



**Quick** Catalogue

**STANDARD MACHINE ELEMENTS WORLDWIDE**

**elesa**<sup>®</sup>



# ELESA

## Products range

-  **1 | OPERATING ELEMENTS**  
Spoked handwheels, solid handwheels, arm handwheels, crank handles
-  **2 | CLAMPING KNOBS**  
Lobe knobs, grip knobs
-  **3 | CLAMPING LEVERS**  
Adjustable handles, lever handles
-  **4 | LIFT & PULL HANDLES**  
Bridge handles, flush pull handles, tubular handles
-  **5 | FIXED & REVOLVING HANDLES**  
Fixed handles, revolving handles, fold-away handles
-  **6 | CONTROL ELEMENTS**  
Control knobs, control levers
-  **7 | POSITION INDICATORS**  
Gravity indicators, positive drive indicators, direct drive indicators, handwheels with indicator
-  **8 | INDEXING AND POSITIONING ELEMENTS**  
Indexing plungers, lock pins, spring plungers
-  **9 | MACHINE ELEMENTS**  
Grub-screws, thrust pads, ring, washers, cam locking levers, vibration-damping elements, transfer units, magnets, bull's eye levels
-  **10 | LEVELLING ELEMENTS AND SUPPORTS**  
Levelling elements, bearing end caps, connecting clamps, supports and guides
-  **11 | HINGES AND CONNECTIONS**  
Plastic hinges, metal hinges, connecting angles
-  **12 | LATCHES**  
Latches with knob, latches with key, hook clamps, toggle clamps
-  **13 | ACCESSORIES FOR HYDRAULIC SYSTEMS**  
Plugs, breather caps, level indicators, flow indicators
-  **14 | CASTORS AND WHEELS**  
Injected polyurethane wheels, technopolymer wheels, rubber wheels
-  **15 | CONNECTING CLAMPS**  
Connecting clamps for tubes, tubes and accessories, linear actuators and clamp connectors
-  **RH | HANDLES FOR SPECIAL APPLICATIONS**  
Handles for instruments and equipment, handles for machines and protections, stainless steel handles, "CLEAN" handles for medical and food processing equipment

Browse the full range on [elesa.com](https://www.elesa.com)





# ELESA

## Technology and Design

Established in 1941, ELESA is the international reference for standard components destined for the mechanical, machinery and industrial equipment sectors.

An excellent combination of **technology and design** has given rise to a **diverse production** thanks to the constant commitment to follow developments in engineering plastics and metal technology. A corporate culture strongly committed to **product quality** combined with an innate sensitivity for **design and ergonomic research** led to the creation of products unique and recognisable worldwide as ELESA products.

- 180 PATENTS AND REGISTERED DESIGNS
- 38 INDUSTRIAL DESIGN AWARDS
- WORLDWIDE DISTRIBUTION
- 40,000 PRODUCT CODES AVAILABLE ON STOCK
- CUSTOMISED SOLUTIONS
- TECHNICAL COMPETENCE AT THE CUSTOMERS' SERVICE





Design and production activities are concentrated at the headquarters in Monza. An area of over 70,000 square meters - 26,000 covered - tens of millions of pieces are produced every year by utilising the **latest automated production technologies**. In the Logistics Centre over 40,000 product codes are ready to be shipped worldwide.

## Quality - Environment - Safety

- Quality Management System certified according to **ISO 9001** by **British Standards Institution (BSI)** since 1993.
- Environmental Management System certified according to **ISO 14001** since 2007.
- Occupational Health and Safety Management System certified according to **BS OHSAS 18001** since 2012.
- **Authorised Economic Operator Full** certified by the European Custom Agency since 2014: recognition of full reliability of customs procedures.



ELESA is associated with:



Italian Association  
of Machine Tool Manufacturers



Unione Costruttori Italiani Macchine Automatiche  
per il Confezionamento e l'Imballaggio

Italian Packaging Machinery  
Manufacturers Association





# ELESA

## Focused on the international market

ELESA guarantees the reliability of its products, designed and manufactured in Italy at the headquarters in Monza. Authentically "Made in Italy" which has become popular around the world and particularly appreciated by the most qualified machine manufacturers.



Elesa France S.A.



Elesa (UK) Ltd



Elesa USA Corporation



Elesa Scandinavia AB (SE)

ELESA products are sold in more than 60 countries worldwide through 11 subsidiaries and qualified distributors in the major industrialised countries, ensuring an efficient and timely service. The international distribution network provides all customer services in addition to professional technical advice.



## STANDARD MACHINE ELEMENTS WORLDWIDE

ELESA+GANTER is the commercial joint venture between two world leaders in the production of standard industrial components. A brand in over 35 countries with subsidiaries and qualified distributors.



EleSA+Ganter Austria GmbH



EleSA+Ganter Iberica S.L.



EleSA+Ganter Polska Sp. zo.o.



EleSA+Ganter China Ltd.



EleSA+Ganter CZ s.r.o.



EleSA and Ganter India PVT LTD

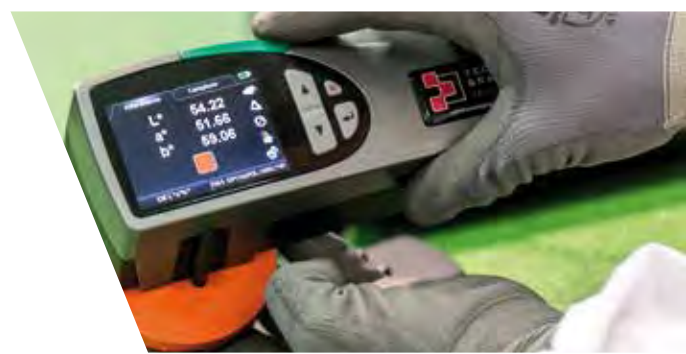


EleSA+Ganter Türkiye



EleSA has been cooperating for over 45 years with Otto Ganter GmbH & Co. KG (Germany) – a qualified manufacturer of standard elements according to its own GN standards or DIN German standards, which identify the corresponding products – to offer the widest range of components for machinery and industrial equipment.





# ELESA

## The utmost competence

### Research & Development

ELESA continues to invest in R&D and in particular in the innovation of its production technologies with the aim of creating new products or to further improve performance and reliability of existing ones.

### Testing laboratory

An internal testing laboratory with the most advanced equipment and measuring instruments, studies the evolution of new technopolymers in order to extend their use in more high performing applications in the field of industrial components. All standard products in the ELESA range are subjected to mechanical, physical, chemical and durability testing in order to provide correct and reliable technical data.

The ELESA laboratory is at the disposal of customers for carrying out tests that simulate specific or particularly heavy conditions of use.

ELESA is associated with:  
**proplast**  
PLASTIC INNOVATION POLE



# ELESA

## Customised solutions



In addition to the widest range of standard machine elements available on the market, ELESA offers customised technical solutions in order to meet the customer's specific needs. Production flexibility, technical know-how, R&D constant activity and customer care allow for quick answers and competitive solutions.

### Product customisation

Logos and text by tampoprinting, laser-engraving and moulding.

### Special colours

Non standard colour options.

### Special materials and shapes

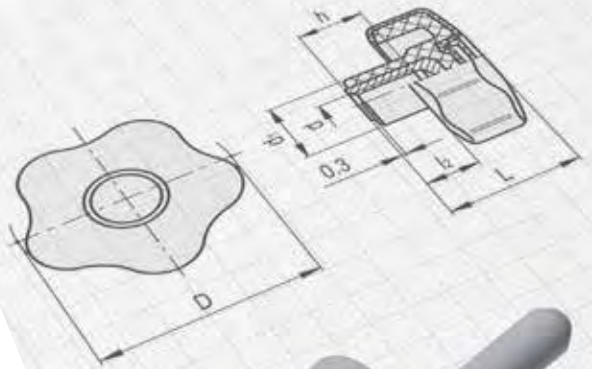
Special technopolymers, stainless steel and metals; special shapes, dimensions and metal inserts.

### Surface treatments

Black-oxide coating, zinc-plating, nickel plating, chrome-plating, anodising, epoxy-resin coating.

### Machining service

Bosses with hole and keyway in compliance with DIN Standards.



# ELESA

## Customer service



2D and 3D CAD drawings



### The Catalogue - AM

Always attentive to the designers' needs, ELESA offers for the American market a catalogue with Inch and Metric size products also available on DVD and on [elesa.com](http://elesa.com).

Each product sheet features full technical descriptions, data, drawings and dimension tables allowing the designer to easily identify the correct product code and description when ordering.



### [www.elesa.com](http://www.elesa.com)

From your desktop, tablet or smartphone ELESA's website is always updated, fast and easy to navigate. The **MyELESA** area allows website users to download 2D and 3D CAD drawings, create and manage favourites and add to Cart products for quotation requests.

Follow us on:





### 3D animations and videos

For deeper information on the technical characteristics of products and their applications.



### ELESAs Newsletter

Stay up to date with the latest ELESAs news.  
Keep updated about new products, exhibitions or interesting technical details.  
Sign up on [elesa.com](http://elesa.com)!



### Customer care

To answer all technical questions or to provide commercial information, an internal sales staff is constantly in contact with sales engineers in the field.



### Road-show

To optimise customers' time, ELESAs bring its product range directly to customers' premises. An easy and time-saving way to present the latest new products.  
ELESAs sales engineers are available to customise technical sessions to highlight specific product features.

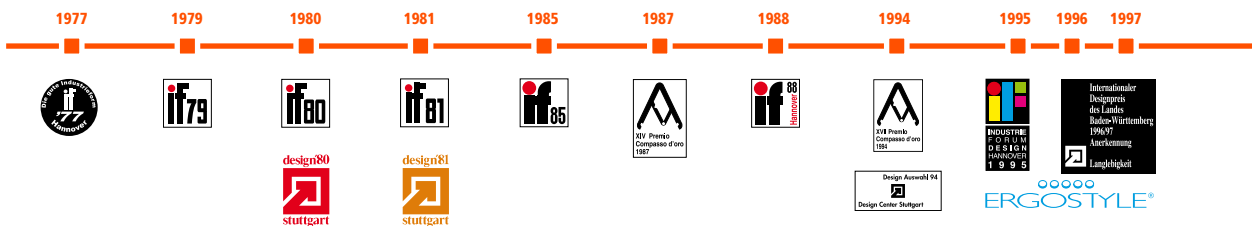


# ELESA Design

Since the 50's, ELESA has been actively involved in the cultural revision of machine tool aesthetics, that was taking shape around that time, by innovating the design of accessories and components for the mechanical industry, machinery and industrial equipment. An ongoing commitment to which ELESA has always been loyal over the decades, as proven by the 38 industrial design awards from the most prestigious juries, received in the last 30 years.

“ We design our products to offer perfect *functionality* and the best *ergonomics*, whilst keeping in mind the creation of *unique designs* recognisable the world over as ELESA products, many times we have achieved our goal. ”

The years in which ELESA products have received Industrial Design awards:

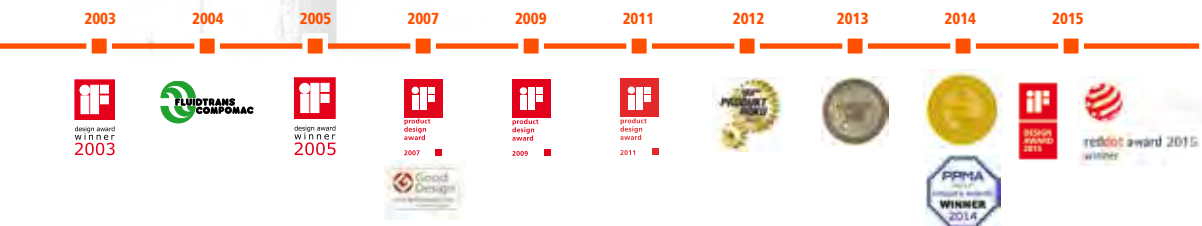




Every single detail be it aesthetic or functional is essential and can significantly improve the perception of a product.



ELESA design helps to enhance the value and quality of your products.



ERGOSTYLE®  
by ELESA



ERGOSTYLE®  
by **ELESA**

## Ergonomics and Design the service of functionality and security

Ergostyle® elements were initially conceived for a series of new market segment applications including hospital and medical equipment, sports and leisure equipment, scientific instrumentation and office furniture. Nowadays Ergostyle elements are also applied in more traditional industrial sectors whose machines and equipment have undergone a profound aesthetic and design renovation over the last few decades. Elements with soft and elegant shapes with inserts in 6 Ergostyle® colours allow the components to be better integrated on machinery from an aesthetical point of view. In addition, the coloured inserts can be used to differentiate machinery functions, contributing to enhance their value.



FIVE POINTS:  
a discreet trademark that distinguishes  
all ERGOSTYLE® products

The 6 ERGOSTYLE® colours



# ELESA SUPER - technopolymer



## When the advantages of engineering plastics combine favourably with metal



“SUPER-Technopolymers” - new technopolymers with high mechanical and thermal performance - represent the latest evolution of engineering polymer materials for the industrial sector.

The most technologically advanced industries, such as automotive, aviation and electronics, have long understood the benefits of using these new generation engineering plastics. The possibility to replace metal, commonly called “metal replacement”, in more numerous applications, is now possible with the use of high performance engineering plastics.

In order to have technopolymer products in applications which have been so far a prerogative of the metal products, the design phase needs to be performed with great expertise by optimising shapes and thickness, to benefit from all the typical characteristics of polymeric materials.

ELESA has developed several components made of SUPER-technopolymer able to guarantee the following advantages:

- high mechanical performance
- corrosion resistance
- lightness
- non magnetic
- low coefficient of friction
- maintenance free
- thermal insulation
- coloured material throughout



STAINLESS STEEL, WHITE COLOUR, DIRT-PROOF SURFACES

High Performing Items: standard components made of engineering plastics with innovative features and stainless steel to meet needs of specific industries.



SAFE, COMFORTABLE AND NON-SLIP GRIP



CHROME-PLATED TECHNOPOLYMER

# ELESA

## High performing items



### CORROSION RESISTANCE

Components made of technopolymer with AISI 303, 304 or 316 stainless steel inserts or entirely in stainless steel. Excellent corrosion resistance for applications in sectors where provisions of law make it mandatory to use corrosion resistant materials.

- food processing, pharmaceutical and chemical



### WHITE COLOUR WITH DIRT-PROOF SURFACES

Smooth surface in white colour RAL 9002 for easy cleaning and AISI 303 or 304 stainless steel inserts. Compact shape and lack of cavities avoid any deposit of dirt, dust or machining residues.

- medical and hospital equipment



### SAFE, COMFORTABLE AND NON-SLIP GRIP

The soft-touch surface in thermoplastic elastomer (TPE) provides a secure, comfortable grip even under unfavourable conditions of use, such as in the presence of moisture and grease and improves the comfort for the operator's hand, allowing absorption of any vibrations during operation.

- fitness, rehab and disability aids and equipment
- high precision instruments
- equipment subject to unfavourable climatic conditions



### CHROME-PLATED TECHNOPOLYMER

Technopolymer components with chrome-plated surface resistant to acetone, sea water, formic acid, ethyl alcohol, detergents and chlorine solutions.

- equipment for outdoor environments subject to unfavourable climatic conditions
- machines and tools subject to frequent cleaning cycles





**SANITATION AGAINST BACTERIAL INFECTIONS**



**SELF-EXTINGUISHING TECHNOPOLYMER**



**CONDUCTIVE TECHNOPOLYMER**



**COMPLIANCE TO ATEX EUROPEAN DIRECTIVE**

**SANITATION AGAINST BACTERIAL INFECTIONS**

The special technopolymer containing antimicrobial additives (mixture of silver ions on an inorganic ceramic base without chemicals, antibiotics or pesticides) prevents the deposit of any unhealthy organisms such as microbes, bacteria, mildew and fungi, preventing their reproduction.

- medical, hospital, rehab and disability aids and equipment
- machines for the food-processing and pharmaceutical industry
- urban and public fittings



**SELF-EXTINGUISHING TECHNOPOLYMER**

Special technopolymer certified "V0" in accordance with UL-94 V (Underwriters Laboratories) for use in public environments where flame-proof material is required.

- urban and public fittings
- entertainment equipment



**CONDUCTIVE TECHNOPOLYMER**

The special technopolymer prevents the accumulation of electrostatic charge between bodies with different electric potential. The ESD-C label (Electrostatic Discharge-Conductive), indelibly printed on the surface of the elements, identifies the specific conductive feature according to the standards EN 100015/1 and IEC 61340-5-1.

- assembly lines for electronic components
- "ESD- Protected" area



**COMPLIANT WITH ATEX EUROPEAN DIRECTIVE**

Components complying with health and safety requirements according to 94/9 /EC ATEX European directive (explosive atmospheres) for equipment in Group II, category 2GD.

- equipment and machines for use in environments subject to explosion risk



A quick glimpse  
into the Elessa  
product range

# ELESA Quick Catalogue



The Quick Catalogue presents a significant, albeit narrow selection of the ELESsa product range to quickly become familiar with the range of plastic and metal standard components in Inch and Metric sizes entirely published on [elesa.com](http://elesa.com): where you can find technical data sheets, dimensional drawings and full size tables in Inch and Metric units, always updated. Available also in the paper Catalogue 077. Ask now for your free of charge copy.



**elesa.com**

Elesa catalogue always updated.  
Free download of 2D and 3D CAD drawings.



**077 Catalogue**

Always on the desk.

**ASK NOW FOR A FREE COPY!**

# elesa®



Browse the full range on [elesa.com](https://www.elesa.com)



# 1

## Operating elements



Ergonomic design, wide range of materials, diameters from 80 mm to 375 mm for all maneuvering operations on machinery and equipment.

### VRTP.

**Spoked handwheels**  
Technopolymer



Black-oxide steel boss, H7 reamed hole with anodised aluminium or technopolymer boss cap plate, in Ergostyle colours.  
Diameters: 80 - 100 - 125 - 160 - 200 - 250 - 300 - 375 mm

### VRTP-P-SST

**Spoked handwheels with solid section**  
Technopolymer



AISI 304 stainless steel boss, with AISI 304 stainless steel boss cap plate.  
Technopolymer and plate adhesive certified in compliance with FDA (U.S. Food and Drug Administration).  
Diameters: 80 - 100 - 125 - 160 - 200 mm

### GN 322 - GN 322.3

**Spoked handwheels**  
Cast aluminium



H7 reamed hole.  
Diameters: 125 - 140 - 160 - 200 - 250 mm

### GN 924 - GN 924.3 - GN 924.7

**Spoked handwheels**  
Cast aluminium



H7 reamed hole.  
Diameters: 125 - 140 - 160 - 200 mm

### GN 949

**Spoked handwheels**  
Cast stainless steel



Turned rim. H8 reamed hole.  
Diameters: 100 - 125 - 140 - 160 - 200 mm

### VR.FP

**Spoked handwheels**  
Duroplast, not drilled hub



Black-oxide steel hub, uncovered front end.  
Diameters: 100 - 125 - 140 - 160 - 180 - 200 - 250 - 300 - 375 mm

### GN 950.6 - DIN 950

**Spoked handwheels**  
AISI 316L stainless steel or cast iron



H9 or H7 reamed hole.  
Also available with keyway.  
Diameters: 80 - 100 - 125 - 140 - 160 - 200 - 250 mm

### GN 227.2

**Spoked handwheels**  
AISI 304 pressed stainless steel



Welded hub with H9 reamed pass-through hole or H11 square pass-through hole.  
Diameters: 160 - 200 - 250 - 315 - 400 mm

### ETW.375

**Spoked handwheels**  
Technopolymer



Black-oxide steel boss, H7 reamed hole with technopolymer boss cap in Ergostyle colours.  
Diameter: 375 mm

**EMW.****Monospoke handwheels***Technopolymer*

Black-oxide steel boss, H7 reamed hole with technopolymer boss cap in Ergostyle colours.  
Diameter: 350 mm

**EYK.****Three-arm handwheels***Technopolymer*

Black-oxide steel boss, H7 reamed hole with technopolymer boss cap in Ergostyle colours.  
Diameters: 275 - 400 mm

**ETK.****Three-arm handwheels***Technopolymer*

Black-oxide steel boss, H7 reamed hole with technopolymer boss cap in Ergostyle colours.  
Diameter: 400 mm

**VDS.****Solid handwheels***Technopolymer*

Black-oxide or stainless steel boss, H7 reamed hole. Light-grey technopolymer boss cap, also available in Ergostyle colours.  
Diameters: 80 - 100 - 125 - 150 - 175 - 200 - 250 - 300 mm

**VDN.FP****Solid handwheels***Duroplast*

Black-oxide or stainless steel hub, uncovered front end, not drilled or with H7 reamed hole.  
Diameters: 50 - 63 - 80 - 100 - 125 - 140 - 150 - 175 - 200 - 225 - 250 - 300 - 350 mm

**VDT.****Solid handwheels***Technopolymer*

Black-oxide steel boss, H7 reamed hole.  
Diameters: 100 - 125 - 160 - 200 mm

**GN 321****Solid handwheels***Cast aluminium*

H7 reamed hole.  
Diameters: 80 - 100 - 125 - 140 - 160 - 200 - 250 mm

**GN 923 - GN 923.3 - GN 923.7****Solid handwheels***Cast aluminium*

H7 reamed hole.  
Diameters: 80 - 100 - 125 - 140 - 160 - 200 mm

**MT.****Crank handles***Technopolymer*

Black-oxide steel boss, H9 square pass-through hole; black-oxide steel hub with H9 blind hole or H7 reamed pass-through hole.  
Dimensions: 50 - 64 - 80 - 100 - 130 - 160 - 210 mm

**GN 472.3****Crank handles***Cast aluminium*

H7 reamed hole or H11 square pass-through hole.  
Dimensions: 80 - 100 - 125 mm

**EKH.****Crank handles***Technopolymer*

Technopolymer hub cap in Ergostyle colours. Black-oxide steel hub, H7 reamed hole.  
Dimensions: 100 - 125 mm

**DIN 468 - DIN 469****Crank handles***Cast iron*

H7 reamed hole or H11 square pass-through hole.  
Dimensions: 80 - 100 - 125 - 160 - 200 - 250 mm



# 2

## Clamping knobs



Ergonomics, design and quality of materials to offer a more secure grip and maximum comfort for all manual clamping. Colours help to identify and differentiate various functions.

**VB.639**  
Three-arm knobs  
Technopolymer



Black-oxide steel boss with plain blind hole; brass or AISI 303 stainless steel boss with threaded blind or pass-through hole; zinc-plated steel threaded stud. Diameters: 45 - 63 - 80 - 100 - 130 - 140 mm

**VCT.**  
Lobe knobs  
Technopolymer



Black-oxide steel boss with plain blind hole; brass boss with threaded blind or pass-through hole; zinc-plated steel threaded stud. Cap available in six colours. Also available in self-extinguish technopolymer certified UL-94 V0 (VCT,AE-V0). Diameters: 25 - 32 - 40 - 50 - 63 - 74 - 95 mm

**VCT-LP**  
Lobe knobs  
with retaining chain,  
technopolymer



Brass boss with threaded pass-through hole; threaded zinc-plated steel stud. Diameters: 25 - 32 - 40 - 50 - 63 mm

**VCT.SOFT**  
Lobe knobs  
Soft-touch technopolymer



Brass boss with threaded blind hole or zinc-plated steel threaded stud. Cap available in six colours. Diameters: 43 - 53 - 66 - 77 mm

**VCTS-Z**  
Safety lobe knobs  
Technopolymer, push action



Black-oxide steel or AISI 303 stainless steel clamping knobs with toothed element for coupling to zinc alloy insert moulded in the knob. Available with threaded hole or stud. Diameters: 40 - 50 mm

**VC.692**  
Lobe knobs  
with solid section  
Technopolymer,  
easy cleaning



Black or white colour similar to RAL 9002 (VC.692 CLEAN). Brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated steel or AISI 303 stainless steel threaded stud with or without chamfered end with acetal resin or brass bolt (VC.692-SST-p-P). Diameters: 25 - 32 - 40 - 50 - 60 mm

**VTT**  
Knobs with solid section  
Technopolymer, easy cleaning



Black or white colour similar to RAL 9002 (VTT-CLEAN). Brass or AISI 304 stainless steel boss with threaded blind hole; zinc-plated steel or AISI 304 stainless steel threaded stud. Diameters: 25 - 32 - 40 - 50 mm

**VMT-SST**  
Lobe knobs with solid section  
AISI 303 or AISI 316L  
stainless steel, easy cleaning



Hub with plain blind or threaded hole. Diameters: 40 - 50 - 60 mm

**VLS.**  
Safety lobe knobs  
Technopolymer



Brass boss with threaded blind hole or AISI 303 stainless steel threaded stud. Technopolymer security key with stainless steel anti-intrusion profile, available in fold-away or ball key version. Diameters: 42 - 55 mm

**VC.192**  
Lobe knobs  
Duroplast, easy cleaning



Black-oxide steel, AISI 303 stainless steel or brass boss with plain or threaded blind hole; zinc-plated or AISI 303 stainless steel threaded stud. Diameters: 25 - 32 - 40 - 50 - 60 - 70 - 85 - 100 mm

**VCM. - VCM-SST**  
Lobe knobs  
Aluminium or AISI 304  
or AISI 316L stainless steel



Hub with H7 reamed blind hole, threaded hole or pin. Diameters: 40 - 50 - 60 - 70 mm

**GN 5335 - GN 5335.4**  
Lobe knobs  
AISI 303 or AISI 316L  
stainless steel, easy cleaning



Hub with H7 reamed blind or threaded hole, threaded pin. Diameters: 40 - 50 - 60 mm

### ELK.

#### Knobs with rear lobes

Technopolymer



ERGOSTYLE®

Black-oxide steel boss with H9 reamed blind or H7 reamed pass-through hole; brass boss with threaded blind hole; zinc-plated steel threaded stud.  
Cap in Ergostyle colours, ultrasonically welded to the hub body.  
Diameters: 45 - 56 - 70 mm

### VTR.

#### Knobs

Technopolymer



Brass boss, square, threaded blind or pass-through hole; zinc-plated steel threaded stud.  
Diameters: 32 - 40 - 50 - 60 mm

### VTRM-SST

#### Knobs

Stainless steel,  
easy cleaning



INOX  
STAINLESS  
STEEL

Threaded blind hole.  
Diameters: 32 - 40 - 50 - 60 mm

### MDA.

#### Fluted grip knobs

Technopolymer,  
assembly with screws



Grey closing cap.  
Assembly by means of pass-through hexagonal-head screws or standard lock nuts (not supplied) to be press-fitted inside the knob.  
Diameters: 30 - 40 - 50 mm

### EWN.

#### Wing nuts

Technopolymer



INOX  
STAINLESS  
STEEL

Brass or AISI 303 stainless steel boss, threaded blind or pass-through hole; zinc-plated steel or AISI 303 stainless steel threaded stud with or without chamfered end with acetal resin or brass bolt (EWN.SST-p-P).  
Cap in Ergostyle colours.  
Diameters: 47 - 55 - 63 - 70 mm

### EWNM-SST

#### Wing nuts

AISI 304 stainless steel



INOX  
STAINLESS  
STEEL

Threaded blind or pass-through hole, threaded pin.  
Diameters: 40 - 48 - 55 mm

### ESN.

#### Single wing nuts

Technopolymer



ERGOSTYLE®

Brass boss, threaded pass-through hole.  
Cap in Ergostyle colours.  
Dimensions: 55 - 70 mm

### CT.476

#### Wing knobs

Technopolymer



INOX  
STAINLESS  
STEEL

Brass boss with threaded pass-through or blind hole; zinc-plated steel or AISI 303 stainless steel threaded stud.  
Diameters: 20 - 25 - 30 - 40 - 48 - 56 mm

### GN 433 - GN 434

#### Wing knobs

AISI CF-8 stainless steel



INOX  
STAINLESS  
STEEL

Hub with threaded pin or blind hole.  
Diameters: 26 - 34 mm

### BT.

#### Fluted grip knobs

Technopolymer  
or conductive technopolymer



INOX  
STAINLESS  
STEEL

Brass or AISI 303 stainless steel boss with threaded pass-through or blind hole; zinc-plated steel or AISI 303 stainless steel threaded stud.  
The conductive technopolymer prevents accumulation of electrostatic charge (BT-ESD).  
Diameters: 16 - 20 - 25 - 32 - 40 - 50 mm

### B.193

#### Knurled grip knobs

Duroplast



INOX  
STAINLESS  
STEEL

Brass or AISI 303 stainless steel boss with threaded pass-through or blind hole.  
Zinc-plated steel or AISI 303 stainless steel threaded stud.  
Diameters: 15 - 18 - 22 - 25 - 30 - 35 - 40 - 50 mm

### BM.193-SST

#### Knurled grip knobs

AISI 304 stainless steel



INOX  
STAINLESS  
STEEL

Hub with threaded blind hole or pin.  
Diameters: 20 - 24 - 28 mm

### DIN 464

#### Knurled grip knobs

Steel or stainless steel



INOX  
STAINLESS  
STEEL

Threaded pin.  
Diameters: 12 - 16 - 20 - 24 - 30 - 36 mm

### MBT.

#### Diamond cut knurled knobs

Technopolymer



Brass boss with plain or threaded blind hole; zinc-plated steel threaded stud.  
Cap in six colours.  
Diameters: 30 - 40 - 50 - 60 - 70 mm

### MBT.SOFT

#### Fluted grip knobs

Soft-touch technopolymer



SOFT

Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Diameters: 45 - 55 mm



# 3

## Clamping levers

Adjustable handles and levers in a wide range of materials for repetitive clamping operations where the lever turning angle is limited due to lack of space. Available with push buttons and levers in different colours to identify and differentiate the various functions.

### ERX. Adjustable handles Technopolymer



Push button in Ergostyle colours with glossy finish. Technopolymer element with brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated or AISI 303 stainless steel threaded stud. Dimensions: 30 - 44 - 63 - 78 - 95 - 108 mm

### ERX-CR Adjustable handles Technopolymer chrome-plated



Technopolymer element with brass boss and threaded blind hole. Dimensions: 44 - 63 - 78 - 95 mm

### ERX-AV Adjustable handles Quick assembly, technopolymer



Adjustable push button for quick screwing during assembly by means of screwdrivers. Clamping element in technopolymer with brass boss and threaded blind hole; zinc-plated steel threaded stud. Dimension: 78 mm

### ERS. Safety adjustable handles Push action, technopolymer



Technopolymer clamping element with black-oxide steel or brass boss with threaded blind hole; black-oxide threaded stud. In case of accidental shocks, the lever turns freely without affecting the clamping action. Dimensions: 44 - 63 mm

### MRX. Adjustable handles Technopolymer



Technopolymer clamping element with brass or AISI 303 stainless steel boss and threaded blind hole; zinc-plated or AISI 303 stainless steel threaded stud. Dimensions: 42 - 63 - 80 - 100 mm

### MRT. Adjustable handles Technopolymer



Technopolymer clamping element with brass or AISI 303 stainless steel boss and threaded blind hole; zinc-plated or AISI 303 stainless steel threaded stud. Technopolymer push button, glossy finish. Dimensions: 42 - 65 - 80 mm

### MR. Adjustable handles Technopolymer



Technopolymer clamping element with black-oxide or brass boss with plain or threaded blind hole; zinc-plated steel threaded stud. Dimensions: 42 - 63 - 80 - 100 mm

### ERZ. Adjustable handles Technopolymer, steel clamping element



Zinc alloy insert for coupling to the clamping element. Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin. Dimensions: 44 - 63 - 78 - 95 mm

### ERM. Adjustable handles Zinc alloy, steel clamping element



Orange, red, grey or black colour. Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin. Dimensions: 44 - 63 - 78 - 95 mm

### GN 300 - GN 300.1 - GN 300.5 Adjustable handles Zinc alloy or stainless steel



Zinc alloy or stainless steel lever. Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin. Dimensions: 30 - 45 - 63 - 78 - 92 - 108 mm

### ERW. Adjustable handles Flat lever, technopolymer



Technopolymer element with brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated or AISI 303 stainless steel threaded stud. Dimensions: 30 - 44 - 63 - 78 mm

### GN 302 Adjustable handles Zinc alloy, steel clamping element



Black-oxide steel clamping element, threaded hole or threaded pin. Dimensions: 30 - 45 - 63 - 78 mm



### GN 300.4

**Adjustable handles**  
with torque amplifier,  
zinc alloy and steel



Black-oxide steel clamping element,  
threaded hole or threaded pin.  
Dimensions: 63 - 78 - 92 - 108 mm

### GN 6337.3

**Adjustable handles**  
Push action, steel



Black-oxide steel clamping element,  
threaded hole or threaded pin.  
Duroplast handle.  
Dimensions: 70 - 87 - 109 mm

### GN 125

**Adjustable handles**  
Steel



Black-oxide steel lever with straight or slightly  
inclined arm. Black-oxide steel clamping element,  
threaded hole or threaded pin.  
Duroplast handle.  
Dimensions: 100 - 120 - 130 - 145 mm

### GN 212.4

**Adjustable handles**  
Steel



Black-oxide steel clamping element,  
threaded hole or threaded pin.  
Duroplast handle.  
Dimensions: 87 - 102 - 116 - 132 - 148 mm

### ERFW.

**Flat lever handles**  
Technopolymer



Brass boss with threaded blind hole, cylindrical blind  
hole and brass reinforcement with transversal  
semi-machined hole for pinning to shaft.  
Dimensions: 44 - 63 - 78 mm

### ERF.

**Lever handles**  
Technopolymer



Brass boss with threaded blind hole or zinc-plated  
steel threaded stud, cylindrical blind hole, brass  
reinforcement with transversal semi-machined hole for  
pinning to shaft; square blind hole,  
transversal set screw.  
Dimensions: 44 - 63 - 78 - 95 mm

### MF.

**Lever handles**  
Technopolymer



Brass boss, threaded blind hole or zinc-plated steel  
threaded stud, cylindrical or square blind hole and  
brass reinforcement with transversal semi-machined  
hole for pinning to shaft.  
Dimensions: 42 - 63 - 80 - 100 mm

### M.180

**Lever handles**  
Duroplast



Black-oxide steel boss with cylindrical blind hole.  
Brass boss with cylindrical blind, threaded blind or  
square hole with transversal semi-machined hole for  
pinning to shaft.  
Dimensions: 79 - 99 - 118 mm

### DIN 6337

**Lever handles**  
Steel



Cylindrical or threaded pass-through hole.  
Dimensions: 60 - 76 - 95 - 119 - 152 mm

### DIN 99

**Lever handles**  
Steel or stainless steel



Plain or threaded pass-through hole.  
Dimensions: 50 - 63 - 80 - 100 - 125 - 160 mm

### GN 99.7 - GN 99.8

**Clamping nuts  
with double lever**  
Steel or stainless steel



Threaded pass-through hole.  
Dimensions: 50 - 60 - 80 - 100 - 120 mm

### GN 150 - GN 150.5

**Split hubs**  
Steel or stainless steel



Cylindrical head screws with black-oxide steel or  
AISI 304 stainless steel hexagon socket.  
Dimensions: 24 - 28 - 32 mm

### LAC.

**Cam clamping levers**  
Technopolymer



SUPER-technopolymer cam sliding base.  
Rotating pin with zinc-plated or AISI 303 stainless  
steel threaded hole; zinc-plated or AISI 303 stainless  
steel threaded stud. LAC.R cam lever with adjustable  
knurled ring-nut.  
Dimensions: 63 - 79 mm

### GN 927

**Cam clamping levers**  
Zinc-alloy



Rotating pin and clamping element with  
zinc-plated steel threaded hole or stud.  
Zinc-plated steel bushing with contact insert in  
technopolymer or fully in technopolymer.  
Dimensions: 63 - 82 - 101 mm

### GN 927.5

**Cam clamping levers**  
Stainless steel



Rotating pin and clamping element with AISI 303  
stainless steel threaded hole or stud. AISI 303 stainless  
steel bushing with technopolymer contact insert.  
Dimensions: 63 - 82 - 101 mm

# 4

## Lift & Pull handles



Wide range of shapes, types and materials.  
The ergonomic design provides a comfortable and secure grip for the operator's hand.

### M.843 Bridge handles Technopolymer



Six different colours or white colour similar to RAL 9002 (M.843 CLEAN) with glossy finish for application on medical and hospital equipment and on food processing machines. Brass or AISI 303 stainless steel bosses with threaded holes.  
Assembly centre distance: 86 - 117 - 179 - 300 mm

### M.643 Bridge handles Technopolymer



Brass bosses with threaded blind holes for back mounting or pass-through holes for cylindrical-head screws with hexagon socket (front mounting) (M.643-FM). M.643 HT in technopolymer with high thermic resistance (max 200° C). Assembly centre distance: 86 - 94 - 117 - 120 - 132 - 150 - 179 - 235 - 300 mm

### GN 565 Handles Aluminium or stainless steel



Oval cross section, aluminium with natural, anodised finish or with epoxy resin coating, black colour. AISI 304 stainless steel (GN 565.5). Back mounting with threaded blind holes or front mounting with pass-through holes for cylindrical-head screws. Assembly centre distances: 100 - 112 - 117 - 120 - 128 - 132 - 160 - 164 - 179 - 192 - 196 - 300 - 350 - 400 - 500 mm

### EBP. Bridge handles Technopolymer



Boss caps in Ergostyle colours. EBP.SAN in antimicrobial technopolymer. EBP.FLX in technopolymer added with elastomer for mounting on curved surfaces. Pass-through holes for cylindrical-head screws with hexagon socket or brass bosses with threaded blind holes.  
Assembly centre distance: 93 - 117 - 132 - 150 - 179 mm

### EBR-SW Handle with microswitch Technopolymer



Microswitch with push button with NO and NC change-over contact. One red LED and one green LED indicate the microswitch status. Pass-through holes for cylindrical-head screws with hexagon socket. Suitable for mounting on machine doors or protections.  
Assembly centre distance: 132 mm

### EBR-PN Handle with pneumatic valve Technopolymer



The handle allows the direct drive of a single-acting pneumatic actuator (execution 3/2) or double acting (execution 5/2). Supplied with quick couplings for direct fitting of a tube (Ø4 mm) for pneumatics. Brass bosses, threaded blind holes.  
Assembly centre distance: 132 mm

### M.443 Bridge handles Technopolymer



Available in black, orange, grey and red colour. M.443 AE-V0 in self-extinguish technopolymer certified UL-94 V0. M.443-ESD in conductive technopolymer. Pass-through holes for cylindrical-head screws, for countersunk head screws, for hexagonal-head screws or nuts. Assembly centre distances: 94 - 117 - 120-122 - 132 - 140 - 149-152 - 150 - 160 - 179 - 235 mm

### M.543 Bridge handles Technopolymer



Available in black or orange colour. Brass bosses, threaded blind holes or threaded studs.  
Assembly centre distance: 94 - 105 - 117 - 132 - 179 mm

### M.943 Bridge handles Technopolymer



Brass bosses with threaded blind holes or blind holes for self-tapping screws. Suitable for applications on a 19" rack and instruments in general.  
Assembly centre distance: 88 - 120 mm

### MMT. Handles for heat insulation Steel and technopolymer



Threaded blind holes with steel base bosses, chromed matte surface. MMT handles are particularly suitable for application on surfaces subjected to high temperatures.  
Assembly centre distance: 120 - 180 mm

### GN 425 Handles Steel, stainless steel, aluminium



Round section in chrome-plated, black-oxide, AISI 303 stainless steel or aluminium with anodised finish or with epoxy resin coating. Threaded blind holes. AISI 304 stainless steel GN 425.3, welded mounting. Assembly centre distance: 88 - 100 - 120 - 125 - 160 - 180 - 200 - 235 - 250 - 300 mm

### GN 565.2 - GN 565.7 Inclined handles Aluminium or stainless steel



Aluminium with natural, anodised finish or with epoxy resin coating. AISI 304 stainless steel GN 565.7. Back mounting with threaded blind holes or front mounting with pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 112 - 128 - 160 mm

### MFH - GN 224

#### Finger handles

Technopolymer



Available in steel (GN 224.1) or stainless steel (GN 224.5). Blind holes for fitting by means of no. 2 self-tapping screws or threaded holes. Assembly centre distances: 30 - 40 mm

### ESP.

#### Guard safety handles

Technopolymer



Technopolymer covers in Ergostyle colours. Pass-through holes for cylindrical head screws with hexagon socket, hexagon head screws, countersunk head screws, or lock nuts. The complete closure of the handle represents a safety feature for the operator's fingers. Assembly centre distance: 94 mm

### GN 430 - GN 430.1

#### Guard safety handles

Aluminium



Mounting with M6 screws. Particularly suitable for applications on revolving and sliding doors or drawers. Available with label holder. Assembly centre distance: 66 - 86 - 106 - 156 - 206 - 256 - 356 - 456 mm

### PR-PF

#### Flush pull handles

for snap-in assembly, technopolymer



Compact shape. The internal profile of the cavity offers a safe, comfortable and ergonomic grip. PR-PF-AE-V0 in technopolymer certified self-extinguishing UL-94 V0. Dimensions: 92 - 137 mm

### EPR.

#### Flush pull handles

for snap-in or screw assembly, technopolymer



Cover in Ergostyle colours. EPR.: pass-through holes for AISI 304 stainless steel self-tapping screws. EPR-PF: snap-in assembly, grey-black colour or white colour similar to RAL 9002 (EPR-PF-CLEAN) or technopolymer certified self-extinguishing UL-94 V0 (EPR-PF-AE-V0). Dimensions: 90 - 110 - 120 mm

### ERB.

#### Bi-directional flush pull handles

for snap-in or screw assembly, technopolymer



ERB.: assembly by means of 4 zinc-plated steel self-tapping screws. ERB-PF: snap-in assembly, grey-black colour or white colour similar to RAL 9002 (ERB-PF-CLEAN) or technopolymer certified self-extinguishing UL-94 V0, grey-black colour (ERB-PF-AE-V0). Dimensions: 115 - 130 mm

### MPE - MPR

#### Folding handle

with return spring, technopolymer



AISI 303 stainless steel pin, AISI 302 stainless steel springs. Mounting with countersunk screws. Dimensions: 135 - 141 mm

### GN 425.8

#### Folding handle with recessed tray

Steel or stainless steel



Die-cast zinc alloy tray with epoxy resin coating, black colour. Mounting with pass-through holes for countersunk head screws. Dimensions: 150 - 170 mm

### GN 426

#### Tubular handles

Aluminium or stainless steel



Aluminium bar or tube with epoxy resin coating, black colour. GN 426.1 with double curve or AISI 304 stainless steel GN 426.5. Threaded blind holes Ø 20 mm into the bar or aluminium or AISI 303 stainless steel tapped bosses into the tube with Ø ≥ 28 mm. Assembly centre distance: 200 - 250 - 300 - 400 mm

### ETH.

#### Tubular handles

Technopolymer and aluminium



Aluminium tube with epoxy resin coating, metallflake graphite colour or natural aluminium; technopolymer handle shanks; technopolymer screw covers in Ergostyle colours. Pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or lock nuts. Assembly centre distance: 300 - 500 - 700 - 1000 mm

### M.1043

#### Tubular handles

Technopolymer, aluminium, stainless steel



Aluminium tube with epoxy resin coating, metallflake graphite colour, anodised aluminium or AISI 304 stainless steel. Technopolymer handle shanks and anti-rotation tube end plugs. Pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distance: 200 - 300 - 350 - 400 - 500 - 600 - 700 mm

### M.1066

#### Tubular handles

Technopolymer, aluminium, stainless steel



Aluminium tube with epoxy resin coating, metallflake graphite colour, anodised or AISI 304 stainless steel; technopolymer handle shanks. Back mounting with zinc steel screws and threaded holes. Front mounting with cylindrical-head screws, black-oxide nuts and washers. Assembly centre distance: 200 - 250 - 300 - 400 - 500 - 600 mm

### GN 333.1

#### Tubular handles

Zinc alloy and aluminium



Aluminium tube, anodised, natural or with epoxy resin coating. Technopolymer side plugs. Zinc alloy die-cast handle shanks with epoxy resin coating. AISI 304 stainless steel GN 333.5. Threaded blind mounting holes. Assembly centre distance: 200 - 300 - 400 - 500 mm

### M.1053

#### Offset tubular handles

Technopolymer and aluminium



Aluminium tube with epoxy resin coating, metallflake graphite colour, anodised aluminium, natural colour. Technopolymer handle shanks. Pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. M.1053-P tubular handles with movable handle shanks. Assembly centre distance: 300 - 350 - 400 - 500 - 600 - 700 mm

### GN 333.3

#### Tubular handles with movable handle shanks

Technopolymer and aluminium



Aluminium tube, anodised, natural or with epoxy resin coating. Technopolymer side plugs. Zinc alloy die-cast handle shanks with epoxy resin coating. Threaded blind mounting holes. Assembly centre distance: 242 - 392 - 492 - 592 mm



# 5

## Fixed & revolving handles



For use on rods or action levers, on handwheels and crank handles for rotating or maneuvering operations. The special care in the design and ergonomics enables a secure grip and offers maximum comfort to the operator's hand.

### L.652 T-Handles Technopolymer



Black, orange, red colour. Natural aluminium or with black colour, epoxy resin coating (L.652M). Brass boss, plain or threaded blind hole or zinc-plated steel threaded stud.  
Dimensions: 40 - 55 - 67 - 80 - 94 mm

### L.652-S Safety T-Handles Technopolymer, push action



Technopolymer clamping element, brass boss with threaded blind hole or zinc-plated steel threaded stud. In case of accidental shocks, the handle turns freely without affecting the clamping action.  
L.652-X adjustable handles with "pull" action.  
Dimensions: 67 - 80 mm

### EKK. Knurled grip knobs Technopolymer



Available in Ergostyle colours.  
Brass boss, threaded blind hole or zinc-plated steel threaded stud.  
Dimensions: 16 - 18 - 21 - 25 - 31 mm

### GN 676.5 Knobs Stainless steel



Plain or knurled rim, threaded blind hole.  
Dimensions: 21 - 25 - 31 mm

### I.150 Mushroom knobs Duroplast



Threaded blind hole.  
Dimensions: 25 - 32 mm

### GN 75.5 Knobs Stainless steel



Threaded blind hole or threaded pin.  
Dimensions: 16 - 20 - 25 - 32 - 36 mm

### EBK.SOFT Mushroom lobe handles Soft-touch technopolymer



Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Also available with technopolymer centre cap in Ergostyle colours or with transparent technopolymer magnifying lens and labels with marks and symbols.  
Dimensions: 43 - 50 mm

### EBS+x Revolving handle Technopolymer



Zinc-plated steel shank, hexagon socket at threaded end.  
EBS+X SOFT technopolymer coated with "soft-touch" elastomer: improves the grip even in the presence of oils, greases and sweat from the hand.  
Dimensions: 45 - 48 mm

### IEL.N SOFT Mushroom handles Soft-touch technopolymer



Plain blind hole, press-fit assembly by means of the elastic coupling.  
Also available with transparent technopolymer magnifying lens and labels with marks and symbols (IEL.N-H SOFT).  
Dimension: 47 - 65 mm

### SH.N Spherical knobs Duroplast, with magnifying lens



Transparent technopolymer magnifying lens for the application of labels with marks and symbols.  
Technopolymer self-locking boss, plain blind hole, press-fit assembly by means of the elastic coupling.  
Dimensions: 35 - 40 - 45 mm

### I.622 Tapered handles Technopolymer



Six different colours. I.622-CLEAN in white colour similar to RAL 9002. I.222 in Duroplast, black colour. Plain or threaded blind hole or technopolymer self-locking boss with plain blind hole, press-fit assembly by means of the elastic coupling.  
Dimensions: 25 - 32 - 42 - 55 - 68 - 87 mm

### PLX. Spherical knobs Duroplast



Threaded blind hole; brass boss with threaded blind hole; slightly cone-shaped plain blind hole, press-fit assembly by means of the elastic coupling.  
Dimensions: 12 - 16 - 20 - 25 - 30 - 32 - 35 - 40 - 45 - 50 mm

### PLM

#### Spherical knobs

Steel or stainless steel



Plain or threaded blind hole.  
Diameters: 16 - 20 - 25 - 32 - 40 - 50 mm

### EGH.SOFT

#### Cylindrical lobe handle

Soft-touch technopolymer



ERGOSTYLE®

Plain blind hole, press-fit assembly by means of the elastic coupling.  
Dimension: 85 mm

### I.280

#### Cylindrical handles

Duroplast



Threaded blind hole; zinc-plated steel threaded stud.  
I.580 in technopolymer; blind hole for press-fit assembly by means of the elastic coupling.  
Dimensions: 28 - 40 - 50 - 65 - 80 - 90 - 102 - 115 mm

### I.680 SOFT

#### Cylindrical handles

Soft-touch technopolymer



These handles improve the grip even in the presence of oils, greases and sweat from the hand.  
Threaded blind hole.  
Dimensions: 65 - 80 - 90 mm

### I.780

#### Cylindrical handles

Technopolymer



Black or red colour.  
Threaded blind hole.  
Dimensions: 65 - 80 - 90 mm

### IF - IFF

#### Cylindrical handles

with protection, technopolymer



Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Dimension: 112 mm

### BL.366 - BL.368

#### Lever arms

Steel and Duroplast



BL.366 BL.368 matte chrome-plated steel arm.  
BL.666 BL.668 zinc-plated steel arm.  
Handles in Duroplast or technopolymer, black colour.  
Dimensions: from 57 to 203 mm

### DIN 39

#### Shaped handles

Steel or AISI 316L stainless steel



Threaded pin.  
Dimensions: 16 - 20 - 25 - 32 - 36 mm

### I.301+x

#### Revolving handles

Duroplast



Zinc-plated steel or 303 stainless steel shank, hexagon socket at threaded end.  
Dimensions: 28 - 40 - 50 - 65 - 80 - 90 - 102 - 116 mm

### I.601+x

#### Revolving handles

Technopolymer



Zinc-plated steel or 303 stainless steel shank, hexagon socket at threaded end.  
Dimensions: 40 - 50 - 65 - 80 - 90 mm

### I.621+x

#### Revolving handles

Technopolymer



Zinc-plated steel or 303 stainless steel shank, hexagon socket at threaded end.  
Dimensions: 35 - 45 - 60 - 65 - 73 - 80 - 90 - 101 mm

### I.731+x

#### Revolving handles

Technopolymer



Zinc-plated steel shank, hexagon socket at threaded end.  
Dimensions: 20 - 23 mm

### I.644

#### Revolving handle

Technopolymer with antimicrobial protection



Zinc-plated steel shank, hexagon socket at threaded end.  
This handle prevents any deposit of bacteria, mildew and fungi, offering a sanitised effect on the surface.  
Dimension: 90 mm

### GN 798

#### Revolving handles

Aluminium



Zinc-plated steel shank, hexagon socket at threaded end.  
This handle prevents any deposit of bacteria, mildew and fungi, offering a sanitised effect on the surface.  
Dimensions: 42 - 56 - 59 - 74 - 84 mm

### IRS.820

#### Two volume safety fold-away handles

Technopolymer



Black-oxide or AISI 303 stainless steel shank, technopolymer base. The special return mechanism "Fold-O-matic" automatically folds the handle into the retracted position.  
Dimensions: 56 - 65 - 80 - 90 mm



# 6

## Control elements



For use on precision instruments or to perform adjustment operations.  
Available with or without flange, with indexes or graduations.

### **IZP.** Knurled control knobs Technopolymer



Plain base, triangular index or precision graduation, laser-engraved.  
Anodised aluminium self-adhesive front plate.  
Plain blind hole, assembly by means of a stainless steel transversal grub screw.  
Diameters: 27 - 32 - 35 - 40 mm

### **IZN.380** Knurled control knobs Technopolymer



Technopolymer boss cap; matte anodised aluminium flange, triangular index or precision graduation, black colour, laser-engraved. Black-oxide steel boss, H7 reamed hole. Assembly by means of keyway or transversal elastic pin or grub screw.  
Diameters: 32 - 37 - 42 - 48 - 52 - 58 - 63 - 80 mm

### **GN 727** Knurled control knobs with adjustable spindle, aluminium



Chrome-plated steel base; knurled or perpendicular anodised aluminium profile knob; technopolymer cap.  
Holes for assembly screws parallel or perpendicular to the spindle axis. Numbering with 10 or 15 marks on the chrome-plated base and 50 marks on the knob.  
Diameters: 27 - 34 mm

### **GN 723.4** Knurled control knobs Aluminium



Anodised aluminium with plain flange, triangular index or precision graduation, laser-engraved. H8 reamed hole. Assembly by means of a stainless steel transversal grub screw with hexagon socket. GN 723.3 flanges are available to optimise use of GN 723.4 knurled knobs.  
Diameters: 27 - 34 - 42 mm

### **GN 726 - GN 726.1** Knurled control knobs Aluminium



With or without plain base, triangular index or precision graduation; technopolymer cap, plain surface or with black index.  
H8 reamed hole. Assembly by means of a stainless steel transversal grub screw with hexagon socket.  
Diameters: 22 - 27 - 34 - 42 mm

### **GN 436 - GN 436.1** Slotted control knobs Stainless steel AISI 304



With or without plain base, triangular index or precision graduation.  
H8 reamed hole. Assembly by means of a stainless steel transversal grub screw with hexagon socket.  
Diameters: 24 - 28 mm

### **GN 700** Locking and continuous control indexing mechanism Aluminium and steel



Knurled knob and ring. Black-oxide steel base; ground and hardened steel locking mechanism. Steel boss, H7 reamed hole and keyway; assembly to the spindle by means of keyway or transversal pin. Suitable for adjusting control machine spindles in clockwise and anti-clockwise rotation and to keep the spindle in the preferred position. Diameter: 66 mm

### **GN 200** Indexing mechanism with stop and positioning device Steel or stainless steel



With or without zinc-plated steel lever arm and Duroplast handle. Boss, H7 reamed hole and keyway; assembly to the spindle by means of keyway or transversal pin. The internal mechanism allows small rotational movements (6° or multiples) and the positioning of machine parts.  
Diameters: 44 - 52 mm

### **MBT+I** Diamond cut knurled control knobs with revolving handle, technopolymer



Cap available in six different colours.  
Brass boss, plain blind hole, assembly by means of a transversal grub screw.  
Diameters: 40 - 50 - 60 - 70 - 85 - 100 mm

### **EGK.SOFT** Grip knobs arranged for clicking operation



\*Soft-touch\* technopolymer.  
Technopolymer closing cap in the Ergostyle colours. Black-oxide steel boss, H7 reamed hole.  
Assembly by means of a keyway, a transversal pin or a set screw.  
Diameters: 50 - 63 mm

### **LBR.** Control levers arranged for clicking operation, technopolymer



Technopolymer lever body; chromed-plated steel lever arm, Duroplast cylindrical handle; anodised aluminium self-adhesive front plate.  
Plain hole with flat face or black-oxide steel boss, H7 reamed hole.  
Dimensions: 81 - 108 - 127 - 170 mm

### **ELC.** Control levers arranged for clicking operation, technopolymer



Technopolymer boss cap in the Ergostyle colours. Black-oxide or stainless steel boss, H7 reamed hole.  
Dimensions: 67 - 85 - 110 - 140 mm



# 7

## Position indicators



To provide in a numerical measurement the position reached in the regulation of a wide range of variables such as strokes, flows, capacities and for the setting of speed variators, with reading accuracy and reliability.

### GA01 - GA02 - GA05

#### Position indicators

Gravity drive



### PA01 - PA02 - PA05

#### Position indicators

Positive drive

Zinc-plated steel case; AISI 303 stainless steel bezel; glass window; anodised natural aluminium dial; clockwise or anti-clockwise graduation. Wide range of available ratios.

### GA11 - GA12

#### Position indicators

Gravity drive



### PA11 - PA12

#### Position indicators

Positive drive

Technopolymer case and bezel; transparent technopolymer window ultrasonically welded to the case (IP67 for GA or IP65 for PA protection class, according to IEC 529); anodised aluminium dial; clockwise or anti-clockwise graduation. Wide range of available ratios.

### MBT-GA

#### Knobs with integral indicator

Gravity drive



Technopolymer knob and bezel; transparent technopolymer window ultrasonically welded to the case (IP 67 protection class, according to IEC 529); anodised aluminium dial; clockwise or anti-clockwise graduation. Black-oxide steel boss, H7 reamed blind hole. Wide range of available ratios.

### GW12

#### Digital-analogue position indicators

Gravity drive



### PW12

#### Digital-analogue position indicators

Positive drive

Technopolymer case and bezel; transparent technopolymer window ultrasonically welded to the case (IP67 for GW or IP65 for PW protection class, according to IEC 529); anodised aluminium dial. Five-digits roller counter. Wide range of available readings.

### MBT-GW

#### Knobs with digital-analogue position indicator

Gravity drive



Technopolymer knob and bezel; transparent technopolymer window ultrasonically welded to the case (IP 67 protection class, according to IEC 529); anodised aluminium dial. Black-oxide steel boss, H7 reamed blind hole. Wide range of available readings.

### Lobe knobs

#### for position indicators

Technopolymer or aluminium



Black-oxide or AISI 303 stainless steel boss, H7 reamed hole. Diameters: 60 - 70 - 80 - 85 - 100 - 110 - 120 - 160 - 200 - 250 mm

### DD50 - DD51 - DD52R

#### Digital position indicators

direct drive



Technopolymer case and base; transparent window; 3, 4 or 5 digit roller counter. Black-oxide or AISI 303 stainless steel boss fitted to the shaft with a grub screw. Orange, grey or anthracite colour. DD50 - boss Ø 10H7, DD51 - boss Ø 14H7, DD52R - boss Ø 20H7. Wide range of available readings.

### DD51-E - DD52R-E

#### Electronic position indicators

direct drive, 5 or 6-digit display, technopolymer



Orange or grey colour. LCD display with values visualization in units of measure (mm, inches or degrees). Absolute or incremental mode, reading orientation. The visualization parameters can be set by the operator. Protection class IP67 according to IEC 529. DD51-E - boss Ø 14H7, DD52R-E - boss Ø 20H7.

### MPI-15

#### Magnetic measuring system

Length and angle modes



Multifunction LCD with 5 function keys. Absolute / incremental mode. External battery power supply 1.5 VDC. Material of the magnetic sensor envelope: anodised aluminium.

### TYPE OF READING

**Analogue:** the reading is displayed by two rotating pointers over a graduated dial.

**Digital-analogue:** the reading is directly displayed by a roller counter and by a rotating pointer over a graduated dial.

**Digital:** the reading is directly displayed by a roller counter.

**LCD Digital:** the reading is directly displayed by a digital electronic display

### TYPE OF FUNCTIONING

**Gravity movement:** it is used when the handwheel spindle is either horizontal or max 60° inclined. The rotation of the handwheel with the indicator makes the pointers move while the dial, appropriately counterbalanced, is kept still by the gravity force.

**Positive drive movement:** it is used on control spindles in any position. The rotation of the handwheel with the indicator makes the pointers move while the dial is kept still by an anchor pin fitted to the machine.

**Direct drive movement:** it is used on control spindles in any position, the indicator is directly assembled onto the control spindle and is kept in position by means of a referring back pin.



# 8

## Indexing and positioning elements



Standard elements to make repetitive operations easier in positioning parts on machinery and equipment. High quality and variety of production materials (black-oxide steel, zinc-plated steel, stainless steel and SUPER-technopolymer). Wide range of shapes, sizes and executions.

### PMT.100 - PMT.101

#### Indexing plungers

SUPER-technopolymer body



With or without rest position.  
Black-oxide hardened steel or AISI 303 stainless steel plunger.  
Technopolymer knob, black or red colour.  
Plunger Ø: 5 - 6 - 8 - 10 mm

### GN 617 - GN 617.1

#### Indexing plungers

Steel or stainless steel



With or without rest position. Black-oxide steel plunger with hardened or nickel-plated AISI 303 stainless steel end. With or without technopolymer or AISI 303 stainless steel knob. Standard executions: with or without knob and locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm

### PMT.110

#### Indexing plungers

SUPER-technopolymer body



Black-oxide hardened steel or AISI 303 stainless steel plunger.  
Technopolymer knob.  
Standard executions: with or without locking nut.  
Plunger Ø: 8 - 10 mm

### GN 514

#### Indexing plungers with locking device

Steel



Nitrided steel plunger.  
Technopolymer control button (PUSH-PUSH locking device).  
Standard executions: with or without locking nut.  
Plunger Ø: 6 - 8 mm

### GN 414 - GN 414.1

#### Indexing plungers

with safety device, steel or stainless steel



Black-oxide hardened steel or AISI 303 stainless steel plunger.  
Technopolymer knob with red push button for the plunger lock/unlock.  
Standard executions: with or without locking nut.  
Plunger Ø: 6 - 8 - 10 mm

### GN 7336.8

#### Indexing plungers with safety clamping knob

Steel



Nitrided and black-oxide steel plunger.  
Technopolymer knob and closing cover, grey colour.  
These plungers are suitable when it is necessary to position, lock and make secure machine elements simultaneously.  
Plunger Ø: 6 - 8 mm

### GN 717 - GN 717-C

#### Indexing plungers

Steel or stainless steel



With or without rest position.  
AISI 303 stainless steel plunger.  
Technopolymer knob or stainless steel ring.  
Standard executions: with or without locking nut.  
Plunger Ø: 3 - 4 - 5 - 6 - 8 mm

### GN 413

#### Indexing plungers

Steel or stainless steel



With or without rest position.  
AISI 303 stainless steel plunger.  
AISI 301 stainless steel ring.  
Standard executions: with or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm

### GN 607 - GN 607.1

#### Indexing plungers

Steel or stainless steel



Black-oxide steel plunger with hardened or nickel-plated AISI 303 stainless steel end; black-oxide steel or stainless steel locking nut. Technopolymer knob.  
Standard executions: with or without locking nut.  
Plunger Ø: 6 - 8 mm

### GN 822

#### Mini indexing plungers

Steel or stainless steel



With or without rest position.  
Technopolymer knob.  
Suitable for assembly on thin sheets thanks to their very small dimensions.  
Plunger Ø: 4 - 5 - 6 - 7 mm

### GN 822.7

#### Mini indexing plungers

Stainless steel



With or without rest position.  
Technopolymer knob.  
Suitable for assembly on thin sheets thanks to their very small dimensions.  
Plunger Ø: 4 - 5 - 6 - 7 - 8 - 10 mm

### GN 608

#### Indexing plungers with flange

Zinc-alloy



Two mounting holes; black-oxide steel plunger with hardened end. Technopolymer knob.  
Also available with rest position (GN 608.1).  
Suitable for assembly on thin sheets thanks to their very small dimensions.  
Plunger Ø: 6 - 8 mm



### GN 817.3

#### Indexing plungers with flange, steel



Two mounting holes; ground black-oxide steel plunger with hardened end. Technopolymer knob. Also available with rest position (GN 817.3-C). Suitable for highly precise positioning. Plunger Ø: 8 - 10 mm

### GN 612

#### Lever indexing plungers Steel or stainless steel



Rest position. Turned and nitrided steel or turned and nickel-plated AISI 303 stainless steel plunger. Black-oxide steel or stainless steel lever with or without technopolymer cover. Black-oxide steel or stainless steel locking nut. Standard executions: with or without locking nut. Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

### PMT.200

#### Lever indexing plungers SUPER-technopolymer body



Rest position. Black-oxide hardened steel or AISI 303 stainless steel plunger. Self-lubricating technopolymer lever. Standard executions: with or without locking nut. Plunger Ø: 6 - 8 mm

### GN 417

#### Indexing plungers Zinc-alloy



AISI 303 stainless steel plunger. Stainless steel ring. GN 417-C with rest position and technopolymer knob. Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

### GN 113.6

#### Ball lock pins Stainless steel



Stainless steel balls; technopolymer knob, red or black colour with holes for retaining ring. By pressing the push button the two balls are freed and the pin can be pulled-out or inserted. Pin Ø: 5 - 6 - 8 - 10 - 12 - 16 mm

### GN 114.2

#### Lock pins Steel



AISI 304 stainless steel pawls; technopolymer knob, with holes for retaining ring; technopolymer push button, red colour. By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted. Pin Ø: 6 - 8 - 10 - 12 mm

### GN 214.2 - GN 214.3

#### Lock pins

Steel or stainless steel



AISI 304 stainless steel pawls. AISI 301 stainless steel ring. Technopolymer push button, red colour. By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted. Pin Ø: 6 - 8 - 10 - 12 - 16 mm

### GN 111

#### Ball chains

Brass and stainless steel



Mainly used together with the different types of lock pins. The ball chain feature is flexibility.

### GN 513

#### Threaded spring elements

Steel



Black-oxide and case-hardened steel end. Standard executions: semispherical or prismatic end, with plunger or female thread. Threadings: M12x1.5 - M16x1.5 - M20x1.5

### GN 615

#### Ball spring plungers

Steel or stainless steel



Hardened steel or hardened stainless steel ball. Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24

### GN 615.2

#### Ball spring plungers

Technopolymer



Hardened stainless steel or technopolymer ball. Threadings: M6 - M8 - M10

### GN 615.7

#### Threaded ball spring plungers

with switch, steel



Standard executions with normally closed or open contacts. Threadings: M6 - M8 - M10

### GN 614

#### Ball spring plungers

Technopolymer or stainless steel



Hardened stainless steel or technopolymer ball. Diameters: 3 - 4 - 5 - 6 - 8 - 10 - 12 mm

### GN 614.5

#### Ball spring plungers

Smooth body, technopolymer



Hardened stainless steel or technopolymer ball. Diameters: 4 - 5 - 6 - 8 - 10 mm

### GN 715

#### Side thrust spring pins

Aluminium and steel



Zinc-plated hardened steel oscillating pin. Practical and versatile elements for positioning and mounting items to be processed. Pin Ø: 3 - 5 - 6 - 8 - 10



# 9

## Machine elements



A wide range of standard elements for applications on industrial equipment and machines. Quality materials and high precision in production offer high reliability.

### GN 6311.1 Thrust pads with elastic ring Steel



With or without technopolymer protection. Elastic ring: steel spring wire. These thrust pads are used to transmit clamping forces by means of DIN 6332 grub screws, hexagon socket head. Grub screw/thrust pad coupling by means of a retaining ring.  
Diameters: 16 - 20 - 25 - 32 mm

### GN 632.1 - GN 632.5 Grub screws spherical end, steel



Hexagon socket head. These grub screws can be used to realise different locking systems. Levers, knobs or handles can be fitted to the threaded end by means of pins.  
Threadings: M6 - M8 - M10 - M12

### GN 346 Thrust pads ball joint and threaded hole, steel



These thrust pads are used to transmit clamping forces. They can be adapted on irregular or non-parallel surfaces and allow locking without transmitting the rotation to the surface to be locked.  
Diameters: 16 - 20 - 24 - 30 mm

### DIN 444 - DIN 444-NI Eye screws Steel or stainless steel



These screws are used mainly for coupling up moulds, connections, equipment, etc.  
Threadings: M5 - M6 - M8 - M10 - M12 - M16 - M20

### DIN 6319 - DIN 6319-NI Concave and convex washers Steel, AISI 303 or AISI 316 stainless steel



These washers are used mainly for locking mechanical parts on non-parallel surfaces.  
External diameters: 12 - 17 - 21 - 24 - 28 - 30 - 36 - 44 - 56 - 68 - 78 - 92 mm

### GN 184 - GN 184.5 Washers for screws Steel or stainless steel



These washers are used on shafts to fit handwheels with an axial keyway.  
Diameters: 16 - 20 - 22 - 25 - 28 - 32 - 36 - 40 - 45 - 52 mm

### DIN 508 T-Nuts Steel or stainless steel



Groove width DIN 650: 5 - 6 - 8 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24 - 28 mm

### GN 506 T-Nuts with guide and no-slip device



Zinc-plated steel, stainless steel ball and spring. The device provided with a ball and spring, located inside the dowel, allows it to slide in aluminium sections avoiding accidental vertical slipping.  
Groove width: 5 - 6 - 8 mm

### GN 505.4 - GN 505.5 T-Nuts quick-insert, steel or stainless steel



These T-Nuts are suitable for quick insert in aluminium sections. A simple rotation clockwise by 90° assures the anchoring.  
Groove width: 8 to 10 mm

### GN 918 - GN 918.5 Cam locking levers Steel



Duroplast handle. Nitrided and black-oxide steel or hardened and nickel-plated steel screw. Eccentric or helical with "pull" or "push" cam, in case-hardened and black-oxide steel or nickel-plated AISI 303 stainless steel (GN 918.5). The system is self-locking at any angular positioning. Cam diameter: 50 mm

### RDB Toothed clamping elements SUPER-technopolymer



The toothed elements are used to secure coupled parts at a given angle. With or without built-in case. ML-RDB: AISI 301 stainless steel push springs facilitating the detachment of the clamping elements.  
Diameters: 32 to 40 mm

### GN 187.4 - GN 187.4-NI Toothed clamping elements Steel or AISI 316 LHC stainless steel



The toothed elements are used to secure coupled parts at a given angle. Designed to be combined with GN 187.1 cases and GN 187.2 push spring.  
Diameters: 22 - 27 - 32 - 40 mm

## ANPS

### Dismountable split set collars

Clamping assembly, technopolymer



Cylindrical head screws with hexagon socket and AISI 316 stainless steel nuts. Suitable for assembly on idle shafts as end stops, for fixing end limit switches, pulleys, supporting pins or other components. Internal diameters: from 12 to 40 mm

## GN 707.2

### Dismountable split set collars

clamping assembly, steel, stainless steel or aluminium



Phosphatised black-oxide steel or AISI 304 stainless steel grub screws; cylindrical head with hexagon socket. These split set collars can be used not only as end stops, but also for fixing other components, such as end limit switches. Internal diameters: from 6 to 40 mm

## DIN 580

### Lifting eyebolts

AISI 304 stainless steel or AISI 316



Threadings: M8 - M10 - M12 - M16 - M20 - M24

## GN 1130

### Lifting lock pins

Steel or stainless steel



Stainless steel balls and spring. Diameters: 8 - 10 - 12 - 16 - 20 mm

## DIN 172 - DIN 179

### Guide bushings

Steel



Diameters: from 2 to 30 mm

## ELEROLL roller tracks

Technopolymer and polyurethane



They can be used to create sliding benches, suitable for several applications: feeding and discharging benches, in construction machinery, storage and picking systems, packaging machinery. Technopolymer roller elements with high load capacity. Antitrace thermoplastic polyurethane roller elements. Ball elements for the omnidirectional handling.

## DVA.1 - DVA.2 - DVA.3

### Vibration-damping elements

Rubber and steel or AISI 304 stainless steel



Threaded studs or bosses with threaded blind hole in different combinations. Natural rubber NR vibration-damping body, hardness 40, 55, 70  $\pm 5$  Shore A. Diameters: 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 100 - 125 mm

## DVB.6 - DVB.7

### Vibration-damping elements

Rubber and steel or AISI 304 stainless steel



Threaded studs or bosses with threaded blind hole. Natural rubber NR vibration-damping body, hardness 40, 55, 70  $\pm 5$  Shore A. Diameters: 20 - 25 - 32 - 38 - 43 - 50 - 60 mm

## DVC.1 - DVC.2 - DVC.3

### Vibration-damping elements

Rubber and steel or AISI 304 stainless steel



Threaded studs or bosses with threaded blind hole in different combinations. Natural rubber NR vibration-damping body, hardness 40, 55, 70  $\pm 5$  Shore A. Diameters: 10 - 15 - 20 - 25 - 30 - 35 - 40 - 50 - 60 - 70 - 75 - 95 mm

## Flat retaining magnets



Housing in zinc-plated steel (RMA, RMB, RMC), lacquered steel (RME), technopolymer (RMT) or stainless steel (RMC). Pass-through hole, threaded stud or hook-shaped. Magnet in hard ferrite, (SmCo) samarium cobalt, (NdFeB) neodymium-iron-boron or (AlNiCo) aluminium-nickel-cobalt, shielded with high performances.  $\varnothing D = 6$  to 125 L = 4.5 to 26

## Flat retaining magnets with no-slip coating



Zinc-plated steel threaded insert with pass-through hole, male and female threads, knob or ring. (NdFeB) Neodymium-iron-boron magnet. The elastomer surface increases the friction coefficient. These magnets are suitable for use on sensitive surfaces.  $\varnothing D = 12$  to 88 L = 6 to 8.5

## Cylindric retaining magnets



Housing in natural steel (RML), zinc-plated steel (RML, RMN), red colour lacquered steel (RMP) or brass (RMM), with or without smooth or threaded stud. (AlNiCo) Aluminium-nickel-cobalt magnet, shielded with high performances and moderate overall dimensions.  $\varnothing D = 4$  to 63 L = 10 to 65

## Unshielded flat retaining magnets



(SmCo) Samarium cobalt, (NdFeB) neodymium-iron-boron magnet, working temperatures from 80°C to 200°C. Dimensions: 4 to 56

## BEL-PM

### Bull's eye levels

for mounting in suitable housings



Anodised aluminium body, natural or black colour. With smooth reference surface or threaded stud. They are used to control the horizontal positioning of machines, devices, equipment and instruments.

## BEL-MS

### Monodirectional screw-on levels

for screw mounting



Brass body with epoxy resin coating, grey or black colour. Execution with top view, top and side view, top and both side view. They are used to control the horizontal positioning of machines, devices, equipment and instruments.



# 10

## Levelling elements and supports



Components for assembly on machinery, machine guards and equipment built with profile systems and for the building up of production lines. Shapes, sizes and combinations of different materials allow their application in several industrial sectors.

### LX Levelling elements

Technopolymer base, steel or AISI 304 stainless steel stem



Base with adjusting hexagon or screwdriver slot.  
Bases Ø: 25 - 30 - 40 - 50 - 60 mm  
Threadings: M6 - M8 - M10 - M12 - M16

### LS.A Levelling elements

Technopolymer base, steel or AISI 304 stainless steel stem



Base with or without NBR rubber no-slip disk.  
On request zinc-plated steel or AISI 304 stainless steel nut.  
Bases Ø: 25 - 32 - 40 - 50 mm  
Threadings: M8 - M10 - M12 - M14 - M16

### LV.A Levelling elements

Technopolymer base, steel or AISI 304 stainless steel stem



Base with or without NBR rubber no-slip disk. On request zinc-plated steel or AISI 304 stainless steel nut. LV.A-ESD-C conductive technopolymer that prevents the accumulation of electrostatic charge. Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24

### LV.F Levelling elements for ground mounting

Technopolymer base, steel or AISI 304 stainless steel stem



Base with or without NBR rubber no-slip disk. On request zinc-plated steel or AISI 304 stainless steel nut. Ground mounting by means of two holes at 180° supplied covered by a diaphragm.  
Bases Ø: 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24

### SMQ-SST Stems for levelling elements

AISI 304 stainless steel



Spheric articulated stems with adjusting square.  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

### LM. Levelling elements

Steel or stainless steel base and stem



Ball joint with threaded hole or stem. LM.AC with technopolymer antistatic bearing protection. LM.TR with NBR rubber no-slip coating. Zinc-plated steel or AISI 304 stainless steel nut.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

### LM.SV Vibration-damping levelling elements

Steel base and stem



Ball joint with threaded hole or stem. PUR elastomer damping element, glued into the base housing. Zinc-plated steel nut.  
Bases Ø: 32 - 40 - 50 - 60 mm  
Threadings: M10 - M12 - M16

### LMR. Levelling elements

Steel or stainless steel base and stem



Ball joint with threaded hole or stem. NBR rubber no-slip disk. Threaded stem with hexagon socket head at the upper end and spanner flats at the lower end. Zinc-plated steel or AISI 304 stainless steel nut.  
Bases Ø: 50 - 60 - 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

### LMRS. Levelling elements

Stainless steel base and stem



NBR rubber no-slip disk, vulcanised to the base. AISI 303 stainless steel stem and adjustable sleeve. Stainless steel assembly screw, glued to the stem base.  
Bases Ø: 60 - 80 - 10 mm  
Threadings: M16 - M20 - M24

### LMR.F Levelling elements for ground mounting

Steel or stainless steel base and stem



Zinc-plated steel or AISI 304 stainless steel anchoring bracket. NBR rubber no-slip disk. Threaded stem with hexagon socket and spanner flats at the base.  
Bases Ø: 50 - 60 - 80 - 100 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

### LMY Levelling elements

Stainless steel base and stem



Ball joint with threaded hole or stem. Base with or without NBR rubber no-slip disk. Screw with adjusting hexagon, hexagon socket and thread flats, hexagon upper end or adjustable sleeve for the protection. AISI 304 stainless steel nut. Bases Ø: 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20

### LMP Levelling elements

Steel or stainless steel base and stem



Ball joint with threaded hole or stem. LMP.TR with thermoplastic elastomer (TPE) no-slip coating. LMP.TV with vulcanised rubber (NBR) no-slip coating. Zinc-plated or AISI 304 stainless steel nut.  
Bases Ø: 40 - 50 - 60 - 80 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

### LW.A

#### Vibration-damping levelling elements Steel base and stem



NR rubber damping element. Vibration-damping levelling elements have been designed to damp vibrations, shocks and noises produced by moving bodies or non-balanced vibrating masses of equipment and machines. Bases Ø: 80 - 120 - 160 - 200 mm  
Threadings: M12 - M16 - M20

### NDX.Q - MDX.T

#### Square end-caps for tubes Technopolymer



Brass boss, threaded pass-through hole. Also available execution for heavy loads with nickel-plated brass boss, threaded pass-through hole (ND.Q).  
Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24

### STC

#### Square tube connectors Technopolymer and steel or stainless steel



Black or grey colour. Monodimensional two-way, bidimensional two, three or four-way, tridimensional three, four, five or six-way connector.  
With or without zinc-plated or stainless steel reinforcement.  
For structures composed of square profiles.

### MSX.

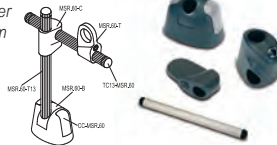
#### Connecting clamps Technopolymer



Fitting by means of a stainless steel M5 cylindrical-head screw with hexagon socket and nut.  
The profile of the holes is designed to fit both tubes with round and square cross section; the latter prevents the elements from rotating.

### MSR.

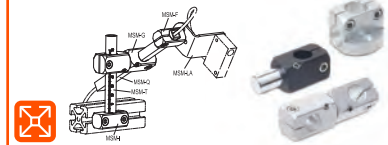
#### Connecting clamps Technopolymer and aluminium



Base with screw covers in six colours.  
Clamping by means of cylindrical head screws with hexagon socket.  
Aluminium profile connecting tubes with standard lengths from 100 to 2000 mm.

### Connecting clamps

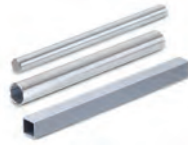
#### Aluminium



Black or natural colour.  
Clamping by means of cylindrical head screws with AISI 304 stainless steel hexagon socket.  
The profile of the holes is designed to fit both tubes with round and square cross section; the latter prevents the elements from rotating.

### MSM-T - MSM-Q

#### Connecting tubes Round or square



MSM-T: AISI 304 stainless steel.  
Bar for Ø = 8 and 10 mm;  
tube for Ø = 12, 16 and 20 mm  
MSM-Q: anodised aluminium square tubes, with or without precision graduations (mm).  
Sections: 10 - 12 - 16 mm

### BAS3

#### Tripod supports Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers. Assembly on series LS.A, LV.A, LV.F levelling elements. The three bearings of the base are supplied with brass bosses, threaded pass-through hole for the assembly of the stem.  
Tube housing holes Ø: 42 - 48 - 50 - 60 - 45x45 mm

### GC.

#### Connection joints Technopolymer



M8 cylindrical-head screws with hexagon socket and zinc-plated or AISI 304 stainless steel nuts.  
Tube housing holes Ø: 42 - 48 - 50 - 60 - 45x45 mm

### MPG-2 - MPG-S

#### Guide rail clamps Technopolymer and stainless steel



With or without AISI 304 stainless steel pin.  
AISI 304 stainless steel washers, screws and clamping nuts.  
Housing for round, trapezoidal or rectangular guides.  
Pins Ø: 12 - 14 - 16 mm

### SPF.

#### Guide rail brackets

for linear positioning, technopolymer



Nickel-plated AISI 431 stainless steel eye screw and AISI 304 stainless steel washer. Technopolymer clamping knob and nickel-plated brass hexagonal end for clamping by means of a key, threaded hole.  
Without knob, with AISI 304 stainless steel clamping nut. Guide housing holes Ø: 12 - 14 - 16 mm

### UCF

#### Self-aligning brackets square flanged, technopolymer



AISI 304 stainless steel bushings and washers.  
High quality chrome steel bearing.  
Technopolymer closed or drilled cover for pass-through shafts.  
Shaft diameters: 25 - 30 mm

### UCFL

#### Self-aligning brackets oval flanged, technopolymer



AISI 304 stainless steel bushings and washers.  
High quality chrome steel bearing.  
Technopolymer closed or drilled cover for pass-through shafts.  
Shaft diameters: 25 - 30 mm

### FLEXIBLE AUTOMATION COMPONENTS





# 11

## Hinges and connections



A wide range of engineering plastics and metal hinges including technopolymer, SUPER-technopolymer, aluminium and stainless steel available in various types of assembly, rotation angles, load resistance or with integrated safety switch.

### **CFT.** Hinges with screw-covers Technopolymer



Technopolymer rotating pin and screw-covers. Assembly by means of pass-through holes for countersunk head, cylindrical head, hexagonal head screws or nuts. Rotation angle: max 200° (-20° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 40 - 49 - 65 mm

### **CFA.** Hinges Technopolymer



AISI 303 stainless steel or technopolymer (CFA.X) rotating pin. Assembly by means of nickel-plated brass bosses, threaded hole; nickel-plated steel threaded studs; pass-through holes and slotted holes (CFA-SL) for cylindrical head screws. Rotation angle: max 215° (-35° and +180° being 0° the condition where the two surfaces are on the same plane). Dimensions: 40 - 49 - 65 - 97 mm

### **CFL.** Hinges Technopolymer



AISI 303 stainless steel rotating pin. Assembly by means of pass-through holes for cylindrical head screws. Rotation angle: max 200° (-20° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimension: 102 mm

### **CFM.** Hinges SUPER-technopolymer



AISI 303 stainless steel rotating pin. Nickel-plated steel threaded studs; pass-through holes for countersunk head or cylindrical head screws; pass-through slotted holes for cylindrical head screws. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two surfaces are on the same plane). CFM-CLEAN white similar to RAL 9002. Dimensions: 30 - 40 - 50 - 60 mm

### **CFSQ.** Hinges with built-in safety switch SUPER-technopolymer



Safety switch with one normally closed change-over contact (NC) and one normally open change-over contact (NO). Positive opening in compliance with IEC EN 60947-5-1. Double insulation of the internal circuits. Approved by UL:E360222. Dimension: 53 mm

### **CFSW.** Hinges with built-in safety multiple switch SUPER-technopolymer



Switch with 4 electric contacts, which can be set in production: normally open (NO) or normally closed (NC). Standard executions 2NO+2NC and 1NO+3NC. Positive opening in compliance with IEC EN 60947-5-1. Double insulation of the internal circuits. Approved by UL:E360222, IMQ:CA02.04800. Dimension: 110 mm

### **CFMW.** Hinges SUPER-technopolymer



These hinges can be assembled with CFSW. hinge with safety switch. Technopolymer rotating pin. Assembly by means of pass-through holes for countersunk-head, cylindrical head screws or hexagonal nuts. Rotation angle: max 180° (0° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 70 - 110 mm

### **CFH.** Hinges Technopolymer



AISI 303 stainless steel rotating pin. Assembly by means of pass-through holes for cylindrical head screws. Rotation angle: max 275° (-95° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimension: 50 mm

### **CMM-SST.** Hinges AISI 316 stainless steel



AISI 316 stainless steel rotating pin. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). CMM die-cast zinc alloy. CMM-BL aluminium. Dimensions: 30 - 40 - 50 - 60 mm

### **CMM-AL.** Hinges Aluminium



AISI 304 stainless steel rotating pin. Mounting with pass-through holes for countersunk head screws. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 40 - 50 - 60 mm

### **CFMY.** Hinges for removable doors Technopolymer



Technopolymer rotating pin. Mounting with pass-through holes for countersunk head screws. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 40 - 50 - 60 mm

### **CMMY.** Hinges for removable doors Die-cast zinc alloy



AISI 303 stainless steel rotating pin. Mounting with pass-through holes for countersunk head screws. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 40 - 50 - 60 mm

**CFJ.****Tamperproof hinges***Technopolymer*

AISI 303 stainless steel rotating pin, totally moulded in the hinge body. Assembly by means of nickel-plated brass bosses, threaded hole; nickel-plated steel threaded studs; pass-through holes for hexagonal head screws. Rotation angle: max 275° (-95° and +180° being 0° the condition where the two surfaces are on the same plane). Dimension: 50 mm

**CFV.****Hinges with snap-in positions***Technopolymer*

AISI 303 stainless steel rotating pin. Assembly by means of pass-through holes for countersunk head or hexagonal head screws. The detent device allows four different detent positions of the door: -90°, 0°, 70° and 115°. Rotation angle: max 210° (-90° and +120° being 0° the condition where the two surfaces are on the same plane). Resistant torque of about 3 Nm. Dimension: 65 mm

**CFP.****Hinges with snap-in positions***Screw-covers, technopolymer*

Pass-through holes for countersunk, cylindrical or hexagonal head screws. The detent device allows four different detent positions of the door: 0°, 80° 120° and 170°. Resistant torque of about 1.1 Nm. Rotation angle: max 195° (-15° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimension: 50 mm

**CFU.****Hinges with adjustable friction***Technopolymer*

Technopolymer rotating pin. AISI 304 stainless steel screw and AISI 303 stainless steel adjusting boss. Assembly by means of pass-through holes for cylindrical head screws. Rotation angle: max 275° (-95° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Resistant torque max: 1.4 - 4 Nm. CFU-CLEAN in white similar to RAL 9002. Dimensions: 40 - 60 mm

**CMUF****Hinges with adjustable friction***Zinc-alloy*

Technopolymer conical friction elements, zinc-plated steel screw and nut. Mounting with pass-through holes for countersunk head screws. Rotation angle: max 270° (-90° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Resistant torque max: 2 - 4 - 6.5 Nm. Dimensions: 40 - 50 - 60 mm

**GN 136****Thin hinges***Steel or stainless steel*

AISI 304 stainless steel rotating pin. Assembly by means of pass-through holes for cylindrical head, countersunk head screws or without holes for welding. Rotation angle: max 280° (-100° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 40 - 50 - 60 mm

**CMD-AL****Hinge for thin doors***Aluminium*

AISI 304 stainless steel rotating pin. Technopolymer guide bushings for pin. Assembly by means of stainless steel self-tapping screws and semi-rounded head screws. Rotation angle: max 185° (-5° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimension: 45 mm

**CFF.****Hinges for thin doors***Technopolymer*

AISI 303 stainless steel rotating pin. Assembly by means of nickel-plated brass bosses, threaded hole or nickel-plated steel threaded studs. Rotation angle: max 200° (-10° and +190° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 30 - 40 - 48 - 66 mm

**CFD.****Hinges for thin doors***Technopolymer*

AISI 303 stainless steel rotating pin. Assembly by means of nickel-plated brass bosses, threaded hole; nickel-plated steel threaded studs; pass-through holes for cylindrical head screws. Rotation angle: max 205° (-15° and +190° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 30 - 40 - 48 - 66 mm

**CFG.****Hinges for profiles***Technopolymer*

One or two (CFI) nickel-plated rotating pins. Technopolymer centring inserts for aluminium profiles from 6 to 12 mm. Assembly by means of pass-through holes. Rotation angle: CFG. max 280° (-100° and +180°). CFI. max 260°/275° (-95° and +165°/180°) being 0° the condition where the two interconnected surfaces are on the same plane. Dimension: 36 mm

**CFO.****Offset lift-off hinge***Technopolymer*

Technopolymer adjustable pin with octagonal slot. Technopolymer covers for pin slot and screw-covers. Assembly by means of pass-through holes. Offset lift-off hinges have been designed to adjust possible misalignments between the door and the frame. Dimension: 64 mm

**CFN.****In line lift-off hinge***Technopolymer*

Technopolymer hinge body and adjustable pin with octagonal slot. Assembly by means of nickel-plated brass bosses, threaded hole; nickel-plated steel threaded studs. In line lift-off hinges have been designed to adjust possible misalignments between the door and the frame. Dimension: 64 mm

**CMN****Hinges for removable doors***Die-cast zinc alloy*

Black or grey colour. Assembly by means of threaded holes. Dimension: 63 mm

**SQT.****Angles for profile structures***Technopolymer*

Two slots for M8 screws; two holes for M8 screws and centring slides; slot and hole for M8 screws. Technopolymer covers are available on request. For the assembly of structures made out of aluminium profiles in a very easy way. Dimensions: 40 - 43 mm

**SQMA - SQMF****Angles for profile structures***Aluminium*

Natural colour or black or grey epoxy resin coating. Technopolymer closing cap. Assembly by means of zinc-plated steel screws, nuts and washers. Dimensions: 30 - 40 - 45 mm



# 12

## Latches



Different types of latches in plastic or metal with knob or key to lock electrical panels or machine doors. Hook clamps, push-pull or latch-type toggle clamps in zinc-plated or stainless steel designed for industrial uses complete the range.

### CM. - CMT.AE-V0

#### Lever latches

fold-away or key-type knob



CM.: nickel-plated zinc alloy rotor, stator and knob; brass nut; zinc-plated steel closing lever and screw. CMT.AE-V0: rotor, stator, fold-away knob, closing lever and nut in technopolymer certified self-extinguish UL-94 V0. IP 65 protection class. Rotation 90°. Dimensions: 18 - 20 - 24 - 32 mm

### VCTK. - VCMK.

#### Cam latches

Steel or technopolymer knob



VCTK: technopolymer knob; chrome-plated zinc alloy stator and rotor; zinc-plated steel latch cam, screw, spring washer and nut; aluminium distance element. VCMK: stainless steel knob, stator and rotor, latch cam, screw and washer, nut and distance element. Knob diameter: 50 mm

### VCK.

#### Cam latches with knob

Duroplast knob, steel or stainless steel cam



Zinc-plated or stainless steel plain stud; zinc-plated or stainless steel latch spring to compensate door thickness. Standard executions: opening to the right side or left side. Knob diameter: 50 - 60 - 70 mm

### BOCK

#### Cam latches with key

Steel or stainless steel cam



BOCK: nickel-plated steel shank; nickel-plated brass guide bushing and locking nut; sintered and vaporised steel latch cam; zinc-plated steel latch spring; BOCK-SST: stainless steel shank, guide bushing and locking nut, latch cam and spring. Technopolymer key. Standard executions: opening to the right side or left side. Lengths: 46 - 54 - 64 mm

### VCML

#### Lever latches

Stainless steel knob



Stainless steel stator, closing lever, screw, washer and nut. Rotation 90° right. IP 65 protection class. Knob diameter: 50 mm

### VC.308 - VC.309

#### Lever latches

Technopolymer knob with lock



Zamac stator and rotor; brass nut; zinc-plated steel spring washer, positioning washer and closing lever; two nickel-plated brass keys, removable in two positions at 180° (locked or unlocked position). Standard executions: opening to the right side or left side; lock with different combinations, one combination; different combinations and master-key or without lock. Knob diameter: 40 mm

### MDA-LS

#### Lever latches

Technopolymer knob



Technopolymer cap. MDA-LS: zinc alloy threaded body and lever, zinc-plated steel screw and locking nut. Neoprene clamping bolt. MDA-LS-SST: AISI 316 stainless steel threaded body, screw and locking nut, AISI 304 stainless steel lever. IP 65 protection class. Rotation 90° right. Knob diameter: 53 mm

### CSM.

#### Lever latches

Steel handle with lock



Zinc alloy stator, rotor and nut; stainless steel front plate; zinc-plated steel closing lever; two nickel-plated brass keys, removable in two positions at 180°. IP 65 protection class. Rotation 90° right. Standard executions: lock with different combinations or one combination. Handle dimension: 80 mm

### CSMT-A

#### Lever latches

Technopolymer handle with lock and anti-rotation device



Technopolymer stator and nut, zinc alloy rotor; stainless steel front plate; zinc-plated steel closing lever; two nickel-plated brass keys, removable in two positions at 180°. IP 65 protection class. Rotation 90° right. Standard executions: lock with different combinations or one combination. Handle dimension: 80 mm

### ELCK

#### Lever latches

Operation by means of technopolymer lever



Zinc alloy stator and rotor, brass nut, zinc-plated steel lever, positioning washer and spring washer. Two nickel-plated brass keys removable in two positions (locked or unlocked position). Standard executions: lock with one combination, opening on the right or left side or both sides. Dimensions: 67 - 85 mm

### CS-RPR.

#### Lever latches

with reprogrammable lock, steel



Chrome-plated zinc alloy stator and rotor and stainless steel front plate; brass nut; zinc-plated steel closing lever and screw. Rotation 180° with key removable in two positions. Accessories: kit of keys containing the programming key and use keys. Dimensions: 20 - 25 - 30 mm

### CS.

#### Lever latches

with lock, zinc alloy



Zinc alloy stator and rotor, brass nut, zinc-plated steel lever, positioning washer and spring washer. Two nickel-plated brass keys removable in two positions at 180°. Standard executions: lock with different combinations or one combination. Dimensions: from 13 to 30 mm



### CQ. - CQT.AE-V0

#### Lever latches

with recessed key



CQ.: nickel-plated zinc alloy stator and rotor; brass or zinc alloy nut, zinc-plated steel shaped closing lever and screw. CQ. SST: stainless steel stator and rotor; two-wing or triangular groove for key. CQT.AE-V0: self-extinguish technopolymer UL-94 V0; stainless steel self-tapping screw. Rotation 90°. Dimensions: 16 - 18 - 20 - 24 - 28 - 60 - 32 mm

### CQT.FM

#### Quick-assembly lever latches

with recessed key,  
technopolymer



CQT.FM-AE-V0: technopolymer black colour. CQT.FM-CR: technopolymer chrome-plated body. Silicone packing ring, stainless steel washer and self-tapping screw. Technopolymer key. Rotation 90°. IP 65 protection class. Dimensions: 18 - 20 - 22 - 25 - 30 mm

### GN 315

#### Snap locks

technopolymer and zinc alloy



Technopolymer unlocking button, light-grey colour; steel adjusting spacer, black colour; zinc alloy threaded body; zinc-plated steel locking nut. Adjusting distance: from 18 to 28 mm

### CLT.

#### Latches for cabinets

with handle for rod controls,  
technopolymer



Chrome-plated zinc alloy handle shank with NBR rubber OR; silicon and NBR synthetic rubber packing rings; zinc-plated steel screws. Standard executions: lock with different combinations, with one combination or for technopolymer key with zamac insert and two-wing groove, European style stator, execution with IP 65 protection class. Dimension: 160 mm

### CAR.

#### Rod controls

Steel



Zinc-plated rod guides, chrome-plated zinc alloy toothed wheel. Nickel-plated zinc alloy or technopolymer body. Length: 347 mm

### EBR-CH

#### Handle with safety locking device

Technopolymer



ERGOSTYLE®

Anti-intrusion profiled key. AISI 304 stainless steel pin with technopolymer push button. Pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distance: 132 mm

### BMS

#### Snap door lock

Technopolymer



Standard executions: snap lock and unlock (BMS), or snap lock and lever for manual release (BMS.L). When the lever is locked, the maximum load at breakage of the door lock is = 2500 N.

### BPS

#### Ball-shaped door lock

Technopolymer



The clamp, in which the ball fixed to the closing door is inserted, is a mechanical stop device also to the door movement. Opening release strength is = 30 N. Assembly by means of a self-tapping screw or cylindrical-head screw with hexagon socket.

### GN 702

#### Stop locks with 4 indexing positions (90°)

Zinc alloy



These stop locks are suitable for clamping drawers or doors in applications subject to strong vibrations. Standard executions: assembly by means of base flange with two holes for countersunk head screws, body with threaded hole or with threaded nut.

### PR-CH

#### Flush pull handles with lever latch

Snap-in assembly,  
technopolymer



Two nickel-plated brass or technopolymer keys. Standard executions: lock with key removable in two positions, rotation by 90°, placed on the right or on the left. Lock with one combination, different combinations or different combinations and master-key or electrical panel lock type with triangular, square or two-wing groove. Zinc-plated or stainless steel closing lever LPR. Dimension: 117 mm

### CSMH

#### Latches with push handle

Technopolymer  
and zinc alloy



Handle in black or grey colour. Standard executions: lock with different combinations or one combination. Two nickel-plated brass keys removable in two positions at 90°. Assembly by means of 4 zinc-plated steel screws co-moulded into the base. The overturning of the handle in its seat moves the spindle axially with the lever in the direction of the swing-door until the locking position. Dimension: 128 mm, adjusting distance: from 13 to 75 mm

### GN 115.10

#### Flush pull handles with lever latch

Zinc alloy



Handle in black or grey colour. Standard executions: triangular, square 7x7 or two-wing groove for key, positioned to the right or to the left. Assembly by means of 5 zinc-plated steel screws. GN 115 zinc-plated steel closing lever. Dimension: 128 mm, adjusting distance: from 13 to 75 mm

### TLA.

#### Hook clamps

Steel or stainless steel



TLA: basic hook clamp. TLAL: hook clamp with padlock hole. TLAS: hook clamp with security stop and red technopolymer push button. Special executions on request: catch brackets in different shapes and finishes. Dimensions: 102 - 140 - 193 mm

### TLE.

#### Hook clamps

Steel or stainless steel



TLE.Z: zinc-plated or AISI 304 stainless steel basic hook clamp. TLEL.Z: zinc-plated steel hook clamp with padlock hole. Special executions on request: catch brackets in different shapes and finishes. Dimension: 52 mm

### TLF.

#### Adjustable hook clamps

Steel or stainless steel



TLF: basic hook clamp. TLFS: hook clamp with security stop and red technopolymer push button. Special executions on request: catch brackets in different shapes and finishes. Dimensions: 138 to 150 mm

**TLM.****Adjustable hook clamps***Steel or stainless steel*

TLM: basic hook clamp.  
 TLM.L: hook clamp with padlock hole.  
 Special executions on request: catch brackets in different shapes and finishes.  
 Dimension: 88 mm

**TLL.****Adjustable hook clamp***Steel*

Special executions on request: AISI 304 stainless steel hook clamps.  
 Dimension: 125.5 mm

**TLY.****Hook clamps***Steel*

Welding mounting.  
 Special executions on request: AISI 304 stainless steel hook clamps.  
 Dimension: 81 mm

**MVA.****Vertical toggle clamps***with folded base, steel or stainless steel*

Ground and hardened steel support bushings; red polyurethane handle.  
 MVA-SST: stainless steel.  
 Dimensions: 67 - 85 - 110.5 - 129 - 164 - 223 mm

**MVB.L****Vertical toggle clamps, long life series***with straight base, steel*

Hardened, black-oxide and ground steel rotating pins and support bushings; zinc-plated steel adjusting screw and nut; red polyurethane handle. With opening clamping lever and two folded washers or solid clamping lever.  
 Dimensions: 86 - 91 - 129.5 - 161 - 203 mm

**MGA.L****Toggle-joint mechanisms***Steel*

Hardened, black-oxide and ground steel rotating pins and support bushings; zinc-plated steel adjusting screw and nut.  
 Dimensions: 57.5 - 58.5 - 115 mm

**MOAS.****Horizontal toggle clamps***with folded base and anti release lever, steel or stainless steel*

With opening clamping lever and two folded washers or solid clamping lever and retainer for welding. Ground and hardened steel support bushings; red polyurethane handle. Anti-release lever to prevent accidental opening in the presence of strong vibrations.  
 Dimensions: 118 - 172 - 196 - 270 - 305 - 306.5 mm

**MFC.****Push-pull clamps***Steel*

Zinc-plated steel rivets and push lever; brass or pressed steel base; red polyurethane handle.  
 Dimensions: 86 - 116 - 122 - 164.5 - 182 - 238 - 316 mm

**MTC.****Latch clamps***Steel or stainless steel*

Zinc-plated steel rivets, pulling hook, oscillating pin and nuts; red polyurethane handle.  
 MTC-SST: stainless steel.  
 Dimensions: 98 - 152 - 220 mm

**MTL.****Latch clamps, heavy-duty series***with safety device, steel*

Hardened and ground steel pins; red polyurethane handle.  
 The safety device prevents accidental opening even in the presence of strong vibrations.  
 Dimension: 318 mm

**MTB.****Latch clamps***with safety stop, steel or stainless steel*

Zinc-plated steel rivets; red polyurethane handle. With or without eyelet, T or hook tie rod.  
 MTB-SST: stainless steel.  
 The safety device prevents accidental opening even in the presence of strong vibrations.  
 Dimensions 103 - 153 - 222 mm

**MTP.****Latch clamps, heavy-duty series***Steel or stainless steel*

Hardened and ground steel shank; zinc-plated steel pulling hook, oscillating pin and nuts.  
 MTP-SST: stainless steel.  
 Dimensions: 220 - 273 mm

**MTS.****Weldable latch clamps, heavy-duty series***Steel or stainless steel*

Hardened and ground steel shank; zinc-plated steel pulling hook, oscillating pin and nuts.  
 MTS-SST: stainless steel.  
 Dimensions: 216 - 257 mm

**MTR.****Weldable latch clamps***Steel*

Hardened and ground steel shank; natural steel pulling hook, oscillating pin and nuts.  
 With clamping hole by removable tube or with clamping lever.  
 Dimensions: 220 - 334 mm

**PVC.****Pneumatic clamps***with toggle-joint support, steel*

Zinc-plated rivets and pins; black-oxide steel cylinder support screws; hardened steel cylinder support bushings, rotating pin and seeger ring.  
 Dimensions: from 163 to 362 mm



# 13

## Accessories for hydraulic systems



Components to meet various applications on hydraulic systems. Different production materials to resist to: different liquids and oils; low or high temperatures and for use in environments subject to risk of explosion (ATEX line).

### TN. - TNR.

**Plugs**  
Technopolymer



TN. with NBR rubber packing ring.  
TNR. with NBR rubber O-Ring.  
Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M10 - M12 - M14 - M16 - M18 - M20 - M22 - M25 - M26 - M35 - M40  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TN-EX

**Plugs**  
Technopolymer



NBR rubber packing ring.  
TN-EX plugs comply with Health and Safety Requirements defined in 94/9/EC ATEX European Directive (explosive atmospheres) for equipments in Group II, category 2GD.  
GAS threadings: 3/8 - 1/2 - 3/4

### TCD. - TCR.

**Oil fill plugs**  
Technopolymer



TCD. with NBR rubber packing ring. TCD+a with phosphatised steel dipstick. TCR. with NBR rubber O-Ring. Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M10 - M12 - M14 - M16 - M18 - M20 - M22 - M25 - M26 - M35 - M40  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TSD. - TSR.

**Oil drain plugs**  
Technopolymer



Graphic symbol "drain". TSD. with NBR rubber packing ring. TSR. with NBR rubber O-Ring. Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M10 - M12 - M14 - M16 - M18 - M20 - M22 - M25 - M26 - M35 - M40  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TMB.

**Magnetic plugs**  
Aluminium



Magnetic element with an attractive power to keep metal particles in oil. NBR rubber packing ring. Max. continuous working temp.: 180°C  
Metric threadings: M14 - M16 - M20 - M26 - M33 - M40 - M42  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TCE.

**Plugs**  
with hexagon socket



TCE. in technopolymer. GN 749 zinc-plated steel. NBR rubber packing ring.  
Max. continuous working temp.: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4

### GN 741

**Plugs**  
Aluminium



NBR rubber (GN 741) or FKM (GN 742) packing ring for high temperatures.  
Max. continuous working temp.: 100°C (GN 741) or 180°C (GN 742).  
Metric threadings (pitch 1.5): M14 - M16 - M20 - M26  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TPC.

**Oil fill plugs**  
for push-fit, technopolymer



Graphic symbol "fill", with or without side breather hole. Two NBR rubber O-rings.  
TPC+a with phosphatised steel flat dipstick.  
Max. continuous working temp.: 100°C  
Diameters: 20 - 26 mm

### T.440

**Plugs**  
Technopolymer



With or without phosphatised steel flat dipstick. NBR rubber packing ring.  
Max. continuous working temp.: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### SFN.

**Breather caps**  
Technopolymer



Orange technopolymer cover; black technopolymer threaded connector or zinc-plated steel sheet bayonet. With or without air filter in polyurethane foam mesh "tech-foam". NBR rubber flat packing ring. Max. continuous working temp.: 100°C  
Diameters: 30 - 40 - 57 - 70 mm  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2

### SFP. - SFP-EX

**Breather caps**  
with splash guard, technopolymer



Orange technopolymer cover; black threaded connector. Splash guard with or without "tech-foam" (SFP-EX) or "tech-fil" (SFP.) air filter. NBR rubber packing ring. Max. continuous working temp.: 100°C (SFP) - 80°C (SFP-EX). SFP-EX breather caps comply with European Directive ATEX 94/9/EC.  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2

### SFP+a - SFP+a-EX

**Breather caps**  
with splash guard and flat dipstick, technopolymer



Technopolymer cover and or sheet bayonet; splash guard with or without air filter. NBR rubber packing ring. Phosphatised steel dipstick. Max. continuous working temp.: 100°C (SFP+a) - 80°C (SFP+a-EX). Diameters: 30 - 40 - 57 - 70 mm  
Metric threadings (pitch 1.5): M16 - M18 - M20 - M22  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2

### TVD.

**Breather caps with vacuum breaker valve**  
Technopolymer



Red colour with EPDM synthetic rubber membrane gasket, green colour with FKM synthetic rubber membrane gasket. Threaded connector in black colour. EPDM (red cover) or FKM (green cover) flat packing ring. Max. continuous working temp.: 50°C  
GAS threading: 1 1/4

### SFV.

**Valve breather caps**  
Technopolymer



Technopolymer cover, with "valve" symbol and black threaded connector. NBR rubber packing ring. Valve: technopolymer sealing disk with NBR rubber O-Ring and stainless steel spring set at 10 mb or 100 mb. Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M16 - M18 - M20 - M22  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1

### SFW.

**Pressurised breather caps**  
with double valve, technopolymer



Technopolymer cover, with "valve" symbol. Threaded connector or sheet bayonet; "tech-foam" ring-shaped air filter. NBR rubber packing ring. Overpressure valve set at around 0.350 bar. Suction valve set at around 0.030 bar. Max. continuous working temp.: 100°C  
GAS threadings: 3/4 - 1 1/4 - 2

### SMN. - SMW.

**Pressurised breather caps**  
simple or with double valve  
and threaded connector, steel



Chrome-plated steel cover; zinc-plated steel flange; zinc-plated steel threaded connector. NBR rubber packing ring. SMW, with overpressure valve set at around 0.350 bar and suction valve set at around 0.030 bar. Also available with dipstick. "Tech-foam" ring-shaped air filter.  
GAS threadings: 1/4 - 3/4

### FRF+C

**Flange**  
for threaded cap, technopolymer



Flange in technopolymer with threaded connector or in zinc-plated steel with bayonet (FRB+C); technopolymer basket. Cork impregnated MGS based rubber. Assembly by means of six self-tapping screws.  
GAS threading: 1 1/4

### PLRB+C

**Side mount**  
for bayonet cap, technopolymer



Technopolymer mount with NBR rubber packing ring; zinc-plated steel bayonet flange or technopolymer flange with threaded connector (PLRF+C) and flat gasket in cork impregnated MGS based rubber; technopolymer basket.  
GAS threading for series PLRF+C: 1 1/4

### HGFT. - HGFT-EX

**Oil level indicators**  
Technopolymer



Transparent technopolymer window. Standard executions with or without matte anodised aluminium star-shaped contrast screen. NBR rubber packing ring. HGFT-EX indicators comply with European Directive ATEX 94/9/EC. Max. continuous working temp.: 100°C at 3 bar pressure. GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 2

### GN 743

**Oil level indicators**  
Aluminium



Natural glass or ESG safety glass window (GN 743.1). NBR rubber or FKM (GN 743.1) flat packing ring. Max. continuous working temp.: 100°C or 180°C (GN 743.1). Metric threadings (pitch 1.5): M14 - M16 - M20 - M26 - M27 - M33 - M40 - M42  
GAS threadings: 3/8 - 1/2 - 3/4 - 1 1/4

### GN 743.2

**Oil level indicators**  
Brass



Natural glass window or ESG safety glass (GN 743.3) window. NBR or FKM (GN 743.3) rubber packing ring. Max. continuous working temp.: 100°C or 180°C (GN 743.3). Metric threadings (pitch 1.5): M16 - M20 - M26 - M27 - M33  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

### GN 743.6

**Oil level indicators**  
Aluminium



ESG safety glass window. FKM packing ring. Comply with European Directive ATEX 94/9/EC. Max. continuous working temp.: 150°C  
Metric threadings (pitch 1.5): M16 - M20 - M26 - M27  
GAS threadings: 3/8 - 1/2 - 3/4

### HGFT-PR

**Oil level indicators**  
with prismatic window, technopolymer



Transparent technopolymer prismatic window. NBR or FKM (HGFT-HT-PR) synthetic rubber packing ring. Max. continuous working temp.: 100°C at 3 bar pressure (HGFT-PR) or 140°C at 7 bar pressure (HGFT-HT-PR).  
GAS threadings: 1/2 - 3/4 - 1

### GN 744

**Oil level indicators**  
with prismatic window, aluminium



Transparent technopolymer prismatic window. NBR rubber packing ring. Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M20 - M26 - M27 - M33  
GAS threadings: 1/2 - 3/4 - 1

### HRT.

**Oil level indicators**  
push-fit, technopolymer



Transparent technopolymer window. White lacquered aluminium contrast screen. HRT-T: with bimetallic thermometer and graduated scale up to 100°C. NBR rubber O-Ring. Max. continuous working temp.: 100°C.  
Diameters: 28 - 36 - 42 - 64 mm

### HE.

**Oil level indicators**  
push-fit, polycarbonate



White lacquered aluminium contrast screen with red level line. NBR rubber O-Ring. Max. continuous working temp.: 100°C These indicators are suitable for assembly on reservoirs with limited pressures.  
Diameters: 18 - 21 - 28 - 32 - 38 - 43 - 47 mm

### HFTX.

**Oil level indicators**  
Technopolymer



Matte anodised aluminium star-shaped contrast screen. NBR rubber packing ring. Max. continuous working temp.: 100°C  
Metric threadings (pitch 1.5): M16 - M20 - M25 - M26 - M27 - M30 - M35 - M40  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4

### HFTX-PR

#### Oil level indicators

with prismatic window, technopolymer



A continuous series of prisms provide a clear and immediate reading of the oil level due to refraction effect.

NBR rubber packing ring.

Max. continuous working temp.: 100°C

GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4

### HCFE-EX

#### Oil circulation sights

Technopolymer



NBR rubber packing ring.

HCFE-EX comply with Health and Safety Requirements defined in 94/9/EC ATEX European Directive (explosive atmospheres) for equipments in Group II, category 2GD.

GAS threadings: 3/8 - 1/2 - 3/4

### HVF.

#### Visual flow indicators

Technopolymer ends



PYREX glass window; brass tie rods; technopolymer axis and rotor propeller; NBR rubber packing rings; brass bosses with cylindrical gas threading according to UNI ISO 228/1. Max. continuous working temp.: 100°C. Functioning with two-way flow. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1

### HCZ.

#### Column level indicators

with or without protection frame, technopolymer



Zinc-plated steel screws and nuts. Step-shaped packing rings for the seal on the reservoir walls and NBR rubber O-Ring screw underhead.

White lacquered aluminium contrast screen. With or without thermometer; with or without SUPER-technopolymer protection frame.

Max. continuous working temp.: 90°C

Assembly centre distances: 76 - 127 - 254 mm

### HCX. - HCX-PT

#### Column level indicators

with or without protection frame, technopolymer



HCX., HCX-AR, HCX-PT: zinc-plated steel screws, nuts and washers.

HCX-SST, HCX-BW-SST, HCX-PT-SST: AISI 304 stainless steel screws, nuts and washers.

HCX-VT, HCX-PT-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers.

NBR or FKM synthetic rubber O-Ring. White lacquered aluminium contrast screen.

HCX-AR for use with fluids containing alcohol.

HCX-BW-SST for use with hot water.

Max. continuous working temp.: 80°C or 90°C Assembly centre distances: 76 - 127 - 254 mm

### HCK. - SLCK

#### Column level indicators

with or without transparent protection, technopolymer



Technopolymer assembly ends. Aluminium support. Transparent polycarbonate tube. HCK-GL with PYREX glass tube, also suitable for use with glycol-based solutions.

With or without transparent polycarbonate front protection. Zinc-plated or stainless steel screws, nuts and washers. NBR rubber or FKM O-Ring.

Max. continuous working temp.: 100°C or 130°C (HCK-GL). Assembly centre distances: 76 - 127 - 176 - 254 - 381 - 508 mm

SLCK kit for the electric control of the fluid level.

### HCX-E - HCX-ST - HCX-STL

#### Column level indicators

Transparent technopolymer



MIN level electrical sensor (HCX-E).

MAX temperature electrical sensor (HCX-ST).

Temperature electrical probe (HCX-STL).

Zinc-plated steel screws, nuts and washers. NBR rubber O-Ring. Technopolymer float with magnetic element to activate the contact.

Technopolymer sensor bracket with a built-in relay.

Swivelling two-pin connectors. Available with electrical contact NO or NC.

Max. continuous working temp.: 90°C

Assembly centre distances: 127 - 254 mm

### HCY-E

#### Column level indicators

with MIN level electrical sensor, technopolymer



Nickel-plated brass screws. NBR rubber O-Ring. Red technopolymer float with magnetic element to activate the contact.

Watertight sensor bracket with a built-in relay. Right side output connector. Available with electrical contact NO or NC.

White lacquered aluminium contrast screen.

Max. continuous working temp.: 80°C

Assembly centre distances: 76 - 127 - 254 mm

### HFL-E - HFLT-E

#### Rapid levels with float

Technopolymer



TPE flat gasket or NBR rubber O-Ring. Connector with or without sensor with side output and reed switch.

AISI 304 stainless steel dipstick (HFL-E) or technopolymer dipstick featuring two raised scales (HFLT-E). With or without NBR rubber float.

Assembly by means of zinc-plated steel flange or 1" Gas threaded connector.

Max. continuous working temp.: 80°C

HFL-E and HFLT-E rapid levels show a minimum or maximum default level.



# 14

## Castors and Wheels



A wide range of castors and wheels, suitable for manual (4 km/h) or mechanical (16 km/h) handling for trucks and equipment. The range includes wheels with fixed or turning plate bracket, with or without brakes; specific series destined for heavy loads; drive wheels and pallet truck rollers.

### RE.FF

**Injected polyurethane wheels**  
Technopolymer centre body



INOX STAINLESS STEEL 1200 - 3500 N

RE.FF-N: zinc-plated or AISI 304 stainless steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
Wheel Ø: 80 - 100 - 125 - 150 mm

### RE.F5

**Mould-on polyurethane wheels**  
Aluminium centre body



2200 - 8500 N

Hub with ball bearings. RE.F5-N: zinc-plated steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
RE.F5-H: steel sheet bracket for medium-heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

### RE.F4

**Mould-on polyurethane wheels**  
Cast iron centre body



3000 - 25000 N

Hub with ball bearings. RE.F4-H: steel sheet bracket for medium-heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 100 - 125 - 150 - 200 mm

### RE.F4-WH - RE.F4-WEH

**Mould-on polyurethane wheels**  
Electro-welded steel bracket for heavy loads



5500 - 23000 N

RE.F4-WH: electro-welded steel bracket for heavy loads, fixed or turning plate, with or without brake.  
RE.F4-WEH: electro-welded steel bracket for extra-heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 125 - 150 - 200 - 250 - 300 mm

### RE.F8

**Technopolymer wheels**  
Monolithic



INOX STAINLESS STEEL 1200 - 9000 N

RE.F8-N: zinc-plated or AISI 304 stainless steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
RE.F8-H: steel sheet bracket for medium-heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 65 - 80 - 100 - 125 - 150 - 200 mm

### RE.F8-WH

**Technopolymer wheels**  
Electro-welded steel bracket for heavy loads



6500 - 9000 N

Hub with ball bearings. RE.F8-WH: electro-welded steel sheet bracket for heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 125 - 150 - 200 mm

### RE.G1

**Thermoplastic rubber wheels**  
Technopolymer centre body



INOX STAINLESS STEEL 700 - 1800 N

RE.G1-N: zinc-plated or AISI 304 stainless steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
Wheel Ø: 80 - 100 - 125 - 150 mm

### RE.E2

**Vulcanised rubber wheels**  
Technopolymer centre body



650 - 2250 N

RE.E2-N: zinc-plated steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
Wheel Ø: 80 - 100 - 125 - 150 - 180 - 200 mm

### RE.E3

**Vulcanised rubber wheels**  
Steel centre body



650 - 2300 N

RE.E3-N: zinc-plated steel sheet bracket, fixed or turning plate (also with centre pass-through hole) with or without brake.  
Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

### RE.G2

**Elastic rubber wheels**  
Aluminium centre body



1800 - 5000 N

Hub with ball bearings. RE.G2-H: steel sheet bracket for medium-heavy loads, fixed or turning plate, with or without brake.  
Wheel Ø: 100 - 125 - 160 - 200 mm

### RE.C7

**Wheels for the general public**  
Vulcanised rubber coating



350 - 800 N

Technopolymer centre body. Zinc-plated steel sheet bracket, fixed or turning plate (also with centre pass-through hole or threaded pin) with or without brake. RE.C7-G: twin wheels version.  
Wheel Ø: 40 - 50 - 60 - 80 mm

### RE.C6

**Wheels for the general public**  
Injected polyurethane coating



400 - 1400 N

Technopolymer centre body. Zinc-plated steel sheet bracket, fixed or turning plate (also with centre pass-through hole or threaded pin) with or without brake. RE.C6-G: twin wheels version.  
Wheel Ø: 40 - 50 - 60 mm



# 15

## Connecting clamps



Connectors and fixed or adjustable connection clamps for square and round section tubes for the building-up of light and modular structures. Available in aluminium or stainless steel with natural finish or with epoxy resin coating, black colour.

### GN 131 - GN 131-NI

**Two-way connecting clamps**  
Aluminium or stainless steel



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Special executions on request:  
different combinations of holes.  
Holes Ø: 10 - 12 - 14 - 15 - 16 - 18 mm

### GN 132

**Two-way connecting clamps**  
Aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Special executions on request:  
different combinations of holes.  
Holes Ø: 20 - 25 - 30 - 32 - 35 - 40 - 42 - 45 - 48 - 50 - 55 - 60 mm

### GN 134

**Two-way connecting clamps**  
Aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Available with square holes, round holes or  
combination of square and round holes.  
Holes Ø: 20 - 25 - 30 - 32 - 35 - 40 - 42 - 45 - 48 - 50 mm

### GN 145 - GN 145-NI

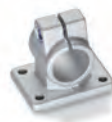
**Connecting clamps with mounting base**  
Aluminium or  
stainless steel



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 10 - 12 - 14 - 15 - 16 - 18 - 20 mm

### GN 146

**Connecting clamps with mounting base**  
Aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 20 - 25 - 30 - 32 - 35 - 40 - 42 - 45 - 48 - 50 - 55 - 60 mm

### GN 162 - GN 162-NI

**Connecting clamp bases**  
Aluminium or  
stainless steel



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 10 - 12 - 14 - 15 - 16 - 18 - 20 mm

### GN 191 - GN 191-NI

**T-shaped connecting clamps**  
Aluminium or stainless steel



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Special executions on request: different combinations  
of holes.  
Holes Ø: 10 - 12 - 14 - 15 - 16 - 18 - 20 mm

### GN 192

**T-shaped connecting clamps**  
Aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Special executions on request: different combinations  
of holes.  
Holes Ø: 20 - 25 - 30 - 32 - 35 - 40 - 42 - 45 - 48 - 50 - 55 - 60 mm

### GN 282

**Pivoting connecting clamps**  
Aluminium



Natural or with epoxy resin coating, black colour.  
With continuous adjustment or adjustment by 15°  
snaps.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 40 - 65 mm

### GN 291 - GN 291.1

**Linear actuators**  
Steel



AISI 303 stainless steel worm screw with trapezoidal  
threading; brass slider. Standard executions: right or  
left threaded screw, projecting on one side or both  
sides.  
Stroke: 65 - 70 - 100 - 115 - 150 - 165 - 170 - 200 -  
215 - 220 - 265 - 270 - 300 - 315 - 320 - 720 mm

### GN 132.2

**Two-way connecting clamps**  
for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
With or without technopolymer sliding bushings.  
Holes Ø: 30 - 40 - 50 - 60 mm

### GN 146.1

**Connecting clamps with mounting base**  
for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
With or without technopolymer sliding bushing.  
Holes Ø: 30 - 40 - 50 - 60 mm



# RH

## Handles for special applications



High standards and performances in terms of quality, design and care to surface finishes allow the application of these handles on equipment and instruments destined for sectors with very specific requirements.

### RH-UG

#### Tubular handles

Rectangular cross section, technopolymer and aluminium



Technopolymer handle shanks and aluminium tube, natural or black colour. Back mounting, zinc-plated steel tapped bosses; front mounting, pass-through holes for stainless steel cylindrical-head screws and zinc-plated self-locking nuts. Suitable for use on a 19" rack. Assembly centre distances: 55 - 88 - 100 - 120 - 180 mm

### RH-A1

#### Tubular handles

Oval cross section, aluminium



Aluminium handle shanks, available inclined or straight; threaded blind holes for M5 screws. Aluminium bar, ground surface. Technopolymer end caps. Suitable for use on a 19" rack and instruments in general. Assembly centre distances: 88 - 100 - 120 - 200 mm

### RH-S1

#### Handles

Rectangular cross section, aluminium



Natural or black colour. Threaded blind holes. A careful machining process ensures the elimination of all sharp edges. Suitable for use on a 19" rack and instruments in general. Assembly centre distances: 25 - 55 - 88 - 120 - 180 mm

### RH-AR

#### Handles

Rectangular cross section, aluminium



Aluminium handle shanks and bar. Threaded blind holes. Assembly centre distances: 300 - 500 mm

### RH-M3

#### Tubular handles

Technopolymer and aluminium



Technopolymer handle shanks. Pass-through holes for zinc-plated steel cylindrical-head screws with hexagon socket, nuts and washers. Aluminium bar, natural or black colour. Assembly centre distances: 200 - 300 - 400 mm

### RH-TL.U3

#### Tubular handles

Aluminium and stainless steel



Extruded aluminium handle shanks. Threaded blind holes. AISI 304 stainless steel tube, ground surface. Turned AISI 303 stainless steel side end elements. These handles ensure an ergonomic grip during frequent operations. Assembly centre distances: 300 - 500 - 700 mm

### RH-GM.B

#### Bent tubular handles

Aluminium and stainless steel



Aluminium handle shanks, epoxy resin coating. Threaded blind holes. AISI 304 stainless steel tube, ground surface. Technopolymer end caps. Assembly centre distances: 500 - 600 mm

### RH-HS-30

#### Modular tubular handles

Aluminium



Aluminium die-cast T-shaped connecting shanks, connecting joints and end shanks. Epoxy resin coating. Front mounting, threaded holes for zinc-plated and passivate steel M12x80 screws and washers. Aluminium tube, ground surface. Tube lengths: 200 - 300 - 400 - 500 - 600 - 700 mm Curve angles: 45° - 90°

### RH-BG

#### Bent handles

Oval cross section, aluminium



Aluminium bar, natural or black colour. Threaded blind holes. Assembly centre distances: 400 - 600 - 800 mm

### RH-ER-33

#### U-shaped and double-curved handles

Stainless steel



AISI 304 stainless steel tube, ground surface with a high resistance to strong impacts and scratches. AISI 303 stainless steel tapped bosses for cylindrical-head screws with hexagon socket and washers. Standard executions: double-curved, angular or U-shaped. Assembly centre distances: 300 - 350 - 500 mm

### RH-AK

#### Handles

Cast aluminium



Epoxy resin coating. Front mounting, pass-through holes for cylindrical-head screws with hexagon socket, stainless steel nuts and washers; back mounting, threaded blind holes. Assembly centre distances: 96 - 140 mm

### RH-EG

#### Shaped handles

Stainless steel microfusion



Threaded blind holes. Assembly centre distances: 140 - 180 mm



### RH-ST

#### Handles

Round cross section, steel



Steel bar, chrome-plated surface.  
Chrome-plated brass washers.  
Threaded blind holes.  
Assembly centre distances: 32 - 42 - 55 - 64 - 76 - 88 mm

### RH-SS

#### Handles

Round cross section, steel



Steel bar, ground and chrome-plated surface.  
Plastic central grip. Chrome-plated brass end supports.  
Threaded blind holes.  
Assembly centre distances: 55 - 88 - 100 - 120 - 180 - 200 mm

### RH-EF

#### Handles

Oval flat cross section, AISI 303 stainless steel



Threaded holes for AISI 304 stainless steel screws and washers.  
Assembly centre distances: 100 - 120 - 150 - 180 - 250 - 350 mm

### RH-OA

#### Handles

Oval flat cross section, aluminium



Natural or black colour.  
Threaded blind holes.  
Assembly centre distances: 55 - 88 - 100 - 120 - 180 - 200 - 235 - 250 mm

### RH-MK

#### Folding handles

Steel or stainless steel



Round cross section bar in steel with ground surface or AISI 303 stainless steel (RH-EK).  
Stop spring in steel or stainless steel (RH-EK) to keep the handle open or folded back.  
Zinc-plated or stainless steel (RH-EK) washers and nuts.  
Assembly centre distances: 100 - 120 - 180 - 250 mm

### RH-EE-01 - RH-EE-02 - RH-EE-03

#### Flush pull foldaway handle

AISI 304 stainless steel



Return spring from work to rest position. Pass-through holes for M4 or M5 countersunk-head screws.  
This handle is generally used on devices where it is requested to save space.  
Dimensions: 75 - 120 - 132 mm

### RH-SG

#### Flush pull handles

Technopolymer and aluminium



Natural or black colour. Technopolymer side covers.  
Back mounting by means of two rubber profiles that ensure a firm and safe assembly; front mounting by means of pass-through holes for M4 countersunk-head screws and a lower rubber profile.  
Suitable for use with plates having a thickness between 1.0 and 2.5 mm. Dimensions: 100x90 - 118x90 - 167x90 mm

### RH-SK

#### Folding handles with recessed tray

Aluminium

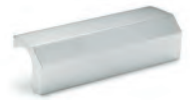


Light grey or black colour. With return spring from work to rest position or click device to stop the handle in both positions. Pass-through holes for M4 countersunk-head screws. This handle is shaped inside in order to make a more comfortable grip.  
Assembly centre distances: 50 - 79 mm

### RH-EL

#### Handles

Regular profile, stainless steel

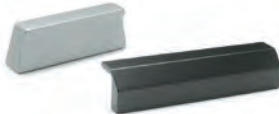


Threaded blind holes.  
Assembly centre distances: 60 - 80 - 100 - 130 mm

### RH-LG

#### Handles

Regular profile, aluminium



Natural or black colour.  
Threaded blind holes or pass-through holes for M4 countersunk head screws.  
Assembly centre distances: 30 - 45 - 70 - 90 mm

### RH-GZ

#### Simple or extensible feet

Zinc alloy



Soft PVC no-slip foot. Technopolymer safety locking device, red colour.  
Standard executions: simple or extensible foot.  
Assembly by means of M4 screws and nuts.

### RH-FG16

#### Tubular handle with built-in safety switch

Technopolymer



Technopolymer handle shanks and PVC tube. IP 65 protection class. With a button and two leds (red and green) indicating the locked and unlocked state. By pressing the button, the operator requires access to the protected area through external logic (PLC).  
Assembly centre distance: 180 mm

### RH-FG11

#### Tubular handles with built-in microswitch

Technopolymer



Microswitch with standard or protruding push-button, with green or red built-in led. Normally open contact (NO) and normally closed contact (NC). By pressing the button, the operator requires access to the protected area through external logic (PLC). Assembly centre distance: 160 mm

### RH-MA

#### Handles

Steel and technopolymer with elastomer



Steel return spring. Back mounting, holes for self-tapping screws; front mounting, holes for M4 or M5 countersunk-head screws. Suitable to be assembled on instruments, suitcases and similar applications.  
Dimensions: 203 - 223 - 238 - 241 - 268 mm

### RH-ET-CLEAN

#### Handles

AISI 303 stainless steel



Threaded blind holes for AISI 304 stainless steel screws and washers.  
Standard executions: bridge-shaped or double-curved handle.  
Assembly centre distances: 100 - 120 - 140 - 200 mm



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