 1 DM.20
- Tray PL.668.



### Glow plug module

#### MOD.BRA

- Diesel glow plug servicing module.
- Comprising :
  - 1 D.110
  - 1 B.10R8L
  - 1 B.10R9L
  - 1 B.10R10A
  - 1 B.10R12AL
  - 1 D.133A6
- Tray PL.667.

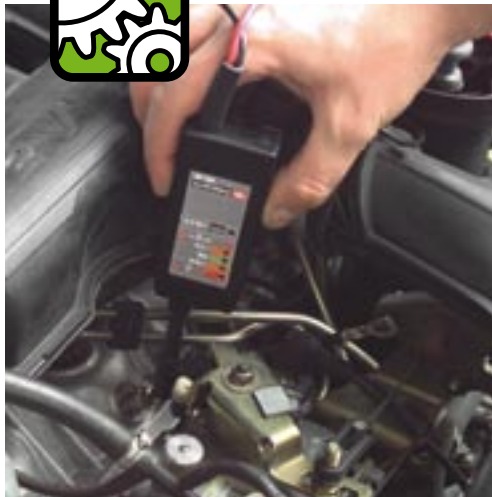


## ▶ Diesel glow plug testing

### ▶▶ Glow plug testing



## Glow plug tester DX.10



### **SIMPLE AND COST-EFFECTIVE** *Without removing.*

- For testing diesel engine glow plugs without removal.
- Compact probe for improved accessibility.
- Disconnect the glow plugs
- Connect the DX.10 to the battery.
- Touch the glow plug with the probe DX.10.
- Check the reading.

## Glow plug tester

### **DX.10**

- Test unit with probe and diagnostic diodes.
  - For fast and easy testing of glow plugs on diesel vehicles (cars and light commercial vehicles) to trouble-shoot poor cold-starting.
  - Indicates glow-plug condition : short-circuit, no continuity, insufficient power, etc.
- >> All makes.
- Power supply : 12 V.
  - ΔΔ : 210 g.



## ▶▶ Diesel glow plug wrenches

### Hinged wrenches 3/8" for diesel engine glow plugs

- Plug retention system.
  - Universal joint with friction springs for optimum socket angle.
  - Polished chrome finish.
  - ISO 11168.
- 3/8".

≡	∅ mm	∅ mm	L mm	ΔΔ g
<b>B.10R10A</b>	10	14,5	161	110
<b>B.10R12B</b>	12	17	155	125
<b>B.10R12AL</b>	12	17	178	150
<b>B.10R8L</b>	8	12	175	120
<b>B.10R9L</b>	9	13	177	125



### Sockets 3/8" for diesel engine glow plugs

- Spark plug retainer.
- Drive  3/8" and ∅ 17 mm (B.12-1) or 15 mm (B.10-1).

≡	∅ mm	∅ mm	L mm	ΔΔ g
<b>B.10-1</b>	10	15	70	70
<b>B.12-1</b>	12	17	70	80





## ► Engine testing

### Digital timing light

#### X.730B

- Multifunction unit : tachometer (300-9,900 rpm) , timing (0.1° to 99.9°) and dwell angle readings (0.1° to 90°) , voltmeter (9 to 16V).
- Checks :
  - dwell angle, engine speed, timing, centrifugal advance (intermediate values) , vacuum advance, vacuum retard, battery voltage.
- Supplied in a plastic case with cables and connectors.
- Dimensions : 310 x 285 x 110 mm.
- Power supply : 12 V.
- $\Delta\Delta$  : 1.7 kg.



## Automotive multimeter 714



### SIMPLIFIED ENGINE TESTING

#### Automatic readings

- Lambda probe test : Sweep voltage indication.
- Continuity test.
- Automatic AC/DC selection.
- Testing of EGR valve and RCO idle speed valve controls, etc.
- Injecting time testing.
- Temperature measurements (with K thermocouple probes).

#### Automatic clip-on ammeter

The 714 is compatible with clip-on ammeter 714P-200.

- Automatic reset : no adjustment needed.
- Measurements from 0.02 A to 200 A with the same ammeter.
- Alternative and direct current readings.

For locating leakage currents.

#### The diagnostic companion.

The essential electronic fault diagnostic tool.



## ► Testers and multimeters

### Digital automotive multimeter set

#### 714.1

Compact clip-on ammeter.

- Suitable for engine compartments and dashboards.
- Essential for locating leakage currents.
- Powered by the multimeter.
- AC currents from 0.02 A to 200 A peak
- DC currents from 0.02 A à 200 A peak, cable 2 m long.
- 714 multimeter.
- 714P.200 Clip-on ammeter 0.02 to 200 A.
- 1801.J2 Set of 2 cable probes.
- 711.19 Set of 2 test probes.
- Supplied with plastic case.



### Multimeter

#### 714

- Save time.
- Auto-ranging.
- Automatic AC/DC voltage detection, no more adjustment needed.
- Readings given directly in automotive units.
- Injection in milliseconds.
- Volts and millivolts for lambda probes.
- % opening for gate or EGR valves.
- Leakage current detection.
- Clip-on ammeter from 20 mA.
- AC voltages from 150 mV to 600 V rms.
- DC voltages from 20 mV to 600 V.
- AC currents from 0.15 to 4,000 A peak.
- DC currents 0.02 A to 4,000A peak DC using current clamp.
- Resistance to 400 k.
- Temperatures from 55°C to +1,000°C using K probe.
- Measurements of AC voltage and current are rms values.
- Power supply : 2 x LR6 1.5 V batteries (provided).
- Supplied with 2 x 600 V CAT III measuring leads with 1 red and 1 black contact probe.
- Dimensions : 63 x 170 x 40 mm.

ΔΔ : 300 g.



### Compact current clamp

#### 714.P200

- AC currents from 0.02 A to 200 A.
- DC currents from 0.02 A à 200 A.
- Compact design for use in congested spaces.
- For use with multimeter 714.
- Powered by the multimeter.
- Dimensions : 138 x 49 x 28 mm.
- Cable : 2 m long.

ΔΔ : 160 g.



## Multimeter, current clamp and thermometer

### 712

- Automatic detection AC/DC voltmeter.
- Ohmmeter, diode and continuity testing with audible beep.
- 400 A AC/DC current clamp, automatic detection.
- Thermometer : ambient temperature.
- Supplied in a pouch, leads and battery included.

ΔΔ : 660 g.

Automatic AC/DC detection

1. Stored readings, lead resistance compensation, automatic reset, display hold, automatic selection of measuring range.
2. Min/Max key.
3. Backlit screen.



## Clamp multimeter set

### 712-1

- Comprising :
    - 1 clamp multimeter 712.
    - 1 temperature probe (1 m long) DX.12-06 (measuring range -50°C to +285°C).
    - 1 K probe adaptor 712.01
  - Supplied in a cloth pouch.
- ΔΔ : 560 g.



*Complete tester range.*

See page

652



## Set of cable probes

### 1801.J2

- Cable probes for electrical readings.



## Non-contact thermometer

### DX.T1

- Laser-sighted infrared non contact thermometer.

	Length mm	Width mm	Height mm	$\Delta\Delta$ g
<b>DX.T1</b>	93	48	26	70



## Indicator lamps 700 and 705

### Prevents damage to computers

Vehicles are fitted with multiplex wiring. Normal bulb indicating lamps can alter the parameter settings or damage the computers. LED testers 700 and 705 can be used to check polarities or the presence of voltage. Their very low current consumption prevents any unwanted damage to the vehicle.



## Continuity tester

### 700

- Checks earth and lead continuity when inspecting and testing electrical circuits.
- Features two indicator lights.
- Cable length : 3 m.
- $\Delta\Delta$  : 105 g.



## Automotive voltage tester

### 705

- Filter diameter : 3 to 48 V.
- LED + or - polarity indicator.
- Complete with prodding probe, cable probe for testing insulated leads, and alligator clip.
- Dimensions : 18 x 21 x 135 mm.
- $\Delta\Delta$  : 55 g.





## ▶ Battery tools

### DX.11 - Memory protection



#### STORED DATA SAVER

Modern vehicles carry an increasing amount of electronics. Disconnecting a battery can cause the loss of stored : car radio settings and other stored parameters. Reprogramming is a long, complicated operation that can sometimes only be performed by the manufacturer's own agents.

#### Time-saving and safe.

The DX.11 connects in less than a minute :

- No more need to reprogram car radios and computers.
- Current limiter ensures safety during operations with a risk of short-circuiting.

#### Memory protector

##### DX.11

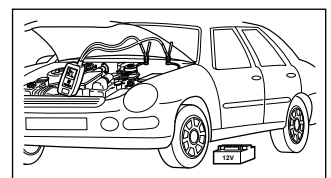
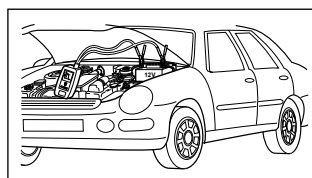
- Saves configuration and stored data of vehicle accessories when battery is changed or power is temporarily interrupted.
- Diodes for checking correct battery connection.
- >> All makes
- Power supplied : by 12 or 24V external battery.
- ΔΔ : 180 g.



#### 12V surge limiter

##### DX.8-12

- Cable length : 300 mm.
- W x L x H : 100 x 20 x 45.

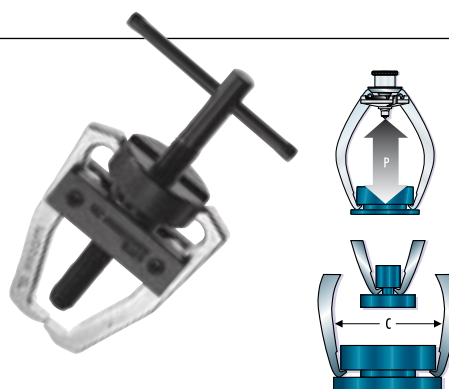


## Lug disconnecter

### U.14A

- Spring loaded, self-gripping 2-leg puller.
- For disconnecting battery terminals.

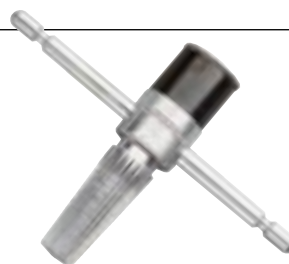
	C mini - maxi mm	T kN	Encombrement mm	P maxi mm	T Tonnes	$\Delta\Delta$ kg
<b>U.14A</b>	10 - 35	5	70 x 112 x 35	40	0,5	0,31



## Reamer

### 781

- For cleaning contact surfaces on battery lugs and terminals.
- $\varnothing$  26 x 92 x 130 mm.
- $\Delta\Delta$  : 230 g.



## Battery filler

### 785

- Acid, oil and solvent resistant plastic.
- Length 260 mm.
- $\varnothing$  70 mm (120 cm<sup>3</sup>).
- $\Delta\Delta$  : 85 g.



## Acid hydrometer

### 784B

- For checking specific gravity of battery fluid.
- $\varnothing$  42 to 350 mm.
- $\Delta\Delta$  : 100 g.



## Refractometer

### 780A

- 2 measuring scales :
  - Coolant : 0 to -50°C (5° graduations).
  - Battery fluid density : 1,10 to 1.40 kg/l.
- Simple screw recalibration using distilled water.
- Supplied in a case with a sampling pipette and screwdriver.
- Dimensions : 70 x 235 x 700 mm.
- $\Delta\Delta$  : 550 g.



## ► Fuses and connectors

### Auto electricians kit

#### 449.Z1A

- For routine automotive electrical servicing and repair tasks : Installation of accessories, car radios, trailer socket connections, fuse replacement etc.
- Contains :
  - The 12 most commonly used terminals for automotive applications (210 terminals)
    - 20 x 5 dia. ring terminals for 0.5 to 1.5 mm<sup>2</sup>.
    - 20 x 4 dia. spade terminals for 0.5 to 1.5 mm<sup>2</sup>.
    - 20 x 5 dia. ring terminals for 1.5 to 2.5 mm<sup>2</sup>.
    - 15 x 6 dia. ring terminals for 1.5 to 2.5 mm<sup>2</sup>.
    - 20 x 5 dia. spade terminals for 1.5 to 2.5 mm<sup>2</sup>.
    - 20 x 6.3 mm dia. quick disconnects for 1.5 to 2.5 mm<sup>2</sup>.
    - 15 x 6.3 mm dia. combined quick disconnects for 1.5 to 2.5 mm<sup>2</sup>.
    - 20 x 6.3 mm dia. tab terminals for 1.5 to 2.5 mm<sup>2</sup>.
    - 15 x 8 dia. ring terminals for 3 to 6 mm<sup>2</sup>.
    - 15 cable couplers for 0.5 to 1.5 mm<sup>2</sup>.
    - 15 cable couplers for 1.5 to 2.5 mm<sup>2</sup>.
    - 15 cable couplers for 3 to 6 mm<sup>2</sup>.
  - 1 set of 20 fuses with extractor (5A to 30 A).
  - 1 fuse holder (for 5A to 30 A fuses).
  - 5 quick splice terminals for 0.5 to 1.5 mm<sup>2</sup>.
  - 5 quick splice terminals for 1.5 to 3.5 mm<sup>2</sup>.
  - 1 power fuse remover DX.9 (for 40A to 80A fuses) : for easy replacement or removal of power fuses ( e.g. : for removing the fuse when working on airbags)
  - 1 pair of multi-purpose pliers 449I : For cutting wire from 0.5 to 6 mm<sup>2</sup> crimping colour-coded insulated terminals, cutting threaded rods from M 2.6 to M5, crimping non-insulated terminals, stripping.
- Supplied in a case.
- Dimensions : case 350 x 300 x 60 mm.
- ΔΔ : 1.35 kg.



### Maintenance crimping pliers for insulated terminals

#### 985894

- Dual crimp on insulated terminals, to applicable standards, with grip around both conductor and insulation.
- Stainless steel die.
- Latch remains accessible.
- Good grip in the hand.
- Soft feel.
- To IEC 60352.2 / IEC 60760.
- Reverse crimping : terminal placed in the fixed part for greater efficiency and precision.

Image	Capacity mm <sup>2</sup>	L mm	ΔΔ g
	0,4 → 6	230	490



### Power fuse remover

#### DX.9

- For easy removal of power fuses without damage.
- Captive knob.
- Two ends : horizontal and vertical slot fuses.
- Dimensions 58 x 30 x 18 mm.
- ΔΔ : 30 g.



### Crimping tools.

See page

629



## ► Car radio

### 20-piece car radio removal tool kit

#### DX.25

- 20 special tools for the main makes of car radio (Alpine, Blaupunkt, Becker, Grundig, JVC, Pioneer, VDO).
- Multi-make : BMW, Fiat, Ford, Mercedes, Opel, PSA, Renault, VAG,
- Supplied in a plastic pouch showing applications.



### Heater plug tester DX.10

See page **731**



## Engine

### ► Pressure testing

### ►► Petrol engine compression tester



## 911 and 912 - Compression diagnostics.

### THE COMPRESSION TESTER - THE ESSENTIAL DIAGNOSTIC TOOL

#### Fast and safe.

Whatever the age of the vehicle, the engine cannot run at maximum efficiency if the compression is wrongly adjusted.

Compression testing is a pre-requisite for good engine diagnosis.

The Facom compression tester range is regularly updated with the latest dummy glow plugs and injectors.

A 911D or 912B compression tester is a long-term investment.

#### Graphic records.

Graphical printout of readings on card :

- Easy reading and interpretation.
- Traceability.



911D



912B





## Petrol engine compression tester

### 912B

- Test cards for up to 12 cylinders.
- Integral starter-motor control.
- Self-locking hose.
- Working range 3 to 18 bar.
- Comprising :
  - 912A.SB Compression tester with hose 530 mm.
  - 912A.FC Pack of 100 test cards.
  - 911B.016 Starter-motor control lead 1.85 m.
  - 912A.014 Self-locking fitting for spark plugs M14.
  - 912A.013 Angle adaptor for easier access.
  - 912A.012 Spare rubber seal (M14 spark plugs).
  - 912A.10 Extension for deep recesses.
- BV.912B Storage case with blister tray.
- Dimensions : 430 x 340 x 85 mm.
- ΔΔ : 2 kg.



Code	Description
912A.FC	Set of 100 test cards
912A.012	Rubber seal

## Set of 100 test cards

### 912A.FC

## Rubber seal

### 912A.012

## Adaptors for M10x100 motorcycle spark plugs

### 912A.019

- For use with compression tester 912B, 20 x 40 mm hexagon.

Code	Sparking plug	ΔΔ g
912A.019	M10X100	90



## Adaptors for M10x125 motorcycle spark plugs

### 912A.020

- For use with compression tester 912B, 20 x 40 mm hexagon.

Code	Sparking plug	ΔΔ g
912A.020	M12X125	90




## ►► Diesel compression testers


### Compression tester

#### 911D

- Test cards for up to 12 cylinders.
- Starter-motor control integral with handle.
- Suitable for all types of diesel engine, using dummy injectors and dummy heater plugs.
- Working range 5 to 60 bar.
- Comprising :
  - 911B.00 Compression tester with hose 360 mm.
  - 911B.FC Pack of 100 test cards
  - 911B.016 Starter-motor control lead 1.85 m
  - 911B.017 Angle adaptor
  - BV.911B Storage case with blister tray.
- Complete with dummy injectors :
  - 911B.020A, 911B.021, 911B.022, 911B.023, 911B.024, 911B.025, 911B.026, 911B.027.
- And dummy glow plugs.
  - 911B.040, 911B.042, 911B.043, 911B.046.
- Dimensions : 430 x 340 x 85 mm.
- $\Delta\Delta$  : 5 kg.



	Description
<b>911B.AMM</b>	Motometer® adaptor®
<b>911B.049</b>	High-pressure dummy heater plug
<b>911B.048</b>	High-pressure dummy heater plug
<b>911B.047</b>	Dummy heater plug
<b>911B.045</b>	Universal adaptor
<b>911B.044</b>	Universal adaptor
<b>911B.041</b>	Dummy heater plug
<b>911B.036</b>	High-pressure dummy injector
<b>911B.035</b>	High-pressure dummy injector
<b>911B.034</b>	Dummy injector
<b>911B.032</b>	Dummy injector
<b>911B.031</b>	Dummy injector
<b>911B.030</b>	Dummy injector

	Description
<b>911B.029</b>	Dummy injector
<b>911B.028</b>	Dummy injector
<b>911B.FC</b>	Bag of test cards
<b>911B.031-02</b>	Teflon seal

### Motometer® adaptor®

#### 911B.AMM


- Allows Motometer® dummy injectors to be used with a Facom 911D compression tester.
- $\Delta\Delta$  : 35 g.



### High-pressure dummy glow plugs (Mercedes C220/A170 CDI)

#### 911B.049

- For use with compression tester 911D.


	Model	$\Delta\Delta$ g
<b>911B.049</b>	MERCEDES C22; CDI	155



### High-pressure dummy glow plug (Peugeot HDI)

#### 911B.048

- For use with compression tester 911D.

	Model	$\Delta\Delta$ g
<b>911B.048</b>	PEUGEOT HDI	65



## Dummy glow plug

### 911B.047

- For use with compression tester 911D.
- >> PEUGEOT 106 with TUD 5 type engine.
- ΔΔ : 60 g.



## Universal adaptor

### 911B.045

- Allows injectors to be used as dummies.
- Fitting Ø 14 mm.

## Universal adaptor

### 911B.044

- Allows injectors to be used as dummies.
- Fitting Ø 12 mm.

## Dummy glow plug

### 911B.041

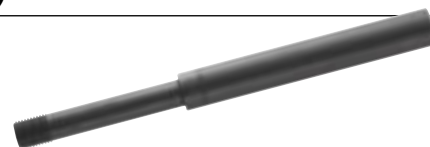
- Dimensions : 430 x 340 x 85 mm.
- ΔΔ 5 kg.

## High-pressure dummy injector (Mercedes C220/A170 CDI)

### 911B.036

- For use with compression tester 911D.

🚗	Modèle	ΔΔ g
911B.036	CDI Mercedes C220/A170	235



## High-pressure dummy injector (JTD Fiat; Alfa; Lancia 1.9/2.4)

### 911B.035

- For use with compression tester 911D.

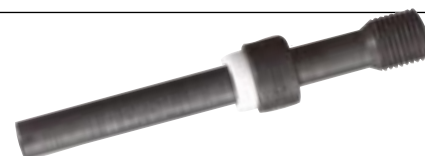
🚗	Modèle	ΔΔ g
911B.035	TD Fiat; Alfa; Lancia 1,9/2,4	230



## Dummy injector

### 911B.034

- For use with diesel compression tester 911D.
- 911B.034.
- >> ALFA ROMEO 164; >> CHRYSLER Voyager SE D 93; >> FORD Scorpio 2.5TD.
- ΔΔ : 310 g.



## Dummy injector

### 911B.032

- For use with diesel compression tester 911D.
- 911B.032.
- >> AUDI 80 1.9TDI; >> SEAT Inca 1.9D; >> VOLKSWAGEN Golf 1.9TDI - Sharan 1.9TDI.
- ΔΔ : 180 g.



## Dummy injector

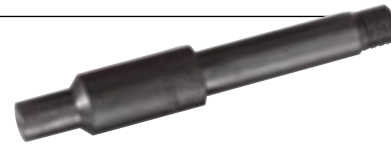
### 911B.031

For use with diesel compression tester 911D.

■ 911B.031.

>> FORD Transit 2.5D.

ΔΔ : 69 g.



## Dummy injector

### 911B.030

For use with diesel compression tester 911D.

■ 911B.030.

>> MERCEDES 2.5C and E.

ΔΔ : 285 g.



## Dummy injector

### 911B.029

For use with diesel compression tester 911D.

■ 911B.029.

>> MITSUBISHI Galant GLX D - Pajero GLX tbo - Space Wagon 2.0 GLX;

>> TOYOTA Carina 2.0D - Corolla 2.0D.

ΔΔ : 92 g.



## Dummy injector

### 911B.028

For use with diesel compression tester 911D.

■ 911B.028.

>> ROVER 220 SDI - 420 SDI - 620 SDI.

ΔΔ : 160 g.



## Bag of test cards

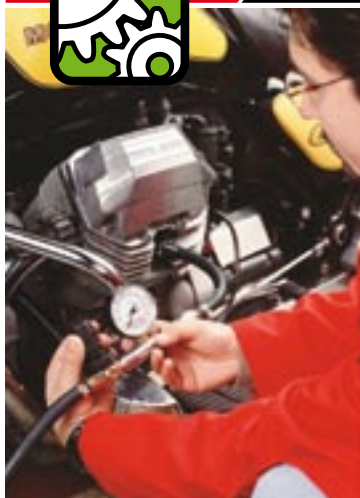
### 911B.FC

## Rubber seal

### 911B.031-02



## 910A - Leak tester.



### DIAGNOSTICS WITHOUT DISMANTLING.

Defective mechanical components are the second most common cause of engine breakdown and malfunction.

Mechanical breakdowns are more common than those caused by electronic faults.

#### Fault location.

- Connect the 910A in the place of the spark plug and pressurise the cylinder. The pressure gauge will indicate the scale of the leak. The leak must then be located to determine the cause of the fault.
  - Air escaping from dip-stick recess = piston ring problem.
  - Air escaping from the exhaust = valve problem.
  - Air escaping from the inlet = valve problem.
  - Air escaping from the expansion tank = cylinder-head gasket problem.



## Engine leak testing

### 910A

- Pinpoints compression loss (petrol engines).
- Air supply : 6 - 7 bars.
- Dimensions : 482 x 240 x 53 mm.
- ΔΔ : 4 kg.



	Description
<b>910.06</b>	Diesel adaptor

## ▶▶ Fuel pressure

### DM.35

## Fuel pressure and flow tester.

**ANALYSES THE CAUSES OF BREAKDOWNS AND MALFUNCTIONS.**

### FUEL SUPPLY DIAGNOSTIC EQUIPMENT

- Modern petrol and diesel engines do not tolerate fuel supply problems.
- A faulty fuel supply causes contamination that can lead to the destruction of catalytic converters and serious malfunction.

### Checking fuel pressure and flow.

- Checking the pressure is not enough, the flow must also be tested : a blocked fuel filter will give a correct pressure reading at idling speed, but the low fuel supply rate will cause serious malfunction under load.

### Petrol and diesel.

- Ideal for all single or multi-point petrol injection systems, and all low-pressure fuel supply circuits of modern diesel engines.



## Fuel pressure tester

### DM.35-200PF

- Tests multi-point fuel injectors.
  - Range : 0 to 10 bars.
  - Measures :
    - petrol pump pressure.
    - system pressure.
    - residual pressure.
  - For checking pressure regulator.
  - Supplied complete with :
    - 26 adaptors and couplers to accommodate most models.
    - 1 set of couplers DM.35MJ1.
    - 1 set of PSA/FIAT/OPEL adaptors DM.35-39.
    - 1 connecting tee with quarter-turn valve.
    - 5 hoses, 2 couplers, 1 packet of seals.
  - For checking : fuel pump, fuel supply system, pressure regulator, non-return valve and injectors.
  - Dimensions : 360 x 340 x 125 mm.
  - Partitioned plastic case..
- ΔΔ : 3.7 kg.

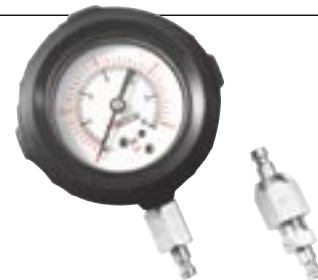


Code	Description
DM.35A10	Single-point injection kit
DM.35MJ1	Set of adaptors for DM.35
DM.35-39	Set of PSA/FIAT/OPEL adaptors
DM.35-38	Peugeot and Ford adaptors
DM.35-37-01	Renault adaptor
DM.35-37-02	Renault adaptor

## Single-point injection kit

### DM.35A10

- Range 0 to 2 bars.
  - Higher resolution increases accuracy when testing single-point injection systems.
  - Supplied complete with adaptor
  - Storage compartment provided in case DM.35.
- ΔΔ : 400 g.



## Set of adaptors for DM.35

### DM.35MJ1

- Comprising :
  - DM.35-37-01 and DM.35-37-02
- >> RENAULT Megane, Clio, Kangoo, Twingo.
- DM.35-38
- >> All types, PEUGEOT 206, 1.1 litre and 1.4 litre, FORD Ka.
- Supplied in plastic box BP.100.
- Dimensions : 200 x 110 x 40 mm.



## Set of PSA/FIAT adaptors

### DM.35-39

- Set of 2 male and female adaptors.
  - Specifications :
    - Citroen : Saxo (NFZ and HFX engines) - Xsara (NFU and KFX engines) - Picasso (FZB engine) - Berlingo (LFX engine).
    - Peugeot : 106 - 206 - 306 - 406 - same engines.
    - Fiat group : Alfa 156/166 - Punto - Brava - Bravo - Marea.
    - Can also be used on certain OPEL engines.
- ΔΔ : 90 g.



## ▶▶ Inlet and turbo pressure

### Vacuum/pressure pump

#### DA.16

- Vacuum/pressure selector valve.
- For leak testing :
  - Vacuum advance in conjunction with stroboscope X.715 or X.730A.
  - Fuel supply systems
  - Brake power assistance and any other vacuum controlled system
  - turbo wastegate control valves.
- 800 mm hose, 6 fittings.
- Vacuum : 0 to -1 bar.
- Pressure : 0 to 1.5 bar.
- Dimensions : 260 x 170 x 60 mm.
- ΔΔ : 300 g.



## ▶▶ Oil pressure

### Oil pressure tester

#### 914

- Quick coupler.
- Range : 0 to 8 bar.
- Supplied in a case complete with adaptors, seals and fittings.
- Dimensions : 360 x 340 x 125 mm.
- ΔΔ : 2.13 kg.



## ▶ Clips - hoses - gaskets

### ▶▶ Fuel circuit tools

New

### Gauge collar remover

#### DM.J

- For removing and refitting gauge collar rings.

Ø	Height	ΔΔ	
mm	mm	g	
DM.J	140	85	950



New

### Automatic clip pliers

#### DM.CC

- For opening and closing automatic clips.
- Multi-directional grip for working in a vertical or horizontal position (left or right).

Length	Width	ΔΔ	
mm	mm	g	
DM.CC	180	50	160



## Fuel-line pliers

- Fuel-line fitting separator.
- DM.15-8.
- >> RENAULT, Twingo/Laguna/Scenic.
- DM.15-10.
- >> RENAULT, Laguna Diesel/all Espace models/Megane.
- Dimensions : 115 x 65 x 20 mm.

	∅ mm	L mm	ΔΔ g
<b>DM.15-8</b>	8	110	70
<b>DM.15-10</b>	10	115	67



## ▶▶ Hose remover

### DM.44 Hose remover.

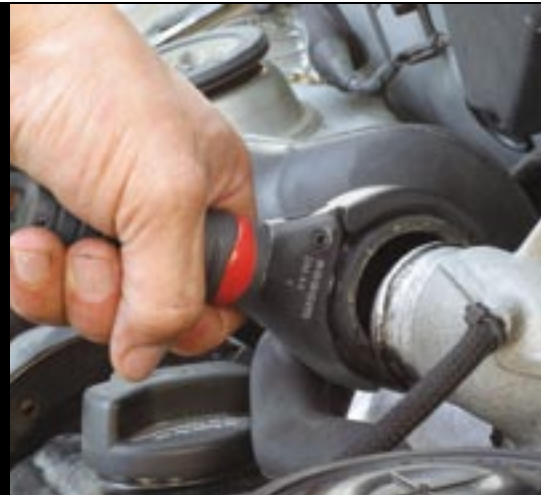
#### SPEEDY HOSE REMOVAL

#### Faster and safer.

Finally, a tool specifically designed for removing hoses. Quickly loosens and removes hoses with a simple backward and forward motion.

#### Protects hoses.

Hoses can now be removed without needing screwdrivers and multi-grip pliers. No more torn hoses, no more damage to plastic couplings.



## Hose remover

### DM.44

- Comprising a body and an adjustable jaw fitting hoses ∅ 24 to 53 mm.
- Compact tool, can be operated one-handed.
- Pins on the body grip the hose, allowing it to be loosened and removed.
- Multi-thread adjustment screw for fast pre-tightening.
- Handle size : ∅ 29 mm.
- Height : 167 mm (jaw fully open), 142 mm (jaw closed).
- Width : 65 mm (fully open).
- ΔΔ : 345 g.



## Large diameter hose remover

### DM.44PL

- Tool consisting of a body and a moving jaw that adjusts to fit hose diameters between 48 and 115 mm.
- Compact and manoeuvrable.
- Pins on the body grip the hose, allowing it to be loosened and removed.
- Multi-thread screw allows fast pre-tightening.
- Handle size : 36 mm. Grip : 90 mm.
- Height : max opening 255 mm
- Removable handle.
- ΔΔ : 769 g.





## ►► Tools for self-tightening spring clips



### DM.MUB - Spring clamp pliers.

**FOR AN EASIER REACH**



**Time-saving.**

- No need to remove components obstructing the hose clamp.
- Compact head for confined spaces.

**Comfortable.**

- Non-slip grips.
- Ratchet lock system for reduced effort.

**Capacity 18 to 54 mm.**



### Spring clamp fitting and removal tool

**DM.MUB**

- Fits self-tightening spring clamps between 18 and 54 mm diameter.
- Can be operated with one hand
- Non-slip bi-material handle for a better grip.
- Ratchet system for reduced effort.
- Total length : 780 mm.
- Length of sleeve : 560 mm.
- ΔΔ : 500 g.

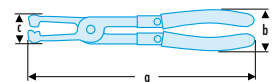
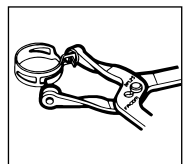


Code	Description
DM.MUB-RN1	Sleeve repair kit, cable + jaws (7373280)

### Self-tightening clamp pliers

- For hose clamps on cooling, heating, fuel or screen-washer systems.
- DM.25 : Slip-joint model
- DM.27 : Long-reach model with lock and pivoting jaws.
- DM.29 : Standard-reach model with lock and pivoting jaws.

Code	a x b x c mm	Ø mm	ΔΔ g
DM.25	275 x 55 x 20	12..60	400
DM.27	275 x 60 x 25	15..56	395
DM.29	215 x 60 x 25	15..56	340

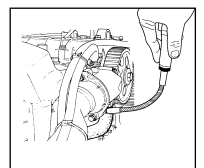


## ►► Hose clamp drivers

### Flexible screwdriver (6-point socket)

- For loosening and tightening hose clamps.
- Length : 275 mm.
- ΔΔ : 165 g.

Code	Ø mm
D.133A4	4
D.133A5	5
D.133A6	6
D.133A7	7
D.133A8	8
D.133A10	10



## ► Cooling circuit

### ►► Coolant testing



## 921 - Cooling system tester.

### EASY LEAK DETECTION

#### Requires only one person.

- Self-contained appliance : powered from the vehicle's battery.  
Connects to the expansion tank using the appropriate plug
- The 921 pressurises the circuit, you simply have to find the leak.

#### Complete range of plugs.

- Supplied with a set of 12 plugs covering the majority of the European vehicle fleet.

The power cable and hose are sufficiently long to be able to raise the vehicle on a vehicle lift with the appliance on the ground.



**New**

### Cooling system tester

#### 921

- Pressurised leak testing of the cooling system (hoses, clamps, pump and radiator).
- Automatically regulated electric compressor.
- 1.2 bar pressure limiter.
- 0 to 2.5 bar pressure gauge.
- Portable, stand-alone appliance (12 V).
- 4 m long spiral hose
- Power cord : 4 m long.
- Supplied with a set of 12 plugs.
- 920A compatible plugs.
- Wheeled appliance.
- CE.

ΔΔ : 15.84 kg.





## 935 - Cooling system filler.

### ESSENTIAL FOR THE LATEST ENGINES



#### Safe.

- Some manufacturers are doing away with cooling system bleed screws and imposing vacuum filling systems instead.
- The 935 depressurises the cooling system, ensuring perfect bleeding.

#### Cost effective.

- Fills and bleeds the air from cooling systems quickly and without wasting new coolant.



### Cooling system speed filler

#### 935

- Vacuum cooling system filling tool.
- ΔΔ : 1.96 kg.



### Anti-freeze hydrometer

#### 778A

- Measures antifreeze levels in engine coolant.
- Two scales for cold or warm engines.
- Dimensions : 42 x 350 mm.
- ΔΔ : 90 g.



### Refractometer

#### 780A


- 2 measuring scales :
  - Coolant : 0 to -50°C (5° graduations).
  - Battery fluid density : 1,10 to 1.40 kg/l.
- Simple screw recalibration using distilled water.
- Supplied in a case with a sampling pipette and screwdriver.
- Dimensions : 70 x 235 x 700 mm.
- ΔΔ : 550 g.

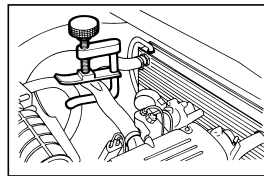


## ▶▶ Hose clamps

### Screw-type hose clamps


- Cooling systems
- Fuel lines
- Air hoses.

	Ø mm	L mm	ΔΔ g
<b>DM.90</b>	27	65	190
<b>DM.91</b>	45	85	240



### Hose clamps

- Hoses are clamped shut instantly without damage.

	Ø mm	L mm	ΔΔ g
<b>DM.33</b>	8...15	160	170
<b>DM.34</b>	15...28	180	190
<b>DM.34GM</b>	25...55	205	210



## ▶ Injectors

### Sockets for diesel engine piloted injectors ☑ 1/2"

- Long-reach 12-point open sockets ☑ 1/2".

#### ■ D.27A

>> All makes.

#### ■ D.132B

>> CITROËN Saxo 1.5/Boxer TD.

>> FORD Maverick.

>> MAZDA Familia 1.7.

>> MERCEDES 250C > 94 >.


>> MITSUBISHI Pajero 2.

>> NISSAN Serena 2.3.

>> PEUGEOT 106/605/2.5.

>> SEAT Terra 1.7.

>> VOLKSWAGEN Polo D.

	Ø mm	Ø mm	L mm	ΔΔ g
<b>D.27A</b>	27	36	87	265
<b>D.132B</b>	22	29	98	160



### Socket for injector castle nuts ☑ 1/2"

#### **D.142**

- For Bosch-type injectors on FIAT Croma 2.5 TD, can also

be used on light vehicle, van and HGV diesel engines.

Ø 28.5 x 135 mm.

ΔΔ : 320 g.





## Diesel injection line wrench ☑ 3/8"

### DM.19A

- 17 mm 12-point.
- Square drive : ☑3/8".
- >> RENAULT Laguna and certain diesel engines.
- Ø 27 x 95 mm.
- ΔΔ : 75 g.



## Diesel injection line wrench ☑ 3/8"

### DM.38

- >> MERCEDES light vehicles, vans and certain diesel engines.
- 14 mm 12-point.
- ☑ 3/8".
- Length 95 mm.
- ΔΔ : 70 g.



## Injector test pump

### 916.600

- For checking injector leak-back, injection pressure and fuel spray pattern.
- Dial gauge 0-600 bar.
- Reservoir complete with filter.
- For use with fluid ref. 916.LE (to NF ISO 4113) and vapour extractor ref. D.144.
- Dimensions : 220 x 100 x 410 mm.
- ΔΔ : 4.4 kg.



Code	Description
916.22	ADAPTOR
916.24	ADAPTOR
916.LE	Test fluid

## Test fluid

### 916.LE

- For checking injectors using pump 916.
- To ISO 4113.
- Supplied in a 2 litre can.



## Vapour extractor

### D.144

- Collects fumes and fluid when checking or adjusting injectors.
- Air inlet hose fitted with shut-off valve.
- Inlet pressure : 6 bar.
- Dimensions : 400 x 380 x 420 mm.
- ΔΔ : 5.2 kg.



## ► Cylinder head - valves

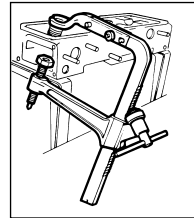
### Valve lifter

#### U.13L

- For removing valve springs.
- Complete with jaws U.13B.
- Dimensions : 265 x 365 x 20 mm.

ΔΔ : 1.14 kg.

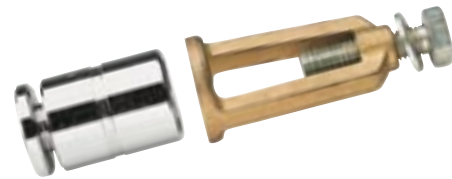
	Description
<b>U.13A</b>	Straight bottom-edge jaws
<b>U.13C</b>	Straight top-edge jaws



### Collet clamp and cup

- To fit U.13L, the collet replacing the screw, with the cup inserted between the 2 jaws..
- U.13DB for 16-valve engines.

	Ø	ΔΔ
	mm	g
<b>U.13DB</b>	30	335
<b>U.13DC</b>	33	340



### Slide-hammer valve lifter

#### U.43LA

- For removing valve springs.
- The slide hammer is used to free split collets.
- Dimensions : 200 x 390 x 36 mm.

Ø 34 mm.

ΔΔ : 1.385 kg.



### Collet clamp

#### U.43LA16A

- For 16-valve engines.
- Fits U.43LA.
- Length 54 mm.

Ø 29 mm.

ΔΔ : 55 g.



### Cylinder-head rest

#### U.43

- Adjustable distance between feet.
- Designed for easy use of valve lifters U.13L and U.43LA.
- Dimensions : 215 x 500 x 165 mm.

ΔΔ : 1.8 kg.



### Special pliers

#### DM.7

- For removing valve guide seals.
- Nickel finish, burnished jaws.
- Length 245 mm.

ΔΔ : 350 g.



## Valve stem seal pliers

### DM.10A

- For removing valve guide seals.
- Dimensions : 235 x 80 x 15 mm.
- ΔΔ : 135 g.



## Valve stem seal puller

### DM.41

- Slide-hammer puller.
- Removes seals without scoring or damaging bore in cylinder-head.
- Min. hole : Ø 21 mm. Height : 70 mm.
- Slide-hammer weight : 1.2 kg.
- Length : 310 mm.
- Ø 60 mm.
- ΔΔ : 1.84 kg.

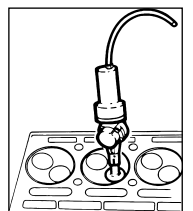
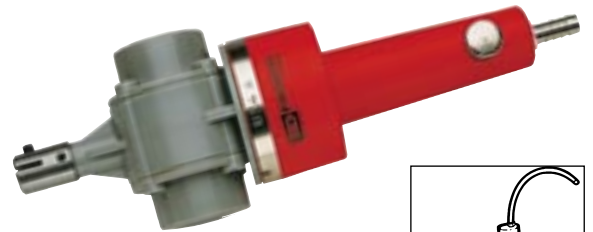


Icon	Description
DM.41-10	Expansion pullers

## Air-operated valve grinder

### U.54A

- Working pressure : 8 bar.
- Air consumption : 0.08 m<sup>3</sup>/min.
- Supplied with 2 suction pads : Ø 22 and 33 mm.
- Dimensions : 280 x 90 x 70 mm.
- ΔΔ : 800 g.



Icon	Description
U.54AV1	Suction pad Ø 22 mm
U.54AV2	Suction pad Ø 33 mm
U.54AV3	Suction pad Ø 30 mm
U.54AV4	Suction pad Ø 45 mm

## Valve grinder

### D.51

- Suction pads Ø 19 mm and 22 mm.
- Dimensions : 235 x 22 mm.
- ΔΔ : 30 g.



## Scraper


### D.1

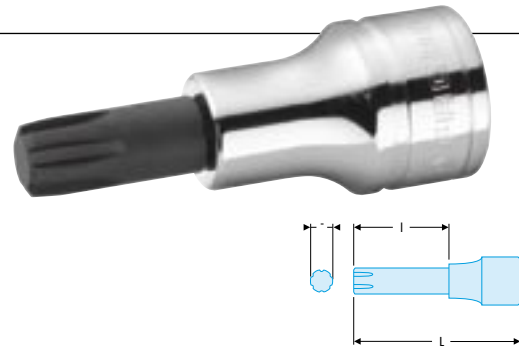
- For deburring and scraping off gasket debris.
- Triple-edge blade, width : 25 mm.
- Dimensions : 200 x 25 x 20 mm.
- ΔΔ : 105 g.



## D.34B Long-reach 6-spline bit

- For removing cylinder head screws.
- Square drive :  $\square$  : 1/2".


	Ø mm	l mm	L mm	ΔΔ g
D.34B7	7	15	60	70
D.34B7L	7	63	100	120
D.34B9L	9	63	100	130
D.34B10	10	15	60	75
D.34B12L	12	63	100	140
D.34B14L	14	63	100	150
D.34B16L	16	63	100	160



## 12-piece set of 1/2" square drive sockets with long-reach monobloc TORX®, XZN and hex. bits

### MOD.SHP

- Ideal for light vehicle cylinder heads.
- Tray PL.336.
- Dimensions : 420 x 180 x 55 mm.

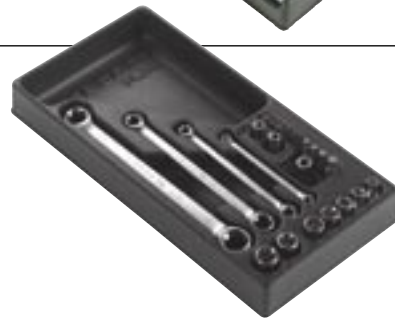
	⊕	○	○	ΔΔ kg
MOD.SHP	40 - 45 - 55 - 70	5 - 6 - 7 - 8	6 - 8 - 10 - 12	1,740



## Set of TORX® sockets

### MOD.TX1

- Set of Torx® wrenches.
- ΔΔ : 995 g.



## 7-piece set of 6-spline bits $\square$ 1/2"

### D.34J7PF

- Supplied on a rack.
- Comprising : D.34B7, 34B7L, 34B9L, 34B10, 34B12L, 34B14L, 34B16L.
- ΔΔ : 900 g.



## 5-piece set of drive bits for spline socket head (XZN) $\square$ 1/2"




### SV.J5PF

- Supplied on a rack.
- Diameters 6, 8, 10, 12, 14.
- Bits 63 mm - total 100 mm.
- ΔΔ : 670 g.



## 20-piece set of short-reach bits

### SE.1APB

- Comprising :
  - 1 bit holder  $\square$  1/2",  $\varnothing$  5/16".
  - 5  hexagonal bits 4 to 10 mm.
  - 8  Torx® bits no. 20 to 55.
  - 4 XZN bits 6 to 12 mm.
  - 3  Poqidriv® bits no. 2 to 4.
- ΔΔ : 475 g.





## ▶ Angular torque gauge



### Angular torque gauge

**SPECIALLY DESIGNED FOR CYLINDER-HEADS**

#### Compliance with manufacturers' recommendations.

- It is essential to apply the manufacturers' recommended cylinder head torques.
- Tightening to the correct torque with a suitable torque wrench.
- Apply the correct torquing sequence.
- Apply the correct turn angle.

Facom offers a complete range of specially designed tools

#### Maximum visibility.

Choice of tapered drum with reverse laser marking.

Set the drum to the value recommended by the manufacturer and stop at zero.

(DMP.360, DM.360L, D.360L).

#### Easier to attach.

Wide range of drum-locking accessories.

Clamp, magnet, 3 limit stops (24, 45 and 65 mm).



Facom offers a complete range of tools to fit all vehicles

### Angular torque gauge 1/2"

#### DMP.360L

- Complete kit comprising 3 limit stops (24, 45, 65 and mm long), a flexible arm with a clamp and a magnet
- Dimensions : 375 x 180 x 145 mm.

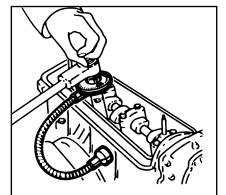
ΔΔ : 550 g.



### Angular torque gauge

- 2° graduations.
- Drive  drive.
- Fixed point by flexible arm with magnet.

	<input checked="" type="checkbox"/> "	Ø mm	L mm	ΔΔ g
<b>DM.360</b>	1/2	63	410	350
<b>DM.370</b>	3/4	73	430	550



### Side-graduated angular torque gauge 1/2"

#### D.360L

- Tapered side-graduated drum for maximum ease of reading.
- Double index (red line) for presetting. To tighten, simply align the two markers
- 2° resolution.
- Supplied with 24, 45 and 65 mm limit stops.

ΔΔ : 414 g.



## Side-graduated angular torque gauge with flexible arm and magnet $\square$ 1/2"

### DM.360L


- Supplied with a flexible arm and a magnet.
- $\Delta\Delta$  : 500 g.



## ► Pistons - piston rings

### Piston ring compressors

- For easy insertion of piston into cylinder bore and even compression over full ring length.
- Ratchet mechanism.
- Complete with key  $\square$  6 mm.


	$\varnothing$ mm	L mm	$\Delta\Delta$ g
<b>750.TB</b>	55...110	80	260
<b>750.KB</b>	100...160	80	300



### Piston ring pliers

#### 751.T

- Even expansion over full ring length.
- Quick and easy to use.


	$\varnothing$ mm	L mm	$\Delta\Delta$ g
<b>751.T</b>	45...100	210	280

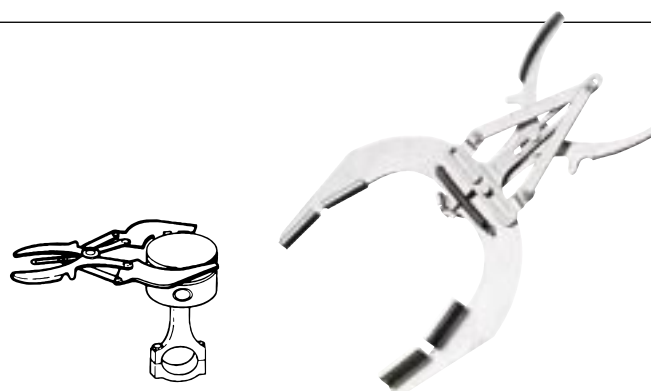


### Piston ring pliers

#### 751.K

- Even expansion over full ring length.
- Quick and easy to use.

	$\varnothing$ mm	L mm	$\Delta\Delta$ g
<b>751.K</b>	90...150	255	330



## ► Removal

### Set of exhaust rubber stretchers

#### DE.35A

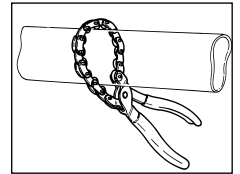
- Helps fit mounting rubbers after exhaust system replacement.
- Can also be used to remove hub caps.
- Set comprises two tools :
  - DE.3A Short hook.
  - DE.5A Long hook.
- Length : 250 mm.
- ΔΔ : 230 g.



### Chain pipe cutter

#### DE.7

- For exhaust systems requiring partial replacement only.
- Filter diameter : Ø 38 to 95 mm.
- Dimensions : 315 x 60 mm.
- ΔΔ : 560 g.



🔧	Description
DE.7-1	Spare chain

### PSA exhaust collar pliers

#### DE.C

- Bi-material grip, for opening exhaust collars.

🔧	Opening maxi mm	Length mm
DE.C	60	300



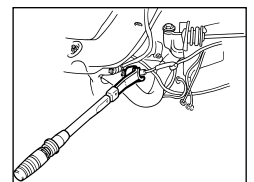
## ► Lambda probe

### Lambda probe tools

- For use on lambda sensors, featuring a slot for the connecting lead.

- D.145A Short-reach socket :
  - 22 mm 6-point, drive :  $\square$  1/2".
- D.146A Long-reach socket :
  - 22 mm 6-point, drive :  $\square$  1/2".
- D.147 Straight open-ring wrench :
  - 22 mm 12-point, end fitting : 7 x 20 mm.
- D.148 Offset open-ring wrench :
  - 22 mm 12-point, end fitting : 7 x 20 mm.
- D.167 Wrench :
  - 22 mm 12-point, end fitting : 7 x 20 mm.
- D.168 Wrench :
  - 22 mm 12-point, end fitting : 7 x 20 mm.

N.B. Lambda probes must be torqued to manufacturers specified values.



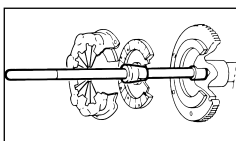
🔧	a x b x c mm	Ø mm	ΔΔ g
D.145A	-	33 x 85	200
D.146A	-	33 x 85	230
D.147	190 x 40 x 18	-	180
D.148	121 x 40 x 40	-	140
D.167	135 x 115 x 38	-	120
D.168	114 x 55 x 38	-	130

# Gearbox and clutch

## Universal clutch aligner

### U.25A

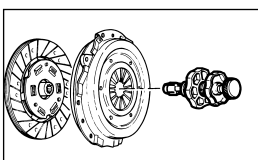
- Bush and cone system.
- Comprising :
  - 1 guide spindle
  - 11 bushes  $\varnothing 12$  to 22 mm.
  - 3 cones  $\varnothing 25$ , 30 and 40 mm.
- Supplied in steel case.
- Dimensions : 322 x 136 x 53 mm.
- $\Delta\Delta$  : 1.14 kg.



## Universal clutch aligner

### DM.30

- Centres and holds clutch friction and pressure plates.
- Supplied complete with 3 expansion tapers.
- Taper for.  $\varnothing 18$  to 21 mm.
- Taper for.  $\varnothing 22$  to 25 mm.
- Taper for.  $\varnothing 14.5$  to 18 mm.



## Inside and outside circlip® pliers

### 470

- Interchangeable tips for :
  - $\varnothing 8$  to 63 mm for outside circlips® .
  - $\varnothing 3$  to 63 mm for inside circlips® .
- Comprising :
  - 469.PA Inside-circlip® pliers.
  - 467.PA Outside circlip® pliers.
  - 82.2.5 key.
  - Set of 18 removable tips.
  - Supplied in a plastic case.
- $\Delta\Delta$  : 1.5 kg.



	Description
 467.01AJ2	Set of spare screws





## ► Diesel engine and fuel pump timing

### DT series

### TIMING ADJUSTMENT

Automotive ▲



### SPEED AND ACCURACY

#### **For safe accurate timing adjustment.**

The ignition timing of modern multi-valve petrol and high pressure diesel engines requires accurate adjustment

Inaccurate adjustment can lead to :  
- over-consumption, engine breakage, malfunction, pollution, etc.

On many modern twin-cam engines, at least one of the two pulleys will turn when the timing belt is removed :

- the method of aligning timing marks is no longer appropriate.

Poor timing adjustment will at the very least cause engine malfunction, requiring the work to be restarted :  
- the use of timing tools really does save time.

**For all of these reasons, it is essential to immobilise the engine when readjusting timing or changing the timing belt.**

#### **The right equipment ensures profitability**

With a separate kit for each make or range of engines, you only buy the tools that you need.

The kits are defined according to the European vehicle fleet and timing belt sales statistics.



#### **A clear and precise method.**

Each kit comes with precise instructions that are sufficient for changing a timing belt or chain, or for adjusting the timing.

Regular updates :  
See [www.facom.com](http://www.facom.com)  
for our latest products and applications.

## ▶▶ Timing kit

### PSA petrol and diesel engine timing kit

#### DT.PSA-A

- Covers most of the PSA group's petrol and diesel engines.
- Metal case
- Instruction manual with vehicle application guide in seven languages. (FR, DE, GB, ES, P, IT, NL).


	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.PSA-A</b>	55	450	315	4,96



### VAG petrol and diesel engine timing kit

#### DT.VAG-A

- Covers most of the VAG group's petrol and diesel engines.
- Metal case
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).


	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.VAG-A</b>	55	450	315	5,25



### BMW petrol and diesel engine timing kit

#### DT.BMW

- Metal case.
- For petrol and diesel engines.
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).

	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.BMW</b>	55	410	285	6,52



### Renault Diesel DCI timing kit

#### DT.DCI


- 9-piece timing kit.
- >> For DCi engine
- Supplied with operating instructions and vehicle application guide.
- Dimensions : H50xL270xD230 mm.
- $\Delta\Delta$  : 1.8 kg.



### FIAT diesel engine timing kit

#### DT.FIAT-D

- Covers most FIAT diesel engines.
- Metal case.
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).

	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.FIAT-D</b>	55	282	230	2,97




# 18 Timing - pulleys - belts

## Timing kit for FIAT 1.2L to 1.6L petrol engines

### DT.FIAT-P

- Metal case.
- For working on FIAT 1.2L to 1.6L petrol engines
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).

	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.FIAT-P</b>	55	350	270	4,14



## Renault engine timing kit

### DT.REN

- Supplied with operating instructions and vehicle application guide.
- >> R5, R9, R11, R19, R21, R25, Clio, Twingo, Megane/Scenic, Laguna, Safrane, Velsatis, Espace, Express, Kangoo, Traffic Master.
- $\Delta\Delta$  : 4.330 kg.



## Timing kit for FIAT 1.8L to 2.00L petrol engines

### DT.FIAT-P2

- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).
- Metal case.
- For working on FIAT 1.8L to 2.0L petrol engines

	Height mm	Width mm	Depth mm	$\Delta\Delta$ kg
<b>DT.FIAT-P2</b>	55	350	265	3,45



## Ford engine timing kit

### DT.FORD

- Supplied with operating instructions and vehicle application guide.
- >> Fiesta, Escort, Focus, Puma, Mondeo Cougar, Orion, Sierra, P100, Courier, Kombi, Transit Galaxy.
- Dimensions : H60xL240xD270 mm.
- $\Delta\Delta$  : 1.500 kg.



## Opel engine timing kit

### DT.OPEL

- Supplied with operating instructions and vehicle application guide.
- >> Corsa, Tigra, Meriva, Astra, Vectra, Zafira, Omega, Frontera, Agila, Nova, Monterey, Midi.
- Dimensions : H100xL330xD390 mm.
- $\Delta\Delta$  : 3.900 kg.







## DT.XX - Timing kit upgrades.

### KEEP YOU TIMING KITS UP TO DATE

Facom upgrade kits, for completing your equipment.



See the Facom web site for details  
of our latest offers :  
[www.facom.com](http://www.facom.com)



### Additional update kit for DT.PSA users

#### DT.PSA-U

- For upgrading from DT.PSA to DT.PSA-A.
- Only for owners of DT.PSA kits.
- Large metal storage case with free slots for DT.PSA kit components.
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).


	Height mm	Width mm	Depth mm	ΔΔ kg
<b>DT.PSA-U</b>	55	450	315	3,14



### Additional upgrade kit for DT.VAG users

#### DT.VAG-U

- For upgrading from DT.VAG to DT.VAG-A.
- Only for owners of DT.VAG timing kits.
- Large metal storage case with free slots for DT.VAG kit components.
- Covers most of the VAG group's petrol and diesel engines.
- Instruction manual with vehicle applications guide in seven languages. (FR, DE, GB, ES, P, IT, NL).

	Height mm	Width mm	Depth mm	ΔΔ kg
<b>DT.VAG-U</b>	55	450	315	3,14





# 18 Timing - pulleys - belts

## Diesel injection pump timing kit

### DT.DIESEL

- Supplied with operating instructions and vehicle application guide.  
>> Bosch type VE, EPVE, KIKI, NIPPONDENSO, CAV, LUCAS, ROTODIESEL.
- Dimensions : H50xL200xD230 mm.
- ΔΔ : 700 g.



## Universal pulley stay kit

### DT.BLOC

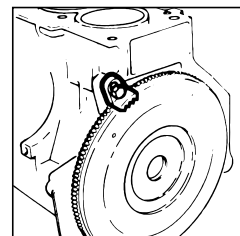
- Supplied with operating instructions
- For securing double or single camshaft and injection pump pulleys in place.
- Dimensions : H100xL190xD280 mm.
  - ΔΔ : 1.2 kg.



## Flywheel stay

### D.86

- Dimensions : 30 x 46 x 25 mm.
- ΔΔ : 21 g.



New

## BMW pump puller

### DT.P

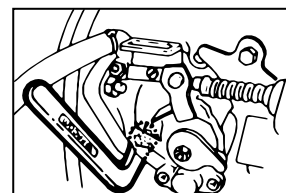
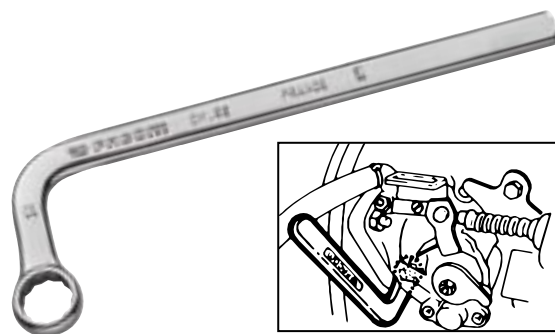
- For removing the VP44 and High Pressure Common Rail pumps of BMW vehicles.



## Injection pump wrench

### DM.22

- >> ALFA ROMEO, AUDI, CITROËN, CHRYSLER, FIAT, FORD, NISSAN, OPEL, PEUGEOT, RENAULT, ROVER, SEAT, VOLKSWAGEN, VOLVO.
- 13 mm 12-point.
- Dimensions : 170 x 55 x 8 mm.
- ΔΔ : 90 g.



## ► Pulleys - sprockets - belts

### ►► Belt tension testing



## DT.HERTZ - Belt tension tester.



### THE RIGHT TENSION GUARANTEED

#### Avoid breakage

The correct belt tension is essential :

- If insufficiently tight, the auxiliary belts will slip and become worn. Timing belts may jump (engine breakdown)
- If over-tightened, the forces will damage the rollers and pumps.
- Risk of premature belt failure.

#### Easy, accurate testing

Simply place the ultra-compact sensor against the belt and induce a vibration in the belt (like a guitar string).

Compare the displayed reading with the recommended value in the guide.

#### Regular updates.

The DT.DOC guide is regularly updated. See [www.facom.com](http://www.facom.com) for the reference number of the latest version.

## Multi-make electronic belt tension-meter

### DT.HERTZ

- Quickly and easily checks the tension of timing and auxiliary belts.
- The tension meter comes with a reading conversion guide allowing the vehicle repairer to validate the adjustments.
- Can be used for all belts on the market.
- Compact, manoeuvrable tool, can be operated one-handed.
- Cable length : 1,200 mm.
- Case LxWxH (mm) : 135x50x28.

ΔΔ : 150 g.

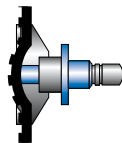


## Timing belt tension meter

### DM.16

- For checking timing belt tension.
- Comes with 6 interchangeable ends, a belt thickness measuring gauge and a calibration checking gauge.
- Dimensions : 170 x 120 x 50 mm.

ΔΔ : 420 g.

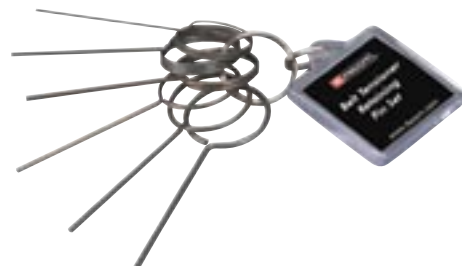


## 6-piece pin set

### DT.PIN

- Set of pins for keeping automatic tensioners compressed while working.
- Supplied with vehicle application list
- Dimensions : 140 x 50 x 35 mm.

ΔΔ : 30 g.



## ►► Pulley pulling



### DM.50 - Multi-groove pulley puller.

#### Avoid engine dismantling

##### Compact.

Compact puller for removing multi-groove crankshaft pulleys.

Essential for replacing the timing belts of most RENAULT engines



### Multi-diameter damper pulley puller

#### DM.50

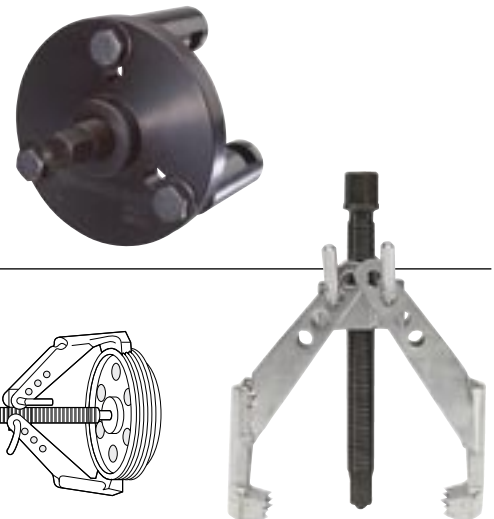
- Removes crankshaft multi-groove pulleys without damage.
- Lockable, adjustable legs to fit the various pulley sizes from 45 to 175 mm diameter.
- Compact design for working on engine in situ.
- Pulley capacity : Ø 45 to 175 mm.
- No groove : 3.56 mm.
- ΔΔ : 1.12 kg.



### Multi-diameter timing and injection pump pulley puller

#### DM.17A

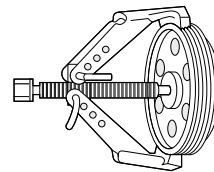
- Removes pulleys without damage.
- Adjustable legs adapt to differing pulley diameters.
- Compact design for working on engine in situ.
- Dimensions : 90 x 110 mm.
- ΔΔ : 925 g.



### Pulley puller

#### DM.31

- For removing crankshaft pulley by gripping the pulley grooves.
- Pulley capacity : Ø 130 to 156 mm.
- ΔΔ : 1.05 kg.



## ►► Pulley stay

### Pulley stay

#### DM.8

- For blocking multi-groove pulleys.
- Can serve to for crank an engine.
- Capacity Ø 40 to 140 mm.
- Handle length 350 mm.
- ΔΔ : 780 g.



### Universal pulley wrench

#### DT.CLE

- For blocking, cranking and holding camshaft and injection pump pulleys.
- Length : 410 mm.
- ΔΔ : 950 g.



## ► Inspection

### Disc brake vernier caliper

#### DF.18-01

- Vernier caliper for checking the thickness of brake discs.
- Accurate, error-free reading.
- Measurements can be taken with wheel in place (if no protective bodywork).
- Can quickly demonstrate to customers the need for changing brakes.
- Supplied in a reinforced fabric case with serial number for traceability in ISO certified workshops.
- Capacity 0 to 50 mm, outer thickness measurement for the disc brakes of cars and LCVs.
- Nose length : 50 mm.
- 0.1 mm reading increments.
- Mechanical memory device.

ΔΔ : 250 g.



### Drum brake vernier caliper

#### DF.19-01

- Capacity and reading to suit the requirements of car, LCV and HGV applications.
- Supplied in a reinforced fabric case with serial number for traceability in ISO certified workshops.
- Capacity 40 to 300 mm, inner drum measurement for cars and LCVs.
- Nose length : 100 mm.
- 0.20 mm reading increments for internal drum measurements.
- 0.10 mm increments for readings between tips.

ΔΔ : 700 g.



## DF.16

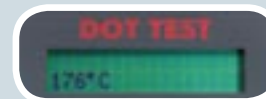
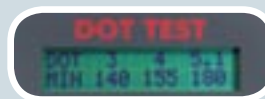
### QUICK BRAKE FLUID TESTER

**A quick, cost-effective analysis.  
For the safety of your customers.**

- Water in the brake fluid can turn into vapour under severe or repeated braking, making the brake pedal ineffective.

**The boiling point of brake fluids must exceed a specified minimum value :**

DOT 3	140°C
DOT 4	155°C
DOT 5.1	180°C



### Brake fluid tester

#### DF.16

- For testing brake fluids (DOT3, DOT4, DOT5.1).
- Measures brake fluid boiling point.
- Automatic test lasting up to 1 min.
- LCD display.
- °C/°F switch.
- Accuracy : 3 %.
- Air supply : 12 V (vehicle battery).
- Supplied in a plastic case
- Dimensions : 350 x 285 x 80 mm.

DF.16-02	Description
	Set of 10 pipettes





## Dual-gauge brake pressure tester

### DF.8

- For testing compensator operating pressures and diagonally-split brake systems.
- Max. pressure : 200 bar.
- Accuracy :  $\pm 1\%$ .
- Hose :  $\varnothing$  int. 2 mm.
- Length : 1 x 3 m / 1 x 5 m.
- Supplied complete with fittings and storage case.
- Dimensions : 375 x 270 x 75 mm.
- $\Delta\Delta$  : 2 kg.



## ► Diagnostics and bleeding



### Brake bleeding : a safety requirement

#### FAST AND EFFICIENT

*Brake bleeding is an operation that takes 10 to 15 minutes with a modern appliance such as the DF.20-100 or DF.21. A single operator is able to fill and bleed the brake system.*

*A profitable operation for the workshop.*

*A brake bleeder is very quickly cost-effective, and its cost is absorbed in under 50 operations.*



#### Safety first

*It is recommended to replace the brake fluid once every two years or after 40,000 km depending on the manufacturer.*



## Brake and clutch system bleeder

### DF.20-100

- For bleeding car and LCV brakes and HGV clutches
- ABS compatible.
- Helps hydraulic system leak detection.
- Portable, stand-alone appliance (12 V).
- Liquid drawn by peristaltic pump action, avoiding contact between the fluid and the moving parts of the pump.
- Automatic pressure regulator (automatically keeps the working pressure below 2 bars for ABS systems).
- Reservoir with visible level and min. level indicator
- Filter diameter : 5 l.
- Body : stainless/ABS
- Length of hose and power cable : 4 m.
- Metal accessory storage case.
- 1 multi diameter plug for using the bleeder on vehicles with a bayonet plug (DF.20-12).
- 1 screw plug with 90° connection (DF.20-07).
- 1 fluid collector with attaching chain.
- $\Delta\Delta$  : 11 kg.





## Electronic pressure control

### POWER AND PRECISION

#### Efficiency and precision.

Changing a hydraulic antilock unit involves refilling the system and the unit at low pressure.

It is therefore essential to be able to accurately maintain the required pressure on the brake bleeder by means of an efficient electronic control system.

#### Power and flow rate.

More power and a higher flow rate are needed for for bleeding HGV clutch systems :

The pump of the DF.21 bleeder is suitable for such applications.



**New**

### Adjustable-pressure electronic brake bleeder

#### DF.21

- For bleeding car and LCV brakes and HGV clutches
  - Pressure adjustment from 0.5 to 3 bar.
  - Up and Down pressure adjustment keys.
  - Electronic pressure control holds pressure steady at the selected value.
  - ABS compatible.
  - Portable, stand-alone appliance (12 V).
  - Reservoir with visible level.
  - Automatically stops below minimum level.
  - Capacity : 5 l.
  - Body : stainless/ABS
  - Length of hose and power cable 4 m.
  - Metal accessory storage case.
- 1 multi diameter plug for using the bleeder on vehicles with a bayonet plug (DF.20-12).  
 1 screw plug with 90° connection (DF.20-07).  
 1 fluid collector with attaching chain.  
 ΔΔ : 11 kg.



## Universal plug for bleeding brakes and clutches of LVs and HGVs.

### DF.20-12

- Can be used for bleeding the brakes and clutches of 90 % of vehicles.
- Claw system overcomes the many different bayonet shapes and different types and diameters of screw threads used by the various vehicle manufacturers.
- Fits most Asian makes (except Honda).
- Can also be used for bleeding HGV clutches .
- Working diameter : 35 to 83 mm.
- Minimum clearance required above the jar : 80 mm.
- Maximum working pressure of the bleeder : 3 bar.
- Connection by Rectus series 21 male coupling.
- Dimensions : 115 x 195x 85 mm.

ΔΔ : 475 g.



## Aluminium brake bleeder plug

### DF.20-07

- Special thread fits Ø 44 and 45 mm.
- 90° swivel connection.
- Minimum clearance required above the jar : 40 mm.
- Used with DF.20 or DF.21 to automatically replenish the brake fluid jar.

ΔΔ : 70 g.



## ► Disc brakes

### DF.17

## Pneumatic disc brake piston pushing/turning tools

### Essential for replacing brake pads.

#### Quick and easy to use

The pneumatic cylinder holds the flange against the head of the brake piston and the long handle allows the piston to be wound-back in a clockwise or anti-clockwise direction with minimum effort.



#### Saves time.

The special Facom flange design covers the entire European vehicle fleet with only 6 flange types, minimising the number of flange changes and saving time.

**New**

## Pneumatic disc brake piston pushing/turning tool

### DF.17

- Pneumatic cylinder for retracting and rotating the piston.
  - Frequency of use : at each brake pad replacement.
  - Supplied in a plastic case with operating instructions and application guide.
  - Compatible with flanges DF.6A.
  - Can be used on clockwise and anti-clockwise pistons.
  - Max. pressure 6.2 bars, 1/4" NPT Diameter 10 mm 3/8".
- ΔΔ : 2.28 kg.



**New**

## Disc brake piston winding-back set

### DF.17-100

- Comprising :
    - 1 DF.17 air tool.
    - 6 flanges DF.6-2 / DF.6-3 / DF.6-4 / DF.6-5 / DF.6-8 / DF.6-9.
  - Covers the majority of the European fleet
  - Supplied in a plastic case with operating instructions and application guide.
- ΔΔ : 2.83 kg.



## Disc brake module

### MOD.DFPB

- Comprising :
    - D.60A Brake piston pliers.
    - DF.3 Wire brush.
    - DF.4 Caliper file.
    - 249.G4/5/6 drift punches with shock-absorber handle.
    - 43.8x10 / 11x13 Flare-nut wrenches.
  - Tray PL.629
- ΔΔ : 1.22 kg.





**Wire brush.****DF.3**

- For cleaning calipers.
- Dimensions : 225 x 45 x 15 mm.
- ΔΔ : 65 g.

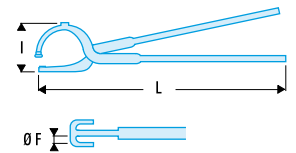
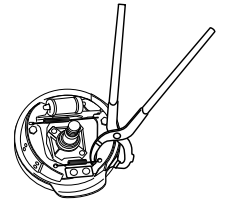
**Special file****DF.4**

- For cleaning calipers.
- Length : 265 mm.
- ΔΔ : 110 g.

**▶ Drum brakes****196 Brake-spring pliers**

- For removing shoe springs.
- Suitable for right-handed and left-handed working.

REF	Ø F mm	L mm	l mm	ΔΔ kg
<b>196.TS</b>	3	350	83	0,58
<b>196.KS</b>	5	485	100	1,23

**Drum brake servicing module****MOD.196-1**

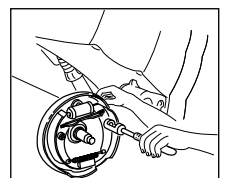
- 196.TMS Brake-spring pliers.
- D.104A Steady-spring tool.
- D.79A Hand-brake pliers.
- T.243 Set of 4 brake cylinder clips.
- Tray PL.628
- ΔΔ : 1.53 kg.

**Hand-brake pliers****D.79A**

- For easy hook-up of hand-brake cable.
- Length : 230 mm.
- ΔΔ : 180 g.

**Steady-spring tool****D.104A**

- Fits steady-spring caps for compression against drum-brake shoes.
- >> All makes.
- 240 x Ø 34 mm.
- ΔΔ : 240 g.



## ► Brake lines



### Brake line renewal



#### REFORM FLANGES AS NEW

*A complete set of brake line renewal tools.*

*Press 347 can be used to form all types of SAE or DIN flanges on the workbench. It is particularly suitable for LCVs and HGVs.*

*The DF.475 hand press can be used directly on light vehicles to reform flanges, without the need to remove the entire pipe.*



#### Flange press

##### DF.475

- Specifically designed for flanging ( $\varnothing$  4.75 mm) automotive brake lines.
- SAE or DIN fittings are formed easily with the help of its 3 T hydraulic jack.
- Compact size allows working in situ on vehicles.
- $\varnothing$  4.75 mm.
- Dimensions : 212 x 200 x 75 mm.
- $\Delta\Delta$  : 1.1 kg.



#### Flange press set for S.A.E, DIN, S.A.E./DIN fittings

##### 347

- For copper and steel pipework  $\varnothing$  4.75 to 12 mm; 3/16" to 1/2".
- Wall thickness : 0.7 to 1 mm.
- Press can be secured in a vice for increased stability.
- Fast and effortless forming.
- Kit includes 11 punches and 10 dies.
- Instructions explain selection according to flange type.
- Steel case : 396 x 224 x 82 mm.
- $\Delta\Delta$  : 7.9 kg.



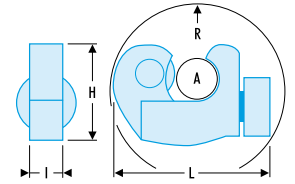
## 3 - 16 mm mini pipe-cutter

### 238.16

- Very compact.
- Can be used in situ.
- Minimal working radius.
- 238A.16 : grey.

ΔΔ : 120 g.

	mm	A "	R mm	H mm	I mm	L mm	ΔΔ g
<b>238A.16</b>	3 - 16	1/8 - 5/8	38	35	21	55	120

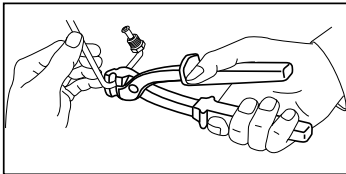


## Pipe bender

### DFR

- For pipework Ø 4.75 mm, to shape and hold brake lines when tightening a union.
- Length : 235 mm.

ΔΔ : 410 g.



## Metric flare-nut wrench module

### MOD.43

	Comprising	Tray	ΔΔ g
<b>MOD.43</b>	43.7x9 - 8x10 - 11x13 - 12x14 - 17x19	PL.635	960



## ► Strut removal



### Removal of MacPherson strut support arms

#### SAFETY AND EFFICIENCY

##### Fast

- Allows one person on their own to quickly remove the MacPherson strut from the clamp.
- No risk of transmission disconnection.
- Base fitted with a ball joint allowing the stand to take-up the angle of the shock-absorber and transfer load axially.

##### Safe

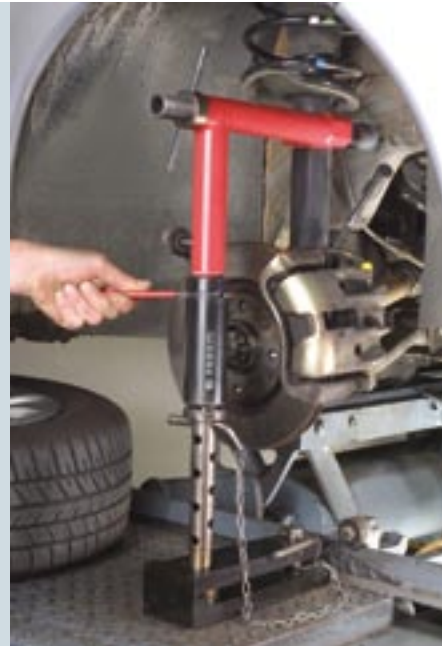
- For removing and installing struts without a lever, without knocking and with. no risk of slippage or damage.



• Easy to remove.



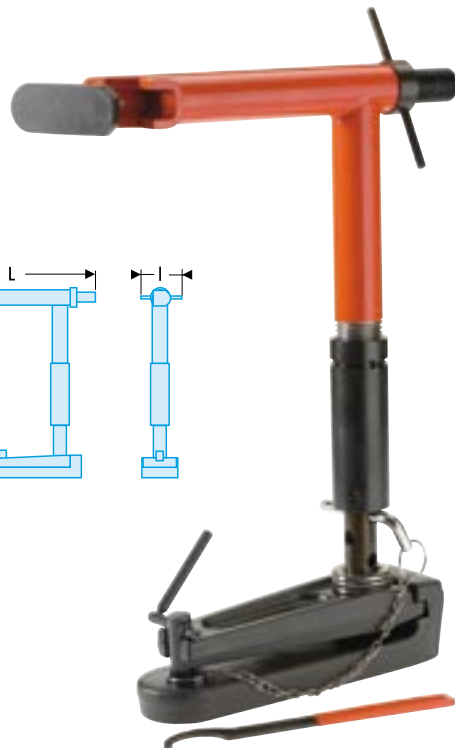
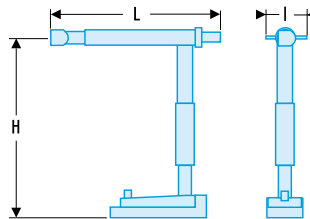
• Ball joint for axial load transfer.



### MacPherson strut removal stand

#### DLS.50

- Allows one person to safely remove MacPherson strut support arms.
  - No risk of damage to the front axle : avoids the risk of damage to the brake system corrosion protection, tripod disconnection (loss of needle bearing) , transmission separation (loss of gearbox oil).
  - Post supported on ball joint allowing pushing force to be applied along the axis of the strut.
  - For MacPherson struts 46 mm to 65 mm Ø.
  - Max. travel to release strut from clamp : 90 mm.
  - Maximum effort : 550 Nm.
- >> Citroen, Ford, Peugeot, Renault, VAG Group.



	H min - max mm	L mm	I mm	$\Delta\Delta$ kg
<b>DLS.50</b>	495 - 740	420	150	14,5





## MacPherson clamp separator set

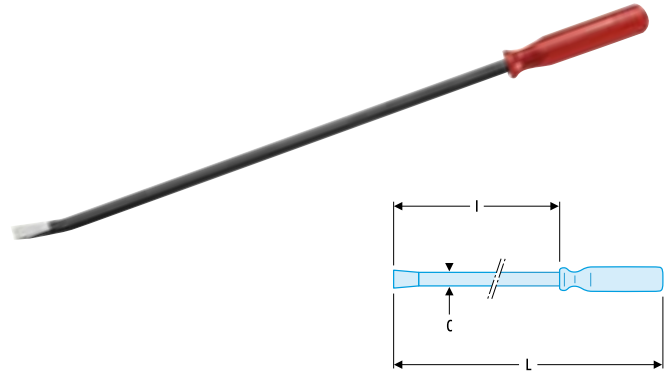
### DS.J5

- Comprising :
    - DS.10A : 7.5 x 9 mm.
    - DS.11A : 5.2 x 6.9 mm.
    - DS.12A : 6.6 x 7.9 mm.
    - DS.13 : 4.3 x 6 mm.
    - DS.14 : 12.7 x 16.7 mm.
    - DS.P : 3/8" (9.53 mm) square drive operating handle.
    - J.236 : Bit holder
  - Helps open the clamp on vehicles fitted with MacPherson struts.
  - Allows shock-absorbers to be stripped down at the work bench.
  - Fast and efficient.
- >> all vehicles fitted with removable clamps (Citroen, Peugeot, Ford, VAG, Audi).
- A "junior" series ratchet can be used instead of the handle (space provided in the case).



## D.3 Power levers

- Sturdy blade minimizing lever spring effect.
  - Dimensions 670 x 145 x 40 mm.
- ΔΔ : 1.648 kg.



➤	L mm	l mm	C* mm	ΔΔ kg
<b>D.3-7</b>	292	165	3/8	0,275
<b>D.3-12</b>	422	305	3/8	0,345
<b>D.3-18</b>	635	460	1/2	0,81
<b>D.3-24</b>	787	610	1/2	1,03
<b>D.3-30</b>	915	740	5/8	1,71

## Set of 3 power levers

### D.3J3

- Sturdy blade minimizing lever spring effect.
- Many uses : suspension, running gear, bodywork, etc.
- Presented on a blister tray.
- Set comprising one D.3-7, one D.3-12 and one D.3-18.
- Dimensions 670 x 145 x 40 mm.
- ΔΔ : 1.648 kg.



## Compressors

# U.89

## SPRING COMPRESSORS

### A CHOICE FOR EVERY NEED

#### Mechanical compressor : Safe compression with an impact wrench.

- The compressor's new internal mechanical mechanism is designed to work with a 1/2" impact wrench.
- A shear pin on the hexagonal drive screw protects the operator against excessively high torques.

#### Hydraulic compressor : higher productivity.

- Maximum power, minimum effort.
- Leaves both hands free when placing the tool.



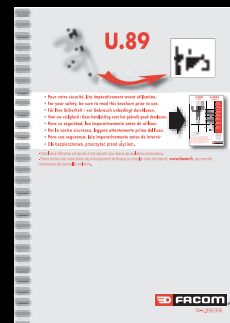
#### The most universal system.

The most extensive coverage of the European vehicle fleet equipped with MacPherson struts, with only five sets of forks.

Our vehicle applications list, tested and checked by us, covers 36 makes of vehicle, 360 models and hundreds of versions (at 1/12/06).

The system is continuously being tested on vehicles, and new vehicles are added to our data base each week :

see it on [www.facom.com](http://www.facom.com).



**Safety first**

**The safe choice :**

**Choose a compressor that is suited to current spring strengths, with a body failure limit of 100,000 N, LNE and CE tested.**



## Hydraulic compressor

### U.89H2JM

- Comprising :
  - Body U.89H2.
  - Set of multiple diameter forks U.89JM.
- For spring  $\varnothing$  100 to  $\varnothing$  215 mm.
- $\Delta\Delta$  : 11.5 kg.



## Hydraulic compressor + 3 sets of forks J1, J2, and J3

### U.89H30

- Two-stage screw-operated telescopic body (22 mm hexagonal drive).
- Movable spacer allowing the forks to be used in 2 positions.
- Tested to 100,000 N.
- Travel : 235 mm.
- Supplied with 3 pairs of plastic-coated forks J1, J2, and J3
- CE.
- Dimensions : Compressed length : 305 mm.
- Extended length : 540 mm.
- Diameter : 70 mm.
- $\Delta\Delta$  : 11.5 kg.



## Hydraulic body

### U.89H2

- Two-stage hydraulic cylinder operated telescopic body.
- Travel : 245 mm.
- 3/8" NPT threaded connection
- Body fitted with spacer.
- Tested to 100,000 N, allowing 2 different fork positions for a perfect fit on springs with a small number of coils.
- CE.



## Mechanical pump

### WV.M401

- Dual pedal-operated (pressure and relief) 400 bar hydraulic pump.
- Foot controlled, leaving the operator with both hands free for greater safety and efficiency.
- 300 cm<sup>3</sup> capacity.
- Ideal pump for 4 - Tonne series hydraulic accessories and spring compressors U.89H
- Supplied complete with WA.1165A 1.20m hose and female quick coupler.
- $\Delta\Delta$  : 6.5 kg.



Code	Description
WA.21	Hydraulic oil - 2 litres
WA.1165A	Hose 1.20 m
WA.1166F	3/8" female coupler

## Mechanical compressor with multi-diameter forks

### U.89M2JM

- Comprising :
  - U.89M2 Mechanical body with 2 position spacer.
  - U.89JMA Pair of multi-diameter forks for spring  $\varnothing$  100 to 215 mm.
- Supplied with operating instructions and vehicle application guide.
- $\Delta\Delta$  : 11.6 kg.



## Spring compressor Universal system with interchangeable forks

### U.89M30

- Two-stage screw-operated telescopic body(22 mm hexagonal drive).
- Movable spacer allowing the forks to be used in 2 positions.
- Can be used with a 1/2" impact wrench.
- Body tested to 100,000 N.
- Travel : 235 mm.
- Compressed length : 305 mm.
- Extended length 540 mm.
- 70 mm diameter.
- Supplied with 3 sets of plastic-coated forks J1, J2, and J3
- CE.

ΔΔ : 14.7 kg.



### Mechanical body

#### U.89M2

- Two-stage screw operated telescopic body.
- 22 mm hexagonal drive. Can be used with a 1/2" electric or pneumatic impact wrench.
- Tested to 100,000 N.
- Spacer provides an optional lower fork position for maximum travel on springs with a small number of coils.
- Can be used with all U.89 forks.
- Travel : 235 mm.
- Extended length : 540 mm.
- Compressed length : 305 mm.
- Diameter : 70 mm.

ΔΔ : 5.1 kg.



### Mini mechanical set

#### U.89M20

- Comprising :
  - U.89M Mechanical body.
  - U.89J1 Set of forks.
  - U.89J2 Set of forks.
- Supplied with operating instructions and vehicle application guide.

ΔΔ : 14.7 kg.



### Standard mechanical set

#### U.89M30

- Comprising :
  - U.89M Mechanical body.
  - U.89J1 Set of forks.
  - U.89J2 Set of forks.
  - U.89J3 Set of forks.
- Supplied with operating instructions and vehicle application guide.

ΔΔ : 19.1 kg.



### Mechanical body

#### U.89M

- Two-stage screw operated telescopic body.
- 22 mm hexagonal drive.
- Can be use with an electric or mechanical impact wrench.
- Tested to 100,000 N.
- Fitted with a safety pin.
- Can be used with all U.89 forks.
- Travel : 235 mm.
- Extended length : 540 mm.
- Compressed length : 305 mm.
- Diameter : 70 mm.

ΔΔ : 5 kg.







## Vehicle applications

**FOR YOUR SAFETY, CHOOSE THE RIGHT FORK**

### With each compressor

Our spring compressors and suspension workstations are supplied with a vehicle application list for existing forks according to vehicle make and model.

We constantly test new vehicles in order to recommend the most suitable fork to use.

Checking the recommended fork before removing a shock-absorber will save time and ensure safety.

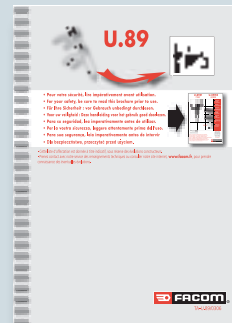


### www.facom.com at your service

Vehicle application data is updated on our web site every month :

Section :

- service
- vehicle application guide
- suspension



### Fork application list

#### TA-U.89/0606

- Updated U.89 spring compressor application list..
- Laminated manual, A5 format with perforations.
- 12 pages.
- 36 makes, 360 models, over 1,000 versions (European vehicle fleet).

ΔΔ : 25 g.



### Multi-diameter fork set

#### U.89JMA

- Offset forks : grip the spring at the end of the coil, thus increasing the compressor's effective travel. This shape of fork is particularly effective for use on new-generation springs having a small number of coils.
- A hinged joint at the connection to the compressor allows the fork to be aligned with the slope of the coil.
- New design, forks fit directly onto the springs for quick installation.
- Suitable for 100 to 215 mm springs.
- Compatible with all U.89 bodies without modification.

ΔΔ : 6.6 kg.



### Set of forks.

- Open design allows quick fitting of forks to the body and saves space when working on a vehicle.
- Spring positioning grooves.
- PVC-coated forks.
- Coating endurance tested to 10,000 cycles.



Logo	Color	Ø mini mm	Ø maxi mm	ΔΔ kg
	Yellow	99	156	4,14
	Red	129	174	4,43
	White	139	218	5,15
	Blue	71	119	3,6

### Offset fork set

- Open design allows quick fitting of forks to the body and saves space when working on a vehicle.
- Spring positioning grooves.



Logo	Color	Ø mini mm	Ø maxi mm	ΔΔ kg
	Pink	145	170	4,33
	Green	170	195	5

## ► Workstation

# DLS.300

# WORKSTATION

### FOR EASIER AND SAFER SERVICING

#### No compressor to carry

- The strut fits easily in the jaws of the compressor.

#### Your safety assured

- You are protected by a reinforced steel safety gate that is easily lowered once the strut is in place.

#### All tools readily to hand

- All the tools necessary for changing shock-absorbers are within easy reach.
- The tools for removing the strut rods can be placed on a high-level shelf.
- All forks can be reached from both sides of the unit.
- Special storage locations are also provided for an impact wrench as well as a torque wrench.

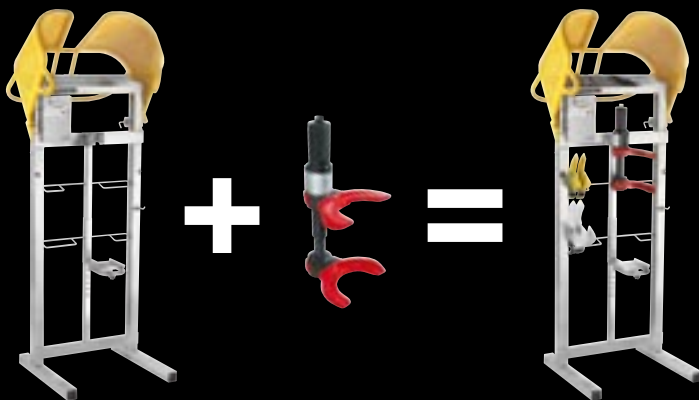


#### Can be used directly on the vehicle

- Certain specific models or certain rear suspension assemblies require servicing to be performed directly on the vehicle, in which case the compressor can instantly be removed from the workstation.

#### A gradual investment : from the spring compressor to the shock-absorber workstation.

- You can upgrade your Facom compressor by means of the DLS.300-03 adaptor that can receive all compressor bodies up to 55 mm in diameter.



New

**Spring compressor workstation****DLS.300**

- Designed to receive FACOM compressors U.89M2 and U.89H2.
  - Can accommodate up to 6 sets of forks.
  - Impact wrench storage space.
  - Space for set D.83C (new XL module).
  - Space for application list
  - Hook for torque wrench.
  - Small plan dimensions : 540 x 570 mm.
  - Closed height 1,410 mm max. height 1,726 mm.
  - Supplied with operating instructions and vehicle application guide.
- △△ : 35 kg.



New

**Spring compressor workstation****DLS.301**

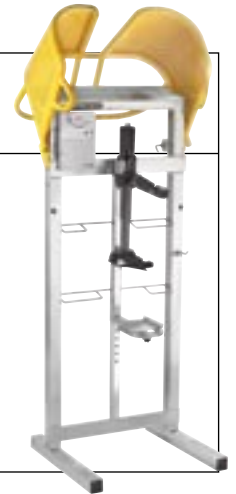
- Designed to receive FACOM compressors U.89M2 and U.89H2.
  - Can accommodate up to 6 sets of forks.
  - Impact wrench storage space.
  - Space for set D.83C (new XL module).
  - Space for application list
  - Hook for torque wrench.
  - Small plan dimensions : 540 x 570 mm.
  - Folded height 1,410 mm max. height 1,726 mm.
  - Supplied with operating instructions and vehicle application guide.
- △△ : 35.5 kg.



New

**Spring compression workstation****DLS.302**

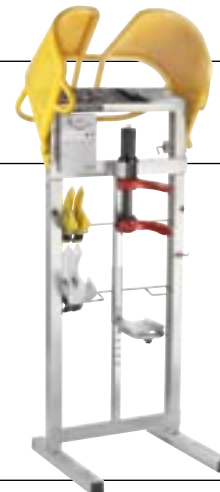
- Comprises :
    - 1 workstation DLS.300.
    - 1 mechanical compressor body U.89M2.
    - 1 multi-diameter fork set U.89JMA.
  - Closed height 1,410, open height 1,726 mm, plan size 500 x 470 mm.
  - Supplied with installation and operating instructions, vehicle application guide.
- △△ : 46.5 kg.



New

**Spring compression workstation****DLS.303**

- Comprises :
    - 1 workstation DLS.300.
    - 1 mechanical compressor body U.89M2.
    - 3 sets of forks : U.89J1, U.89J2, U.89J3.
  - Closed height 1,410, open height 1,726 mm, plan size 500 x 470 mm.
  - Supplied with installation and operating instructions, vehicle application guide.
- △△ : 54.1 kg.



**New**

## Heavy-duty spring compression workstation

### DLS.305

- Comprises :
  - 1 workstation DLS.300.
  - 1 hydraulic compressor body U.89H2.
  - 1 hydraulic pump WV.M401.
  - 1 protective plate for pump DLS.300-04 control.
  - 1 multi-diameter fork set U.89JMA.
- Closed height 1,410, open height 1,726 mm, plan size 500 x 470 mm.
- Supplied with installation and operating instructions, vehicle application guide.
- ΔΔ : 53.5 kg.



## Compressor holder

### DLS.300-03

- For attaching a compressor type U.89M or U.89H to workstation DLS.300.
- For bodies of max. 55 mm diameter.
- ΔΔ : 700 g.



## Special workbench vice

### D.22B

- For holding struts vertically on the workbench.
- Zinc finish.
- Dimensions : 410 x 190 mm.
- Ø max. : 65 mm.
- ΔΔ : 3.535 kg.

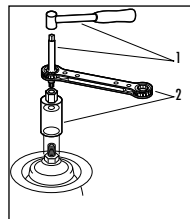
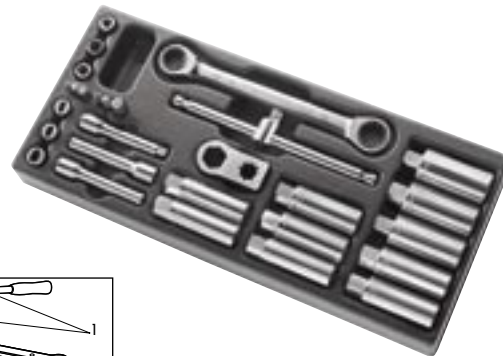


## Tools for shock absorbers

### Set of 28 tools in modules for MacPherson strut rods

#### D.83C

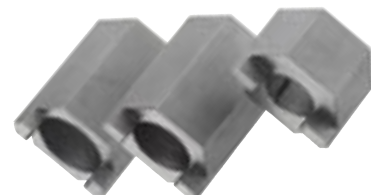
- Comprising :
  - 10 long-reach sockets (14, 15, 16, 17, 18, 19, 21, 22, 24 mm).
  - Slotted bits (3 No.) 5, 6 and 8 mm.
  - 6-point sockets (3 No.) 8, 9 and 11 mm.
  - 1 magnetic bit-holder extension 7.94 mm.
  - 1 bit-holder extension 6.35 mm.
  - 1 extension with 8 mm square drive.
  - 5 bits : EH 6, 7 and 8 mm - EXR.140 and EX.245 - XZN EV.212.
  - 1 handle J.120.
  - 1 wrench 68.17x19.
  - 1 torque wrench adaptor.
- For holding the strut rod while tightening or loosening of the nut.
- For tightening with a torque wrench to a specified torque.
- Tool set can be extended to include other bits (Torx, XZN, 6- point).
- Supplied in modules for placing in the drawer of a roller cabinet or workbench. Empty spaces for additional tools.
- Presentation : Tray PL.647.
- Module XL.



### Set of lug adaptors for VAG struts

#### D.84

- For loosening and tightening notched nuts on strut rods.
- >> AUDI : 80/90.
- >> SEAT : Terra/Ibiza/Marbella/Toledo/Cordoba.
- >> VOLKSWAGEN : Polo/Golf/Jetta/Passat/Vento
- ΔΔ : 70 g.





## ► Wheel removal and inspection



### S.208 - Tightening torque

#### TORQUE-TIGHTENING OF WHEEL NUTS : ESSENTIAL FOR SAFETY

*It is essential that wheel nuts are tightened to the manufacturers' recommended torques. Failure to do so can have the following consequences :*

- Risk of deformation of screws or studs, the hub or the rim, possibly resulting in component failure.
- Problems removing the wheel with the OEM tools provided.



### Wheel nut tightening module

#### MOD.208

- 77AT0D Cross brace.
  - S.208-200 Torque wrench 40-200 Nm.
  - Long-reach impact sockets : NSB.17 - 19 - 21 mm.
  - 6-point sockets : SH.17 - 19 - 21.
  - Tray PL.337
- ΔΔ : 5.47 kg.

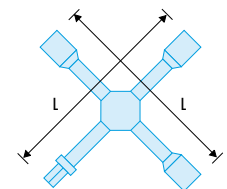


### Cross braces

- Designed for removing wheel nuts on cars, light commercials and heavy goods vehicles.
- Replaceable bit on wrenches featuring a square drive.

Ref	∅ mm	>>	∅"	L mm	ΔΔ kg
77A.TO	17/19/23		1/2	400	1,75
77A.TO2	17/19/21		1/2	400	1,75
77A.TOD	17/19/22		1/2	400	1,75
77A.PL1	24/27/30/32		-	700	4,65
77A.PL2	24/27/33		3/4	700	4,58
77A.PL2D	24/27/32		3/4	700	4,60

Ref	Description
77.P1	Spare male 3/4" square bit
77.T1	Spare male 1/2" square bit



### Air-line connector and gauge

#### U.179A

- To NF R 63-302 specifications.
  - Pressure range : 0 to 12 bar.
  - Impact-resistant rubber casing.
  - Dimensions : 250 x 120 x 80 mm.
- ΔΔ : 850 g.



# Wheels - hub - transmission

## Composite 1/2" impact wrench

### NS.1800F

- Lightweight aluminium/composite body.
- Pressure and direction control knob.
- Double-hammer mechanism.
- Free speed : 8,000 rpm.
- Recommended dynamic torque : 65 - 550 Nm.
- Maximum dynamic torque : 813 Nm.
- Guaranteed static torque : 380 Nm.
- Impact rate (per minute) : 1,200.
- Average air consumption : 138 l/min.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.



	a	b	c	$\Delta\Delta$
	mm	mm	mm	kg
NS.1800F	180	183	69	2,25

## 19.2V battery-powered 1/2" impact wrench

### CL.C1913

- Always available for quick on-site repairs.
- Powerful, reliable latest generation 19.2 V motor.
- Trigger speed adjustment and power control.
- Accessible, removable carbon brushes enabling simple, immediate repair.
- Integral lighting system for perfect visibility in poorly lit working areas
- Battery locks onto the machine by means of a sliding rail system ensuring reliability, strength and durability of electrical contacts.
- Ni-MH batteries.
- Integral elastomer bumpers.
- For use with FACOM NS Impact series sockets.

Contents of set CL.C1913

- Impact wrench : CL.C1913D - Universal charger : CL.CH919
- 2 Ni-MH batteries : CL.BA19 - Operating instructions
- Weight of machine + battery : 3.1 kg.



	$\square$	a	b	c	$\Delta\Delta$
	"	mm	mm	mm	kg
CL.C1913	1/2	252	199	75,5	6,2

## Set of long-reach thin wall sockets for alloy wheels

### NSAL.3

- Comprising :
    - 3 impact sockets 17, 19, 21 mm.
  - Plastic coated to protect varnished alloys against impact damage.
  - The 3 sizes are immediately identifiable.
  - Supplied with a set of additional plastic protective sleeves (red, blue, yellow).
- $\Delta\Delta$  : 775 g.



	Description
NSAL.3-01	Set of 3 protective plastic sleeves

**Air-hose reel****N.708**

- Hose stop and swivel bracket.
- Working pressure : up to 12 bar.
- Ø Hose bore : 8 mm.
- Hose length : 7.5 m.
- Dimensions : 302 x 285 x 135 mm.
- ΔΔ : 3.5 kg.

**Valve core remover****D.93**

- The swivelling head and fluted body derived from the Facom Micro-tech screwdriver simplifies valve core removal and fitting.
- Length 102 mm.
- ΔΔ : 15 g.

**D.3 tyre-removers**

- Double Tee section for added strength.
- Zinc and chrome-plated finish.

➤	L mm	ΔΔ g
<b>D.3-300</b>	300	200
<b>D.3-400</b>	400	400
<b>D.3-500</b>	500	570
<b>D.3-600</b>	600	900

**▶ Wheel balancing****Zamak wheel-balancing weights (lead-free)****COMPLIANT WITH THE LEGISLATION**

*Since 1st July 2005, the use of lead is forbidden for the manufacture of wheel balancing weights (with the exception of motorcycles, vintage cars and vehicles having a maximum authorised weight of 3.5 T or more)*

**Zamak weights**

- Zinc/aluminium alloy.

**Small service boxes**

- Pre-divided boxes of 50 and 25 weights.  
Quantities adapted to the needs of repair workshops, avoiding overstocking.



# Wheels - hub - transmission

## ERZ Multi-purpose balancing weights for steel rims

- New profile suitable for attaching to the main types of steel rim (semi-rolled and rolled edges, flat edge rims).
  - 3 times less weights to be stocked.
  - Zamac (zinc/aluminium alloy) weights
  - Compliant with legislations applied 1/07/05.
  - Small service boxes (pre-divided boxes of 50 and 25 weights).
  - Quantities adapted to the needs of repair workshops, avoiding overstocking.
- 5• 2004 equivalent product : ERA, ELA, ERCA.



⇒	Case	ΔΔ g
<b>ERZ.5</b>	50	5
<b>ERZ.10</b>	50	10
<b>ERZ.15</b>	50	15
<b>ERZ.20</b>	50	20
<b>ERZ.25</b>	50	25
<b>ERZ.30</b>	50	30
<b>ERZ.35</b>	25	35
<b>ERZ.40</b>	25	40

## EAFPZ Plastic-coated weights for alloy rims (French : PSA, Renault)

- Plastic-coated zamak weights with integral clip, for PSA and Renault alloy rims.
- The coating (silver epoxy paint) ensures that the weights lastingly retain their untarnished appearance when mounted on varnished alloy rims.
- 2004 equivalent product : EAFP.10 15 20 25 30 35 40.



⇒	Case	ΔΔ g
<b>EAFPZ.10</b>	25	10
<b>EAFPZ.15</b>	25	15
<b>EAFPZ.20</b>	25	20
<b>EAFPZ.25</b>	25	25
<b>EAFPZ.30</b>	25	30
<b>EAFPZ.35</b>	25	35
<b>EAFPZ.40</b>	25	40

## EADPZ Plastic-coated weights for flat alloy rims

- "Plastic-coated" zamac weights with integral clip, for flat-edged alloy rims (numerous applications on German, Italian vehicles, etc., except PSA, Renault and certain Asian manufacturers.).
- The coating (silver epoxy paint) ensures that the weights lastingly retain their untarnished appearance when mounted on varnished alloy rims.
- 2004 equivalent product : EADP.10 15 20 25 30 35 40.



⇒	Case	ΔΔ g
<b>EADPZ.5</b>	25	5
<b>EADPZ.10</b>	25	10
<b>EADPZ.15</b>	25	15
<b>EADPZ.20</b>	25	20
<b>EADPZ.25</b>	25	25
<b>EADPZ.30</b>	25	30
<b>EADPZ.35</b>	25	35



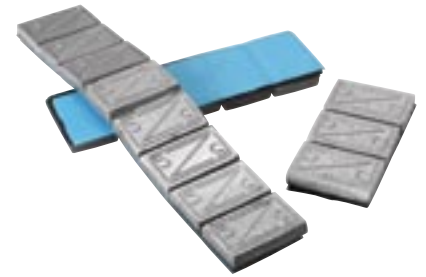


## Self-adhesive weights for alloy rims

### EGCAZ.40-25

- Zamac (zinc/aluminium alloy) weights
- Comply with the legislation applying since 1/07/05.
- Extra flat (4.2 mm) weights. For concealing the wheel balancing weights without risk of friction against the brake calliper.
- 180°C high temperature adhesive. Avoids weights debonding even under the severest conditions of use.
- Small packaging (pre-divided boxes of twenty five 40g bars, each made up of individual 5g weights). Quantities adapted to the needs of repair workshops, avoiding overstocking.
- 2004 equivalent product : EGCA.60-20.

Case	ΔΔ
EGCAZ.40-25	25 / 100 g



## Weights - box of 20 x 50 g bars for motorcycles

### EGCM.50-20

- For motorcycle wheels.
- Aluminium-coloured plastic-coated.
- Special high-temperature resistant self-adhesive backing.

Case	ΔΔ
EGCM.50-20	20 / 50 g



## Wall-mounted weight storage unit

### 2144

- For storing 32 boxes of weights in 4 rows of 8 boxes (the complete car range occupies 2 storage units).
  - Storage units can be mounted side-by-side or one above the other..
  - Supplied with a set of fixing screws and plugs.
  - Supplied with a set of self-adhesive labels for customizing the storage unit.
  - The labels simplify identification of the different types weights.
  - Storage unit can also hold plastic boxes CKS.86 or CKS.87 (110 mm wide).
- ΔΔ : 9 kg.

Sizes	ΔΔ
2144A	99 x 51 x 12,5 cm / 13 kg



## Wheel weight pliers

### UA.444A

- For fitting and removing wheel-balance weights as well as opening or crimping retaining clips.
  - Sheathed and phosphate finish..
  - Length 250 mm.
- ΔΔ : 470 g.



## ► Steering geometry, ball joints

### Camber adjuster

#### DLS.30


- Allows accurate camber setting on Volkswagen vehicles.
  - Ideal for use with fast wrench 40R.20.
- >> VOLKSWAGEN Golf/Vento/Passat/up to '97; Corrado/Polo/from '95; Caddy from '96; Polo Classic from '96.
- Length 145 to 210 mm.
- ΔΔ : 630 g.




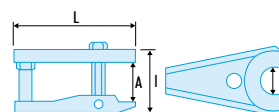
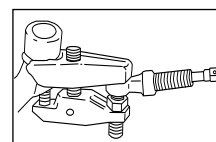
# Wheels - hub - transmission

## U.16 Ball-joint separators

- For removing steering and suspension ball-joints.
- Supplied with 2 spare shear pins.


	Ø mm	A mm	L mm	I mm	ΔΔ kg
<b>U.16A18</b>	16	45	100	50	0,635
<b>U.16B</b>	22	45	100	56	0,665
<b>U.16B32</b>	32	80	158	75	2,452
<b>U.16A45</b>	45	80	158	90	2,543

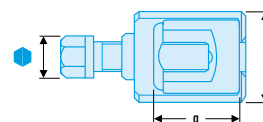
	Description
<b>U.16-05J3</b>	Set of 3 pins
<b>U.16A45-05J3</b>	Set of 3 shear pins (for U.16A32 and U.16-45)




## U.17 ball-joint separators

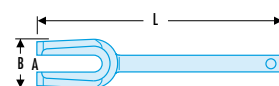
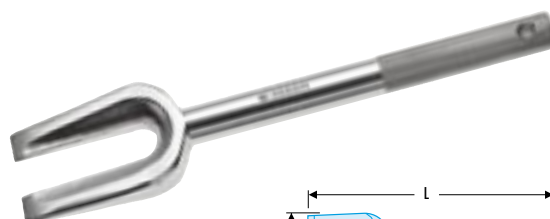
- For splitting steering ball-joints.
- Burnished and chrome finish.

	Capacity Ø mm	Ø mm	a mm	b mm	ΔΔ g
<b>U.17-16</b>	16-18	19	40	40	410
<b>U.17-20</b>	20-22	19	40	40	425



## D.98 Fork separators

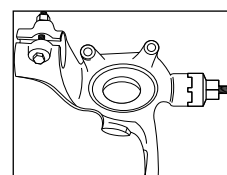
	A mm	B mm	L mm	ΔΔ kg
<b>D.98A18</b>	18	65	315	1,1
<b>D.98A22</b>	22	65	315	1,1



## Lower ball-joint socket

### D.138

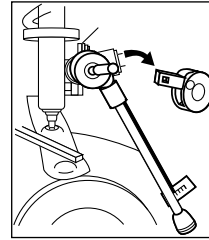
- Shaped for castellated nuts.
- 32 mm hexagon drive.
- Torque to 250 N.m.
- >> CITROËN BX/Xsara/XM/Xantia.
- >> PEUGEOT 306/309/405/406.
- Ø 52 x 48 mm.
- ΔΔ : 230 g.



## Track-rod end release tools

- Square drive :  $\square$  3/8".

	Inside $\varnothing$ mm	$\varnothing$ mm	$\Delta\Delta$ g
<b>T.275A</b>	41	75 x 135 x 25	590
<b>T.276A</b>	36	70 x 130 x 25	565

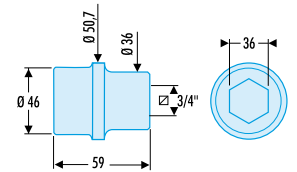


## ► Hub

## Hub-nut protractor socket

**D.143A**

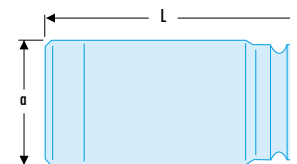
- Drive :  $\square$  3/4".
- 36 mm six-point.
- $\Delta\Delta$  : 415 g.



## 36 mm 6-point hub-nut socket

**NK.143**

- For removing hub nuts.
- Long-reach thin-wall impact socket.
- >> FIAT Lancia, ALFA ROMEO.
- Length : 100 mm.
- Square drive :  $\square$  3/4".
- Diameter : 46.8 mm.
- $\Delta\Delta$  : 680 g.



## ► Transmission

### Driveshaft tie pliers

#### DM.14

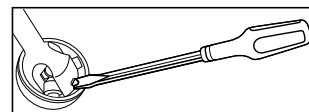
- For crimping driveshaft bellows ties.
- Suitable for Oetiker fittings
- Dimensions : 280 x 50 x 20 mm.
- ΔΔ : 475 g.



### Fitting tool

#### T.84

- For fitting driveshaft spiders.
- >> RENAULT R19/R21/R25. VOLVO 460
- Length 315 mm.
- ΔΔ : 235 g.



### Metal tie kit

#### DM.39A

- Comprising :
  - DM.39A1 Tie pliers.
  - DM.39A2 Dispenser.
  - DM.39A3 Strip.
  - DM.39A4 Bucklebag.
- Supplied in a plastic case 265 x 225 x 50 mm.
- ΔΔ : 1.2 kg.



Code	Description
DM.39A3	Strip
DM.39-3-10	Roll of stainless steel
DM.39A4	Bucklebag.
DM.39-4-10	Pack of 100 fasteners

### Tie pliers

#### DM.39A1

- Pliers for cutting and stretching the strip.
- Forms part of the metal tie set DM.39A.





## ► Stripping



### 240 Special bodywork tools



### TIME-SAVING TOOLS AT EVERY STAGE

*Stripping, cutting, forming, assembling, painting, windshields, pneumatics.*

In order to improve your everyday working life, Facom offers customised solutions for :

- Saving time.
- Optimising storage.

#### You choose the solution that best meets your needs :

- Package of 6 product references including our panel-beating/body repair workstation with a selection of 92 standard tools (wrenches, sockets, rules, hammers, etc.) and special bodywork tools (dressers, dollies, spoons, lock-grip pliers, etc.), together with the necessary trays for optimising storage and improving your everyday working life.

**CR.T4 • Panel beating- body repair workstation.**  
(see page 803 for details).



**CR.CM92 • 92-piece bodywork tool set.**  
(see next page for details)



- PL.330** Plier tray
- PL.333** Hammer tool tray
- PL.396** Forming tool tray
- PL.630** Milled file tray.

4 x



• Each of the above 6 references can be ordered separately.

## ►► Supports



### Component storage stand



**REDUCE OPERATOR MOVEMENTS,  
INVESTMENT RECOVERED IN 3 MONTHS,  
OPTIMISE YOUR STORAGE.**

- For storing bonnets, tailgates, wheels exhaust systems, etc.
- Easy to manoeuvre (4 castor wheels).
- Compact design.
- Guarantees efficient organisation.
- Avoids lost parts, saves time.



### Bodywork component storage stand

#### CR.S1

- Maximum supported weight 150 kg.
  - Incorporates anti-slide stops & gravity stabilizer
  - Dimensions : 90 x 60 x 190 cm.
  - 3 year guarantee.
- ΔΔ : 41 kg.



### Mechanical component storage stand

#### CR.S11

- 4 castor wheels for easy manoeuvring around the vehicle.
  - Storage of removed components on 4 levels for easy identification of the order of reassembly.
  - 2 fluid storage containers (water, oil) for a clean workshop.
  - 2 plastic bins for fasteners.
  - Dimensions : 1,650 x 900 x 605 mm.
- ΔΔ : 40 kg.



## CR.55

## DOR INSTALLATION AND REMOVAL

**Saloons, light commercial vehicles and 4x4s**

- 1 operator
- Reduced effort
- Maximum accuracy



### VERSATILE

- Suitable for positioning any type of door.
- Work with or without glazing.
- Fully adjustable.

### PRECISE

- Progressive electric motor control providing millimetre precision.
- 4 castor wheels, 2 with brakes for total manoeuvrability.

### PRACTICAL

- Motor fitted with a remote control, allowing the door to be guided while raising or lowering the support.
- Compact design for easy storage.
- Foam-covered supports to protect paintwork.
- Easy access to fuse for added safety.
- Supports 150 kg.

### EASY, PRECISE OPERATION



### INFORMATION

Door installation and removal sometimes involves carrying heavy loads. The electric stand avoids this and allows you to comply with labour legislation that advocates the reduction of physical effort, especially that liable to cause back injury. The electric stand will help improve working conditions in your workshop while enabling one person to work on the doors on their own.

## Electric door removal and installation stand

### CR.55

- Maximum supported weight by CR.55 : 150 kg.
  - Works with or without glazing.
  - Suitable for saloons, light commercial vehicles and 4x4 (using CR.S5UTL).
  - Millimetre precision.
  - Safety features : easy-to-reach fuses, 2 wheels with brakes, no risk of scratching (protective foam).
  - The stand takes the load for the worker.
  - Small footprint.
  - 220 V mains powered electric motor with easy-to-reach fuse.
  - Dimensions : 52 x 90 x 120.5 cm.
  - 3 year guarantee.
- ΔΔ : 27 kg.



	Description
CR.S5UTL	Accessory for sliding side doors

## Heavy-duty support stand for engines, gearboxes, etc.

### CR.S6

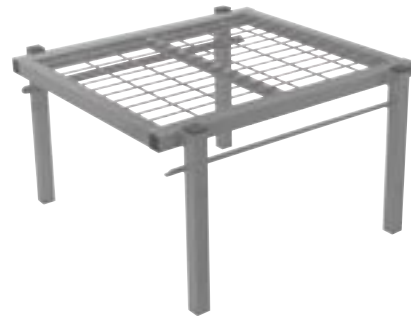
- Modular support : numerous applications in bodywork and mechanical workshops.
- Raised stand (CR.S9) transforms support into a waist-height work table
- 4 castor wheels for easy manoeuvrability.
- Allows high pressure jetting before reassembly.
- Compact design.
- Sliding, removable containers allow recovery of liquids.
- 3 year guarantee.
- Supports 450 kg.



## Raised stand for CR.S6

### CR.S9

- Modular support : numerous applications in bodywork and mechanical workshops.
- Raised stand transforms support (CR.S6) into a waist-height work table
- Allows high pressure jetting before reassembly.
- Compact design.
- 3 year guarantee.
- Supports 450 kg.



## Support for moving vehicles with no steering gear

### CR.S8

- Maximum supported weight by CR.S8 : 450 kg.
- Easy to install, ready to use.
- Width adjustment (110 to 160) to suit vehicle.
- Axle supported on a rubber-coated pivoting saddle.
- Easy to move (4 castor wheels, good load distribution).
- Compact design.
- Dimensions : (110 to 160) x 50 x 30 cm.
- 3 year guarantee.

ΔΔ : 21 kg.



## Mobile support

### CR.S12

- or supporting 1/2 front or rear axles having suffered a locked wheel or a flat tyre.
- The 4 castor wheels allow the vehicle to be easily moved.
- Maximum load : 600 kg.
- Dimensions : 580 x 370 x 170 mm.

ΔΔ : 2 kg.





## ▶▶ Stripping tools

### Trim clip removal pliers

#### CR.D1

- For quickly removing staples, clips, door panels, facia and trim supports etc. without damage.
- Wide nose for undoing facings without risk of breaking or tearing panels.
- Finger guard to avoid injury.
- Designed for accessing difficult-to-reach places.
- Black head, chrome pliers.
- Length : 240 mm.
- ΔΔ : 190 g.



### Trim removal tool

#### D.115A

- For removing interior door trimmings without damage.
- Dimensions : 155 x 32 x 45 mm.
- ΔΔ : 106 g.



### Fastener removal tool

#### D.137

- For removing plastic fasteners securing carpets, trim and panels.
- Filter diameter :
- Ø head : 9 to 22 mm.
- Ø body : 4 to 9 mm.
- Dimensions : 200 x 28 x 40 mm.
- ΔΔ : 110 g.



### D.29 Wrenches for difficult access

- Double angled and curved wrenches for improved manoeuvrability on boot, door or bonnet hinges.
- Compact design allows access where conventional bits and wrenches are unsuitable.



➤		L mm	ΔΔ g
D.29X40	Torx®	283	300
D.29X45	Torx®	283	300
D.29V10	XZN	283	300
D.29H8	⊕	283	300
D.29-10	⊕	280	165
D.29-12	⊕	280	165
D.29-13	⊕	280	165
D.29-16	⊕	280	165

## Set of 1/4" and 1/2" drive sockets and Torx® driver bits

### RSX.19A

- Comprising :  
Plastic case.  
BP.102 : 204 x 122 x 52 mm.  
Tray PL.393A.  
ΔΔ : 620 g.



**New**

## Plastic component removal tool kit

### CR.D5

- Set of 5 tools for removing or unclipping plastic components (dashboard, door, boot, external trim, snap rings, etc.).
- Supplied in blister pack.
- ΔΔ : 275 g.



## ▶▶ Power tools

### Heat gun

#### E.2005

- Electronic temperature control 60 to 600°C.
- Force : 2000 W.
- Air supply : power supply.
- Air flow rate (2 speeds) : 300 and 500 l/min.
- VDE approved.
- Supplied with 2 nozzles : E.2002B1 and E.2002B3.
- Ø 72 x 80 x 330 mm.
- E.2002B1 : Distribution nozzle  
(ΔΔ 58 g, 75 mm (L) x 75 mm (h) x 33.7 mm (Ø)).
- E.2002B2 : Cross-flow nozzle  
(ΔΔ 56 g, 75 mm (L) x 80 mm (h) x 33.7 mm (Ø)).
- E.2002B3 : Reflector nozzle  
(ΔΔ 32 g, 33 mm (L) x 60 mm (h) x 33.7 mm (Ø)).
- E.2002B4 : Concentrator nozzle  
(ΔΔ 30 g, 20 mm (Ø) x 52 mm (h) x 33.7 mm (Ø)).
- ΔΔ : 770 g.



## ▶ Cutting - drilling

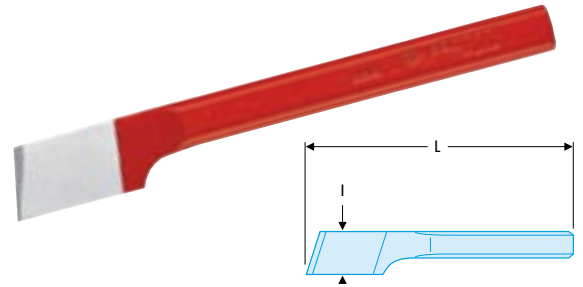
### ▶▶ Chisels

#### Side and end-cutting chisel - 200 mm long

##### 258

- Paint finish
- Head treated against mushrooming.
- Regrindable tip.
- Forged in chrome-vanadium steels, tip hardened to 57 HRc.

	I mm	L mm	ΔΔ g
258	25	200	220

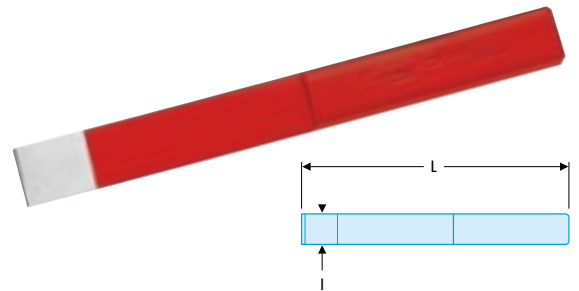


#### Slim-profile chisel - 235 mm long

##### 259

- Paint finish
- Forged in chrome-vanadium steels, tip hardened to 57 HRc.

	I mm	L mm	ΔΔ g
259	26	235	240

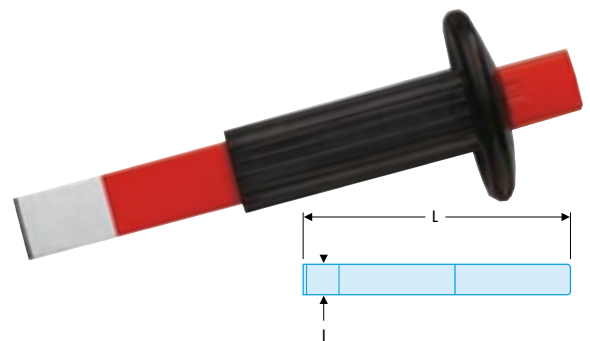


#### Slim-profile chisel with guard

##### 259.P

- Forged in chrome-vanadium steels, tip hardened to 57 HRc.
- Ø Guard 85 mm.
- Paint finish

	I mm	L mm	ΔΔ g
259.P	26	235	350

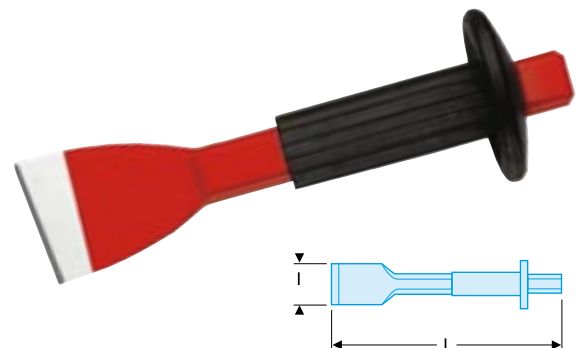


#### Wide chisel with guard - 250 mm long

##### 260.P

- Paint finish
- Head treated against mushrooming.
- Regrindable tip.
- Forged in chrome-vanadium steels, tip hardened to 57 HRc.
- Ø Guard : 85 mm.

	I mm	L mm	ΔΔ g
260.P	60	250	630

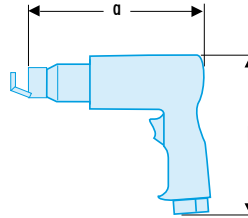
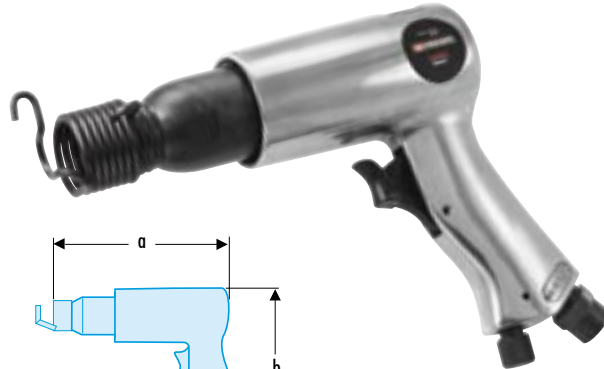


## ▶▶ Power chisels

### Power chisel with hexagonal shank

#### V.320FH

- Built-in power regulator.
- Impact rate 3,000/min.
- Working pressure : 6.2 bars.
- Average air consumption : 280 l/min.
- Air inlet thread : 1/4".
- Power : 0.8 kW.
- Piston stroke : 67 mm.



	a mm	b mm	$\Delta\Delta$ kg
<b>V.320FH</b>	171	160	1,58
Description			
<b>V.320HA1</b>	Straight chisel		
<b>V.320HA2</b>	Punch (hexagonal shank)		
<b>V.320HA3</b>	Weld point cutter (hexagonal shank)		
<b>V.320HA4</b>	Sheet metal cutter (hexagonal shank)		
<b>V.320HA5</b>	Double edge sheet-metal cutter (hexagonal shank)		
<b>V.320RRN1</b>	Spring		

### Set containing power chisel V.320FH

#### V.321AH

- Comprising :
  - 1 Sheet-metal cutter.
  - 1 double edge sheet-metal cutter.
  - 1 pipe cutter.
  - 1 weld point cutter.
  - 1 straight chisel.
  - 1 punch.
  - 1 ribbed air hose connector 1/4".

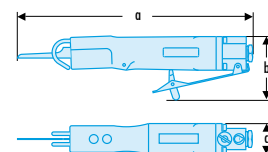


## ▶▶ Sabre saws

### Sabre saw

#### V.770F

- Seamless straight and curved cutting.
- Suitable for flat and convex surfaces.
- Adjustable blade guide.
- Supplied with 3 x 10 teeth/cm blades and 3 x 12 teeth/cm blades.
- Strokes per minute : 10,000.
- Average air consumption 220 l/min.
- Air inlet thread : 1/4".
- $\varnothing$  int. air hose : 10 mm.



	a mm	b mm	c mm	$\Delta\Delta$ kg
<b>V.770F</b>	229	75	36	0,7
Description				
<b>V.770A1</b>	Jeu de 6 lames à denture fine (12 dents/cm)			
<b>V.770A2</b>	Jeu de 6 lames à denture standard (10 dents/cm)			

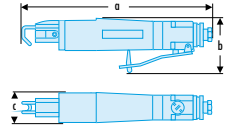




## Super-duty sabre saw

### V.775F

- Suitable for intensive use.
- Anti-vibration rubber handle.
- Air exhaust in handle.
- Supplied with 3 x 10 teeth/cm blades and 3 x 12 teeth/cm blades.
- Strokes per minute : 5,750.
- Average air consumption : 720 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.



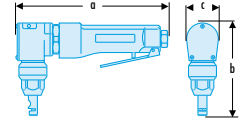
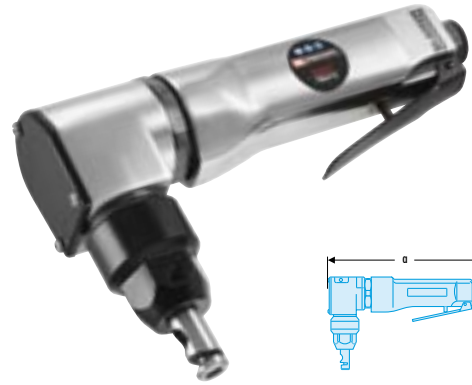
Icon	Description
V.770A1	Set of 6 blades - fine (12 teeth/cm)
V.770A2	Set of 6 blades - standard (10 teeth/cm)

## ▶▶ Nibbler

### Nibbler

#### V.850F

- Lever throttle for precise control and low-speed start.
- Can produce rounded edges up to 6.5 mm radius.
- Max. thickness 1.2 mm - speed 1.8 m/min.
- Strokes per minute : 4,300.
- Average air consumption : 110 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.



Icon	a	b	c	ΔΔ
	mm	mm	mm	kg
V.850F	179	118	40,5	0,9

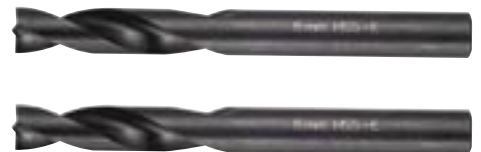
Icon	Description
V.850KR2	Kit

## ▶▶ Milling and cutting tools

### End mills

- Self-centring, non-slip.
- Can be reground.
- Available in sets of 2 same Ø (J2) or 3 drills of different Ø (J3).

Icon	Ø	Icon	L	ΔΔ
	mm		mm	g
225.6J2	6	2	66	36
225.8J2	8	2	77	50
225.10J2	10	2	88	90
225.J3	6-8-10	3		90



## Three-square scraper

### 231

- High quality steel blade, polished chrome finish.
  - Varnished wood handle.
  - Shank length : 200 mm.
- ΔΔ : 180 g.

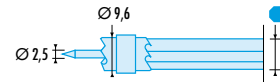


## ►► Air tools

### Spot weld cutter

#### 230

- Fitted to a drill, this tool is used for separating spot-welded panels.
- Comprises bit holder, reversible mill and pilot tip.
- Not compatible with V.781B.
- Length : 70 mm.
- ΔΔ : 23 g.



⚙️	Description	ΔΔ g
<b>230.A1J5</b>	Set of 5 spare mills	30

### Set of mills

#### 230.J1

- Comprising 1 kit 230, 2 pilot tips and 10 reversible mills..
- Dimensions : 115 x 65 x 22 mm.
- ΔΔ : 90 g.

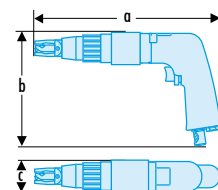


⚙️	Description	ΔΔ g
<b>230.A1J5</b>	Set of 5 spare mills	30

### Spot weld remover

#### V.781

- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 1,800 rpm.
- Average air consumption : 460 l/min.
- Noise level (dB(A)) : 74.1.
- Vibration level : < 2.5m/s<sup>2</sup>.
- Milling cutter diameter : 8 mm.
- For accurate removal of spot welds.
- Caution : not to be used with a stop.
- Avoids damage to the second layer of metal.
- Also takes 8.2 mm milling cutters.
- Supplied with 1 x 8 mm milling cutter.
- Each milling reference corresponds to a single milling cutter.
- Minimum order per reference = 5.



⚙️	a mm	b mm	c mm	ΔΔ kg
<b>V.781</b>	242	160	46	1,35
⚙️	Description			
<b>V.781A1</b>	Milling cutter Ø 8 mm			

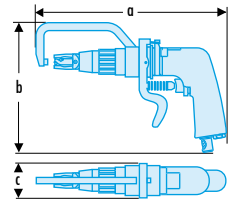


## Spot weld remover with stop

### V.781B

- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 1,800 rpm.
- Average air consumption : 460 l/min.
- Noise level (dB(A)) : 74; 1.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Milling cutter diameter : 8 mm.
- For accurate removal of spot welds.
- Fitted with a stop to hold the workpiece in position without slipping.
- Also takes 8.2 mm milling cutters.
- Supplied with 1 milling cutter. Ø 8 mm.
- Each milling reference corresponds to a single milling cutter.
- Minimum order per reference = 5.

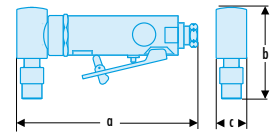
	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>V.781B</b>	270	198	53	1,6
	Description			
<b>V.781A1</b>	Milling cutter Ø 8 mm			



## Angle grinder - 6 mm collet

### V.252

- Angle grinder for grinding wheels with shank.
- For cutting and cleaning.
- Compact motor with sturdy blades.
- Compact angled head for difficult-to-reach places.
- Exhaust air duct with integral air supply pipe.
- Supplied with 6 mm collet and 2 open-end wrenches.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 18,000 rpm.
- Average air consumption : 300 l/min.
- Noise level (dB(A)) : 83.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Collet : 6 mm.



	a	b	c	ΔΔ
	mm	mm	mm	g
<b>V.347</b>	158	78	27	400

## ►► Miscellaneous

### Steel wire brush

#### 270A.MA

- 280 x 34 x 60 mm.
- ΔΔ : 150 g.



### "Standard" kit

#### 245.J1

- For making round gaskets.
- Cutting capacity : Ø 3 to 30 mm using a punch and Ø 56 to 330 mm using calipers.
- Supplied in a plastic case BP.115 and tray PL.100A.
- Dimensions 332 x 143 x 67 mm.
- ΔΔ : 1.8 kg.



## ▶ Forming



### Bodywork repair workstation

**EFFICIENT, MORE COMFORTABLE STORAGE**

*Designed to keep everything close to hand, save time and avoid losing tools.*

#### **GALVANIZED STEEL WORKTOP**

- Easy to maintain.
- High strength.



#### **SAFETY**

- Central key locking.
- Drawer fronts fitted with a catch to prevent accidental opening.

#### **CORNER BUMPERS**

- To avoid damage to vehicles in case of accidental contact

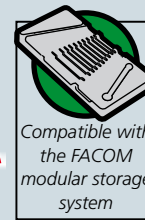
#### **MANOEUVRABILITY**

- 4 large diameter wheels :  
2 fixed and 2 castors,  
1 with brake.



#### **MAXIMUM STORAGE**

- Panel with special system for securing hammers and dressers.
- Other tools can be freely hung using the CKS system.
- 2 pull-out trays giving access to a "bin" for storing heavy tools, such as dollies and spoons, etc. Trays and bin fitted with a non-slipmat.
- 3 drawers :  
(2 x 60 mm + 1 x 130 mm) and bin for storing bulky items and pneumatic tools.



Compatible with the FACOM modular storage system

#### **COMFORT**

- Working height
- Ergonomic handle.
- Lid fitted with gas springs.

Supplied without tools and consumables

## Bodywork repair workstation

### **CR.T1PB**

Comprising :

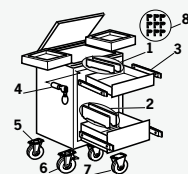
- A lid :  
- containing a panel fitted with a system for securing dressers and hammers.
- PK perforations for freely hanging other tools.
- 2 gas springs for comfort of use.
- 2 trays that pull out sideways to reveal a large bin for storing heavier tools such as dollies and spoons. The bottom of the trays and the bin are fitted with non-slip mats.
- 3 drawers (2 x 60 mm + 1 x 130 mm) compatible with the Facom modular storage system and 1 bin drawer (270 mm high) for storing bulky items and pneumatic tools.
- High resistance, easy-to-maintain galvanized steel worktop.
- Safe : Central key locking of lid and drawers.
- Corner bumpers to avoid damage to vehicles in case of accidental contact.
- Manoeuvrability ensured by 4 large diameter wheels, 2 fixed, 2 castors, one with a brake.
- Dimensions : 1,020 x 770 x 460 mm.

ΔΔ : 76.5 kg.



#### **CR.T4**

1	2840.15	5	2092.09
2	2840.16	6	2092.10
3	2840.13	7	2092.11
4	2840.17	8	CRT4.04





## 92-piece bodywork tool set

**CR.CM92**

- Details below.

Ref	Qty	Description
40.JE9T	9	Roll-set of combination wrenches 8 to 19 mm N.98A-2
RS.430E	27	Socket set 1/4" and 1/2" and accessories (in a case)
AMZ.M1	1	Short bit holder
BP.102	1	Plastic case
ED.T	3	Pozidriv® bits 101-102-103
EH	4	Male bits 103 - 104 - 105 - 106
EP.T	3	Phillips® bits 101 - 102 - 103
ES.T	3	Slotted head screw bits 134.5 - 136.5 - 148
EXR	6	Resistor® 1/4" bits 110 to 140
PL.400A	1	Combination tray E.105APB
180.25CPE	1	Lockable multigrip pliers
192.16CPE	1	"Piano wire" diagonal cutters
185.20CPE	1	Sheathed straight half-round nose pliers
501	1	Long-nose lock-grip pliers
893.316	1	Locking 3 m tape rule
234	1	Scriber
601	1	Hacksaw frame
660A.10	10	Bimetal hacksaw blades
882A	1	Scroll shears
RD.MD200EM	1	Round second-cut file 200 mm
DRD.MD200EM	1	Half-round second-cut file 200 mm
200A.50	1	Riveting hammer

Ref	Qty	Description
208A.32CB	1	Plastic-tip mallet
249.2	1	Drift punch 2 mm
249.4	1	Drift punch 4 mm
256.6	1	Precision centre punch
259.P	1	Slim-profile chisel
861D.RPC	1	Round, flat and convex head hammer
871B.45	1	Slim wedge dolly
861D.30	1	Bumping hammer
866D.32	1	Shrinking hammer
868D.40BOC	1	Curved peen hammer
862D.60	1	Flat dresser
870B	1	Regular dolly
906A	1	Pinch wedge dolly
875.3	1	Long single spoon
895A	1	Short single spoon
518.3	1	Lock-grip pliers
518.4	1	Lock-grip pliers
225.J3	3	End mills
851B	1	Frame for milled files
850.S350	1	Standard file
CR.D10	1	Windshield wiper arm remover
CR.D1	1	Trim clip removal pliers

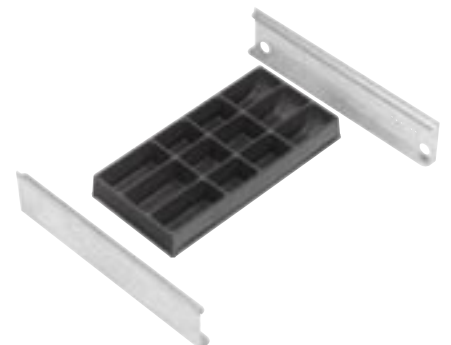


## Drawer kit

**CR.A1**

- Organization kit for drawers min 130 mm high.
- For storing clips, staples and rivets.
- Includes fixings.
- For workstations CR.T2, CR.T3, CR.T4.

ΔΔ : 250 g.

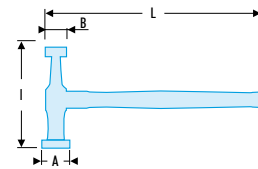


## ▶▶ Panel beating hammers

### 861D Bumping hammers

- Stretching and planishing hammer.
- Convex, round and square heads.
- Secure handle attachment.
- Finely polished planishing surfaces.
- Facetted hickory handle.

	Ø A mm	B mm	I mm	L mm	ΔΔ g
<b>861D.26</b>	25	30	100	310	300
<b>861D.30</b>	30	35	100	310	390
	Description				
<b>211.MH26</b>	Spare handle and wedge				

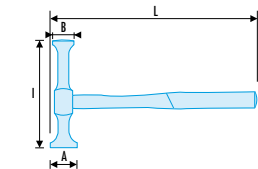


### Round, flat and convex head hammer

#### 861D.RPC

- Bumping and planishing hammer.
- Flat, round and convex heads.
- Secure handle attachment.
- Finely polished heads.
- Facetted handle.

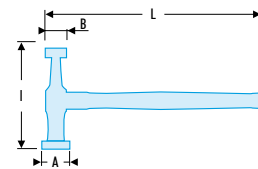
	Ø A mm	B mm	I mm	L mm	ΔΔ g
<b>861D.RPC</b>	32	40	150	310	600
	Description				
<b>211.MH26</b>	Spare handle and wedge				



### 866D Shrinking hammer

- Stretching and planishing hammer.
- 1 round ribbed face, one square smooth face.
- Secure handle attachment.
- Facetted handle.

	Ø A mm	B mm	I mm	L mm	ΔΔ g
<b>866D.32</b>	30	35	100	310	310
<b>866D.41</b>	35	40	100	310	380
	Description				
<b>211.MH26</b>	Spare handle and wedge				

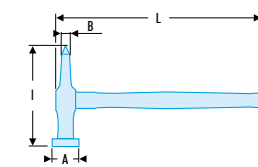


### Hammer with round flat face and straight pein

#### 868D.40PLD1

- Planishing hammer.
- 1 round flat face, 1 straight pein.
- Secure handle attachment.
- Finely polished head.
- Facetted handle.

	Ø A mm	B mm	I mm	L mm	ΔΔ g
<b>868D.40PLD1</b>	40	23	140	310	320
	Description				
<b>211.MH26</b>	Spare handle and wedge				

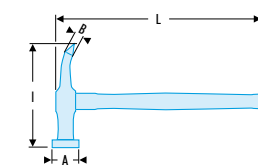


### Hammer with round domed face and curved pein

#### 868D.40BOC

- Planishing hammer.
- 1 round domed face, 1 curved pein.
- Secure handle attachment.
- Finely polished head.
- Facetted handle.

	Ø A mm	B mm	I mm	L mm	ΔΔ g
<b>868D.40BOC</b>	40	23	140	310	430
	Description				
<b>211.MH26</b>	Spare handle and wedge				



►► Dressers

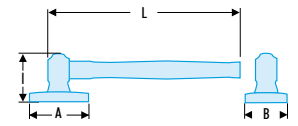
Flat dresser

**862D.60**

- Flat dresser.
- Secure handle attachment.
- Finely polished head.
- Facetted handle.

➤	A	B	I	L	ΔΔ
	mm	mm	mm	mm	g
<b>862D.60</b>	50	30	70	295	320

➤	Description
<b>211.MH26</b>	Spare handle and wedge



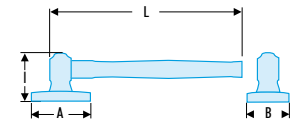
Long-dome dresser

**863D.60**

- Surface curved lengthwise.
- Secure handle attachment.
- Finely polished head.
- Facetted handle.

➤	A	B	I	L	ΔΔ
	mm	mm	mm	mm	g
<b>863D.60</b>	50	30	70	295	320

➤	Description
<b>211.MH26</b>	Spare handle and wedge



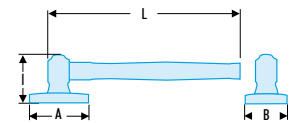
Wide-dome dresser

**864D.60**

- Surface curved widthwise.
- Secure handle attachment.
- Finely polished head.
- Facetted handle.

➤	A	B	I	L	ΔΔ
	mm	mm	mm	mm	g
<b>864D.60</b>	50	30	70	295	320

➤	Description
<b>211.MH26</b>	Spare handle and wedge



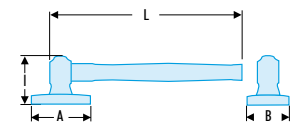
Shrinking dresser

**867D**

- Ribbed face.
- Secure handle attachment.
- Finely polished head.
- Facetted hickory handle.

➤	A	B	I	L	ΔΔ
	mm	mm	mm	mm	g
<b>867D</b>	50	30	70	295	310

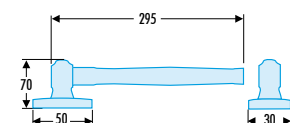
➤	Description
<b>211.MH26</b>	Spare handle and wedge



Shrinking dresser

**867D**

- Ribbed face.
- Secure handle attachment.
- Finely polished head.
- Facetted hickory handle.



## ►► Dollies

### Regular dolly

#### 870A

- Polished finish.
- Dimensions : 88 x 60 x 35 mm.
- ΔΔ : 1.115 kg.



### Regular dolly

#### 870B

- Combination of sharp and rounded edges.
- Special surface treatment.
- Laser marking for improved legibility.
- Also available with more rounded edges (870A).
- Dimensions : 90 x 55 x 35 mm.
- ΔΔ : 1.15 Kg.



### Flat regular dolly

#### 908A

- Comprising one flat face, one curved face and an angle.
- Special surface treatment.
- Laser marking for improved legibility.
- Dimensions : 90 x 65 x 32 mm.
- ΔΔ : 1.05 Kg.



### Slim shaping dolly

#### 909A

- Polished finish.
- Dimensions : 88 x 60 x 23 mm.
- ΔΔ : 750 g.



### Slim wedge dolly

#### 871B.45

- Curved face.
- Special surface treatment.
- Laser marking for improved legibility.
- Also available in a thicker version (871B.55).
- Dimensions : 125 x 55 x 37 mm.
- ΔΔ : 900 g.





**Wedge dolly****871B.55**

- Curved face.
- Special surface treatment.
- Also available in a thinner version (871B.45).
- Dimensions : 140 x 54 x 55 mm.
- ΔΔ : 1.35 kg.

**Curved head dolly****872A**

- Double-end dolly, large model.
- Polished finish.
- Dimensions : 90 x 70 x 125 mm.
- ΔΔ : 1.3 kg.

**Dished dolly****874A**

- Curved on all sides.
- Dimensions : 106 x 65 x 26 mm.
- ΔΔ : 980 g.

**Thin toe dolly****902B**

- One curved face and one flat face.
- Polished finish.
- Dimensions : 115 x 56 x 25 mm.
- ΔΔ : 860 g.

**Toe dolly****902C**

- One curved face and one flat face.
- Special surface treatment.
- Laser marking for improved legibility.
- Dimensions : 125 x 60 x 30 mm.
- ΔΔ : 1.37 Kg.

**Pinch wedge dolly****906A**

- One flat face and one curved face.
- Special surface treatment.
- Laser marking for improved legibility.
- Dimensions : 130 x 68 x 25 mm.
- ΔΔ : 1.15 Kg.



## ►► Spoons and blades

### Long single spoon

#### 875.3

- Bumping spoon.
- Polished finish.
- Length : 390 mm.
- ΔΔ : 1.3 kg.



### 40° single spoon

#### 875.4

- Bumping spoon.
- Polished finish.
- Length : 250 mm.
- ΔΔ : 500 g.



### Angled, flat short double spoon

#### 876A

- Double bumping spoon, very cranked at one end.
- Polished finish.
- Also available in a long version (ref : 877A, 510 mm long.).
- Length : 400 mm.
- ΔΔ : 1.7 kg.



### Angled and flat double spoon

#### 877A

- Double bumping spoon, very cranked at one end.
- Polished finish.
- Also available in a short version (ref : 876A, 400 mm long.).
- Length : 510 mm.
- ΔΔ : 2.2 kg.



### Flat shrinking blade

#### 891A.PL

- Ribbed face.
- Length : 350 mm.
- ΔΔ : 700 g.



### Short single spoon

#### 895A

- Bumping spoon.
- Varnished and polished finish.
- Length : 285 mm.
- ΔΔ : 820 g.



## ▶▶ Forming tool sets

## Basic 5-piece forming tool set

**CR.858J5**

- Supplied loose, as below.

➡	Qty	Description
861D.30	1	Bumping hammer
862D.60	1	Flat dresser
870B	1	Regular dolly
906A	1	Pinch wedge dolly
871B.45	1	Slim wedge dolly



## Professional 15-piece forming tool set

**CR.858J15**

- Supplied loose, as below.

➡	Qty	Description
868D.40BOC	1	Curved peen hammer
866D.32	1	Shrinking hammer
861D.30	1	Bumping hammer
862D.60	1	Flat dresser
870B	1	Regular dolly
906A	1	Pinch wedge dolly
871B.45	1	Slim wedge dolly
872A	1	Curved head dolly
875.3	1	Long single spoon
876A	1	Angled, flat double spoon
895A	1	Short single spoon
891A.PL	1	Flat shrinking blade
851B	1	Frame for milled files
850.S350	1	Standard file
209.50	1	Wood mallet



## Specialist 20-piece forming tool set

**CR.858J20**

- Supplied loose, as below.

➡	Qty	Description
868D.40BOC	1	Curved peen hammer
866D.32	1	Shrinking hammer
861D.30	1	Bumping hammer
861D.RPC	1	Round, flat and convex head hammer
862D.60	1	Flat dresser
870B	1	Regular dolly
906A	1	Pinch wedge dolly
908A	1	Flat regular dolly
871B.45	1	Slim wedge dolly
872A	1	Dished dolly
874A	1	Curved head dolly
875.3	1	Long single spoon
875.4	1	40° single spoon
876A	1	Angled, flat double spoon
895A	1	Short single spoon
891A.PL	1	Flat shrinking blade
851B	1	Frame for milled files
850.S350	1	Standard file
850.F350	1	Fine file
209.50	1	Wood mallet



## ►► Modules

### Bodywork module

#### MOD.CAR1

- Comprising :
  - 861D.RPC : Hammer with round, flat and convex heads.
  - 902B : Thin toe dolly.
  - 909A : Slim shaping dolly.
  - 906A : Pinch wedge dolly.
  - PL.396A : Tray.



Code	Description
211.MH26	Spare handle and wedge

### Bodywork module

#### MOD.CAR1

- Comprising :
  - 225.J3 : Set of 3 end mills.
  - 259.P : Slim profile chisel with guard.
  - 518.4 : Lock-grip pliers.
  - 850.S350 : Standard milled file
  - 851B : Frame for milled files.
  - 862D.60 : Flat dresser.
  - 875.3 : Long single spoon.
  - 875.4 : Angled spoon.
  - 884B : Panel shears
  - 874A : Dished dolly.
  - PL.379B : Tray.



Code	Description
211.MH26	Spare handle and wedge

## ►► File set

### Frame for milled files

#### 851B

- Ergonomic handle with a choice of two working positions according to the task to be performed.
- Accurate setting of file profile.
- Takes both 300 and 350 mm file lengths.
- Supplied without file.
- FACOM produces 5 different milled files (cuts : standard, fine and extra-fine).
- Dimensions : 360 x 33 x 140 mm.
- ΔΔ : 630 g.



### 850 Milled files

- Recommended for soft metal, cast iron, mild steel and soft plastics.
- For use with frame 851B.

Code	Cut	Tooth shape	Teeth per	L	l	ΔΔ
		cm	cm	mm	mm	g
850.S300	Standard	Arc	3 1/2	300	30	190
850.S350	Standard	Arc	3 1/2	350	35	270
850.SD350	Standard	Straight	3 1/2	350	35	260
850.F350	Fine	Arc	4 1/2	350	35	270
850.EF350	Extra-fine	Arc	6	350	35	300





## ►► Modules

### Milled file module

#### MOD.850

- Comprenant :
- 851B : Frame for milled files.
- 850.SD350 / S350 / F350 : Standard straight, standard arc and fine arc files.
- 229A.ST1 : Stepped bits Ø 4 to 20 mm.
- 225.8J2 : End mills Ø 8 mm.
- Tray PL.630.
- ΔΔ : 1.8 kg.



## ► Assembling

## ►► Spot welding

### Spot welder

#### UM.300-220

- Air supply : 220 V single phase.
- Force : 11 kVA.
- Max. welding capacity : 2 x 2 mm sheets.
- Ø 18 mm electrode carrier.
- Time setting 15 sec to 1 min 25 sec.
- Electrode pressure adjustment.
- Each spot welder supplied with :  
UM.300AF electrode dresser.
- UM.300BA set of 2 bushes for electrode holders Ø16 mm.
- 82.5 hexagon key.
- Dimensions : 370 x 90 x 230 mm.
- ΔΔ : 10 kg.



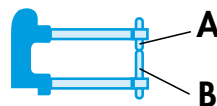
Icon	Description
UM.300EL1	Electrodes

### 380 V single-phase spot welder

#### UM.300-380

- Same as UM.300-220 except with 380V power supply.

Icon		Qty
UM.300EL3	A	1
UM.300EL4	B	1

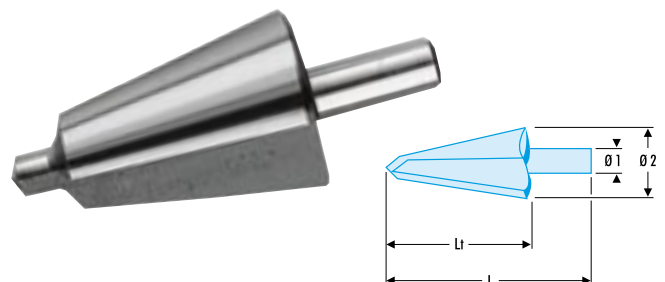


## ►► Drill bits

### 229A Reaming bits

- HSS for drilling, deburring and reaming thin sheet steel and non-ferrous metals.
- Max. recommended thickness : 4 mm.

Icon	Ø 2 mini - maxi mm	Ø mm	Lt mm	L mm	ΔΔ g
229A.1	3 - 14	6	37	59	21
229A.2	5 - 20	8	41	71	45
229A.3	16 - 30,5	9	48	76	131



## Set of 3 reaming bits

### 229A.J3

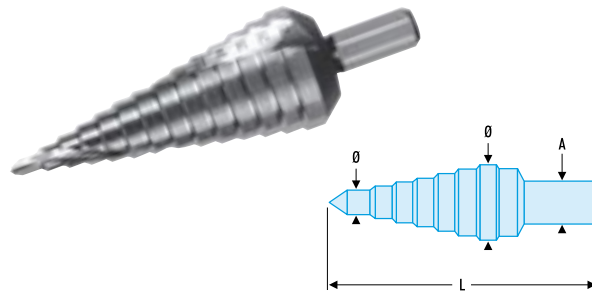
- Capacity :  $\varnothing$  3 to 30.5 mm.
  - In a steel case : 120 x 100 x 38 mm.
  - Supplied with lubricant.
- $\Delta\Delta$  : 555 g.



## 229A.ST Stepped bits

- For precision-drilling straight bores in all materials.
- No pilot hole required.
- Parallel shank with 3 flats for positive rotation.
- Diameter identification markings.

	$\varnothing$ mini - maxi mm	A mm	L mm	$\Delta\Delta$ g
<b>229A.ST0</b>	4-5-6-7-8-9-10-11-12	6	65	25
<b>229A.ST1</b>	4-6-8-10-12-14-16-18-20	8	75	65
<b>229A.ST2</b>	4-6-9-12-15-18-21-24-27-30-33-36-39	10	107	315
<b>229A.ST3</b>	6-9-13-16-19-21-23-26-29-32-35-38	10	100	320



## ►► Pliers

### Hand punch

#### CAD.9

- Punch :  $\varnothing$  5 mm.
  - Max. sheet thickness : 0.8 mm.
  - Dimensions : 290 x 130 x 30 mm.
- $\Delta\Delta$  : 1.17 kg.

	Description
<b>CAD.10RN1</b>	Punch and die, 5 mm diameter



### Hand crimper and punch

#### CAD.10

- Crimp width : 12 mm.
  - Punch  $\varnothing$  5 mm.
  - Swivel head.
  - Max. sheet thickness : 0.8 mm.
  - Dimensions : 290 x 130 x 30 mm.
- $\Delta\Delta$  : 1.2 kg.

	Description
<b>CAD.10RN1</b>	Punch and die, 5 mm diameter

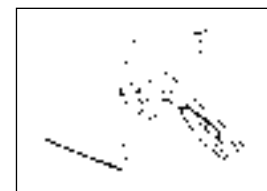
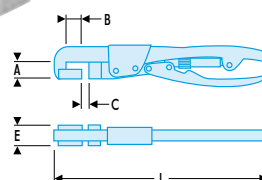
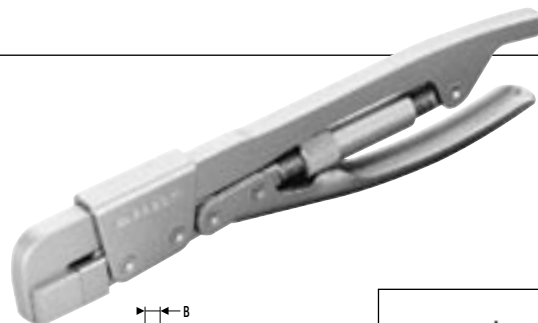


## ►► Lock-grip pliers

### 518 Bodywork lock-grip pliers

- For clamping panels when setting opening clearance or during assembly.
- Compact tools with smooth jaws.
- 518.1 : for 2 flat panels.
- 518.2 : for 2 panels with 90° edge.
- 518.3 : for 2 panels with 90° edge, allowing spot welding within jaw throat.
- 518.4 : for 2 flat panels, allowing spot welding within jaw throat.

	C mm	A mm	B mm	E mm	L mm	$\Delta\Delta$ g
<b>518.1</b>	18	14	-	13	205	330
<b>518.2</b>	10	14	14	13	205	330
<b>518.3</b>	20	15	48	50	240	420
<b>518.4</b>	20	45	-	50	215	400



## ► Painting preparation



### SURFACE PREPARATION WORKSTATION

*EFFICIENT, MORE ORGANISED STORAGE*

- Specially designed to enable the user to perform surface preparation tasks in a minimum of time with a maximum of organisation.

- A clever storage system for keeping all the tools and consumables required for each job close to hand.

- Every day, you will appreciate the comfort, safety and organisation provided by its various features.

- Particularly appreciated for ISO 9000 certifications



Supplied without tools and consumables

#### EASY TO MAINTAIN

- Galvanized steel worktop, resistant to chemical agents, solvents, etc. Removable lip.

#### EVERYTHING CLOSE TO HAND

- Bottle-shelf, paper-roll holder, waste bin, shelf for abrasives, adhesive rolls, etc: keeps everything within easy reach, at all times !

#### CORNER BUMPERS

- To avoid damage to vehicles in case of accidental contact !

#### CLASP PADLOCK



## ►► Workstations

### Surface preparation workstation

#### CR.T3

- 2 sloping upper shelves for storing consumables.
- 1 drawer 130 mm high with padlock for expensive items, safety items, etc.
- 2-way sloping shelf for ordinary tools.
- 1 storage area for bulky consumables.
- Perforated recessed side panels for attaching accessories : 2 bottle-shelves, 1 paper-roll holder, wire supports to hold paint guns, 1 waste bag holder.
- Dimensions 1,585 x 1,020 x 610 mm.
- ΔΔ : 52 kg.



CR.T3			
Ø	≡	Ø	≡
1	2825.08	4	2840.13
2	2825.09	5	2840.16
3	2600.19		

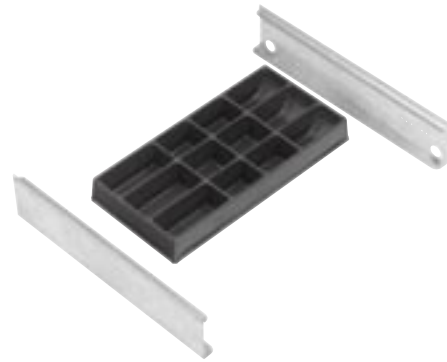


## Drawer kit

### CR.A1

- Organization kit for drawers min 130 mm high.
- For storing clips, staples and rivets.
- Includes fixings.
- For workstations CR.T2, CR.T3, CR.T4.

ΔΔ : 250 g.



## ▶▶ Supports

### Paper dispenser stand

#### CR.P6

- Strips of masking paper up to 1.20 m long within easy reach.
- Sheets can be torn off with one hand, avoiding the need for an assistant.
- Sheets easily cut to the required length.
- Easy to manoeuvre around the workshop
- Dimensions : 1,380 x 1,370 x 500 mm.

ΔΔ : 18 kg.



### Multi-functional bodywork support cradle

#### CR.S7

- Maximum supported weight by CR.S7 : 80 kg.
- Waist-height support.
- Ergonomic design, flexible fabric sling moulds to the shape of the panel supported.
- Easy to move (4 castor wheels, good load distribution).
- Easy to move (2 castors with brake).
- 2 foam protections to prevent scratches (accessory CR.S7PRO).
- Compact design.
- Easy to store.
- Dimensions : 90 x 82 x 93 cm.
- 3 year guarantee.

ΔΔ : 6.5 kg.



Icon	Description
	CR.S7PRO Foam protection
	CR.S7-05 Set of 2 slings



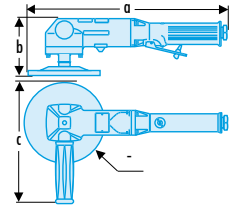


## ▶▶ Air tools

### Angle sander Ø 178 mm

#### V.252

- Surface roughing and cleaning.
- Designed for use with 178 mm dia. fibre disc.
- Powerful, 4-blade motor.
- Supplied with handle and one 178 mm dia. fibre pad.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 4,500 rpm.
- Average air consumption : 490 l/min.
- Noise level (dB(A)) : 86.9.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Pad size : 178 mm.



➤	a	b	c	Ø	ΔΔ
	mm	mm	mm	mm	kg
<b>V.411</b>	320	103	235	175	1,8
➤	Description				
<b>V.411A1</b>	178 mm dia. pad				

### V.252F

## Orbital sander Ø 152 mm - 5 mm orbit

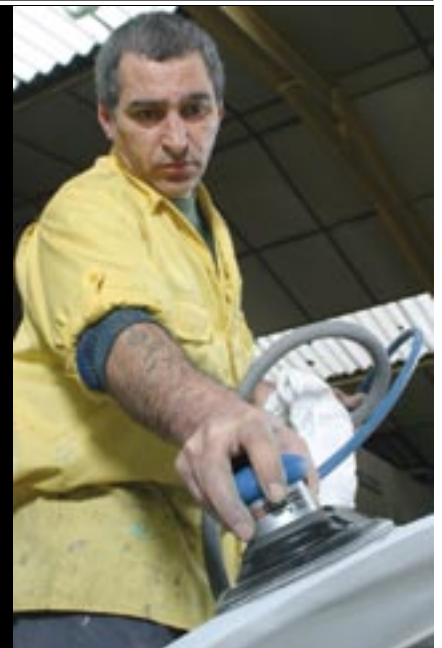
### POWER WITHOUT WEIGHT

The V.252 pneumatic sander is ideal for preparing surfaces for painting. The free speed of 12,000 rpm is perfect for obtaining a finely sanded treated surface. The speed control lever can be operated without setting down the tool.



- Advantages :
- Featherweight
  - Low noise
  - Comfortable and easy to handle

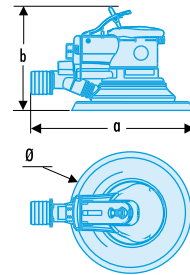
With its compact design, this sander can be held in one hand. Its lightweight material reduces the transmission of cold in winter and provides a good feel while considerably reducing vibration.



## Orbital sander 152 mm - 5 mm orbit

### V.252F

- Can connect to a central exhaust unit.
- Speed of rotation : 10,000 rpm.
- Air inlet thread : 1/4".
- Working pressure : 6.2 bars.
- Pad diameter 152 mm.
- Supplied with a 6-hole Velcro pad.
- Orbit 5 mm.
- Average air consumption : 104 l/min.
- Rotation speed control system.

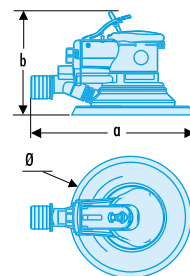


	a mm	b mm	Ø mm	ΔΔ kg
V.252F	225	115	152	0,74
	Description			
V.252F1	6 hole Velcro pad			

## One-handed orbital sander Ø 150 mm - 2.5 mm orbit

### V.252

- Ultra-light one-handed sander, special high finish.
- Supplied with 6-hole Ø 150 mm.
- Powerful torque, comfortable thermal and vibration-insulated body.
- Compatible with all Ø 29 mm.
- Dust-proof double bearing.
- Speed can be varied during sanding using handle-mounted control.
- Air connection (female thread) 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 380 l/min.
- Noise level : 77,8.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Ø Tray : 150 mm.
- Eccentric offset : 2.5 mm.



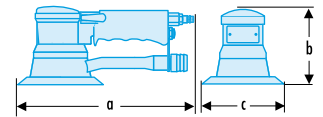
	a mm	b mm	Ø mm	ΔΔ kg
V.256	205	125	150	0,87
	Description			
V.256A1	6 hole Velcro pad Ø 150 mm.			



## Two-handed orbital sander Ø150 mm - 8 mm orbit

### V.252

- Easy to handle, lightweight roughing sander.
- Supplied with 6-hole Ø 150 mm.
- Double bearing, comfortable thermal and vibration-insulated body.
- Compatible with all Ø 29 mm.
- Variable speed control from 5,000 to 10,000 rpm.
- Air connection (female thread) 1/4".
- Recommended air hose (Ø int.) : 8.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 340 l/min.
- Noise level (dB(A)) : 76.1.
- Vibration level : 3 m/s<sup>2</sup>.
- Ø Tray : 150 mm.
- Eccentric offset : 8 mm.

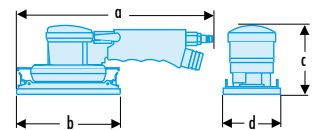


➤	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>V.258</b>	305	140	150	1,5
➤	Description			
<b>V.258A1</b>	6 hole Velcro pad Ø 150 mm			

## Vibrating sander - 95 x 170 mm - 8 holes

### V.252

- Easy to handle, lightweight roughing sander.
- Supplied with pad and 8-hole abrasive perforator.
- High-quality chrome-plated aluminium motor, comfortable thermally-insulated body.
- Clips for standard abrasives.
- Compatible with all Ø 29 mm.
- Variable speed control from 5,000 to 10,000 rpm.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 10,000 rpm.
- Average air consumption : 360 l/min.
- Noise level : 74.
- Vibration level : 5.4 m/s<sup>2</sup>.
- Eccentric offset : 5 mm.



➤	a	b	c	d	ΔΔ
	mm	mm	mm	mm	kg
<b>V.260</b>	320	170	120	95	1,7
➤	Description				
<b>V.260A1</b>	8 hole plate				
<b>V.260SAV50B</b>	95 x 170 mm pad				

## Belt sander - 10 x 330 mm

### V.252

- Surface roughing and cleaning.
- Multi-position adjustable handle.
- Quick-change belt system.
- Supplied with 3 belts (one ready-mounted) : 2 x 120 grit, 1 x 80 grit.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bars.
- Speed of rotation : 15,000 rpm.
- Average air consumption : 400 l/min.
- Noise level : 79,4.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Belt size : 10 x 330 mm.
- Each belt reference corresponds to a single belt.
- Minimum order = 10 belts.

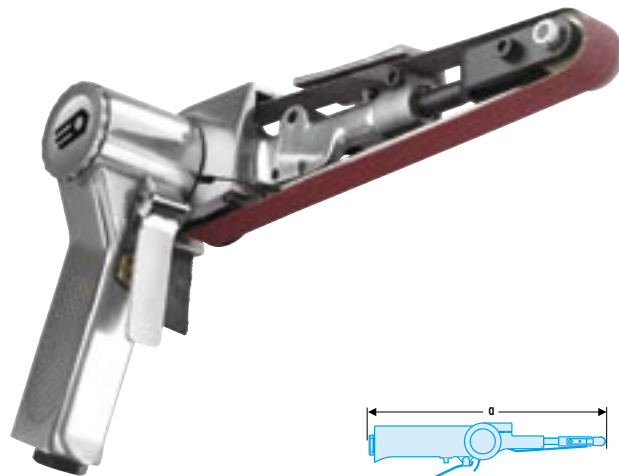


	a mm	b mm	ΔΔ g
V.402	284	76	800
	Description		
V.402A1	80 grit belt 10 x 330		
V.402A2	120 grit belt 10 x 330		

## High capacity belt sander - 20 x 520 mm

### V.252

- Surface roughing and cleaning.
- Multi-position adjustable handle.
- Quick-change belt system.
- Supplied with 2 belts (one ready-mounted) : 1 x 120 grit, 1 x 80 grit.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6,3 bar.
- Speed of rotation : 17,000 rpm.
- Average air consumption : 400 l/min.
- Noise level : 78.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Belt size : 20 x 520 mm.
- Each belt reference corresponds to a single belt.
- Minimum order = 10 belts.



	a mm	b mm	ΔΔ kg
V.403	353	89	1,15
	Description		
V.403A1	80 grit belt 20 x 520		
V.403A2	120 grit belt 20 x 520		





## ► Painting



### Component storage stand



**REDUCE OPERATOR MOVEMENTS,  
INVESTMENT RECOVERED IN 3 MONTHS,  
OPTIMISE YOUR STORAGE.**

- For storing bonnets, tailgates, wheels exhaust systems, etc.
- Easy to manoeuvre (4 castor wheels).
- Compact design.
- Guarantees efficient organisation.
- Avoids lost parts, saves time.



## ►► Supports

### Painting stand

#### CR.P1

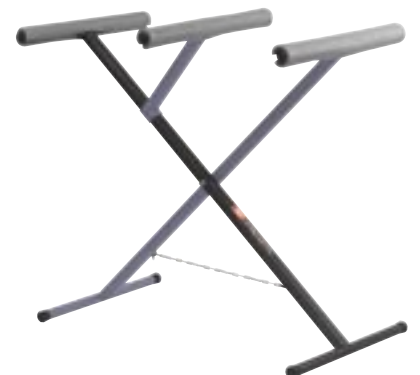
- Maximum supported weight by CR.P1 : 50 kg.
- Easy to use.
- Modularity : 16 adjustment points, height adjustment, 360° angular adjustment with locking system.
- Sturdy frame.
- 2 large wheels for easy manoeuvrability.
- Compact design.
- Dimensions : 130 x 120 x 70 cm.
- 3 year guarantee.
- ΔΔ : 19 kg.



### Bodywork support stand

#### CR.P2

- Working height : min. 800 mm, max. 1,100 mm.
- Maximum supported weight : 80 kg.
- Easy to use.
- Height adjustment.
- Sturdy frame, stable base.
- Small footprint, stores easily.
- 3 support points.
- 3 year guarantee.
- ΔΔ : 8 kg.



Icon	Description
	Foam protection

CR.S7PRO

## Small parts stand

### CR.P3

- For simultaneous painting of three components.
- The branches can be removed to allow proper application of paint.
- The height and the spacing of the arms can be adjusted to provide a comfortable working position and for supporting longer items.
- Dimensions : 1,040/1,180 x 1,000/1,300 x 370 mm.
- Supplied with 500 double-sided adhesive tabs for securing the parts in place.

ΔΔ : 5 kg.



	Description
CR.P3-1	Roll of 500 adhesive tabs

## Steps

### CR.S2

- Ideal for raised working on light commercial vehicles, multi-purpose vehicles, 4x4, etc.
- Wide working width.
- Maximum supported weight by CR.S2 140 kg.
- Compact design.
- Incorporates safety hoop, stable base and other safety features.
- Folds for easy storage.
- Two wheel positions : front, rear or right, left.
- Suitable for use on paint booth open-mesh flooring.
- Dimensions : 80 x 100 x 200 cm.
- 3 year guarantee.

ΔΔ : 37 kg.



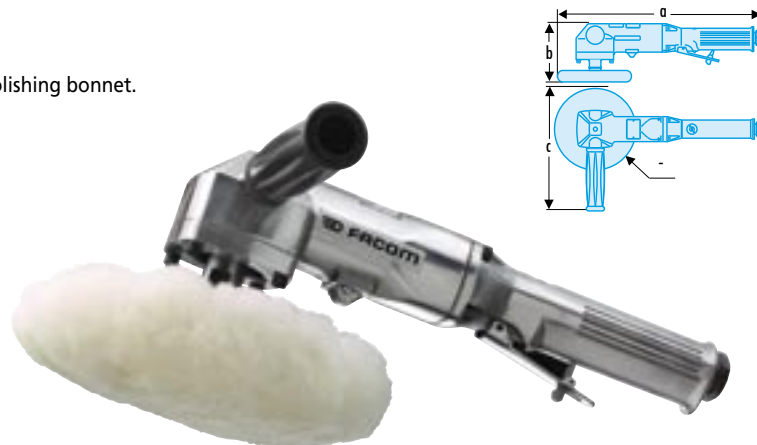
## ► Finishing

## ►► Pneumatic bodywork tools

### Angle polisher 178 mm.

#### V.252

- Buffing and polishing.
- Heavy-duty machine.
- Supplied with 1 handle, 1 pad 178 mm dia, 1 195 mm polishing bonnet.
- Air connection (female thread) : 1/4".
- Recommended air hose (Ø int.) : 8 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-6.
- Pressure : 6.3 bar.
- Speed of rotation : 2,000 rpm.
- Average air consumption : 470 l/min.
- Noise level (dB(A)) : 82.4.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Tray : 178 mm.



	a	b	c	Ø	ΔΔ
	mm	mm	mm	mm	kg
V.902	320	103	230	178	1,8

	Description
V.902A1	178 mm pad
V.902A2	195 mm polishing pad
V.902A3	160 mm foam pad



## ▶ Windshields

### ▶▶ Workstations



## Windshield workstation

**EFFICIENT, MORE ORGANISED STORAGE**

- Specially designed to allow the user to change all types of windshield in the minimum amount of time with maximum safety.
- Adjustable arms for car and LCV windshields.
- Foam windshield support pads



### EASY TO MAINTAIN

- Galvanized steel worktop, resistant to chemical agents, solvents, etc.

### EVERYTHING WITHIN EASY REACH

- Drawer, shelves and perforated side panels provide ample space for the necessary tools.

### CORNER BUMPERS

- To avoid damage to vehicles in case of accidental contact.



**LOCKABLE ADJUSTABLE ARMS**

Supplied without tools and consumables



**PADLOCK CLOSURE**

## Windshield workstation

### CR.T2

- Drawer 130 mm high (padlock closure), tool shelf and storage area for consumables.
- Supplied with a paper-roll holder and two bottle shelves.
- Galvanized steel worktop with adjustable arms for supporting light vehicle and heavy-duty vehicle windshields.
- Foam windshield support pads.
- Padlocked drawer.
- Dimensions 1,050 x 970 x 610 mm.

ΔΔ : 48 kg.

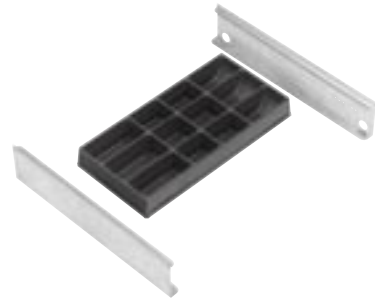
CR.T2			
1	2825.08	3	2600.19
2	2825.09		



## Drawer kit

### CR.A1

- Organization kit for drawers min 130 mm high.
  - For storing clips, staples and rivets.
  - Includes fixings.
  - For workstations CR.T2, CR.T3, CR.T4.
- ΔΔ : 250 g.



## ▶▶ Windshield tools

### CR.D10

## Windshield wiper arm remover

**COMPACT, LIGHTWEIGHT, EASY TO USE**



- Covers more than 95% of european vehicles.
- Chrome beam and legs.
- Legs can be adjusted in the same way as bearing pullers.



Special spacer for washer jet



## Windshield wiper arm remover

### CR.D10

- One tool covering 95% of european vehicles.
- Including spacer for wiper arms with integral washer jet.
- Each leg can be removed for a better fit on the arm.
- Weight including spacer 195 g.
- Chrome beam and legs, black screw.
- Supplied with instructions.

ΔΔ : 220 g.



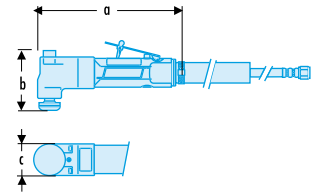


## Windshield cutter

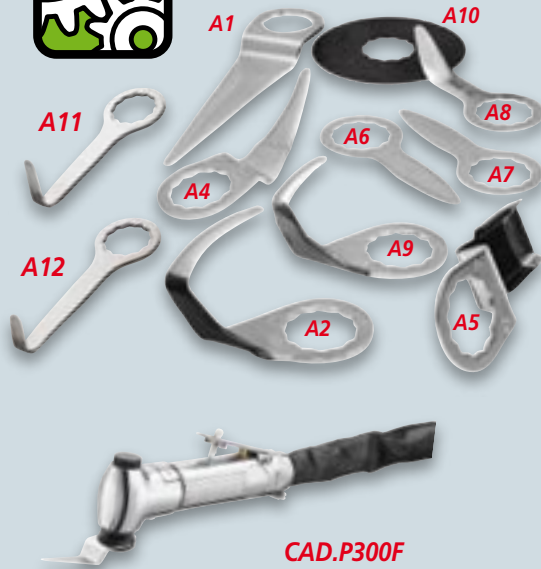
## CAD.P300

- Faster windscreen replacement.
- Safety trigger.
- Air exhaust in handle.
- 3° pendular motion.
- Supplied with instructions, without blades.
- Strokes per minute : 20,000.
- Average air consumption : 110 l/min.
- Air inlet thread : 1/4".
- Ø int. air hose : 10 mm.

	a mm	b mm	c mm	ΔΔ kg
<b>CAD.P300F</b>	208	85	45	1.21
	Description			
<b>CAD.P300A1</b>	Long flat blade 90 mm			
<b>CAD.P300A2</b>	Hook blade 36 mm			
<b>CAD.P300A4</b>	Curved blade 30 mm			
<b>CAD.P300A5</b>	Scraper blade 8 mm			
<b>CAD.P300A6</b>	Straight blade 35 mm			
<b>CAD.P300A7</b>	Thin straight blade 35 mm			
<b>CAD.P300A8</b>	Straight angled blade 35 mm			
<b>CAD.P300A9</b>	Hook blade 24 mm			
<b>CAD.P300A10</b>	Disc 60 mm			
<b>CAD.P300A11</b>	Long angled blade			
<b>CAD.P300A12</b>	Long angled blade			



## Windscreen cutters



Blade	Description
<b>CAD.P300A1</b>	Long flat blade 90 mm
<b>CAD.P300A2</b>	Hook blade 36 mm
<b>CAD.P300A4</b>	Curved blade 30 mm
<b>CAD.P300A5</b>	Scraper blade 8 mm
<b>CAD.P300A6</b>	Straight blade 35 mm
<b>CAD.P300A7</b>	Thin straight blade 35 mm
<b>CAD.P300A8</b>	Straight angled blade 35 mm
<b>CAD.P300A9</b>	Hook blade 24 mm
<b>CAD.P300A10</b>	Disc 60 mm
<b>CAD.P300A11</b>	Long angled blade
<b>CAD.P300A12</b>	Long angled blade

Each blade reference corresponds to a single blade

Characteristics	CAD.P300
Oscillations per minute	20 000
Weight (kg)	1,21
Length (mm)	208
Average air consumption (l/min)	120
Air inlet thread (inches)	1/4
Ø int. air hose (mm)	10
Working pressure (bar)	6,2

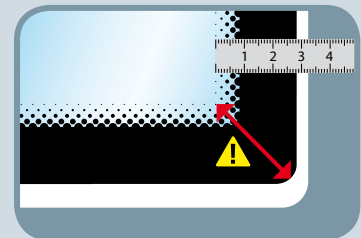


## Windscreen cutters

- Using a ruler, measure the depth of glue to be cut, up to the windscreen's printed markings.



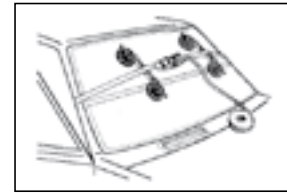
- Select the corresponding blade, taking account of the rounded corners.



## Windshield replacement kit

### D.28B

- Suction cups for carrying and positioning windshields during replacement.
  - Swivel suction cups cater for straight and curved surfaces.
  - Light alloy body.
  - Comprising :
    - D.28A1 Suction cups (x2).
    - D.28A2 Ratchet strap.
    - D.28-3 Removal tool.
    - D.28-4 Pull handle.
    - D.28-5 Braided wire for windshields (18 metres).
- ΔΔ : 3.3 kg.



## Windshield tools

### D.80

- Set of 3 tools supplied in a plastic case.
  - Comprising :
    - D.80-01 Windshield fitting tool.
    - D.80-02 Trim fitting tool.
    - 82.4 Hexagon key (4 mm).
  - Dimensions : 325 x 135 x 50 mm.
- ΔΔ : 820 g.



	Description
<b>D.80-02-04</b>	For narrow trim
<b>D.80-02-05</b>	For medium trim
<b>D.80-02-06</b>	For wide trim

## Set of 6 suction cups

### DCR.20J6

- Excellent suction on painted panels and windows.
  - Secures bonded components while curing.
  - Many bodywork applications :
    - Door trims
    - Windshield trims
    - Names and badges.
    - Interior mirrors, etc.
- ΔΔ : 470 g.



## Adjustable windshield support

### 2800.A8

- Instantly attaches onto a roller cabinet.
  - Dimensions : 540 x 160 x 100 mm.
- ΔΔ : 2.8 kg.

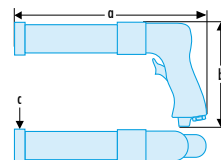


## ▶▶ Pneumatic bodywork tools

## Caulking gun - 50 x 215 mm cartridge

**V.801**

- For applying silicon, mastics, adhesives, etc.
- Variable flow.
- Automatic pressure release halting flow of mastic.
- Air connection (female thread) : 1/4" .
- Recommended air hose (Ø int.) : 10 mm.
- Recommended fitting (thread - Ø int.) : 1/4"-8.
- Pressure 6.2 bar.
- Noise level 70.
- Vibration level : < 2.5 m/s<sup>2</sup>.
- Standard cartridge : 50 x 215 mm.



➤	a	b	c	ΔΔ
	mm	mm	mm	kg
<b>V.801F</b>	305	168	62	1,3

## ▶ Hydraulic equipment

## 4 T hydraulic straightening kit

**CR.4T**

- 15-piece kit comprising :
    - 1 hand pump (270 cm<sup>3</sup>).
    - 1 push-jack (122 mm stroke).
    - 1 plier-spreader jack.
    - 5 extension pieces (115 to 534 mm).
    - 7 accessories : flat base, spreading legs, heads (V, chequered, rubber).
  - Quick couplers.
  - 700 bar working pressure.
  - Supplied in a storage case.
  - CE.
- ΔΔ : 21.4 kg.



## 10 T hydraulic straightening kit

**CR.10T**

- 15-piece kit comprising :
    - 1 hand pump (600 cm<sup>3</sup>).
    - 1 push-jack (154 mm stroke).
    - 1 plier-spreader jack.
    - 3 extension pieces (115 to 534 mm).
    - 7 accessories : flat base, spreading legs, heads (V, chequered, rubber).
  - Quick couplers.
  - 700 bar working pressure.
  - Supplied in a wheeled storage case.
  - CE.
- ΔΔ : 37.1 kg.



## Hydraulic oil - 2 litres

**WA.21**

- 2 litre can.
- Suitable for hydraulic bodywork jacks, lifting jacks, cranes and pit jacks.



# Heavy goods and industrial vehicles

## ► Engine



## SERVICES

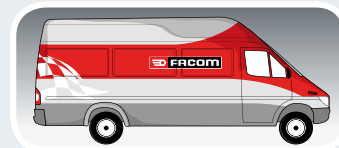


- **DEMONSTRATIONS**
- **TECHNICAL ENQUIRIES**
- **NEW PRODUCTS ONLINE**
- **AUTOMATED TOOL KIT INVENTORY**

*If you wish, you can arrange a visit by a FACOM advisor to carry out an inventory of your tools (roller cabinets, tool boxes, work benches, etc)*

### Advice, demonstrations

- *If you wish to have a presentation or a demonstration, simply contact our sales department or your distributor to arrange for a FACOM advisor to visit you. Sales department :*



### Internet.

- *Discover the latest additions to our range, consult our catalogue, visit our HGV corner or search the vehicle applications guide online at*



### Technical information.

- *If you are looking for information on a product or a spare part...*

p. 868



### Tool kit inventory

- *Save time.*
- *Optimise your costs.*
- *Control your tool budget.*
- *Individual limits and harmonisation of tool kits will simplify the change-over to ISO.*

1. *During the initial inventory, we establish with you for each of your workers (mechanical, bodywork, electrical, 24-hour service, etc.) a computerised list of the tools in their tool kit.*
2. *Once a year, at a pre-arranged time, we will perform an inventory on the basis of the original list. This will enable you to accurately monitor your available tools, to keep it up to date and make everyone accountable. You will efficiently complete your workshop's equipment. (Service only available in Mainland France).*



## ►► General tooling

New

### 3/4" ratchet

#### A HEAVY-DUTY RATCHET FOR EVERY APPLICATION

##### COMFORT OF USE

- Ergonomic reverse lever for easy inversion even when wearing gloves.
- Recessed reverse lever avoids accidental change of direction.
- Removable handle.

##### DURABILITY

- Sturdy : 40 tooth mechanism, 9° increments.
- Mechanism protected against dirt.

##### SAFETY

Plunger lock ratchet/sockets/accessories.



Farming machinery



Heavy industry

Heavy goods vehicles

New

### 3/4" square drive "Site" ratchet

#### K.149

▷ Performance : to ISO 3315, DIN 3122, NF ISO 3315, NF ISO 1174-1.

- Suitable for outdoor working.
  - Sturdy mechanism protected against dirt.
  - Recessed reversing switch :
  - 9° increments.
  - Removable handle.
  - Length : 510 mm.
  - Mechanism : 40 teeth.
  - Plunger safety lock.
  - Mat chrome finish.
- ΔΔ : 2.85 kg.



Description
<b>K.149RN</b> Repair kit
<b>K.149M</b> Handle for ratchet K.149



## Pullers

**POWERFUL, SAFE, EASY**



**Safety first**

### Make the right choice.

Pulling is a delicate operation, take the time to select the right tool according to :

- The component
- The size
- The clearance
- The grip : inside or outside

- For your safety, never alter a puller
- Refer to the Pullers section for details of our complete range designed and developed to cater for all situations from 5 to 800 mm.



**New**

## 10T hydraulic puller set with 4 sets of legs

### U.312HJ4


- Comprising :
  - 10 tonne (100 kN) hydraulic jack U.312-01 + guide U.312-02 + set of 2 extensions U.312-03.
  - A 2 or 3-leg puller body U.312-04 + centring screw U.312-04-01 + set of 3 screws/nuts U.312-04-02.
  - 3 outside-gripping legs U.312G110 : Spread : 45 to 85 mm ; Max. reach : 110 mm.
  - 3 outside-gripping legs U.312G160 : Spread : 80 to 170 mm ; Max. reach : 160 mm.
  - 3 outside-gripping legs U.312G210, Spread : 90 to 210 mm ; Max. reach : 210 mm.
  - 3 outside-gripping legs U.312G260, Spread : 110 to 270 mm ; Max. reach : 260 mm.
- Supplied in a plastic case U.312VAL 565 x 412 x 105 mm.
- ΔΔ : 14.4 kg.

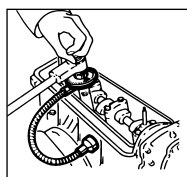


## ►► Cylinder head - pistons - valves

### DM Angular torque gauge

- 2° graduations.
- Male and female  drive.
- Fixed point by flexible arm with magnet.


	<input checked="" type="checkbox"/>	∅	L	ΔΔ
		mm	mm	g
<b>DM.360</b>	1/2	63	410	350
<b>DM.370</b>	3/4	73	430	550



### Piston ring compressor 100 to 160 mm

#### 750.KB

- For easy insertion of piston into cylinder bore and even compression over full ring length.
- Ratchet mechanism.
- Complete with key  6 mm.

	∅	L	ΔΔ
	mm	mm	g
<b>750.KB</b>	100...160	80	300
<b>750.C</b>		Description	
		Key only	

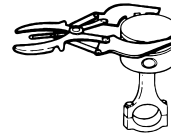


## Piston ring pliers

### 751.K

- Even expansion over full ring length.
- Quick and easy to use.

Ø	mm	L	mm	ΔΔ	g
751.K	90...150	255	330		

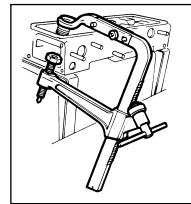


## Valve lifter

### U.13L

- For removing valve springs.
- Complete with jaws U.13B.
- Dimensions : 265 x 365 x 20 mm.
- ΔΔ : 1.14 kg.

	Description
U.13A	Straight bottom-edge jaws
U.13C	Straight top-edge jaws



## ►► Cooling

### Refractometer

#### 780A

- 2 measuring scales :
  - Coolant : 0 to -50°C (5° graduations).
  - Battery fluid density : 1,10 to 1.40 kg/l.
- Simple screw recalibration using distilled water.
- Supplied in a case with a sampling pipette and screwdriver.
- Dimensions : 70 x 235 x 700 mm.
- ΔΔ : 550 g.



## Large diameter hose remover

### DM.44PL

- Tool consisting of a body and a moving jaw that adjusts to fit hose diameters between 48 and 115 mm.
- Compact and manoeuvrable.
- Pins on the body grip the hose, allowing it to be loosened and removed.
- Multi-thread screw allows fast pre-tightening.
- Handle size : 36 mm. Grip : 90 mm.
- Height : max opening 255 mm
- Removable handle.
- ΔΔ : 769 g.



## ► Lubrication - filtration

### Self-gripping HGV oil-filter wrench

#### D.151PL

- Drive :  $\square$  1/2".
- Diameter :  $\varnothing$  95 to 165 mm.
- $\Delta\Delta$  : 1.345 kg.

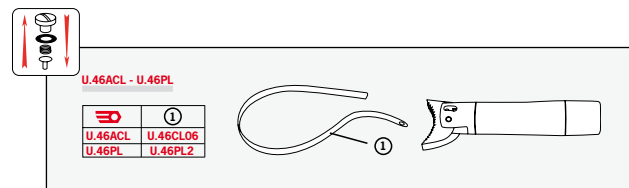


### Adjustable oil-filter wrench $\square$ 105 to 145 mm

#### U.46PL

- For heavy goods vehicles.

	L max	$\varnothing$ mm	$\Delta\Delta$ g
<b>U.46PL</b>	300	105...145	350



## ► Brakes

### Disc brake vernier caliper

#### DF.18-01

- Vernier caliper for checking the thickness of brake discs.
- Accurate, error-free reading.
- Measurements can be taken with wheel in place (if no protective bodywork).
- Can quickly demonstrate to customers the need for changing brakes.
- Supplied in a reinforced fabric case with serial number for traceability in ISO certified workshops.
- Capacity 0 to 50 mm, outer thickness measurement for the disc brakes of cars and LCVs.
- Nose length : 50 mm.
- 0.1 mm reading increments.
- Mechanical memory device.
- $\Delta\Delta$  : 250 g.



### Drum brake vernier caliper

#### DF.19PL

- Capacity and reading to suit the requirements of car, LCV and HGV applications.
- Supplied in a reinforced fabric case with serial number for traceability in ISO certified workshops.
- Capacity 50 to 500 mm, inner drum measurement for HGVs.
- Nose length : 150 mm.
- 0.20 mm reading increments for internal drum measurements.
- 0.10 mm increments for readings between tips.
- $\Delta\Delta$  : 1.4 kg.





**DF-21**

## Hydraulic clutch system bleeding and filling



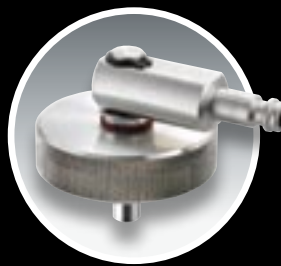
### HIGH PERFORMANCE FOR HGV WORKSHOPS

The bleeding and filling of HGV hydraulic clutch systems requires a higher flow rate.

The DF.21, with its new pump and adjustable pressure is ideal for this application.

#### Extensive connection options.

The DF.21 comes as standard with an aluminium plug for 44 and 45 mm diameter fluid reservoir openings and a multi-diameter plug for all sizes of opening up to 60 mm.



#### IMPORTANT

Take care, 2 types of fluid are used :

DOT, which is identical to LV brake systems, and Pentosine (mineral hydraulic fluid). These two fluids are absolutely non-miscible and mixing them could destroy your bleeder. Workshops using both of these products must therefore have two separate bleeders, one for each product. The DF.21 is supplied with a green label for sticking onto the front of the machine to differentiate it if Pentosine is used.

**New**

### Adjustable-pressure electronic brake bleeder

#### DF.21

- For bleeding car and LCV brakes and HGV clutches
- Pressure adjustment from 0.5 to 3 bar.
- Up and Down pressure adjustment keys.
- Electronic pressure control holds pressure steady at the selected value.
- ABS compatible.
- Portable, stand-alone appliance (12 V).
- Reservoir with visible level.
- Automatically stops below minimum level.
- Capacity : 5 l.
- Body : stainless/ABS
- Length of hose and power cable 4 m.
- Metal accessory storage case.

1 multi diameter plug for using the bleeder on vehicles with a bayonet plug (DF.20-12).

1 screw plug with 90° connection (DF.20-07).

1 fluid collector with attaching chain.

ΔΔ : 12 kg.



# Heavy goods and industrial vehicles

## Universal plug for bleeding brakes and clutches of LVs and HGVs.

### DF.20-12

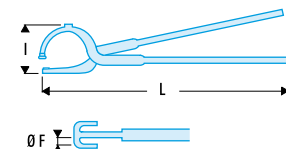
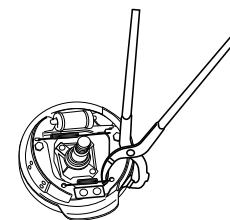
- Can be used for bleeding the brakes and clutches of 90 % of vehicles.
- Claw system overcomes the many different bayonet shapes and different types and diameters of screw threads used by the various vehicle manufacturers.
- Fits most Asian makes (except Honda).
- Can also be used for bleeding the HGV clutches .
- Working diameter : 35 to 83 mm.
- Minimum clearance required above the jar : 80 mm.
- Maximum working pressure of the bleeder : 3 bar.
- Connection by Rectus series 21 male coupling.
- Dimensions : 115 x 195x 85 mm.

ΔΔ : 475 g.



## 196 Brake-spring pliers

- For removing shoe springs.
- Suitable for right-handed and left-handed working.



Ø F	L	I	ΔΔ	
mm	mm	mm	kg	
196.TS	3	350	83	0,58
196.KS	5	485	100	1,23




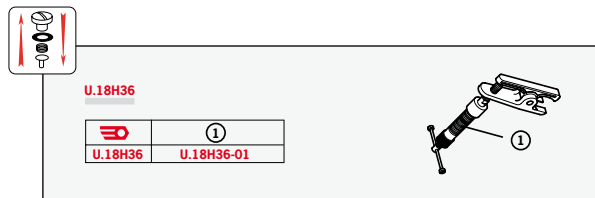
## ► Wheels - steering - transmission

### Hydraulic HGV hub puller

#### U.18H36

- Possible applications :  
Volvo, Rvi, Scania, Mercedes.
- Capacity  $\varnothing$  36 mm, for HGV and coach ball joints.
- Cylinder force 8 tonnes.
- W x L x H : 100 x 480 x 400 mm.

	Capacity $\varnothing$ mm	Dimensions mm	$\Delta\Delta$ kg
<b>77A.PL1</b>	36	100 X 480 X 400	6,8



### HGV ball-joint separator

#### U.18-36

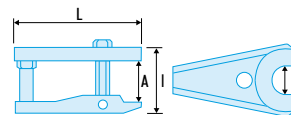
- Mechanical screw version.
- Capacity  $\varnothing$  36 mm.
- Dimensions : 210 x 180 x 80 mm.
- $\Delta\Delta$  : 4.32 kg.



### Ball-joint separator

#### U.16B32

- For removing steering and suspension ball-joints.
- Length : 158 mm, height : 75 mm.
- Capacity  $\varnothing$  32 mm opening 80 mm.
- $\Delta\Delta$  : 2.41 kg.
- U.16-05J3 : Set of 3 shear pins.



### LCV, HGV and Construction vehicle ball-joint separator

#### U.16A45

- For removing steering and suspension ball-joints.
- Length : 158 mm, height : 75 mm. 90 mm.
- Capacity :  $\varnothing$ 45 mm opening 80 mm.
- $\Delta\Delta$  : 2.543 kg.



# Heavy goods and industrial vehicles

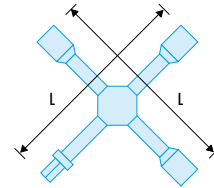
## 77A. Cross braces - HGV series

- Designed for removing wheel nuts on cars, light commercials and heavy goods vehicles.
- Replaceable bit on wrenches featuring a square bit.

Ref	∅ mm	□ "	L mm	ΔΔ kg
<b>77A.PL1</b>	24/27/30/32	-	700	4,65
<b>77A.PL2</b>	24/27/33	3/4	700	4,58
<b>77A.PL2D</b>	24/27/32	3/4	700	4,600

Ref	Description
<b>77.P1</b>	Spare male 3/4" square bit



## Automatic reset wrench with removable ratchet 200-1,000 Nm

### K.322

▷ ISO 6789, DIN EN ISO 6789, NF EN ISO 6789.

- Accuracy ex works : ± 4 %.
- Reliability of mechanism : 50,000 cycles (wrench to 200 Nm).
- For use with 9x12 or 14x18 accessories
- One-way wrench convertible to two-way by inverting accessories.
- Numbered and supplied with an ISO 6789 calibration certificate.
- Set supplied in a plastic box with pivot handle (except R.306A25, R.301A).



Ref	Capacity N.m	Attachement ∅	Graduation N.m	Set contents			Dimensions wrench only		Dimensions including case		
				Wrench	Ratchet	Pivot knob	L (mm)	ΔΔ(kg)	Case	L (mm)	ΔΔ(kg)
<b>K.322</b>	200-1000	30	4,00	K.325D	K.151A	-	1280	5,9	BP.D1000	1418	13,50

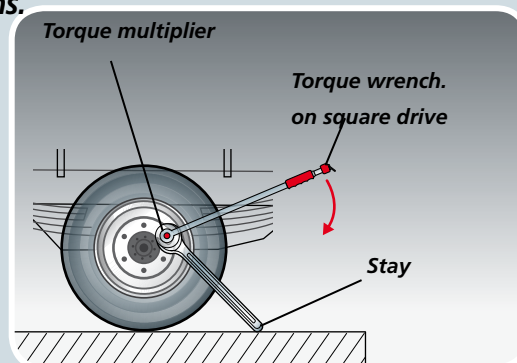


## TORQUE MULTIPLIERS

### CONTROLLED TORQUING

These tools have two functions.

- High-torque loosening.  
(e.g. construction vehicle or HGV wheel nut) A lever arm, ratchet or sliding tee may be used.
- High-torque tightening.  
A torque wrench should preferably be used to achieve a tightening torque that is both accurate and in line with manufacturers specifications.



#### IMPORTANT

Pneumatic impact wrenches must not be used with this type of tool.

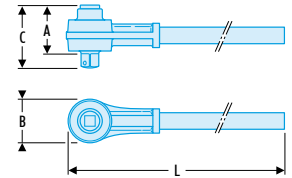




# 18 Heavy goods and industrial vehicles

## MC Torque multipliers

- Compact lightweight models designed for maintenance work on light commercials, heavy goods vehicles, farm machinery and construction plant.
- Multiplying ratio : 3.4.
- Accuracy +/- 10% (+ accuracy of torque wrench).
- Supplied in a soft case with stop lever.



Model	Capacity min N.m	Capacity min N.m	Capacity min N.m	A x B x C x L mm	Weight kg
MC.140A	3/4"	1400	1/2"	63 x 90 x 85 x 600	3,2
MC.270A	1"	2700	3/4"	80 x 95 x 113 x 680	5,1

## Air tools

**ESSENTIAL FOR YOUR PRODUCTIVITY**  
*Powerful, lightweight, manoeuvrable*  
 See section 14 for details of our complete air tool range.

**p. 575**

**NK.2000F**

**NS.1800F**

**NM.1200F**

## Electricity

### Hydraulic crimping pliers

#### 789.5

- Faster and more reliable than soldering.
  - 5 dies : 10 - 25 - 35 - 70 mm<sup>2</sup> hexagonal pattern.
  - For crimping electric terminals between 10 and 70 mm<sup>2</sup>.
  - Possible applications : alternators, starters, tailgates, trailers, etc.
  - Head rotates 360° for ease of use where access is restricted.
  - Adjustable stroke from 5 to 8 mm.
  - Supplied in a case complete with 5 dies.
  - Plier dimensions 215 x 180 x 30 mm.
  - Factory quality crimping and shape ensured by 35,000 N cylinder and end of crimping release system that guarantee the correct pressure.
- ΔΔ 1.7 kg.




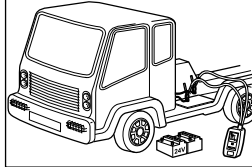
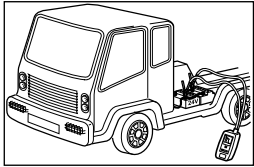
# Heavy goods and industrial vehicles

## 24V surge limiter

### DX.8-24

- Cable length : 500 mm.
- Identical specification except 24 V.

	L x l x H mm	△△ g
DX.8-24	100 x 20 x 45	190



## HGV electrics

- **A COMPREHENSIVE RANGE**
- **TESTING AND MEASURING**
- **ON-BOARD ELECTRONICS**



**789.5 Crimping pliers**

For electrical tools, see "Electricity", page

**631**



**712 multimeter clamp**

For multimeter, see "Automotive electrics" section, p.

**651**

## HGV tools



**HGV vehicle tool sets**

**p. 54**







# FACOM AEROSPACE



## THE AEROSPACE STANDARD

Facom offers a very high quality tool range specifically designed for aerospace applications. This range, which includes ratchets for aircraft fastener installation, ratchet wrenches and spline sockets, thin wall sockets and «Palm control» ratchets, has been developed to meet the standards of quality demanded by aeronautical construction and maintenance professionals. Compliance with AS954, ASME B107-10M and other standards attests to the level of refinement and mechanical performance of these tools.



### Facom Control System:

Automatic identification of missing tools



Ask your distributor for the FACOM  
AEROSPACE catalogue





## Personal protection equipment

### ▶ Eye protection



603



### ▶ Gloves



604



### ▶ Masks



604

### ▶ Mats



605

Your health is important.

Protect yours by using the best quality tools designed for your specific application.

Using tools in the correct manner is your best guarantee.

### General recommendations :

These safety recommendations for tool usage reflect good engineering practice and are not intended to be a comprehensive set of rules. They complement, but do not replace, standard precautions to be taken by every user complying with professional guidelines, company procedures and national regulations.

### ▶ Personal safety

- **Wear eye protection** for any job involving chips, splinters, sparks, dust, flashes or UV rays.
- **Wear gloves** to protect against cuts, knocks and burns

### ▶ 1000 V insulated tools for electrical safety

- **Never work on or near live components without 1000 V tools.** Only these can provide the insulation required for adequate protection. Plastic handles of other tools are not designed to insulate.

### ▶ Sensible precautions

- **Secure balance** especially when pushing and pulling, e.g. tight fasteners.
- **Straight back** and bent knees when lifting.

### ▶ Correct tool selection

- **Use the right tool.** Each tool is designed for a specific application and should not be used for other jobs. Only the right tool will ensure safety, comfort and productivity.
- **Never attempt DIY.** modifications to a tool, whether by grinding, welding or heating. Altered specifications could make it unsafe.
- **Do not exceed tool capacities** with inappropriate extensions or impact accessories.

### ▶ Tool care

- **Keep tools clean** to prevent risk of slipping and give a more secure grip. Check tools before use for any defects such as excessive wear or breakage. Some mechanisms need regular cleaning and lubrication.
- **Keep and follow manufacturers' operating instructions.** Use the complete contents of any service kits.

## ▶ Workshop furniture and storage

62

### Roller cabinets

- Never open more than one loaded drawer at a time, otherwise the unit may tip.
- Do not exceed drawer load capacity.
- Apply the brake when stationary. Close and lock all drawers before moving.
- Do not pull the cabinet towards you, always push it and avoid balancing items on top.

### Toolboxes and chests

- Watch your back when lifting heavy containers.
- Do not stand on toolboxes
- Mind your hands and wear gloves. Sharp or rough objects should not be kept loose.

## ▶ Wrenches

124

### Sensible precautions

- Secure your balance and pull the wrench towards you rather than push it.
- Wear gloves and eye protection.
- Do not grind, weld or heat your tool. It could become unsafe.
- Check condition of both fastener and tool before use.

### Correct tool selection, without overload

- Never exceed tool capacity. Do not use an extension or a hammer.
- Always use the right size for the fastener head.
- Select a ring wrench for high torques. When using an open-end wrench, engage fastener head fully to avoid distorting the nose of the wrench, and work in a straight line.

## ▶ Sockets

### Personal safety with impact sockets

- Always secure sockets to the machine with locking ring and pin (references given for each socket).
- Never hold a socket or accessory while the machine is turning.
- Wear gloves and eye protection.
- **Never use a manual or simple machine socket on a power impact tool.**

### Sensible precautions

- Secure your balance. Pull the tool towards you rather than push it.
- Use only recommended extensions and do not overload.
- Check that ratchet mechanisms engage fully.
- Select 6-point sockets if fasteners are worn or hardened.
- Do not use tools showing signs of breakage or excessive wear.

## ▶ Screwdrivers

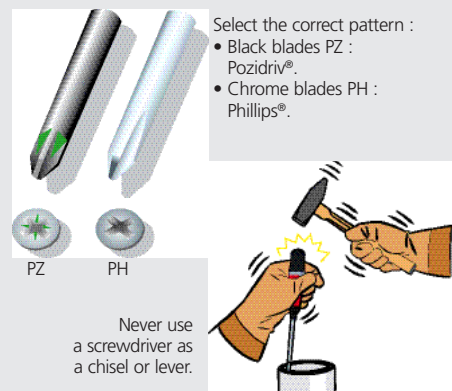
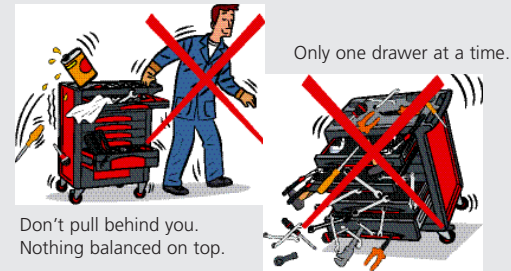
304

### Personal safety

- Plastic-handled screwdrivers are not insulated, with the exception of 1000V tools.
- Keep your free hand clear when driving home a fastener in case the screwdriver slips.
- Wear gloves.

### Correct tool selection

- Avoid using screwdrivers as chisels, levers or punches.
- Avoid damage to fastener heads or tool blades, always select the appropriate pattern.
- Do not modify or heat blades as this will impair performance.
- For extra torque select a screwdriver with a hexagonal bolster.
- Wood-handled through-blade screwdrivers withstand gentle tapping on the end to free seized fasteners.





Never modify the shape of a tool

Always use a 1000V insulated tool when working with live components.



Select tools with a guard.

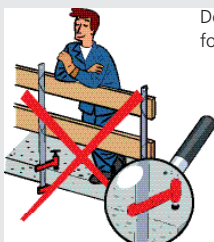


Never use tools with ill-fitting or damaged handles.

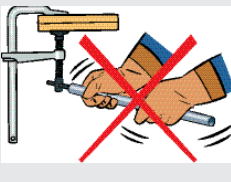


Never "hard on hard". Check tool condition before use.

Don't cut wire with metal shears

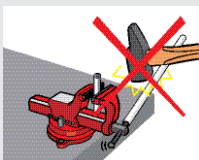
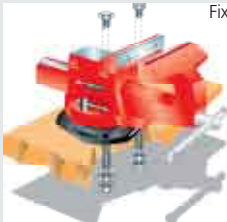


Don't use an extension for tightening



Never erect guard rails or platforms using clamps.

Fix vice securely to bench.



Don't use a hammer or extension to increase pressure.

## ▶ Pliers

### Personal safety

- Wear eye protection, especially when cutting wire and fitting circlips or rivets.
- Sheathed handles are not insulating. Only 1000V tools are designed for working with live components.

### Correct tool selection

- Keep within cutter capacity (wire diameter and hardness).
- Do not modify or heat tips as this will impair performance.
- Cut at right angles and avoid twisting the wire. Use the throat rather than the tip of cutting edges.
- When fitting circlips, use a tool within the correct range and only compress or expand the clip just enough.
- Lock-grip pliers should not be used as a permanent clamp. Components can move due to vibration or shock.

## ▶ Hammers, impact tools

### Personal safety

- Wear gloves and eye protection.
- Avoid striking equally hard surfaces. Do not use a hammer on surfaces exceeding 46 HRC. Use a mallet instead.
- Do not use suspect tools such as hammers with chipped heads, insecure or cracked handles, excessively mushroomed chisels or punch ends. Check handle fit before use.
- Hammering may generate sparks. Do not use hammers in a fire-risk area.

### Correct tool selection

- Rule of thumb: hammer head should have a diameter about 10 mm larger than the surface to be struck. Avoid hitting with the edge of the hammer.
- Select chisels and punches fitted with a guard for increased safety and comfort.
- Do not use punches for leverage.

## ▶ Sawing, cutting, drilling

### Watch out for chips

- Wear eye protection and gloves when sawing, cutting or drilling, and when handling sheet metal or metal objects while machining.
- Keep hands away from the cutting path.
- Metal shears are designed for cutting sheet metal, not for wire. Keep within capacities.

## ▶ Presses and bar clamps

### Remain within capacity

- Presses and bar clamps are not designed for permanent clamping and should never be used to construct a guard rail or platform.
- Avoid using bar clamps to hold assemblies subject to vibration or shock, as the joint could work loose.
- Do not use these tools for lifting.
- Always check before use and keep within clamping capacity (do not use extensions or impact tools).

## ▶ Vices

### Personal safety

- Fit the vice securely to a suitably sized support.
- Never use an extension or a hammer to tighten a vice. Avoid clamping hard towards the end of the jaws.
- Do not use the jaws as an anvil.
- Never repair or modify a vice.
- Always wear eye protection and gloves when grinding, sawing, drilling and hammering.

### Correct tool selection

- Select a swivel-base vice so that you approach the workpiece from the best angle



## Torque control

### Sensible precautions for precision tools

- Avoid overloading by applying torques beyond rated capacity.
- Never fit an extension as this would modify lever ratios and give incorrect readings.
- Always store torque wrenches carefully after use.
- Torque wrenches are precision tools. Have yours checked regularly by accredited Facom facilities.
- Read operating instructions before use.
- Do not use impact drivers on torque multipliers. Always use a torque wrench.



Careful storage and regular inspection by accredited Facom facilities.



Never fit an extension to a torque wrench.

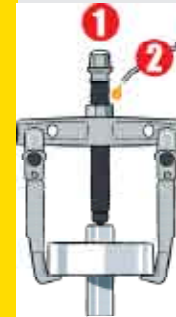
## Pullers

### Personal safety

- Wear gloves, eye protection and safety shoes.
- Pullers generate several tonnes of force during use.
- Ensure correct positioning – centred, in line with the pulling axis and with a good grip on each leg.
- Steady a puller where necessary to avoid rotation during tightening.
- Cover the assembly to contain components if the fitting splits suddenly or the puller slips. Do not stand in line with the puller and keep other people away.

### Correct tool selection

- Never exceed puller capacity
- Use a 3-leg puller rather than a 2-leg, and select short legs.
- Always check tool condition before use and lubricate the screw. If a leg needs changing, replace the complete set.
- Never modify or heat the legs as this will make them unsafe.
- Do not operate with an impact wrench.
- Use a mallet if the screw needs tapping to unstick a fitting.
- Do not use impact drivers on nut splitters.



Always check that the pressure screw is properly centred and legs have secure purchase. Lubricate the screw regularly.



Don't modify the legs of a puller as this will make it unsafe.

## Air tools

### Personal safety

- Wear gloves and eye protection.
- Wear a dust mask when sanding.
- For intensive use, protect your hearing with ear muffs.
- Consider the safety of bystanders.

### Sensible precautions

- Always disconnect tools before fitting drill bits, grinding wheels or impact sockets.
- Keep within accessory rated diameters and speeds.
- Retain original guards (e.g. on grinding tools).
- On impact power wrenches, use only impact sockets with appropriate locking pin and ring.
- Read operating instructions before use.



Always wear appropriate protective gear.



Always disconnect power tools before fitting accessories.

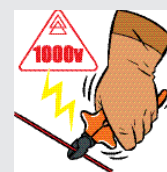
always lock sockets to the machine.



Facom air tools conform to current standards

## Working on or near live components

- Only 1000V insulated tools protect from electrical hazards up to 1000V AC. Facom 1000V insulated tools conform to European standard EN 60900 and are individually tested and checked.
- Inspect your tool after each use. Discard if the insulation is damaged.
- Give yourself additional protection by using gloves, mats and anti-UV goggles.



1,000V insulated tools must be used when working near live components.

Never use a tool with damaged insulation.



## ELECTRICAL AND ELECTRONIC ASSEMBLIES

### Personal safety

- Wear eye protection when there is a risk of flying debris, e.g. for wire cutting, stripping, crimping or soldering. Choose wire strippers with off-cut retainers.
- Work with loaded capacitors or live components using antistatic tools (dissipating sheaths).

### Correct tool selection

- Do not leave a hot soldering iron on fragile or flammable surfaces. Always use a stand. Do not store a soldering iron while hot. Disconnect after use.
- Use ESD antistatic tools to IEC 61340-5-1 and IEC 61340-5-2 to protect sensitive electronic components.



Always rest a hot soldering iron on its stand.





# CONVERSION OF MEASURING UNITS

The table below gives the SI unit conversion factors of a certain number of units that do not belong to the SI system. Some of these are still in use in France or abroad, in general or specialised applications Others belong to old systems of measurement that are now obsolete.

Units that are specific to the United States or the United Kingdom are indicated respectively by "US" or "UK" in brackets.

## ► Symbols and abbreviations

Unit	Symbol or abbreviation	SI unit conversion factor	Physical quantity	Comment
Ampere-hour	Ah	$3,6 \times 10^3 \text{c}$ (exact)	Quantity of electricity	Used for storage batteries
Angström	Å	$10^{-10} \text{m}$ (exact)	Length	Wavelength, atomic distance
Bar	bar	105Pa (exact)	Pressure	Fluids
Barrel (US)	bbl	$0,158\,987\,3 \text{ m}^3$	volume	1 barrel (US) = 42 gallons (US).
Calorie I.T	cal <sub>I.T</sub>	4,186 8 J (exact)	Energy	Quantity of heat
Candela	cd	Basic SI unit	Luminous intensity	
Cheval vapeur (horsepower)	ch	735,498 75 W (exact)	Power	1 ch = 75 kgm/s (exact).
Degree	°	$1.745\,329 \times 10^{-2} \text{ rad}$ (2 /360 rad)	Angle	
Degree Celsius	°C	$T_k = 0^\circ\text{C} + 273,15$ (exact)	Temperature	The origin of the Celsius scale is set by convention at 273.15 K.
Degree Fahrenheit	°F	$T_k = 5/9 (0^\circ\text{F} + 459,67)$ (exact)	Temperature	$0^\circ\text{C} = 5/9 (0^\circ\text{F} - 32)$ (exact)
Electronvolt	eV	$1,602\,177\,33 \times 10^{-19} \text{ J}$	Energy	Atomic and nuclear physics
Farad	F	Derived SI unit $1\text{F} = 1\text{C/V}$	Electric capacitance	
Faraday		$9,648\,70 \times 10^4 \text{ C}$	Quantity of electricity	Based on carbon 12.
Fluid ounce (UK)	fl oz (UK)	$2,841\,30 \times 10^{-5} \text{ m}^3$	volume	
Fluid ounce (US)	fl oz (US)	$2,957\,35 \times 10^{-5} \text{ m}^3$	volume	Liquids
Foot	ft	30,48 cm (exact)	Length	The symbol ' is also used
Gallon (UK)	gal (UK)	$4,546\,09 \times 10^{-3} \text{ m}^3$	volume	
Gallon (US)	gal (US)	$3,785\,41 \times 10^{-3} \text{ m}^3$	volume	Liquids
Hertz	Hz	Derived SI unit $1\text{Hz} = 1\text{s}^{-1}$	Frequency	
Horsepower (UK)	hp	745,700 W	Power	The US value of horse power varies according to the field.
Inch	in	2,54 cm (exact)	Length	The symbol ' is also used.
Joule	J	Derived SI unit $1\text{J} = 1\text{N.m}$	Energy	Work, quantity of heat
Kelvin	K	Basic SI unit	Temperature	Thermodynamics
Kilogram-meter	kgm	$9,806\,65 \text{ J}$ (exact)	Work	
Kilogram-force	kgf	$9,806\,65 \text{ N}$ (exact)	Force	
Kilowatt-hour	kWh	$3,6 \times 10^{-6} \text{ J}$ (exact)	Energy	Electrical energy consumption
Liquid pint (US)	liq pt (US)	$4,731\,76 \times 10^{-4} \text{ m}^3$	volume	Liquids
Liquid quart (US)	liq qt	$9,463\,529 \times 10^{-4} \text{ m}^3$	volume	Liquids
Litre	l, L	$10^{-3} \text{ m}^3$ (exact)	volume	C.G.P.M. 1964.
Lux	lx	Derived SI unit $1\text{lx} = 1\text{lm/m}^2$	Illumination	
Micron	μ	10-6 m (exact)	Length	Replaced by micrometer
Mile	mile	$1,609\,344 \times 10^3 \text{ m}$ (exact)	Length	Also called "statute mile"
International nautical mile		$1,852 \times 10^3 \text{ m}$ (exact)	Length	Sea and air navigation
Millimetre of mercury (conventional)	mmHg	133,322 4 Pa	Pressure	Equal to 13..595 1 mmH2O. (exact).
Nautical mile (UK)		$1,852 \times 10^3 \text{ m}$ (exact)	Length	Since 1970, the UK nautical mile is equal to the international nautical mile.
Newton	N	Derived SI unit $1\text{N} = 1\text{kg.m.s}^{-2}$	Force	
Ohm	Ω	Derived SI unit $1\Omega = 1\text{V/A}$	Electrical resistance	
Ounce	oz	28,349 5 g	Mass	16 oz = 1 lb
Pascal	Pa	Derived SI unit $1\text{Pa} = 1\text{N/m}^2$	Pressure, stress	
Pound	lb	$0,453\,592\,37 \text{ kg}$ (exact)	Mass	
Pound-force	lbf	4,448 22 N	Force	
Psi	psi	$6,894\,757 \times 10^3 \text{ Pa}$	Pressure	Abbreviation of "poundforce per square inch".
Radian	rad	Derived SI unit 1 m/m	Angle (plane)	The symbol rd has also been used in France
Second	s	Basic SI unit	Time	
Torr	torr	133,322 4 Pa	Pressure	1/760 normal atmosphere (exact).
Volt	V	Derived SI unit $1\text{V} = 1\text{W/A}$	Electric potential	
Voltampère	VA	1 W (exact)	Apparent power	Electricity.
Watt	W	Derived SI unit $1\text{W} = 1\text{J/s}$	Power	
Watthour	Wh	3600 J (exact)	Energy	Electrical energy consumption
Weber	Wb	Derived SI unit $1\text{Wb} = 1\text{V.s}$	Magnetic induction	
Yard	yd	0,914 4 m (exact)	Length	



## ► What is a standard?

A standard is a reference document providing answers to product-related technical or commercial problems that present themselves repeatedly in relations between economic, scientific or technical partners, etc.

It is drawn up by consensus within standardisation bureaux (or organisations) by all volunteering economic operators.

Standardisation assists dialogue between manufacturers, users, public authorities and other partners.

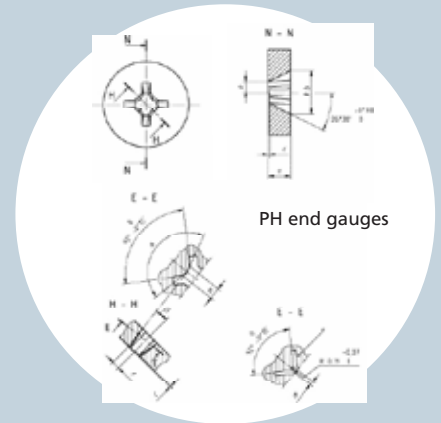
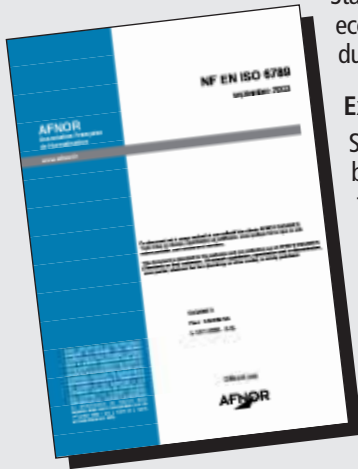
Standardisation is essentially a technical activity serving an economic purpose. It helps to clarify transactions, rationalise production, and assist commercial exchanges.

### Extract from European standard NF EN 45020

Standard document established by consensus and approved by a recognised body, that provides, for common and repeated use, rules, guidelines for activities or their results, aimed at the achievement of the optimum degree of order in an given context

### ISO/IEC guide 2

A standard is a document established by consensus that provides, for common and repeated use, rules, guidelines for activities or their results, aimed at the achievement of the optimum degree of order in an given context



## DIMENSIONS OF THE PH END PENETRATION GAUGE

End no.	a	b	c	e	f	m	a	B
n°	± 0,005	min.	± 0,025	max.	± 0,005	0	0	+ 0° 15'
	mm	mm	mm	mm	mm	mm	-0,02 - 0 °15'	0
0	0,419	3		2,38	0,284	0,29	-	7°
1	0,648	4,5		2,38	0,493	0,49	138°	
2	1,156	6	0,254	3,97	0,769	1,08	140°	5°45'
3	1,918	8		6,34	1,257	2,07	146°	
4	2,553	10		7,94	1,804	2,71	153°	7°

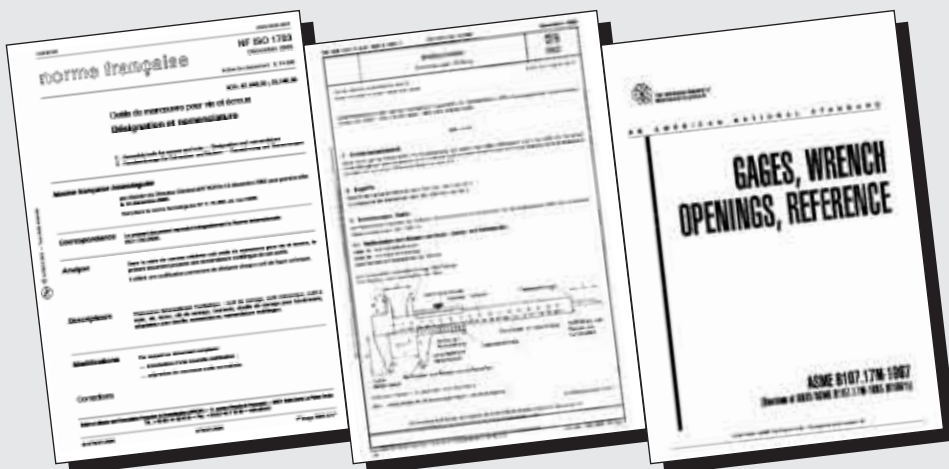
## ► Facom, 30 years of involvement in International standardisation

Facom is actively involved in the various standardisation committees (French - NF, International - ISO or American ASME or SAE) for hand tools.

Facom's involvement at an early stage in the elaboration process allows it to continuously adapt its products to the requirements of future standards and provide tools of the required quality, ensuring greater ease and safety of use.

Facom informs its users by indicating the main standards applying to its tools :

- European and International standards (EN / ISO)
- French standards (NF)
- German standards (DIN)
- American standards (ASME / SAE)



Extracts from the AFNOR standard. Only the full version of the standard has authority. It can be obtained from the Afnor Web site [www.boutique-normes.afnor.org](http://www.boutique-normes.afnor.org)

(DIN Standard) Reproduced by permission of DIN Deutsches Institut für Normung e.V. The definitive version for the implementation of this standard is the edition bearing the most recent date of issue, obtainable from Beuth Verlag GmbH, 10772 Berlin, Germany.

## WRENCHES

Designation	Term	ISO standards	Tool	Use
New	Old			
1 1 01 01 0		4229		
1 1 01 01 1	1	Single open-end (691; 1711-1)		wrench
		10102		
1 1 01 02 0	4	Double open-end (691; 1085; 1711-1; 3318)		wrench
1 1 01 03 0	3	Open-end (691)		slogging wrench
1 1 01 04 0	2	Adjustable wrench 6787		
		7738		
1 1 01 05 0	13	Angled (691; 1711-1; 3318)		combination wrench
		7738		
1 1 01 06 0	14	Offset (691; 1711-1; 3318)		combination wrench



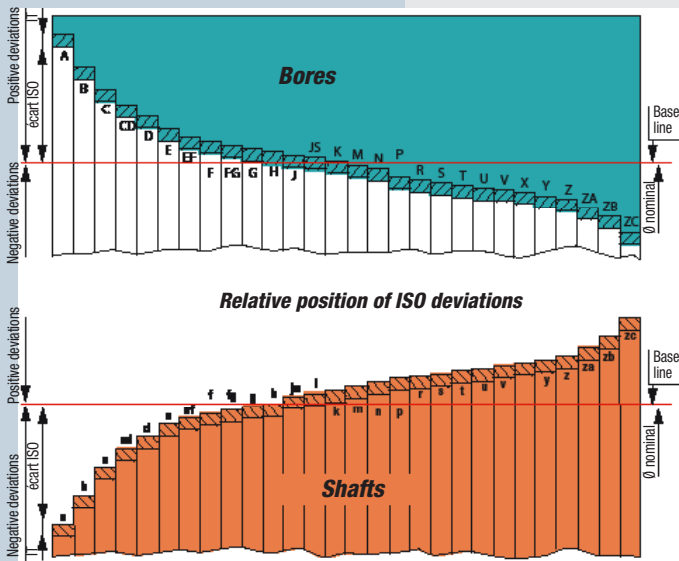
Fits are categories of standard toleranced dimensions that are used for assembling two cylindrical or prismatic parts.

## ▶ Standard fits

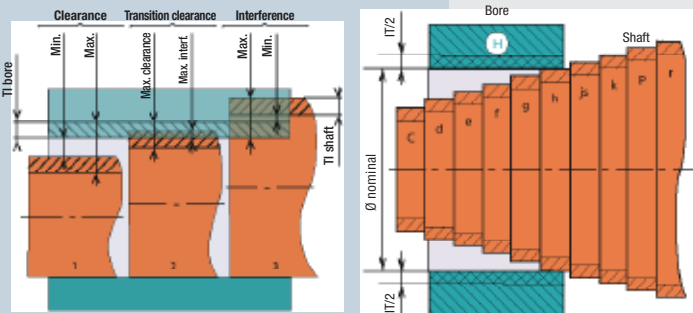
Standard fits (H bore system)												
Type	shaft	Bores						Comments				
		H6	H7	H8	H9	H10	H11					
Moving parts Clearance fits	High clearance c11 c10 c9 d10								Standard fits for long spans, poor alignment, expansion, etc.			
		Medium clearance d9 d8 e9 e8 e7 f7 f6								Standard fits for rotating or sliding guides (good lubrication ensured)		
			Low clearance g6 g5								For high-precision guides	
	Adjusted h9 h7 h6 h5								Can be assembled by hand For centring and locating, cannot transfer forces Parts disassembled without damage			
			Non-moving parts Transition fits	Highly adjusted js7 js6 js5								Can be assembled with a mallet (Press recommended) Assembled with a press Assembled with a heavy-duty press or by dilation (shrink-fitting) For transmission of forces Parts damaged when disassembled
				Not very tight k6 k5 m7 m6 n6								
	Tight p6 r6											
		Very tight s7 s6 t5 u6 x7										

■ most commonly used

■ most commonly used (to be known)

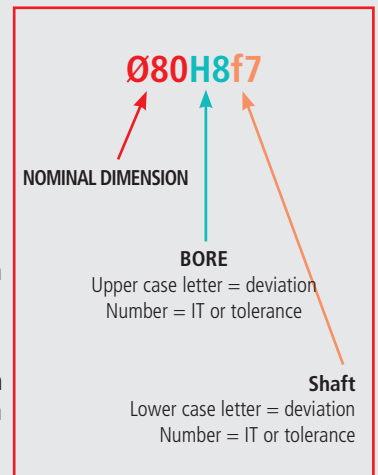


## ▶ Standard tolerance intervals (or qualities)



Main ISO qualities or tolerances (TI) (IT in micrometres : 1µm = 0.001 mm)													
Nominal dimensions (mm):													
ABOVE → TO (INCLUSIVE) →	1	3	6	10	18	30	50	80	120	180	250	315	400
IT5	4	5	6	8	9	11	13	15	18	20	23	25	27
IT6	6	8	9	11	13	16	19	22	25	29	32	36	40
IT7	10	12	15	18	21	25	30	35	40	46	52	57	63
IT8	14	18	22	27	33	39	46	54	63	72	81	89	97
IT9	25	30	36	43	52	62	74	87	100	115	130	140	155
IT10	40	48	58	70	84	100	120	140	160	185	210	230	250
IT11	60	75	90	110	130	160	190	220	250	290	320	360	400
IT12	100	120	150	180	210	250	300	350	400	460	520	570	630
IT13	140	180	220	270	330	390	460	540	630	720	810	890	970

- **Clearance fits:**  
Ø 80 H8f7  
Min clearance = 0.030 mm  
Max. clearance = 0.106 mm
- **Transition fits (clearance or interference):**  
Ø 80 H7k6  
Max. clearance = 0.009 mm  
Max interference = 0.002 mm
- **Interference fits:**  
Ø 80 H7p6  
Min. interference = 0.002 mm  
Max interference = 0.051 mm



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## ▶ Lighting safety

It is essential to use the correct light for the situation to avoid tired eyes and accidents at work.

Engineering or maintenance tasks require an illumination of 300 to 500 lux.

Inspection, finishing and painting tasks require an illumination of 750 to 1000 lux.

The light source must be designed and arranged to avoid uncomfortable glare.

## ▶ IP ingress protection rating



The IP code indicates the degree of protection against access to hazardous parts, as well as the penetration of solid foreign bodies and of water.

The code consists of two figures (e.g. IP 64), defined right according to NF EN 60529

IP rating: What does it mean?

1st figure Protection of live components against ingress of solid objects		2nd figure Protection of live components against ingress of liquid	
0	No protection	0	No protection
1	Solid objects greater than 50mm diameter cannot penetrate	1	Vertically falling drops of water
2	Solid objects greater than 12.5 mm diameter cannot penetrate	2	Water dripping on the enclosure tilted at 15° from its normal position
3	A steel wire of 2.5 mm diameter cannot penetrate	3	Spraying water at an angle of up to 60° from the vertical
4	A steel wire of 1 mm diameter cannot penetrate	4	Splashing water against the enclosure from any direction
5	Invisible amount of talcum powder deposited when tested in a dust chamber	5	Water projected in jets (6.3 mm) against the enclosure from any direction
6	No talcum powder deposited when tested in a dust chamber	6	Water projected in jets (12.5 mm) against the enclosure from any direction
		7	Immersion to 1 mm
		8	Submersible equipment according to manufacturer's specifications

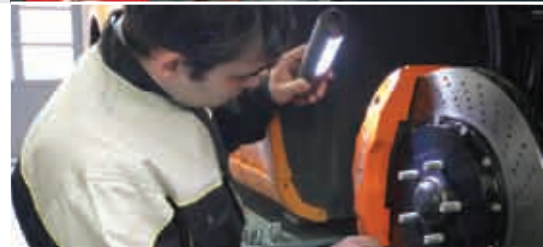
## ▶ There are a number of lighting technologies to choose from:

Technology	Advantages	Disadvantages	Lighting power	Facom product
Incandescent lamps	Low cost	Poor impact resistance. High temperature = risk of burns, fire and explosion	200 to 1000 lux	no
Fluorescent and compact fluorescent lamps  IP 55	Diffuse lighting, low temperature, low consumption	Average impact resistance	300 to 400 lux	777 range <b>564</b>
LEDs IP 64. 	Very good impact resistance, low temperature, very low consumption, long operating life	Cost, concentrated light beam	500 to 1000 lux	779 range <b>559</b>

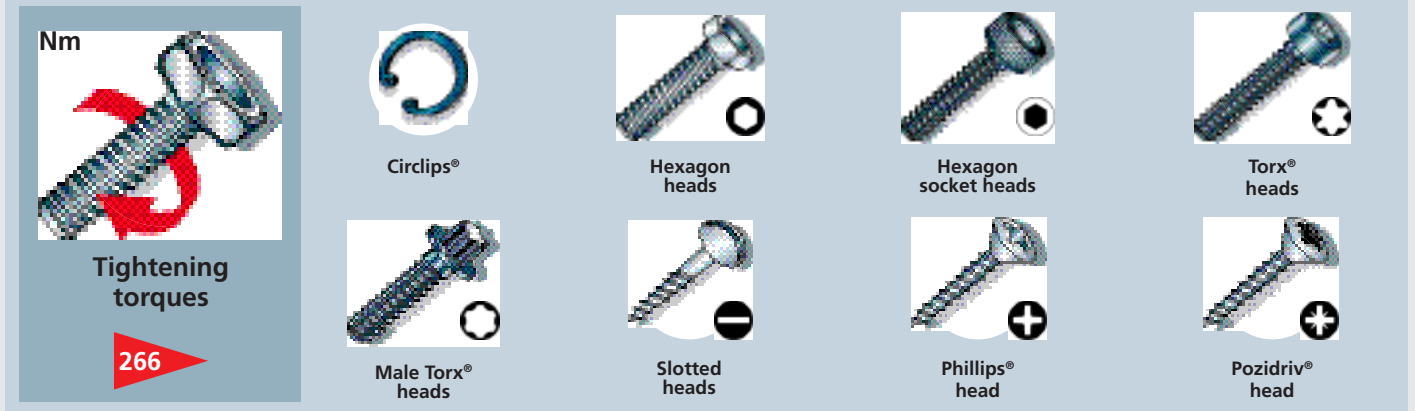


## Safety recommendations

- Use fluorescent inspection lamps complying with the requirements of EN 60 598-2-8
- For mains powered lights, preferably choose inspections lamps powered at a voltage of less than 50V







## ► Circlips®

SOLIT SPRING RINGS

**External circlips®**  
For shafts to NF E 22-163



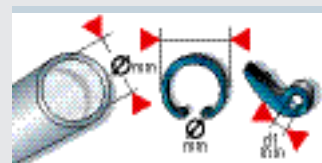
Standard range		
3 → 5	2,7 → 4,7	1
6 → 9	5,6 → 8,4	1,2
10 → 13	9,3 → 11,9	1,5
14 → 17	12,9 → 15,7	1,7
18 → 30	16,5 → 27,9	2
32 → 63	31,5 → 58,8	2,5
65 → 82	60,8 → 76,5	3
85 → 120	82,5 → 113,0	3,5
125 → 200	118,0 → 190,5	4

Heavy-duty range		
15 → 30	13,8 → 27,9	2
32 → 60	29,6 → 55,8	2,5
65 → 80	60,8 → 74,5	3
85 → 100	79,5 → 94,5	3,5



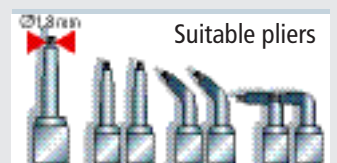
Ø	↺	↻	↻
0,9	177E.9	167E.9	197E.9
	177G.9	167G.9	197G.9
1,3	177E.13	167E.13	197E.13
	177G.13	167G.13	197G.13
1,8	177E.18	167E.18	197E.18
	177G.18	167G.18	197G.18
2,3	177E.23	167E.23	197E.23
	177G.23	167G.23	197G.23
3,2	177E.32		197E.32

**Internal circlips®**  
For shafts to NF E 22-165



Standard range		
8 → 9	8,7 → 9,8	1
10 → 11	10,8 → 11,8	1,2
12 → 13	13,0 → 14,1	1,5
14 → 17	15,1 → 18,3	1,7
18 → 30	19,5 → 32,1	2
31 → 63	33,4 → 67,2	2,5
65 → 82	69,2 → 87,5	3
85 → 120	90,5 → 127,0	3,5
125 → 200	135,0 → 209,5	4

Heavy-duty range		
20 → 30	21,5 → 32,1	2
32 → 62	34,4 → 66,2	2,5
65 → 80	69,2 → 85,5	3
85 → 100	90,5 → 105,5	3,5



Ø	↺	↻	↻
0,9	179E.9	169E.9	199E.9
	179G.9	169G.9	199G.9
1,3	179E.13	169E.13	199E.13
	179G.13	169G.13	199G.13
1,8	179E.18	169E.18	199E.18
	179G.18	169G.18	199G.18
2,3	179E.23	169E.23	199E.23
	179G.23	169G.23	199G.23
3,2	179E.32		199E.32



## ▶ Hexagon heads



### RELATIONSHIP SCREW DIAMETER/SIZE ACROSS FLATS

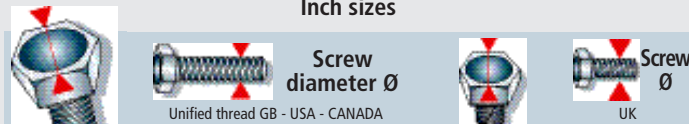
For inch to mm conversions, see "Inch dimensions".

#### Metric sizes (\*recommended sizes)



Screw diameter ISO 272 Ø	Wrench size ISO 691			Min.	Max.
	Standard head Ø mm	Wide head Ø mm	Collar nut		
3,2*	1,6			3,22	3,28
3,5				3,52	3,58
4*	2			4,02	4,12
4,5				4,52	4,62
5*	2,5			5,02	5,12
5,5*	3			5,52	5,62
6				6,03	6,15
7*	4		5	7,03	7,15
8*	5		6	8,03	8,15
9				9,03	9,15
10*	6		8	10,04	10,19
11*	7			11,04	11,19
12				12,04	12,24
13*	8		10	13,04	13,24
14				14,05	14,27
15*			12	15,05	15,27
16*	10			16,05	16,27
17				17,05	17,30
18*	12		14	18,05	18,30
19				19,06	19,36
21*	14	12	16	21,06	21,36
22				22,06	22,36
23				23,06	23,36
24*	16	14		24,06	24,36
26			16	26,08	26,48
27*	18	16	20	27,08	27,48
29				29,08	29,48
30*	20	18		30,08	30,48
32			20	32,08	32,48
34*	22	20		34,10	34,60
35				35,10	35,60
36*	24	22		36,10	36,60
38				38,10	38,60
41*	27	24		41,10	41,60
42				42,10	42,60
46*	30	27		46,10	46,60
50*	33	30		50,10	50,60
54				54,12	54,72
55*	36	33		55,12	55,72
58				58,12	58,72
60*	39	36		60,12	60,72
63				63,12	63,72
65*	42	39		65,12	65,72
67				67,12	67,72
70*	45			70,12	70,72
71				71,15	71,85
75*	48			75,15	75,85
77				77,15	77,85
80*	52			80,15	80,85
82				82,15	82,85
85*	56			85,15	85,85
88				88,15	88,85
90*	60			90,15	90,85
94				94,15	94,85
95*	64			95,15	95,85
100*	68			100,15	100,85
105*	72			105,20	106,00
110*	76			110,20	111,00
115*	80			115,20	116,00
116				116,20	117,00
120*	85			120,20	121,00

#### Inch sizes



Inch	mm	Heavy series BS.1769 ASME B 18-2-1 18-2-2	Standard series BS.1768 ASME B 18-2-1 18-2-2	BS. 1981	Machined or cast nuts	Screw diameter Ø		BSW BS. 916BSF 1083BSF
						Thou. inch	mm	
						.117	2,97	
						.131	3,32	
1/8	3,17			2		.152	3,86	
						.172	4,37	
3/16	4,76			3-4-5	2-3	.193	4,90	
7/32	5,56					.220	5,59	
1/4	6,35			6-8	4	.248	6,30	
9/32	7,14					.282	7,16	
5/16	7,94			10-12	5-6	.324	8,23	
11/32	8,73				8			
3/8	9,52				10	.365	9,27	
7/16	11,11		1/4		1/4 - 12	.413	10,49	
1/2	12,70	1/4 (1)	5/16			.445	11,30	1/4
9/16	14,29	5/16 (1)	3/8		5/16	.525	13,33	5/16
5/8	15,87		7/16		3/8	.600	15,24	3/8
11/16	17,46	3/8 (1)				.710	18,03	7/16
3/4	19,05	7/16 (1)	1/2					
13/16	20,64		9/16			.820	20,83	1/2
7/8	22,22	1/2						
15/16	23,81		5/8			.920	23,37	9/16
1"	25,40							
1 1/16	26,99	5/8				1.010	25,65	5/8
1 1/8	28,57		3/4					
1 1/4	31,75	3/4				1.200	30,48	3/4
1 5/16	33,34		7/8			1.300	33,02	7/8
1 3/8	34,92							
1 7/16	36,51	7/8						
1 1/2	38,10		1"			1.480	37,59	1"
1 5/8	41,27	1"						
1 11/16	42,86		1 1/8			1.670	42,42	1 1/8
1 13/16	46,04	1 1/8						
1 7/8	47,62		1 1/4			1.860	47,24	1 1/4
2"	50,80	1 1/4						
2 1/16	52,39		1 3/8			2.050	52,07	1 3/8
2 3/16	55,56	1 3/8						
2 1/4	57,15					2.200	56,39	1 1/2
2 3/8	60,32	1 1/2	1 1/2			2.410	61,22	1 5/8 (4)
2 7/16	61,91							
2 9/16	65,09					2.580	65,53	1 3/4
2 5/8	66,67		1 3/4 (2)					
2 3/4	69,85	1 3/4				2.760	70,10	2"
2 13/16	71,44							
2 15/16	74,61							
3"	76,20		2" (2)					
3 1/8	79,37	2"				3.150	80,01	2 1/4 (4)
3 3/8	85,72		2 1/4 (3)					
3 1/2	88,90	2 1/4				3.550	90,17	2 1/2 (4)
3 3/4	95,25		2 1/2 (3)					
3 7/8	98,42	2 1/2				3.890	98,81	2 3/4 (4)
4 1/8	104,80		2 3/4 (3)					
4 1/4	107,95	2 3/4				4.180	106,20	3" (4)
4 1/2	114,30		3" (3)			4.530	115,06	3 1/4 (4)
4 5/8	117,50	3"						
						4.850	123,20	3 1/2 (4)
						5.180	131,60	3 3/4 (4)
						5.550	141	4" (4)
						6.380	162	4 1/2 (4)

For inch sizes  
(1) USA ASME B.18-2-2 only.  
(2) Except Norway.

(3) Except Norway.  
(4) BSW BS 916 BSF only.



## ▶ Hexagon socket heads

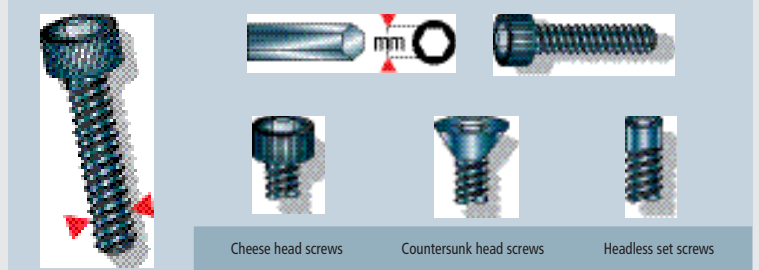
### RELATIONSHIP SCREW DIAMETER/HEXAGON SOCKET SIZE

#### Metric sizes



Ø Screw mm	Cheese head screws ISO 4762	Countersunk head screws ISO 10642	Headless set screws ISO 4026
M1,6	1,5		0,7
M2	1,5		0,9
M2,5	2		1,3
M3	2,5	2	1,5
M4	3	2,5	2
M5	4	3	2,5
M6	5	4	3
M8	6	5	4
M10	8	6	5
M12	10	8	6
M14	12	10	
M16	14	10	8
M18	14		
M20	17	12	10
M22	17		
M24	19		12
M27	19		
M30	22		
M33	24		
M36	27		
M42	32		

#### Inch sizes



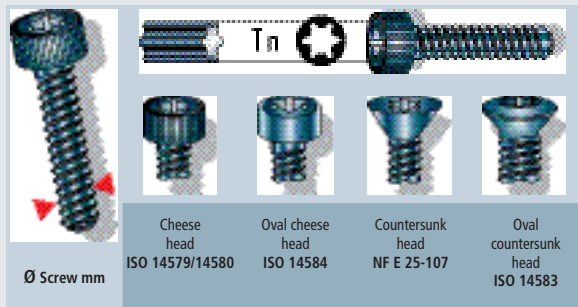
Ø Screw mm	" mm		" mm		" mm		
	"	mm	"	mm	"	mm	
n° 0	1,52	0,50	1,27	.035	0,89	.028	0,711
n° 1	1,85	1/16	1,59	.050	1,27	.035	0,89
n° 2	2,18	5/64	1,98	.050	1,27	.035	0,89
n° 3	2,51	5/64	1,98	1/16	1,59	.050	1,27
n° 4	2,84	3/32	2,38	1/16	1,59	.050	1,27
n° 5	3,17	3/32	2,5	5/64	1,98	1/16	1,59
n° 6	3,5	7/64	3	5/64	1,98	1/16	1,59
n° 7	3,5	1/8	4				
n° 8	4,16	9/64	5	3/32	2,38	5/64	1,98
n° 10	4,82	5/32	6	7/64	2,78	3/32	2,38
n° 10	4,82			1/8	3,17		
1/4	6,35	3/16	4,75	9/64	3,57	7/64	2,78
1/4	6,35	7/32	5,55	5/32	3,97	1/8	3,17
5/16	7,94	1/4	6,35	3/16	4,75	9/64	3,57
5/16	7,94					5/32	3,97
3/8	9,52	5/16	7,94	7/32	5,55	3/16	4,75
7/16	11,11	3/8	9,52	1/4	6,35	7/32	5,55
1/2	12,7	3/8	9,52	5/16	7,94	1/4	6,35
5/8	15,87	1/2	12,7	3/8	9,52	5/16	7,94
3/4	19,05	5/8	15,88	1/2	12,7	3/8	9,52
7/8	22,2	3/4	19,05	9/16	14,29	1/2	12,7
1	25,4	3/4	19,05	5/8	15,88	9/16	14,29
1*1/8	28,57	7/8	22,2	3/4	19,05	9/16	14,29
1*1/4	31,75	7/8	22,2	7/8	22,2	5/8	15,88
1*3/8	34,92	1"	25,4	7/8	22,2	5/8	15,88
1*1/2	38,10	1"	25,4	1"	25,4	3/4	19,05

Hexagon keys

333

## ▶ Torx® heads

### Relationship NF EN ISO 10664 screw diameter / TORX® key

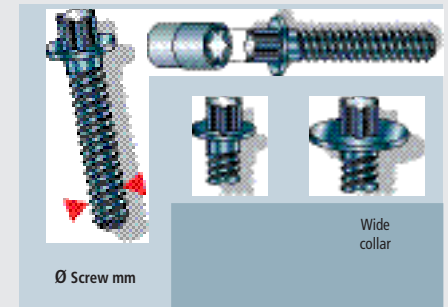


Ø Screw mm	Cheese head ISO 14579/14580	Oval cheese head ISO 14584	Countersunk head NF E 25-107	Oval countersunk head ISO 14583
M2,0	T6	T6	T6	T6
M2,5	T8	T8	T8	T8
M3,0	T10	T10	T10	T10
M3,5	T15 (1)	T15	T10	T15
M4,0	T20	T20	T20	T20
M5,0	T25	T25	T20	T25
M6,0	T30	T30	T30	T30
M8,0	T45	T45	T40	T45
M10,0	T50 (1)	T50	T50	T50
M12,0			T55	

### Key pattern identification

T n°	mm
T6	1,65
T8	2,30
T10	2,72
T15	3,26
T20	3,84
T25	4,40
T27	4,96
T30	5,49
T40	6,60
T45	7,77
T50	8,79
T55	11,22

### Relationship screw diameter / TORX® socket



Ø Screw mm	Wide collar	
M3	E4	
M4	E5	E6
M5	E6	E8
M6	E8	E10
M8	E10	E12
M10	E12	E14
M12	E14	E18
M14	E18	E20
M16	E20	

(1) ISO 14580



## ▶ Slotted heads —

### RELATIONSHIP SCREW DIAMETER/SLOT SIZE

ENGINEERING SCREWS				
Ø Screw mm	Countersunk head NF EN ISO 2009	Oval countersunk head NF EN ISO 2010	Cheese head NF EN ISO 1207	Wide cheese head NF EN ISO 1580
	ex A	ex A	ex A	ex A
M1,6	0,4 x 2,5	0,4 x 2,5	0,4 x 2,5	0,4 x 2,5
M2	0,5 x 3	0,5 x 3	0,5 x 3	0,5 x 3
M2,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5
M3	0,8 x 4	0,8 x 4	0,8 x 4	0,8 x 4
M3,5	1,0 x 5,5	1,0 x 5,5	1,0 x 5,5	1,0 x 5,5
M4	1,2 x 6,5	1,2 x 6,5	1,2 x 6,5	1,2 x 6,5
M5	1,2 x 8	1,2 x 8	1,2 x 8	1,2 x 8
M6	1,6 x 10	1,6 x 10	1,6 x 8	1,6 x 10
M8	2,0 x 12	2,0 x 12	2,0 x 12	2,0 x 12
M10	2,5 x 14	2,5 x 14	2,5 x 14	2,5 x 14

SELF-TAPPING SCREWS			
Ø Screw mm	Countersunk head NF EN ISO 1482	Oval countersunk head NF EN ISO 1483	Wide cheese head NF EN ISO 1481
	ex A	ex A	ex A
ST.2,2	0,5 x 3	0,5 x 3	0,5 x 3
ST.2,9	0,8 x 4	0,8 x 4	0,8 x 4
ST.3,5	1 x 5,5	1 x 5,5	1 x 5,5
ST.4,2	1,2 x 6,5	1,2 x 6,5	1,2 x 6,5
ST.4,8	1,2 x 8	1,2 x 8	1,2 x 8
ST.5,5	1,6 x 8	1,6 x 8	1,6 x 10
ST.6,3	1,6 x 10	1,6 x 10	1,6 x 10
ST.8	2 x 12	2 x 12	2 x 1,2
ST.9,5	2,5 x 14	2,5 x 14	2,5 x 14

WOOD SCREWS			
Ø Screw mm	Countersunk head NF E 25-604	Oval countersunk head NF E 25-605	Round head NF E 25-606
	ex A	ex A	ex A
1,6	0,4 x 2,5		0,4 x 2
2	0,5 x 3	0,5 x 3	0,5 x 3
2,5	0,6 x 3,5	0,6 x 3,5	0,6 x 3,5
3	0,8 x 4	0,8 x 4	0,8 x 4
3,5	1,0 x 5,5	1,0 x 5,5	1,0 x 5,5
4	1,2 x 6,5	1,2 x 6,5	1,2 x 6,5
4,5	1,2 x 8	1,2 x 8	1,2 x 6,5
5	1,2 x 8	1,2 x 8	1,2 x 8
6	1,6 x 10	1,6 x 10	1,6 x 10
7	2,0 x 12		2,0 x 10
8	2,0 x 12		2,0 x 12



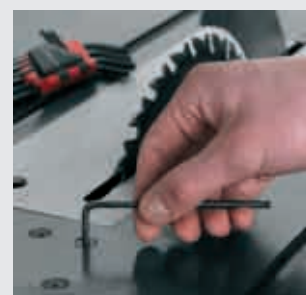
Protwist

308



Bits

344



Hexagon keys

333

## ▶ Phillips® and Pozidriv® heads



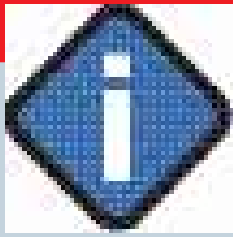
### RELATIONSHIP SCREW DIAMETER/PATTERN SIZE

ENGINEERING SCREWS				
Ø Screw mm	Countersunk head ISO 7046	Oval countersunk head ISO 7047	Oval cheese head ISO 7045	Wide oval cheese head NFE 25-122
	N°	N°	N°	N°
M 1,6	0	0	0	-
M 2,0	0	0	0	-
M 2,5	1	1	1	-
M 3,0	1	1	1	1
M 3,5	2	2	2	2
M 4,0	2	2	2	2
M 5,0	2	2	2	2
M 6,0	3	3	3	3
M 8,0	4	4	4	4
M 10,0	4	4	4	-

SELF-TAPPING SCREWS			
Ø Screw mm	Countersunk head ISO 7050	Oval countersunk head ISO 7051	Wide oval cheese head NFE 25-659
	N°	N°	N°
ST2,2	0	0	0
ST2,9	1	1	1
ST3,5	2	2	2
ST4,2	2	2	2
ST4,8	2	2	2
ST5,5	3	3	3
ST6,3	3	3	3
ST8	4	4	4
ST9,5	4	4	4

WOOD SCREWS			
Ø Screw mm	Countersunk head NF E 25-601	Oval countersunk head NF E 25-602	Round head NF E 25-603
	N°	N°	N°
2,5	1	1	1
3	1	1	1
3,5	2	2	2
4	2	2	2
4,5	2	2	2
5	2	2	2
6	3	3	3





**FACOM guarantees its products against faulty materials or workmanship under the conditions defined below.**

### ► Implementation of the guarantee

The FACOM guarantee takes the form of an exchange or repair limited to replacement of the faulty parts in accordance with the terms and conditions specified below.

The faulty product must be returned to the Facom Distributor, failing which repair under guarantee may be refused.

This guarantee includes the parts and the labour provided by the Facom After Sales Service or the approved Distributor.

All repairs are guaranteed six months parts and labour. This guarantee only applies to the components changed during the previous repair, with the exception of consumables.

In line with its policy of continual product improvements to meet user needs and technological developments, Facom may upgrade or discontinue the models shown in its catalogue without notice and without entailing any obligation on its part to repair tools or equipment sold previously. Those items no longer included in the range will then be replaced by a technically equivalent product or a credit note will be issued.

**GARANTIE  
FACOM  
GUARANTEE**

### ► Conditions of application of the Facom guarantee

Unless otherwise specified, the Facom guarantee applies to all tools under normal conditions of use.

**The guarantee excludes the following :**

- Consumables (i.e. products that become deteriorated or damaged during use). These include, but are not limited to, drill bits, saw blades, abrasive discs, knife blades, files, batteries, driving bits, etc.
- Normal wear and tear (in particular of wearing parts), failure to use the product for its intended purpose or in accordance with our instructions, neglect or inadequate maintenance on the part of the user.
- Defective operation due to modifications or repairs not carried out by Facom's After Sales Service or that of its approved Distributors. Defective operation due to causes external to the Product (theft, dropping, lightening, flooding, fire, damage during transport, product not returned in its original packaging, etc.).

The guarantee period takes effect from the date of purchase by the customer from the Facom customer-distributor. A copy of the invoice proving the date of purchase from the distributor may be requested in the event of a claim under the guarantee. In the case of technical products covered by a limited guarantee type D, it shall systematically be supplied by the User Customer together with the serial number where one is indicated on the tool.

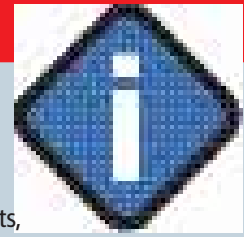
The guarantee will apply for the period indicated in the price list applying on the date of purchase.

Where the Product is no longer covered by the guarantee (expiry of the guarantee period, guarantee inapplicable for the reasons given in paragraph 2) yet is repairable, this repair will be carried out only after acceptance by the User of the repair estimate.

The application of the guarantee will not give rise to any kind of indemnity or damages for any reason whatsoever.

### ► Types of guarantee (price list column G)

- **Guarantee type E** : the tool will be exchanged free of charge, in accordance with the conditions of implementation and application of the guarantee (cf. paragraphs 1 and 2 above) and without limit of time.
- **Guarantee type R** : the tool will be repaired or replaced with a repaired tool in a similar condition in accordance with the conditions of implementation and application of the guarantee (cf. paragraphs 1 and 2 above) and without limit of time.



- **Guarantee type D** : this guarantee is subject to a time limit. The guarantee period is specified by a figure after the D. It applies mainly to technical products or machines. In accordance with the conditions of implementation and application of the guarantee (in particular the exclusion of wearing parts - cf. paragraphs 1 and 2 above), this guarantee covers the repair and replacement of defective parts, free of charge, during the period of validity.

In the event that Facom is no longer able to exchange a product under guarantee with another having the same reference, it undertakes to provide a technically equivalent product or to issue a credit note if no corresponding product is available.

The type of guarantee applying to a product can be determined simply by referring to the current price list (column G) available at any Facom distributor. For certain product references, the type of guarantee is indicated on the packaging or in the accompanying documentation.

Those items for which no guarantee type is specified (column G empty), are covered only by the statutory guarantee.

Each item of a set continues to be covered by its own guarantee Jurisdiction. Applicable legislation

## ▶ Jurisdiction. Applicable legislation

In the event of problems concerning the application hereof, the User can contact :

In France : - Facom Customer Services, 6 and 8 rue Gustave Eiffel, 91420 Morangis.

Outside France :- The Facom subsidiaries listed on page 868 of the Catalogue and on the Facom Web site [www.facom.fr](http://www.facom.fr)

- Facom distributors



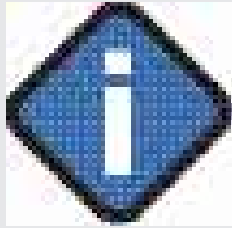
Any dispute in relation to the interpretation or execution hereof that cannot be amicably resolved between the parties will be subject to French law and the sole jurisdiction of the Paris Courts.

## ▶ Territorial extent

The Facom contractual guarantee applies in all countries in which the product is officially sold and distributed.

## ▶ Statutory guarantee

Irrespective of the Facom contractual guarantee, the User is also covered by the provisions of articles 1641 to 1649 of the French Civil Code relating to hidden defects.



## A

Adaptor, offset, 1/2"	223
Adaptor, power-assisted screw-driving	361
Adaptor, socket for torque wrench	292
Adaptor, socket, 1/4" square drive	359
Adaptors, motorcycle spark plug	740
Aids, cleanliness, roller cabinet	81
Air jet	597
Air-line connector and gauge	784
Ammeter, clip-on	650
Ammeter, clip-on, automotive	733
Angle reader	455
Anti-theft bar, roller cabinet	80
Automotive electrical tools	732
Axle stands	718

## B

Back-pack	118
Bag, leather	117
Bar clamps	621
Bar, angle 3/4"	235
Bar, ratchet 1"	240
Bar, ratchet 3/4"	236
Bar, wrecking	606
Bars for wrenches 91A, 92A and 97	154
Base, magnetic, for dial gauge	429
Batteries for portable power tools	573
Battery filler	737
Beam, puller	546
Beam, separator	550
Bevel, builders	455
Bevel, engineers	436
Bit 1/2"	227
Bit 1/4"	189
Bit 3/4"	238
Bit 3/8"	202
Bit driver	330
Bit driver, «Micro-Tech®»	691
Bit driver, folding	354
Bit driver, magnetic	358
Bit driver, ratchet	330
Bit drivers, ratchet, 1/4" to 5/16"	359
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Bit holders with lock-ring	360
Bit holders, spring clip	359
Bit holders, spring clip for 5/16" bits	360

## C

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Bit set	354	Cases, plastic	110
Bit set, impact	365	Caulking gun, air	595
Bit set, impact, 1/2"	249	Chalk line reel	452
Bit set, impact, 3/8"	245	Chalk, marking	453
Bit sets	354	Charger, portable power tools	572
Bit, 1/4"	345	Chest, «construction»	123
Bit, 1/4", High Perf'	355	Chest, maintenance	120
Bit, 1/4", High Perf', titanium	356	Chest, roller	77
Bit, 5/16"	351	Chest, roller	77
Bit, BNAE	348	Chests for CHRONO.XL roller cabinets	73
Bit, drain plug	722	Chests for JET.XL roller cabinets	70
Bit, engine	755	Chests for roller cabinets	119
Bit, impact, 1/2"	248	Chisel, power	592
Bit, impact, 1/2"	364	Chisel, power, panelbeaters	799
Bit, impact, 3/4"	253	Chisels	478
Bit, impact, 5/16"	362	Chisels, bodywork	798
Bit, Micro-Tech®	692	Chisels, cape	478
Bit, reaming bit	812	Chisels, sheathed	474
Bit, square head	345	Chisels, sheathed	474
Bit, square head	350	Clamp, hose	751
Bit, Torq Set	348	Clamps, sleeving	635
Bit, Tri-wing	348	Clutch system tools	759
Bit-holder, impact	363	Collet clamp, cylinder head	753
Bit-holders, 1/2"	223	Composite angle grinder/cutter, air	589
Bit-holders, 1/4"	185	Compressor holder	783
Bit-holders, 3/8"	199	Compressor, ring, ratchet	757
Bit-holders, CDX	209	Compressor, spring	777
Bit-holders, impact, 1/2"	249	Connector, fish tape	640
Bit-holders, impact, 3/8"	245	Copper brake pipe cutter	774
Blade, hacksaw	486	Coupler 1/2" to 3/4"	184
Blade, shrinking	809	Coupler 1/2" to 3/4"	223
Blade, utility knife	508	Coupler 3/4" to 1"	237
Bleeder, brake and clutch	768	Coupler 3/4" to 1", impact	254
Body repair tools	792	Coupler 3/8" to 1/2"	199
Bolt cropper	503	Coupler 3/8" to 1/2", impact	244
Brake bleeder plugs	770	Coupler CDX to 1/2"	208
Brake tools	767	Coupler, 1 1/2" to 1", impact	258
Brush	703	Coupler, 1/2" to 3/8"	222
Brush, metal for brake calipers	772	Coupler, 1/2" to 3/8", impact	250
Brush, wire, steel	606	Coupler, 1/2" to CDX	222
Brushes	703	Coupler, 1" to 3/4"	241
		Coupler, 1" to 3/4", impact	257
		Coupler, 3/4" to 1/2"	236
		Coupler, 3/4" to 1/2", impact	253
		Coupler, 3/8" to 1/4"	199
		Coupler, 3/8", impact	244
		Coupler, CDX to 3/8"	208
		Couplers, set of 3 from 1/4" to 1/2"	185
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		Cross brace	784
		Cross brace, HGV	835
		Cross brace, VSE 1000V insulated	659
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		Cutter, battery terminal	737
		Cutter, pipe	610
		Cutter, spot weld	801
		Cutters, diagonal, CPE series	379
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Cabinet, drawer fittings	99		
Cable cutter	504		
Cable cutter, steel	504		
Cable cutter, VSE 1000 V insulated	657		
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Calipers, vernier	424		
Calipers, vernier, brake	767		
Camber adjuster	788		
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Carry tray and holder for roller cabinet	82		
Cart	123		
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Cutters, diagonal, TE series	384
Cutters, end, CPE series	379
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Cutters, low-effort	411
Cutters, plastics	409
Cutters, VSE 1000V insulated	654

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Deburring – Chamfering tools	613
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Die stock	495
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Disc brake piston winding-back tools	771
Dividers, calipers, compasses	437
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Drift punch	475
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Engine timing kit	761
Engine timing kits	761
Engine timing tools	760
Engine tools	740
Engraving pen, pneumatic	596
Exhaust system chain pipe cutter	758
Exhaust system tools	758
Extension 1/2"	222
Extension 1/4"	183

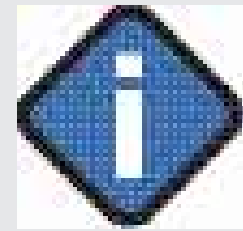
Extension 1"	241
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Extension, chamfered 1/2"	222
Extension, chamfered 1/4"	184
Extension, chamfered 3/8"	198
Extension, flexible, 1/4"	184
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Extension, insulated	662
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Extension, locking 1/4"	183
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Gauge, depth, mechanical	426
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Hacksaw frame, Micro-Tech®	701
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Hand punch	813
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Handle, hinged 1/4"	182
Handle, hinged 3/4"	236
Handle, hinged 3/8"	196
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Handle, sliding 1/4"	182
Handle, sliding 1"	240
Handle, sliding 3/4"	235





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Holesaws	498
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Impact adaptor 1" to 1 1/2"	257
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Module, bodywork	811
Module, cylinder head tools	229
Module, disc brake	771
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Module, files	488
Module, flare-nut wrench	774
Module, Hex key, tee-handle	341
Module, impact driver	367
Module, impact tools	477
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Module, pliers	414
Module, Protwist screwdrivers	310
Module, pullers	527
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Module, screwdriver bits	355
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Nut spinners	156
Nut spinners, hexagon	343
Nut spinners, Torx	342
Nut spinners, Torx, sleeve set	334
Nut splitter	555
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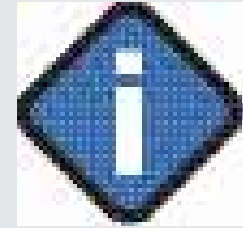
O

Oil cans	617
Oiler, spot	702
Organisers	109
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P

Panel, vertical, for roller cabinet	80
Partitions, roller cabinet drawer	82
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Pliers, circlip	392
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Pliers, crimping, for coaxial connectors	633
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Pliers, crimping, for open-barrel connectors	632
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Pliers, crimping, for tubular terminals and sleeves	631
Pliers, crimping, HGV	836
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Pliers, half-round nose, CPE series	381
Pliers, half-round nose, extra-long reach	410
Pliers, half-round nose, G series	387
Pliers, half-round nose, TE series	385
Pliers, hand-brake	772

Pliers, insulating for mats	668
Pliers, lock-grip	400
Pliers, lock-grip, automatic	404
Pliers, lock-grip, bar clamp	407
Pliers, lock-grip, bodywork	813
Pliers, lock-grip, compact	405
Pliers, lock-grip, large-capacity	403
Pliers, lock-grip, metalwork	406
Pliers, lock-grip, single setting	406
Pliers, lock-grip, trigger release	400
Pliers, locking-wire	399
Pliers, motorists	410
Pliers, multigrip	372
Pliers, outside snap-ring	398
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Pliers, piston ring	757
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Pliers, stripping, 1000 Volt insulated	391
Pliers, stripping, CPE series	383
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Pliers, valve stem seal	754
Pliers, VSE 1000V insulated	654
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Puller, 3-leg, outside, heavy duty	531
Puller, battery terminal	737
Puller, hydraulic, heavy-duty	536
Puller, hydraulic, medium-duty	533
Puller, pump, BMW	764



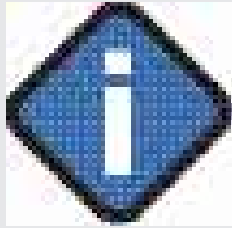
Puller, spreader, bearing cage	545
Puller, spreader, inside	546
Puller, timing and injection pump pulley	766
Puller, tip-type, inside grip	547
Puller, universal 3-leg, reversible	525
Puller, yoke	544
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Pump, desoldering	710
Pump, grease	617
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Pump, injector test	752
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Ratchet, 1/4"	180
Ratchet, 1"	240
Ratchet, 3/4"	233
Ratchet, 3/4", HGV	828
Ratchet, 3/8"	192
Ratchet, CDX	207
Ratchet, pneumatic	580
Ratchet, VSE 1000 V insulated	662



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Reel, plastic	638
Reel, tropic-proof steel	640
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Remover, power fuse	738
Remover, windshield-wiper arm	823
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Retriever, claw	702
Retriever, magnetic	702
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Retriever, mechanical, flexible	704
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Riveter, air	596
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Rule	431
Rule, engineers	434
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Rust remover, needle	596

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Sander, disc, air	588
Sander, disc, air	817
Sander, vibrating, air	584
Sander, vibrating, bodywork	818
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Saw, sabre, air	592
Saw, sabre, bodywork	799
Scissors	511
Scissors, precision	701
Scraper	500
Scraper, glued joints	754

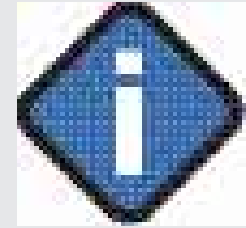
Scraper, three-square	800
Scraper, three-square, precision	701
Screw holder	331
Screw starter	331
Screw starter	331
Screw starter, flexible	729
Screw, hydraulic, for pullers	537
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Screwdriver set, «Micro-Tech®»	693
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Screwdriver set, Protwist	310
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Screwdriver set, wood-handle	326
Screwdriver, 1000 V insulated	660
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Screwdriver, flexible, clamp	748
Screwdriver, impact	366
Screwdriver, Isoryl series	325
Screwdriver, Micro-Tech® series	690
Screwdriver, miniature	690
Screwdriver, multi-blade	328
Screwdriver, offset	332
Screwdriver, pneumatic	581
Screwdriver, Protwist series	310
Screwdriver, spiral ratchet, 1/4"	330
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Screwdriver, voltage-tester	331
Screwdriver, watchmakers	696
Screwdriver, wood-handle	326
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Scriber	438
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Separator, ball-joint	789
Separator, ball-joint, HGV	834
Separator, bearing	550
Service station cabinet	52
Set, pins, for belt tensioner	765
Set, pliers	413
Set, sleeve, hexagonal keys	333
Set, sockets and accessories, 1/2"	210
Set, sockets and accessories, 1/4"	174
Set, sockets and accessories, 1"	239
Set, sockets and accessories, 3/4"	230
Set, sockets and accessories, 3/8"	190
Set, sockets and accessories, CDX	205
Shears, metal	500
Shears, universal	510
Sheathed drift punches	472
Shelf, magnetic + paper roll holder for roller cabinet	81
Shelf, pivoting for roller cabinets	81
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Single-point injection kit	745
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Socket 1/4"	186
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Socket 3/4"	237
Socket 3/8"	200
Socket set, 1/2"	210
Socket set, 1/4"	174
Socket set, 1"	239
Socket set, 1000V insulated	663
Socket set, 3/4"	230
Socket set, 3/8"	190
Socket set, CDX	205
Socket set, impact, 1/2"	250
Socket set, impact, 3/4"	254
Socket set, VSE 1000V insulated	663
Socket sets 1/2"	210
Socket sets 1/4"	174
Socket sets 3/4"	230
Socket sets 3/8"	190
Socket sets, 1"	239
Socket sets, 1000V insulated	663
Socket sets, CDX	205
Socket sets, impact, 1/2"	250
Socket sets, impact, 3/4"	254
Socket, CDX	209
Socket, diesel engine piloted injector	751
Socket, diesel heater plug	731
Socket, hub-nut protractor	790
Socket, impact, 1 1/2"	257
Socket, impact, 1/2"	246
Socket, impact, 1" "Trailer"	256
Socket, impact, 1"	255
Socket, impact, 3/4"	252
Socket, impact, 3/8"	244
Socket, injector castle nut	751
Socket, lambda probe	758
Socket, long-reach, thin wall for alloy wheels	785
Socket, lower ball-joint	789
Socket, machine, Torx 1/2"	226
Socket, spark plug	725
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Socket, wheel hub nut	790
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Sockets, VSE 1000 V insulated	661
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Soldering iron, gas	709
Soldering iron, heavy duty	709
soldering iron, instant heat	708
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Spare parts kit, 1/2" ratchet	219
Spare parts kit, 1/4" ratchet	181
Spare parts kit, 1" ratchet	240
Spare parts kit, 3/4" ratchet	235
Spare parts kit, 3/8" ratchet	195
Spare parts, ratchet, 1/2"	219
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Spare parts, ratchet, 1"	240
Spare parts, ratchet, 3/4"	235
Spare parts, ratchet, 3/8"	195
Spark plug fitter	729

Spark plug fitter, flexible	729
Spark plug tools	725
Spatula, flexible	500
Speed brace, 1/2"	220
Speed brace, 1/4"	182
Speed brace, 3/8"	196
Spinner 1/4"	182
Spinner 3/8"	196
Spinner, flexible	182
Spoon, panelbeaters	809
Spot weld remover, bodywork	802
Spot weld remover, pneumatic	595
Square drive, torque wrench	296
Square, builders	454
Square, engineers	434
Stand, bodywork component storage	793
Stand, electric door removal and installation	794
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Stand, small parts	821
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Stripper, cable sheath	624
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Stripping tools	624
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Suction cup, bodywork	826
Support for moving vehicles with no steering gear	795
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Support, windshield, adjustable	825
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Suspension tools	775
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T

TAG socket inserts	170
Talcum powder, blue	452
Tap wrench, adjustable	495
Taps	493
Tee, with universal joint, 1/2" (495 mm)	220
Tee, with universal joint, 1/2" (700 mm)	220
Tee, with universal joint, 1/4"	183
Tee, with universal joint, 3/8"	197
tension meter, timing belt	765

Terminals, insulated, automotive electrical applications	738
Terminals, insulated, case set	634
Test rig, torque testers	302
Tester, voltage	735
Tester, brake fluid	767
Tester, brake pressure	768
Tester, continuity	735
Tester, cooling system	749
Tester, engine compression	740
Tester, engine leak	744
Tester, fuel pressure	744
Tester, fuel pressure	745
Tester, heater plug	731
Tester, oil pressure	746
Tester, torque	301
Tester, voltage	652
Thermometer, electric, combined	651
Thermometer, non-contact	735
Thread restorer	494
Ties, plastic	635
Tip, mallet	470
Tip, testing	705
Tool box, fabric	105
Tool box, plastic	107
Tool boxes, metal	106
Tool holder, ratchet	494
Tool kit, drivers	61
Tool racks	95
Tool set, «Micro-Tech®»	695
Tool set, «Micro-Tech®» tools	696
Tool set, bodywork	804
Tool set, building fitting and maintenance	47
Tool set, construction plant	59
Tool set, drivers	61
Tool set, electrical	44
Tool set, electricians	668
Tool set, electromechanical and servicing	32
Tool set, electronic	38
Tool set, farming equipment	57
Tool set, forming tools	810
Tool set, general engineering	20
Tool set, handling equipment	51
Tool set, HGV mechanics	55
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Tool set, plumbing and sanitation	48
Tool set, refrigeration and air-conditioning	49
Torque driver, non-vernier	294
Torque driver, Vernier adjustment	292
Torque meter, torque screwdriver	303
Torque meter, torque wrench	303
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Torque multiplier, HGV	836
Torque wrench, adjustable, non-vernier	289
Torque wrench, click	277
Torque wrench, click, high performance	272
Torque wrench, direct reading, dial	290



Torque wrench, Easotork radio transmission	286
Torque wrench, manual reset	278
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Tray, storage for XL drawer	83
Trim removal tool	796
Trolley, service case	114
Trolley, toolbox	106
Truarc® removal and fitting tool	700
Tweezers	697
Tweezers	697
Tweezers, anti-static	699

U

Universal clutch aligner	759
Universal joint, CDX	208
Universal joint 1/2"	250
Universal joint 3/4"	236
Universal joint, impact, 1/2"	222
Universal joint, impact, 1/4"	184
Universal joint, impact, 1"	256
Universal joint, impact, 1" 1/2	258
Universal joint, impact, 3/4"	253
Universal joint, impact, 3/8"	199
Universal joint, impact, 3/8"	244

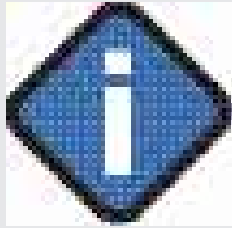
V

Vacuum cooling circuit filling tools	750
Valve core remover	786
Valve lifter	753
Vapour extractor	752
Vee, steel, for surface plate	430
Vice, pin	701
Vice, special, for shock absorbers	783
Vice, swivel, Micro-Tech®	702
Vices	618

W

Wall cupboard	93
Wall-mounted weight storage unit	788
Waste bin, roller cabinet	81
Weight, wheel balancing	787
Welder, spot	812

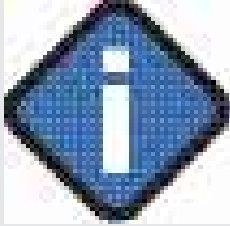




Wheel - hub - transmission tools	784
Wheel, grinding, on shank	587
Winder, automatic, air hose	786
Windscreen cutter, pneumatic	824
Windshield replacement kit	825
Windshield tools	825
Wing cover, non-magnetic, suction fasteners	720
Wire holder	705
Wire, solder	710
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D.137	796
D.138	789
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D.360L	300
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S.H	224
S.HLA	225
S.VSE	661
S.LAVSE	662
SJ.214	219
S.40	226
S.110	220
S.120A	220
S.121AVSE	662
S.140A-S.145	220
S.143A-S.158A	219
S.151	218
S.151C	219
S.151R-S.151RN	219
S.151AVSE	662
S.152	298
S.156	290
S.161	218
S.161C-S.161RN	219
S.171	218
S.200P	278
S.202A	279
S.203	278
S.203E	298
S.205E	279
S.206-S217	222
S.208	277
S.210RC-S.217RC	221
S.210-215AVSE	662
S.228	220
S.229A	220
S.230 - S.234	222
S.236-S.237	223
S.240A	222
S.248	289
S.250A	290
S.284	298
S.300B-S.320B	275
S.305P	299
S.306	272
S.345P	289
S.372-S.373	296
S.382-S.383	297
S.420-S.900	210
S.400AVSE	663
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S.446	289
SE.1A	755
SHP	227
SJ.	207
SJ.H	208
SJ.120	208
SJ.171-SJ.174	207
SJ.210R-SJ.215R	207
SJ.214	279
SJ.230	208
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SJ.235-SJ.237	208
SJ.240	208
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SM.150	218
SM.150C-SM.150RN	219
SM.150-04	219
SM.161-SM.171	218
SM.171RN/SM.171-04	219
ST	227
ST.VSE	662
ST.40	228
STG	487

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T.173A	721
T.273	721
T.33A	721
T.84	791
T5	401
TA-U.89/0606	780
TRI	490
TRO.5,6EM	491

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U.102T	524
U.103A	524
U.13L	753
U.14	541
U.16	834
U.17	789
U.179A	784
U.18	834
U.2	549
U.20	529
U.23	545
U.25A	759
U.27	530
U.28	546
U.3	537
U.30	546
U.32T	538
U.232	<b>N &gt; 540</b>
U.301	541
U.301BJ1	524
U.301L-M-P	<b>N &gt; 542</b>
U.302	528
U.306	526
U.306M	549
U.310	527
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U.320	531
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U.43	753
U.46	723
U.46ACL	722
U.46PL	831
U.48	<b>N &gt; 723</b>
U.49A	548
U.49L	549
U.49P	547
U.51B	546
U.52	544
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U.54A	754
U.60B	531
U.66A	538
U.89H	778
U.89J	780
U.89M	779
U.J	523
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UWG	537
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V.102MF - V.252F	582
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V.480A	590
V.482	590
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V.750A	593
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V.910F	580
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WA.21	826
WV.M401	778
X.730B	732
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Y.107	615
Y.113B	615
Y.116B	615
Y.135	615
Y.M46	616
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34	145
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40LA	135
40R	132
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41L	135
42	159
43	159
44	143
45	146
46.VSE	658
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51A	151
54	150
55A	147
55A.VSE	658
57	149
59	148
59TX	149
64	140
65	141
65.PE	142
65.PEJ13	355
66A	155
66TX	155
67	137
67F	139
67S	138
70A	158
71.VSE	659
74	156
74T	157
75	152
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77A.PL	835
80.JL7	343
81.JL7	343
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82H.JP	334
83H	338
83H.J	337
83H.JP	334
83.AVSE	659
83R.JP6	334
83S.L	338
83SH	337
83SH.JP	337
83SH.JP	334
84E	691
84E.J1	694
84TC	342
84TZ	341
85.JU10	343
86H	335
87H	336
89	340
89A	336
89.JA8	336
89.JL	337
89A.JM	335
89.JP	334
89R	340
89R.JM	335
89R.JP	334
89S	340
89S.JP	334
89TX	342
92A	153
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94T.VSE	659
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113A	161
113.TAVSE	699
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118	165
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120A	608
121A	608
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W

X

Y



**N** NEW PRODUCT

126A	163	194.12	377	249.J	476	411A	398	509	405
131A	607	194.17AVSE	656	249G	472	412	504	511	403
133A	608	194.17CPE	383	250A	290	412.AVSE-414.AVSE	657	512	407
134A	607	194.17VE	391	251A	475	413	505	513	406
135A	607	194.17CPE	628	251A.J	476	415.MT	675	514	407
136A	608	194.17CPE	628	252	479	415.E	685	516	403
137A	609	194.TE	385	252.254JS4	479	416	377	517	406
138A	609	195.20AVSE	656	254A	479	416.MT	676	518	813
139	699	196	772	255G	473	416.E	686	520A	407
140	697	197E	394	256	476	417.E	686	521	408
141 - 145	698	197G	395	257	476	417.SPE	687	580	<b>N</b> 404
146	698	199E	393	257.G	474	417.PMT	678	582.7	<b>N</b> 404
147.J		199G	395	258	478	417.SPMT	679	599	485
148 - 154	697	200C	<b>N</b> 463	259	478	418.MT	678	601	485
149.Y	698	200H	465	259.P	478	419.E	688	602.AVSE	657
150.P	699	200P	298	260.P	478	419.MT	679	603E	484
152.Y	698	202A	279	262A	479	420.E	688	605.B	485
156	699	202H	465	262A.JS4	479	420.MT	680	606A	485
160A	154	203	278	263	478	421	377	607.MT	701
163	628	203H	467	263.265JS5	479	421.MT	680	609A	498
165.1	627	204	467	263.G	474	422.MT	682	660A-666A	486
167E	393	205C	<b>N</b> 463	263.P	478	423.MT	683	700	735
167G	395	205E	279	265	478	424.MT	683	701A	652
169E	393	205H	465	265.G18	474	425	377	705	735
169G	395	207A. - 208A.	469	268-269	606	425.E-426.E	685	709	652
170A	373	208	277	270.A	487	425.MT-426.MT	675	711	650
171.20EL	411	209	468	270A.MA	606	427.E	687	712	651
173A	628	210.MH45	468	271A	620	427.MT	677	712-1	734
176A	375	211.MH26	805	272A	621	428.MT	678	714	733
177E	393	212A	469	272A	621	429.E	687	750	829
177G	395	213H	466	274	621	429.MT	677	751.K-751.T	757
179E	392	214	470	275	621	430.MT	677	777A	564
179G	394	214A	279	276	729	431.E	688	778A	750
180	374	215H	467	277	729	431.LE	689	779.CL	562
180.VSE	654	216	469	283	619	431.LMT	681	779.FRT	559
181	<b>N</b> 373	217.G	471	285	553	431.MT	680	779.PC	<b>N</b> 561
182A.CP	375	217.R12	472	286A	554	432.E	689	780A	750
183.20CPE	381	217E	472	287B	555	432.LE	689	781	737
184.J	412	221	493	289	555	432.LMT	682	784B	737
185 - 195.G	387	222	496	292A - 293A	454	432.MT	682	785	737
185 - 195.VE	389	222A.T	495	300B	275	433.LE	689	789.5	836
185.20AVSE	656	223	497	306R	273	433.LMT	683	795A	430
185.28EG	410	225	800	306U	273	434.E	688	796B	429
185-195.CPE	381	227	493	307A	450	434.MT	679	800A-801A	444
185-195.TE	385	229A	496	307AM	449	435	377	801A-801A.EX	445
186	410	229A.ST	497	309M	450	435.E-436.E	685	802.B2	451
187.CPE	381	230	801	310B	450	435.MT-436.MT	675	803	432
187.G	387	231	500	311A	450	437.E	688	803.SR	432
187.TE	385	232	500	320	450	437.MT	679	804	728
187.VE	390	233A	439	325	613	438-439	700	804.AM	458
187.AVSE	655	234	438	329	500	440	<b>N</b> 129	804.U	458
188.16AVSE	655	235.J1	<b>N</b> 500	334	611	442	377	805	424
188.16TE	385	236	439	335	612	442.MT-443.MT	681	805.M	425
188.CPE	383	237	494	336	612	446	289	805.S	425
188.G	387	237.J1	<b>N</b> 500	337A.2	611	449I	630	806	426
188.VE	390	238	611	338B.1	610	449.Z1A	738	806.F	427
189.17AVSE	656	238A.16	774	344A	609	449.Z3A	634	807C	427
189.17CPE	383	238A.32	612	347	613	455B	635	809	434
189.17VE	391	239	614	372	702	467-469	398	809.J	428
190.16AVSE	655	240.M	614	373	617	470	397	811	426
190.16VE	389	242	614	374A.20	617	470.MT	700	812	428
190.CPE	379	243	613	376A	616	470E	398	813B.S	437
190.G	386	243.244J1	614	377A-378A	617	475A	397	814	459
191A.22EL	411	244	610	379A-380	617	477-497	396	815A	426
192.CPE	379	245.J1	514	391.16AVSE	654	479-499	396	816	425
192.G	386	245A	515	391.16CPE	379	480.ECG	375	817	436
192.TE	384	245A.C	514	391.16G	386	481.40	376	818	434
192.VE	388	246	475	391.16TE	384	482	376	819	435
192.AVSE	654	246.J	476	391.16VE	389	484	375	823	438
193 - 195.CPE	381	247	476	395	409	485	376	825.MT	702
193 - 195.VE	390	247.249JS12	476	396	410	490.SE	396	826.0	702
193.16AVSE	655	247.265JT10	476	400.JT1	704	491	<b>N</b> 409	826.1	704
193.16G	387	247G	473	401-421	377	495A	<b>N</b> 408	826.2	704
		248	475	401.MT	680	500	403	827	702
		248.J	476	402.MT-403.MT	682	501 - 506	403	827B	704
		248D	289	405	377	502A	406	828	704
		249	475	405.MT-407.MT	674	503	407	829	704
		249.G247GJ12	473	405.E-407.E	684	504A	406	830A	494
		249.GJ	473	410	411	507A	405	831	495

832	495	935	750	2092.M120A	29	629933	640	985761	627
834	703	947A	709	2092.M130A	27	629941	640	985762	627
835	703	980	<b>N &gt; 510</b>	2092A	77	629950	640	985763	635
836	563	982	502	2099.GR	76	629968	641	985764	635
837	331	985	502	2120.E18	44	629976	639	985765	635
838.CX58	625	990	503	2120.M110A	31	629984	638	985801	643
839	710	996	505	2132.EL30	39	629992	638	985817	643
840	512	997A	504	2132.EL31	39	631013	513	985818	643
841	511	1001A	706	2138.EL29	38	640083	117	985820	643
841.1-841.3	701	1002A	706	2138.EL33	41	640171	635	985824	643
841.4-841.7	511	1003A	707	2138.EL34	42	640180	513	985826	643
843	513	1024.25	707	2138.EL35	43	643743	646	985829	643
844.D	<b>N &gt; 506</b>	1075.G	<b>N &gt; 709</b>	2143.M	53	653255	646	985836	643
844.R	506	1116B.BW	708	2144A	788	658689	649	985894	630
844.S18	<b>N &gt; 507</b>	1130	711	2145.MAG1	57	661600	649	985894	738
844.S18L	509	1150.MT	702	2146.MAG4	57	661618	710	985895	632
844.S9	507	1195	711	2163.E16	46	661626	710	985896	633
844.S9L10	509	1200-1202	430	2163.RFCL	49	663621	648	985897	633
844.SE18	507	1222	618	2174.MAG5	58	664499	644	985898	632
844.TTL	<b>N &gt; 508</b>	1223	619	2180.SE	47	664501	644	985899	633
844.TSL	508	1230	707	2180.VSE	668	664510	644	985901	634
844.TRL	<b>N &gt; 509</b>	1260	606	2184C.VSE	669	664528	644	985902	633
844.TCL	509	1262H	467	2185C.VSE	668	664536	644	985912	505
844C	507	1263H	468	2187C.VSE	669	664544	644	985913	631
845.1	701	1300	<b>N &gt; 421</b>	2201	<b>N &gt; 93</b>	669273	637	985914	632
848	708	1300.C2	423	2201.M120A	29	673838	629	985915	632
850	811	1320	<b>N &gt; 421</b>	2201.M130A	27	678006	647	985916	632
851B	811	1350	<b>N &gt; 422</b>	2201.MS1	52	678014	647	985917	632
859H.28	466	1355	422	2202XL	<b>N &gt; 93</b>	693687	644	985918	632
860H	466	1365	423	2205	92	693695	643	985919	632
861D	805	1500.A	<b>N &gt; 88</b>	2208.EL32	40	693708	644	985920	632
862D.60	806	1801.J2	734	2208.EM41A	35	693716	643	985921	632
863D.60	806	1802A	705	2210	92	693898	498	985922	632
864D.60	806	1803A	705	2216	93	697434	644	985923	632
866D	805	1804B	705	2220A	123	697485	644	985925	505
867D	806	1813	700	2224	76	697493	644	985933	643
868D	805	1816	701	2225.A1	82	697354	644	985936	625
870A	807	1817	701	2235.AT	91	697362	644	985944	646
870B	807	1820.AVSE	657	2238.EM40A	32	697371	644	985945	648
871B.45	807	1830	703	2245	91	697389	644	985946	648
871B.55	808	2000.AA1	<b>N &gt; 88</b>	2250	90	697397	644	985957	624
872A	808	2000.AB1	<b>N &gt; 88</b>	2600.A2	82	697418	644	985962	625
874A	808	2000.AB32	<b>N &gt; 89</b>	2701	123	697469	645	985964	625
875	809	2000.BB1	<b>N &gt; 89</b>	2800.A8	82	697477	645	985966	631
876A	809	2000.BBM140A	25	2930	99	697506	645	985968	643
877A	809	2000.BBM150A	23	2935A	99	697514	645	985969	643
880	501	2000.BBM160A	21	2937A	98	697522	645	985972	643
882A	501	2013.M	61	2938A	98	697531	645	985974	643
883	500	2024.M	61	2939A	98	697549	645	985978	643
884	501	2026.M100A	31	2940A	98	697590	643	985984	643
885	554	2029.BUR1	37	3067	448	697602	643	985995	643
887A	502	2029.EM41A	35	3071.200	448	697611	643	986001	643
891A.PL	809	2029.INFO	36	5112	456	697637	643	986005	643
893	443	2038.BUR1	37	5116	456	697645	643	986009	643
895A	809	2038.EM40A	32	5117	456	697653	643	986007	630
897	<b>N &gt; 442</b>	2038.INFO	36	587110	649	702571	649	986008	630
902	808	2046.JA	50	629731	637	703064	641	986014	633
906A	808	2046.SG3A	48	629757	637	703099	641	986015	633
908A	807	2046.SG4A	47	629773	638	703232	117	986022	633
909A	807	2049.M	61	629781	639	793936	<b>N &gt; 626</b>	986026	633
910A	744	2050.E15	46	629790	639	985510	648	986051	647
911B	741	2050.E17	45	629802	639	985524	634	986052	645
911D	741	2050.LT3	32	629829	638	985548	636	986058	627
912	740	2050.M110A	30	629837	638	985734	643	986059	627
914	746	2060.LT3	32	629845	637	985753	630	986062	648
916	752	2061.EM41A	35	629853	637	985754	633	986075	635
921	<b>N &gt; 749</b>	2068.MV9	59	629861	637	985755	633	986095	631
		2068.UV12	60	629888	638	985756	633	986103	626
		2070.E18	44	629896	639	985757	632	986104	626
		2070.M120A	29	629909	640	985757	632	986105	626
		2074.M130A	27	629917	639	985758	633	986107	647
		2074.M140A	25	629925	639	985760	628	986108	646






## Workstations and tool storage

	<b>1</b> Tool sets	18
	<b>2</b> Roller cabinets and workshop furniture	62
	<b>3</b> Toolboxes, cases and chests	100

## General tooling

	<b>4</b> Wrenches	124
	<b>5</b> Ratchets, sockets and accessories	166
	<b>6</b> Torque control	260
	<b>7</b> Screwdrivers, keys and bits	304
	<b>8</b> Pliers	368
	<b>9</b> Measuring - Marking-out Metrology	416
	<b>10</b> Hammers and striking tools	460
	<b>11</b> Sawing - Drilling Cutting	480
	<b>12</b> Pullers	516
	<b>13</b> Lighting	556
	<b>14</b> Power tools	566
	<b>15</b> Pipework, Protection, Maintenance	600

## Specialist tooling

	<b>16</b> Electricity	622
	<b>17</b> Electronics	670
	<b>18</b> Automotive	712







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