

# **Quick** Catalogue

STANDARD MACHINE ELEMENTS WORLDWIDE



**elesa<sup>®</sup>**

6.0 ENG





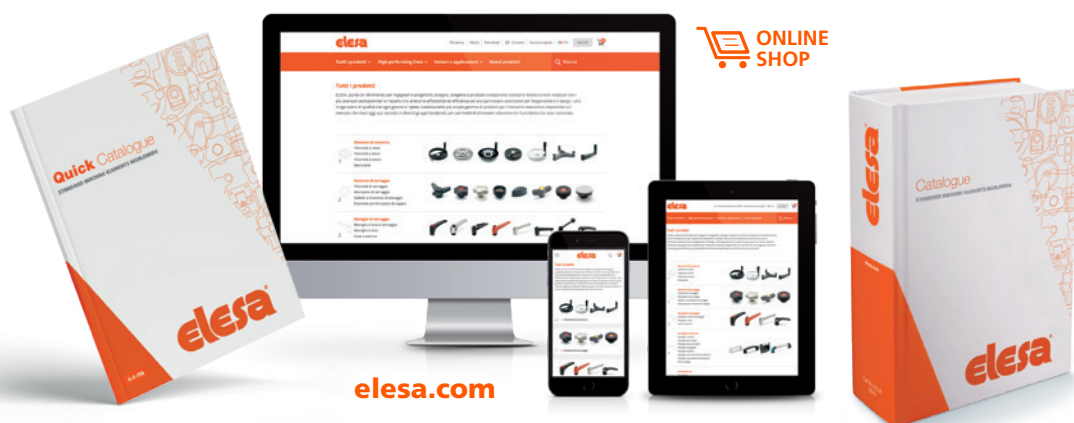




## Elesa S.p.A. - Headquarters and Production Plant in Monza (Milan) Italy

Design and production activities are based at the headquarters and facilities in Monza, a state-of-the-art industrial company utilising the latest automated production technologies. The logistics centre, equipped with modern multi-level shuttles, manages over 65,000 codes fully automatically, ensuring efficient shipments to customers in the domestic market and across a global sales network spanning more than 60 countries.

## Choose how to browse the ELESА PRODUCT RANGE



### QUICK CATALOGUE





















- Products index with pictures and essential information to view the full range in a "quick" way.
- Scan the QR code to view the product family directly online.
- All detailed technical information with dimensioned drawings and dimensional tables are available on the website or in the General Catalogue.

### ONLINE

- Always updated with New Products.
- CAD models configurator with automatic dimensioning; CAD models direct download and Part-2-CAD.
- Additional product images.
- Videos and 3D animations.
- Related products.
- Internal search engine and search filters both in the product index and table.

### GENERAL CATALOGUE

- Detailed technical information with dimensioned drawings and dimensional tables with codes and descriptions to place orders.
- Available for offline consultation in the factory departments and always on your desk!

- 
-  1 | HANDWHEELS AND CRANK HANDLES
  -  2 | CLAMPING ELEMENTS
  -  3 | CLAMPING HANDLES
  -  4 | HANDLES
  -  5 | FIXED AND REVOLVING HANDLES
  -  6 | CONTROL ELEMENTS
  -  7 | POSITION INDICATORS
  -  8 | INDEXING AND POSITIONING ELEMENTS
  -  9 | STANDARD MACHINE PARTS
  -  10 | ANTI VIBRATION MOUNTS
  -  11 | INDUSTRIAL MAGNETS
  -  12 | LEVELLING FEET AND SUPPORTS
  -  13 | HINGES AND ACCESSORIES
  -  14 | LATCHES
  -  15 | TOGGLE AND FASTENING CLAMPS
  -  16 | ACCESSORIES FOR HYDRAULIC SYSTEMS
  -  17 | CASTORS AND WHEELS
  -  18 | TUBE CONNECTORS
  -  19 | VACUUM SUCTION CUPS

## **Elesa** Product range

### **TECHNICAL DATA**

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

**elesa**<sup>®</sup>



# Mission

At Elesa, our mission is to create standard components for industrial machinery and equipment covering a multitude of different sectors. Our **extensive range** not only meets technical requirements but also provides **quality** and a **distinctive design**, able to guarantee **performance**, both in terms of **ergonomics** and **durability**, beyond pure **functionality**.

Our ambition is to set new industry standards by enriching customers' experience with a **seamless service**.

Our advanced production and logistics assets combined with our **global philosophy** and **worldwide presence** ensure product availability and proximity to customers, no matter the location.

In Elesa, we work to be synonymous with **quality** and **innovation** while upholding **sustainability**, shaping the future of **functionality** and **aesthetics** in every product we create and deliver.

# Vision

At Elesa, our vision is to pioneer a transformative approach to the industrial components market, not only designing and manufacturing **high quality products** but rather delivering **innovative solutions** that tangibly elevate user experiences across industries and foster **sustainability**.

Rooted in a foundation of **reliability** and **precision**, we constantly evolve to set new industry standards, integrating a **full-service approach** to the traditional manufacturer dimension, allowing for a **single source supplier** of exceptional quality products, delivered with **high efficiency** worldwide.

# Elesa values

## **Expertise and reliability**

Elesa's history is an example of consistency that has made the company reliable over time, continuously providing the highest standards, both in product performance and customer service worldwide.

## **Quality and service**

Elesa constantly strives to provide products of original and distinctive design, recognised internationally, and excellent service levels, with the aim of setting new standards in both product performance and service efficiency.

## **Innovation, technology and design**

Strengthened by its high level of engineering expertise, Elesa adopts transformative approaches in the design and production of industrial components, harnessing technological innovation to make its products high-performing, without compromising on customer care, with impeccable and perfectly integrated service.

## **Ethics and responsibility**

Elesa is a family owned company that focuses on ethical principles at the centre of its business. It always acts with transparency and trustworthiness, with a focus on listening to people, whether they are employees, business partners or customers. Furthermore, it adopts a sustainable and forward-looking management, becoming an active participant and driver of development in the territories in which it operates.



# Performing Design

Solid expertise, seamless service.

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 market trends, developments in production technologies and increasingly high-performance solutions. 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.

- 300 PATENTS AND REGISTERED DESIGNS
- 56 INDUSTRIAL DESIGN AWARDS
- WORLDWIDE DISTRIBUTION
- 65,000+ PRODUCT CODES AVAILABLE ON STOCK
- CUSTOMISED SOLUTIONS
- TECHNICAL COMPETENCE AT THE CUSTOMERS' SERVICE



## QUALITY - ENVIRONMENT - SAFETY - SECURITY



Quality Management System certified according to **ISO 9001** since 1993.



Environmental Management System certified according to **ISO 14001** since 2007.



Occupational Health and Safety Management System certified according to **ISO 45001** since 2012.



Information Security Management System certified according to **ISO 27001** since 2024.



**Authorised Economic Operator Full** certified by the European Custom Agency since 2014: recognition of full reliability of customs procedures.

Elesa is associated with:



Italian Packaging Machinery Manufacturers Association



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



Deutsch-Italienische Handelskammer  
Camera di Commercio  
Italo-Germanica





Design and production activities are concentrated at the headquarters in Monza where tens of millions of pieces are produced every year by utilising the latest automated production technologies.

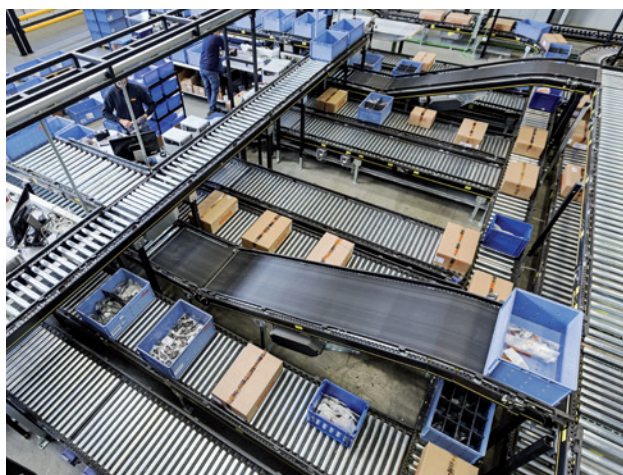
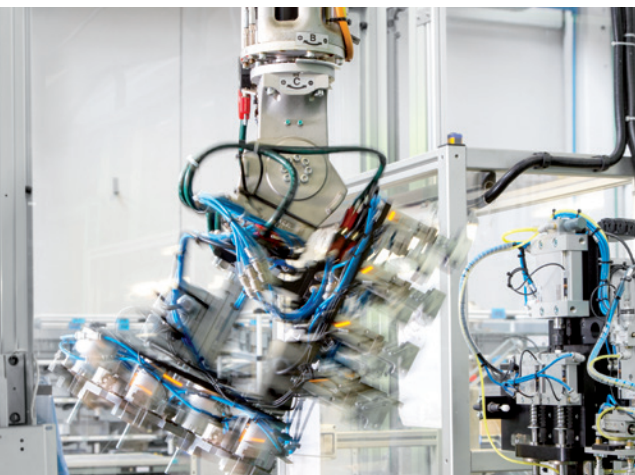
In the new, fully automated Logistics Centre, over 65,000 product codes are in stock and ready to be shipped worldwide.



WE USE ELECTRICAL ENERGY  
**100% GREEN**  
FROM RENEWABLE SOURCES



Elesa uses electricity produced only from 100% renewable sources, i.e. energy produced through the use of natural resources (water, sunlight, wind, tides, geothermal heat, etc.) which therefore do not involve CO<sub>2</sub> emissions (which are instead produced by coal, oil and gas).



# International presence

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



**60+**  
**COUNTRIES**

## ▼ WORLDWIDE SALES NETWORK

The international distribution network provides all customer services and professional technical advice.

### EUROPE

Albania, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, North Macedonia, Moldova, Norway, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, Hungary.

### ASIA

Bahrain, China, South Korea, Philippines, Japan, India, Indonesia, Israel, Kazakhstan, Malaysia, Qatar, Singapore, Taiwan, Thailand, Turkmenistan, UAE, Uzbekistan, Vietnam.

### AFRICA

Algeria, Egypt, Morocco, South Africa, Tunisia.

### AMERICA

Argentina, Brazil, Canada, Chile, Mexico, USA.

### OCEANIA

Australia, New Zealand.



# 15

## SUBSIDIARIES



Elesa France SASU



Elesa (UK) Ltd



Elesa USA Corporation



Elesa Scandinavia AB



Elesa Switzerland SA



Elesa Canada Ltd.



Elesa MX



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 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+Ganter B.V. (NL)



Elesa has been cooperating for over 50 years with Otto Ganter GmbH & Co. KG (Germany) – a qualified manufacturer of standard elements according to its own GN standards and DIN German standards, which identify the corresponding products, to offer the widest range of components for machinery and industrial equipment.

# Elesa Design



Since the 1950s, Elesa has been actively involved in the cultural revision of machine tool aesthetics that were 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 to, over the decades, as proven by the industrial design awards received over the last 40 years from the most prestigious juries.

“

*We design our products to offer perfect **functionality** and the best **ergonomics**, whilst keeping in mind the creation of **unique designs** recognisable over the world as **ELESA** products.*

”

Elesa design helps enhance the value and quality of your products. Every single detail, be it aesthetic or functional, is essential and can significantly improve the perception of a product.



Elesa is associated with:

**ADIMEMBER**

ASSOCIAZIONE  
PER IL DISEGNO INDUSTRIALE

**AIPPI**

ASSOCIAZIONE INTERNAZIONALE  
PER LA PROTEZIONE  
DELLA PROPRIETÀ INTELLETTUALE



The most prestigious juries of Industrial Design which awarded the Elesa products:



reddot design award



GERMAN  
DESIGN  
AWARD



GERMAN  
INNO  
VATION



ADI  
DESIGN  
INDEX  
Selezione Compasso d'Oro



\*As Awarded by The Chicago  
Athenaeum: Museum of  
Architecture and Design





# The utmost competence

## ▼ Research & Development

Elesa continues to invest in R&D, and in particular, 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 plastic materials to develop new and improved products, satisfying the requirements of more demanding applications in the field of industrial machines. All standard products in the Elesa range are subject to mechanical, physical, chemical, electronic and durability testing in order to provide stress resistance values in the technical data sheets to allow the correct selection of the required machine parts. The Elesa laboratory is at the disposal of customers for carrying out tests that simulate specific or particularly heavy conditions of use.

## ▼ Technical Data

Designers and engineers can benefit from a full collection of Technical Data provided with all Elesa catalogues. They include information on production materials, specifications on mechanical, thermal, flame and chemical resistance specifications together with international standards compliances, conversion tables, machining tolerances and thread types. In addition, guidelines for the correct selection and application of specific products are provided in order to allow the designers to always make the best choice.

ELESA is associated with:

**proplast**  
PLASTICS INNOVATION POLE





# Quick answers and customised solutions

Elesa offers on demand customised technical solutions to meet customers' specific needs.

## ▼ Product customisation

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

## ▼ Special colours

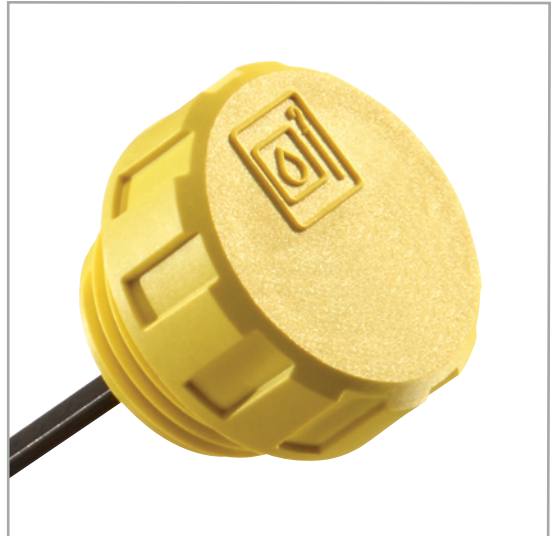
Non standard colour options.

## ▼ Surface treatments

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

## ▼ Special materials and shapes

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



# High Performing Lines

Standard Elesa product lines made of various engineering plastics and metals with innovative features, to meet the requirements of specific industries.



## **SOFT-TOUCH** SAFE, COMFORTABLE AND NON-SLIP GRIP

- Fitness, rehab and disability aids and equipment.
- High precision instruments.
- Equipment subject to unfavourable climatic conditions.



## **CHROMIUM** CHROME-PLATED TECHNOPOLYMER

- Equipment for outdoor environments subject to unfavourable climatic conditions.
- Machines and tools subject to frequent cleaning cycles.



## **CLEAN** WHITE COLOUR WITH DIRT-PROOF SURFACES

- Medical and hospital equipment.



## **PROFILE COMPATIBLE** COMPATIBLE FOR ASSEMBLY ON PROFILE SYSTEMS

- Components compatible for assembly on aluminium profile systems.



## **HYGIENIC DESIGN** DESIGN, MATERIALS AND SURFACE TREATMENTS AT THE SERVICE OF HYGIENE

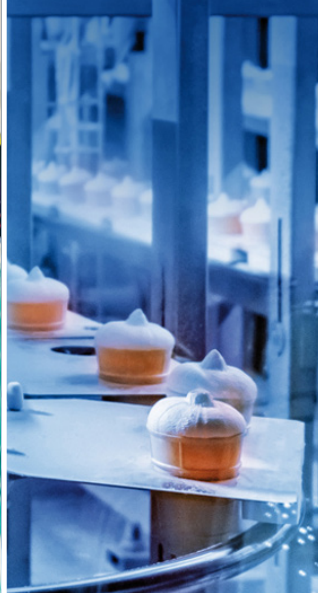
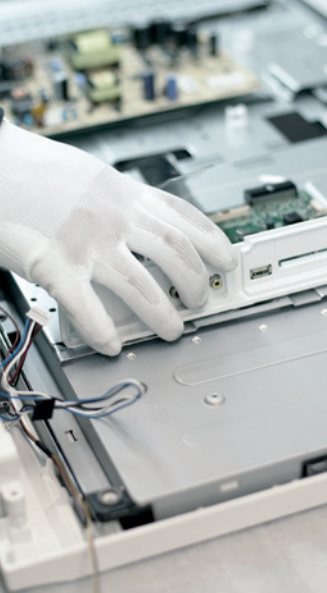
- Machines and equipment for food processing, pharmaceutical and medical sectors.



## **AE-V0** SELF-EXTINGUISHING TECHNOPOLYMER

- Urban and public fittings.
- Lighting and entertainment equipment.





#### **SAN - ANTIMICROBIAL SELF-SANITISATION AGAINST BACTERIA AND FUNGI**

- Medical, hospital, rehab and disability aids and equipment.
- Urban and public fittings.



#### **VISUALLY DETECTABLE DETECTABLE TECHNOPOLYMER RAL 5005 "SIGNAL BLUE"**

- Food-processing machines.
- Pharmaceutical equipment.



#### **METAL DETECTABLE TECHNOPOLYMER RAL 5001 "GREEN-BLUE" WITH DETECTABLE ADDITIVES**

- Food-processing machines.
- Pharmaceutical equipment.



#### **ESD CONDUCTIVE TECHNOPOLYMER**

- Assembly lines for electronic components.
- EPA "ESD- Protected Area".



#### **ATEX COMPLIANT WITH ATEX EUROPEAN DIRECTIVE**

- Equipment and machines for use in environments subject to explosion risk.



#### **INOX - STAINLESS STEEL CORROSION RESISTANCE**

- Food processing, pharmaceutical and chemical.



# ▲ 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 "metal replacement" - the possibility to replace metal - is a trend that increasingly involves numerous applications, but it is not limited to the use of high performance engineering plastics. In fact, 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



# ERGOSTYLE® line

Ergonomics and Design: the service of functionality and security.

ERGOSTYLE®  
by Elessa

○ ○ ○ ○ ○ ®

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



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 modern, elegant shapes with inserts in 7 ELECOLORS® allow the components to be better integrated on machinery from an aesthetical point of view contributing to enhance their value. In addition, the coloured inserts can be used to differentiate machinery functions.

elecolors®  
The 7 ELECOLORS® colours



Industrial Design Awards won by the ERGOSTYLE® line





# Sectors and applications



PACKAGING



CONSTRUCTION AND  
MATERIAL HANDLING  
MACHINES



CATERING AND  
FOOD INDUSTRY  
MACHINES



MEDICAL





This overview provides a selection of the main sectors in which Elesha has consolidated its presence with a range of standard products. Elesha understands that each sector has specific requirements and demands dedicated expertise to identify the most suitable solutions.

With a team of experts, Elesha is able to provide highly specialised technical support to meet the most complex requirements.



## MACHINE TOOLS



## LIGHTING, ELECTRONIC EQUIPMENT



## NAUTICAL



## ⊕ OTHERS

Office equipment and furniture, paper processing and printing machines, machines for building materials, plastic and rubber moulding machines, agriculture and gardening, woodworking machines, green energy.



# Your project, our challenge. At your service!



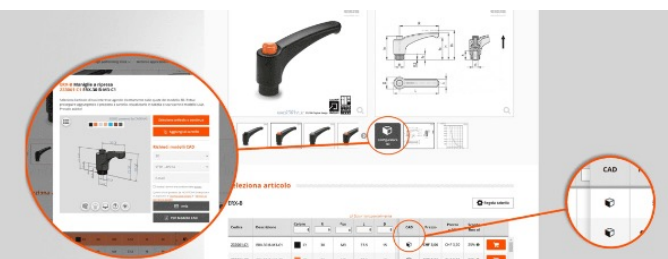
Same-day shipping for online orders before 2 p.m.

## ■ elesa.com

From desktop, tablet or smartphone, the Elessa website is **quick** and **easy to navigate**. Use simple **online tools** to **create your projects** and **purchase 24/7** in full autonomy by consulting the prices in the table, together with discounts and stocks indicated for each product code (only for countries where the online shop service is available).

- Browse the **complete catalogue**, always updated also with **new products**, additional images, related products and 3D animations.
- Download **PDF data sheet without registration**.
- Browse the range by applying the **filters for a more targeted search**.
- You can also sort the **search results by price** (only for countries where the online shop service is available).
- Sign up for the **Elesa Newsletter** and stay up-to-date on new products, technical details and exhibitions.

## Download your CAD models



- in **neutral formats** (SAT / STEP / IGES / DFX)
- in native formats of CAD systems including AutoCAD, SolidWorks, Inventor, Catia, Solid Edge, Pro/E, ME10, NX.



Follow the tutorials on how to use the configurator and CAD downloads



## Customer care

Elesa offers you a full-service approach to be your single source supplier of quality products.

### What can you count on?

**Rapidity:** Elesa Customer Service answers quickly to your requests also through your preferred channels.

**Technical expertise:** a team of highly qualified and constantly updated operators is at your disposal to offer you the best solutions and our services.

**Dialogue:** your demands always at the centre and a customised technical support at your disposal to follow you step by step towards the development of your project.



## Product availability

The central warehouse in Monza, with more than 65,000 product codes in stock, is able to meet the demands of all customers and to supply both the subsidiaries and the entire worldwide distribution network to ensure product availability wherever you are.



## Exhibitions and Road-shows

With a presence at more than 120 exhibitions around the world, Elesa offers its customers the opportunity to learn the latest innovations and to engage directly with experts.

Elesa can also bring the exhibition experience directly to customers' premises, offering a customised and tailor-made service.



Follow the exhibitions calendar



# Quick Catalogue: how to select a product

## Product group

## Product family

Scan the **QR code** to access the product family on **elesa.com**

Number of available series for **material** and **type** of assembly

**High Performing Lines**  
See page 12-13

**Technical Data Index**  
Open the folding cover at the end of this Quick Catalogue to discover the Technical Data Index.  
Scan the **QR code** to go to the full collection on **elesa.com**

1

2

3

4

5

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7

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9

10

11

12

13

14

15

16

17

18

19

1

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

1.1 Spoked handwheels

QR code

elesa.com

Material

- Technopolymer (4)
- Duroplast (2)
- Steel (2)
- Stainless steel (5)
- Aluminium (2)
- Cast iron (1)

Type of assembly

- Plain hole (15)
- Plain hole and keyway (6)
- Square hole (5)
- Not drilled (1)

Handle

- Without handle (13)
- Fixed handle (1)
- Revolving handle (12)
- Fold away handle (7)
- Safety fold away handle (1)

VRTP.  
Spoked handwheels  
Technopolymer

PP

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

VRTP-P-SST  
Spoked handwheels with solid section  
Technopolymer

INOX 304 PP

AISI 304 stainless steel boss, with AISI 304 stainless steel boss cap plate.  
Technopolymer and plate adhesive suitable for contact with food (FDA CFR.21 and EU 10/2011).  
Diameters: 80 - 100 - 125 - 160 - 200 mm

GN 322 - GN 322.3  
Spoked handwheels  
Aluminum

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

GN 949  
Spoked handwheels  
Stainless steel

INOX 304

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

VRU.  
Spoked handwheels  
Duroplast, large diameter hub

PF

Large diameter black-oxide steel hub, uncovered front end with spot-drilling.  
Diameters: 125 - 160 - 200 - 250 mm

GN 924 - GN 924.3 - GN 924.7  
Spoked handwheels  
Aluminum

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

VR-FP  
Spoked handwheels  
Duroplast, steel hub

PF

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

DIN 950  
Spoked handwheels  
Cast iron

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

24

elesa

GN, DIN Gantner

## Symbols for technical characteristics

PP	Polypropylene based technopolymer	PA-T	Transparent polyamide based technopolymer	PF PAINTED	Phenolic based Duroplast with epoxy resin coating	PMMA	Polymethyl methacrylate	SC	Samarium cobalt
PP-FDA	Polypropylene based technopolymer Certified in compliance with FDA	PA-T H	"Alcohol Resistant"	TPE	Thermoplastic elastomer	FKM	Fluorine rubber	AN	Aluminium nickel cobalt
PA	Polyamide based technopolymer	PE	Polyethylene based technopolymer	TPU	Thermoplastic polyurethane	NBR	Nitrilic synthetic rubber		
PA-FDA	Polyamide based technopolymer. Certified in compliance with FDA conforme FDA	PTFE	Polytetrafluoroethylene based technopolymer	POM	Acetal resin based technopolymer	HF	Ferrite		
HMWPE	Polyethylene based technopolymer	PF	Phenolic based Duroplast	PC	Polycarbonate	ND	Neodymium iron boron		

20



# elesa®



The complete range is available at [elesa.com](https://www.elesa.com)

# The Elesa range

**1**  
p.24

## HANDWHEELS AND CRANK HANDLES

Spoked handwheels  
Solid handwheels  
Arm handwheels  
Crank handles



**2**  
p.31

## CLAMPING ELEMENTS

Clamping knobs  
Thumb Screws  
Wing nuts and wing knobs  
Torque limiting knobs



**3**  
p.44

## CLAMPING HANDLES

Clamping handles and locking levers  
Lever handles  
Cam levers



**4**  
p.50

## HANDLES

Bridge, flush pull, ledge, folding, tubular handles  
Handles with electrical switch  
Handles with pneumatic valve  
Finger handles



**5**  
p.73

## FIXED & REVOLVING HANDLES

Knobs  
T-Handles  
Fixed, revolving and fold-away handles  
Gear lever handles



**6**  
p.83

## CONTROL ELEMENTS

Control knobs  
Control levers  
Adjustment elements with lock



**7**  
p.88

## POSITION INDICATORS

Gravity and positive drive indicators  
Mechanical and electronic indicators  
Magnetic measuring systems  
Handwheels and accessories



**8**  
p.96

## INDEXING AND POSITIONING ELEMENTS

Indexing plungers  
Lever indexing plungers  
Quick release pins  
Spring plungers



**9**  
p.113

## STANDARD MACHINE PARTS

Grub-screws, thrust pads, rings, washers  
Set collars, T-nuts  
Locking elements and transfer units  
Modular roller tracks  
Spirit level bubbles  
Transmission elements



**10**  
p.129

## ANTI VIBRATION MOUNTS

Rubber buffers  
Anti vibration mounts  
Spring mounts and wire rope isolators





**11**  
p.133

## INDUSTRIAL MAGNETS

Flat magnets  
Cylindric magnets  
Unshielded magnets  
Horseshoe magnets and profile magnets  
Grub screws with magnet, accessories



**12**  
p.137

## LEVELLING FEET AND SUPPORTS

Adjustable feet, End caps and connectors  
Panel support brackets and connecting clamps  
Conveyor components, support bearings  
Angle brackets for profile structures



**13**  
p.157

## HINGES AND ACCESSORIES

Hinges, friction and detent, adjustable hinges  
Hinges for narrow jamb  
Lift-off hinges  
Electrical safety hinges  
Spring hinges and shock absorbing hinges



**14**  
p.168

## LATCHES

Latches with knob  
Snap locks  
Latches with key  
Toggle latches



**15**  
p.176

## TOGGLE AND FASTENING CLAMPS

Horizontal, vertical, push-pull toggle clamps  
Latch clamps and reverse clamps  
Pneumatic fastening clamps  
Toggle-joint mechanism and accessories



**16**  
p.186

## ACCESSORIES FOR HYDRAULIC SYSTEMS

Blanking plugs and breather caps  
Oil level sight glasses, level indicators and electrical  
Flow indicators and level sensors  
Flexible coolant hoses



**17**  
p.204

## CASTORS AND WHEELS

Polyurethane castors and wheels  
Technopolymer castors and wheels  
Rubber castors and wheels  
Duroplast wheels



**18**  
p.210

## TUBE CONNECTORS

Connecting clamps for tubes  
Hinged joints for tubes  
Tubes and accessories  
Tube connectors for linear actuators  
Linear actuators and accessories



**19**  
p.226

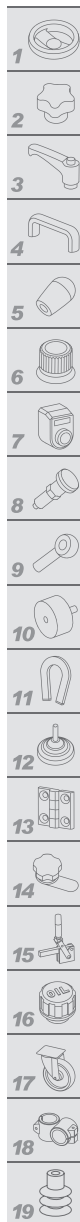
## VACUUM SUCTION CUPS

Vacuum cups  
Vacuum cup holders  
Vacuum cup fittings



## TECHNICAL DATA INDEX

Open the folding cover at the end of this Quick Catalogue to discover the Technical Data Index.  
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## Handwheels and crank handles



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

### 1.1 Spoked handwheels



elesa.com

#### Material

- Technopolymer (4)
- Duroplast (2)
- Steel (2)
- Stainless steel (5)
- Aluminium (2)
- Cast iron (1)

#### Type of assembly

- Plain hole (15)
- Plain hole and keyway (6)
- Square hole (5)
- Not drilled (1)

#### Handle

- Without handle (13)
- Fixed handle (1)
- Revolving handle (12)
- Fold away handle (7)
- Safety fold away handle (1)

#### VRTP. Spoked handwheels Technopolymer



Black-oxide steel boss, H7 reamed hole or with keyway, boss cap plate in anodised aluminium or technopolymer, in standard 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 suitable for contact with food (FDA CFR.21 and EU 10/2011).  
Diameters: 80 - 100 - 125 - 160 - 200 mm

#### GN 322 - GN 322.3 Spoked handwheels Aluminum



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

#### GN 924 - GN 924.3 - GN 924.7 Spoked handwheels Aluminum



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

#### GN 949 Spoked handwheels Stainless steel



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

#### VR.FP Spoked handwheels Duroplast, steel hub



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

#### VRU. Spoked handwheels Duroplast, large diameter hub



Large diameter black-oxide steel hub, uncovered front end with spot-drilling.  
Diameters: 125 - 160 - 200 - 250 mm

#### DIN 950 Spoked handwheels Cast iron



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

## 1. Handwheels and crank handles

### 1.1 Spoked handwheels *continues*

#### GN 950.6 Spoked handwheels *Stainless steel*



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



#### GN 228 Spoked handwheels *Pressed steel*

Turned and welded hub, H11 square hole, H9 reamed hole or with keyway.  
Diameters: 125 - 160 - 200 - 250 - 315 - 400 mm



#### GN 228-A4 Spoked handwheels *AISI 316L stainless steel*



Turned and welded hub, H11 square hole, H9 reamed hole or with keyway.  
Diameters: 125 - 160 - 200 - 250 - 315 - 400 mm



#### GN 227.2 Spoked handwheels *Pressed stainless steel*

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



#### GN 227.1 - GN 227.4 Spoked handwheels *Steel or pressed stainless steel*



Welded hub with H9 reamed pass-through hole or H11 square pass-through hole.  
Diameters: 125 - 160 - 200 - 250 - 315 - 400 mm



#### GN 227.7 Spoked handwheels *for valves, pressed steel*

Welded hub with H9 reamed pass-through hole or H11 square pass-through hole.  
Diameters: 125 - 160 - 200 - 250 - 315 - 400 mm



#### EMW. Monospoke handwheels *Technopolymer*



Black-oxide steel boss, H7 reamed hole with boss cover cap in technopolymer, in standard colours.  
Versions with locking system (Elesa patent).  
Diameter: 350 mm



#### ETW.375 Spoked handwheels *Technopolymer*



Black-oxide steel boss, H7 reamed hole with boss cover cap in technopolymer, in standard colours.  
Versions with locking system (Elesa patent).  
Diameter: 375 mm



### 1.2 Solid handwheels



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#### VDS. Solid handwheels *Technopolymer*



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



#### VDN.FP Solid handwheels *Duroplast, steel hub*



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



# 1. Handwheels and crank handles

## 1.2 Solid handwheels

continues



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### Material

- Technopolymer (2)
- Duroplast (5)
- Steel (1)
- Aluminium (4)

### Type of assembly

- Plain hole (8)
- Plain hole and keyway (7)
- Not drilled (2)

### Handle

- Without handle (6)
- Revolving handle (8)
- Fold away handle (5)
- Safety fold away handle (3)

### VDN.FP-SST Solid handwheels Duroplast, stainless steel hub



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



### VDN.FP+I+ST Safety solid handwheels Duroplast



Safety coupling boss, H7 reamed hole and keyway.  
Diameters: 125 - 150 - 175 - 200 - 250 mm



### VDT. Solid handwheels Technopolymer



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



### GN 000.5 Safety coupling bushings for handwheels or handles, steel



Boss with H7 reamed hole and keyway.  
Diameters: 29 - 33 - 39 - 46 mm

### GN 321 Solid handwheels Aluminum

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



### GN 923 Solid handwheels Aluminum



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



### GN 923.3 Solid handwheels Aluminum, with fold- away handle



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



### GN 923.7 Solid handwheels Aluminum, with safety fold-away handle



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



### VDG+IR Solid handwheels with graduation Duroplast



Black-oxide steel hub, H7 reamed hole with keyway.  
Diameters: 175 - 200 mm



### VDA+I Handwheels for metal flanges Duroplast



Diameters: 160 - 200 mm





## 1. Handwheels and crank handles

### 1.3 Arm handwheels



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#### Material

- Technopolymer (4)
- Duroplast (1)

#### Type of assembly

- Plain hole (5)

#### Handle

- Fixed handle (3)
- Revolving handle (2)

#### VB.198

##### Four-arm handwheel *Duroplast*



Black-oxide steel hub, uncovered front end with pre-drilled pass-through hole.  
Maximum permissible diameter 16 mm



#### VBR.2

##### Two-arm handwheels *Technopolymer and steel*



Black-oxide steel boss, uncovered front end with pre-drilled pass-through hole.  
Diameters: 200 - 280 - 320 - 370 mm



#### VBR.4

##### Four-arm handwheels *Technopolymer and steel*



Black-oxide steel boss, uncovered front end with pre-drilled pass-through hole.  
Diameters: 200 - 280 - 320 - 370 mm



#### EYK.

##### Three-arm handwheels *Technopolymer*



Black-oxide steel boss, H7 reamed hole with boss cover cap in technopolymer, in standard colours.  
Versions with locking system (Elesa patent).  
Diameters: 275 - 400 mm



#### ETK.

##### Three-arm handwheel *Technopolymer*



Black-oxide steel boss, H7 reamed hole with boss cover cap in technopolymer, in standard colours.  
Versions with locking system (Elesa patent).  
Diameter: 400 mm



### 1.4 Crank handles



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#### EIK.

##### Crank handle *Technopolymer, large diameter hub*



Black-oxide steel boss, H9 reamed hole with keyway and boss cover cap in technopolymer.  
Dimension: 210 mm



#### ERFW+I

##### Crank handles *Technopolymer*



Brass boss, cylindrical blind hole.  
Dimensions: 44 - 63 - 78 mm



#### MT-AT

##### Crank handles *Technopolymer*



Black-oxide steel boss, H9 reamed hole.  
Dimensions: 50 - 64 - 80 - 100 - 130 - 160 mm

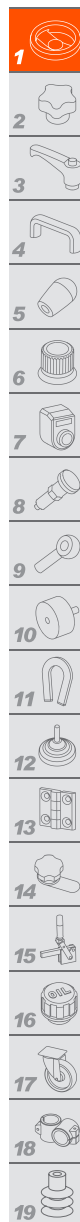


#### MT.

##### 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



# 1. Handwheels and crank handles

## 1.4 Crank handles

continues



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### Material

- Technopolymer (6)
- Steel (1)
- Stainless steel (3)
- Aluminium (3)
- Cast iron (2)
- Die-cast zinc alloy (2)

### Type of assembly

- Plain hole (17)
- Plain hole and keyway (2)
- Square hole (8)

### Handle

- Fixed handle (4)
- Revolving handle (13)
- Fold away handle (4)

### GN 471 Crank handles Aluminum



H7 reamed pass-through hole or H11 square pass-through hole.  
Dimensions: 64 - 80 - 100 - 125 - 160 mm

### GN 471.1 Crank handles Zinc alloy



H7 reamed pass-through hole or H11 square pass-through hole.  
Dimensions: 64 - 80 - 100 - 125 - 160 mm

### GN 472.3 Crank handles Aluminum



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

### GN 472.5 Crank handles Aluminium, stainless steel



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

### EKH. Crank handles Technopolymer



Hub cap in technopolymer, in standard colours.  
Black-oxide steel hub, H7 reamed hole.  
Dimensions: 100 - 125 mm

### GN 269 Crank handles Stainless steel



H9 reamed hole or H11 square hole.  
Dimensions: 80 - 100 - 125 - 160 - 200 mm

### GN 369 Crank handles Steel



Hub, H9 reamed hole with end grooving.  
Dimensions: 63 - 80 - 100 - 125 mm

### GN 369.5 Crank handles Stainless steel



Hub, H9 reamed hole with end grooving.  
Dimensions: 63 - 80 - 100 - 125 mm

### DIN 468 Crank handles Cast iron



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

### DIN 469 Crank handles Cast iron



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

## 1. Handwheels and crank handles

### 1.4 Crank handles

*continues*

#### GN 558

**Crank handles**  
with positioning and  
rest pin, cast iron



Hub with H7 reamed hole and keyway.  
Dimensions: 75 - 90 - 110 - 135 - 165 mm

#### METP.

**Balanced crank  
handle**  
Technopolymer



PA

Black-oxide steel boss, H7 reamed hole.  
Dimensions: 170 mm

#### ME.

**Balanced crank  
handles**  
Duroplast



PF

Black-oxide steel boss, H7 reamed hole.  
Dimensions: 65 - 80 - 95 - 110 - 140 mm

#### GN 112.1

**Balanced crank  
handles**  
Zinc alloy



H7 reamed blind hole.  
Dimensions: 70 - 80 - 90 - 100 mm



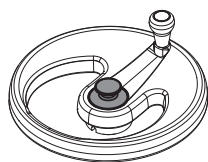


# Steering handwheels

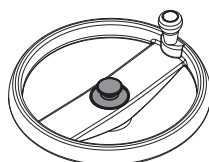
Executions on request with locking and status indicators (Pat. Elessa)



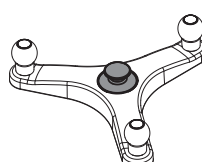
EMW.



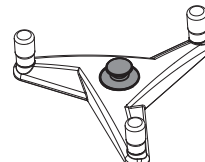
ETW.375



EYK.

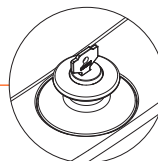
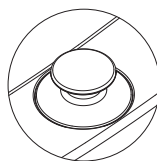


ETK.



## ■ L Simple actuator

By pressing the actuator the rotation of the handwheel locks. Also available with label customisable with graphic symbols, marks or special graphics.

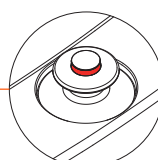
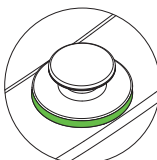


## ■ L-K Actuator with lock

By pressing the actuator the rotation of the handwheel locks. By turning the key by 180° the actuator remains in the locked position.

## ■ LCV Actuator with green collar

The green collar indicates that the handwheel is free and it can be operated. By pressing the actuator the rotation of the handwheel locks (the green collar is no longer visible).

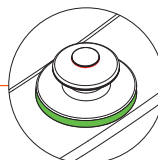
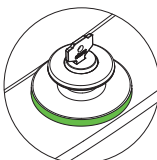


## ■ L-R Actuator with red ring

By pressing the actuator the rotation of the handwheel locks. The red ring comes out from the actuator and indicates that the handwheel is locked.

## ■ LCV-K Actuator with green collar and lock

The green collar indicates that the handwheel is free and it can be operated. By pressing the actuator the rotation of the handwheel locks (the green collar is no longer visible). By turning the key by 180° the actuator remains in the locked position.

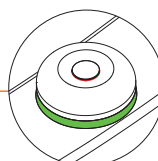
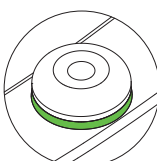


## ■ LCV-R Actuator with green collar and red ring

The green collar indicates that the handwheel is free and it can be operated (the red ring is not visible). By pressing the actuator the rotation of the handwheel locks. The red ring comes out from the actuator and indicates that the handwheel is locked (the green collar is no longer visible).

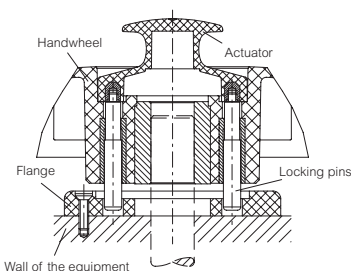
## ■ PHCV "Push-push" actuator with green collar

The green collar indicates that the handwheel is free and it can be operated. By pressing the actuator the rotation of the handwheel locks or unlocks. It is ideal for disabled operators according to ADA regulations (Americans with Disability Act).



## ■ PHCV-R "Push-push" actuator with green collar and red ring

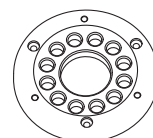
The green collar indicates that the handwheel is free and it can be operated (the red ring is not visible). By pressing the actuator the rotation of the handwheel locks or unlocks. The red ring comes out from the actuator and indicates that the handwheel is locked (the green collar is no longer visible). It is ideal for disabled operators according to ADA regulations (Americans with Disability Act).



Fitting to shaft by means of a transversal screw

## ■ FF Locking flange (accessory)

Polyamide-based SUPER-technopolymer (PA), black colour, matte finish. The flange is provided with 12 holes (radially positioned every 30°) for the engagement of the locking pins of the handwheel. Mounting of the flange on the wall of the equipment by means of 3 holes for countersunk head screws. Additional 3 holes to position any reference pin.



## ■ PP Pre-loaded pins

Locking pins with preloading spring for automatic fitting into the locking holes (applicable to all executions).



## Clamping elements



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.

### 2.1 Clamping knobs



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#### Material

- Technopolymer (34)
- Duroplast (9)
- Steel (1)
- Stainless steel (33)
- Aluminium (2)
- Aluminium - Stainless steel (1)
- Cast iron (2)

#### Type of assembly

- Blind hole (39)
- Pass-through hole (26)
- Not drilled (3)
- Threaded screw (31)

#### 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



#### VB.839 Three-arm knobs Technopolymer



Brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated steel threaded stud. Cap in standard colours. Diameters: 63 - 80 - 100 mm



#### VB.839 SOFT Three-arm knobs Soft-touch technopolymer



Brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated steel threaded stud. Cap in standard colours. Diameters: 63 - 80 - 100 mm



#### VB.239 Three-arm knobs Duroplast, hub with pre-drilled hole



Black-oxide steel hub with uncovered front end, pre-drilled blind hole. Diameters: 80 - 100 - 140 mm



#### VCT. Lobe knobs Technopolymer



Black-oxide steel boss with plain blind hole; brass, stainless steel or zinc-plated steel boss with blind or pass-through threaded hole; zinc-plated steel or stainless steel threaded stud. Cap in standard colours. Diameters: 25 - 32 - 40 - 50 - 63 - 74 - 95 mm



#### VCT.AE-V0 Lobe knobs Technopolymer certified self-extinguish



Brass boss with blind or pass-through threaded hole. Diameters: 25 - 32 - 40 - 50 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-RC Lobe knobs with elastic fork, technopolymer

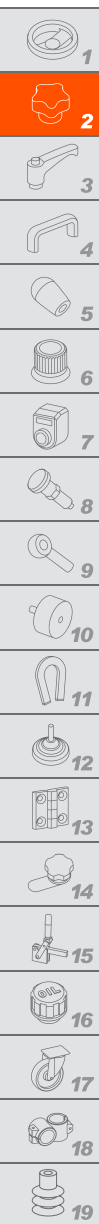


Brass boss with threaded pass-through hole or zinc-plated steel threaded stud. Diameters: 25 - 32 - 40 - 50 - 63 mm



## 2. Clamping elements

### 2.1 Clamping knobs continues



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



Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Cap in standard 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 threaded pin.  
Diameters: 40 - 50 mm



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



Brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated steel or AISI 303 stainless steel threaded stud.  
Diameters: 25 - 32 - 40 - 50 - 60 mm



#### **VC.692-CLEAN** Lobe knobs *Technopolymer, easy cleaning*



White colour similar to RAL 9002.  
AISI 303 stainless steel boss, threaded blind hole.  
Diameters: 32 - 40 - 50 - 60 mm



#### **VC.692-CR** Lobe knobs *Technopolymer chrome-plated*



Technopolymer chrome-plated with polished finish, resistant to wear, rubbing and shocks.  
Brass boss, threaded blind hole.  
Diameters: 32 - 40 - 50 - 60 mm



#### **VC.692-SST-p-P** Lobe knobs with solid section *Technopolymer, pad*



Threaded stud in AISI 303 stainless steel, pressure pad in acetal resin or brass.  
Diameters: 25 - 32 - 40 - 50 mm



#### **VC.692-SST-p-SV** Lobe knobs with locking thrust pad *Technopolymer*



AISI 303 stainless steel threaded stud, spherical end.  
Diameters: 25 - 32 - 40 - 50 - 60 mm



#### **VTT** Solid knobs *Technopolymer, easy cleaning*



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 - 60 mm



#### **VTT-CLEAN** Solid knobs *Technopolymer, easy cleaning*



AISI 304 stainless steel boss, threaded blind hole; stainless steel AISI 304 threaded stud.  
Diameters: 25 - 32 - 40 - 50 - 60 mm



#### **VTT-SST-SAN** Lobe knobs with solid section *Technopolymer with antimicrobial protection*



AISI 304 stainless steel boss, threaded blind hole.  
Diameters: 40 - 50 mm





## 2. Clamping elements

### 2.1 Clamping knobs continues

#### VTT-SST-VD Lobe knobs with solid section *Visually Detectable technopolymer, easy cleaning*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). AISI 304 stainless steel boss, threaded blind hole; stainless steel AISI 304 threaded stud. Diameters: 40 - 50 mm



#### VTT-SST-MD Lobe knobs with solid section *Metal Detectable technopolymer, easy cleaning*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). AISI 304 stainless steel boss, threaded blind hole; stainless steel AISI 304 threaded stud. Diameters: 40 - 50 mm



#### VTT-LP Lobe knobs with solid section *with retaining chain, technopolymer*



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 - 60 mm



#### VTT-RC Lobe knobs with solid section *with elastic fork, technopolymer*



Brass or AISI 304 stainless steel boss, threaded blind hole; zinc-plated steel or AISI 304 stainless steel threaded stud. Diameters: 25 - 32 - 40 - 50 mm



#### VTT-HL Knob for tightening with spanner *Technopolymer*



Zinc-plated steel or AISI 304 stainless steel hexagonal shank, threaded blind hole. Diameters: 40 - 50 - 60 mm



#### VTT-C Lobe knobs *with cap, technopolymer*



Brass boss with threaded pass-through hole, zinc-plated steel threaded stud. Cap in standard colours. Diameters: 25 - 32 - 40 - 50 mm



#### VMT-SST Three-arm knobs *Stainless steel, easy cleaning*



Undrilled hub, H7 reamed blind hole, blind or threaded pass-through hole. Diameters: 25 - 32 - 40 - 50 - 60 mm



#### VMT-A4 Three-arm knobs *AISI 316L stainless steel, easy cleaning*



Undrilled hub, H7 reamed blind hole, blind or threaded pass-through hole. Diameters: 25 - 32 - 40 - 50 - 60 mm



#### GN 5334.13 Lobe knobs *with retaining chain or retaining cable, stainless steel*



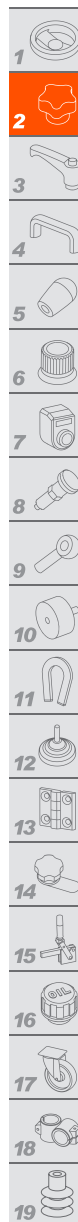
Hub with threaded blind hole, threaded pin. Diameters: 40 - 50 - 60 mm



#### GN 5445 Three-arm knobs *Stainless Steel, Hygienic Design*



Threaded blind hole. Diameters: 40 - 50 mm



## 2. Clamping elements

### 2.1 Clamping knobs continues



#### **VLS.** Safety lobe knobs *Technopolymer*



Brass boss, threaded blind hole;  
AISI 304 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



#### **VLSK** Safety lobe knobs *Technopolymer, with lock*



Brass boss, threaded pass-through hole;  
zinc-plated steel threaded stud.  
Diameter: 63 mm



#### **VC.253** Shortened lobe knobs *Duroplast*



Black-oxide steel boss, threaded pass-through  
hole.  
Diameters: 40 - 50 - 60 - 85 mm



#### **VC.254** Lobe knobs *Duroplast*



Brass boss, threaded pass-through hole.  
Diameters: 40 - 50 - 60 - 70 - 85 mm



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



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



#### **VCM.** Lobe knobs *Aluminum*

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



#### **VCM-SST** Lobe knobs *Stainless steel*



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



#### **GN 5335** Lobe knobs *AISI 303 stainless steel, easy cleaning*



Undrilled hub, H7 reamed blind hole, blind or  
threaded pass-through hole, threaded pin.  
Diameters: 40 - 50 - 60 mm



#### **GN 5335.4** Lobe knobs *AISI 316L stainless steel, easy cleaning*



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



#### **GN 5435** Lobe knobs **Hygienic Design** *Stainless steel*



Hub with threaded blind hole.  
H-NBR or EPDM synthetic rubber packing ring,  
FDA compliant.  
Diameters: 40 - 50 mm



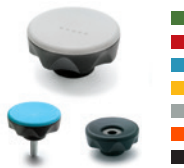
## 2. Clamping elements

### 2.1 Clamping knobs continues

#### ELK. Knobs with rear lobes Technopolymer

ERGOSTYLE®  
PA

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. Cover in standard colours fixed to the knob with ultrasound welding.  
Diameters: 45 - 56 - 70 mm



#### VL.640-FP Handwheels with lobes Technopolymer

PA

Black-oxide steel hub, with pre-drilled blind hole.  
Revolving handle L.281+x  
Diameters: 80 - 100 - 130 mm



#### VL.140-FP Lobe knobs Duroplast

PF

Non-drilled black-oxide steel hub with blind pre-drilled hole, H7 reamed pass-through hole, or 6H threaded pass-through hole.  
Diameters: 50 - 60 - 70 - 80 - 100 - 130 mm



#### VL.155 Lobe knobs Duroplast

PF

Black-oxide steel or brass boss with smooth or threaded blind hole; zinc-plated steel threaded stud.  
Diameters: 50 - 60 - 70 - 80 - 100 - 130 mm



#### VH.153 Lobe knobs Duroplast

PF

Black-oxide steel or brass boss with smooth or threaded blind hole; zinc-plated steel threaded stud.  
Diameters: 54 - 62 - 74 - 85 mm



#### VTL. Lobe knobs Technopolymer

PA

Brass boss, threaded blind hole.  
Diameter: 50 mm



#### VCHT. Lobe knobs Technopolymer, hub with plain or threaded hole

PA

Zinc-plated steel hub, H7 reamed or threaded pass-through hole.  
Diameters: 25 - 32 - 40 - 50 - 63 - 74 mm



#### VCRT. Shortened lobe knobs Technopolymer, square or threaded hole

PA

Brass frame with square pass-through hole; brass boss with threaded pass-through hole.  
Diameters: 25 - 32 - 40 - 50 - 63 - 74 - 95 mm



#### VCR.192 Shortened lobe knobs Duroplast, square hole

PF

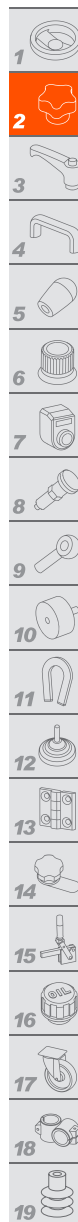
Brass frame with square pass-through hole.  
Diameters: 40 - 50 - 60 - 70 - 85 - 100 mm



#### VZ. Knurled grip knobs Duroplast, square hole

PF

Brass frame with square pass-through hole.  
Diameters: 42 - 56 mm





## 2. Clamping elements

### 2.1 Clamping knobs continues



#### **DIN 6335** **Star knobs** *Cast iron or stainless steel*



Hub with H7 reamed blind hole, threaded pass-through or blind hole.  
Diameters: 32 - 40 - 50 - 63 - 80 - 100 mm



#### **GN 6335** **Star knobs** *AISI 316 stainless steel*



Hub with threaded pass-through or blind hole.  
Diameters: 32 - 40 - 50 - 63 mm



#### **GN 6335.5** **Star knobs** *Stainless steel, aluminium*



Hub with threaded pin.  
Diameters: 40 - 50 - 63 mm



#### **DIN 6336** **Lobe knobs** *Cast iron or stainless steel*



Hub with H7 reamed blind hole, threaded pass-through or blind hole.  
Diameters: 32 - 40 - 50 - 63 - 80 mm



#### **GN 6336** **Lobe knobs** *AISI 316 stainless steel*



Hub with threaded pass-through or blind hole.  
Diameters: 32 - 40 - 50 - 63 mm



#### **GN 6336.5** **Lobe knobs** *Stainless steel, aluminium*



Hub with threaded pin.  
Diameters: 40 - 50 - 63 mm



#### **GN 6336.3** **Quick-tightening knobs** *Technopolymer*



Hub with partially threaded pass-through slanting hole.  
Diameters: 40 - 50 - 63 mm



#### **GFL** **Lobe threaded nut** *Technopolymer*



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



#### **GN 6305.1** **Quick-tightening toggle nuts** *Steel*



Hub with partially threaded pass-through slanting hole.  
Diameters: 24 - 26 - 32 mm

## 2. Clamping elements

### 2.2 Thumb screws



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#### Material

- Technopolymer (12)
- Duroplast (4)
- Technopolymer - Stainless steel (2)
- Steel (8)
- Stainless steel (11)

#### Type of assembly

- Blind hole (13)
- Pass-through hole (10)
- Threaded screw (17)

#### 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



Hub with threaded blind hole.  
Diameters: 32 - 40 - 50 - 60 mm

#### MCT.

#### Fluted knobs

Technopolymer,  
assembly with screw



Cover in orange or black colour.  
Assembly by means of hexagon head screws or standard lock nuts (not supplied) to put in place inside the knob by pressing.  
Diameters: 35 - 50 - 70 mm

#### MDA.

#### Fluted knobs

Technopolymer,  
assembly with screw



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

#### GN 6303.1 Quick-tightening knurled knobs

Steel



Hub with partially threaded pass-through slanting hole.  
Diameters: 20 - 24 - 30 - 36 - 40 mm

#### BT.

#### Fluted knobs

Technopolymer



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: 12 - 16 - 20 - 25 - 32 - 40 - 50 mm

#### BT-ESD

#### Fluted knobs

ESD conductive  
technopolymer



Brass boss with threaded blind or pass-through hole; zinc-plated steel threaded stud.  
Diameters: 16 - 20 - 25 - 32 mm

#### BT-SST-p-SV

#### Fluted knobs with locking thrust pad

Technopolymer



AISI 303 stainless steel threaded stud, spherical end.  
Diameters: 25 - 32 - 40 mm

#### BT-AV

#### Fluted knobs

for screwing with  
a screwdriver,  
technopolymer



Brass boss with threaded blind hole; zinc-plated steel threaded stud.  
Diameters: 12 - 16 - 20 mm

#### BT-HP

#### Retained fluted knobs

Technopolymer



Zinc-plated steel or AISI 304 stainless steel threaded stud.  
Diameters: 25 - 32 mm



## 2. Clamping elements

### 2.2 Thumb screws continues



#### **BT-HP-AV** **Retained fluted knobs** for screwing with a screwdriver, technopolymer



Zinc-plated steel or AISI 304 stainless steel threaded stud.  
Diameters: 12 - 16 - 20 mm



#### **BTL** **Fluted knobs** Technopolymer, elongated hub



Brass boss with threaded blind hole;  
zinc-plated steel threaded stud.  
Diameters: 20 - 25 mm



#### **B.193** **Knurled knobs** Duroplast



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 knobs** Stainless steel



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



#### **B.259** **Knurled knobs** Duroplast



Brass boss with threaded blind hole, or zinc-  
plated steel threaded stud.  
Diameters: 20 - 25 - 30 mm



#### **B.259-CLEAN** **Knurled knobs** Duroplast, easy cleaning



AISI 303 stainless steel boss, threaded blind  
hole.  
Diameters: 20 - 25 - 30 mm



#### **B.220** **Knurled knobs** Duroplast



Black-oxide steel hub, plain blind hole.  
Diameter: 32 mm



#### **DIN 6303** **Knurled knobs** Steel

Plain or threaded pass-through hole, with or  
without transverse semi-hole.  
Diameters: 20 - 24 - 30 - 36 - 40 mm



#### **DIN 6303-NI** **Knurled knobs** Stainless steel



Threaded pass-through hole, with or without  
transverse semi-hole.  
Diameters: 20 - 24 - 30 - 36 - 40 mm



#### **DIN 464** **Knurled knobs** Steel or stainless steel



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



## 2. Clamping elements

### 2.2 Thumb screws continues

#### GN 464.1

**Knurled knobs**  
with hexagon socket



Zinc-plated steel.  
Threaded pin.  
Diameters: 20 - 24 - 30 - 36 mm



#### DIN 466

**Knurled knobs**  
Steel or stainless steel



Hub with threaded pass-through hole.  
Diameters: 16 - 20 - 24 - 30 - 36 mm



#### DIN 653

**Knurled knobs**  
Steel or stainless steel



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



#### GN 653.2

**Retained screws with knurled knob**  
Steel or stainless steel



Partially threaded pin.  
Diameters: 16 - 20 - 24 - 30 mm



#### DIN 467

**Knurled knobs**  
Steel or stainless steel



Threaded pass-through hole.  
Diameters: 12 - 16 - 20 - 24 - 30 - 36 - 40 mm

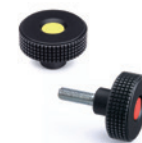


#### MBT.

**Diamond-cut knobs**  
Technopolymer



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



#### MBT.SOFT

**Fluted knobs**  
Soft-touch  
technopolymer



Technopolymer suitable for food contact  
(FDA CFR.21 and EU 10/2011).  
Brass boss with plain or threaded blind hole;  
threaded zinc-plated steel stud.  
Diameters: 45 - 55 mm



### 2.3 Wing nuts and wing knobs



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#### EWN.

**Wing Nuts**  
Technopolymer



Brass or AISI 303 stainless steel boss, threaded  
blind or pass-through hole; zinc-plated steel or  
AISI 303 stainless steel threaded stud.  
Cap in standard colours.  
Diameters: 40 - 47 - 55 - 63 - 70 mm



#### EWN-SST-SAN

**Wing Nuts**  
Technopolymer with  
antimicrobial protection



AISI 304 stainless steel boss, threaded blind  
hole.  
Centre cap in charcoal grey or white colours.  
Diameters: 40 - 55 mm





## 2. Clamping elements

### 2.3 Wing nuts and wing knobs continues



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#### Material

- Technopolymer (10)
- Stainless steel (13)

#### Type of assembly

- Blind hole (7)
- Pass-through hole (9)
- Threaded screw (11)

#### EWN-SST-p-P Wing Nuts

Technopolymer, pad



Threaded stud in AISI 303 stainless steel, pressure pad in acetal resin or brass. Cap in standard colours. Diameters: 47 - 55 - 70 mm



#### EWN-LP Wing Nuts

with retaining chain, technopolymer



Brass or AISI 303 stainless steel boss with threaded pass-through hole; zinc-plated steel or AISI 303 stainless steel threaded stud. Centre cap in charcoal grey colour. Diameters: 47 - 55 - 63 mm



#### EWN-RC Wing Nuts

with elastic fork, technopolymer



Brass or AISI 303 stainless steel boss, threaded pass-through hole; zinc-plated steel or AISI 303 stainless steel threaded stud. Centre cap in charcoal grey colour. Diameters: 47 - 55 - 63 mm



#### ESN. Single wing nuts

Technopolymer



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



#### CWN. Wing Nuts

Technopolymer



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



#### EWNM-SST Wing Nuts

Stainless steel



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



#### GN 8341 Wing Nuts

Stainless Steel AISI 316, Hygienic Design



Blue H-NBR or EPDM synthetic rubber packing ring, FDA-compliant. Hub with threaded blind hole. Diameters: 40 - 50 - 63 mm



#### GN 8350 Wing Nuts

AISI 316 stainless steel



Threaded pin. Diameters: 32 - 40 - 50 - 63 mm



#### CT.476 Wing screws

Technopolymer



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



#### CT-FG Wing screws

With flange, technopolymer



Brass boss with threaded blind hole; zinc-plated steel or AISI 304 stainless steel threaded stud. Diameters: 25 - 30 mm



## 2. Clamping elements

### 2.3 Wing nuts and wing knobs continues

#### CTL.476 Wing screws Technopolymer



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



#### GN 433 Wing screws Stainless steel



Hub with threaded pin.  
Diameters: 20 - 26 - 34 mm



#### GN 434 Wing screws Stainless steel



Hub with threaded blind hole.  
Diameters: 20 - 26 - 34 mm



#### GN 431 - GN 432 Wing screws Stainless steel



Threaded pin or threaded blind hole.  
Diameters: 25 - 30 - 36 mm



### 2.4 Torque limiting knobs



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#### Material

- Technopolymer (4)
- Aluminium - Steel (1)

#### Type of assembly

- Blind hole (5)
- Threaded screw (4)

#### VTD Torque limiting knob Technopolymer



Zinc-plated steel boss with threaded blind hole.  
Grey closing cap.  
Spring of the torque limiter from 2 Nm to 6 Nm.  
Diameters 60 - 80 mm



#### MZD Adjustable torque limiting knobs Technopolymer



Black-oxide steel boss with threaded blind hole or threaded screw.  
Grey closing cap.  
Adjustable torques from 0.2 to 1.0 Nm  
Diameter 47 mm



#### GN 3663 Torque limiting knob Aluminium and steel



Hub with threaded blind hole or threaded screw.  
Grey closing cap.  
Spring of the torque limiter from 0.7 Nm to 5.5 Nm.  
Diameters: 27 - 34 - 42 - 52 - 62 mm



#### GN 3664 Torque limiting knobs SUPER-technopolymer



Black-oxide steel boss with threaded blind hole or threaded screw.  
Grey closing cap.  
Spring of the torque limiter from 2 Nm to 7.5 Nm.  
Diameters: 50 - 63 - 80 mm



#### CTD Torque limiting wing knobs Technopolymer



Threaded blind hole or threaded screw.  
Spring of the torque limiter from 2 Nm to 3 Nm.  
Diameter: 48 mm



## Retained clamping elements

Elesa offers a range of **products** and **straightforward solutions** designed to keep **clamping elements** securely attached to machinery, ensuring compliance with **Machinery Directive 2006/42/EC**. This European regulation governs the manufacture, market placement, and commissioning of machines, setting out **essential safety and performance requirements**. Beyond the serious risk to **worker safety**, the loss of machine components can lead to production delays, machine downtime, and increased maintenance costs. For designers and mechanical engineers, ensuring all machine components - including retained clamping elements - **meet** the Machinery Directive is a **fundamental design consideration**.

▼ A common application is the use of **threaded inserts with locking mechanisms**. They ensure that knobs remain securely in place, even under vibrations or mechanical stress, thanks to the non-threaded section.

**BT-HP e BT-HP-AV**  
Retained fluted knobs



**GN 653.2**  
Retained screws with knurled knob



▼ The Elesa range also includes a series of **retaining cables** or **chains** to prevent the loss of machine components.

**CV-T**  
Polyethylene and stainless steel retaining cables



**CT-S**  
Technopolymer and stainless steel ball chains



**GN 111**  
Brass and stainless steel ball chains



**GN 111.2**  
Stainless steel retaining cables also with black or transparent PVC coating



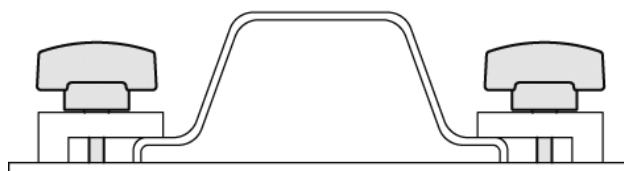
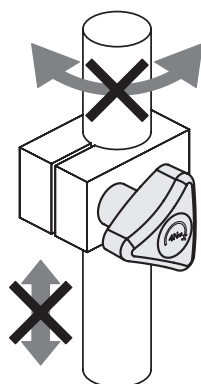
**GN 111.4**  
Polyurethane and stainless steel spiral retaining cables








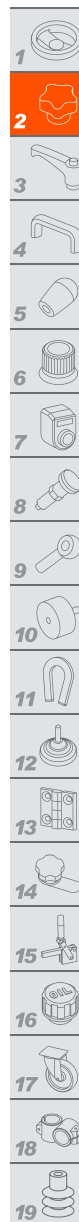
## Torque limiting knobs

Elesa **torque limiting knobs** allow users to set the maximum tightening torque, ensuring **fast** and **secure fastening**. This prevents unsightly damage or deformation of surfaces on laboratory machinery, key duplicators, blade sharpening tools, and sports equipment.

### Application examples



Torque (Nm)	0,2	0,7	1,0	1,5	2,0	2,2	2,5	3,0	3,2	4,0	4,7	5,5	6,0	7,5
 <b>MZD</b> Adjustable torque limiting knobs	Adjustable													
 <b>CTD</b> Torque limiting wing knobs														
 <b>VTD</b> Torque limiting knob <small>red dot award 2019 winner</small>														
 <b>GN 3663</b> Torque limiting knob														
 <b>GN 3664</b> Torque limiting knob <small>SUPER MICRO-HOLDING</small>														







## Clamping handles



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.

### 3.1 Clamping handles and levers



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#### Material

- Technopolymer (12)
- Steel (3)
- Stainless steel (16)
- Aluminium (1)
- Die-cast zinc alloy (9)

#### Type of assembly

- Blind hole (27)
- Threaded screw (26)

#### MRT. Adjustable handles Technopolymer



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



#### 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 steel 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



#### MT-ERX Tool for mounting ERX adjustable handles

for an electric or  
pneumatic screwdriver,  
aluminium



Suitable for quickly mounting the ERX.63 and ERX.78 adjustable handles using an electric or pneumatic screwdriver to be fitted onto the hexagon.  
Diameters: 40 - 50 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 steel or AISI 303 stainless steel threaded stud.  
Dimensions: 42 - 63 - 80 - 100 mm



#### MR. Adjustable handles Technopolymer



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



### 3. Clamping handles

#### 3.1 Clamping handles and levers continues

##### ERZ.

**Adjustable handles**  
Technopolymer, steel or  
stainless 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



##### ERZ-SST-SAN

**Adjustable handles**  
Technopolymer with  
antimicrobial protection



Zinc alloy insert for coupling to the clamping element.  
AISI 303 stainless steel clamp, threaded hole.  
Dimensions: 63 - 78 mm



##### ERZ-SST-VD

**Adjustable handles**  
Visually Detectable  
technopolymer, stainless  
steel clamping element



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Zinc alloy insert for coupling to the clamping element.  
AISI 303 stainless steel clamp, threaded hole or pin. Dimensions: 63 - 78 mm



##### ERZ-SST-MD

**Adjustable handles**  
Metal Detectable  
technopolymer, stainless  
steel clamping element



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Zinc alloy insert for coupling to the clamping element.  
AISI 303 stainless steel clamp, threaded hole or pin. Dimensions: 63 - 78 mm



##### MRY-SST-HVD

**Watertight adjustable handles**  
Visually Detectable  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Zinc alloy insert for coupling to the clamping element. AISI 303 stainless steel clamp, threaded hole or pin. Dimensions: 63 - 78 mm



##### ERM.

**Adjustable handles**  
Zinc alloy, steel or  
stainless 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

**Adjustable handles**  
Zinc alloy



Orange, grey or black colour.  
Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin.  
Dimensions: 30 - 45 - 63 - 78 - 92 - 108 mm

##### GN 300.1

**Adjustable handles**  
Zinc alloy



Orange, grey or black colour.  
Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin.  
Dimensions: 30 - 45 - 63 - 78 - 92 - 108 mm

##### GN 300.5

**Adjustable handles**  
Stainless steel



Orange, grey or black colour.  
Black-oxide steel or AISI 303 stainless steel clamping element, threaded hole or threaded pin.  
Dimensions: 30 - 45 - 63 - 78 - 92 - 108 mm



##### GN 305

**Adjustable handles**  
Stainless Steel,  
Hygienic Design

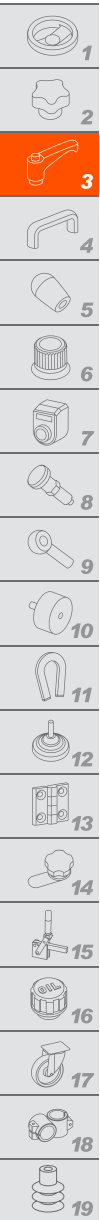


AISI 316 stainless steel lever.  
H-NBR synthetic rubber packing ring,  
FDA compliant. AISI 304 stainless steel clamp,  
threaded hole or pin.  
Dimensions: 63 - 78 mm



### 3. Clamping handles

#### 3.1 Clamping handles and levers continues



##### **GN 306** **Adjustable handles** with clamping ends, zinc alloy



Clamp and threaded pin in black-oxide steel.  
Pressure pad in brass or technopolymer,  
spherical tip or oval tip or thrust pad.  
Dimensions: 30 - 45 - 63 mm

##### **ERW.** **Adjustable handles** Flat lever, technopolymer



Technopolymer element with brass or AISI 303 stainless steel boss, threaded blind hole; zinc-plated steel or AISI 303 stainless steel threaded stud.  
Dimensions: 22 - 30 - 44 - 63 - 78 mm

##### **GN 302** **Adjustable handles** Flat lever, zinc alloy, steel clamping element



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

##### **GN 302.1** **Adjustable handles** Flat lever, zinc alloy, stainless steel clamping element



AISI 303 stainless steel clamp, threaded hole or pin.  
Dimensions: 30 - 45 - 63 - 78 mm

##### **GN 302.2** **Adjustable handles** Flat lever, zinc alloy, zinc-plated steel clamping element



Zinc-plated steel clamp, threaded hole or pin.  
Dimensions: 22 - 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 307** **Adjustable handles** with support washer, die-cast zinc and steel



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

##### **GN 126** **Adjustable handles** Zinc alloy lever, steel clamping element



Black-oxide steel clamping element, threaded hole or threaded pin.  
Dimensions: 120 - 145 mm

##### **GN 126.1** **Adjustable handles** Zinc alloy lever, stainless steel clamping element



Black-oxide steel clamping element, threaded hole or threaded pin.  
Dimensions: 120 - 145 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

### 3. Clamping handles

#### 3.1 Clamping handles and levers

*continues*

##### 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 212.4 Adjustable handles *Steel*



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

#### 3.2 Lever handles



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##### Material

- Technopolymer (3)
- Duroplast (1)
- Steel (7)
- Stainless steel (6)
- Cast iron (1)

##### Type of assembly

- Blind hole (5)
- Pass-through hole (8)
- Threaded screw (2)

##### ERF. Lever handles *Technopolymer*



ERGOSTYLE® PA  
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

##### ERFW. Flat lever handles *Technopolymer*



ERGOSTYLE® PA  
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

##### MF. Lever handles *Technopolymer*



PA  
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

##### GN 206 Lever handles *Cast iron or stainless steel*



Threaded pass-through hole.  
Dimensions: 56 - 70 - 87 - 109 - 140 mm

##### DIN 99 Lever handles *Steel or stainless steel*

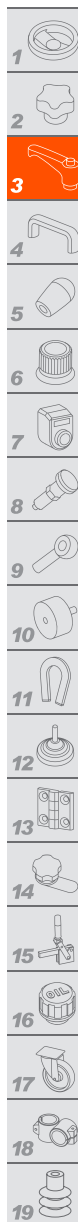


Cylindrical or threaded pass-through hole.  
Dimensions: 48 - 60 - 76 - 95 - 119 - 152 mm

##### GN 99.5 - GN 99.6 Lever handles *Steel or stainless steel*



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





## 3. Clamping handles

### 3.2 Lever handles

*continues*



#### 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 206.1-NI

##### Clamping nuts with double levers

Stainless steel



Threaded pass-through hole.  
Dimensions: 55 - 70 - 85 - 110 - 140 mm



#### GN 216

##### Lever handles

Steel



Duroplast handle.  
H7 reamed blind hole or threaded blind hole.  
Dimensions: 85 - 100 - 115 - 130 - 145 - 165 mm



#### GN 316

##### Ratchet spanners

Steel



Duroplast handle.  
Insert with square hole.  
Dimensions: 120 - 155 - 185 - 220 mm



#### GN 150 - GN 150.5

##### Split hubs

Steel or stainless steel



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



### 3.3 Cam levers



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#### Material

- Technopolymer (2)
- Steel (2)
- Stainless steel (2)
- Die-cast zinc alloy (2)

#### Type of assembly

- Blind hole (5)
- Threaded screw (8)

#### LAC.

##### Cam clamping levers

Technopolymer



SUPER-technopolymer cam sliding base.  
Rotating pin with zinc-plated steel or AISI 303 stainless steel threaded hole; zinc-plated steel or AISI 303 stainless steel threaded pin.  
LAC.R cam lever with adjustable knurled ring-nut. Dimensions: 44 - 63 - 79 mm



#### LAC-FL

##### Cam levers

for quick clamping, technopolymer



Threaded pin in SUPER-technopolymer.  
Elastic expansion retention element in synthetic rubber.  
With or without anti-rotation pin.  
Dimension: 55 mm



#### GN 927

##### Cam clamping levers

Zinc alloy



Die-cast zinc alloy lever.  
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: 44 - 63 - 82 - 101 mm



#### GN 927.2

##### Cam levers

Steel



Zinc-plated steel cast lever. Rotating pin and clamp with hole or zinc-plated steel threaded screw. Zinc-plated steel support boss with zinc-plated steel contact insert, or made completely of zinc-plated steel.  
Sizes: 44 - 63 - 82 - 101 mm



### 3. Clamping handles

#### 3.3 Cam levers

*continues*

##### GN 927.3

##### Cam clamping levers

*Steel*



Zinc-plated steel cast lever.  
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: 44 - 63 - 82 - 101 mm

##### GN 927.4

##### Cam clamping levers

*Zinc alloy and stainless steel*



Die-cast zinc alloy lever. Rotating pin and clamp with threaded hole or screw in AISI 303 stainless steel. AISI 303 stainless steel support bushing with technopolymer contact insert or fully in technopolymer.  
Dimensions: 44 - 63 - 82 - 101 mm

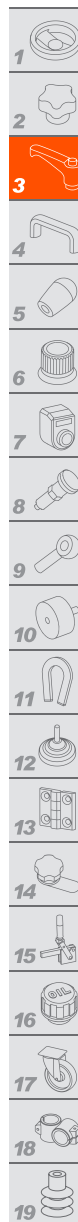
##### GN 927.5

##### Cam clamping levers

*Stainless steel*



AISI CF-8 stainless steel lever.  
Rotating pin and clamp with threaded hole or screw in AISI 303 stainless steel.  
Zinc-plated steel bushing with contact insert in technopolymer or fully in technopolymer.  
Dimensions: 44 - 63 - 82 - 101 mm





## Handles



Wide range of shapes, types and materials.

The ergonomic design provides a comfortable and secure grip for the operator's hand.

### 4.1 Bridge handles



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#### Material

- Technopolymer (33)
- Duroplast (1)
- Steel (9)
- Stainless steel (24)
- Aluminium (33)

#### Type of assembly

- Blind hole (63)
- Pass-through hole (33)
- Threaded screw (7)
- Not drilled (1)
- For welding (2)

#### M.443 Bridge handles Technopolymer



Available in black, orange, grey, red and green colours. Front mounting via pass-through holes for cylindrical-head screws with hexagon socket, flat countersunk head screws, hexagon head screws or nuts. Assembly centre distances: 94 - 117 - 120 - 122 - 132 - 140 - 149 - 152 - 150 - 160 - 179 - 235 mm

#### M.443 ESD Bridge handles ESD conductive technopolymer



Front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 94 - 117 mm

#### M.443 AE-V0 Bridge handles Self-extinguishing technopolymer



Front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 94 - 117 - 132 - 179 mm

#### M.453-SEMI-S8 Bridge handles According to SEMI-S8 guidelines, technopolymer



Front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distance: 150 mm

#### M.543 Bridge handles Technopolymer



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

#### M.343-SOFT Bridge handles Technopolymer with Soft-touch ergonomic inserts



Thermoplastic elastomer inserts in standard colours. Rear mounting via brass bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distance: 132 mm

#### EMPC. Bridge handles Technopolymer



Cover in standard colours. Front or rear mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or nuts. Assembly centre distances: 117 - 120

#### MPC Bridge handle Technopolymer



Front or rear mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or nuts. Assembly centre distances: 117 - 120

## 4. Handles

### 4.1 Bridge handles

continues

#### EBP.

##### Bridge handles Technopolymer



PA

Boss caps in standard colours. Rear mounting via brass bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 94 - 117 - 120 - 132 - 150 - 180 mm



#### EBP-SAN

##### Bridge handles Technopolymer with antimicrobial protection



PA

Front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 117 - 180 mm



#### EBP.FLX

##### Flexible bridge handles

Technopolymer with  
elastomer



PP

Boss caps in standard colours. Front mounting via brass bosses with pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distances: 117 - 150 mm



#### EBP-L

##### Bridge handles Technopolymer



PA

Boss caps in standard colours. Front or rear mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or nuts. Assembly centre distance: 300 mm



#### EBP-L-CLEAN

##### Bridge handles Technopolymer, easy cleaning



ERGOSTYLE®

White colour boss caps. Front or rear mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or nuts. Assembly centre distance: 300 mm



#### EBR.

##### Bridge handle Technopolymer



PA

Boss caps in standard colours. Front mounting via pass-through holes for cylindrical-head screws with hexagon socket. Assembly centre distance: 132 mm



#### M.2000

##### Bridge handle Self-extinguishing technopolymer



PA

Rear mounting via brass bosses with threaded blind holes. Assembly centre distance: 180 mm



#### M.478

##### Bridge handle Technopolymer



PA

Front mounting via pass-through holes for screws or rivets. Assembly centre distance: 150 mm



#### M.479

##### Bridge handles Technopolymer



PA

Threaded pin in SUPER-technopolymer. Elastic expansion retention element in synthetic rubber. With or without anti-rotation pin. Dimension: 55 mm



#### M.843

##### Bridge handles Technopolymer



PA

Available in standard colours. Rear mounting via brass bosses, threaded blind holes. Assembly centre distance: 86 - 117 - 179 - 300 mm

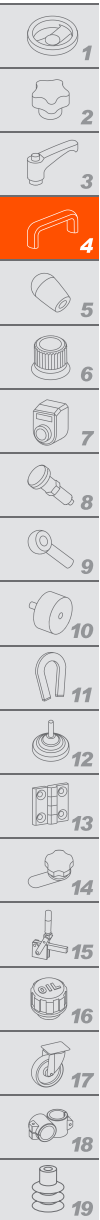




## 4. Handles

### 4.1 Bridge handles

continues



#### M.843-CLEAN Bridge handles Technopolymer, easy cleaning



For application with medical, hospital and food equipment.  
Rear mounting via AISI 303 stainless steel bosses, threaded blind holes.  
Assembly centre distance: 86 - 117 - 179 - 300 mm



#### M.243 Bridge handles Duroplast



Rear mounting via brass bosses, threaded blind holes.  
Assembly centre distances: 86 - 117 - 179 mm



#### M.643 Bridge handles Technopolymer



Rear mounting via brass bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws with hexagon socket (M.643-FM). Assembly centre distance: 86 - 94 - 117 - 120 - 132 - 140 - 150 - 160 - 179 - 192 - 235 - 300 mm



#### M.643 HT Bridge handles Technopolymer with high thermic resistance



Rear mounting via brass bosses, threaded blind holes.  
Assembly centre distances: 86 - 117 - 179 mm



#### M.643-SST-VD Bridge handles Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Rear mounting via AISI 303 stainless steel bosses, threaded blind holes.  
Assembly centre distances: 117 - 179 mm



#### M.643-SST-MD Bridge handles Metal Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Rear mounting via AISI 303 stainless steel bosses, threaded blind holes.  
Assembly centre distances: 117 - 179 mm



#### GN 565 Bridge handles Aluminium



Bar with oval cross section, aluminium with natural finish, anodised or UV-resistant epoxy resin coating.  
Back mounting with threaded blind holes.  
Assembly centre distances: 100 - 112 - 117 - 120 - 128 - 160 - 180 - 200 - 235 mm



#### GN 565-SMA Bridge handles Aluminium with antibacterial coating



Oval cross section bar.  
Back mounting with threaded blind holes.  
Assembly centre distances: 100 - 112 - 128 - 160 - 192 - 300 mm



#### GN 565-WSA Bridge handles Aluminium with antibacterial coating



Oval cross section bar.  
Back mounting with threaded blind holes.  
Assembly centre distances: 100 - 112 - 128 - 160 - 192 - 300 mm



#### GN 565.1 Bridge handles Aluminium



Bar with oval cross section, natural aluminium, anodised or UV-resistant resin coating.  
Front mounting via pass-through holes for cylindrical-head screws.  
Assembly centre distances: 100 - 112 - 117 - 120 - 128 - 132 - 160 - 180 - 200 mm



## 4. Handles

### 4.1 Bridge handles

*continues*

#### GN 565.5 Bridge handles Stainless steel



Bar with oval cross section AISI 304 stainless steel or AISI CF-8 cast steel. Rear mounting via threaded blind holes or front mounting via pass-through holes for cylindrical-head screws. Assembly centre distances: 112 - 128 - 160 - 200 - 250 - 300 - 350 - 400 - 500 mm



#### GN 426.3 Tubular Handles Steel

Tube in oiled steel. Welded mounting. Assembly centre distances: 150 - 200 - 250 - 300 - 400 - 500 - 600 mm



#### GN 425.3 Bridge handles Mounted by means of welding, steel or stainless steel



Round-section bar, sandblasted finish, without mounting holes. Assembly centre distances: 64 - 88 - 100 - 125 - 160 - 200 - 250 mm



#### GN 435 Stainless Steel-Cabinet U-handles tall design, stainless steel



Round-section bar in AISI 303 stainless steel or with epoxy resin coating, black colour. Back mounting with threaded blind holes. Assembly centre distances: 125 - 160 - 200 - 300 mm



#### GN 435.3 Stainless Steel-Cabinet U-handles tall design, for welding, stainless steel



Round-section bar in AISI 304 stainless steel. Rear mounting via holes for set screws or guide pins that ensure positioning and simple securing of the handle. Assembly centre distances: 125 - 160 - 200 - 300 mm



#### GN 429 Bridge handles Stainless Steel, Hygienic Design



Back mounting with threaded blind holes. H-NBR or EPDM synthetic rubber packing ring, FDA compliant. Handles for use in environments that require high levels of hygiene. Assembly centre distances: 125 - 160 - 200 - 250 - 300 mm



#### GN 426 Bridge handles Aluminum

Aluminium bar with epoxy resin coating, natural, black or grey colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 350 - 400 mm



#### GN 426-SMA Bridge handles Aluminium with antibacterial coating



Aluminium bar, with antibacterial epoxy resin coating, black colour. Back mounting with threaded blind holes. For use in the healthcare sector and public buildings. Assembly centre distance: 200 - 250 - 300 - 400 mm



#### GN 426-WSA Bridge handles Aluminium with antibacterial coating



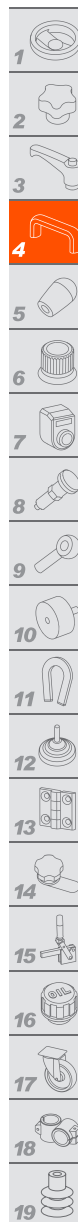
Aluminium bar, with antibacterial epoxy resin coating, white colour. Back mounting with threaded blind holes. For use in the healthcare sector and public buildings. Assembly centre distance: 200 - 250 - 300 - 400 mm



#### GN 426.5 Bridge handles Stainless steel

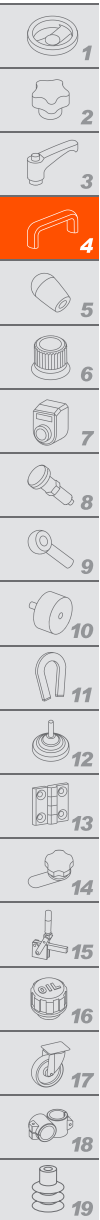


Bar or tube in AISI 304 stainless steel, sandblasted matte finish. Assembly centre distance: 200 - 250 - 300 - 400 mm



## 4. Handles

### 4.1 Bridge handles continues



#### GN 425

##### Bridge handles

Steel, stainless steel, aluminium



Round-section bar in chrome-plated, black-oxide steel, stainless steel or in aluminium with anodised finish or with epoxy resin coating. Back mounting with threaded blind holes. Assembly centre distances: 64 - 88 - 100 - 120 - 125 - 160 - 180 - 200 - 235 - 250 - 300 mm

#### GN 427

##### Bridge handles

Aluminium



Bar with oval cross section in anodised aluminium, natural colour, with epoxy resin coating, black colour. Back mounting with threaded blind holes. Assembly centre distances: 88 - 100 - 120 - 180 - 200 - 235 mm

#### GN 668

##### Bridge handles

Aluminium



Flat oval cross section bar in aluminium natural colour, with epoxy resin coating, silver or black colour. Back mounting with threaded blind holes. Assembly centre distances: 120 - 160 - 180 - 200 - 250 - 300 - 350 - 400 mm

#### RH-M1

##### Bridge handles

Aluminium



Round-section bar in anodised aluminium, natural or black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 350 - 400 mm

#### RH-VA

##### Bridge handles

AISI 316L stainless steel



Round-section bar in AISI 316L stainless steel, matte finish. Rear mounting with screws and washers (included in supply). Assembly centre distances: 200 - 250 - 300 - 350 mm

#### RH-UG-08

##### Bridge handles

AISI 316L stainless steel



Round-section bar in AISI 316L stainless steel. Mounts in AISI 316L stainless steel. Back mounting with threaded blind holes. Assembly centre distances: 100 - 120 - 140 - 160 - 180 mm

#### RH-M1-CLEAN

##### Bridge handles

Aluminium



Round-section bar in aluminium, epoxy resin coating, white colour. Back mounting with threaded blind holes. For application with medical, hospital and food equipment. Assembly centre distances: 200 - 250 - 300 - 350 - 400 mm

#### RH-MF

##### Bridge handles

Oval flat cross section, aluminium



Bar with flat cross section in anodised aluminium, natural or black colour. Back mounting with threaded blind holes. Assembly centre distances: 120 - 140 - 180 - 200 - 350 mm

#### RH-EF

##### Bridge handles

Oval flat cross section, AISI 316L stainless steel



Bar with flat cross-section in AISI 316L stainless steel, semi-matte finish. Rear mounting with screws and washers (included in supply). Assembly centre distances: 100 - 120 - 150 - 180 - 250 - 350 mm

#### RH-MF-CLEAN

##### Bridge handles

Oval flat cross section, aluminium



Bar with flat cross-section in aluminium, epoxy resin coating, white colour. Back mounting with threaded blind holes. For application with medical and food equipment. Assembly centre distances: 120 - 140 - 180 - 200 - 350 mm

## 4. Handles

### 4.1 Bridge handles

*continues*

#### **RH-OA** Handles

*Oval flat cross section,  
aluminium*



Bar with flat cross section in anodised aluminium, natural or black colour. Back mounting with threaded blind holes. Assembly centre distances: 55 - 88 - 100 - 120 - 180 - 200 - 235 - 250 mm

#### **RH-OA-CLEAN** Bridge handles

*Oval flat cross section,  
aluminium*



Bar with flat cross-section in aluminium, epoxy resin coating, white colour. Back mounting with threaded blind holes. For application with medical and food equipment. Assembly centre distances: 55 - 88 - 100 - 120 - 180 - 200 - 235 - 250 mm

#### **MMT.** Handles for heat insulation

*Steel and technopolymer*



Rear mounting via threaded blind holes with base bosses in steel, chrome-plated opaque surface. Particularly suitable for application with surfaces subject to high temperatures. Assembly centre distance: 120 - 180 mm

#### **RH-ST** Bridge handles

*Round cross section,  
steel*



Bar in steel, chrome-plated surface. Washers in chrome-plated brass. Back mounting with threaded blind holes. Assembly centre distances: 32 - 42 - 55 - 64 - 76 - 88 mm

#### **RH-EM** Bridge handles

*AISI 316L stainless steel*



Round-section bar in AISI 316L stainless steel. Fixing plates in AISI 316L stainless steel. Front mounting via pass-through holes for M8x35 cylindrical-head screws and washers in AISI 316L stainless steel. Assembly centre distances: 200 - 300 mm

#### **RH-SS** Bridge handles

*Round cross section,  
steel*



Bar in chrome-plated steel. Plastic central grip zone. Mounts in chrome-plated brass. Back mounting with threaded blind holes. Assembly centre distances: 55 - 88 - 100 - 120 - 180 - 200 mm

#### **RH-ET-CLEAN** Bridge handles

*Stainless steel*



Bar in AISI 303 stainless steel. Rear mounting through threaded blind holes for screws and washers in AISI 304 stainless steel. For application with medical, hospital and food equipment. Assembly centre distances: 100 - 120 - 140 - 200 mm

#### **RH-R** Bridge handles

*Rectangular cross  
section, aluminium*



Bar with rectangular cross-section in anodised aluminium, natural or black colour. Rear mounting via threaded blind holes or front mounting, pass-through holes for cylindrical-head screws in stainless steel. Suitable for use on a 19" rack and instruments in general. Assembly centre distances: 55 - 88 - 120 - 180 - 235 mm

#### **RH-S1** Bridge handles

*Rectangular cross  
section, aluminium*



Bar with rectangular cross-section in anodised aluminium, natural or black colour. Back mounting with threaded blind holes. Suitable for use on a 19" rack and instruments in general. Assembly centre distances: 25 - 55 - 88 - 120 - 180 mm

#### **RH-MG** Bridge handles

*Rectangular cross  
section, aluminium*



Bar with rectangular cross-section in anodised aluminium, natural or black colour. Back mounting with threaded blind holes. Assembly centre distances: 90 - 120 mm

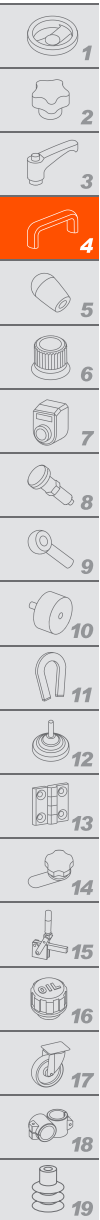




## 4. Handles

### 4.1 Bridge handles

continues



#### **RH-MG-CLEAN** Bridge handles Rectangular cross section, aluminium



Epoxy resin coating, white colour.  
Back mounting with threaded blind holes.  
For application with medical and food  
equipment.  
Assembly centre distance: 120 mm



#### **RH-UG** Bridge handles Rectangular cross section, technopolymer and aluminium



Side mounts in technopolymer, natural or black  
colour. Rear mounting via bosses with threaded  
blind holes or front mounting via pass-through  
holes for cylindrical-head screws with hexagon  
socket in stainless steel. Suitable for use on a 19"  
rack and instruments in general. Assembly centre  
distances: 55 - 88 - 100 - 120 - 180 mm

#### **RH-UG-05** Bridge handles Rectangular cross section, technopolymer and aluminium



Side mounts in technopolymer, black colour.  
Front mounting via pass-through holes for  
cylindrical-head screws with hexagon socket  
in stainless steel. Suitable for use on a 19"  
rack and instruments in general. Assembly centre  
distances: 88 - 100 - 120 - 180 - 235 mm

#### **M.943** Bridge handles Suitable for applications on a 19 rack, technopolymer



Rear mounting via brass bosses with threaded  
blind holes.  
Assembly centre distance: 88 - 120 mm



#### **M.943-HT** Bridge handles Technopolymer with high thermic resistance



Rear mounting via brass bosses with threaded  
blind holes.  
Assembly centre distance: 88 - 120 mm



#### **GN 565.3** Bridge handles Aluminium



Bar with oval cross-section in aluminium,  
natural colour, with epoxy resin coating, black  
colour. Rear mounting via threaded blind holes  
or front mounting, pass-through holes for flat  
countersunk-head screws.  
Assembly centre distances: 120 - 160 mm

#### **GN 728 - GN 728.5** Bridge handles Aluminium or stainless steel



Natural colour or epoxy resin coating, black  
colour. Rear mounting via threaded blind holes  
or front mounting via pass-through holes for  
cylindrical-head screws with hexagon socket.  
Assembly centre distance: 120 - 180 mm



#### **GN 328** Bridge handles Aluminium



Natural colour or epoxy resin coating, grey or  
black colour.  
Rear mounting via threaded blind holes or front  
mounting via pass-through holes for  
cylindrical-head screws with hexagon socket.  
Assembly centre distances: 120 - 140 mm



#### **GN 328.5** Bridge handles AISI 316 stainless steel



Rear mounting via threaded blind holes or front  
mounting via pass-through holes for  
cylindrical-head screws with hexagon socket.  
Assembly centre distances: 120 - 140 mm



#### **GN 428** Bridge handles Aluminium



Natural colour or epoxy resin coating, grey or  
black colour.  
Rear mounting via threaded blind holes or front  
mounting, pass-through holes for screws, nuts  
and washers in AISI 304 stainless steel.  
Assembly centre distances: 120 - 140 mm



## 4. Handles

### 4.1 Bridge handles

*continues*

#### **RH-RG** Bridge handles *Technopolymer*



Front mounting via pass-through holes for cylindrical-head screws with hexagon socket, nuts and zinc-plated washers, included in supply. Assembly centre distances: 100 - 120 - 140 - 160 - 180 mm

#### **RH-K4** Bridge handles *Technopolymer*



Front mounting via pass-through holes for countersunk-head screws with hexagon socket, nuts and zinc-plated washers, included in supply. Assembly centre distances: 120 - 150 mm

#### **RH-AG** Bridge handles *Aluminum*



Rear mounting via threaded blind holes or front mounting, pass-through holes for screws, nuts and washers in AISI 304 stainless steel, included in supply. Assembly centre distances: 120 - 140 - 160 mm

#### **RH-EG** Bridge handles *Stainless steel*



Back mounting with threaded blind holes. Assembly centre distances: 140 - 180 mm

#### **RH-AG-CLEAN** Bridge handles *Aluminum*



Aluminium, epoxy resin coating, white colour. Back mounting with threaded blind holes. For applications with medical and hospital equipment and machines for the food industry. Assembly centre distances: 140 - 180 mm

#### **RH-VG** Offset handles *AISI 316L stainless steel*



Round-section bar with ground surface. Side mounts in AISI 316L stainless steel. Rear mounting via threaded blind holes for screws with hexagon socket and washers in stainless steel. Assembly centre distances: 250 - 300 mm

#### **GN 425.1** Double-curved handles *Steel, stainless steel, aluminium*



Round cross section bar. Back mounting with threaded blind holes. Assembly centre distances: 55 - 64 - 88 - 96 - 100 - 120 - 160 - 180 - 200 mm

#### **GN 426.1 - GN 426.6** Double-curved tubular handles *Aluminium or stainless steel*



Aluminium bar or tube with epoxy resin coating, black or stainless steel. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 350 - 500 mm

#### **M.743** Inclined handles *Technopolymer*



Rear mounting via brass bosses, threaded blind holes. Assembly centre distance: 160 mm

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



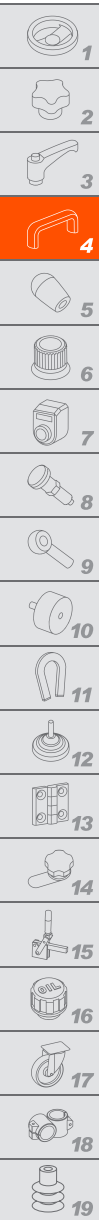
Bar with oval cross section in aluminium with natural finish, anodised or with epoxy resin coating. GN 565.7 in AISI 304 stainless steel. Rear mounting via threaded blind holes or front mounting, pass-through holes for screws. Assembly centre distances: 112 - 128 - 160 mm



## 4. Handles

### 4.1 Bridge handles

continues



#### **RH-AM** Inclined double-curved handles *Steel*



Round-section bar in steel, chrome-plated surface, polished finish.  
Back mounting with threaded blind holes.  
Assembly centre distance: 120 mm

#### **RH-WS** Angled handles *Round cross section, steel*



Round-section bar in steel, chrome-plated surface, polished finish.  
Back mounting with threaded blind holes.  
Assembly centre distances: 75 - 90 mm

#### **GN 565.4** Bow handles *Aluminum*



Bar with oval cross section in aluminium with natural finish, anodised or with epoxy resin coating, black colour. Rear mounting via threaded blind holes or front mounting via pass-through holes for cylindrical-head screws.  
Assembly centre distances: 160 - 192 mm

#### **GN 565.9** Bow handles *Stainless steel*



Bar with oval cross section in AISI 304 stainless steel. Rear mounting via threaded blind holes or front mounting via pass-through holes for cylindrical-head screws.  
Assembly centre distances: 160 - 192 mm

#### **GN 424.1 - GN 424.5** Bow handles *Steel or stainless steel*



Round-section bar in chrome-plated steel, with epoxy resin coating, grey or black colour or in AISI 303 stainless steel. Back mounting with threaded blind holes. Assembly centre distances: 64 - 96 - 128 - 160 - 192 mm

#### **GN 559** Bridge handles *Aluminum*



Aluminium, epoxy resin coating, light grey or black colour. Open or closed form for mounting via threaded blind holes or front open form via pass-through holes for cylindrical-head screws.  
Assembly centre distance: 128 mm

#### **RH-KW** Handles *Technopolymer*



Front mounting via pass-through holes for screws with hexagon socket, nuts, washers and plate in AISI 304 stainless steel, included in supply.  
Dimensions 128 - 154 mm

#### **RH-AH** Handles *Aluminum*



Anodised aluminium, natural or black colour.  
Back mounting with threaded blind holes.  
Dimensions 125 - 165 mm

#### **RH-MA** Handles *Steel and technopolymer with elastomer*



Rear mounting via self-tapping screws for sheets or front mounting via pass-through holes for screws with flat countersunk-head.  
Dimensions 203 - 223 - 238 - 241 - 268 mm

## 4. Handles

### 4.2 Flush pull handles



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#### Material

- Technopolymer (16)
- Stainless steel (1)
- Aluminium (2)
- Die-cast zinc alloy (1)

#### Type of assembly

- Pass-through holes (3)
- Threaded screw (5)
- Snap-in (12)

#### 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.  
Dimensions: 92 - 137 - 189 mm

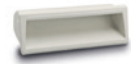


#### PR-PF-CLEAN

**Flush pull handles**  
for snap-in assembly,  
technopolymer,  
easy cleaning



Compact shape. The internal profile of the cavity offers a safe, comfortable and ergonomic grip.  
For applications with medical and hospital equipment and machines for the food industry.  
Dimensions: 92 - 137 - 189 mm



#### PR-PF-AE-V0

**Flush pull handles**  
for snap-in assembly,  
technopolymer certified  
self-extinguishing



Compact shape. The internal profile of the cavity offers a safe, comfortable and ergonomic grip.  
Dimensions: 92 - 137 - 189 mm



#### EPR-PF

**Flush pull handles**  
for snap-in assembly,  
technopolymer



The internal cavity profile allows a secure, comfortable and ergonomic grip.  
Dimensions: 90 - 110 - 120 mm



#### EPR-PF-CLEAN

**Flush pull handles**  
for snap-in assembly,  
technopolymer,  
easy cleaning



The internal cavity profile allows a secure, comfortable and ergonomic grip.  
For application with medical and food equipment.  
Dimensions: 90 - 110 - 120 mm



#### EPR-PF-AE-V0

**Flush pull handles**  
for snap-in assembly,  
technopolymer certified  
self-extinguishing



The internal cavity profile allows a secure, comfortable and ergonomic grip.  
Dimensions: 90 - 110 - 120 mm



#### GN 7330

**Flush pull handles**  
for mounting with  
screws, with or without  
gasket, zinc alloy

Front mounting via pass-through holes for flat countersunk-head M5 screws, or rear mounting via no.4 M5 screws welded to the handle body.  
Dimensions: 127 - 155 mm



#### GN 7332

**Flush pull handles**  
for mounting with  
screws, with or without  
gasket, stainless steel



Front mounting via pass-through holes for flat countersunk-head M5 screws, or rear mounting via no.4 M5 screws welded to the handle body.  
Dimensions: 127 - 155 mm



#### EPR-PF-IP

**Flush pull handles with gasket**  
for snap-in assembly,  
technopolymer



The internal cavity profile allows a secure, comfortable and ergonomic grip.  
IP 65 protection class.  
Dimensions: 110 - 120 mm



#### EPR.

**Flush pull handles**  
for screw mounting,  
technopolymer



Screw-cover in standard colours.  
Front mounting via pass-through holes for self-tapping screws in AISI 304 stainless steel.  
Dimensions: 90 - 110 - 120 mm



## 4. Handles

### 4.2 Flush pull handles

continues



#### **RH-SG** Flush pull handles Technopolymer and aluminium



Side closure in technopolymer. Rear mounting via two rubber profiles to ensure firm and secure attachment; front mounting via pass-through holes for M4 countersunk-head screws. Suitable for use with plates having a thickness between 1,0 and 2,5 mm.  
Dimensions: 100x90 - 118x90 - 167x90 mm

#### **RH-SG-CLEAN** Flush pull handles Technopolymer and aluminium



White colour. Back mounting by means of two rubber profiles that ensure a firm and stable installation. For application with medical and food equipment.  
Dimensions: 100x90 - 118x90 - 167x90 mm

#### **ERB-PF** Vertical tubular handles for snap-in assembly, technopolymer



Suitable for opening and closing sliding doors. The ergonomic shape of the cavity provides a comfortable grip.  
Dimension: 115 mm

#### **ERB-PF-CLEAN** Vertical tubular handles for snap-in assembly, technopolymer, easy cleaning



Suitable for opening and closing sliding doors. The ergonomic shape of the cavity provides a comfortable grip.  
For application with medical and food equipment. Dimension: 115 mm

#### **ERB-PF-AE-V0** Vertical tubular handles for snap-in assembly, technopolymer certified self-extinguishing



Technopolymer certified self-extinguish UL-94 V0. Suitable for opening and closing sliding doors. The ergonomic shape of the cavity provides a comfortable grip.  
Dimension: 115 mm

#### **ERB.** Vertical tubular handles for screw mounting, technopolymer



Mounting via 4 self-tapping screws in zinc-plated steel, included in the supply.  
Dimension: 130 mm

#### **ERB-CLEAN** Vertical tubular handles for screw mounting, technopolymer, easy cleaning



Mounting via 4 self-tapping screws in zinc-plated steel, included in the supply. For application with medical and food equipment.  
Dimension: 130 mm

#### **RH-KS** Vertical tubular handles for screw mounting, technopolymer



Available in black, dark grey, light grey and black. Mounting via 4 screws. Particularly suitable for mounting on panels with thicknesses from 1 to 5 mm.  
Dimension: 140 mm

#### **RH-KM** Flush pull handles for screw mounting, technopolymer



Available in black, dark grey, light grey and black. Mounting via 4 screws. Particularly suitable for mounting on panels with thicknesses from 1 to 5 mm.  
Dimension: 120 mm



## 4. Handles

### 4.3 Ledge handles



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#### Material

- Technopolymer (6)
- Stainless steel (2)
- Aluminium (8)

#### Type of assembly

- Blind hole (12)
- Pass-through hole (6)
- Threaded screw (1)

#### MLP

##### Side handles with protection

Technopolymer



Rear mounting via brass bosses, threaded blind holes. Fixing via two M4 screws or blind holes for fixing via two self-tapping screws for plastic materials. Dimension: 142 mm

#### ESP.

##### Ledge handles

Technopolymer



ERGOSTYLE®



Front mounting via pass-through holes for cylindrical-head screws, hexagon head screws, flat countersunk-head screws or nuts. The complete closure of the handle represents a safety feature for the operator's fingers. Assembly centre distance: 94 mm

#### MSP.

##### Ledge handles

Technopolymer



Rear mounting via brass bosses, threaded blind holes. Fixing via two M6 screws or blind holes for fixing via two self-tapping screws, not included in supply. Assembly centre distance: 80 mm

#### GN 730.5

##### Handles for protection

Stainless steel



AISI 316 stainless steel, sandblasted matte finish. Back mounting with threaded blind holes. Assembly centre distance: 100 mm

#### RH-EL

##### Ledge handles

Stainless steel



Back mounting with threaded blind holes. Assembly centre distances: 60 - 80 - 100 - 130 mm

#### EWB.

##### Ledge handles

Technopolymer



ERGOSTYLE®



Cap in technopolymer, in standard colours. Front mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagon head screws, flat countersunk-head screws or nuts. Assembly centre distance: 94 mm

#### M.990

##### Ledge handles

Technopolymer



ERGOSTYLE®



Front mounting via pass-through holes for cylindrical-head screws, hexagon head screws or nuts. The complete closure of the handle represents a safety feature for the operator's fingers. Assembly centre distance: 95 mm

#### GN 730

##### Ledge handles

Aluminium



Anodised aluminium, natural colour or epoxy resin coating, black colour. Back mounting with threaded blind holes. Assembly centre distances: 110 - 125 - 140 mm

#### GN 430 - GN 430.1

##### Ledge handles

Aluminium



Anodised aluminium, natural colour or epoxy resin coating, black colour. Rear mounting via M6 screws, not included in supply. Available with label holder. Assembly centre distance: 66 - 86 - 106 - 156 - 206 - 256 - 356 - 456 mm

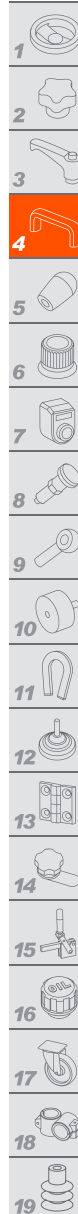
#### RH-LF

##### Ledge handles

Aluminium

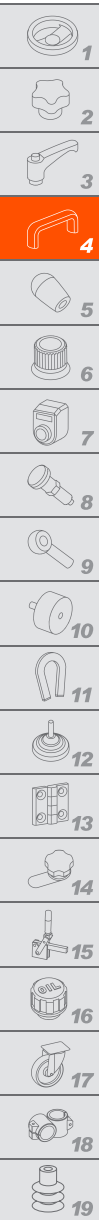


Front mounting via pass-through holes for flat countersunk-head screws. Assembly centre distances: 68 - 88 - 108 mm



## 4. Handles

### 4.3 Ledge handles continues



#### **RH-WP** Inclined handles Aluminum



Anodised aluminium, natural or black colour.  
Rear mounting via threaded blind holes or front mounting via pass-through holes for flat countersunk-head screws.  
Assembly centre distances: 86 - 100 - 120 mm

#### **RH-W3** Ledge handles Aluminum



Back mounting with threaded blind holes.  
Assembly centre distances: 210 - 310 mm

#### **RH-W3-CLEAN** Ledge handles Aluminum



Back mounting with threaded blind holes.  
For applications with medical and hospital equipment and machines for the food industry.  
Assembly centre distances: 210 - 310 mm

#### **RH-LG** Ledge handles Aluminum



Anodised aluminium, natural or black colour.  
Rear mounting via threaded blind holes or front mounting via pass-through holes for flat countersunk-head screws. Assembly centre distances: 64 - 70 - 80 - 90 - 105 mm

#### **MFT** Front handles Technopolymer



Rear mounting via brass bosses, threaded blind holes. Fixing via two M5 screws or blind holes for fixing via two self-tapping screws, not included in supply.  
Assembly centre distance: 71 mm

#### **RH-AK** Handles Aluminum



Rear mounting via threaded blind holes or front mounting, pass-through holes for cylindrical-head screws with hexagon socket, nuts and washers in stainless steel, included in supply. Assembly centre distance: 120 mm

### 4.4 Folding handles



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#### Material

- Technopolymer (6)
- Steel (1)
- Stainless steel (9)
- Aluminium (1)

#### Type of assembly

- Blind hole (1)
- Pass-through holes (13)
- Threaded screw (3)
- For welding (1)

#### **MRH** Folding handles with recessed tray for screw mounting, technopolymer



Mounting on panels with a maximum thickness of 12 mm using fixing plugs and Ø3.5 self-tapping screws. AISI 316 stainless steel rotating pin. Pressing the retractable button causes the handle to come out of its seat through a snap mechanism. Dimension: 82 mm

#### **MPR** Folding handles with recessed tray with return spring, technopolymer



Front mounting via pass-through holes for M4 or M5 countersunk-head screws, not included in the supply. AISI 303 stainless steel pin, AISI 302 stainless steel springs.  
Dimensions: 141 - 167 mm

#### **MPR-CLEAN** Folding handles with recessed tray with return spring, technopolymer, easy cleaning



Front mounting via pass-through holes for M4 or M5 countersunk-head screws, not included in the supply. AISI 303 stainless steel pin, AISI 302 stainless steel springs. For application with medical and food equipment.  
Dimensions: 141 - 167 mm

#### **GN 425.8** Folding handle with recessed tray Steel or stainless steel



Mounting plate in die-cast zinc alloy. Handle in chrome-plated steel or in AISI 304 stainless steel. Click device to stop the handle in both positions. Front mounting via pass-through holes for M4 countersunk-head screws. Dimensions: 150 - 170 mm

## 4. Handles

### 4.4 Folding handles

*continues*

#### **RH-SK**

##### **Folding handles with recessed tray**

*Aluminum*



Handle return spring, from the operating position to the resting position. Trigger device for locking the handle in the two positions. Front mounting via pass-through holes for M4 countersunk-head screws. Dimensions: 130 - 200 mm

#### **RH-EE-01**

##### **Folding handle with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M4 screws. Used on equipment when space saving is required. Dimension: 75 mm

#### **RH-EE-05**

##### **Folding handle with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M4 screws. Used on equipment when space saving is required. Dimension: 50 mm

#### **RH-EE-03**

##### **Folding handles with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M4 screws. Used on equipment when space saving is required. Dimension: 132 mm

#### **RH-EE-07**

##### **Folding handles with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M4 screws. Used on equipment when space saving is required. Dimension: 132 mm

#### **RH-EE-02**

##### **Folding handle with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M5 screws. Used on equipment when space saving is required. Dimension: 120 mm

#### **RH-EE-06**

##### **Folding handle with recessed tray**

*Stainless steel*



Handle return spring, from the operating position to the resting position. Front mounting via pass-through holes for M4 screws. Used on equipment when space saving is required. Dimension: 50 mm

#### **MPE**

##### **Folding handles with return spring, technopolymer**



Front mounting via pass-through holes for flat countersunk-head screws with cross recess, not included in the supply. AISI 303 stainless steel pin, AISI 302 stainless steel springs. Dimension: 135 mm

#### **MPE-CLEAN**

##### **Folding handles with return spring, technopolymer, easy cleaning**



Front mounting via pass-through holes for flat countersunk-head screws. AISI 303 stainless steel pin. For application with medical and food equipment. Dimension: 135 mm

#### **GN 425.9**

##### **Folding handles**

*Stainless steel*

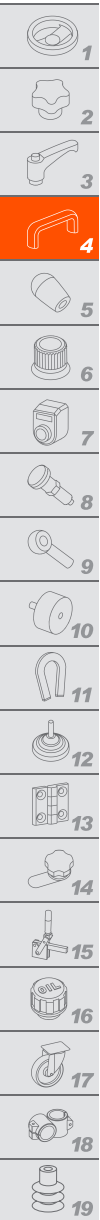


Rear mounting via a plate with threaded blind holes, front mounting via pass-through holes for cylindrical-head screws or by welding. 90° or 180° opening. With or without retaining spring. Dimension: 120 mm



## 4. Handles

### 4.4 Folding handles *continues*



#### **RH-KK** Folding handles *Technopolymer*



Stainless steel return springs and pins.  
Front mounting via pass-through holes for countersunk-head screws, black zinc-plated nuts and washers, included in supply.  
Dimension: 154 mm

#### **RH-MK** Folding handles *Steel*



Round-section bar in surface-ground steel.  
Stop spring to keep the handle in the open or folded position in steel. Zinc-plated washers and nuts. Assembly centre distances: 100 - 120 - 180 - 250 mm

#### **RH-EK** Folding handles *Stainless steel*



Round-section bar in AISI 303 stainless steel.  
Stop spring to keep the handle in the open or folded position in stainless steel. Stainless steel washers and nuts. Assembly centre distances: 100 - 120 - 180 - 250 mm

### 4.5 Tubular handles



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#### Material

- Technopolymer (10)
- Stainless steel (22)
- Aluminium (43)

#### Type of assembly

- Blind hole (41)
- Pass-through hole (17)
- Threaded screw (11)

#### **ETH.** Tubular handles *Technopolymer and aluminium*



Tube in aluminium with epoxy resin coating or natural aluminium. Side mounts in technopolymer; screw covers in standard colours. Front mounting via pass-through holes for cylindrical-head screws with hexagon socket or nuts. Assembly centre distances: 300 - 400 - 500 - 700 - 1000 mm

#### **ETH-CLEAN** Tubular handles *Technopolymer and aluminium, easy cleaning*



Tube in coated aluminium, white colour.  
Side mounts in technopolymer; screw covers in technopolymer. Front mounting via pass-through holes for cylindrical-head screws with hexagon socket or nuts. For application with medical and food equipment. Assembly centre distances: 300 - 400 - 500 - 700 - 1000 mm

#### **M.1043** Tubular Handles *Technopolymer, aluminium, stainless steel*



Tube in aluminium with epoxy resin coating, anodised or AISI 304 stainless steel. Tube anti-rotation side mounts. Rear mounting via bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws. Assembly centre distances: 180 - 200 - 300 - 350 - 400 - 500 - 600 - 700 mm

#### **M.1043-SCM** Tubular handles with intermediate shank *Technopolymer and aluminium*



Aluminium tube with epoxy resin coating or anodized, natural colour. Tube anti-rotation side mounts. Rear mounting via bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws. Assembly centre distances: 700 - 1000 mm

#### **M.1043-SCM-SST** Tubular handles with intermediate shank *Technopolymer and stainless steel*



AISI 304 stainless steel tube. Tube anti-rotation side mounts. Rear mounting via bosses with threaded blind holes or front mounting via pass-through holes for cylindrical-head screws. Assembly centre distances: 700 - 1000 mm

#### **M.1043-HEI** Tubular handles for electrical insulation *Technopolymer and polyester*



Polyester tube, black colour, high resistivity. Tube anti-rotation side mounts. Rear mounting via brass bosses with threaded blind holes. Assembly centre distances: 500 - 700 mm

## 4. Handles

### 4.5 Tubular handles

continues

#### M.1066

##### Tubular handles

Technopolymer,  
aluminium,  
stainless steel



Tube in aluminium with epoxy resin coating, anodised or AISI 304 stainless steel. Technopolymer handle shanks. Rear mounting via zinc-plated steel screws with threaded holes or front mounting via cylindrical-head screws, nuts and washers. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 mm

#### M.1066-CLEAN

##### Tubular handles

Technopolymer,  
aluminium,  
easy cleaning



Tube in coated aluminium, white colour. Technopolymer handle shanks. Rear mounting via zinc-plated steel screws with threaded holes. For application with medical and food equipment. Assembly centre distances: 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. Zinc alloy die-cast handle shanks with epoxy resin coating. Back mounting with threaded blind holes. Assembly centre distance: 180 - 200 - 300 - 400 - 500 mm

#### GN 333.7

##### Tubular Handles

Stainless steel



Tube in AISI 304 stainless steel. Side mounts in AISI CF-8 stainless steel. Back mounting with threaded blind holes. Assembly centre distances: 200 - 300 - 500 mm

#### EVH.

##### Tubular Handles

Oval cross section,  
technopolymer and  
aluminium



Tube in aluminium with epoxy resin coating or natural aluminium. Side mounts in technopolymer; screw covers in standard colours. Front mounting via pass-through holes for cylindrical-head screws, screws with hexagon socket or nuts. Assembly centre distances: 300 - 350 - 400 - 500 - 600 - 700 mm

#### EVH-CLEAN

##### Tubular handles

Oval cross section,  
technopolymer and  
aluminium,  
easy cleaning



Tube in coated aluminium, white colour. Side mounts in technopolymer; screw covers in technopolymer. Front mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. For application with medical and food equipment. Assembly centre distances: 300 - 400 - 500 - 700 - 1000 mm

#### GN 334

##### Tubular oval-cross-section handles

Oval cross section,  
zinc alloy and aluminium



Tube in anodised aluminium, natural colour or epoxy resin coating, black colour. Side mounts in zinc alloy. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 - 800 mm

#### GN 334.1

##### Tubular oval-cross-section handles

Oval cross section,  
zinc alloy and aluminium



Aluminium tube, anodised, natural or with epoxy resin coating. Side mounts in zinc alloy. Front mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 - 800 mm

#### GN 335

##### Tubular Handles

Oval cross section,  
zinc alloy and aluminium



Tube in anodised aluminium, natural colour or epoxy resin coating, black colour. Side mounts in zinc alloy. Rear mounting via zinc-plated steel screws with threaded holes or front mounting via screws, nuts and washers in AISI 304 stainless steel. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 - 800 mm

#### GN 669

##### Tubular handles

Aluminium



Tube in anodised aluminium, natural colour or epoxy resin coating, black colour. Side mounts in aluminium, grey or black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 300 - 500 mm





## 4. Handles

### 4.5 Tubular handles

*continues*



#### **RH-A3** Tubular handles Aluminum



Tube in anodised extruded aluminium, black colour. Side mounts in anodised aluminium, black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 400 mm

#### **RH-TL.A3** Tubular handles Aluminium and stainless steel



Tube in AISI 304 stainless steel. Side mounts in anodised extruded aluminium, natural colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 300 - 400 mm

#### **RH-ES** Tubular handles Stainless steel



Tube in AISI 304 stainless steel. Side mounts in stainless steel. Front mounting via pass-through holes for hexagonal-head screws, nuts and washers in stainless steel, included in supply. Assembly centre distances: 200 - 300 - 400 - 500 - 600 mm

#### **RH-FG16-00** Tubular Handles Stainless steel or Technopolymer



Black PVC or AISI 304 stainless steel tube. Technopolymer or AISI 316 stainless steel side mounts. Front or rear mounting via pass-through holes for cylindrical-head screws with hexagon socket, hexagonal-head screws or nuts. Assembly centre distance: 180 - 200 mm

#### **RH-EU** Tubular handles Stainless steel



Tube in AISI 304 stainless steel. Side mounts in stainless steel. Rear mounting via threaded holes for hexagonal-head screws and washers, included in the supply. Assembly centre distances: 200 - 250 - 300 - 350 - 400 mm

#### **RH-U2** Tubular handles Aluminium and stainless steel



Tube in AISI 304 stainless steel. Side mounts in aluminium with epoxy resin coating, black colour. Rear mounting via threaded holes for M10x70 screws, nuts and washers in zinc-plated steel. Assembly centre distances: 500 - 700 mm

#### **RH-TL.U3** Tubular handles Aluminium and stainless steel



Tube in AISI 304 stainless steel. Side mounts in anodised extruded aluminium, natural colour. Back mounting with threaded blind holes. Assembly centre distances: 300 - 500 - 700 mm

#### **RH-RR** Tubular Handles Technopolymer and aluminium or stainless steel



Tube in anodised aluminium in natural colour, in AISI 304 stainless steel or AISI 316L stainless steel. Side mounts in technopolymer, black colour. Front or rear mounting via pass-through holes for hexagonal-head screws. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 mm

#### **RH-RS** Tubular Handles Technopolymer and aluminium or stainless steel



Tube in anodised aluminium in natural colour, in AISI 304 stainless steel or AISI 316L stainless steel. Side mounts in technopolymer, black colour. Front mounting via pass-through holes for cylindrical-head screws. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 mm

#### **RH-VM** Tubular Handles Technopolymer and aluminium



Tube in anodised extruded aluminium, natural or black colour. Side mounts in technopolymer, black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 mm

## 4. Handles

### 4.5 Tubular handles

continues

#### RH-VM-02

**Tubular Handles**  
Technopolymer and  
aluminium



Tube in anodised extruded aluminium, natural or black colour. Side mounts in technopolymer, black colour. Back mounting with threaded blind holes. Assembly centre distance: 200 - 250 - 300 - 400 mm

#### RH-UR

**Tubular Handles**  
Technopolymer and  
aluminium



Bar in anodised aluminium, black colour. Side mounts in technopolymer, black colour. Back mounting with threaded blind holes. Assembly centre distances: 55 - 88 - 100 - 120 - 180 mm

#### RH-SP

**Offset tubular handle**  
Technopolymer



Rear mounting via brass bosses, threaded blind holes. Assembly centre distance: 140 mm

#### RH-A4

**Tubular handles**  
Oval cross section,  
aluminium



Tube in anodised extruded aluminium, black colour. Side mounts in anodised aluminium, black colour. Back mounting with threaded blind holes. Assembly centre distance: 200 - 250 - 300 - 400 mm

#### RH-U4

**Tubular handles**  
Oval cross section,  
aluminium



Tube in anodised extruded aluminium, black colour. Side mounts in anodised aluminium, black colour. Back mounting with threaded blind holes. Assembly centre distances: 300 - 500 - 700 mm

#### M.1053

**Offset tubular handles**  
Technopolymer and  
aluminium



Tube in aluminium with epoxy resin coating, anodised natural colour. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distances: 300 - 350 - 400 - 500 - 600 - 700 mm

#### M.1053-CLEAN

**Offset tubular handles**  
Technopolymer and  
aluminium,  
easy cleaning



Tube in coated aluminium, white colour. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. For application with medical and food equipment. Assembly centre distances: 300 - 400 - 500 - 600 - 700 mm

#### M.1053-SST

**Offset tubular handles**  
Technopolymer and  
stainless steel



Tube in AISI 304 stainless steel. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws. Assembly centre distances: 300 - 350 - 400 - 500 - 600 - 700 mm

#### M.1053-P

**Offset tubular handles**  
Movable handle shanks,  
technopolymer and  
aluminium



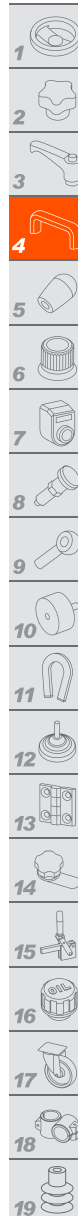
Tube in aluminium with epoxy resin coating, anodised natural colour. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distances: 295 - 345 - 395 - 495 - 595 - 695 mm

#### M.1053-P-CLEAN

**Offset tubular handles**  
Movable handle shanks,  
technopolymer and  
aluminium, easy cleaning



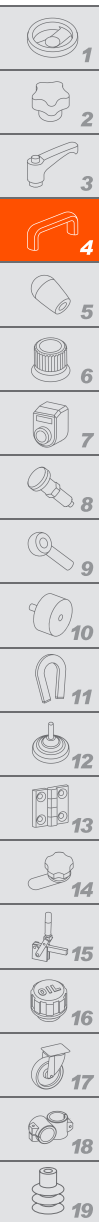
Tube in coated aluminium, white colour. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. For application with medical and food equipment. Assembly centre distances: 295 - 395 - 495 - 595 - 695 mm



## 4. Handles

### 4.5 Tubular handles

continues



#### M.1053-P-SST Offset tubular handles

Movable handle shanks, technopolymer and stainless steel



Tube in AISI 304 stainless steel. Technopolymer handle shanks. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distances: 295 - 345 - 395 - 495 - 595 - 695 mm

#### GN 333.3 Tubular handles with movable handle shanks

Movable handle shanks, technopolymer and aluminium



Tube in anodised aluminium, natural or black colour. Side mounts in die-cast zinc alloy, black colour. Back mounting with threaded blind holes. Assembly centre distance: 242 - 392 - 492 - 592 mm

#### RH-VR Tubular Handles

adjustable, technopolymer and stainless steel centre distance



Tube in AISI 304 stainless steel. Side mounts in technopolymer, black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 400 - 500 mm

#### GN 333 Offset tubular handles

Zinc alloy and aluminium



Aluminium tube, anodised, natural or with epoxy resin coating, black colour. Side mounts in die-cast zinc alloy with epoxy resin coating, black or grey colour. Assembly centre distance: 180 - 200 - 300 - 400 - 500 mm

#### GN 333.6 Adjustable shank handles

Stainless steel



Tube in AISI 304 stainless steel. Side mounts in AISI CF-8 stainless steel. Back mounting with threaded blind holes. Assembly centre distances: 200 - 250 - 300 - 400 - 500 - 600 mm

#### RH-W5 Adjustable shank handles

Aluminium



Anodised aluminium tube, natural colour. Side mounts in anodised extruded aluminium, black colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 300 - 500 mm

#### RH-W1 Offset tubular handles

Aluminium



Anodised aluminium tube, natural colour. Side mounts in aluminium. Rear mounting via threaded blind holes or front mounting, pass-through holes for screws, nuts and washers in stainless steel. Assembly centre distances: 200 - 300 - 500 mm

#### RH-W1-CLEAN Offset tubular handles

Aluminium



Tube in extruded aluminium, epoxy resin coating. Side mounts in aluminium with epoxy resin coating. Back mounting with threaded blind holes. For application with medical and food equipment. Assembly centre distances: 200 - 300 - 500 mm

#### RH-WR Offset tubular handles

Aluminium



Tube in anodised extruded aluminium, natural colour. Side mounts in anodised extruded aluminium, natural colour. Back mounting with threaded blind holes. Assembly centre distances: 300 - 500 mm

#### RH-TL.WR Offset tubular handles

Aluminium and stainless steel



Tube in AISI 304 stainless steel. Side mounts in anodised extruded aluminium, natural colour. Back mounting with threaded blind holes. Assembly centre distance: 200 - 300 - 400 - 500 mm

## 4. Handles

### 4.5 Tubular handles

*continues*

#### **RH-A1** Tubular Handles *Aluminum*



Bar with oval cross section, anodised aluminium, natural colour. Side mounts in aluminium, slanted or straight options available. Back mounting with threaded blind holes. Suitable for use on a 19" rack and instruments in general. Assembly centre distances: 88 - 100 - 120 - 200 mm

#### **RH-A2** Tubular handles *Aluminum*



Bar with oval cross section, anodised aluminium, natural colour. Side mounts in aluminium, slanted, folded or straight options available. Rear mounting via threaded holes for screws and washers in zinc-plated steel. Assembly centre distances: 200 - 300 - 500 mm

#### **RH-M3** Tubular handles *Technopolymer and aluminium*



Bar in anodised aluminium, natural or black colour. Technopolymer handle shanks. Front mounting via pass-through holes for cylindrical-head screws, nuts and washers. Assembly centre distances: 200 - 300 - 400 mm

#### **RH-KG** Double-curved handles *Aluminum*



Round-section bar in anodised aluminium, black colour. Back mounting with threaded blind holes. Assembly centre distances: 250 - 300 - 350 - 400 - 500 - 600 mm

#### **RH-M4** Double-curved handles *Aluminum*



Round-section bar in anodised aluminium, black or natural colour. Back mounting with threaded blind holes. Assembly centre distances: 200 - 350 - 500 mm

#### **RH-M4-CLEAN** Double-curved handles *Aluminum*



Round-section bar in aluminium, epoxy resin coating. Back mounting with threaded blind holes. For application with medical and food equipment. Assembly centre distances: 200 - 350 - 500 mm

#### **RH-ER-33** Tubular and double-curved handles *Stainless steel*



Round-section tube in AISI 304 stainless steel, ground and brushed surfaces with excellent impact and scratch resistance. Double curved, angled or U-shaped. Rear mounting via threaded bosses for M10x30 cylindrical-head screws and washers in AISI 303 stainless steel. Assembly centre distances: 300 - 350 - 500 mm

#### **RH-HS-30** Modular tubular handles *Aluminum*



Tube in surface-ground aluminium. T-connections, fittings and terminals in aluminium, epoxy resin coating. Front mounting via threaded holes for M12x80 screws. Curve angles: 45° - 90° Tube lengths: 200 - 300 - 400 - 500 - 600 - 700 mm

#### **RH-AR** Handles *Rectangular cross section, aluminium*



Profile in anodised aluminium, natural colour. Side mounts in anodised aluminium, natural colour. Back mounting with threaded blind holes. Assembly centre distances: 300 - 500 mm

#### **RH-HV** Tubular handles *Rectangular cross section, aluminium*



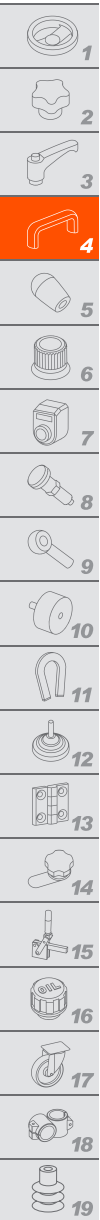
Tube in aluminium, black colour, semi-matte finish. Side mounts in aluminium, epoxy resin coating, black colour, semi-matte finish. Rear mounting via threaded blind holes or front mounting, pass-through holes for cylindrical-head M10x90 screws, nuts and washers in stainless steel. Assembly centre distances: 300 - 500 - 700 mm



## 4. Handles

### 4.5 Tubular handles

*continues*



#### **RH-MS** **Tubular handles** *Rectangular cross section, aluminium*



Anodised aluminium tube, natural colour.  
Side mounts in aluminium, epoxy resin coating.  
Front mounting via holes for head screws, nuts and washers.  
Assembly centre distances: 200 - 250 - 300 - 400 - 500 mm

#### **GN 666.4** **Bent tubular handles** *Aluminum*



Aluminium tube, anodised, natural or with epoxy resin coating.  
Side mounts in aluminium, epoxy resin coating.  
Back mounting with threaded blind holes.  
Assembly centre distances: 400 - 500 - 600 mm

#### **GM.A** **Bent tubular handles** *Aluminium and stainless steel*



Tube in AISI 304 stainless steel nut, thickness 1.5 mm. Side mounts in aluminium, epoxy resin coating, black colour.  
Back mounting with threaded blind holes.  
Assembly centre distances: 500 - 600 mm

#### **GN 665** **Arch-shaped handles** *Zinc alloy and aluminium*



Bar with oval cross section in aluminium, epoxy resin coating.  
Side mounts in zinc alloy.  
Rear mounting via screws and washers.  
Assembly centre distances: 350 - 450 mm

#### **RH-GM.B** **Bent tubular handles** *Aluminium and stainless steel*



AISI 304 stainless steel tube, ground surface.  
Side mounts in aluminium, epoxy resin coating.  
Back mounting with threaded blind holes.  
Assembly centre distance: 500 - 600 mm

#### **RH-TL.GM** **Bent tubular handles** *Aluminium and stainless steel*



AISI 304 stainless steel tube, ground surface.  
Side mounts in anodised aluminium, natural colour.  
Back mounting with threaded blind holes.  
Assembly centre distances: 500 - 600 mm

#### **RH-BG** **Bent handles** *Aluminum*



Bar with oval cross section in anodised aluminium, black or natural colour.  
Back mounting with threaded blind holes.  
Assembly centre distances: 350 - 400 - 450 - 500 - 600 - 700 - 800 mm

#### **RH-ER-30** **Bent handles** *Stainless steel*



Tube in AISI 316L stainless steel.  
Rear mounting via AISI 316L stainless steel threaded bosses for M8x14 screws.  
Assembly centre distances: 450 - 600 - 800 mm

#### **GN 481** **Edge handles** *Zinc alloy and aluminium*



Aluminium with epoxy resin coating, black colour or anodised natural colour.  
Mounting with pass-through holes for countersunk head screws.  
Dimensions: 100 - 300 - 500 mm



## 4. Handles

### 4.6 Handles with electrical switch



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#### Material

- Technopolymer (10)
- Stainless steel (1)
- Aluminium (1)

#### Type of assembly

- Blind hole (4)
- Pass-through holes (5)

#### EBR-SWM - EBR-SWB

##### Handle with monostable or bistable electrical switch

Technopolymer



Normally open (NO) contact and a normally closed (NC) changeover contact or a bistable normally open contact (NO). One red LED and one green LED. 8-pin connector or cable, rear or side exit. Front mounting via pass-through holes for cylindrical-head screws. Assembly centre distance: 132 mm



#### M.2000-SWM

##### Handles with monostable switch and LED indicator light

Self-extinguishing technopolymer



Two slow action electrical contacts with double interruption in normally open (NO) or normally closed (NC) versions. LED strips in various colours. 8-pin connector or cable. IP 67 protection class. Rear mounting via brass bosses with threaded blind holes. Assembly centre distance: 180 mm



#### ESC-SFT

##### Handles with built-in safety switch

Technopolymer



One NC safety contact, one NO safety contact, one NC signalling contact with LED or two NC safety contacts, one NC signalling contact with LED. 8-pin M12 male connector or cable. Can be combined with accessories such as a safety control unit or an M12 connector cable. Dimension: 114 mm



#### CN-SFT

##### Safety control unit for category 3 and 4

Technopolymer



Can be used in conjunction with the following products: ESC-SFT, CFSW, CFSQ, M.2000-SWM. The control unit is able to monitor the status of two contacts (safety Reed magnetic sensors, emergency buttons, mechanical safety switches). One NO contact plus one NC contact or two NC contacts. Dimension: 114 mm



#### FC-ESC

##### Connector cable M12x1

For ESC-SFT



Cable with grey PVC sheath. AISI 316 stainless steel nut. 8-pin M12x1 female connector with technopolymer housing and contact holder.



#### RH-FG11

##### Tubular handles with built-in microswitch

Technopolymer



The device consists of one normally open (NO) contact plus one normally closed (NC) contact. Integrated red or green LED. 8-pin connector or cable, rear output. IP 65 protection class. Rear mounting using bosses with threaded blind holes. Fixing centre distance: 180 mm



#### RH-FG16.84

##### Tubular handles with electrical switches

Technopolymer



Push button with integrated normally open (NO) contact or with the addition of an emergency stop button with two normally closed (NC) contacts. IP 65 protection class. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distance: 180 mm



#### RH-FG16.36

##### Tubular handles with electrical switches

Stainless steel



Push button with integrated normally open (NO) contact or with the addition of an emergency stop button with two normally closed (NC) contacts. IP 65 protection class. Front or rear mounting via pass-through holes for cylindrical-head screws, hexagonal-head screws or nuts. Assembly centre distance: 200 mm



#### RH-FG17

##### Tubular handle with LED

Round section, technopolymer and aluminium



Side mounts in technopolymer and tube in anodised aluminium. 8-pole cable, length 5 metres. An LED ring (red/green/yellow/blue) is integrated into the handle which indicates the status of the machine. IP 65 protection class. Back mounting with threaded blind holes. Assembly centre distance: 300 mm



#### RH-FG18-01 - RH-FG18-02

##### Tubular handle with electrical switches

Technopolymer and aluminium



Change-over button with integrated green LED or with additional change-over push button with integrated red LED. IP 65 protection class. Rear mounting via nickel-plated steel bosses with threaded blind holes. Assembly centre distance: 140 mm



## 4. Handles

### 4.7 Handles with pneumatic valve



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#### Material

- Technopolymer (3)
- Aluminium (2)

#### Type of assembly

- Blind hole (3)

#### EBR-PN Handle with pneumatic valve Technopolymer



Allows direct control of a single-acting or a double-acting pneumatic actuator. Quick-release couplings for direct insertion of a tube (Ø4 mm) for pneumatics. Rear mounting via bosses with threaded blind holes. Assembly centre distance: 132 mm



#### RH-FG18-P3 Handles with 3/2 pneumatic valve Technopolymer and aluminium



Allows direct control of a single-acting pneumatic actuator with one or two independent controls. Quick-release couplings for direct insertion of a tube (Ø4 mm) for pneumatics. Rear mounting via bosses with threaded blind holes. Assembly centre distance: 140 mm



#### RH-FG18-P5 Handles with 5/2 pneumatic valve Technopolymer and aluminium



Allows direct control of one or two double-acting pneumatic actuators. Quick-release couplings for direct insertion of a tube (Ø4 mm) for pneumatics. Rear mounting via bosses with threaded blind holes. Assembly centre distance: 140 mm



### 4.8 Finger handles



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#### Material

- Technopolymer (4)
- Steel (1)
- Stainless steel (1)

#### Type of assembly

- Blind hole (5)

#### MFH Finger handles Technopolymer



Rear mounting via blind holes for fixing by means of No. 2 self-tapping screws Ø3.5, not included in supply. Assembly centre distances: 30 - 40 mm



#### MFH-CLEAN Finger handles Technopolymer, easy cleaning



For application with medical and food equipment. Rear mounting via blind holes for fixing by means of No. 2 self-tapping screws Ø3.5, not included in supply. Assembly centre distances: 30 - 40 mm



#### MFH-CR Finger handles Technopolymer



The chrome plating makes the surface semi-polished, ensuring ease of cleaning. Rear mounting via blind holes for fixing by means of No. 2 self-tapping screws Ø3.5, not included in supply. Assembly centre distances: 30 - 40 mm



#### GN 224.1 - GN 224.5 Finger handles Steel or stainless steel



Available in chrome-plated steel (GN 224.1) or AISI 304 stainless steel (GN 224.5). Back mounting with threaded blind holes. Assembly centre distances: 30 - 40 mm



#### RH-FM Thimble-shaped handles Technopolymer



Rear mounting via brass boss with threaded blind hole. Dimensions: 26 - 30 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.

### 5.1 Knobs



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#### Material

- Technopolymer (4)
- Duroplast (2)
- Steel (1)
- Stainless steel (6)

#### Type of assembly

- Blind hole (10)
- Threaded screw (5)

#### EKK. Knurled knobs Technopolymer



Available in standard colours.  
Brass boss, threaded blind hole or zinc-plated steel threaded stud.  
Diameters: 16 - 18 - 21 - 25 - 31 - 35 mm



#### EKK-SST-SAN Knurled knobs Technopolymer with antimicrobial protection



AISI 304 stainless steel boss, threaded blind hole.  
Diameters: 21 - 31 mm



#### EKK-SST-VD Knurled knobs Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
AISI 304 stainless steel boss, threaded blind hole.  
Diameters: 21 - 31 mm



#### EKK-SST-MD Knurled knobs Metal Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
AISI 304 stainless steel boss, threaded blind hole.  
Diameters: 21 - 31 mm



#### GN 676.5 Knobs Stainless steel



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



#### GN 75 Knobs Steel

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



#### GN 75.5 Knobs Stainless steel



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



#### GN 75.6 Knobs Hygienic Design AISI 316L stainless steel



Threaded blind hole or threaded pin, sandblasted matte or mirror polished finish. H-NBR or EPDM synthetic rubber packing ring, FDA compliant.  
Diameters: 20 - 25 - 32 mm



## 5. Fixed & Revolving handles

### 5.1 Knobs

continues



#### P.131

##### Mushroom knobs Duroplast



Threaded blind hole or threaded pin.  
Diameters: 35 - 45 mm



#### I.150

##### Mushroom knobs Duroplast



Threaded blind hole.  
Diameters: 25 - 32 mm



### 5.2 T-Handles



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#### Material

- Technopolymer (3)
- Duroplast (1)
- Aluminium (1)

#### Type of assembly

- Blind hole (5)
- Threaded screw (3)
- Blind hole (5)
- Threaded screw (3)

#### L.652

##### T-Handles Technopolymer



Available in standard colours.  
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. Adjustable handles with "push" mechanism. Dimensions: 67 - 80 mm



#### L.652-X

##### Adjustable T-Handles Technopolymer



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. Adjustable handles with "pull" mechanism. Dimensions: 67 - 80 mm



#### L.652M

##### T-Handles Aluminium

Available in natural aluminium or with epoxy resin coating, black colour.  
Plain or threaded blind hole.  
Dimensions: 55 - 67 - 80 mm



#### GN 5063

##### T-Handles AISI 316 stainless steel



Available with a sandblasted matte or polished finish.  
Plain or threaded blind hole.  
Dimensions: 63 - 80 - 100 mm



#### L.152

##### T-Handles Duroplast



Black-oxide steel hub, plain or threaded blind hole.  
Dimensions: 70 - 80 - 95 mm



### 5.3 Fixed handles



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#### EBK.SOFT

##### Mushroom lobe handles Soft-touch technopolymer



ERGOSTYLE®



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Diameters: 43 - 50 mm



#### EBK-C SOFT

##### Mushroom lobe handles Soft-touch technopolymer



ERGOSTYLE®



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Available in standard colours.  
Brass boss with threaded blind hole or zinc-plated steel threaded stud.  
Diameters: 43 - 50 mm



## 5. Fixed & Revolving handles

### 5.3 Fixed handles

continues



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#### Material

- Technopolymer (19)
- Duroplast (15)
- Steel (2)
- Stainless steel (2)

#### Type of assembly

- Blind hole (34)
- Threaded screw (7)

#### EBK-H SOFT

##### Mushroom lobe handles

with lens, Soft-touch technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Transparent technopolymer lens and labels with marks and symbols. Brass boss, threaded hole. Diameters: 43 - 50 mm

#### IEL.N SOFT

##### Mushroom handles

Soft-touch technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Plain blind hole, press-fit assembly by means of the elastic coupling. Dimension: 47 - 65 mm

#### IEL.N-H SOFT

##### Mushroom handles

with lens, Soft-touch technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Transparent technopolymer lens and labels with marks and symbols. Plain blind hole, press-fit assembly by means of the elastic coupling. Dimension: 65 mm

#### IH.N

##### Tapered handles

with lens, Soft-touch technopolymer



Transparent technopolymer lens and labels with marks and symbols. Plain blind hole, press-fit assembly by means of the elastic coupling. Dimension: 40 - 50 mm

#### SH.N

##### Spherical knobs

with lens, Duroplast



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. Diameters: 35 - 40 - 45 mm

#### MA.

##### Labels with marks and symbols

Self-adhesive aluminium



Self-adhesive vinyl film. Mounting with lens. Dimension: 20 - 25 mm

#### I.622

##### Fixed handles

Technopolymer



Available in standard colours. Threaded blind hole. Dimensions: 25 - 30 - 40 - 55 mm

#### I.622 N

##### Tapered handles

Technopolymer



Available in black or red colour. Plain blind hole. Dimension: 25 - 30 - 40 - 55 mm

#### I.622 N-CLEAN

##### Tapered handles

Technopolymer, easy cleaning



White colour similar to RAL 9002. Plain blind hole. Dimension: 25 - 30 - 40 - 55 mm

#### I.222

##### Tapered handles

Duroplast



Threaded blind hole or self-locking boss with plain blind hole. Dimension: 25 - 30 - 40 - 55 - 70 - 90 mm





## 5. Fixed & Revolving handles

### 5.3 Fixed handles

continues



#### **P.111** Spherical knobs *Duroplast*

PF

Threaded blind hole.  
Diameters: 37 - 47 mm



#### **PLX.** Spherical knobs *Duroplast*

PF

Threaded blind hole; brass boss with threaded blind hole; slightly cone-shaped plain blind hole, press-fit assembly by means of the elastic coupling.  
Diameters: 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



#### **P.390** Tapered handles *Duroplast*

PF

Plain blind hole.  
Diameters: 25 - 35 - 40 mm



#### **I.307** Tapered handles *Duroplast*

PF

Brass boss, threaded blind hole.  
Diameters: 20 - 25 - 30 mm



#### **EGH.SOFT** Cylindrical lobe handle *Soft-touch technopolymer*



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



#### **I.137** Tapered handles *Duroplast*

PF

Threaded blind hole.  
Dimensions: 70 - 80 mm



#### **I.142** Tapered handle *Duroplast*

PF

Threaded blind hole.  
Dimensions: 60 mm



#### **I.147** Tapered handles *Duroplast*

PF

Threaded blind hole.  
Dimensions: 40 - 50 - 60 - 75 mm



#### **I.149** Tapered handles *Duroplast*

PF

Threaded blind hole.  
Dimensions: 65 - 85 mm



## 5. Fixed & Revolving handles

### 5.3 Fixed handles

*continues*

#### I.195 Tapered handle *Duroplast*



Threaded blind hole.  
Dimensions: 60 mm



#### I.618-SOFT Shaped handle *Soft-touch technopolymer*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Brass boss, threaded blind hole or plain blind hole, press-fit assembly using elastic coupling.  
Dimension: 80 mm



#### I.218 Shaped handle *Duroplast*



Threaded blind hole.  
Dimensions: 60 mm



#### I.680 SOFT Cylindrical handles *Soft-touch technopolymer*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
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.168 SOFT Knurled handle *Soft-touch technopolymer*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Brass boss, plain blind hole.  
Dimension: 60 mm



#### I.780 Cylindrical handles *Technopolymer*



Threaded blind hole.  
Dimensions: 65 - 80 - 90 mm



#### I.780-N Cylindrical fixed handles *Technopolymer*



Blind hole.  
Dimensions: 40 - 50 - 56 - 65 - 80 - 90 - 100 mm



#### I.780-SAN Cylindrical handles *Technopolymer with antimicrobial protection*



Threaded blind hole.  
Dimensions: 80 mm



#### I.780-VD Cylindrical handle *Visually Detectable technopolymer*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Threaded blind hole.  
Dimensions: 80 mm



#### I.780-MD Cylindrical handle *Metal Detectable technopolymer*



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Threaded blind hole.  
Dimensions: 80 mm



## 5. Fixed & Revolving handles

### 5.3 Fixed handles

continues



#### I.126 Shaped handles Duroplast

PF

Threaded blind hole or threaded stud in zinc-plated steel.  
Dimensions: 75 - 95 - 110 mm



#### IF. Cylindrical handles with protection, technopolymer

PA

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



#### IFF Cylindrical handles with double protection, technopolymer

PA

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



#### I.167 p Tapered handles with protection, Duroplast

PF

Threaded stud in zinc-plated steel.  
Dimension: 103 mm



#### I.280 Cylindrical handles Duroplast

PF

Threaded blind hole; zinc-plated steel threaded stud.  
Dimensions: 28 - 40 - 50 - 65 - 80 - 90 - 102 - 115 mm



#### I.580 N Cylindrical handles Technopolymer

PP

Blind hole for pressure mounting via elastic coupling.  
Dimensions: 40 - 50 - 65 - 80 - 90 mm



#### DIN 39 Shaped handles Steel or AISI 316L stainless steel

INOX

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



### 5.4 Revolving handles



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#### EBK+x Spherical revolving handle Technopolymer

ERGOSTYLE® PP

Zinc-plated steel pin, hexagon socket at threaded end.  
Diameter: 50 mm



#### EBS+x Spherical revolving handle Technopolymer

ERGOSTYLE® PP

Zinc-plated steel pin, hexagon socket at threaded end.  
Diameters: 45 - 48 mm



## 5. Fixed & Revolving handles

### 5.4 Revolving handles

continues



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#### Material

- Technopolymer (12)
- Duroplast (7)
- Steel (2)
- Stainless steel (8)
- Aluminium (1)

#### Type of assembly

- Blind hole (1)
- Pass-through hole (2)
- Threaded screw (22)

#### EBS+x SOFT Spherical revolving handle

Soft-touch  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Zinc-plated steel pin, hexagon socket at threaded end. It improves grip even in the presence of oils, greases and sweat from the hand. Diameters: 45 - 48 mm



#### IEL+x SOFT Mushroom revolving handles

Soft-touch  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Zinc-plated steel pin, hexagon socket at threaded end. With or without ring in opaque anodised aluminium. Dimensions: 47 - 65 mm



#### I.229+x Revolving handle

Duroplast



Zinc-plated steel threaded pin, two flat faces for fitting with 12 mm spanner. Dimension: 60 mm



#### P.111+x Revolving ball knobs

Duroplast



Zinc-plated steel threaded pin, two flat faces for fitting with 12 mm spanner. Diameters: 37 - 47 mm



#### GN 598 Revolving handles

Steel



AISI 303 stainless steel pin, hexagon socket at threaded end. Dimensions: 53 - 68 - 83 - 93 - 105 mm



#### GN 798 Revolving handles

Aluminum



Zinc-plated steel pin, hexagon socket at threaded end. Dimensions: 42 - 56 - 60 - 74 - 84 mm



#### GN 798.1 Revolving handles

Stainless steel



AISI 303 stainless steel pin, hexagonal socket at threaded end. Dimensions: 56 - 60 - 74 mm



#### GN 798.4 Revolving handles

Mounting on the operator's side, stainless steel



AISI 303 stainless steel pin. Dimensions: 56 - 60 - 74 mm



#### I.281 Cylindrical revolving handles

Duroplast



Smooth pass-through hole; pin in opaque chrome-plated steel; pin in AISI 304 stainless steel; pin and locking nut in opaque chrome-plated steel. Dimensions: 40 - 50 - 65 - 80 - 90 - 100 mm



#### I.621+x Revolving handles

Technopolymer



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



## 5. Fixed & Revolving handles

### 5.4 Revolving handles

continues



#### I.301+x Cylindrical revolving handles

*Duroplast and technopolymer*



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



#### I.481+x Cylindrical revolving handles

*Duroplast*



Black-oxide steel shoulder screw, cylindrical-head with hexagon socket.  
Dimensions: 40 - 50 - 65 - 80 mm



#### I.601+x Cylindrical revolving handles

*Technopolymer*



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



#### I.780+x Cylindrical revolving handles

*Technopolymer*



Zinc-plated steel or AISI 303 stainless steel pin, hexagon socket at threaded end.  
Dimensions: 40 - 50 - 55 - 65 - 80 - 90 - 100 mm



#### I.631+x Revolving handle

*Technopolymer*



Zinc-plated steel pin, hexagon socket at threaded end.  
Dimensions: 65 mm



#### I.741+x Revolving handles

*Technopolymer*



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



#### I.644-SST-SAN Tapered handles

*Technopolymer with antimicrobial protection*



Stainless steel pin, hexagonal head on threaded tip.  
This handle prevents any deposit of bacteria, mildew and fungi, offering a sanitised effect on the surface.  
Dimension: 90 mm



#### I.701+x Revolving handles

*Technopolymer*



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



#### I.731+x Revolving handles

*Technopolymer*



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



#### DIN 98 Shaped revolving handles

*Steel*

Zinc-plated steel pin, hexagon socket at threaded end.  
Dimensions: 16 - 20 - 25 - 32 - 36 mm





## 5. Fixed & Revolving handles

### 5.4 Revolving handles

*continues*

#### I.135 Tapered flanged handles *Duroplast*

PF

Smooth pass-through hole with technopolymer guide bosses fixed at the ends.  
Dimensions: 120 mm



#### IGF Cylindrical revolving handles *with double protection, technopolymer, resistant to high temperatures*

PA

Smooth pass-through hole for shafts.  
Dimensions: 127 mm



#### SI.134 Revolving handles *Duroplast*

PF

Smooth pass-through hole with technopolymer guide bosses fixed at the ends.  
Dimensions: 105 mm



### 5.5 Fold-away handles



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#### IR.302 Fold-away handles *Duroplast*

INOX  
STAINLESS  
STEEL

PF

Double-guide pin in black-oxide steel or AISI 303 stainless steel, base support with guide stud in sintered steel or AISI 303 sintered stainless steel.  
Dimensions: 56 - 65 - 80 - 90 mm



#### IR.407 Fold-away handles *Duroplast*

INOX  
STAINLESS  
STEEL

PF

Double-guide pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel.  
Dimensions: 65 - 80 - 90 mm



#### IR.612 Fold-away handles *Technopolymer*

INOX  
STAINLESS  
STEEL

PP

Double-guide pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel.  
Dimensions: 56 - 65 - 80 - 90 mm



#### IR.780 Fold-away handles *Technopolymer*

INOX  
STAINLESS  
STEEL

PA

Double-guide pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel.  
Dimensions: 56 - 65 - 80 - 90 mm



#### IR.620 Fold-away handles *Technopolymer*

INOX  
STAINLESS  
STEEL

PA

Double-guide pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel.  
Dimensions: 45 - 60 - 65 - 73 - 80 - 90 mm



#### IRS.820 Two volume safety fold-away handles *Technopolymer*

INOX  
STAINLESS  
STEEL

PA

Black-oxide or AISI 303 stainless steel pin, glass-fibre reinforced technopolymer flat base for embedded mounting. The special return mechanism "Fold-O-matic" automatically folds the handle into the retracted position.  
Dimensions: 65 - 80 - 90 mm



## 5. Fixed & Revolving handles

### 5.5 Fold-away handles

*continues*

#### IRS.802

##### Two volume safety fold-away handles

*Technopolymer*



Double-guide pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel. The special return mechanism "Fold-O-matic" automatically folds the handle into the retracted position. Dimensions: 65 - 80 - 90 mm

#### EFH.620

##### Fold-away handles

*Technopolymer*



Pin in black-oxide steel or AISI 303 stainless steel, flat base support in sintered steel or AISI 303 sintered stainless steel. Dimensions: 60 - 65 - 80 - 90 mm

### 5.6 Gear lever handles



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#### Material

- Steel

#### Type of assembly

- Threaded screw

#### BL.666

##### Gear lever handles

*Zinc-plated steel and Duroplast*



BL.666 BL.668 zinc-plated steel arm. Handles in Duroplast or technopolymer, black colour. Dimensions: from 65 to 203 mm

#### BL.668

##### Gear lever handles

*Zinc-plated steel and technopolymer*



BL.666 BL.668 zinc-plated steel arm. Handles in Duroplast or technopolymer, black colour. Dimensions: from 57 to 180 mm

#### BL.366

##### Gear lever handles

*Chrome-plated steel and Duroplast*



BL.366 BL.368 matte chrome-plated steel arm. Handles in Duroplast, black colour. Dimensions: from 65 to 203 mm

#### BL.368

##### Gear lever handles

*Chrome-plated steel and Duroplast*



BL.366 BL.368 matte chrome-plated steel arm. Handles in Duroplast, black colour. Dimensions: from 57 to 180 mm



## Control elements



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

### 6.1 Control knobs



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#### Material

- Technopolymer (7)
- Duroplast (7)
- Steel (5)
- Stainless steel (6)
- Aluminium (11)

#### Type of assembly

- Plain hole (23)
- Plain hole and keyway (5)

#### IZP. Control knurled 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

#### GN 727 Control knurled knobs with adjustable spindle, aluminium



Base in chrome-plated steel; knob with knurled aluminium profile. 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 827 Adjusting screws for GN 828 bearing blocks, stainless steel



GN 827 stainless steel adjusting screws are used for simple adjustment and positioning operations. Classification S: with standard scale 0...0.5, 10 graduations.  
Laser-engraved graduated scale, black colour.  
Dimensions: 20 - 30 - 35 - 40 - 45 - 50 - 60 mm

#### GN 827.1 Mounting Nuts for adjusting screws GN 827, stainless steel



The nuts GN 827.1 are used in combination with adjusting screws GN 827 for positioning and fastening operations with a matching part.  
Diameters: 16 - 20 - 24 mm

#### GN 828 Bearing blocks for adjusting screws GN 827, aluminium



Used for simple adjustment and positioning operations.  
Available with threading, top-mounted; with scaling, top-mounted and front-mounted.  
Laser-engraved reference line, black colour.  
Dimensions: 35 - 40 - 45 mm

#### GN 957 Control knurled knobs for DD digital position indicators, aluminium



Knurled aluminium profile, black colour.  
Assembly by means of a supplied stainless steel transversal grub screw with hexagon socket.  
Diameters: 22 - 27 - 42 mm

#### IZN.381 Control knurled knobs Technopolymer



Technopolymer boss cap in standard colours; aluminium flange with triangular index or precision graduation. Black-oxide steel boss, H7 reamed hole. Assembly by means of keyway or transversal elastic pin or grub screw.  
Diameters: 32 - 42 - 48 - 52 - 63 mm

#### MI.304 Control knurled knobs With pointer, Duroplast



White line index.  
H10 plain blind hole. Assembly by means of a transversal grub screw.  
Diameters: 35 - 40 - 45 mm



## 6. Control elements

### 6.1 Control knobs

continues



#### MI.304-CR Control knurled knobs

With pointer, Duroplast  
chrome-plated



Chrome-plated Duroplast with polished finish, resistant to wear, rubbing and shocks. Black line index. H10 plain blind hole. Assembly by means of a transversal grub screw. Diameters: 35 - 40 - 45 mm

#### MI.404 Control knurled knobs

With pointer, Duroplast



White line index. H10 plain blind hole. Assembly by means of a transversal grub screw. Diameters: 35 - 40 - 45 mm

#### MI.404-CR Control knurled knobs

With pointer, Duroplast  
chrome-plated



Chrome-plated Duroplast with polished finish, resistant to wear, rubbing and shocks. Black line index. H10 plain blind hole. Assembly by means of a transversal grub screw. Diameters: 35 - 40 - 45 mm

#### MBR Diamond-cut knobs

with collar or flange,  
technopolymer



Plain, triangular index or precision graduation, laser-engraved. Technopolymer closing cap in standard colours. Brass boss, plain blind hole. Secured via a transversal grub screw. Diameters: 30 - 40 - 50 mm

#### F.N - F.K - F.GS Flanges for graduations

for IZN.381 control  
knobs



Neutral flange, with triangular index or graduation (marks and numbers) in black colour. Mounting via three self-tapping screws. Diameters: 32 - 36 - 40 - 45 - 50 - 56 - 63 mm

#### GN 723.3 Base flanges

for GN 723.4 control  
knobs, aluminium



Laser-engraved triangular index. H8 reamed hole; flange with or without NBR synthetic rubber friction ring. Diameters: 34 - 41 - 50 - 60 mm

#### GN 723.4 Control knurled knobs

Aluminum



Aluminium with neutral flange base, with triangular index or precision graduation, laser-engraved. H8 reamed hole. Secured via a transversal grub screw. Diameters: 27 - 34 - 42 mm

#### GN 726 Control knurled knobs

Aluminum



With or without neutral base, triangular index or with precision graduation; neutral surface or with index in black colour. H8 reamed hole. Secured via a transversal grub screw. Diameters: 22 - 27 - 34 - 42 mm

#### GN 436 Slotted control knobs

with position indicator,  
stainless steel



With or without plain base, triangular index or precision graduation. H8 reamed hole. Secured via a transversal grub screw, without head, with hexagon socket in stainless steel. Diameters: 24 - 28 mm

#### GN 436.1 Slotted control knobs

with graduations,  
stainless steel



AISI 304 stainless steel, with white perimeter triangular index or with black precision graduation. H8 reamed hole. Secured via a transversal grub screw. Diameters: 24 - 28 mm

## 6. Control elements

### 6.1 Control knobs

continues

#### GN 726.1

**Control knurled knobs**  
with graduated flange,  
aluminium



Knurled aluminium profile, black colour, with neutral base, with white perimeter triangular index or with white precision graduation; H8 reamed hole. Secured via a transversal grub screw.  
Diameters: 22 - 27 - 34 - 42 mm

#### GN 726.2

**Control knurled knobs**  
with graduated flange,  
aluminium



Knurled aluminium profile, black colour; technopolymer flange with neutral surface, with triangular index or with precision graduation, laser-engraved. H8 reamed hole. Secured via a transversal grub screw.  
Diameters: 22 - 27 - 34 - 42 mm

#### GN 164

**Scale rings**  
Steel



With or without NBR synthetic rubber friction ring.  
Diameters: 30 - 40 - 50 - 60 mm

#### GN 264

**Graduated rings**  
for control mechanisms  
combined with GN 268  
and GN 374, steel



H7 reamed hole.  
Natural or matte chrome-plated finish; with scale d1/100-RA-0-10-20...90/10, 100 marks.  
Diameters: 30 - 40 - 60 - 80 mm

#### GN 268

**Base flanges**  
for control mechanisms  
combined with GN 264  
and GN 374, steel



H7 reamed hole, keyway according to DIN 6885/1 tolerance P9.  
Diameters: 24 - 32 - 50 - 68 mm

#### GN 374

**Flat springs**  
or control mechanisms  
GN 264 and GN 268



Steel

#### GN 736

**Control handwheels**  
with revolving handle,  
aluminium



Knurled aluminium profile, black colour. Secured via a transversal grub screw. H8 reamed hole with and without keyway. Without handle or with revolving handle in technopolymer.  
Diameters: 52 - 62 mm

#### GN 736.1

**Control handwheels**  
with revolving handle,  
aluminium



Knurled aluminium profile, black colour. H8 reamed hole with and without keyway. Without handle or with revolving handle in technopolymer.  
Diameters: 52 - 62 mm

#### VL.140+I

**Control handwheels**  
with revolving handle,  
Duroplast



PF

Black-oxide steel hub, with pre-drilled blind hole.  
Revolving handle l.281+x  
Diameters: 80 - 100 - 130 mm

#### MBT+I

**Diamond-cut knobs**  
with revolving handle,  
technopolymer



PP

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

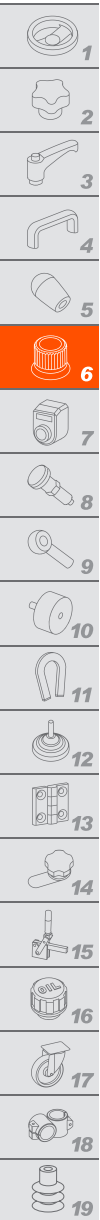




## 6. Control elements

### 6.1 Control knobs

*continues*



#### EGK.SOFT

**Grip knobs**  
arranged for  
clicking operation,  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Black-oxide or stainless steel boss, H7 reamed hole. Assembly by means of a keyway, a transversal pin or a set screw. Diameters: 50 - 63 mm



#### GN 729

**Control knobs**  
Aluminum



Aluminium, black colour, white line laser-engraved index. H8 reamed hole. Secured via a transversal grub screw. The two special flat faces provide a secure and comfortable grip. Diameters: 34 - 42 mm

#### VC.192+IN

**Lobe knobs**  
with pointer, Duroplast



Index in technopolymer. Brass or black-oxide steel boss, plain blind hole. Secured via transversal grub screws, without head, with hexagon socket. Diameters: 40 - 50 - 60 - 70 - 85 mm



#### VC.192+F

**Lobe knobs**  
with flange, Duroplast



Flange with white line index in technopolymer. Brass or black-oxide steel boss, plain blind hole. Secured via transversal grub screws. Diameters: 32 - 40 - 50 - 60 - 70 mm



#### VH.153+IN

**Lobe knobs**  
with pointer, Duroplast



Index in technopolymer. Brass or black-oxide steel boss, plain blind hole. Secured via transversal grub screws. Diameters: 25 - 35 - 44 - 54 - 62 mm



#### MI.204

**Indicator knobs**  
Duroplast



White line index. Brass boss, plain blind hole. Secured via a transversal grub screw. Diameters: 45 - 55 mm



### 6.2 Control levers



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#### Material

- Technopolymer (4)
- Steel (2)
- Stainless steel (1)

#### Type of assembly

- Plain hole (4)
- Plain hole and keyway (1)

#### GN 750

**Control levers**  
Steel

Black-oxide steel centre body. Black-oxide steel arm, cylindrical handle in Duroplast. H7 reamed pass-through hole. Cap with black or neutral position indicator dot. Dimensions: 84 - 106 - 130 mm



#### LBR.

**Control levers**  
arranged for  
clicking operation,  
technopolymer



Technopolymer centre body; arm in chrome-plated steel, cylindrical handle in Duroplast; self-adhesive front contrast screen in aluminium. Plain hole with flat face or black-oxide steel boss, H7 reamed hole. Dimensions: 81 - 108 - 127 - 170 mm



#### GN 215

**Indexing levers**  
Steel

Base with smooth crown or toothed crown (30 teeth) and black-oxide steel operating arm with Duroplast handle. Black-oxide steel boss, H7 reamed hole and keyway. Base is fixed to the machine body with two screws. Diameters: 54 - 60 mm



#### ELC.

**Control levers**  
arranged for  
clicking operation,  
technopolymer



ERGOSTYLE®



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



## 6. Control elements

### 6.2 Control levers

*continues*

#### ELCR.

##### Control lever

*arranged for  
clicking operation,  
technopolymer*

ERGOSTYLE®

PA



Technopolymer, grey-black colour, matte finish.  
Technopolymer boss cap in standard colours.  
Black-oxide steel boss, H7 reamed hole.  
Dimensions: 118 mm

### 6.3 Adjustment elements with lock



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#### Material

- Aluminum
- Stainless steel
- Steel

#### Type of assembly

- Plain hole and keyway

#### GN 700

##### Locking and continuous control indexing mechanisms

*Aluminium and steel*



Control knob and nut in knurled aluminium.  
Base in black-oxide steel. Steel boss, H7  
reamed hole and keyway; assembly to the  
spindle by means of keyway or transversal pin.  
Suitable for adjusting the shafts in both  
directions of rotation. Diameter: 66 mm

#### GN 200

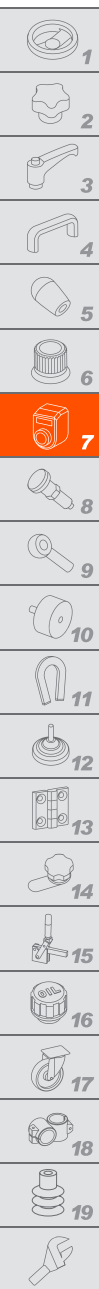
##### Indexing mechanisms with stop and positioning device

*Steel or stainless steel*



With or without lever arm. Boss, H7 reamed  
hole and keyway; assembly to the spindle  
by means of keyway or transversal pin. The  
internal mechanism enables small rotational  
movements and the subsequent positioning of  
the machine parts. Diameters: 44 - 52 mm





## 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.

### 7.1 Gravity position indicators



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#### Material

- Technopolymer (4)
- Steel (1)

#### GA01 - GA02 - GA05 Position indicators

*gravity drive, steel*



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, technopolymer*



PA

Technopolymer case and bezel; transparent technopolymer lens ultrasonically welded to the case (IP67 protection rating to EN 60529); anodised aluminium dial; clockwise or anti-clockwise graduation. Wide range of available ratios.

#### MBT-GA Knobs with integral position indicator

*gravity drive, technopolymer*



PA

Technopolymer knob and bezel; transparent technopolymer window ultrasonically welded to the case (IP 67 protection class, according to EN 60529); 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, technopolymer*



PA

Technopolymer case and bezel; transparent technopolymer lens ultrasonically welded to the case (IP67 protection rating to EN 60529); anodised aluminium dial. Five-digits roller counter. Wide range of available readings.

#### MBT-GW Knobs with digital-analogue position indicator

*gravity drive, technopolymer*



PA

Technopolymer knob and bezel; transparent technopolymer window ultrasonically welded to the case (IP 67 protection class, according to EN 60529); anodised aluminium dial. Black-oxide steel boss, H7 reamed blind hole. Wide range of available readings.

### 7.2 Positive drive position indicators



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#### PA01 - PA02 - PA05 Position indicators

*positive drive, steel*



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.

#### PA11 - PA12 Position indicators

*positive drive, technopolymer*



PA

Technopolymer case and bezel; transparent technopolymer lens ultrasonically welded to the case (IP65 protection rating to EN 60529); anodised aluminium dial; clockwise or anti-clockwise graduation. Wide range of connectors available.

## 7. Position indicators

### 7.2 Positive drive position indicators *continues*

**PW12**  
**Digital-analogue position indicators**  
*positive drive, technopolymer*



Technopolymer case and bezel; transparent technopolymer lens ultrasonically welded to the case (IP65 protection rating to EN 60529); anodised aluminium dial. Five-digits roller counter. Wide range of available ratios.

### 7.3 Mechanical position indicators



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#### Material

- Technopolymer (3)
- Stainless steel (3)

**DD50**  
**Mechanical position indicators**  
*direct drive, 3-digit counter, technopolymer*



Technopolymer case and base support; transparent technopolymer window. Black-oxide steel or AISI 303 stainless steel boss with Ø 10 H7 reamed hole, fastened to the shaft by means of a grub screw. Orange, grey or anthracite colour. Wide range of available readings.

**DD51**  
**Mechanical position indicators**  
*direct drive, 4-digit counter, technopolymer*



Technopolymer case and base support; transparent technopolymer window. Black-oxide steel or AISI 303 stainless steel boss with Ø 14 H7 reamed hole, fastened to the shaft by means of a grub screw. Orange, grey or anthracite colour. Wide range of available readings.

**DD52R**  
**Mechanical position indicators**  
*direct drive, 5-digit counter, technopolymer*



Technopolymer case and base support; transparent technopolymer window. Black-oxide steel or AISI 303 stainless steel boss with Ø 20 H7 reamed hole, fastened to the shaft by means of a grub screw. Orange, grey or anthracite colour. Wide range of available readings.

### 7.4 Electronic digital position indicator



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#### Material

- Technopolymer (1)
- Technopolymer - Stainless steel (4)

**DD51-E**  
**Electronic digital position indicator**  
*direct drive, 5-digit display, technopolymer*



LCD display with values visualization in units of measure (mm, inches or degrees). Absolute or incremental mode. The visualization parameters can be set by the operator. Protection class IP65 or IP67 according to EN 60529. AISI 304 stainless steel boss with Ø 14 H7 reamed hole.

**DD51-E-RF**  
**Electronic digital position indicator**  
*Data transmission by radio frequency*



LCD display with values visualization in units of measure (mm, inches or degrees). Absolute or incremental mode. The visualization parameters can be set by the operator. Protection class IP65 or IP67 according to EN 60529. AISI 304 stainless steel boss with Ø 14 H7 reamed hole.

**DD52R-E**  
**Electronic digital position indicator**  
*direct drive, 6-digit display, technopolymer*



LCD display with values visualization in units of measure (mm, inches or degrees). Absolute or incremental mode. The visualization parameters can be set by the operator. Protection class IP65 or IP67 according to EN 60529. AISI 304 stainless steel boss with Ø 20 H7 reamed hole.

**DD52R-E-RF**  
**Electronic digital position indicator**  
*Data transmission by radio frequency*



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 IP65 or IP67 according to EN 60529. AISI 304 stainless steel boss with Ø 20 H7 reamed hole.



## 7. Position indicators

### 7.4 Electronic digital position indicator continues



#### UC-RF

##### Control unit for DD52R-E-RF

PLC connection, data transmission via radio frequency



Control unit with Ethernet/IP serial interface, Profinet IO or Modbus TCP. UC-RF control unit can manage up to 36 position indicators DD52R-E-RF.



#### FC-UC

##### UC-RF antenna extensions

with SMA-RP connector



Shielded cable with PVC sheath, bend radius in fixed position  $\geq 50$  mm. Male and female SMA-RP connectors.

### 7.5 Magnetic measuring systems



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#### MPI-R10

##### Magnetic measuring system

Length and angle modes



Multifunction LCD with 4 function keys. Values displayed in millimetres, inches or angular degrees. Absolute / incremental mode. Storage and display of 32 target positions. Battery power. Extremely easy assembly, it allows precise alignment and positioning, reducing time and machining procedures to the minimum.

#### MPI-R10-RF

##### Magnetic measuring system

Length and angle modes, data transmission via radio frequency



Multifunction LCD with 4 function keys. Values displayed in millimetres, inches or angular degrees. Absolute / incremental mode. Battery power. Extremely easy assembly, it allows precise alignment and positioning, reducing time and machining procedures to the minimum.

#### FC-MPI

##### Magnetic sensor with cable for MPI-R10

For magnetic measuring system MPI-R10



Sensor in nickel-plated die-cast zinc alloy lever. Shielded cable with PVC sheath in black PVC,  $\varnothing$  3.5 mm, bend radius in mobile position  $\geq 34$  mm. Connector (IP67 protection) in technopolymer.

#### MPI-15

##### Magnetic measuring system

Length and angle modes



Multifunction LCD with 5 function keys. Values displayed in millimetres, inches or angular degrees. Absolute / incremental mode. Battery power. Extremely easy assembly, it allows precise alignment and positioning, reducing time and machining procedures to the minimum.

#### M-BAND-10

##### Magnetic band for MPI-15 and FC-MPI

For magnetic measuring systems MPI-R10 and MPI-15



The M-BAND-10 magnetic band consists of two parts: the magnetic band and the backing strip. The magnetic band consists of a magnetic band, a backing strip and an adhesive strip. The protection strip consists of a protective strip and an adhesive strip.

### 7.6 Position indicator accessories



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#### MDX-50

##### Knob for position indicators

For DD50 indicators, technopolymer



Technopolymer cover in RAL 2004 (C2) orange, RAL 7021 (C9) black, or RAL 7035 (C3) grey colour, matte finish, press-fit. Available without graphic symbol, with arrow indicating clockwise increase or anti-clockwise increase.

#### MDX-51

##### Knob for position indicators

For DD51 and DD51-E indicators, technopolymer



Technopolymer cover in RAL 2004 (C2) orange, RAL 7021 (C9) black, or RAL 7035 (C3) grey colour, matte finish, press-fit. Available without graphic symbol, with arrow indicating clockwise increase or anti-clockwise increase.



## 7. Position indicators

### 7.6 Position indicator accessories

continues



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#### Material

- Technopolymer (6)
- Technopolymer - Stainless steel (1)
- Steel (3)
- Stainless steel (3)
- Die-cast zinc alloy (4)

#### MDX-52

##### Knob for position indicators

For DD52R, DD52R-E and DD52R-E-RF indicators, technopolymer



Technopolymer cover in RAL 2004 (C2) orange, RAL 7021 (C9) black, or RAL 7035 (C3) grey colour, matte finish, press-fit. Available without graphic symbol, with arrow indicating clockwise increase or anti-clockwise increase.

#### RB50

##### Hole reduction sleeve

for DD50 position indicators, steel or stainless steel



Black-oxide steel or AISI 304 stainless steel.

#### RB51

##### Reduction boss

for DD51 position indicators, steel or stainless steel



Black-oxide steel or AISI 304 stainless steel.

#### RB52

##### Hole reduction sleeve

for DD52 position indicators, steel or stainless steel



Black-oxide steel or AISI 304 stainless steel.

#### BSA-T50

##### Bases for spindle locking

for DD50 position indicators, SUPER-technopolymer



ERW adjustable handle. with lever body in SUPER-technopolymer, black colour, and AISI 304 stainless steel clamp. They allow the spindles to be locked easily and quickly after they have been positioned.

#### BS51

##### Spacer plate

for DD51 position indicators, technopolymer



Spacer plate supplied pre-drilled for Ø 2.2 self-locking screws.

#### BSA-N51

##### Bases for spindle locking

for DD51 position indicators, zinc alloy



Black-oxide steel or AISI 304 stainless steel. They allow the spindles to be locked easily and quickly after they have been positioned.

#### BS52R

##### Spacer plate

for DD52R position indicators, technopolymer



Spacer plate supplied pre-drilled for Ø 2.2 self-locking screws.

#### BSA-N52

##### Bases for spindle locking

for DD52R position indicators, zinc alloy



GN 302.1 adjustable handle with lever body in die-cast zinc alloy, black colour and AISI 303 stainless steel clamping element. They allow the spindles to be locked easily and quickly after they have been positioned.

#### BSA51-E

##### Bases for spindle locking

for DD51-E and DD51-E-RF position indicators, zinc alloy



GN 302.1 adjustable handle with lever body in die-cast zinc alloy, black colour and AISI 303 stainless steel clamping element. They allow the spindles to be locked easily and quickly after they have been positioned.



## 7. Position indicators

### 7.6 Position indicator accessories continues



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#### Material

- Technopolymer (9)
- Duroplast (3)
- Stainless steel (2)
- Aluminium (1)

#### BSA52-E

##### Bases for spindle locking

for position indicators  
DD52R-E and  
DD52R-E-RF, zinc alloy



GN 302.1 adjustable handle with lever body in die-cast zinc alloy, black colour and AISI 303 stainless steel clamping element. They allow the spindles to be locked easily and quickly after they have been positioned.

#### IZN-XX

##### Knurled knobs

for position indicators,  
technopolymer



For indicators with gravitational reaction movement.  
Black-oxide steel boss, H7 reamed hole, secured to the shaft using grub screws without head, hexagon socket, cup end.  
Diameters: 60 - 80 mm

#### MBT-XX

##### Diamond-cut knobs

for position indicators,  
technopolymer



For indicators with gravitational or fixed reaction movement.  
Black-oxide steel boss, H7 reamed hole, secured to the shaft using grub screws without head, hexagon socket, cup end.  
Diameters: 60 - 80 mm

#### VHT-XX

##### Handwheels with lobes

for position indicators,  
technopolymer



For indicators with gravitational or fixed reaction movement.  
Black-oxide steel or AISI 303 stainless steel boss, H7 reamed hole, secured to the shaft using grub screws without head, hexagon socket, cup end.  
Diameters: 85 - 110 mm

#### VC.792-XX

##### Handwheels with lobes

for position indicators,  
technopolymer



For indicators with gravitational or fixed reaction movement.  
Black-oxide steel boss, H7 reamed hole, secured to the shaft using grub screws without head, hexagon socket, cup end.  
Diameters: 70 - 100 mm

#### VDSC-XX

##### Handwheels

for position indicators,  
technopolymer



For indicators with gravitational reaction movement.  
Boss, H7 reamed pass-through hole, in black-oxide steel or in AISI 303 stainless steel. With or without revolving or fold-away handle.  
Diameters: 125 - 160 - 200 mm

#### EWV-XX

##### Handwheel

for position indicators,  
technopolymer



For indicators with fixed reaction movement.  
Black-oxide steel hub, H7 reamed hole. Designed for application on drive shafts of machines or equipment and in particular for guiding vehicles for moving equipment.  
Diameter: 240 mm

#### VDN-XX

##### Handwheels

for position indicators,  
Duroplast



For indicators with gravitational reaction movement.  
Black-oxide steel hub, not drilled.  
Diameters: 250 - 300 - 350 mm

#### VDC-XX

##### Handwheels

for position indicators,  
Duroplast



Black-oxide steel hub, non-drilled, for indicators with gravitational reaction movement with or without handle. Hub with H7 reamed pass-through hole for indicators with fixed reaction movement with revolving handle.  
Diameters : 125 - 140 - 160 - 180 - 200 mm

## 7. Position indicators

### 7.7 Handwheels for position indicators continues

#### **VAD-XX** Handwheels for position indicators for position indicators, aluminium



For indicators with gravitational or fixed reaction movement.  
Version with or without revolving handle.  
H7 reamed pass-through hole.  
Diameters: 80 - 100 - 120 - 160 - 200 mm

#### **VRTP-XX** Handwheels for position indicators, technopolymer



PP

For indicators with gravitational reaction movement.  
Version with or without revolving handle.  
Boss in black-oxide steel, H7 reamed hole or hole with keyway.  
Diameters: 160 - 200 - 250 mm

#### **VR-XX** Handwheels for position indicators, Duroplast



PF

For indicators with gravitational reaction movement.  
Black-oxide steel hub, not drilled.  
With or without revolving handle.  
Diameters: 160 - 200 - 250 - 300 - 375 mm

#### **SC-XX** Housing for position indicator, technopolymer



PA

Used for mounting gravitational indicators on any handwheel or other manoeuvring elements for adjustment. Available with two sets of pre-drilled holes in the bottom of the container or with two holes for M4x14 countersunk-head screws.  
Diameters: 76 - 122 mm

#### **CP-XX** Cover caps for handwheels, techopolymer



Used as a lock for the indicator housing compartment when the indicator is not inserted in the handwheel for any reason.  
Press-fit assembly. The cover can be removed with a screwdriver using the cavity provided.  
Diameters: 50 - 69 mm





### ▼ Efficient machine set-up

- Using the UC-RF **control unit**, connected to the **machine's PLC** via one of the available buses, it is possible to remotely configure each parameter of each connected position indicator. These parameters include: target position, pitch, display orientation, rotation direction, resolution, etc.
- The **current position** and **target position** are displayed on the indicator's LCD display.
- The operator manually sets the position of the control shafts, following the indications shown on the **display**, such as the arrows indicating the direction of shaft rotation.
- The machine's PLC, via the UC-RF control unit, can easily **verify** that all drive shafts have been **correctly positioned** and that the **set-up** has been **completed**.

### ▼ LED

**Four LEDs** located on the UC-RF control unit allow the operator to **verify correct installation** and **data transmission**.

### ▼ Connection between Indicators and UC-RF Control Units

Each indicator is identified by a **unique number assigned by Eles**a. Once the connection with a control unit is established, communication will take place exclusively with that control unit, making it impossible to exchange data with other units present in the same work area. Each control unit can monitor **up to 36 indicators simultaneously**. In addition, the control unit checks and communicates the transmission quality to the PLC with various indicators.

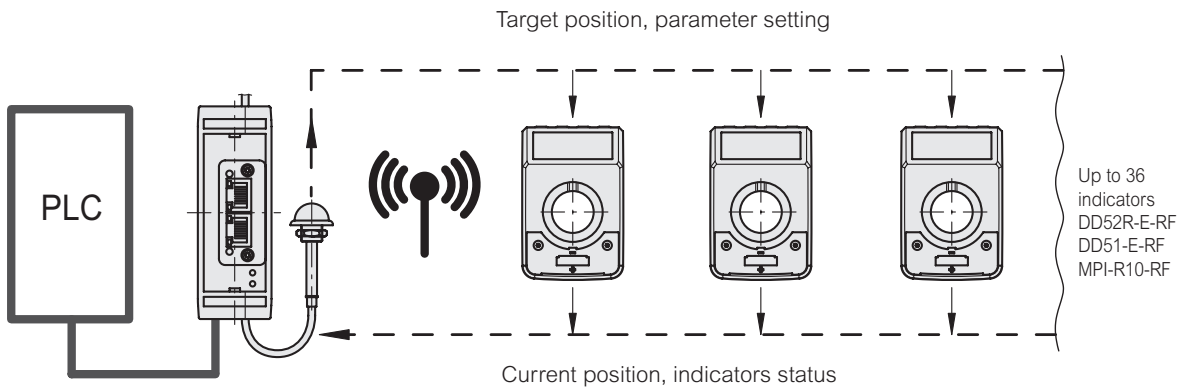
### ▼ Safety

The system ensures **production quality** by stopping the machine until the set-up is perfect, thus **optimising** the production process.

### ▼ System protection

**Radio frequency communication** between the UC-RF control unit and the indicators can also take place in environments where Wi-Fi, Bluetooth, cellular networks, etc. are present. Furthermore, since the indicators and the UC-RF communicate via an Eles a proprietary protocol, it is not possible to access the PLC via the UC-RF.

## Wireless electronic digital position indicators

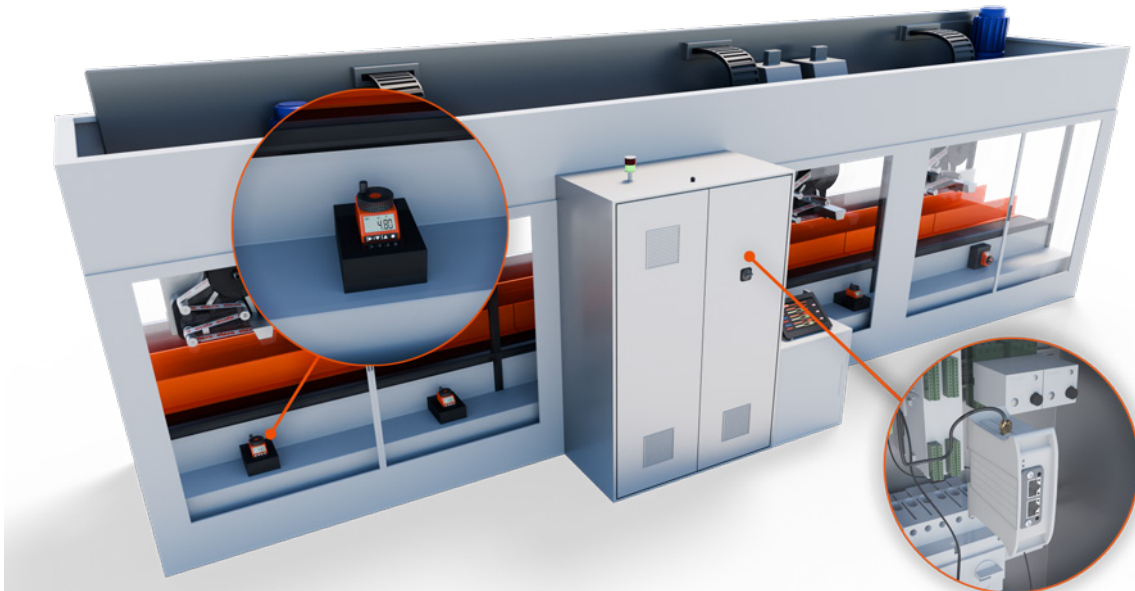


### ▼ Flashing display

When the indicator receives a new target position from the UC-RF, the display starts flashing, indicating that it is not in a correct position. The display shows the distance to the new target position and the direction to rotate the shaft. When the operator reaches zero, the display stops flashing to indicate that the new target position has been reached and displays the current position.

### ▼ Battery check and replacement

The **indicator continually sends battery status updates** to the central unit, allowing for timely replacement if necessary. The indicator is able to maintain the position and the data acquired during the settings for the time necessary to change the battery.







## Positioning elements



Elesa's standard components simplify repetitive positioning tasks on machinery and equipment. They are available in a range of high-quality materials, including black-oxide steel, zinc-plated steel, stainless steel, and SUPER-Technopolymer, with a wide selection of shapes, sizes, and configurations.

### ▼ Indexing plungers

Standard components for manual or automated **quick locking** of moving parts.

- **Threaded body** in steel, stainless steel, SUPER-Technopolymer.
- **Bolts** made from quality materials and with precise tolerances to offer high locking forces and secure locking.
- Also available in a version that allows the **bolt to be locked** in the retracted position.
- Operation via knobs, levers, rings, or rods in various materials and shapes.
- Stainless steel **spring**.

### How indexing plungers work

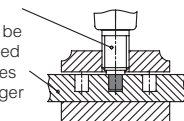
An indexing plunger creates a separable geometric coupling between a fixed component and a moving component. By operating the knob (pulling or pressing) **the bolt allows the component to be locked or unlocked**. By pulling the knob axially, the contrast exerted by the spring pressure is overcome and the bolt is raised to change the positioning.

The locking indexing plunger is particularly easy to unlock: once pulled out of the groove, the lever automatically slides along the spring-guided curve. The component then returns to the locked position.



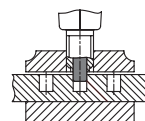
Clamping  
threading

Plate to be  
positioned  
with holes  
for plunger

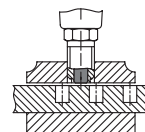


Positioning of the plate by  
means of the plunger, clamped  
in position by turning the knob

Application example



Clamping knob  
unlocked, plunger  
still engaged



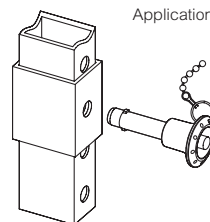
Clamping knob unlocked,  
retracted plunger, adjusting  
plate free for a new positioning

### ▼ Locking pins

Standard components with **balls and detents** for **quick fastenings** between **components or parts being machined**, particularly when they must be **removed** and **frequently repositioned**. By pressing the button, the balls or detents are released allowing the locking pin to be freely removed and repositioned.

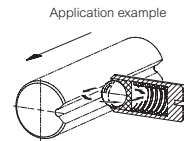


Application example



## ▼ Spring plungers

**Spring plungers** can be used to **fix moving parts** in specific positions, even in the presence of vibrations. A wide range of spring plungers are available in **numerous material combinations**. They can be equipped with a **normal** or **reinforced spring**. The range includes movable balls to reduce wear, plastic bearings for electrical insulation or the application of a thread lock.



### 8.1 Indexing plungers



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#### Material

- Technopolymer (3)
- Steel (36)
- Stainless steel (32)
- Die-cast zinc alloy (13)

#### PMT.100 Indexing plungers SUPER-technopolymer body



Black-oxide hardened steel or AISI 303 stainless steel plunger. Technopolymer knob, black or red colour. With or without locking nut. Resistant to continuous washing cycles, they are therefore indicated for applications such as the food or pharmaceutical sectors. Plunger Ø: 5 - 6 - 8 - 10 mm



#### PMT.101 Indexing plungers Rest in retracted position, SUPER-technopolymer body



Black-oxide hardened steel or AISI 303 stainless steel plunger. Technopolymer knob, black or red colour. With or without locking nut. Resistant to continuous washing cycles, they are therefore indicated for applications such as the food or pharmaceutical sectors. Plunger Ø: 5 - 6 - 8 - 10 mm



#### PMT.100-SST-VD - PMT.101-SST-VD Indexing plungers Visually Detectable SUPER-technopolymer body



Black-oxide hardened steel or AISI 303 stainless steel plunger. Technopolymer knob, black or red colour. With or without locking nut. Resistant to continuous washing cycles, they are therefore indicated for applications such as the food or pharmaceutical sectors. 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. With or without locking nut. Resistant to continuous washing cycles, they are therefore indicated for applications such as the food or pharmaceutical sectors. Plunger Ø: 8 - 10 mm



#### GN 617 Indexing plungers Black-oxide steel



Black-oxide steel plunger with hardened end. Black-oxide steel threaded body. Standard version: with or without technopolymer or AISI 303 stainless steel knob and locking nut. Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 617-NI Indexing plungers Stainless steel



Nickle-plated AISI 303 stainless steel plunger. AISI 303 stainless steel threaded body. Standard version: with or without technopolymer or AISI 303 stainless steel knob and locking nut. Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 617.1 Indexing plungers rest in retracted position, steel



Black-oxide steel plunger with hardened end. Black-oxide steel threaded body. Technopolymer knob. Standard executions: with or without locking nut. Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 617.1-NI Indexing plungers rest in retracted position, stainless steel



Nickle-plated AISI 303 stainless steel plunger. AISI 303 stainless steel threaded body. Technopolymer or AISI 303 stainless steel knob. Standard executions: with or without locking nut. Plunger Ø: 5 - 6 - 8 - 10 mm



## 8. Indexing and positioning elements

### 8.1 Indexing plungers

*continues*



#### GN 817 Indexing plungers

Steel



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body.  
With or without stop position.  
Standard version: with or without  
technopolymer knob and locking nut.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 - 16 mm

#### GN 817-NI Indexing plungers

Stainless steel



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
With or without stop position.  
With or without technopolymer knob and  
locking nut.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 - 16 mm

#### GN 817.6 Stainless Steel Indexing Plungers

*with sensor for position  
monitoring*



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
With or without stop position.  
Technopolymer knob.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 - 16 mm

#### GN 817.7 Indexing plungers

*Pneumatically Operated,  
stainless steel*



Single-acting or double-acting pneumatic  
actuator.  
Hardened AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
With or without stop position.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 8170 Stainless Steel Indexing Plungers

*Hygienic Design, Knob  
side (front hygiene) /  
Knob and plunger side  
(full hygiene)*



AISI 316 stainless steel plunger. AISI 316  
stainless steel threaded body. With or without  
stop position. H-NBR synthetic rubber packing  
ring and gasket, FDA compliant. For use  
in environments that require high levels of  
hygiene. Plunger Ø: 6 - 8 mm

#### GN 817.1 Indexing plungers with flange

*Zinc alloy and  
stainless steel*



Die-cast zinc alloy base flange with two holes  
for fitting.  
Nickle-plated AISI 303 stainless steel plunger.  
With or without stop position.  
Technopolymer knob.  
Plunger Ø: 6 - 8 - 10 mm

#### GN 817.9 Indexing plungers with flange

*Zinc alloy and  
stainless steel*



Die-cast zinc alloy base flange with two holes  
for fitting. Nickle-plated AISI 303 stainless  
steel plunger. With or without stop position.  
Technopolymer knob. Countersunk-head screw  
that can be assembled/disassembled several  
times, enabling machining to be carried out.  
Plunger Ø: 7 - 8 - 10 mm

#### GN 817.2 Indexing plungers

*with or without rest in  
retracted position, steel*



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body. With or  
without locking nut. Technopolymer knob.  
Possibility of two different strokes for each  
plunger diameter.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 mm

#### GN 817.2-NI Indexing plungers

*with or without rest  
in retracted position,  
stainless steel*



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body. With or  
without locking nut. Technopolymer knob.  
Possibility of two different strokes for each  
plunger diameter.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 mm

#### GN 817.8 Indexing plungers

*with or without rest in  
retracted position, steel  
or stainless steel*



AISI 303 stainless steel plunger. Black-oxide steel  
or AISI 303 stainless steel threaded body. With or  
without stop position. Technopolymer knob. Screw  
that can be assembled/disassembled several  
times, enabling machining to be carried out. With  
or without locking nut. Plunger Ø: 7 - 8 - 10 - 12 mm

## 8. Indexing and positioning elements

### 8.1 Indexing plungers continues

#### GN 818

**Indexing plungers**  
with or without rest in  
retracted position,  
AISI 316 stainless steel



Nickel-plated AISI 316 stainless steel plunger.  
AISI 316 stainless steel threaded body.  
With or without stop position, with technopolymer  
or AISI 316 stainless steel knob, with or without  
locking nut. Resistance to highly corrosive  
environments. Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 mm



#### GN 817.3

**Indexing plungers  
with flange**  
With or without rest in  
retracted position, steel



Black-oxide steel base flange with two holes  
for fitting.  
Black-oxide steel plunger with hardened end.  
Technopolymer knob.  
With or without stop position.  
Plunger Ø: 6 - 8 - 10 mm

#### GN 817.5

**Indexing plungers  
with flange**  
With or without rest in  
retracted position, steel



Black-oxide steel base flange with two holes  
for fitting.  
Black-oxide steel plunger with hardened end.  
Technopolymer knob.  
With or without stop position.  
Plunger Ø: 6 - 8 - 10 mm

#### GN 722.5

**Spring indexing  
plungers with ring**  
Steel



Zinc-plated stainless steel plunger and guide  
flange with two holes for fitting  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm

#### GN 817.4

**Indexing plungers**  
with or without rest in  
retracted position, steel



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body.  
Technopolymer handle.  
With or without locking nut.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 817.4-NI

**Indexing plungers**  
with or without rest  
in retracted position,  
stainless steel



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
Technopolymer handle.  
With or without locking nut.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 613

**Indexing plungers**  
Steel



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body.  
Technopolymer knob.  
With or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 613-NI

**Indexing plungers**  
Stainless steel



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
Technopolymer or AISI 303 stainless steel knob.  
With or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 313

**Indexing plungers**  
Steel



Nickle-plated AISI 303 stainless steel plunger.  
Black-oxide steel threaded body.  
Technopolymer knob.  
With or without knob and locking nut, plunger  
with or without internal thread.  
Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 313-NI

**Indexing plungers**  
Stainless steel



Nickle-plated AISI 303 stainless steel plunger.  
AISI 303 stainless steel threaded body.  
Technopolymer or AISI 303 stainless steel knob.  
With or without knob and locking nut, plunger  
with or without internal thread.  
Plunger Ø: 5 - 6 - 8 - 10 mm



## 8. Indexing and positioning elements

### 8.1 Indexing plungers

continues



#### GN 416

##### Lever indexing plungers

with or without rest in retracted position, steel



Zinc-plated steel plunger. Die-cast zinc alloy body with slotted holes for fitting. Technopolymer lever. Die-cast zinc alloy base flange with slotted holes for fitting. Plunger Ø: 6 - 8 - 10 - 12 mm



#### GN 7017

##### Lever indexing plungers

With or without rest in retracted position, steel or stainless steel



Plunger, lever and threaded body in polished zinc-plated steel or AISI 303 stainless steel. Zinc-plated steel or AISI 303 stainless steel threaded body. With or without locking nut. Plunger Ø: 4 - 5 - 6 - 8 - 10 mm



#### GN 413

##### Indexing plungers

with or without rest in retracted position, steel or stainless steel



AISI 303 stainless steel plunger. Zinc-plated steel or AISI 303 stainless steel threaded body. With or without locking nut. Plunger Ø: 5 - 6 - 8 - 10 mm



#### GN 414

##### Indexing plungers

with safety device, protruding plunger, steel



Black-oxide steel plunger with hardened or nickel-plated AISI 303 stainless steel end. Black-oxide steel or AISI 303 stainless steel threaded body. Technopolymer knob for the plunger. Protruding or retracted plunger, with or without locking nut. Plunger Ø: 6 - 8 - 10 mm

#### GN 414-NI

##### Indexing plungers

with safety device, protruding plunger, stainless steel



Black-oxide steel plunger with hardened or nickel-plated AISI 303 stainless steel end. Black-oxide steel or AISI 303 stainless steel threaded body. Technopolymer knob for the plunger. Protruding or retracted plunger, with or without locking nut. Plunger Ø: 6 - 8 - 10 mm



#### GN 414.1

##### Indexing plungers

with safety device, retracted plunger, steel



Plunger in hardened black-oxide steel. 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 414.1-NI

##### Indexing plungers

with safety device, retracted plunger, stainless steel



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 514

##### Indexing plungers with locking device

with locking device, steel



Nitrided steel plunger and threaded body. Nitrided steel threaded body. Technopolymer control button (PUSH-PUSH locking device). With or without locking nut. Plunger Ø: 6 - 8 mm

#### GN 514-A4

##### Indexing plungers

with locking device, stainless steel



AISI 316 stainless steel plunger and threaded body. Push button (PUSH-PUSH locking device) in technopolymer. With or without locking nut. Plunger Ø: 6 - 8 mm



#### GN 618

##### Indexing plungers

Steel



Black-oxide steel plunger with hardened end. Smooth body in black-oxide steel for welding. Technopolymer knob. With or without knob. Plunger Ø: 5 - 6 - 8 mm



## 8. Indexing and positioning elements

### 8.1 Indexing plungers

continues

#### GN 822

##### Mini indexing plungers

With or without rest in retracted position, steel or stainless steel



AISI 303 stainless steel plunger.  
Zinc-plated steel or AISI 303 stainless steel threaded body.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 7 mm

#### GN 822.1

##### Mini indexing plungers

With or without rest in retracted position, steel or stainless steel



AISI 303 stainless steel plunger.  
Zinc-plated steel or AISI 303 stainless steel threaded body.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 7 mm

#### GN 822.6

##### Mini indexing plungers

with or without rest in retracted position, steel



AISI 303 stainless steel plunger.  
Zinc-plated steel threaded body.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 7 - 8 - 10 mm

#### GN 822.7

##### Mini indexing plungers

with or without rest in retracted position, stainless steel



AISI 303 stainless steel plunger and threaded body.  
AISI 303 stainless steel threaded body.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 7 - 8 - 10 mm

#### GN 822.8

##### Mini indexing plungers with flange

with or without rest in retracted position, steel



Die-cast zinc alloy base flange with two holes for fitting.  
AISI 303 stainless steel plunger.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 822.9

##### Mini indexing plungers with flange

With or without rest in retracted position, stainless steel



AISI 304 stainless steel base flange with two holes for fitting.  
AISI 303 stainless steel plunger.  
Technopolymer or AISI CF-8 stainless steel knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 717

##### Indexing plungers

with or without rest in retracted position, steel



Nickle-plated AISI 316 stainless steel plunger.  
Technopolymer knob or AISI 301 stainless steel ring.  
With or without locking nut.  
Plunger Ø: 3 - 4 - 5 - 6 - 8 - 10 mm

#### GN 717-NI

##### Indexing plungers

with or without rest in retracted position, stainless steel



AISI 303 stainless steel plunger and threaded body.  
Technopolymer knob or AISI 301 stainless steel ring.  
With or without locking nut.  
Plunger Ø: 3 - 4 - 5 - 6 - 8 - 10 mm

#### GN 417

##### Indexing plungers

with or without rest in retracted position, steel



Die-cast zinc alloy base flange with slotted holes for fitting.  
AISI 303 stainless steel plunger.  
Technopolymer knob or AISI 301 stainless steel ring.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 417-NI

##### Indexing plungers

with or without rest in retracted position, stainless steel



AISI CF-8 stainless steel base flange with slotted holes for fitting.  
AISI 303 stainless steel plunger.  
Technopolymer knob or AISI 301 stainless steel ring.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 mm



## 8. Indexing and positioning elements

### 8.1 Indexing plungers

continues



#### GN 722.6 Spring indexing plungers with ring Steel



Zinc-plated steel base flange with slotted holes for fitting, coated in epoxy resin.  
Zinc-plated steel plunger.  
Zinc-plated steel ring.  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm



#### GN 607 Indexing plungers Steel



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body.  
With or without locking nut.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 607-NI Indexing plungers Stainless steel



AISI 303 stainless steel plunger and threaded body. Technopolymer knob.  
With or without locking nut.  
Suitable for assembly on thin sheets thanks to their very small dimensions.  
Plunger Ø: 6 - 8 mm



#### GN 607.1 Indexing plungers rest in retracted position, steel



Black-oxide steel plunger with hardened end.  
Black-oxide steel threaded body.  
Technopolymer knob.  
With or without locking nut.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 607.1-NI Indexing plungers rest in retracted position, stainless steel



AISI 303 stainless steel plunger and threaded body.  
Technopolymer knob.  
With or without locking nut.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm



#### GN 607.2 Indexing plungers Steel



Nickle-plated AISI 303 stainless steel plunger.  
Threaded body and adjusting bushing in zinc-plated steel.  
Technopolymer knob.  
Plunger Ø: 6 - 8 mm

#### GN 607.3 Indexing plungers rest in retracted position, steel



Nickle-plated AISI 303 stainless steel plunger.  
Threaded body and adjusting bushing in zinc-plated steel.  
Technopolymer knob.  
Plunger Ø: 6 - 8 mm



#### GN 607.4 Indexing plungers Fixing by means of welding, steel



Plunger in hardened steel.  
Black-oxide steel flanged body.  
Technopolymer knob.  
Plunger Ø: 6 - 8 mm

#### GN 607.5 Indexing plungers Rest position, fixing by means of welding, steel



Plunger in hardened steel.  
Black-oxide steel flanged body.  
Technopolymer knob.  
Plunger Ø: 6 - 8 mm



#### GN 816 Indexing plungers with safety rest position with safety device, steel



AISI 303 stainless steel plunger.  
Zinc-plated steel threaded body.  
Technopolymer knob.  
With or without locking nut and with or without key.  
Plunger Ø: 6 - 8 - 10 mm

## 8. Indexing and positioning elements

### 8.1 Indexing plungers *continues*

#### GN 816.1 Indexing plungers *with safety device, steel*



AISI 303 stainless steel plunger.  
Zinc-plated steel threaded body.  
Technopolymer knob.  
With or without locking nut and with or without key.  
Plunger Ø: 6 - 8 mm

#### GN 7336.7 Indexing plungers with clamping knob *with clamping knob, steel*



AISI 303 stainless steel plunger.  
Zinc-plated steel threaded body.  
Technopolymer knob.  
For simultaneous positioning, clamping and secure holding of elements.  
Plunger Ø: 6 - 8 mm

#### GN 7336.8 Indexing plungers with safety clamping knob *with safety clamping knob, steel*



AISI 303 stainless steel plunger.  
Zinc-plated steel threaded body.  
Technopolymer knob.  
For simultaneous positioning, clamping and secure holding of elements.  
Plunger Ø: 6 - 8 mm

#### GN 608 Indexing plungers with flange *Zinc alloy*



Flange base with holes for fixing.  
Plunger in black-oxide steel.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 608.1 Indexing plungers with flange *rest in retracted position, zinc alloy*



Flange base with holes for fixing.  
Plunger in black-oxide steel.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 608.5 Indexing plungers with flange *Zinc alloy and stainless steel*



Flange base with holes for fixing.  
AISI 303 stainless steel plunger.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 608.6 Indexing plungers with flange *Rest position, zinc alloy and stainless steel*



Flange base with holes for fixing.  
AISI 303 stainless steel plunger.  
Technopolymer knob.  
Indicated for mounting on thin sheet metal.  
Plunger Ø: 6 - 8 mm

#### GN 412 Mini indexing plungers *Zinc alloy*



Die-cast zinc alloy body. AISI 303 stainless steel plunger. Technopolymer knob.  
With or without stop position and with pass-through holes for front fixing or threaded holes for rear fixing.  
Plunger Ø: 5 - 6 - 8 - 10 mm

#### GN 612.1 Mounting flange *Steel*



Mounting via pass-through holes for cylinder-head screws with hexagon socket coaxial to the plunger or perpendicular to the plunger. Threaded hole for the plunger: M12, M16 and M20.

#### GN 412.1 Positioning flange *Zinc alloy*



Mounting via pass-through holes for cylinder-head screws for front fixing or threaded holes for rear fixing.  
Threaded hole for the plunger: M8, M10, M12, M16 and M20.



## 8. Indexing and positioning elements

### 8.1 Indexing plungers

*continues*



#### GN 416.1 Positioning flange for GN 416, zinc alloy



Die-cast zinc alloy, epoxy resin coating, black colour, matte finish.  
They are very useful accessories for optimal fixing of GN 416 indexing plungers.  
Plunger hole: Ø: 6 - 8 - 10 - 12 mm

#### GN 417.1 Positioning flange Steel or stainless steel



Steel, epoxy resin coating or cast CF-8 stainless steel.  
They are very useful accessories for optimal fixing of GN 417 indexing plungers.  
Plunger hole: Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 412.2 Positioning boss for indexing plungers, steel



Hardened black-oxide steel.  
GN 412.2 bosses are generally used to optimise the positioning of indexing plungers.  
Threadings: M12x1.5, M16x1.5.

#### GN 412.4 Striker boss for stainless steel indexing plungers



Hardened AISI 431 stainless steel.  
They are a standard accessory to be used to create, when necessary, a matching part to the indexing plungers.  
Threadings: M12x1.5, M16x1.5.

#### GN 412.3 Positioning boss for indexing plungers, steel



Hardened black-oxide steel.  
GN 412.3 bosses are generally used to optimise the positioning of indexing plungers.  
Threadings: M12x1.5, M16x1.5.

#### GN 412.5 Striker boss for stainless steel indexing plungers



Hardened AISI 431 stainless steel.  
They are a standard accessory to be used to create, when necessary, a matching part to the indexing plungers.  
Threadings: M12x1.5, M16x1.5.

### 8.2 Lever indexing plungers



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#### Material

- Technopolymer (1)
- Steel (8)
- Stainless steel (8)
- Die-cast zinc alloy (5)

#### PMT.200 Lever indexing plungers Rest in retracted position, SUPER-technopolymer body



Black-oxide hardened steel or AISI 303 stainless steel plunger. Self-lubricating technopolymer lever, black colour. With or without locking nut. Resistant to continuous washing cycles, they are therefore indicated for applications such as the food or pharmaceutical sectors.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 612 Lever indexing plungers rest in retracted position, steel



Black-oxide steel threaded body.  
Turned and nitrided steel plunger.  
Lever in black-oxide steel.  
With or without lever cover, with or without locking nut.  
Plunger Ø: 4 - 5 - 6 - 8 - 10 - 12 mm

#### GN 612-NI Lever indexing plungers rest in retracted position, stainless steel



AISI 303 stainless steel threaded body.  
Turned and nitrided stainless steel plunger.  
AISI 316 stainless steel lever.  
With or without lever cover, with or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 mm

#### GN 721 - GN 721.1 Lever indexing plungers With or without rest in retracted position, steel



Black-oxide steel threaded body.  
Turned and nitrided steel plunger.  
Lever in black-oxide steel.  
Clockwise or anti-clockwise lever rotation, with or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm

## 8. Indexing and positioning elements

### 8.2 Lever indexing plungers continues

#### GN 721.5 - GN 721.6

##### Lever indexing plungers

With or without rest in retracted position, stainless steel



AISI 303 stainless steel threaded body.  
AISI 303 stainless steel plunger.  
AISI 303 stainless steel lever.  
Clockwise or anti-clockwise lever rotation, with or without locking nut.  
Plunger Ø: 5 - 6 - 8 - 10 mm



#### GN 612.2

##### Lever indexing plungers

rest in retracted position, steel



Black-oxide steel body with holes for fitting.  
Turned and nitrided steel plunger.  
Lever in black-oxide steel.  
With or without lever cover.  
Plunger Ø: 6 - 8 - 10 - 12 mm



#### GN 612.3

##### Lever indexing plungers

rest in retracted position, steel or stainless steel



Body in black-oxide steel for welding or AISI 304 stainless steel. Plunger in nitrided steel or AISI 303 stainless steel.  
Technopolymer lever, black colour.  
With or without lever cover.  
Plunger Ø: 6 - 8 - 10 - 12 mm



#### GN 612.9

##### Lever indexing plungers

rest in retracted position, zinc alloy



Die-cast zinc alloy body with holes for fitting.  
Zinc-plated steel plunger.  
Technopolymer lever, black colour.  
Plunger Ø: 6 - 8 - 10 - 12 mm



#### GN 612.10

##### Lever indexing plungers

rest in retracted position, zinc alloy



Die-cast zinc alloy body with holes for fitting.  
Zinc-plated steel plunger.  
Technopolymer lever, black colour.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 612.8

##### Lever indexing plungers

rest in retracted position, zinc alloy



Threaded body in die-cast zinc alloy with surface protective treatment.  
Zinc-plated steel plunger.  
Technopolymer lever.  
With or without locking nut.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 722.1

##### Lever indexing plungers

rest in retracted position, steel



Body in black-oxide steel or AISI 316 stainless steel for welding.  
Zinc-plated steel or AISI 316 stainless steel plunger and lever.  
With or without mounted operating lever.  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm



#### GN 722.2

##### Lever indexing plungers

rest in retracted position, steel or stainless steel



Zinc-plated steel or AISI 316 stainless steel body holes for fitting. Zinc-plated steel or AISI 316 stainless steel plunger. With the lever perpendicular or parallel to the axis of the fixing holes.  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm



#### GN 722.3

##### Lever indexing plungers

rest in retracted position, steel or stainless steel



Zinc-plated steel or AISI 316 stainless steel body holes for fitting.  
Zinc-plated steel or AISI 316 stainless steel plunger.  
With lever in left or right retracted position.  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm



#### GN 722.4

##### Spring indexing plungers with ring

Fixing by means of welding, steel



Black-oxide steel body  
Zinc-plated steel or AISI 316 stainless steel plunger and lever.  
With or without mounted operating ring.  
Plunger Ø: 8 - 10 - 12 - 14 - 16 - 20 mm





## 8. Indexing and positioning elements

### 8.2 Lever indexing plungers *continues*



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#### Material

- Technopolymer (2)
- Technopolymer - Stainless steel (1)
- Steel (3)
- Stainless steel (26)
- Titanium (1)

#### GN 712 Lever indexing plungers

*rest in retracted position,  
steel*



Black-oxide steel threaded body.  
AISI 303 stainless steel plunger.  
Technopolymer lever, black colour.  
With or without safety stop position, with or without locking nut.  
Plunger Ø: 6 - 8 - 10 mm

#### GN 712.1 Lever indexing plungers

*rest in retracted position,  
steel*



Black-oxide steel threaded body.  
AISI 303 stainless steel plunger.  
Technopolymer lever, black colour.  
With or without safety stop position, with or without locking nut.  
Plunger Ø: 6 - 8 - 10 mm

### 8.3 Quick release pins

#### GN 113.3 Ball Lock Pins

*Stainless steel*



AISI 303 stainless steel pin and push button,  
AISI 420 stainless steel balls, stainless steel handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

#### GN 113.1 Lock pins

*Stainless steel*



AISI 303 stainless steel pin, technopolymer push button, AISI 420 stainless steel balls, technopolymer handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 6 - 8 - 10 - 12 mm

#### GN 113.5 Ball Lock Pins

*Stainless steel*



AISI 303 stainless steel pin and push button,  
AISI 420 stainless steel balls, technopolymer knob.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 mm

#### GN 113.6 Ball Lock Pins

*Stainless steel*



AISI 630 stainless steel pin and push button,  
AISI 420 stainless steel balls, stainless steel knob.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 mm

#### GN 113.9 Ball Lock Pins

*Stainless steel*



AISI 303 stainless steel pin, AISI 420 stainless steel balls, AISI 316 stainless steel knob and push button.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

#### GN 113.10 Ball Lock Pins

*Stainless Steel AISI 630*



AISI 630 stainless steel pin, AISI 420 stainless steel balls, AISI 316 stainless steel knob and push button.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

#### GN 113.11 Ball Lock Pins

*Stainless steel*



AISI 303 stainless steel pin, AISI 420 stainless steel balls, technopolymer handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

#### GN 113.12 Ball Lock Pins

*Stainless Steel AISI 630*



AISI 620 stainless steel pin, AISI 420 stainless steel balls, technopolymer handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

## 8. Indexing and positioning elements

### 8.3 Quick release pins *continues*

#### GN 314 Quick release pins with lock, stainless steel



AISI 303 stainless steel pin, AISI 303 stainless steel pawl, technopolymer handle.  
With single or differentiated encryption key.  
Pressing the push button releases the pawl, allowing the locking pin to be engaged or disengaged. Plunger Ø: 8 - 10 - 12 - 16 - 20 mm



#### GN 113.7 Ball Lock Pins Stainless steel



AISI 303 stainless steel pin and push button, AISI 420 stainless steel balls, technopolymer handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted. Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm



#### GN 113.8 Ball Lock Pins Stainless steel



Hardened AISI 630 stainless steel pin and push button, AISI 420 stainless steel balls, technopolymer handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted. Plunger Ø: 5 - 6 - 8 - 10 - 12 - 16 - 20 - 25 mm



#### GN 113.30 Ball Lock Pins Titanium



L-handle, T-handle, or recessed grip.  
Titanium pin and push button, ceramic balls, technopolymer or titanium handle.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted. Plunger Ø: 6 - 8 - 10 mm



#### GN 114.2 Lock pins Steel



Zinc-plated steel pin, AISI 304 stainless steel pawls, technopolymer knob.  
By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted. Plunger Ø: 6 - 8 - 10 - 12 - 16 - 20 mm



#### GN 114.3 Lock pins Stainless steel



AISI 303 stainless steel pin, AISI 304 stainless steel pawls, technopolymer knob.  
By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted. Plunger Ø: 6 - 8 - 10 - 12 - 16 - 20 mm



#### GN 114.6 Lock pins Stainless steel



AISI 303 stainless steel pin, AISI 304 stainless steel pawls, AISI 303 stainless steel knob and push button.  
By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted. Plunger Ø: 6 - 8 - 10 - 12 - 16 - 20 mm



#### GN 124.2 Ball Lock Pins Stainless steel



AISI 303 stainless steel pin, AISI 420 stainless steel balls, technopolymer knob.  
By pressing the push button the two balls are freed and the pin can be pulled-out or inserted. Plunger Ø: 6 - 8 - 10 - 12 mm



#### GN 124.3 Ball Lock Pins Stainless steel



AISI 303 stainless steel pin, AISI 420 stainless steel balls, AISI 316LHC stainless steel washer. They are used for quick fastening between jigs or equipment. The pins can be inserted and removed quickly and easily from the positioning hole. Plunger Ø: 8 - 10 - 12 mm



#### GN 124.1 Magnetic quick release pins Stainless steel



AISI 303 stainless steel pin, magnet in neodymium, iron and boron, technopolymer knob with holes for coupling ring.  
They are used for quick fastening between parts made of magnetic material. Plunger Ø: 6 - 8 - 10 - 12 mm



## 8. Indexing and positioning elements

### 8.3 Quick release pins continues



#### GN 214.2 Lock pins Steel



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

#### GN 214.3 Lock pins Stainless steel



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

#### GN 214.6 Lock pins Stainless steel



AISI 303 stainless steel pin, AISI 304 stainless steel pawls, AISI 301 stainless steel ring, AISI 303 stainless steel push button.  
By pressing the push button the two pawls are freed and the pin can be pulled-out or inserted.  
Plunger Ø: 6 - 8 - 10 - 12 - 16 mm

#### CT-S Ball chains Technopolymer and stainless steel



Mainly used together with the different types of lock pins.  
They are available in 3 different types allowing for use in different applications, with or without ring.  
The ball chain feature is flexibility.

#### GN 111 Ball chains Brass and stainless steel



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

#### CV-T Retaining cables Polyethylene and stainless steel



Mainly used in combination with the different types of lock pins.  
They are available in 5 different types allowing for use in different applications, with or without ring and plate.

#### GN 111.2 Retaining cables Stainless steel



Mainly used in combination with the different types of lock pins.  
Transparent or black PVC cable covering.  
They are available in 5 different types allowing for use in different applications, with or without ring and plate.

#### GN 111.8 Retaining cables AISI 316 stainless steel



Mainly used in combination with the different types of lock pins.  
Transparent PVC cable coating. They are available in 3 different types allowing for use in different applications, with or without ring and plate.

#### GN 111.4 Spiral retaining cables Polyurethane and stainless steel



Mainly used together with the different types of lock pins.  
Stainless steel rings, tin-plated copper clamping plate, black polyurethane cable.

#### GN 111.6 Retaining rings Stainless steel



They can be mounted by rotating on the groove specially made at the end of a shaft or handle.  
AISI 301 stainless steel.

## 8. Indexing and positioning elements

### 8.3 Quick release pins *continues*

#### GN 2342 Assembly pins *Stainless steel*



AISI 304 stainless steel pin and countersunk-head screw with hexagon socket. Flat retaining washer with or without eye in AISI 304 stainless steel or AISI 316 stainless steel. Use with locking function, with spring cotter pins and fastening by means of countersunk-head screws to prevent loss and rotation.



#### GN 2344 Fixing plates *Stainless steel*



With eyelet or slot in AISI 316 stainless steel. Used with GN 111.2 retaining cables or GN 111 ball chains to prevent the loss of fastening components. Also allows axial and radial fastening of pins and eye screws.



### 8.4 Spring plungers



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#### Material

- Technopolymer (4)
- Steel (15)
- Stainless steel (19)
- Aluminium (1)
- Die-cast zinc alloy (1)
- Brass (1)

#### GN 513 Threaded spring elements *Steel*

Zinc-plated steel threaded body. Black-oxide and case-hardened steel end. Round, prismatic end with plunger or internal thread. Standard or reinforced pressure spring. Threadings: M12x1.5 - M16x1.5 - M20x1.5



#### GN 615 Ball spring plungers *Steel*

Black-oxide steel threaded body, screwdriver slotted head. Hardened steel ball, standard or reinforced pressure spring. Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 615-NI Ball spring plungers *Stainless steel*



AISI 303 stainless steel threaded body, screwdriver slotted head. Hardened stainless steel ball, standard or reinforced pressure spring. Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 615.5 Ball spring plungers *Stainless steel, ceramic ball*



AISI 316 stainless steel threaded body, screwdriver slotted head. Ceramic ball, standard or reinforced pressure spring. Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16



#### GN 615.8 Ball spring plungers with friction block bearing *with friction block bearing, steel or stainless steel*



Black-oxide steel or AISI 303 stainless steel threaded body. Hardened steel or AISI 420C stainless steel ball, standard or reinforced pressure spring. Technopolymer friction block bearing. Threadings: M5 - M6 - M8 - M10 - M12 - M16



#### GN 715 Side thrust spring pins *Aluminium and steel*

Aluminium body. Oscillating pin in technopolymer or hardened and zinc-plated steel. Spring with light, medium or reinforced load. Practical and versatile elements for positioning and mounting items to be processed. Pin Ø: 3 - 5 - 6 - 8 - 10 mm



#### GN 615.3 Ball spring plungers *Steel*

Black-oxide steel threaded body. Hardened steel ball, standard or reinforced pressure spring. Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 615.9 Ball spring plungers with friction block bearing *with friction block bearing, steel or stainless steel*



Black-oxide steel or AISI 303 stainless steel threaded body. Hardened steel or AISI 420C stainless steel ball, standard or reinforced pressure spring. Technopolymer friction block bearing. Threadings: M5 - M6 - M8 - M10 - M12 - M16



## 8. Indexing and positioning elements

### 8.4 Spring plungers continues



#### GN 615.3-NI Ball spring plungers Stainless steel



AISI 303 stainless steel threaded body.  
Hardened stainless steel ball, standard or reinforced pressure spring.  
Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 615.2 Ball spring plungers Technopolymer



Threaded body in technopolymer.  
Technopolymer or hardened stainless steel ball.  
Threadings: M6 - M8 - M10



#### GN 615.4 Bolt spring plungers Hexagon socket head, steel or stainless steel



Black-oxide steel or AISI 303 stainless steel threaded body.  
Hardened steel or AISI 303 stainless steel plunger, standard or reinforced pressure spring.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 614.2 Spring plungers Smooth body, balls at both ends, brass

Smooth brass body, central knurling.  
Hardened stainless steel balls.  
Diameters Ø: 2.5 - 3 - 4 - 5 - 6 - 7 - 8 mm



#### GN 614.3 Ball spring plungers Smooth body, stainless steel



Smooth body in AISI 303 stainless steel.  
Ball in hardened AISI 420C stainless steel.  
Diameters Ø: 2 - 2.5 - 3 - 3.5 - 4 - 4.5 - 5 - 5.5 - 6 - 8 - 10 - 12 mm



#### GN 614.7 Ball spring plungers Press-Fit Type, Long Version, with Ball



Smooth body in AISI 305 stainless steel.  
AISI 420C stainless steel ball, standard pressure spring.  
Diameters Ø: 4 - 5 - 6 - 8 - 10 mm



#### GN 614.8 Ball spring plungers with friction block bearing with friction block bearing, smooth body, steel or stainless steel



Smooth body in AISI 303 stainless steel.  
Ball in hardened AISI 420C stainless steel.  
Technopolymer friction block bearing.  
Diameters Ø: 4 - 5 - 6 - 8 - 10 - 12 mm



#### GN 614.4 Bolt spring plungers Smooth body, stainless steel



Smooth body in stainless steel.  
Technopolymer or AISI 303 stainless steel plunger, standard pressure spring.  
Diameters Ø: 4 - 5 - 6 - 8 - 10 mm



#### GN 615.1 Bolt spring plungers Steel



Black-oxide steel threaded body.  
Black-oxide steel or hardened steel plunger, standard or reinforced pressure spring.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24



#### GN 615.1-NI Bolt spring plungers Stainless steel



AISI 303 stainless steel threaded body.  
Nitrided AISI 303 stainless steel plunger, standard or reinforced pressure spring.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20 - M24





## 8. Indexing and positioning elements

### 8.4 Spring plungers continues

#### GN 616 Bolt spring plungers Steel



Black-oxide steel threaded body.  
Hardened steel or technopolymer plunger,  
standard or reinforced pressure spring.  
Threadings: M3 - M4 - M5 - M6 - M8 - M10 -  
M12 - M16 - M20 - M24

#### GN 616-NI Bolt spring plungers Stainless steel



AISI 303 stainless steel threaded body.  
Nitrided AISI 303 stainless steel or  
technopolymer plunger, standard pressure  
spring.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12 -  
M16 - M20

#### GN 616.1 Bolt plungers with packing ring with packing ring, steel or stainless steel



Black-oxide steel or AISI 303 stainless steel  
threaded body. Hardened steel or AISI 303  
stainless steel plunger, standard or reinforced  
pressure spring.  
NBR synthetic rubber packing ring.  
Threadings: M8 - M10 - M12 - M16

#### GN 611 Bolt spring plungers Long stroke, steel or stainless steel



Threaded body in black-oxide steel or AISI 303  
stainless steel, partially covered with polyamide  
coating for instant locking of threads. Black-oxide  
steel or AISI 303 stainless steel plunger, standard  
or reinforced pressure spring. Used in the sheet  
metal working industry.  
Threadings: M10 - M12 - M16 - M24

#### GN 614.6 Bolt spring plungers Smooth body, steel or stainless steel



Black-oxide steel or AISI 303 stainless steel  
body and plunger.  
Mainly used in the production of tools such as  
spring stops as well as for pressure and locking  
functions.  
Diameters Ø: 6 - 8 - 10 - 12 mm

#### GN 615.7 Threaded ball spring plungers with switch, steel



Threaded body in hardened and nickel-plated  
steel. Hardened steel ball. With normally closed  
or open contacts. Suitable for all cases in which  
it is necessary to lock or unlock a device by  
means of a limit switch.  
Threadings: M6 - M8 - M10

#### GN 415 Side thrust pins



#### GN 614.1 Holders for smooth plungers Zinc alloy



Standard versions with two side fixing wings, one  
left or right fixing wing.  
Designed to optimise the use of the GN 614  
and GN 614-NI smooth ball and spring plungers.  
Diameters Ø: 6 - 8 mm

#### GN 614 Ball spring plungers Smooth body, technopolymer



Acetal resin based technopolymer body.  
Ball in hardened AISI 420C stainless steel or  
technopolymer.  
Diameters Ø: 3 - 4 - 5 - 6 - 8 - 10 - 12 mm

#### GN 614-NI Ball spring plungers Smooth body, stainless steel



AISI 305 stainless steel body.  
Ball in hardened AISI 420C stainless steel.  
Diameters Ø: 3 - 4 - 5 - 6 - 8 - 10 - 12 mm



## 8. Indexing and positioning elements

### 8.4 Spring plungers

*continues*



#### GN 614.5

##### Ball spring plungers

*Smooth body,  
technopolymer*



Acetal resin based technopolymer body.  
Acetal-based technopolymer or AISI 420C  
stainless steel ball.  
Diameters Ø: 4 - 5 - 6 - 8 - 10 mm

#### GN 815

##### Threaded plungers

*Screwdriver slotted  
head, steel*



Black-oxide steel, screwdriver slotted head.  
Hardened steel ball.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12

#### GN 815-NI

##### Threaded plungers

*Screwdriver slotted  
head, stainless steel*



AISI 303 stainless steel body, screwdriver  
slotted head.  
Hardened stainless steel ball.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12

#### GN 815.1

##### Cylindrical-head threaded plungers

*Hexagon socket head,  
steel or stainless steel*



Body in black-oxide steel or AISI 303 stainless  
steel, head with hexagon socket.  
Ball in hardened steel or AISI 420C stainless  
steel.  
Threadings: M4 - M5 - M6 - M8 - M10 - M12

#### GN 249.1

##### Ball bushings

*for spring plungers, steel*



Ground and hardened steel.  
Use in combination with ball or bolt spring  
plungers when a high wear-resistant contact  
surface is required.  
Diameters Ø: 4 - 6 - 8 - 10 - 12 - 16 - 20 mm

#### GN 715.2

##### Eccentric bushings

*for spring plungers, steel*



Used to facilitate correct positioning of the GN  
715 side plungers.  
The plunger can be precisely positioned to fit  
the tolerance of the workpiece.

#### GN 250

##### Indent blocks

*Steel*



Sintered case-hardened and black-oxide steel.  
Used with ball spring plungers GN 614, GN  
615 and GN 615.2 for positioning or fixing  
sliding parts, flaps and similar applications.

# 9

## Standard machine parts



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

### 9.1 Grub-screws, thrust pads, rings, washers



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#### Material

- Technopolymer (6)
- Steel (44)
- Stainless steel (38)
- Aluminium (1)

#### GN 709.7

##### Locking elements

flat-faced ball pad, steel



Grub screws are suitable for clamping workpieces. The flat-faced (non-reversible) ball compensates for any misalignment of contact surfaces of up to 10°. Diameters: 10 - 13 mm

#### GN 709.8

##### Locking elements

flat-faced ball pad, steel



Grub screws are suitable for clamping workpieces. The flat-faced (non-reversible) ball compensates for any misalignment of contact surfaces of up to 10°. Threadings: M12 - M16

#### DIN 6332

##### Grub screws

Steel or stainless steel



Black-oxide steel, zinc-plated steel or AISI 304 stainless steel. Hardened or unhardened pressure ends. Threadings: M6 - M8 - M10 - M12 - M16 - M20

#### DIN 6311

##### Thrust pads with elastic ring

with elastic ring, steel



The thrust pads are generally used to transmit clamping forces with DIN 6332 grub screws. They can be adapted on irregular or non-parallel surfaces and prevent the rotating movement of the screw from being exerted directly on the piece to be locked. Diameters: 12 - 16 - 20 - 25 - 32 - 40 mm

#### GN 6311.1

##### Thrust pads

with elastic ring, steel or stainless steel



With or without technopolymer protection. Elastic ring: steel spring wire. They are used to transmit clamping forces with DIN 6332 grub screws, hexagon socket head. "Screw/thrust pad coupling by means of an elastic ring." Diameters: 16 - 20 - 25 - 32 mm

#### GN 6311.3

##### Thrust pads with elastic ring

with elastic ring, steel



Available with zinc-plated steel clamping surface; with elastomer non-slip coating; with technopolymer support disc. They are used to transmit clamping forces with DIN 6332 grub screws. Diameters: 50 - 60 mm

#### GN 6311.5

##### Thrust pads

with elastic ring, stainless steel



Available with AISI 304 stainless steel clamping surface; with elastomer non-slip coating; with technopolymer support disc. They are used to transmit clamping forces with DIN 6332 grub screws. Diameters: 50 - 60 mm

#### GN 632.1

##### Grub screws

with ball end, steel

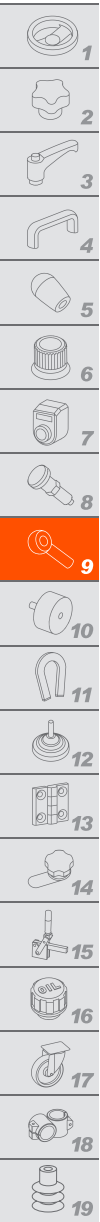


Hexagon socket head. These grub screws can be used to realise different locking systems. Levers, knobs or handles can be fitted to the threaded end by means of pins. Threadings: M6 - M8 - M10 - M12



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues



#### GN 632.5 Grub screws with ball end, stainless steel



ISO 7379 shoulder screws with collar maximum tightening torque must not be defined by the steel property class, since it is limited by the relatively small bearing points (shoulders) and by the recesses at the transition point from diameter d1 to d2 and d3.  
Threadings: M3 - M4 - M6 - M8 - M10 - M12



#### ISO 7379 Shoulder screws with collar Steel or stainless steel



Levers, knobs or handles can be secured to the threaded tip via a pin.  
Threadings: M6 - M8 - M10 - M12



#### GN 732 Shoulder screws with collar Steel

The d2 and l1 sizes allow the optimal use of GN 732 shoulder screws with collar in combination with DIN 444 eye screws, GN 444.2 eye nuts and GN 919 hubs with eccentric cam.  
Threadings: M6 - M8 - M10 - M12



#### GN 732.1 Shoulder screws with collar Steel or stainless steel AISI 303



The d2 and l1 sizes allow the optimal use of GN 732.1 shoulder screws with collar in combination with DIN 444 eye screws, GN 444.2 eye nuts and GN 919 hubs with eccentric cam.  
Threadings: M6 - M8 - M10 - M12 - M14



#### GN 631 Thrust pads Technopolymer



Indicated for transmission of clamping forces with GN 632.1 or GN 632.5 grub screws. They adapt easily to uneven or non-parallel surfaces and allow clamping without transmitting rotation to the surface to be clamped.  
Diameters: 15 - 18 - 21 - 25 - 32 - 40 - 50 mm



#### GN 631.5 Thrust pads with elastic ring with elastic ring, stainless steel



Indicated for transmission of clamping forces with GN 632.5 grub screws. They adapt easily to uneven or non-parallel surfaces and allow clamping without transmitting rotation or scratching the surface to be clamped.  
Diameters: 21 - 25 - 32 - 40 - 50 mm



#### GN 912.2 Retained screws Stainless steel



Retained screws can be used where loss of screws must be avoided due to the cylindrical d3 part of the pin.  
Diameters: 12 - 16 - 20 - 25 - 30 - 35 - 40 mm



#### GN 252 - GN 252.5 Blanking plugs Steel or stainless steel



With application of a polyamide layer (blue) on the thread with locking action.  
Threadings: M12 - M16 - M20 - M24 - M27 - M30 - M33



#### GN 355 Levelling elements Steel or stainless steel



AISI 304 stainless steel cylindrical-head screw with hexagon socket and washer.  
Threaded body in black-oxide steel, convex washer in hardened steel or AISI 303 stainless steel.  
Threadings: M12 - M18 - M24 - M30 - M36



#### GN 355.2 Levelling elements with captive spherical washer, stainless steel



AISI 304 stainless steel cylinder head screw and washer.  
Threaded body in black-oxide steel, convex washer in hardened steel or AISI 303 stainless steel.  
Threadings: M12 - M18 - M24



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues

#### GN 355.1

**Assembly tool**  
for levelling inserts  
GN 355, steel



They are used to adjust the GN 355 levelling elements, usually in combination with a socket wrench for tightening the cylinder head screw with hexagon socket.

Diameters: 12 - 18 - 24 - 30 - 36 mm

#### GN 360

**Levelling inserts**  
Steel or stainless steel



Available with or without locking nut. They are used for levelling and to compensate for any slopes when setting up machines.

Threadings: M10 - M12 - M16

#### GN 346

**Thrust pads**  
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

#### GN 347

**Ball joint thrust pads**  
Steel



They are mainly used to lock metal parts.

Diameters: 17 - 21 - 24 - 30 - 36 - 44 mm

#### GN 338

**Disks with protection cap**  
Steel



With technopolymer or thermoplastic elastomer protective cover. They can be used as feet on machinery, sliding bases on mechanical devices with particularly sensitive equipment or more simply as screw covers.

Diameters: 16 - 20 - 25 - 32 mm

#### GN 913.2

**Grub screws**  
Steel



With spherical or pointed end. They are generally used in cases where a point of contact is required. The execution with sharp end (GN 913.2-B) can also be used as a positioner for a drill.

Threadings: M5 - M6 - M8 - M10

#### GN 913.3

**Grub screws**  
brass or technopolymer pad, steel



Black-oxide steel, hexagon socket head. The brass or technopolymer pad of the grub screws avoids damaging the contact surface.

Threadings: M3 - M4 - M5 - M6 - M8 - M10 - M12

#### GN 913.5

**Grub screws**  
brass or technopolymer ball pad, stainless steel



AlSi 303 stainless steel, hexagon socket head. The brass or technopolymer pad of the grub screws avoids damaging the contact surface.

Threadings: M4 - M5 - M6 - M8 - M10 - M12

#### GN 605

**Grub screws**  
ball end, steel



Black-oxide steel, hexagon socket head. Ball where point contact is required or ball with reversible flat face for fixing non-parallel planes. Indicated for clamping workpieces.

Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16

#### GN 605-NI

**Grub screws**  
ball end, stainless steel



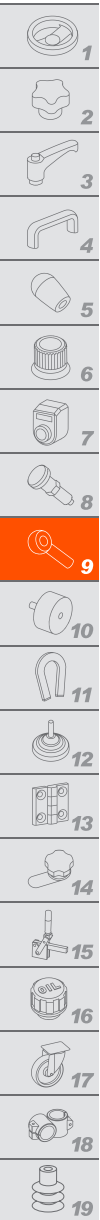
AlSi 304 stainless steel, hexagon socket head. Ball where point contact is required or ball with reversible flat face for fixing non-parallel planes. Indicated for clamping workpieces.

Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues



#### GN 551.1 Threaded studs Steel



They can, for example, be screwed into the threaded bosses of clamping handwheels where it is necessary to transform the nut clamping into a screw clamping.  
Threadings: M6 - M8 - M10 - M12 - M16 - M20

#### DIN 6319 Concave and convex washers 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

#### DIN 6319-NI - DIN 6319-A4 Concave and convex washers 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 mm

#### GN 7062.1 Semi-split clamps assembly with threaded holes, stainless steel



With radial or axial threaded holes.  
They are fixed to the shaft by suitably tightening the screw.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7062.2 Semi-split clamps assembly with axial mounting holes, stainless steel



With 2 smooth or threaded axial pass-through holes or with 2 axial holes for cylinder head screws. They are fixed to the shaft by suitably tightening the screw.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7062.3 Semi-split clamps assembly with damping washer, stainless steel



They are fixed to the shaft by suitably tightening the screw.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7062.30 Damping washers for set collars, polyurethane



The damping washers are accessories for the various types of set collars.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7072.1 Dismountable split set collars with threaded holes, stainless steel



With radial or axial threaded holes.  
They are fixed to the shaft by suitably tightening the screw. They can be placed on the shaft without having to be threaded through the end.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7072.2 Dismountable split set collars with axial mounting holes, stainless steel



With 2 smooth or threaded axial pass-through holes or with 2 axial holes for cylinder head screws. They are fixed to the shaft by suitably tightening the screw. They can be placed on the shaft without having to be threaded through the end.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

#### GN 7072.3 Dismountable split set collars with damping washer, stainless steel



They are mounted and fixed to the shaft by suitably tightening the screw.  
They can be placed on the shaft without having to be threaded through the end.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues

**GN 7072.30**  
**Damping washers**  
for dismantable split set  
collars, polyurethane



The damping washers are accessories for the various types of set collars.  
Diameters: 30 - 32 - 36 - 42 - 48 - 55 - 60 - 65 mm

**GN 7062.10**  
**Brackets for sensor  
holders**  
Stainless steel



They are used to contain sensors.

**GN 826**  
**Clamping elements  
for spindles**  
Aluminum



With type GN 302 recessed handle or with simple threaded grub screw.  
They are used for quick clamping of shafts controlled by knobs or handwheels.  
Diameters: 40 - 50 - 60 mm

**CMC**  
**Torque amplifier  
collar**  
Technopolymer



CMC torque amplifier collars double the clamping force applied at equal torque due to the presence of a bearing acting to reduce friction.  
Internal diameters: 8 - 10 - 12 mm

**GN 6342**  
**Washers with  
antifriction disc**  
with antifriction disc,  
steel or stainless steel



They are used to apply a higher axial force in clamping operations.  
Diameters: 20 - 26 - 28 - 32 mm

**GN 6343**  
**Washers**  
Stainless steel



A typical application for washers is mounting them at the top of the shaft to retain a handwheel with an axial key.  
Internal diameters: 8 - 10 - 12 - 16 mm

**GN 350.3**  
**Levelling washers**  
single body, steel or  
stainless steel



These washers are used mainly for locking mechanical parts on non-parallel surfaces.  
The coupling of the spherical surfaces of the two washers allows a very high load resistance.  
Diameters: 25 - 32 - 45 - 58 - 70 - 80 - 105 mm

**GN 183**  
**C-shaped washers**  
Steel



GN 183 C-shaped washers are suitable for assembly on parts to be machined without unscrewing the nut from the screw.  
Diameters: 22 - 28 - 34 - 40 - 56 mm

**GN 184**  
**Washers for screws**  
for screws, steel



A typical application for washers is mounting them at the top of the shaft to retain a handwheel with an axial key.  
Diameters: 16 - 20 - 22 - 25 - 28 - 32 - 36 - 40 - 45 - 52 mm

**GN 184.5**  
**Washers for screws**  
for screws,  
stainless steel



A typical application for washers is mounting them at the top of the shaft to retain a handwheel with an axial key.  
Diameters: 16 - 20 - 22 - 25 - 28 - 32 - 36 - 40 - 45 - 52 mm



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues



#### GN 185 Washers for screws for screws, stainless steel



The washers hold the countersunk head of the screws, improving the aesthetic quality of the surfaces on which they are mounted. A plastic disc is supplied to avoid damaging the surfaces.  
Diameters: 18 - 20 - 22 - 26 mm



#### GN 6339 Washers for heavy duty applications for heavy duty applications, steel



They are designed for heavy-duty applications where a high clamping force must be achieved and maintained.  
Diameters: from 12 to 68 mm

#### GN 6319.1 Levelling washers single body, steel



These washers are used mainly for locking mechanical parts on non-parallel surfaces. The coupling of the two spherical surfaces of the washers allows a very high load resistance.  
Diameters: 13 - 17 - 21 - 25 - 32 - 40 mm

#### DIN 172 Guide bushings Steel



d2 external diameter n6 tolerance assures a perfect clamping in the mounting holes in H7 tolerance.  
Diameters: from 2 to 30 mm

#### GN 172.1 Guide bushings Steel



GN 172.1 guide bushings have a tapered hole to optimise their use with GN 817.5 plungers.  
Diameters: 6 - 8 - 10 mm

#### DIN 179 Guide bushings Steel



d2 external diameter n6 tolerance assures a perfect clamping in the mounting holes in H7 tolerance.  
Diameters: from 0.6 to 42 mm

#### GN 179.1 Guide bushings Steel



GN 179.1 guide bushings have a tapered hole to optimise their use with GN 817.5 plungers.  
Diameters: 6 - 8 - 10 mm

#### GN 609.5 Distance bushings Stainless steel



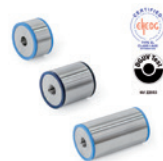
They are generally used to compensate for the length of the body thread on indexing plungers, allowing them to be mounted on sheet metal of different thicknesses.  
Internal diameters: 8 - 10 - 12 - 16 - 18 - 20 mm

#### GN 6220 Spacer sleeves Steel or stainless steel



With blind or pass-through threaded holes (shorter sizes) or with blind hole and threaded pin. They are commonly used as spacer rods and they allow parts to be fastened with an offset parallel to their mounting plane.  
Threadings: M4 - M5 - M6 - M8 - M10

#### GN 6226 Hygienic Design Spacer sleeves AISI 316L stainless steel



Execution with smooth or threaded pass-through hole, threaded on two sides. Blue H-NBR or EPDM synthetic rubber packing ring, FDA-compliant. For use in environments that require high levels of hygiene.  
Holes: M5 - M6 - M8 Ø: 5 - 6 - 8 mm

## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues

#### GN 6322 Workholding bolt with ball-type shoulder Steel



GN 6322 elements are generally used for positioning and fixing of workpieces. The spherical shape of the head (GN 6322-B) allows an optimal positioning in the holes facilitating their insertion. The flat design (GN 6322-C) helps to compensate for tolerances in the spacing of two holes. Diameters: 10 - 12 - 16 - 20 - 22 - 25 mm

#### GN 408.1 Positioning and supporting elements with threaded stud, steel



With smooth, turned or ground contact surface or with turned spherical contact surface. They are used for mounting and positioning of parts for machining. Threadings: M6 - M8 - M10 - M12 - M16

#### GN 709.15 Clamping pad with threaded stud, stainless steel



Ball in AISI 420C stainless steel or nickel-plated steel with smooth or knurled flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Threadings: M6 - M8 - M10 - M12 - M16 - M20 - M24

#### GN 709.25 Clamping pad with tapped blind hole, stainless steel



AISI 420C nickel-plated AISI 420C stainless steel ball with flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Diameters: 12 - 18 - 28 mm

#### GN 709.35 Clamping pad with adjustable threaded stud, stainless steel



AISI 420C nickel-plated AISI 420C stainless steel ball with flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Threadings: M8 - M10 - M12 - M16 - M20 - M24 - M30x1.5

#### DIN 6321 Work-holding bolt Steel



With conical cylinder or faceted head. Diameters: 6 - 8 - 10 - 12 - 16 - 20 - 25 mm

#### GN 709.1 Clamping pad with threaded stud, steel



Ball in hardened or nickel-plated steel with smooth or knurled flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Threadings: M6 - M8 - M10 - M12 - M16 - M20 - M24

#### GN 709.2 Clamping pad with tapped blind hole, steel



Ball in hardened steel with smooth or knurled flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Diameters: 12 - 18 - 28 mm

#### GN 709.3 Clamping pad with adjustable threaded stud, steel



Ball in hardened steel with smooth or knurled flat face, non-reversible or with automatic return to position. They serve as movable supports or for clamping workpieces. Threadings: M8 - M10 - M12 - M16 - M20 - M24 - M30x1.5

#### DIN 580 Lifting eyebolts Stainless steel

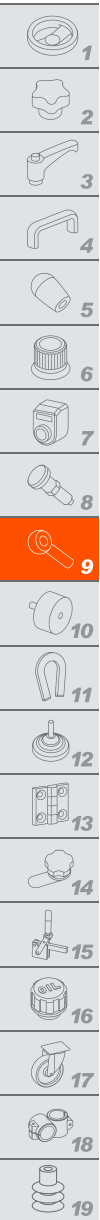


Threadings: M8 - M10 - M12 - M16 - M20 - M24



## 9. Standard machine parts

### 9.1 Grub-screws, thrust pads, rings, washers continues



#### GN 1130 Lifting lock pins Steel or stainless steel



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



#### GN 1133 Lifting lock pins Steel or stainless steel



Steel or stainless steel threaded pin, stainless steel spring. For quick and easy use. Pressing the operating button releases the threaded segments, allowing the pin to be inserted or removed from the mounting thread. This eliminates the time-consuming screwing and unscrewing process required with typical lifting devices, such as lifting eyebolts. Threadings: M8 - M10 - M12 - M16 - M20



#### GN 1135 Lifting lock pins Steel or stainless steel



Steel or stainless steel threaded pin, stainless steel spring. For quick and easy use. Pressing the operating button releases the threaded segments, allowing the pin to be inserted or removed from the mounting thread. This eliminates the time-consuming screwing and unscrewing process required with typical lifting devices, such as lifting eyebolts. Threadings: M8 - M10 - M12 - M16 - M20



#### GN 1132 Fastening bushings for GN 1130 lifting lock pins, stainless steel



They are used with GN 1130 lifting pins. Threadings: M16x1.5 - M16 - M20x1.5 - M20 - M24x1.5 - M24 - M30x2 - M36x2



#### BJT. Rod ends Technopolymer



They are particularly suitable for use in rotary, oscillatory and linear movements as well as in particularly aggressive environments, in the presence of water or moisture, fine dust or dirt. Diameters: 6 - 8 - 10 - 12 - 14 mm



#### FJT. Forks Technopolymer



Body with threaded hole, clip pin or technopolymer seeger ring. Particularly suitable for various drives, e.g. of pneumatic cylinders, even in the presence of water or moisture. Threadings: M6 - M8 - M10 - M10X1.25 - M12 - M12X1.25 - M14



#### GN 1024 Spring cotter pins Steel or stainless steel



They are mainly used for axial fastening of bolts and axles. Diameters: 1.5 - 2 - 3 - 4 - 5 - 6 - 7 mm



#### DIN 444 Eye screws Steel

They are mainly used for attaching moulds, equipment, etc. Threadings: M5 - M6 - M8 - M10 - M12 - M16 - M20



#### DIN 444-NI Eye screws Stainless steel



They are mainly used for attaching moulds, equipment, etc. Threadings: M5 - M6 - M8 - M10 - M12 - M16 - M20



#### GN 444.2 Eye nuts Steel

They can be used in combination with threaded studs of different lengths. They are mainly used for moulds, jigs, equipment, etc. Diameters: 8 - 10 - 12 - 16 mm



## 9. Standard machine parts

### 9.2 Set collars



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#### Material

- Technopolymer (1)
- Steel (4)
- Stainless steel (5)
- Aluminium (4)

#### 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 70 mm

#### GN 705

##### Semi-split clamps assembly

screw assembly, steel



Black-oxide steel or zinc-plated steel material. Fastening by means of screw without screwdriver head or with hexagon socket. Internal diameters: from 5 to 80 mm

#### GN 705-NI

##### Semi-split clamps assembly

screw assembly, stainless steel



AISI 303 stainless steel material. Assembly by means of stainless steel grub screw, with hexagon socket. Internal diameters: from 5 to 50 mm

#### GN 706.2

##### Semi-split set collars

clamping assembly, steel, stainless steel or aluminium



Black-oxide steel, natural aluminium or AISI 316 LHC stainless steel. Press-fit by means of steel screw, cylindrical head. They can be used not only as a shoulder stop, but also to fix other components. Internal diameters: from 6 to 40 mm

#### GN 311

##### Clamping kit for set collars

Zinc alloy and stainless steel



Zinc alloy lever body, clamping element, retaining screw in AISI 301 stainless steel. Used as an alternative to the fixing screws supplied in the different types of GN 706 and GN 707 set collars and semi-split set collars. Threadings: M4 - M5 - M6

#### GN 706.3

##### Semi-split set collars

for threaded shafts, steel or stainless steel



Black-oxide steel or AISI 316 LHC stainless steel. Press-fit by means of steel screw, cylindrical head. They can be used not only as a shoulder stop, but also to fix other components. Threadings: M8 - M10 - M12 - M16 - M20 - M8x1 - M10x1 - M12x1.5 - M16x1.5 - M20x1.5 - M24x1.5 - M30x1.5

#### GN 707.2

##### Dismountable split set collars

clamping assembly, steel, stainless steel or aluminium



Black-oxide steel or AISI 316 LHC stainless steel. Press-fit by means of steel screw, cylindrical head. They can be used not only as a shoulder stop, but also to fix other components. Internal diameters: from 6 to 40 mm

#### GN 704

##### Semi-split clamps assembly

quick release, aluminium



Black-oxide steel or AISI 316 LHC stainless steel. Press-fit by means of steel screw, cylindrical head. They can be used not only as a shoulder stop, but also to fix other components. Internal diameters: from 6 to 40 mm

### 9.3 T-Nuts



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#### 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 505

##### T-Nuts

quick-insert, steel



With through thread or slightly bent. They are particularly suitable for use on aluminium profiles, where rapid insertion is required. Threadings: M4 - M5 - M6 - M8



## 9. Standard machine parts

### 9.3 T-Nuts

*continues*



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#### Material

- Steel (11)
- Stainless steel (4)

#### GN 505.4

**T-Nuts**  
*quick-insert, steel*



They are particularly suitable for use on aluminium profiles, where rapid insertion is required.  
Threadings: M4 - M5 - M6 - M8



#### GN 505.5

**T-Nuts**  
*quick-insert, stainless steel*



They are particularly suitable for use on aluminium profiles, where rapid insertion is required.  
Threadings: M4 - M5 - M6 - M8



#### GN 506.1

**T-Nuts**  
*no-slip device, steel or stainless steel*



Zinc-plated steel or AISI 303 stainless steel, stainless steel ball and spring.  
They are particularly suitable for use on sliding guides.  
Groove width: 5 - 6 - 8 mm



#### GN 506

**T-Nuts**  
*with guide and no-slip device, steel*



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 507

**T-Nuts**  
*Steel*



Groove width: 8 - 10 mm



#### GN 506.2

**T-Nuts**  
*with guide and no-slip device, steel*



They are particularly suitable for use on aluminium profiles.  
The elastic plate, placed inside the nut, allows it to slide whilst preventing accidental vertical sliding.  
Groove width: 8 - 10 mm



#### GN 965

**Kit for the assembly of various components**  
*for profiles of 30 and 40 mm, steel*



With cylinder-head screw or flat countersunk-head screw. With flat pan head screw or low cylinder-head screw. They allow the attachment of a wide variety of elements with 30 and 40 mm aluminium profiles.  
Threadings: M4 - M5 - M6



#### GN 968

**Kit for the assembly of various components**  
*for profiles of 30 - 40 - 45 mm, steel*



With cylinder-head screw or flat countersunk-head screw. With flat pan head screw or low cylinder-head screw. They allow the attachment of a wide variety of elements with 30, 40 and 45 mm aluminium profiles.  
Threadings: M4 - M5 - M6



#### GN 508.1

**T-Nuts**  
*Steel*



They can be inserted vertically into T-slots.  
Groove width: 8 - 10 - 12 - 14 - 16 - 18 - 22 mm

#### GN 508.2

**T-Nuts**  
*Steel*



They are identical in size to DIN 508.  
The ball and spring device, placed inside the nut, allows it to slide whilst preventing accidental vertical sliding.  
Groove width: 8 - 10 - 12 - 14 - 16 - 18 - 22 mm



## 9. Standard machine parts

### 9.3 T-Nuts

*continues*

#### GN 933.5

##### Grub screws

brass or technopolymer  
ball pad, stainless steel



Pad in brass, technopolymer or with ball end.  
The brass or technopolymer pad avoids  
damaging the contact surface.  
Threadings: M6 - M8 - M10

### 9.4 Locking elements



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#### Material

- Technopolymer (1)
- Steel (6)
- Stainless steel (7)

#### GN 919

##### Hubs with eccentric cam

Steel



They are generally used for tightening or  
adjusting manoeuvres.  
The clamping force keeps steady and the cam  
locks automatically in any position along its  
rotation.  
Diameters: 24 - 30 - 35

#### GN 918 - GN 918.1 - GN 918.2

##### Cam locking levers

Steel



Duroplast handle. Nitrided and black-oxide  
steel or hardened and nickel-plated steel  
screw.  
Eccentric or helical "pull" or "push" cam,  
case-hardened and burnished steel.  
Cam diameter: 40 - 50 mm

#### GN 918.5 - GN 918.6 - GN 918.7

##### Cam locking levers

Stainless steel



Nitrided and burnished or hardened and  
nickel-plated steel screw. Eccentric or helical  
"pull" or "push" cam, in AISI 303 stainless steel.  
The system is self-locking at any angular  
positioning.  
Cam diameter: 40 - 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 thrust springs facilitating the  
detachment of the locking elements.  
Diameters: 32 - 40 mm

#### GN 187.4

##### Toothed clamping elements

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 thrust spring.  
Diameters: 22 - 27 - 32 - 40 mm

#### GN 187.1

##### Cases for GN 187.4

for toothed clamping  
elements GN 187.4,  
steel or stainless steel



The cases have been designed to optimise the  
use of the GN 187.4 and GN 187.4-NI toothed  
clamping elements.  
Diameters: 22 - 27 - 32 - 40 mm

#### GN 187.2

##### Thrust springs for GN 187.4

for toothed clamping  
elements GN 187.4,  
stainless steel



The thrust springs have been designed to  
optimise the use of the GN 187.4 and GN  
187.4-NI toothed clamping elements.  
Diameters: 15 - 18 - 23 - 28 mm

#### GN 187.4-NI

##### Toothed clamping elements

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 thrust spring.  
Diameters: 22 - 27 - 32 - 40 mm



## 9. Standard machine parts

### 9.4 Locking elements

continues



#### GN 188 Toothed clamping elements

Stainless steel



Without pass-through hole bushing or with threaded pass-through hole bushing or with threaded pass-through hole and centring step. AISI 301 stainless steel thrust spring to ensure correct separation during loosening. The toothed elements are used to secure coupled parts at a given angle. Diameters: 35 - 55 - 75 mm



#### GN 187.5 Toothed clamping elements

Stainless steel



With threaded or unthreaded stud (for welding), with stud with threaded hole; with horizontal fastening flange; toothed plate (for welding). The toothed elements are used to secure coupled parts at a given angle. Diameters: 22 - 27 - 32 - 40 mm



#### GN 187.6 Locking joint set

for toothed clamping  
elements GN 187.5, zinc  
alloy and stainless steel



With or without locking lever or with lever and eccentric cam. The set allows the locking of the different combinations of GN 187.5 toothed elements. Diameters: 27 - 32 - 40 mm



#### GN 928 Clamping elements

for round cross section  
shafts, steel



The unit allows round-section shafts, from 6 to 125 mm diameter, to be clamped precisely and quickly. Diameters: 8 - 10 - 12 - 16 - 20 - 25 - 30 mm



#### GN 928.1 Mounting tools

for shaft clamping  
elements GN 928

Steel



### 9.5 Transfer units



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#### Material

- Technopolymer (3)
- Steel (4)
- Stainless steel (5)

#### GN 509 Ball transfer units

Steel



Drawn sheet metal and zinc-plated retaining components; balls in zinc-plated steel or stainless steel. They are particularly suitable for applications on conveyor lines. They facilitate both linear and rotational movements of even heavy loads. Diameters: 24 - 36 - 45 mm



#### GN 509.1 Ball transfer units

Steel or stainless steel



Turned and zinc-plated steel, AISI 420B or AISI 303 stainless steel. Balls in natural steel or AISI 420C stainless steel. They are particularly suitable for applications on conveyor lines. They facilitate both linear and rotational movements of even heavy loads. Diameters: 22 - 24 - 36 - 45 - 62 - 100 mm



#### GN 509.4 Ball transfer units

Steel



Retaining components made of turned and zinc-plated steel; steel balls. They are particularly suitable for applications on conveyor lines. They facilitate both linear and rotational movements of even heavy loads. Diameters: 18 - 22 - 24 - 36.5 - 44.4 - 62.6 mm



#### GN 509.3 Spring rings

for ball transfer units,  
steel or stainless steel



In stainless steel, for fastening and removal from the installation side or in zinc-plated steel, for safety fastening from the non-installation side. They allow easy, quick insertion and removal of the ball transfer units. Diameters: 36 - 38 mm



## 9. Standard machine parts

### 9.5 Transfer units

continues

#### UTB

**Ball transfer units**  
Technopolymer



Main ball in technopolymer, white or AISI 316 stainless steel.  
They are particularly suitable for applications on transfer and conveyor lines or end of production lines.  
Diameters: 10,4 - 24 - 36 - 45 mm



#### UTB-SST-ESD

**Ball transfer units**  
ESD conductive technopolymer



Main ball in AISI 316 stainless steel.  
They are particularly suitable for applications on transfer and conveyor lines or end of production lines.  
Diameters: 24 mm



#### UTR

**Ball transfer units**  
Technopolymer

Roller in technopolymer, white or blue colour.  
They are particularly suitable for applications on transfer and conveyor lines or end of production lines.  
Diameters: 24 - 36 mm



### 9.6 Modular roller tracks



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#### Material

- Technopolymer (7)
- Aluminium (1)

#### RLT-U

**Roller elements for 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.



#### RLT-U15

**Roller elements for ELEROLL roller tracks**  
For packages with reduced size, technopolymer



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.



#### RLS-U

**Ball elements for ELEROLL roller tracks**  
Technopolymer



Ball elements for the omnidirectional handling. 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. High load capacity technopolymer ball elements.



#### RLT-AL

**Profiles for ELEROLL roller tracks**  
for roller elements, aluminium

The particular section of the profile makes it possible to interlock the roller and ball elements without the need for screws or other fastening elements. The profile ensures high resistance to bending under load and the installation of the roller tracks, even when not fully supported, without the need for other load-bearing elements.



#### RLT-H

**Headers for ELEROLL roller tracks**  
Technopolymer



Junction or end cap. They bind two ELEROLL roller tracks together or are the end element of ELEROLL roller tracks.



#### RLT-CE

**Containment edge for ELEROLL roller tracks**  
Polycarbonate



The RLT-CE containment edge designed for use with RLT-U roller elements is used for the lateral containment of light products transported on ELEROLL roller tracks.



## 9. Standard machine parts

### 9.6 Modular roller tracks

continues



#### RLT-B Brakes for ELEROLL roller tracks

Polycarbonate

PC



RLT-B brakes allow to slow down and/or stop packages handled on ELEROLL roller tracks. The brakes are snap-in assembled on RLT-U roller elements without the need for screws or other fasteners.

#### RLT-M Bracket and support for ELEROLL roller tracks

Technopolymer

PA



The bracket and the support facilitate the mounting of ELEROLL roller tracks on machines and other supporting structures.

### 9.7 Level bubbles



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#### Material

- Technopolymer (4)
- Stainless steel (1)
- Aluminium (5)
- Brass (1)

#### BEL-PM Level bubbles

for mounting in suitable  
housings



Anodised aluminium body, natural or black colour. With smooth reference surface or threaded pin. They are used to control the horizontal positioning of machines, devices, equipment and instruments. Diameters: 14 - 20 - 30 mm

#### BEL-BH Level bubbles

for mounting in suitable  
housings



Body in anodised aluminium, black colour. Colourless contrast fluid. They are used to control the horizontal positioning of machines, devices, equipment and instruments. Diameters: 20 - 25 - 30 mm

#### BEL-PH Level bubbles

for mounting in suitable  
housings



Body in anodised aluminium, black colour. Glass lens without or with contrast ring. Colourless or transparent green contrast fluid. They are used to control the horizontal positioning of machines, devices, equipment and instruments. Diameters: 12 - 14 - 15 - 18 mm

#### BEL-AD Level bubbles

with adjusting pin



Anodised aluminium body, natural or black colour. Colourless contrast fluid. Used to control the horizontal positioning of jigs. Diameters: 17 - 20 - 24 mm

#### BEL-MF Level bubbles

with mounting flange



Anodised aluminium body, natural or black colour. Rear or front mounting flange. Colourless contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Diameters: 20 - 25 - 30 - 40 - 50 mm

#### BEL-AP Adjusting plates

for BEL-MF level  
bubbles, stainless steel



Used in combination with the BEL-MF-A level bubbles. Diameters: 20 - 25 - 30 - 40 - 50 mm

#### BEL-RB Level bubbles

for screw mounting,  
aluminium



Aligned version, front mounting, not adjustable or adjustable. Transparent green contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Diameter: 62 mm

#### BEL-MS Monodirectional screw-on levels

for mounting with screws



Brass body with epoxy resin coating, grey or black colour. Version with a view from above, from above and one side, from above and both sides. Transparent green contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Dimension: 37 mm

## 9. Standard machine parts

### 9.7 Level bubbles

continues

#### BEL-MB

**Monodirectional screw-on levels**  
for screw mounting,  
aluminium



Anodised aluminium body, natural or black colour. Aligned version, front mounting, not adjustable or adjustable. Transparent green contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Dimension: 54 mm

#### BOL-MB

**Monodirectional screw-on levels**  
for screw mounting,  
technopolymer



PC PMMA

Without springs and screws for fixed mounting; with harmonic steel springs and zinc-plated steel self-tapping screws, for adjustable mounting. Transparent green contrast fluid, UV resistant. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Dimensions: 56 - 87 mm

#### BOL-PH

**Level bubbles**  
for mounting in suitable housings



PMMA

Range of the level bubble: 5 angle degrees at full scale. Colourless contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Diameters: 40 - 63 mm

#### BOL-MF

**Level bubbles**  
with mounting flange



PMMA

Range of the level bubble: 3, 5 or 10 angle degrees at full scale. Colourless contrast fluid. Used to control the horizontal positioning of jigs, machines, devices, equipment and instruments. Diameters: 55 - 80 - 100 mm

### 9.8 Spur gears



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#### Material

- Technopolymer (5)
- Steel (1)
- Stainless steel (1)

#### ZCL

**Spur Gears**  
Technopolymer,  
pressure angle 20°



PA

Grey reinforced technopolymer. Gears with non-drilled hub, smooth pass-through hole or keyway. Modules 0.5, 1.0, 1.5, 2.0, 2.5, 3.0.

#### ZCL-VD

**Spur Gears**  
Visually Detectable  
technopolymer,  
pressure angle 20°



VD PA

Gears with non-drilled hub or with smooth pass-through hole. Modules 1.0, 1.5, 2.0.

#### ZCP

**Spur Gears**  
Acetal resin based  
technopolymer,  
pressure angle 20°.



POM

Technopolymer, white colour. Gears with smooth pass-through hole. Modules 0.5, 0.7, 1.0, 1.25, 1.5, 2.0, 3.0.

#### ZCR

**Racks**  
Technopolymer, pressure  
angle 20°



PA

Square section racks with or without steel core, T-shaped or with mounting bracket. Modules 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0.

#### NSF

**Lead screw nuts**  
Trapezoidal thread,  
technopolymer



PA

Self-lubricating polyamide- or acetal-based technopolymer, raw materials suitable for food contact (FDA EU 10/2011). Together with NSF screws, NSF nuts form a system for converting rotation into linear motion. Used in the packaging sector. Diameters: 42 - 48 - 55 - 62 mm

#### NSL

**Lead screw shafts for NSF**  
Trapezoidal thread, steel  
or stainless steel



INOX  
STAINLESS  
STEEL

NSL threaded shafts form, together with NSF nuts, a structured system for converting rotation into linear motion.



## 9. Standard machine parts

### 9.8 Spur gears continues



#### **ZGD** Toothed joints *Technopolymer*



Aluminium boss.  
Male half-coupling, external teeth or female half-coupling, internal teeth.  
Toothed joints are used to couple rotating shafts.  
Diameters: 20 - 24 - 27 mm



#### **GN 3971** Bevel Gear Boxes *Housing Aluminum*



It can transmit high torques despite its extremely compact dimensions. It can be easily used for numerous applications, such as height adjustment or changing the direction of rotation of the shaft. The numerous fixing holes allow simple assembly in any orientation or position. The keys can assume any angular position. Dimensions: 18 - 20 - 24 - 26 - 30 - 32 - 35 mm

#### **GN 3975** Worm Gear Reducers *Housing Aluminum*



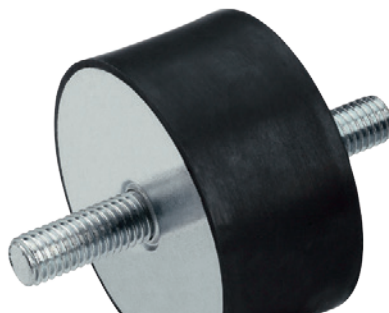
It can transmit high torques despite its extremely compact dimensions. It can be easily used for numerous applications, such as height adjustment or changing the direction of rotation of the shaft. The numerous fixing holes allow simple assembly in any orientation or position. The keys can assume any angular position. Dimension: 35 mm





# 10

## Vibration mounts



A wide range of natural rubber buffers with steel or AISI 304 stainless steel base plates to dampen inconvenient vibrations that can cause machine malfunctions, shocks or noise.

### 10.1 Rubber buffers



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#### Material

- Rubber - Steel (13)
- Rubber - Stainless steel (14)
- Steel (1)

#### DVA.1

##### Rubber buffers

Rubber and steel or stainless steel



Threaded studs and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 6 - 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 80 - 100 - 125 mm



#### DVA.2

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole, threaded stud and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 100 - 125 mm



#### DVA.3

##### Rubber buffers

Rubber and steel or stainless steel



Bosses with threaded blind holes and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 80 - 100 - 125 - 150 - 200 mm



#### DVA.4

##### Rubber buffers

Rubber and steel or stainless steel



Threaded stud and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 80 - 100 - 125 mm



#### DVA.5

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 8 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 70 - 75 - 100 - 125 - 150 - 200 mm



#### DVA.6

##### Rubber buffers

Rubber and steel or stainless steel



Threaded stud and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 10 - 20 - 25 - 30 - 35 - 50 - 70 - 75 - 95 - 115 mm



#### DVA.7

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 10 - 20 - 25 - 30 - 35 - 50 - 70 - 75 mm



#### DVB.6

##### Rubber buffers

Rubber and steel or stainless steel



Threaded stud and base plate in AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 20 - 25 - 30 - 40 - 45 - 50 - 60 mm



## 10. Vibration mounts

### 10.1 Rubber buffers

continues



#### DVB.7

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole and base plate in polished zinc-plated steel or AISI 304 stainless steel.

Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A.  
Diameters: 20 - 25 - 30 - 40 - 45 - 50 - 60 mm



#### DVF.6

##### Rubber buffers

Silicone rubber and stainless steel



Threaded stud and base plate in AISI 304 stainless steel. Vibration-damping body in MVQ silicone rubber, colour grey RAL 7040 or blue RAL 5002, hardness 55 $\pm$ 5 Shore A. FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Diameters: 20 - 25 - 30 - 40 - 45 - 50 - 60 mm



#### DVF.7

##### Rubber buffers

Silicone rubber and stainless steel



Boss with threaded blind hole and base plate in AISI 304 stainless steel.

Vibration-damping body in MVQ silicone rubber, colour grey RAL 7040 or blue RAL 5002, hardness 55 $\pm$ 5 Shore A.  
Diameters: 20 - 25 - 30 - 40 - 45 - 50 - 60 mm



#### DVC.1

##### Rubber buffers

Rubber and steel or stainless steel



Threaded studs and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A.  
Diameters: 10 - 15 - 20 - 25 - 30 - 35 - 40 - 50 - 60 - 70 - 75 - 95 mm



#### DVC.2

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole, threaded stud and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 10 - 15 - 20 - 25 - 30 - 35 - 40 - 50 - 60 - 70 - 75 - 95 mm



#### DVC.3

##### Rubber buffers

Rubber and steel or stainless steel



Boss with threaded blind hole, threaded stud and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A. Diameters: 10 - 15 - 20 - 25 - 30 - 35 - 40 - 50 - 60 - 70 - 75 - 95 mm



#### DVL.1

##### Rubber buffers

Rubber and steel or stainless steel



Smooth pass-through hole and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A.  
Diameters: 20 - 25 - 30 - 40 - 50 - 60 - 80 - 100 mm



#### DVL.2

##### Rubber buffers

Rubber and steel or stainless steel



Smooth pass-through hole and base plate in polished zinc-plated steel or AISI 304 stainless steel. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A.  
Diameters: 15 - 20 - 25 - 30 - 35 - 40 - 50 - 60 - 75 - 100 mm



#### DVL.3

##### Rubber buffers

Rubber



Plain pass-through hole. Vibration-damper body in natural rubber NR, hardness 40, 55, 70  $\pm$ 5 Shore A.  
Diameters: 15 - 20 - 25 - 30 - 40 - 50 - 60 - 80 - 100 mm



#### LS.VA

##### Vibration-damping levelling feet

Technopolymer base, steel stem, PUR damping element



Threaded stem with ball joint and adjusting hexagon in polished zinc-plated steel. Vibration-damping disk in polyurethane rubber, hardness 50 Shore A.  
Bases  $\varnothing$ : 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M14 - M16



## 10. Vibration mounts

### 10.1 Rubber buffers

continues

#### LS.VA-SST

##### Vibration-damping levelling feet

Technopolymer base,  
Stainless Steel AISI 304 stem,  
PUR damping element



Threaded stem with ball joint and adjusting hexagon in AISI 304 stainless steel.  
Vibration-damping disk in polyurethane rubber, hardness 50 Shore A.  
Bases Ø: 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M14 - M17

#### LS.VA-STP

##### Vibration-damping levelling feet

Technopolymer base,  
SUPER-technopolymer stem,  
PUR damping element



Threaded stem with ball joint and adjustment hexagon in SUPER-technopolymer.  
Vibration-damping disk in polyurethane rubber, hardness 50 Shore A.  
Bases Ø: 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12

#### BASE LS.VA

##### Bases for vibration-damping levelling feet

Technopolymer, PUR damping element



Vibration-damping disk in polyurethane rubber, hardness 50 Shore A.  
Diameters: 32 - 40 - 50 - 60 mm

#### LSQ.VA-SST

##### Vibration-damping levelling feet

Technopolymer base,  
Stainless Steel AISI 304 stem,  
PUR damping element



Threaded stem with ball joint and adjusting hexagon in AISI 304 stainless steel.  
Vibration-damping disk in polyurethane rubber, hardness 50 Shore A.  
Bases Ø: 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M14 - M18

#### LM.SV

##### Vibration-damping levelling feet

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

#### LW.A

##### Vibration-damping levelling feet

Steel base and stem



NR rubber damping element. They 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

#### AVR

##### Rubber buffers

Rubber and steel



Anthracite painted zinc-plated steel plates.  
Vibration-damping body in NBR rubber, hardness 30, 50, 55, 60 and 80 Shore A.  
Dimension: 200 mm

### 10.2 AV Mounts



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#### DVE

##### Flange mounts

Rubber and steel or stainless steel



Oval or square mounting flange.  
Boss with threaded blind hole.  
Vibration-damper body in natural rubber NR, hardness 40, 60 ±5 Shore A.  
Diameters: 18 - 33 - 45 - 53 - 58 mm

#### DVG

##### Flange mounts

for wall or ceiling mounting, rubber and steel



Mounting flange and steel boss with threaded hole.  
Vibration-damper body in natural rubber NR, hardness 40, 60 ±5 Shore A.  
Dimension: 75 mm



## 10. Vibration mounts

### 10.2 AV Mounts

*continues*



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#### Material

- Rubber - Steel (4)
- Rubber - Stainless steel (2)

#### DVI

##### Flange mounts

for wall mounting, rubber and steel



Mounting flange and steel boss with threaded hole.  
Vibration-damper body in natural rubber NR, hardness 40, 60  $\pm$ 5 Shore A.  
Dimension: 75 mm

#### AVG

##### Flange mounts

(double acting), rubber and steel



Aluminium flange, fixing boss in steel.  
Vibration-damper body in natural rubber NR, hardness 30, 50, 60  $\pm$ 5 Shore A.  
Dimension: 80 mm

#### AVF

##### Metal Cushions

Stainless steel



AISI 304 stainless steel mesh.  
Mounting via smooth pass-through hole or countersunk-head screws  
Diameters: 42 - 67 - 98 - 150 - 183 - 225 mm

#### AVC

##### Wire rope isolators

Stainless steel



Cable, bars, and screws in AISI 316 stainless steel.  
Mounting via threaded pass-through holes.  
Four-, six-, or eight-coil cable  
Dimensions: 53 - 61 - 80 - 90 - 100 - 110 - 120 - 135 mm

#### AVM

##### Spring mounts

Rubber and steel



Body and no-slip coating in NR natural rubber, hardness 60  $\pm$ 5 Shore A.  
Zinc-plated spring and plate.  
Dimension: 55 mm

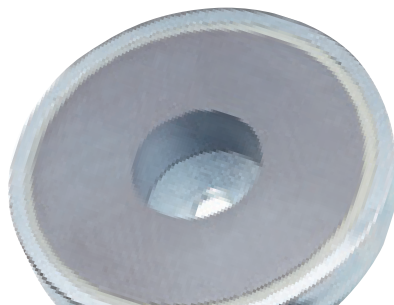
### 10.3 Spring mounts and wire rope isolators



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#### Material

- Rubber - Steel
- Rubber - Stainless steel



A wide range of industrial magnets for use in positioning and clamping applications.

### 11.1 Flat magnets



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#### Magnet materials

- HF - Hard ferrite (4)
- AN - Aluminium-nickel-cobalt (2)
- SC - Samarium cobalt (3)
- ND - Neodymium-iron-boron (12)

#### RMA Flat magnets



Zinc-plated steel housing. Fixed in place by means of glue or grub screws. Magnet in hard ferrite, (SmCo) samarium cobalt, (NdFeB) neodymium-iron-boron or (AlNiCo) aluminium-nickel-cobalt, shielded with high performances.  
 $\varnothing D = 6 \div 125 \text{ mm}$   $L = 4.5 \div 26 \text{ mm}$



#### RMB Flat magnets with threaded pin



Zinc-plated steel or AISI 316L stainless steel housing.  
 Magnet in ferrite, neodymium iron boron (NdFeB), or samarium cobalt (SmCo), shielded with high performance.  
 $\varnothing D = 10 \div 125 \text{ mm}$   $L = 4.5 \div 26$



#### RMG Flat magnets with threaded hole insert, hook-shaped or eyelet-shaped



Zinc-plated steel or stainless steel housing and threaded insert, hook-shaped or eyelet-shaped. Magnet in ferrite, samarium cobalt (SmCo), or neodymium iron boron (NdFeB), shielded with high performance.  
 $\varnothing D = 10 \div 125 \text{ mm}$   $L = 4.5 \div 26 \text{ mm}$



#### RMD Flat magnets with pass-through hole



Zinc-plated steel or stainless steel housing. Magnet in ferrite, samarium cobalt (SmCo), or neodymium iron boron (NdFeB), shielded with high performance. Execution with pass-through hole, seat for countersunk screw or threaded hole.  $\varnothing D = 10 \div 100 \text{ mm}$   $L = 4.5 \div 18 \text{ mm}$



#### RME Flat magnets pass-through hole



Zinc-plated or lacquered steel housing. Magnet in aluminium, nickel, cobalt (AlNiCo), shielded with high performance.  
 $\varnothing D = 19 \div 38 \text{ mm}$   $L = 7.5 \div 10.5 \text{ mm}$



#### RMH Flat magnets with threaded pin



Zinc-plated steel insert with threaded pin. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A.  
 Magnet in neodymium iron boron (NdFeB)  
 $\varnothing D = 12 \div 88 \text{ mm}$   $L = 6 \div 8.5 \text{ mm}$



#### RMF Flat magnets with threaded hole



Zinc-plated steel insert with threaded blind hole. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A.  
 Magnet in neodymium iron boron (NdFeB)  
 $\varnothing D = 12 \div 88 \text{ mm}$   $L = 6 \div 8.5 \text{ mm}$



#### RMG Flat magnets threaded pass-through hole

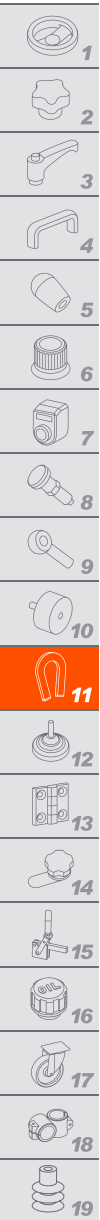


Zinc-plated steel insert with threaded hole. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A.  
 Magnet in neodymium iron boron (NdFeB)  
 $\varnothing D = 12 \div 88 \text{ mm}$   $L = 6 \div 8.5 \text{ mm}$



## 11. Industrial magnets

### 11.1 Flat magnets continues



#### **RMI** Flat magnets threaded or plain pass-through hole

ND

Zinc-plated steel insert with smooth hole. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A. Magnet in neodymium iron boron (NdFeB)  $\varnothing D = 18 \div 66$  mm  $L = 6 \div 8,5$  mm



#### **RMJ** Flat magnets Smooth pass-through hole for countersunk-head screws

ND

Zinc-plated threaded insert with smooth pass-through hole for countersunk-head screws. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A. (NdFeB) Neodymium-iron-boron retaining magnet.  $\varnothing D = 12 - 43 - 88$  mm  $L = 6 \div 8,5$  mm



#### **RMH-P** Flat magnets knob or ring

ND

Insert with pin for connecting the knob or ring: nickel-plated steel. No-slip coating in thermoplastic elastomer (TPE), black colour, hardness 80 shore A. Magnet in neodymium iron boron (NdFeB)  $\varnothing D = 22 \div 43$  mm  $L = 5,5 \div 6$  mm



#### **RMW** Retaining magnets for cables

ND

Black glass-fibre reinforced polyamide based (PA) technopolymer retaining bracket, screw and insert in zinc-plated steel. No-slip coating in thermoplastic elastomer (TPE), black colour, hardness 80 shore A. Magnet in neodymium iron boron (NdFeB).  $\varnothing D = 22 \div 43$



#### **RMS** Flat rectangular retaining magnets with threaded holes

ND

Zinc-plated threaded insert with one or two threaded holes. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A. (NdFeB) Neodymium-iron-boron retaining magnet.  $L = 35 \div 110$  mm



#### **RMS-P** Flat rectangular retaining magnets with threaded pin

ND

Zinc-plated insert with one or two threaded pins. No-slip coating in thermoplastic elastomer (TPE), black or white colour, hardness 80 shore A. (NdFeB) Neodymium-iron-boron retaining magnet.  $L = 35 \div 110$  mm



#### **RMS-D** Flat rectangular retaining magnets with raised support base

ND

Zinc-plated threaded insert with one or two smooth or threaded holes. No-slip coating in thermoplastic elastomer (TPE), black colour. Magnet in ferrite or neodymium iron boron (NdFeB).  $L = 50$  mm



#### **RMT** Flat magnets

ND

Glass-fibre reinforced polyamide based (PA) technopolymer housing. Magnet in neodymium iron boron (NdFeB)  $\varnothing D = 18 \div 40$  mm  $L = 8 \div 8,5$  mm



#### **RMT-DP** Flat magnets with housing made out of coloured translucent technopolymer

ND

ABS based technopolymer housing, translucent, matte finish. Magnet in neodymium iron boron (NdFeB)  $\varnothing D = 25$  mm  $L = 6$  mm



#### **RMT-NK** Flat magnets With handle, nickel-plated steel housing

ND

Nickel-plated steel housing. No-slip coating in thermoplastic elastomer (TPE), hardness 80 shore A. Execution with or without no-slip coating. Magnet in neodymium iron boron (NdFeB)  $\varnothing D = 12$  mm





## 11. Industrial magnets

### 11.1 Flat magnets

*continues*

#### RMT-R Flat rectangular retaining magnets

ND

Glass-fibre reinforced polyamide based (PA) technopolymer housing.  
Magnet in neodymium iron boron (NdFeB)  
Mainly used for holding drawings, documents, and similar on a metal surface.  
L = 55 mm



#### RMT-T Flat magnets With handle, technopolymer

ND

Glass-fibre reinforced polyamide based (PA) technopolymer housing.  
Execution with full handle or with eyelet.  
Magnet in neodymium iron boron (NdFeB)  
Ø D = 12 mm



### 11.2 Cylindric magnets



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#### Magnet materials

- AN - Aluminium-nickel-cobalt (5)
- SC - Samarium cobalt (1)
- ND - Neodymium-iron-boron (5)

#### RML Cylindric magnets

AN ND

Zinc-plated steel or natural steel housing.  
Magnet in aluminium, nickel, cobalt (AlNiCo) or neodymium iron boron (NdFeB), shielded with high performance.  
Ø D = 4 ÷ 63 mm L = 20 ÷ 60 mm



#### RMM Cylindric magnets

ND SC

Brass housing.  
Fixing in position with glue or via threaded blind hole. Magnet in samarium cobalt (SmCo), or neodymium iron boron (NdFeB), shielded with high performance.  
Ø D = 6 ÷ 32 mm L = 20 ÷ 40mm



#### RMN Cylindric magnets threaded hole

AN ND

Zinc-plated steel housing.  
Fixing in position via threaded blind hole.  
Magnet in aluminium, nickel, cobalt (AlNiCo) or neodymium iron boron (NdFeB), shielded with high performance.  
Ø D = 6 ÷ 63 mm L = 20 ÷ 65 mm



#### RMO Cylindric magnets smooth or threaded pin

AN ND

Zinc-plated steel housing with smooth or threaded pin.  
Magnet in aluminium, nickel, cobalt (AlNiCo) or neodymium iron boron (NdFeB), shielded with high performance.  
Ø D = 6 ÷ 63 mm L = 20 ÷ 65 mm



#### RMP Cylindric magnets threaded hole

AN

Zinc-plated or lacquered steel housing.  
Fixing in position via threaded blind hole.  
Magnet in aluminium, nickel, cobalt (AlNiCo), shielded with high performance.  
Ø D = 12,5 ÷ 35 mm L = 16 ÷ 30 mm



#### RMQ Cylindric magnets pass-through hole

AN

Lacquered steel housing.  
Fixing in position via smooth pass-through hole.  
Magnet in aluminium, nickel, cobalt (AlNiCo), shielded with high performance.  
Ø D = 13 ÷ 31,8 mm L = 10 ÷ 25,4 mm



#### RMU Cylindric magnets no-slip coating

INOX ND

Stainless steel housing.  
Execution with threaded pin or hole.  
No-slip coating in thermoplastic elastomer (TPE), black colour, hardness 80 shore A. Magnet in neodymium iron boron (NdFeB). Ø D = 10 ÷ 25 mm L = 14 ÷ 22 mm



## 11.3 Unshielded magnets



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### Magnet materials

- AN - Aluminium-nickel-cobalt (1)
- SC - Samarium cobalt (3)
- ND - Neodymium-iron-boron (3)

### RMA-US Unshielded flat retaining magnets



Magnet in ferrite, samarium cobalt (SmCo), or neodymium iron boron (NdFeB).  
Ø D = 4 ÷ 108 mm L = 3 ÷ 21 mm



### RMD-US Unshielded flat retaining magnets pass-through hole



Unshielded flat retaining magnets with pass-through hole  
Ø D = 12 ÷ 102 mm L = 3 ÷ 20 mm



### RML-US Unshielded cylindric retaining magnets



Magnet in aluminium, nickel, cobalt (AlNiCo) or neodymium iron boron (NdFeB).  
Ø D = 3 ÷ 34 mm L = 10 ÷ 80 mm



### RMX-US Unshielded flat retaining magnets



Magnet in ferrite, neodymium iron boron (NdFeB), or samarium cobalt (SmCo), unshielded.  
They are mostly attached by gluing.



## 11.4 Horseshoe magnets and profile magnets



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### RMR Horseshoe Magnets pass-through hole



Lacquered steel housing.  
Magnet in aluminium, nickel, cobalt (AlNiCo)  
Fixing in position via smooth pass-through hole.



### RMPP Magnets for profile systems Neodymium



Polyamide based (PA) technopolymer housing, black colour, matte finish.  
Zinc-plated grub screws and plate.  
Magnet in neodymium iron boron (NdFeB)



## 11.5 Grub screws with magnet



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### GN 251.6 Magnetic setting bolts Steel



Zinc-plated steel screw, class 5.8.  
Zinc-plated steel locking nut, class 04.  
(NdFeB) Neodymium-iron-boron retaining magnet  
Threadings: M6 - M8 - M10 - M12 - M16



### GN 913.6 Magnetic grub screw Steel



Zinc-plated screw, class 5.8., head with hexagonal socket.  
Magnet in neodymium iron boron (NdFeB)  
Threadings: M6 - M8 - M10 - M12 - M16



## 11.6 Magnet accessories



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### RMV Disks for magnets Steel or stainless steel

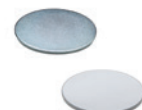


Disk with countersunk pass-through hole in magnetic stainless steel or zinc-plated steel.  
The disks are used for coupling to different types of magnets when the attraction must occur between the retaining magnet and the surfaces of non-magnetic material. Ø D = 12 ÷ 64 mm



### RMY Disks for magnets adhesive tape

Disk with adhesive tape in zinc-plated steel or lacquered steel, white colour RAL 9003.  
Ø D = 20 - 30 - 40 - 60 mm



# 12

## Levelling feet 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.

### 12.1 Adjustable feet



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#### Material

- Technopolymer (3)
- Technopolymer - Steel (13)
- Technopolymer - Stainless steel (12)
- Steel (11)
- Stainless steel (21)
- Die-cast zinc alloy (1)

#### LX

##### Levelling feet

Technopolymer base,  
steel stem



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



#### LX-SST

##### Levelling feet

Technopolymer base,  
stainless steel stem



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



#### LX-HS

##### Levelling feet

Technopolymer base,  
steel stem with hexagon  
socket at the upper end



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



#### LSX.A

##### Levelling feet

Technopolymer base,  
steel stem



Base with or without no-slip SBR rubber disk.  
Bases Ø: 26 - 30 - 40 mm  
Threadings: M8 - M10



#### LS.A

##### Levelling feet

Technopolymer base,  
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



#### LS.A-SST

##### Levelling feet

Technopolymer base,  
stainless steel stem



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



#### LS.A-SST-VD

##### Levelling feet

Visually Detectable  
technopolymer base,  
stainless steel stem



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Base with or without no-slip NBR rubber disk. AISI 304 stainless steel nut on request. Bases Ø: 25 - 32 - 40 - 50 - 60 mm Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24



#### LS.A-PP-SST

##### Levelling feet

Technopolymer base  
(polypropylene),  
stainless steel stem



Base with or without no-slip EPDM rubber disk.  
AISI 304 stainless steel nut on request.  
Bases Ø: 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M14 - M16



## 12. Levelling feet and supports

### 12.1 Adjustable feet continues



#### LS.A+SJF

##### Levelling feet

technopolymer base,  
SUPER-technopolymer  
joint



Base with or without no-slip NBR rubber disk.  
Used for direct fixing using standard screws,  
without the need for a threaded stem.  
Threadings: M6 - M8 - M10 - M12  
Diameters: 25 - 32 - 40 - 50 - 60 mm



#### LS.A-STP

##### Levelling feet

Technopolymer base,  
SUPER-technopolymer  
stem



Base with or without no-slip NBR rubber disk.  
AISI 304 stainless steel or zinc-plated steel nut  
on request. SUPER-technopolymer stem that  
permits high rigidity and mechanical resistance in  
addition to natural anti-rust properties.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12



#### LSQ.A-SST

##### Levelling feet

Technopolymer base,  
stainless steel stem



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



#### LSQ.A-SST-VD

##### Levelling feet

Visually Detectable  
technopolymer base,  
stainless steel stem



Produced from FDA compliant raw material  
(FDA CFR.21 and EU 10/2011).  
Base with or without no-slip NBR rubber disk.  
AISI 304 stainless steel nut on request.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20



#### LV.A

##### Levelling feet

Technopolymer base,  
steel stem



Base with or without no-slip NBR synthetic  
rubber disk. Zinc-plated steel nut on request.  
Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24



#### LV.A-SST

##### Levelling feet

Technopolymer base,  
stainless steel stem



Base with or without no-slip NBR synthetic  
rubber disk. AISI 304 stainless steel nut on  
request.  
Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24



#### LV.A-SST-VD

##### Levelling feet

Visually Detectable  
technopolymer base,  
stainless steel stem



Produced from FDA compliant raw material  
(FDA CFR.21 and EU 10/2011).  
Base with or without no-slip NBR rubber disk.  
AISI 304 stainless steel nut on request.  
Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M24



#### LV.A-ESD-C

##### Levelling feet

ESD conductive  
technopolymer base,  
steel stem



Base with or without no-slip NBR synthetic  
rubber disk. Zinc-plated steel nut on request.  
Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24



#### LV.A-SST-ESD-C

##### Levelling feet

ESD conductive  
technopolymer base,  
stainless steel stem



Base with or without no-slip NBR synthetic  
rubber disk. AISI 304 stainless steel nut on  
request.  
Bases Ø: 60 - 70 - 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24



#### LV.A+SJF

##### Levelling feet

technopolymer base,  
SUPER-technopolymer  
joint



Base with or without no-slip NBR rubber disk.  
Used for direct fixing using standard screws,  
without the need for a threaded stem.  
Threadings: M6 - M8 - M10 - M12  
Diameters: 60 - 70 - 80 - 100 - 125 mm



## 12. Levelling feet and supports

### 12.1 Adjustable feet continues

#### LV.A-STP

##### Levelling feet

Technopolymer base,  
SUPER-technopolymer  
stem



Base with or without no-slip NBR rubber disk.  
Zinc-plated or AISI 304 stainless steel nut  
on request. SUPER-technopolymer stem that  
provides high rigidity and mechanical resistance  
in addition to natural anti-rust properties.  
Bases Ø: 80 - 100 mm  
Threadings: M8 - M10 - M12

#### LVQ.A-SST

##### Levelling feet

Technopolymer base,  
stainless steel stem



Base with or without no-slip NBR synthetic  
rubber disk. AISI 304 stainless steel nut on  
request.  
Bases Ø: 60 - 70 - 80 - 100 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20

#### LVQ.A-SST-VD

##### Levelling feet

Visually Detectable  
technopolymer base,  
stainless steel stem



Produced from FDA compliant raw material  
(FDA CFR.21 and EU 10/2011).  
Base with or without no-slip NBR rubber disk.  
AISI 304 stainless steel nut on request.  
Bases Ø: 60 - 70 - 80 - 100 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M20

#### LV.F

##### Levelling feet for ground mounting

Technopolymer base,  
steel stem



Base with or without NBR rubber no-slip disk.  
Zinc-plated steel nut on request. Fixing to the  
ground by means of 2 supplied 180° holes  
closed by a diaphragm. Bases Ø: 80 - 100 -  
125 mm Threadings: M8 - M10 - M12 - M14  
- M16 - M20 - M24

#### LV.F-SST

##### Levelling feet for ground mounting

Technopolymer base,  
stainless steel stem



Base with or without NBR rubber no-slip disk.  
AISI 304 stainless steel nut on request. Fixing  
to the ground by means of 2 supplied 180°  
holes closed by a diaphragm. Bases Ø: 80  
- 100 - 125 mm Threadings: M8 - M10 - M12 -  
M14 - M16 - M20 - M24

#### LV.F-SST-VD

##### Levelling feet for ground mounting

Visually Detectable  
technopolymer base,  
stainless steel stem



Produced from FDA compliant raw material (FDA  
CFR.21 and EU 10/2011). Base with or without  
no-slip NBR rubber disk. Fixing to the ground  
by means of 2 supplied 180° holes closed by  
a diaphragm. AISI 304 stainless steel nut on  
request. Bases Ø: 80 - 100 - 125 mm  
Threadings: M8 - M10 - M12 - M14 - M16 - M24

#### LV.F-ESD-C

##### Levelling feet for ground mounting

ESD conductive  
technopolymer base,  
steel stem



Base with or without no-slip NBR rubber disk.  
Fixing to the ground by means of 2 supplied  
180° holes closed by a diaphragm.  
Zinc-plated steel nut on request.  
Bases Ø: 100 mm  
Threadings: M8 - M10 - M12 - M16

#### LV.F-SST-ESD-C

##### Levelling feet for ground mounting

ESD conductive  
technopolymer base,  
stainless steel stem



Base with or without no-slip NBR rubber disk.  
Fixing to the ground by means of 2 supplied  
180° holes closed by a diaphragm.  
AISI 304 stainless steel nut on request.  
Bases Ø: 100 mm  
Threadings: M8 - M10 - M12 - M16

#### LV.F-PP-SST

##### Levelling feet for ground mounting

Technopolymer base  
(polypropylene),  
stainless steel stem



Base with or without no-slip EPDM rubber disk.  
AISI 304 stainless steel nut on request. Fixing  
to the ground by means of 2 supplied 180°  
holes closed by a diaphragm.  
Bases Ø: 80 - 100 mm  
Threadings: M16 - M20 - M24

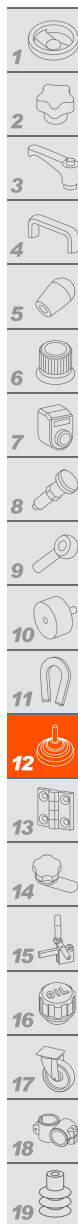
#### LV.F+SJF

##### Levelling feet for ground mounting

technopolymer base,  
SUPER-technopolymer  
joint



Base with or without no-slip NBR rubber disk.  
Fixing to the ground by means of 2 supplied 180°  
holes closed by a diaphragm. Used for direct  
fixing using standard screws, without the need  
for a threaded stem. Threadings: M6 - M8 - M10 -  
M12 Diameters: 60 - 70 - 80 - 100 - 125 mm



## 12. Levelling feet and supports

### 12.1 Adjustable feet

continues



#### LV.F-STP

##### Levelling feet for ground mounting

Technopolymer base, SUPER-technopolymer stem



Base with or without no-slip NBR rubber disk. Fixing to the ground by means of 2 supplied 180° holes closed by a diaphragm. AISI 304 stainless steel or zinc-plated steel nut on request. SUPER-technopolymer stem for high rigidity, mechanical resistance, and anti-rust properties. Bases Ø: 60 - 70 - 80 - 100 mm Threadings: M8 - M10 - M12

#### LVQ.F-SST

##### Levelling feet for ground mounting

Technopolymer base, stainless steel stem



Base with or without NBR rubber no-slip disk. AISI 304 stainless steel nut on request. Fixing to the ground by means of 2 supplied holes closed by a diaphragm. Bases Ø: 60 - 80 mm Threadings: M16 - M20 - M24

#### LVQ.F-SST-VD

##### Levelling feet for ground mounting

Visually Detectable technopolymer base, stainless steel stem



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Base with or without no-slip NBR rubber disk. Fixing to the ground by means of 2 supplied 180° holes closed by a diaphragm. AISI 304 stainless steel nut on request. Bases Ø: 80 - 100 mm Threadings: M16 - M20 - M24

#### LV.FO

##### Levelling feet for ground mounting

Technopolymer base, steel stem



Base with or without NBR rubber no-slip disk. AISI 304 stainless steel nut on request. Fixing to the ground by means of 2 supplied holes closed by a diaphragm. Bases Ø: 60 - 80 mm Threadings: M8 - M10 - M12 - M16

#### LV.FO-SST

##### Levelling feet for ground mounting

Technopolymer base, stainless steel stem



Base with or without NBR rubber no-slip disk. AISI 304 stainless steel nut on request. Fixing to the ground by means of 2 supplied holes closed by a diaphragm. Bases Ø: 60 - 80 mm Threadings: M8 - M10 - M12 - M16

#### LV.FO-SJF

##### Levelling feet for ground mounting

technopolymer base, SUPER-technopolymer joint



Base with or without no-slip NBR rubber disk. Fixing to the ground by means of 2 supplied 180° holes closed by a diaphragm. Used for direct fixing using standard screws, without the need for a threaded stem. Threadings: M6 - M8 Diameters: 60 - 80 mm

#### LV.FO-STP

##### Levelling feet for ground mounting

Technopolymer base, SUPER-technopolymer stem



Base with or without no-slip NBR rubber disk. Fixing to the ground by means of 2 supplied 180° holes closed by a diaphragm. AISI 304 stainless steel or zinc-plated steel nut on request. SUPER-technopolymer stem for high rigidity, mechanical resistance, and anti-rust properties. Bases Ø: 60 - 80 mm Threadings: M8 - M10 - M12

#### LVQ.FO-SST

##### Levelling feet for ground mounting

Technopolymer base, stainless steel stem



Base with or without NBR rubber no-slip disk. AISI 304 stainless steel nut on request. Fixing to the ground by means of 2 supplied holes closed by a diaphragm. Bases Ø: 60 - 80 mm Threadings: M8 - M10 - M12 - M16

#### LV.A-125-ACV

##### Levelling feet

Technopolymer base, steel stem



Base with or without NBR rubber no-slip disk. Articulated threaded stem in polished zinc-plated steel with adjusting hexagon. Stem/base fixing with zinc-plated steel screw and washer. Zinc-plated steel nut on request. Bases Ø: 125 mm. Threaded stem: M20 - M24 - M30

#### LV.F-125-ACV

##### Levelling feet for ground mounting

Technopolymer base, steel stem



Base with or without NBR rubber no-slip disk. Articulated threaded stem in polished zinc-plated steel with adjusting hexagon. Zinc-plated steel nut on request. Fixing to the ground by means of 2 180° holes. Bases Ø: 125 mm. Threaded stem: M20 - M24 - M30



## 12. Levelling feet and supports

### 12.1 Adjustable feet continues

#### LV.A-125-APS Levelling feet

Technopolymer base,  
steel stem



Base with or without NBR rubber no-slip disk.  
Pass-through threaded stem in zinc-plated  
steel with adjusting hexagon, black-oxide steel  
retaining ring and zinc-plated steel flat washer.  
Polished zinc-plated steel nut on request.  
Bases Ø: 125 mm  
Threaded stem: M20 - M24 - M30



#### LV.F-125-APS Levelling feet for ground mounting

Technopolymer base,  
steel stem



Base with or without NBR rubber no-slip disk.  
Pass-through threaded stem in zinc-plated steel  
with adjusting hexagon. Fixing to the ground by  
means of 2 180° holes.  
Polished zinc-plated steel nut on request.  
Bases Ø: 125 mm  
Threaded stem: M20 - M24 - M30



#### LV.A-ELK Levelling feet

Technopolymer base  
and knob, steel stem



Base with or without NBR rubber no-slip disk.  
Zinc-plated steel articulated threaded stem with  
integrated technopolymer adjustment knob (ELK),  
washer and retaining screw in black-oxide steel.  
Polished zinc-plated steel nut on request.  
Bases Ø: 70 - 80 mm Stem threading: M16



#### NT. Nuts for levelling feet

Steel or stainless steel



Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24 - M30



#### SM. Stems for levelling feet

Steel or stainless steel



Threaded stem with ball joint and adjusting  
hexagon in polished zinc-plated steel or AISI  
304 stainless steel.  
Threadings: M8 - M10 - M12 - M14 - M16 - M20  
- M24



#### SMQ-SST Stems for levelling feet

Stainless steel



Threaded stem with ball joint with adjusting  
square.  
Threadings: M8 - M10 - M12 - M16 - M20 -  
M24



#### STP Stems for levelling feet

SUPER-technopolymer



Threaded stem with ball joint and adjustment  
hexagon in SUPER-technopolymer.  
Threadings: M8 - M10 - M12



#### SJF Ball joint

for levelling feet,  
SUPER-Technopolymer



Used for direct fixing of levelling feet, using  
standard screws, without the need for a  
threaded stem.  
Threadings: M6 - M8 - M10 - M12



#### BASE LS.A - LV.A - LV.F - LV.FO Bases for levelling feet

Technopolymer



Base with or without no-slip disk.  
Without ground fixing or with two holes or at  
180° for ground fixing, supplied closed with a  
diaphragm.  
Diameters: 25 - 32 - 40 - 50 mm



#### BASE LV.A-ESD-C - LV.F-ESD-C Levelling element bases

ESD conductive  
technopolymer



Base with or without no-slip disk.  
Without ground fixing or with two holes at  
180° for ground fixing, supplied closed with a  
diaphragm.  
Diameters: 60 - 70 - 80 - 100 - 125 mm



## 12. Levelling feet and supports

### 12.1 Adjustable feet

continues



#### BASE LS.A-PP - LV.F-PP

##### Bases for levelling feet

Technopolymer  
(polypropylene)



Base with or without no-slip disk.  
Without ground fixing or with two holes at 180° for ground fixing, supplied closed with a diaphragm.  
Diameters: 40 - 50 - 60 - 80 - 100 mm

#### BASE LS.A-VD - LV.A-VD - LV.F-VD

##### Bases for levelling feet

Visually Detectable  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Base with or without no-slip NBR rubber disk. Without ground fixing or with two holes or at 180° for ground fixing, supplied closed with a diaphragm. Dimensions: 25 - 32 - 40 - 50 - 60 - 70 - 80 - 100 - 125 mm

#### GN 6311.4

##### Levelling feet

Steel base and stem



Zinc-plated steel stem, hexagon socket head and hardened rounded end.  
With base without any non-slip treatment, with elastomer no-slip or technopolymer no-slip.  
Bases Ø: 50 - 60 mm  
Threadings: M10 - M12 - M16 - M20

#### GN 6311.6

##### Levelling feet

Stainless steel base and stem



AISI 304 stainless steel base and stem.  
With base without no-slip; with no-slip coating, with elastomer no-slip or with technopolymer bearing protection.  
Bases Ø: 50 - 60 mm  
Threadings: M10 - M12 - M16 - M20

#### LM

##### Levelling feet

Zinc-plated steel



Zinc-plated steel joint with hole or threaded stem.  
Nut in zinc-plated steel.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LM-SST

##### Levelling feet

Stainless steel



AISI 303 stainless steel joint with hole or threaded stem.  
AISI 304 stainless steel nut.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LM-AC

##### Levelling feet

With bearing protection,  
steel



Zinc-plated steel joint with hole or threaded stem.  
Nut in zinc-plated steel.  
Technopolymer bearing protection.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LM-SST-AC

##### Levelling feet

With bearing protection,  
stainless steel



AISI 303 stainless steel joint with hole or threaded stem.  
AISI 304 stainless steel nut.  
Technopolymer bearing protection.  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LM-TR

##### Levelling feet

With non-slip disk, steel



Zinc-plated steel joint with hole or threaded stem. Nut in zinc-plated steel.  
No-slip coating in thermoplastic elastomer (TPE).  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LM-SST-TR

##### Levelling feet

With non-slip disk,  
stainless Steel



AISI 303 stainless steel joint with hole or threaded stem. AISI 304 stainless steel nut.  
No-slip coating in thermoplastic elastomer (TPE).  
Bases Ø: 25 - 32 - 40 - 50 - 60 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

## 12. Levelling feet and supports

### 12.1 Adjustable feet continues

#### GN 36

**Levelling feet**  
without central fastening  
hole, steel



Steel base, with or without no-slip disk and O-ring. Vibration-damping NBR rubber disk, NBR rubber O-ring.  
Zinc-plated steel threaded stem.  
Bases Ø: 80 - 100 - 125 - 160 - 200 mm  
Threadings: M20 - M24 - M30 - M36 - M42

#### GN 36.1

**Base**  
without central fastening  
hole, adjustable feet  
GN 36, steel



Steel base, with or without no-slip disk and O-ring.  
Vibration-damping NBR rubber disk, NBR rubber O-ring.  
Bases Ø: 80 - 100 - 125 - 160 - 200 mm

#### GN 37

**Levelling feet**  
with central fastening  
hole, steel



Steel base, with or without no-slip disk and O-ring. Vibration-damping NBR rubber disk, NBR rubber O-ring.  
Zinc-plated steel threaded stem.  
Bases Ø: 80 - 100 - 125 - 160 - 200 mm  
Threadings: M20 - M24 - M30 - M36 - M42

#### GN 37.1

**Base**  
with central fastening  
hole, adjustable feet  
GN 37, steel



Steel base, with or without no-slip disk and O-ring.  
Vibration-damping NBR rubber disk, NBR rubber O-ring.  
Bases Ø: 80 - 100 - 125 - 160 - 200 mm

#### LMP.

**Levelling feet**  
Steel base and stem



Base with joint with hole or threaded 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

#### LMP-SST - LMP-A4

**Levelling feet**  
Stainless steel base and stem



Base with threaded blind joint in AISI 304 stainless steel or base and nut in AISI 304 stainless steel, threaded stem in AISI 303 stainless steel. LMP-SST-TR with elastomer no-slip coating. LMP-SSST-TV with rubber no-slip coating (NBR). Bases Ø: 40 - 50 - 60 - 80 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMP.F

**Levelling feet for ground mounting**  
Steel base and stem



Base with or without NBR rubber no-slip disk. AISI 304 stainless steel nut on request. Fixing to the ground by means of 2 supplied holes closed by a diaphragm.  
Bases Ø: 60 - 80 mm  
Threadings: M16 - M20 - M24

#### LMP.F-SST - LMP.F-A4

**Levelling feet for ground mounting**  
Stainless steel base and stem



Base with threaded blind joint in AISI 304 stainless steel or base and nut in AISI 304 stainless steel with threaded stem and nut in AISI 303 stainless steel. LMPF-SST-TR with elastomer no-slip coating. LMPF-SSST-TV with rubber no-slip coating. Bases Ø: 50 - 60 - 80 mm  
Threadings: M8 - M10 - M12 - M16 - M20

#### LMP.FF

**Levelling feet for ground mounting**  
Steel base and stem



Base with 2 holes for ground mounting, articulation or threaded stem with Zinc-plated steel nut.  
AISI 304 stainless steel assembly screws.  
Bases Ø: 40 - 50 - 60 - 80 mm  
Threadings: M8 - M10 - M12 - M16

#### LMP.FF-SST - LMP.FF-A4

**Levelling feet for ground mounting**  
Stainless steel base and stem



Base with 2 holes for ground fixing, joint or threaded stem with nut in AISI 304 stainless steel.  
AISI 304 stainless steel assembly screws.  
Bases Ø: 40 - 50 - 60 - 80 mm  
Threadings: M8 - M10 - M12 - M16



## 12. Levelling feet and supports

### 12.1 Adjustable feet

continues



#### LMD.F

##### Levelling feet for ground mounting

Base with slotted holes, steel joint or stem



Base with one or two slotted pass-through holes, threaded joint or stem in zinc-plated steel. Threaded blind joint, with or without no-slip. LMD.F-SL-TV with no-slip in vulcanised rubber (NBR). Bases Ø: 80 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMD.F-SST

##### Levelling feet for ground mounting

Base with slotted holes, stainless steel joint or stem



Base with one or two slotted pass-through holes and AISI 304 stainless steel threaded blind joint or AISI 303 stainless steel threaded stem with AISI 304 stainless steel nut. Threaded blind joint, with or without no-slip. Bases Ø: 80 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMR.

##### Levelling feet

Steel or stainless steel base and stem



Ball joint with threaded hole or stem. NBR rubber no-slip disk. Hexagonal socket on the upper end of the stem and milled flat faces on the underside. AISI 304 stainless steel nut. Bases Ø: 50 - 60 - 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMR.F

##### Levelling feet for ground mounting

Steel or stainless steel base and stem



Base with threaded blind joint or threaded stem with hexagonal socket and milled flat faces at the base. Zinc-plated steel or AISI 304 stainless steel anchoring bracket. NBR rubber no-slip disk. Bases Ø: 50 - 60 - 80 - 100 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMY.

##### Levelling feet

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, hexagonal socket and flat faces. Bases Ø: 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMY.F

##### Levelling feet for ground mounting

Stainless steel base and stem



Ball joint with threaded hole or stem. AISI 304 stainless steel base with holes for ground mounting, AISI 303 stainless steel threaded blind stem or ball joint. Screw with adjusting hexagon, hexagonal socket and flat faces. Base with or without no-slip disk. Bases Ø: 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### LMRS.

##### Levelling feet

Stainless steel base and stem



NBR rubber no-slip disk, vulcanised to the base. AISI 303 stainless steel adjustable boss and stem. Stainless steel grub screw glued to stem/base. Bases Ø: 60 - 80 - 100 mm  
Threadings: M16 - M20 - M24

#### GN 17

##### Levelling feet

Stainless Steel, FDA compliant



AISI 304 stainless steel base. Stem with external hexagon, with keyway, or with adjustable thread cover boss. NBR rubber gasket, FDA compliant. Suitable for use in aggressive environments. Bases Ø: 60 - 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24 - M30

#### GN 18

##### Levelling feet

AISI 316L stainless steel, FDA compliant



Base in AISI 316L stainless steel. Stem with external hexagon or with keyway. NBR rubber gasket, FDA compliant. Suitable for use in aggressive environments. Bases Ø: 60 - 80 - 100 - 120 mm  
Threadings: M8 - M10 - M12 - M16 - M20 - M24

#### GN 19

##### Levelling feet

AISI 316L stainless steel, Hygienic Design



Base in AISI 316L stainless steel. Stem with adjustable boss. Upper gasket in NBR synthetic rubber. Lower gasket in polyurethane elastomer, FDA compliant. Silicone base gasket, FDA compliant. Suitable for use in aggressive environments. Bases Ø: 80 - 100 - 120 mm  
Threadings: M12 - M16 - M20 - M24

## 12. Levelling feet and supports

### 12.1 Adjustable feet continues

**LM-HD-SST**  
**Levelling feet**  
**Hygienic Design**  
Stainless Steel,  
Hygienic Design



Edit sentence as below:  
Bases Ø: 60 - 80 - 100 - 120 mm  
Threadings: M12 - M16 - M20 - M24

**LM.F-HD-SST**  
**Levelling feet**  
**Hygienic Design**  
Stainless Steel,  
Hygienic Design



Edit sentence as below:  
For use in environments that require high levels of hygiene.  
Bases Ø: 80 - 100 - 120 mm  
Threadings: M12 - M16 - M20 - M24

**GN 20.1**  
**Stainless Steel-Cover sleeves**  
Stainless steel



Blue H-NBR or EPDM synthetic rubber packing ring, FDA-compliant.  
Stainless Steel-Cover sleeves GN 20.1 are intended for use in hygienic areas.  
Threadings: M12 - M16 - M20 - M24

**NT-HD-SST**  
**Screws and nuts**  
**Hygienic Design**  
AISI 316L stainless steel



Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20

**NTR-HD-SST**  
**Hygienic Design**  
**Screws**  
with low profile head,  
AISI 316L stainless steel



Threadings: M4 - M5 - M6 - M8 - M10 - M12 - M16 - M20

**GN 1582**  
**Hygienic Design**  
**retained screws**  
with low profile head,  
AISI 316L stainless steel



H-NBR or EPDM synthetic rubber packing ring, FDA-compliant.  
They are accessories for securing the levelling feet that are designed for use in environments where a high level of hygiene is required.  
Threadings: M5 - M6 - M8 - M10

### 12.2 Tube-end caps and connectors



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#### Material

- Technopolymer (16)
- Steel (1)
- Stainless steel (1)

**NDX.Q**  
**Square end-caps for tubes**  
Technopolymer



Brass boss, threaded pass-through hole.  
Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24

**NDX.T**  
**Round end-caps for tubes**  
Technopolymer



Brass boss, threaded pass-through hole.  
Threadings: M8 - M10 - M12 - M14 - M16 - M20 - M24

**ND.Q**  
**Square end-caps for tubes**  
heavy loads,  
technopolymer



Nickel-plated brass boss, threaded pass-through hole.  
Threadings: M8 - M10 - M12 - M16 - M20

**NDL.Q**  
**End-caps for square tubes**  
Technopolymer



DIN 934 zinc-plated steel nut. The two end-cap parts are connected together by means of two pins which are housed in special counter-seats. A cavity inside the end-cap is provided for housing an hexagonal nut DIN 934.  
Threadings: M6 - M8 - M10 - M12 - M16



## 12. Levelling feet and supports

### 12.2 Tube-end caps and connectors continues



#### NDL.T End-caps for round tubes

Technopolymer



DIN 934 zinc-plated steel nut. The two end-cap parts are connected together by means of two pins which are housed in special counter-seats. A cavity inside the end-cap is provided for housing an hexagonal nut DIN 934. Threadings: M6 - M8 - M10 - M12

#### GN 349 Reinforcing round end-caps

Steel



Welding black-oxide steel. They reinforce the structure to which the levelling element is to be fixed when it is a thin sheet and is therefore not sufficiently rigid. They can be applied also by means of welding.

#### STC Square tube connectors

Technopolymer and 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.

#### STC-A Square tube connectors

Technopolymer



Two or three-way connector Suitable for the construction of structures consisting of square profiles.

#### NDA.Q End-caps for square tubes

with adjustable feet,  
technopolymer



End-caps for square tubes with adjustable height levelling element  
Threadings: M12 - M16 - M22

#### NDA.T End-caps for round tubes

with adjustable feet,  
technopolymer



End-caps for round tubes with adjustable height levelling element  
Threadings: M12 - M16 - M22

#### NDE.Q Square tube expander end-caps

Technopolymer



DIN 934 zinc-plated steel nuts. The two parts of the head are connected to each other by means of three pins which are housed in special counter-seats. Threadings: M8 - M10 - M12

#### NDE.T Round tube expander end-caps

Technopolymer



DIN 934 zinc-plated steel nuts. The two parts of the head are connected to each other by means of three pins which are housed in special counter-seats. Threadings: M8 - M10 - M12

#### NIL Ribbed tube end plugs

Polyethylene



For square, rectangular or round tubes. They can be fitted to the ends of round-, square- or rectangular- section tubes or profiles by hand or with a mallet.

#### NCT Protective caps for tubes

Polyethylene



Insertion at the ends of the tubes can be done by hand or with a mallet.  
Diameters: from 4 to 114.3 mm



## 12. Levelling feet and supports

### 12.2 Tube-end caps and connectors *continues*

#### NCD

**Protection covers for nuts and bolts**  
Polyethylene

PE

Black or chrome, matte finish.  
The coupling on nuts or bolts can be made either by hand or by a mallet.  
Internal diameters: from 6.9 to 45.8 mm



#### RTE

**Round tube expander connectors**  
Technopolymer

PA

The two parts of the connector are connected to each other by means of two pins which are housed in special counter-seats.



#### STE

**Square tube expander connectors**  
Technopolymer

PA

The two parts of the connector are connected to each other by means of two pins which are housed in special counter-seats.



### 12.3 Panel support brackets



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#### Material

- Technopolymer (3)
- Stainless steel (1)

#### PC

**Panel support clamps**  
Technopolymer



ERGOSTYLE®

PA

Thermoplastic elastomer pads, overmoulded.  
Technopolymer compensation shims for adapting the support clamp to panels of varying thickness.  
The panel assembly into the clamp require no drilling.



#### PPR

**Support clamp for panels and electro-welded mesh**  
mounting of the panel without drilling,  
SUPER-Technopolymer



PA

Standard executions: for the mounting of panels or electro-welded mesh, with or without vibration-damping pads.  
For square profiles of 25, 30 mm or 1".  
Safety in accordance with ISO 13857.



#### GN 939

**Panel support clamps**  
for Glass and Plastic Panels, die-cast zinc alloy



GN 939 clamps are used to fix glass, plastic, or other material panels. Both corner and centre clamps are available.  
The panels are locked between rubber inserts.  
It is also possible to select the type of locking in the version with fixing pin or stop plate.



#### GN 938.1

**T-Nuts**  
for Panel Support Clamps GN 939



Die-cast zinc alloy. Accessories for the GN 939 panel support clamps.  
When attaching the clamp to aluminium profile systems, centre the T-Nuts and position the clamps. Depending on their orientation, the T-Nuts can be used in slots of different widths.



#### APC

**Adapter for PC support clamp for round tubes**  
for PC support clamp, technopolymer

PA

Kit for installation of PC support clamp on round tubes (max. thickness = 2 mm).  
The kit includes a technopolymer adapter, a M6 zinc-plated steel threaded insert to be installed with a normal riveting tool on the tube and an M6 cylinder-head screw.



## 12. Levelling feet and supports

### 12.4 Connecting clamps



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#### Material

- Technopolymer (4)
- Steel (3)
- Stainless steel (6)
- Aluminium (13)
- Die-cast zinc alloy (2)
- Zinc (1)

#### LMTF Threaded connections Aluminum



Zinc-plated steel casting, epoxy resin coating. They are generally used in connection with 30/40 mm aluminium profiles, to allow elements such as levelling feet to be assembled in different positions. Threadings: M6 - M8 - M10 - M12

#### RH-GZ Simple or extensible feet Zinc alloy



Assembly by means of M4 screws and nuts. They are generally used on equipment subject to particular stresses, when safety locking is required in both the retracted and extended position by the safety slider (red).

#### MSR. Connecting clamps Technopolymer and aluminium



Support base with screw-covers in standard colours. Locking by means of M6 cap screws. Aluminium profile tubes in standard lengths from 100 to 2000 mm. They allow the positioning of photocells or other devices on the packaging lines.

#### MSX. Connecting clamps Technopolymer



Locking by means of M6 cap screws. The profile of the holes is designed to fit both tubes with round and square cross section; the latter prevents the elements from rotating. For positioning of photocells or other devices on the packaging lines.

#### MSM-RM Magnetic bases for MSM connecting clamps, steel and rubber



MSM-RM magnetic bases are shielded magnetic systems with high performances and moderate overall dimensions. Threadings: M4 - M5 - M6

#### MSM-B Base for connecting clamps Aluminum



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. Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### MSM-BS Bases for pivoting connecting clamps Aluminum



Black or natural colour. The MSM-BS bases for pivoting connecting clamps are designed for use with twistable two-way connecting clamps.

#### MSM-C Two-way connecting clamps Aluminum



Black or natural colour. Clamping by means of cylindrical head screws with AISI 304 stainless steel hexagon socket.

#### MSM-F Clamps for connecting plates Aluminum



Black or natural colour. Clamping by means of cylindrical head screws with AISI 304 stainless steel hexagon socket. The MSM-F connecting clamps are designed for use with the MSM-LA and MSM-LB sensor holders. Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### MSM-FR Pivoting clamps for connecting plates Aluminum



Black or natural colour. The MSM-FR connecting clamps are designed for use with the MSM-LA and MSM-LB sensor holders.

## 12. Levelling feet and supports

### 12.4 Connecting clamps continues

#### **MSM-G** Pivoting connecting clamps Aluminum



Black or natural colour.  
Clamping by means of cylindrical head screws  
with AISI 304 stainless steel hexagon socket.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-H** Connecting clamps Aluminum



Black or natural colour.  
Clamping by means of cylindrical head screws  
with AISI 304 stainless steel hexagon socket.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-HR** Pivoting connecting clamps Aluminum



Black or natural colour.  
Clamping by means of cylindrical head screws  
with AISI 304 stainless steel hexagon socket.  
With G8 hole tolerance or with zinc-plated steel  
pin tolerance h9.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-I** Connecting clamps Aluminum



Black or natural colour.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-PH** Connecting clamps Aluminum



Black or natural colour.  
Clamping by means of cylindrical head screws  
with AISI 304 stainless steel hexagon socket.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-LA** Sensor holders Stainless steel



In the MSM-LA-30 brackets, the cross slot  
allows a more precise fixing adjustment to the  
MSM-F connecting clamps and the use of 2  
grub screws.

#### **MSM-LB** Connecting plates Stainless steel



In the MSM-LB-30 brackets, the cross slot  
allows a more precise fixing adjustment to the  
MSM-F connecting clamps and the use of 2  
grub screws.

#### **MSM-P** Flanged bolts Steel



They are used in combination with connecting  
clamps with the function of support foot or  
flange.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm

#### **MSM-Q** Square connecting tubes Aluminum



Without graduations or with laser-etched  
precision graduations (mm).  
Sections: 10 - 12 - 16 mm

#### **MSM-R** Pivoting connecting clamps Aluminum



Black or natural colour.  
Clamping by means of cylindrical head screws  
with AISI 304 stainless steel hexagon socket.  
With clamp hole axis perpendicular or coaxial  
to the fixing hole.  
Holes Ø: 8 - 10 - 12 - 15 - 16 - 20 mm



## 12. Levelling feet and supports

### 12.4 Connecting clamps

continues



#### MSM-T Connecting tubes and bars

Stainless steel



Without graduations or with laser-etched precision graduations (mm).  
Bar for  $\varnothing = 8$  and 10 mm; tube for  $\varnothing = 12$ , 16 and 20 mm



#### MSM-TL Connectors

Stainless steel



They are suitable for use with the different types of MSM connecting clamps.  
They make it possible to create compact and space-saving mounting structures efficiently and economically with few components.  
Diameters: 8 - 10 mm



#### MSM-TS Connectors

Stainless steel



They are suitable for use with the different types of MSM connecting clamps.  
They make it possible to create compact and space-saving mounting structures efficiently and economically with few components.



#### MSM-TW Pivoting connecting clamps

Aluminum



AISI 304 stainless steel screw and lock nut or GN 300.1 adjustable handle for clamping.  
They allow the clamping of tubes or shafts.  
The special prism shape of the clamping parts facilitates adaptation to the tube or shaft diameter.



#### MSM-TW-NI Pivoting connecting clamps

Stainless steel



AISI 304 stainless steel locking screw and nut or GN 300.5 adjustable handle for clamping.  
Suitable for fixing tubes or shafts.  
The particular prism shape of the clamping parts makes it easier to adapt to the diameter of the tube or shaft.



#### GN 511 Clamping kit for connecting clamps

Zinc alloy and  
stainless steel



Die-cast zinc alloy lever, epoxy resin coating, RAL 9006 silver colour.  
Clamping element, threaded pin and spacer boss in AISI 303 stainless steel.  
Dimensions: 30 - 45 mm



#### GN 511.1 Clamping kit for pivoting connecting clamps

Zinc alloy and  
stainless steel



AISI 304 stainless steel screw.  
AISI 303 stainless steel threaded bushing and distance bushing.  
Die-cast zinc alloy lever, epoxy resin coating.  
Clamp, threaded pin in AISI 303 stainless steel.  
Dimensions: 16 - 20 - 25 - 30 - 45 mm



### 12.5 Conveyor components



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#### BAG2-120 Conveyor bipod support base

two arms,  
Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
The two base supports are provided with brass bosses, threaded pass-through hole for screwing in the stem.  
Tube housing holes  $\varnothing$ : 42 - 48 - 50 - 60 mm



#### BAG2-180 Conveyor bipod support base

two arms,  
Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
The two base supports are provided with brass bosses, threaded pass-through hole for screwing in the stem.  
Tube housing holes  $\varnothing$ : 42 - 48 - 50 - 60 mm



## 12. Levelling feet and supports

### 12.5 Conveyor components

continues



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#### Material

- Technopolymer (32)
- Steel (1)
- Stainless steel (22)
- Aluminium (4)

#### BAS2

##### Conveyor bipod support base

two arms,  
Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers. Assembly on series L.S.A., L.V.A., L.V.F levelling elements. The two base supports are provided with brass bosses, threaded pass-through hole for screwing in the stem. Tube housing holes Ø: 42 - 48 - 60 mm



#### BAS3

##### Conveyor bipod support base

three arms,  
Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers. Assembly on series L.S.A., L.V.A., L.V.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

##### Guide rail clamps

Technopolymer



AISI 304 stainless steel cylindrical head screws with hexagon socket, nickel-plated brass nuts. Housing for round, trapezoidal or rectangular guides.



#### MPG-2

##### 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



#### MPG-S

##### Guide rail clamps

Technopolymer and stainless steel



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



#### MPG-P

##### Guide fixing pins

Stainless steel



Execution with threaded hole or with threaded pin. Generally used in combination with the MPG-R-AZ, MPG-R-SST, MPG-S guide rail clamps or the PRA-GLB, PRB-GLB profiles for fixing the side guides to the SPR. and SPR.V guide rail brackets.



#### SPF.

##### Guide rail brackets

for linear positioning,  
technopolymer



AISI 304 stainless steel eye screw and 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. Toothed clamping element retainer holes Ø: 12 - 14 - 16 mm



#### SPR.

##### Guide rail brackets

for linear and angular positioning,  
technopolymer



Eye screw, AISI 304 stainless steel nut and washer. With or without support edge. Pin Ø: 12 - 14 - 16 mm



#### SPR.V

##### Guide rail brackets

for linear and angular positioning,  
technopolymer



AISI 304 stainless steel eye screw and washer. Technopolymer clamping knob and hexagonal head in nickel-plated brass for tightening by means of a key, threaded hole. With or without support edge. Pin Ø: 12 - 14 - 16 mm



## 12. Levelling feet and supports

### 12.5 Conveyor components

continues



#### **TSLA.** Side mounting top brackets

Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
Tube housing holes Ø: 48 mm



#### **TSLB.** Side mounting top brackets

Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
Tube housing holes Ø: 42 - 48 - 60 - 45 mm



#### **TTA.** Support headers

Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
Tube housing hole Ø: 48 mm



#### **TTB.** Support headers

Technopolymer



Zinc-plated or AISI 304 stainless steel M10 screws, nuts and washers.  
Tube housing holes Ø: 42 - 48 - 50 - 60 - 45 mm



#### **GLA-1** Roller side guides

Technopolymer,  
aluminium,  
stainless steel



Profile in anodised aluminium. Technopolymer pin and roller support. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with limited vertical dimensions laterally on the conveyor belts.



#### **GLA-2** Roller side guides

Technopolymer,  
aluminium,  
stainless steel



Profile in anodised aluminium. Technopolymer pin and roller support. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with larger vertical dimensions laterally on the conveyor belts.



#### **GCA-2** Roller central guides

Technopolymer,  
aluminium,  
stainless steel



Profile in anodised aluminium. Technopolymer pin and roller support. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with limited vertical dimensions on the conveyor belts from both sides.



#### **GCA-4** Roller central guides

Technopolymer,  
aluminium,  
stainless steel



Profile in anodised aluminium. Technopolymer pin and roller support. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with larger vertical dimensions on the conveyor belts from both sides.



#### **MPG-V** Hammer head screw

For GLA, GCA, PRA and  
PRB guides, steel or  
stainless steel



Used to join the different types of side guides to the MPG-P fixing pins.



#### **TGL** End brackets for side guides

Technopolymer,  
stainless steel



AISI 304 stainless steel screw and nut. It is used as a closure at the ends of the GLA-1 side guides.





## 12. Levelling feet and supports

### 12.5 Conveyor components *continues*

#### BDG

##### Connecting plate for guides

for GLA and GCA, steel



Edit the sentence below  
Zinc-plated steel or AISI 304 stainless steel bar and screws.

#### PGL-1

##### Separation block for side guides

for GLA-1, Technopolymer, stainless steel



Screw and nuts with threadlocking in AISI 304 stainless steel.  
It is used at the ends of the GLA-1 side guides.

#### PGC-2

##### Separation block for side guides

for GLA-2, Technopolymer, stainless steel



Screw and nuts with threadlocking in AISI 304 stainless steel.  
It is used at the ends of the GLA-2 side guides.

#### PGC-2

##### Separation block for central guides

for GCA-2, Technopolymer, stainless steel



Screw and nuts with threadlocking in AISI 304 stainless steel.  
It is used at the ends of GCA-2 central guides.

#### PGC-4

##### Separation block for central guides

for GCA-4, Technopolymer, stainless steel



Screw and nuts with threadlocking in AISI 304 stainless steel.  
It is used at the ends of GCA-4 central guides.

#### GLD-AZ

##### Roller side guides

Technopolymer, steel



Guide rails with one, two, three, or four rows of rollers. Zinc-plated steel profile. Pin and roller support in acetal-based technopolymer. AISI 304 stainless steel pins. With shaped rollers, cylindrical contact area. The self-supporting structures are particularly solid, suitable for handling products of significant weight and size.

#### MPG-R-AZ

##### Guide rail clamps

for GLD-AZ side guides, steel



Zinc-plated steel.  
Clamps for one, two, three, or four-way roller guides.

#### GLD-SST

##### Roller side guides

Technopolymer, stainless steel



Guide rails with one, two, three, or four rows of rollers. AISI 304 stainless steel profile. Pin and roller support in acetal-based technopolymer. AISI 304 stainless steel pins. With shaped rollers, cylindrical contact area. The self-supporting structures are particularly solid, suitable for handling products of significant weight and size.

#### MPG-R-SST

##### Guide rail clamps

for GLD-SST side guides, stainless steel



AISI 304 Stainless Steel  
Clamps for one, two, three, or four-way roller guides.

#### GLB-1

##### Articulated side guides

Technopolymer, stainless steel



Self-supporting structure and technopolymer rollers. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with limited vertical dimensions laterally on the conveyor belts.



## 12. Levelling feet and supports

### 12.5 Conveyor components

continues



#### GLB-2 Articulated side guides

Technopolymer,  
stainless steel



Self-supporting structure and technopolymer rollers. AISI 304 stainless steel pins. With cylindrical or contoured rollers, spherical or cylindrical contact zone. They serve to guide products with larger vertical dimensions laterally on the conveyor belts.



#### PRA-GLB Profile for side guides

for GLB, stainless steel



It is supplied in undrilled bars of 1.5 and 3 metres length, to allow the fixing holes to be drilled directly during installation.



#### PRB-GLB Profile for side guides

for GLB, stainless steel



It is used to secure the GLB-1 and GLB-2 side guides.  
It is supplied in undrilled bars of 1.5 and 3 metres length.

#### GLP Linear guide rails

Flat profile,  
technopolymer,  
stainless steel



Technopolymer guide profile.  
AISI 304 stainless steel bracket.  
Contact surface width approximately 12 or 32 mm.  
The guide rails are used for the side guide of products with different dimensions on conveyor belts, without leaving traces on the containers.



#### GLP-HT Linear guide rail, high temperature

Flat profile,  
technopolymer,  
stainless steel



Technopolymer guide profile. AISI 304 stainless steel bracket. It is used to guide laterally, on the conveyor belts, products with different dimensions in environments where resistance to higher temperatures is required, such as ovens, fryers, steam rooms.



#### GLR Linear guide rail

Round profile R20,  
technopolymer,  
stainless steel



Technopolymer guide profile.  
AISI 304 stainless steel bracket.  
It is used to guide laterally very unstable products, such as bottles or cans, on the conveyor belts, avoiding rotation and without leaving traces on the containers.



#### GLS Linear guide rail

Shaped profile,  
technopolymer,  
stainless steel



Technopolymer guide profile.  
AISI 304 stainless steel bracket.  
It is used to guide products with different dimensions laterally on the conveyor belts, without leaving traces on the containers.



#### GLT Linear guide rail

Round profile R7,  
technopolymer,  
stainless steel



Technopolymer guide profile.  
AISI 304 stainless steel bracket.  
It is used to guide products with good stability laterally on the conveyor belts, without leaving traces on the containers.



#### GLC Wide guide rails

Shaped profile,  
technopolymer



With a 20 or 40 mm stop.  
They serve to guide products with various vertical dimensions laterally on the conveyor belts.



## 12. Levelling feet and supports

### 12.6 Support bearings



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#### Material

- Technopolymer (4)

#### UCF

**Support bearings**  
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

#### UCFB

**Side flanged support  
bearings**  
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

**Oval flanged support  
bearings**  
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

#### UCP

**Oval flanged support  
bearings for shafts  
at 90°**  
Technopolymer



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

### 12.7 Angle brackets for profile structures



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#### Material

- Technopolymer (1)
- Steel (1)
- Aluminium (3)

#### SQT.

**Angle brackets for  
profile structures**  
Technopolymer



Two slots for M8 screws; two holes for M8  
screws and centring slides; slot and holes 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

**Angle brackets 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

#### SQMF

**Angle brackets for  
profile structures**  
Aluminium



Natural colour or black or grey epoxy resin  
coating. Technopolymer closing cap.  
Mounting by means of zinc-plated steel screws  
and inserts.  
Dimensions: 30 - 40 mm

#### GN 970

**Brackets**  
Aluminium or steel

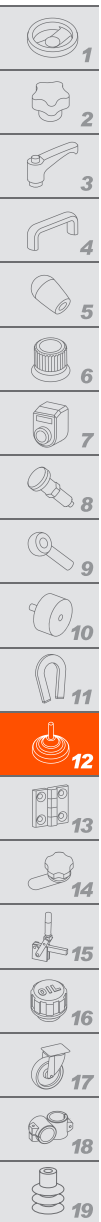


Drawn, sharp-edged black-oxide steel or  
aluminium, matte finish.  
Standard versions with or without holes, or with  
holes and slotted holes.



## Conveyor components

Elesa conveyor components enable the **construction of robust support and containment structures**, ensuring **smooth product guidance across industrial production lines** in bottling, packaging, and material handling. An ever-expanding range of conveyor belt components.



### Guide rail brackets

SPF.  
SPR.  
SPR.V

### Guide rail clamps

MPG  
MPG-2  
MPG-S

### Linear guide rails

GLP  
GLP-HT  
GLR  
GLT

### Linear guide rails shaped profile

GLS  
GLC

### Roller side and central guide rails

GLA-1  
GLA-2  
GCA-2  
GCA-4  
GLB-1  
GLB-2  
GLD  
GLD-SST

### Support headers

TTA.  
TTB.

### Connecting clamps

MSX.  
MSR.  
MSM

### Support bearings

UCF  
UCFB  
UCFL  
UCP

### Connection joints

GC.

### Support bases

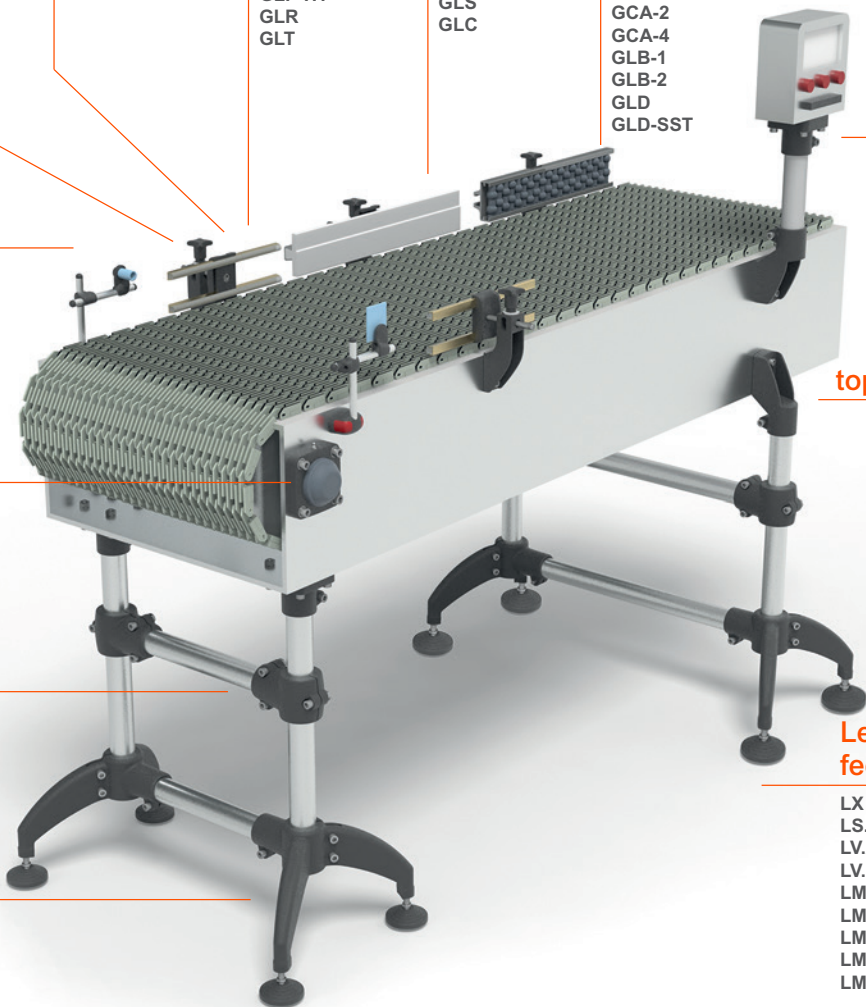
BAG2-120  
BAG2-180  
BAS2  
BAS3

### Side mounting top brackets

TSLA.  
TSLB.

### Levelling feet

LX  
LS.A  
LV.A  
LV.F  
LM.  
LMP  
LMR.  
LMRS.  
LMY.





# 13

## Hinges and accessories



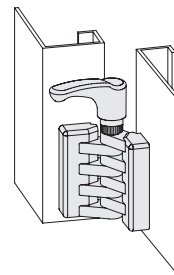
A wide range of engineering plastic and metal hinges, including technopolymer, SUPER-Technopolymer, aluminium, and stainless steel, available with various assembly options, rotation angles, load capacities, and integrated safety switches.

Elesa offers various hinges equipped with additional functions in addition to the simple basic operations of opening and closing machine doors or guards.

### ▼ Friction or detent hinges

Designed to hold doors or hatches in a specific position, or to regulate the opening/closing force.

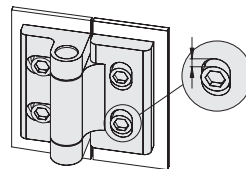
- **Hinges with adjustable friction** allow a rotational movement with braking torque in both directions.
- **Hinges with friction brake by means of a retractable handle** that allows for rapid torque adjustment even without the use of tools.
- **Detent hinges.** They have the ability to stop the rotation of the hinge in preset positions and lock the door.



### ▼ Adjustable hinges

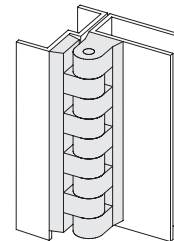
They correct off-sets and misalignments, **optimising the opening and closing** of the door.

They prevent premature wear of components and extend the life of the construction.



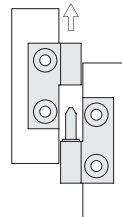
### ▼ Hinges for narrow jambs

Hinges composed of **two bodies of different sizes**, designed for structures with narrow jambs and/or narrow doors where the **space** for mounting the hinges is **limited**.



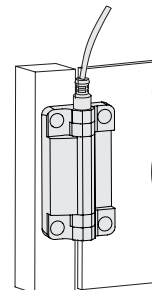
### ▼ Lift-off hinges

Ideal for doors that require frequent disassembly and reassembly. Also available with a **mechanical brake system** to prevent accidental lifting or sliding of the door and also suitable for **mounting on aluminium profiles**.



### ▼ Hinges with electrical safety switch

Hinges with **built-in safety switch** are safety devices that automatically **cut off the power supply** in order to **protect** the operator in cases of accidental opening of machine doors or guards. With **IP66 or IP67 protection class**, they are ideal for equipment subject to frequent washing in industrial environments. Compact size, mounting options, and cable outlet/power connector make installation on aluminium profiles easy.

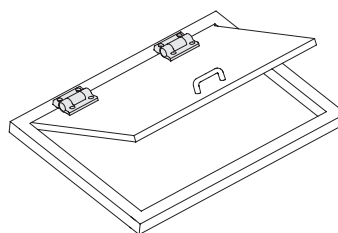




## ▼ Spring hinges and shock absorbing hinges

■ **Spring hinges:** ideal for the automatic **opening and closing of doors**, they are equipped with an **internal torsion spring** that, when the door is opened, is compressed generating a torque opposite to the movement in progress. Once the door is released, the hinge returns to its initial position.

■ **Hinges with shock absorbers:** reduce the **closing or opening speed** of doors with a vertical or horizontal axis by means of an internal shock absorber. The damping torque varies progressively with the rotation of the hinge.



### 13.1 Hinges



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#### Material

- Technopolymer (34)
- Steel (1)
- Stainless steel (11)
- Aluminium (5)
- Die-cast zinc alloy (5)

#### Type of assembly

- Blind hole (8)
- Blind holes - Threaded screws (2)
- Pass-through hole (51)
- Pass-through holes - Blind holes (3)
- Pass-through holes - Threaded screws (4)
- Threaded screw (11)

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

PA



Technopolymer rotating pin. Technopolymer screw-covers, black, polished finish, snap-on assembly. 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

#### CFTX. Hinges Technopolymer (polyamide)

PA



Technopolymer rotating pin. 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

#### CFTX-PP Hinges Technopolymer (polypropylene)

PP



AISI 303 stainless steel or grade 2 titanium rotating pin. Mounting via pass-through holes for flat countersunk-head screws. 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

#### CFQ. Hinges with screw-covers Technopolymer

POM



Technopolymer rotating pin. Technopolymer screw-covers, black, polished finish, snap-on assembly. Assembly by means of pass-through holes for countersunk head, cylindrical head, hexagonal head screws or nuts. Rotation angle: max 195° (-15° and +180° being 0° the condition where the two interconnected surfaces are on the same plane). Dimensions: 50 mm

#### CFA. Hinges Technopolymer

PA



AISI 303 stainless steel rotating pin. Mounting by means of nickel-plated brass bosses, threaded hole; nickel-plated steel threaded studs; pass-through holes and slots (CFA-SL) for cylinder head screws. Max. rotation angle 215° (-35° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 49 - 65 - 97 mm

#### CFAX. Hinges Technopolymer rotating pin

PA



Technopolymer rotating pin. Mounting by means of nickel-plated brass bosses with threaded hole, pass-through holes for flat countersunk or cylinder head screws, or threaded studs. Max. rotation angle 215° (-35° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 49 - 65 mm

#### CFAX-IP Hinges with packing ring Protection rating up to IP69K, technopolymer

PA



Technopolymer rotating pin. Mounting via nickel-plated brass bosses with threaded hole or nickel-plated steel threaded studs. Max. rotation angle 215° (-35° and +180° with 0° = coplanarity of surfaces). Dimension: 49 mm

#### CFK. False hinge with single body For CFA. and CFAX. hinges

PA



Mounting via pass-through holes for flat countersunk-head screws



## 13. Hinges and accessories

### 13.1 Hinges continues

#### CFA-F

**Hinges with detent  
position at 95°**  
Technopolymer



AISI 303 stainless steel rotating pin  
Mounting by means of nickel-plated brass bosses  
with threaded hole, pass-through holes for flat  
countersunk or cylinder head screws  
Max. rotation angle 100° (-10° and +95° with  
0° = coplanarity of surfaces).  
Dimensions: 49 - 65 mm

#### CFL

**Hinges**  
Technopolymer



AISI 303 stainless steel rotating pin  
Mounting via pass-through holes for cylinder  
head screws  
Max. rotation angle 200° (-20° and +180° with  
0° = coplanarity of surfaces).  
Dimensions: 102 mm

#### CFM.

**Hinges**  
SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting  
by means of steel threaded studs; pass-through  
holes for countersunk or cylinder head screws;  
slots with pass-through hole for cylinder head  
screws. Max. rotation angle 270° (-90° and +180°  
with 0° = coplanarity of surfaces).  
Dimensions: 30 - 40 - 50 - 60 mm

#### CFM-AE-V0

**Hinges**  
Technopolymer certified  
self-extinguish



AISI 303 stainless steel rotating pin.  
Mounting with pass-through holes for  
countersunk head screws.  
Max. rotation angle 270° (-90° and +180° with  
0° = coplanarity of surfaces).  
Dimensions: 30 - 40 - 50 - 60 mm

#### CFMX

**Hinges**  
SUPER-technopolymer  
rotating pin



SUPER-technopolymer rotating pin.  
Mounting via pass-through holes for flat  
countersunk head screws or cylinder head  
screws with washer. Max. rotation angle 270°  
(-90° and +180° with 0° = coplanarity of  
surfaces). Dimensions: 30 - 40 - 50 - 60 mm

#### CFM-CLEAN

**Hinges**  
SUPER-technopolymer



AISI 303 stainless steel rotating pin  
Mounting via pass-through holes for flat  
countersunk-head screws  
Max. rotation angle 270° (-90° and +180° with  
0° = coplanarity of surfaces).  
Dimensions: 30 - 40 - 50 - 60 mm

#### CFM-VD

**Hinges**  
Visually Detectable  
technopolymer



Produced from FDA compliant raw material  
(FDA CFR.21 and EU 10/2011). AISI 303 stainless  
steel rotating pin. Mounting via pass-through holes  
for flat countersunk-head screws. Max. rotation  
angle 270° (-90° and +180° with 0° = coplanarity  
of surfaces). Dimensions: 40 - 50 mm

#### CFM-MD

**Hinges**  
Metal Detectable  
technopolymer



Produced from FDA compliant raw material  
(FDA CFR.21 and EU 10/2011). AISI 303 stainless  
steel rotating pin Mounting via pass-through holes  
for flat countersunk-head screws. Max. rotation  
angle 270° (-90° and +180° with 0° = coplanarity  
of surfaces). Dimensions: 40 - 50 mm

#### CFMQ

**Hinges**  
SUPER-technopolymer



AISI 303 stainless steel rotating pin  
Mounting via pass-through holes for cylinder  
head screws with washer.  
Max. rotation angle 270° (-90° and +180° with  
0° = coplanarity of surfaces).  
Dimensions: 60 mm

#### CFMQ-AE-V0

**Hinges**  
Technopolymer certified  
self-extinguish

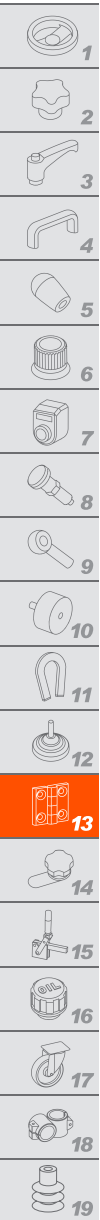


AISI 303 stainless steel rotating pin.  
Mounting with pass-through holes for  
countersunk head screws.  
Max. rotation angle 270° (-90° and +180° with  
0° = coplanarity of surfaces).  
Dimension: 60 mm



## 13. Hinges and accessories

### 13.1 Hinges continues



#### CFM-L Horizontally elongated hinges SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting via pass-through holes for flat countersunk-head screws. Hinge bodies with the same or different dimensions. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 50 - 60 mm



#### CFM-SL Hinges SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting by means of slots with pass-through hole with housing for lowered cylinder head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 60 mm



#### CFM-TR-G Hinges for mounting on glass or panels SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting on the jamb side via pass-through holes with housing for flat countersunk screws and pass-through hole on the panel side with housing for a round-headed screw. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm



#### CMM-TR-SST Hinges Stainless steel



AISI 303 stainless steel rotating pin. Mounting with pass-through holes for countersunk head screws. Hinge body on jamb side identical to or different from hinge body on door side. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm



#### CFMR. Spring hinges for automatic return, SUPER-technopolymer



Aluminium rotating pin. Assembly by means of pass-through holes for cylindrical head screws M6. 0.20, 0.35, 0.70 or 1 Nm return torques for automatic door closing/opening. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 67 mm



#### CFAM. Hinges with shock absorber for soft opening and closing, technopolymer



Assembly by means of pass-through holes for cylindrical head screws. It is used to cushion the closing or opening of doors with a vertical or horizontal axis using the shock absorber. Final damping torque 0.8 or 3.0 Nm. Max. rotation angle 110° (0° and +110° with 0° = coplanarity of surfaces). Dimension: 67 mm



#### CMMR Spring hinges for automatic return, zinc alloy



Epoxy resin body coating. 0.75 or 1.00 Nm return torques for automatic door closing/opening. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 60 mm



#### CFMW. Hinges SUPER-technopolymer



These hinges can be assembled with CFSW. hinge with safety switch. Assembly by means of pass-through holes for countersunk-head, cylindrical head screws or hexagonal nuts. Max. rotation angle 180° (-0° and +180° with 0° = coplanarity of surfaces). Dimensions: 70 - 110 mm



#### CFMW-AE-V0 Hinges Technopolymer certified self-extinguish



AISI 303 stainless steel rotating pin. These hinges can be assembled with CFSW. hinge with safety switch. Assembly by means of pass-through holes for countersunk-head, cylindrical head screws or hexagonal nuts. Max. rotation angle 180° (-0° and +180° with 0° = coplanarity of surfaces). Dimensions: 70 - 110 mm



#### CFH. Hinges Technopolymer



AISI 303 stainless steel rotating pin. Mounting via pass-through holes for cylinder head screws. Max. rotation angle 275° (-95° and +180° with 0° = coplanarity of surfaces). Dimensions: 50 mm



## 13. Hinges and accessories

### 13.1 Hinges continues

#### CFJ. Tamperproof hinges Technopolymer



AISI 303 stainless steel rotating pin, totally moulded in the hinge body. Mounting by means of bosses with threaded hole, pass-through holes with housing for hexagonal head screws, or threaded studs. Max. rotation angle 275° (-95° and +180° with 0° = coplanarity of surfaces). Dimensions: 50 mm



#### CFJ-AE-V0 Tamperproof hinges Technopolymer certified self-extinguish



AISI 303 stainless steel rotating pin, totally moulded in the hinge body. Mounting using bosses with threaded holes or threaded studs. Max. rotation angle 275° (-95° and +180° with 0° = coplanarity of surfaces). Dimension: 50 mm



#### CFC. Thin hinge Technopolymer



Technopolymer rotating pin. Mounting via pass-through holes with housing for 4.8 mm diameter self-tapping screws with flat countersunk head. Max. rotation angle 325°. Depending on the type of mounting, the angle of rotation of the door may be smaller. Dimensions: 55 mm



#### CFE. Hinges Technopolymer



AISI 303 stainless steel rotating pin. Mounting by means of bosses with threaded hole, threaded studs or pass-through holes with housing for cylinder head screws. Max. rotation angle 200° (-80° and +120° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 48 - 66 mm



#### CFG. Hinges for profiles Technopolymer



Technopolymer centring inserts for profiles with groove sizes from 6 to 12 mm. Mounting via pass-through holes with housing for M6 flat countersunk-head screws. Max. rotation angle 280° (-100° and +180° with 0° = coplanarity of surfaces). Dimensions: 36 mm



#### CFI. Double hinges for profiles Technopolymer



Technopolymer centring inserts for profiles with groove sizes from 6 to 12 mm. Mounting via pass-through holes with housing for M6 flat countersunk-head screws. Max rotation angle 260°/275° (-95° and +165°/180° with 0° being the condition of coplanarity of surfaces). Dimensions: 36 mm



#### CMUM Hinges Die-cast zinc alloy



Epoxy resin body coating. Guide elements in acetal-based technopolymer (POM). Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 60 mm



#### CMM. Hinges Die-cast zinc alloy



AISI 303 stainless steel rotating pin. Mounting via pass-through holes with housing for flat countersunk-head screws or threaded studs in AISI 304 stainless steel. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 50 - 60 mm



#### CMM-L Horizontally elongated hinges Die-cast zinc alloy



Mounting via pass-through holes with housing for flat countersunk-head screws or threaded studs in AISI 316 stainless steel. Hinge bodies with the same or different dimensions. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 50 - 60 mm



#### CMM-SST Hinges Stainless steel

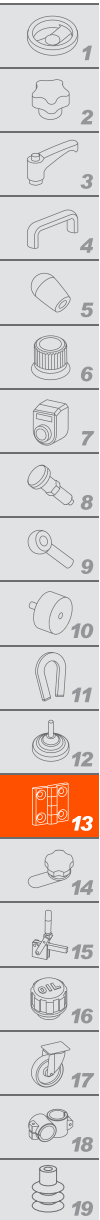


AISI 316 stainless steel rotating pin. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 50 - 60 mm



## 13. Hinges and accessories

### 13.1 Hinges continues



#### **CMM-BL** **Hinges** Aluminum



AISI 303 stainless steel rotating pin.  
Mounting via pass-through holes with housing for flat countersunk-head screws.  
Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces).  
Dimensions: 30 - 40 - 50 - 60 mm

#### **CMM-AL** **Hinges** Aluminum



AISI 304 stainless steel rotating pin.  
Mounting via pass-through holes with housing for flat countersunk-head screws.  
Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces).  
Dimensions: 30 - 40 - 50 - 60 mm

#### **CHG.** **Concealed hinge** SUPER-technopolymer



AISI 304 stainless steel rotating pin. Mounting with pass-through holes using studs with nuts, or cylinder head screws with washer UNI 6592. To be used with doors and jambs of boxed structures in folded sheet metal. Max. rotation angle 180° (-90° and +90° with 0° = coplanarity of surfaces). Dimension: 80 mm

#### **GN 7231** **Jointed hinges** concealed, opening angle 90°, stainless steel



AISI 304 stainless steel, ground or with matte finish.  
Right or left fixing angle.  
They are installed on the inside of doors and hatches to save space and ensure protection against vandalism.

#### **GN 7241** **Jointed hinges** concealed, opening angle aluminium 90°, aluminium



Profile in aluminium or anodised aluminium, natural colour. They are installed on the inside of doors and hatches to save space and ensure protection against vandalism.

#### **GN 7233** **Jointed hinges** concealed, opening angle 120°, stainless steel



AISI 304 stainless steel, ground or with matte finish.  
Right or left fixing angle.  
They are installed on the inside of doors and hatches to save space and ensure protection against vandalism.

#### **GN 7243** **Jointed hinge** concealed, opening angle 120°, aluminium



Profile in aluminium or anodised aluminium, natural colour.  
They are installed on the inside of doors and hatches to save space and ensure protection against vandalism.

#### **GN 7237** **Jointed hinges** concealed, opening angle 180°, stainless steel



Self-lubricating bronze friction bearings.  
Available for left or right fixing.  
Opening angle max. 180°.  
Dimensions: 40 - 50 - 60 mm

#### **GN 7247** **Jointed hinge** concealed, opening angle 180°, aluminium



Profile in aluminium or anodised aluminium, natural colour.  
They are installed on the inside of doors and hatches to save space and ensure protection against vandalism.

#### **GN 7247.2** **Plates for jointed hinges** for fixing GN 7241, GN 7243, GN 7247 hinges, stainless steel



AISI 304 stainless steel or with matte finish.  
Allow adjustment in the third plane during mounting. Shimmed individually or in combination, they guarantee the height compensation or the desired position on the fixing surfaces. Dimension: 60 mm

## 13. Hinges and accessories

### 13.1 Hinges

continues

#### GN 7247.4

**Plates for jointed hinges**  
with tapped holes, for fixing  
GN 7241, GN 7243,  
GN 7247 hinges,  
stainless steel



AISI 304 stainless steel or with matte finish.  
They are fixed from the outside, using the  
pass-through holes in the wall of the housing  
body or alternatively they are welded to the inside  
of the wall. This provides effective protection  
against vandalism. Dimensions: 60 - 75 mm



#### GN 7247.6

**Plates for jointed hinges**  
with threaded studs, for  
fixing GN 7241, GN 7243,  
GN 7247 hinges,  
stainless steel



AISI 304 stainless steel or with matte finish.  
They are fixed from the outside, using the  
pass-through holes in the wall of the housing  
body or alternatively they are welded to the inside  
of the wall. This provides effective protection  
against vandalism. Dimensions: 60 - 75 mm



#### GN 2376

**Plates for jointed  
hinges**

for fixing GN 7237  
hinges in stainless steel



Accessory for GN 7237 jointed hinges.  
They can be fixed externally via pass-through  
holes in the housing wall or alternatively via  
welding inside the structure.



#### PMC

**Spacer plates for  
hinges**

Zinc alloy

They allow different hinges to be fitted on the  
same door/jamb.



#### PCM-SP

**Spacer plates for  
hinges**

Stainless steel



They allow mounting of CFM, CMM, CMM-ST  
and CMMY when the mounting surfaces are not  
coplanar between the frame and the door.



#### PCM-TH

**Spacer plates for  
hinges**

Stainless steel



They allow mounting of CFM, CMM, CMM-ST  
and CMMY without nuts and washers, as they  
have two threaded holes.  
Mounted on the upper side of the hinge, the  
plate offers new mounting options.



#### PCM-LS

**Limit stop spacers  
for hinges**

Steel

NBR rubber end element, hardness 85 in  
tolerance  $\pm 5$  Shore A, black.  
They allow mounting of CFM, CMM, CMM-ST  
and CMMY by limiting the rotation angle to  
150°.



#### CFM-TR

**Hinges**

SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting with  
pass-through holes for countersunk head screws.  
Hinge body on jamb side identical to or different  
from hinge body on door side. Max. rotation angle  
270° (-90° and +180° with 0° = coplanarity of  
surfaces). Dimensions: 40 - 50 - 60 mm



### 13.2 Friction and detent hinges



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#### CFV.

**Detent hinges**

Technopolymer



Mounting via pass-through holes with housing for  
flat countersunk-head screws or hexagonal head  
screws. The locking device allows the door to be  
stopped in 4 positions: -90°, 0°, 70° and 115°.  
Max. rotation angle 210° (-90° and +120° with 0°  
= coplanarity of surfaces). Dimensions: 65 mm



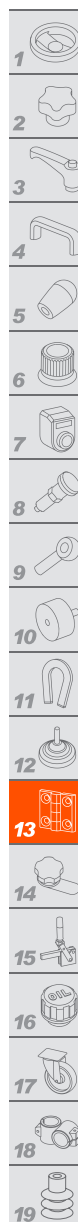
#### CFVT.

**Detent hinges**

Technopolymer



Assembly by means of pass-through holes for  
cylindrical head screws M5. The locking device  
allows the door to be stopped in 4 positions: -70°,  
80°, 115° and 150°. Also available without detent  
positions. Resistant torque 0.7 to 1.7 Nm.  
Max. rotation angle 255° (-75° and +180° with 0°  
= coplanarity of surfaces). Dimensions: 53 mm





## 13. Hinges and accessories

### 13.2 Friction and detent hinges continues



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#### Material

- Technopolymer (8)
- Stainless steel (1)
- Die-cast zinc alloy (3)

#### Type of assembly

- Pass-through hole (12)

#### CMVT Detent hinges Zinc alloy



Mounting via pass-through holes with housing for flat countersunk-head screws. Detent with angle  $-90^\circ / 0^\circ / 90^\circ / 180^\circ$  resistant torque 1 Nm. Detent with angle  $3^\circ / 117^\circ$ , resistant torque 1 Nm. Max. rotation angle  $270^\circ$  ( $-90^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 60 mm

#### CFP. Detent hinges screw-covers, technopolymer



Mounting via pass-through holes with housing for flat countersunk head screws, cylinder head screws, or hexagonal head screws. The internal locking device (ELESA patent) allows the door to be stopped in four different positions ( $0^\circ$ ,  $+80^\circ$ ,  $+120^\circ$ ,  $+170^\circ$ ). Max. rotation angle  $195^\circ$  ( $-15^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 50 mm

#### CFU. Hinges with adjustable friction Technopolymer



Assembly by means of pass-through holes for cylindrical head screws. Max. rotation angle  $275^\circ$  ( $-95^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 40 - 60 mm

#### CFU-CLEAN Hinges with adjustable friction Technopolymer, easy cleaning



Assembly by means of pass-through holes for cylindrical head screws. Max. rotation angle  $275^\circ$  ( $-95^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 40 - 60 mm

#### CFU-RA Hinge with adjustable friction with axial adjustment screw, technopolymer



Assembly by means of pass-through holes for cylindrical head screws. The screw located in the axis of the hinge, which allows the resistant torque of the hinge to be increased or decreased in a controlled manner in both directions. Max. rotation angle  $270^\circ$  ( $-90^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimension: 67 mm

#### CFA-ERS Hinges with friction brake Technopolymer



Adjustable handle for clamping in technopolymer with red 'PUSH' pad-printed on the lever. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle  $215^\circ$  ( $-35^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 49 - 65 - 97 mm

#### CFG-ERS Hinges for profiles with friction locking Technopolymer



Adjustable handle for clamping in technopolymer. Technopolymer centring inserts for profiles with groove sizes from 6 to 12 mm. Mounting via pass-through holes with housing for M6 flat countersunk-head screws. Max. rotation angle  $280^\circ$  ( $-100^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 36 mm

#### CMUF-AH Hinges with friction brake Zinc alloy



Die-cast zinc alloy handle, black or grey. Technopolymer guide bush. Nut with threaded blind hole in steel, surrounded by technopolymer. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle  $270^\circ$  ( $-90^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 60 mm

#### CMUF Hinges with adjustable friction Zinc alloy



Epoxy resin body coating. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle  $270^\circ$  ( $-90^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm

#### CMUF-A4 Hinges with adjustable friction AISI 316 stainless steel



Sandblasted matte finish. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle  $270^\circ$  ( $-90^\circ$  and  $+180^\circ$  with  $0^\circ$  = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm



## 13. Hinges and accessories

### 13.3 Adjustable Hinges



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#### Material

- Technopolymer (1)
- Stainless steel (1)
- Aluminium (2)
- Die-cast zinc alloy (2)

#### Type of assembly

- Blind hole (2)
- Blind holes - Threaded screws (1)
- Pass-through holes (6)
- Threaded screw (2)

#### CFA-SL

##### Hinges with adjusting slotted holes

Technopolymer



AISI 303 stainless steel rotating pin. Mounting by means of slots with pass-through hole and housing for cylindrical head screw for horizontal, vertical, or both horizontal and vertical adjustments. Max. rotation angle 215° (-35° and +180° with 0° = coplanarity of surfaces). Dimensions: 65 mm

#### CFR.

##### Hinge with adjusting inserts

SUPER-technopolymer



AISI 303 stainless steel rotating pin. Technopolymer adjusting inserts. Mounting via pass-through holes with housing for M6 countersunk-head screws. Max. rotation angle 260° (-90° and +170° with 0° = coplanarity of surfaces). Dimensions: 60 mm

#### GN 127

##### Hinges with adjusting inserts

Die-cast zinc alloy or Stainless Steel



AISI 316Ti stainless steel rotating pin. Zinc alloy or stainless steel adjusting inserts. Mounting via pass-through holes with housing for cylinder or countersunk head screws. Max. rotation angle 260° (-90° and +170° with 0° = coplanarity of surfaces). Dimensions: 52 - 64 - 76 mm

#### CFO.

##### Offset lift-off hinge

Technopolymer



Adjustment pin with octagonal technopolymer coupling. Mounting via pass-through holes with housing for hexagonal head screws, cylinder head screws or M5 hexagonal nuts. Offset lift-off hinges have been designed to adjust possible misalignments between the door and the frame. Dimensions: 64 mm

#### CFN.

##### In line lift-off hinge

Technopolymer



Adjustment pin with octagonal technopolymer coupling. Mounting via nickel-plated brass bosses with threaded hole or nickel-plated steel threaded studs. Offset lift-off hinges have been designed to adjust possible misalignments between the door and the frame. Dimensions: 64 mm

#### CFNR

##### In line lift-off hinges with spring

for automatic return, technopolymer



AISI 303 stainless steel. Mounting via nickel-plated brass bosses with threaded hole or nickel-plated steel threaded studs. A spring system for automatic return of the door when closing or opening. The torque varies progressively with the opening/closing angle of the hinge. Dimension: 62 mm

#### MT-CFNR

##### Tool for mounting CFNR spring hinges

Aluminum



Anodised aluminium, natural colour. Technopolymer and stainless steel plungers. Useful during the hinge mounting phase to ensure that the door remains closed or open in the resting position.

#### CMZ.

##### Hinges with adjusting slotted holes

Die-cast zinc alloy



Die-cast zinc alloy. AISI 303 stainless steel rotating pin. Mounting by means of pass-through slots for cylinder head screws allowing for adjustment during fixing. Max. rotation angle 180° (0° and +180° with 0° = coplanarity of interconnected surfaces). Dimension: 55 mm

#### GN 238

##### Hinges with adjusting inserts

Screw-covers, die-cast zinc alloy



AISI 303 stainless steel rotating pin. Hardened steel adjusting inserts. Assembly via 4 inserts with housing for countersunk head screws, 2 inserts with housing for countersunk head screws, or pass-through holes with housing for countersunk head screws without adjusting inserts. Max. rotation angle 180° (-20° and +160° with 0° = coplanarity of surfaces). Dimensions: 42 - 50 - 60 mm



## 13. Hinges and accessories

### 13.4 Hinges for narrow jambs



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#### Material

- Technopolymer (5)
- Stainless steel (1)
- Aluminium (1)
- Die-cast zinc alloy (2)

#### Type of assembly

- Blind hole (3)
- Blind holes - Threaded screws (2)
- Pass-through holes - Blind holes (2)
- Pass-through holes - Threaded screws (1)
- Threaded screw (2)
- For welding (1)

#### CFB. Hinge for narrow jambs and doors Technopolymer



AISI 303 stainless steel rotating pin. Mounting via pass-through holes with housing for M6 flat countersunk-head screws and reference pins for precise positioning of the hinge body. Max. rotation angle 200° (-10° and +190° with 0° = coplanarity of surfaces). Dimensions: 108 mm

#### CFBS Hinges for narrow jambs and doors SUPER-technopolymer



AISI 304 stainless steel rotating pin. Mounting with pass-through holes for countersunk head screws. Max. rotation angle 180° (-0° and +180° with 0° = coplanarity of surfaces). Dimension: 75 mm

#### CFF. Hinges for narrow jambs and doors Technopolymer



AISI 303 stainless steel rotating pin. Mounting via nickel-plated brass bosses with threaded hole or nickel-plated steel threaded studs. Max. rotation angle 200° (-10° and +190° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 48 - 66 mm

#### CFD. Hinges for narrow jamb Technopolymer



AISI 303 stainless steel rotating pin. Mounting by means of bosses with threaded hole, threaded studs or pass-through holes with housing for cylinder head screws. Max. rotation angle 205° (-15° and +190° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 48 - 66 mm

#### CFDA Hinges for narrow jamb SUPER-technopolymer



AISI 303 stainless steel rotating pin. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle 215° (-5° and +210° with 0° = coplanarity of surfaces). Dimensions: 72 - 100 mm

#### GN 136 Hinges Steel or stainless steel sheet



AISI 304 stainless steel rotating pin. Mounting by welding, holes for cylinder head screws, or holes with housing for flat countersunk head screws. Max. rotation angle 280° (-100° and +180° with 0° = coplanarity of surfaces). Dimensions: 30 - 40 - 45 - 50 - 60 - 75 - 90 mm

#### GN 1366 Hinges Steel Profile, for Welding



Steel pin. Either with or without lubricant nozzle. Thanks to the standard dimensions, special application-specific solutions can be realized even in relatively small quantities. Dimensions: 60 - 120 - 160 - 200 - 220 mm

#### CMDX-AL Hinges for narrow jambs and thin doors Aluminum



AISI 304 stainless steel rotating pin. Mounting by means of self-tapping stainless steel assembly screws. Available with coplanar bodies, with raised body, left or right opening. Max. rotation angle 185° (-5° and +180° with 0° = coplanarity of surfaces). Dimensions: 50 - 70 - 90 mm

#### GN 138 Hinges for narrow jamb Zinc alloy



Epoxy resin body coating. Mounting via threaded blind holes. The concealed and tamper-proof mounting from the rear highlights and enhances the special appearance of the hinge. Dimensions: 42 - 52 - 62 - 65 - 80 - 82 - 95 - 125 mm

## 13. Hinges and accessories

### 13.5 Lift-off hinges



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#### Material

- Technopolymer (3)
- Die-cast zinc alloy (2)

#### Type of assembly

- Blind hole (1)
- Pass-through holes (4)

#### CFMY

##### Lift-off hinges

*SUPER-technopolymer*



Self-lubricating technopolymer rotating pin. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm



#### CFMY-NL

##### Lift-off hinges

*with locking/unlocking system, technopolymer*



For removable doors equipped with a lock, which can be activated using a hex key or key. Mounting with pass-through holes for countersunk head screws. Max. rotation angle 195° (-15° and +180° with 0° = coplanarity of surfaces). Dimension: 60 mm



#### CMMY

##### Lift-off hinges

*Die-cast zinc alloy*



Black epoxy resin body coating. AISI 303 stainless steel rotating pin. Mounting via pass-through holes with housing for flat countersunk-head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 40 - 50 - 60 mm



#### CFGY

##### Lift-off hinges

*For profiles, SUPER-Technopolymer*



Self-lubricating technopolymer rotating pin. Mounting via pass-through holes with housing for M6 flat countersunk-head screws. Max. rotation angle 270° (-90° and +180° with 0° = coplanarity of surfaces). Dimensions: 32 mm



#### CMN

##### Lift-off hinges

*Die-cast zinc alloy*



Epoxy resin coating, RAL 9005 black colour or RAL 9006 light grey. Washer in polyamide based technopolymer. Assembly by means of threaded holes. Dimension: 63 mm



### 13.6 Electrical safety hinges



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#### Material

- Technopolymer (4)

#### Type of assembly

- Pass-through holes (3)

#### CFSQ

##### Hinges with built-in safety switch

*SUPER-technopolymer*



Safety switch with a normally closed contact (NC) and a normally open contact (NO) in change-over. Positive opening in accordance with IEC EN 60947-5-1. Double insulation of internal circuits. Dimension: 53 mm



#### CFSW.

##### Hinges with built-in safety switch

*SUPER-technopolymer*



Switch with four electrical contacts factory configurable: normally open (NO) or normally closed (NC). Positive opening in accordance with IEC EN 60947-5-1. Double insulation of internal circuits. Dimension: 110 mm



#### PMW.

##### CFSW. and CFMW. assembly kit for profiles

*for CFSW. And CFMW. hinges, SUPER-technopolymer*



AISI 304 stainless steel screws and nuts. Allows installation of CFSW.110 and CFMW.110 hinges on standard profile sizes 30, 35, 40, 45 and 50 mm with T-slot.



#### FC-M12x1

##### Extensions with M12x1 connector

*For CFSQ, CFSW, EBR-SWM and EBR-SWB*

FC-M12x1-P4: 4-pin M12x1 axial. Black PVC sheathed cable CEI 2022. Nickel-plated brass nut. FC-M12x1-P8: 8-pin M12x1 axial. Black PVC sheathed cable, UL/CSA STYLE type. Electromechanical products with 4 and 8 pole male connector output.





# 14

## Latches



A wide and varied range of industrial closures in plastic or metal which includes knob, snap, key, adjustable lever and cam closures.

### 14.1 Latches with knob



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#### Material

- Technopolymer (1)
- Technopolymer - Steel (2)
- Technopolymer - Die-cast zinc alloy (1)
- Stainless steel (4)
- Duroplast - Steel (1)
- Duroplast - Stainless steel (1)
- Die-cast zinc alloy (2)

#### CMT.AE-V0

##### Lever latches

with fold-away knob, technopolymer



Rotor, stator, fold-away knob, closing lever and nut made of UL-94 V0 technopolymer certified self-extinguish. Protection class IP 65. Rotation 90°. Dimensions: 18 - 20 - 24 - 32 mm



#### CM.

##### Lever latches

with key-way type knob, zinc alloy



Nickel-plated zinc alloy rotor, stator and knob; brass nut; zinc-plated steel closing lever and screw. Rotation 90°. Dimensions: 20 - 25 mm

#### CMLX

##### Compression latches with padlock holes

with key-type knob, zinc alloy



Nickel-plated zinc alloy rotor, stator and knob; brass nut; zinc-plated steel closing lever and screw. They are particularly suitable for use on cabinet doors and doors subject to strong vibrations. Rotation 90°. Dimensions: 30 mm

#### VCK.

##### Cam latches

with knob, steel or stainless steel cam



Smooth zinc-plated steel or AISI 303 stainless steel stud. Door thickness compensation spring in zinc-plated steel or AISI 303 stainless steel. Standard executions: opening to the right side or left side. Knob diameter: 50 - 60 - 70 mm

#### VCTK. - VCMK.

##### Cam latches

with knob, technopolymer and steel or stainless steel



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

#### VCML

##### Lever latches

with knob, stainless steel



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

#### MDA-L

##### Latches with adjustable lever

Technopolymer knob



Technopolymer covers. Threaded zinc alloy body, zinc-plated steel stud and locking nut, stainless steel spring. With or without Neoprene bolt. Rotation 90° right. Knob diameter: 53 mm, adjustment range from 4 to 46 mm



#### MDA-LS

##### Lever latches with clamping bolt

Technopolymer knob



Technopolymer covers. Zinc alloy threaded body, zinc-plated steel screw and locking nut. Neoprene bolt. Rotation 90° right. Knob diameter: 53 mm, clamping range from 1 to 41 mm



## 14. Latches

### 14.1 Latches with knob

*continues*

#### MDA-LS-SST Lever latches with clamping bolt *Technopolymer knob*



Technopolymer cap.  
Threaded body, screw and locking nut in AISI 316 stainless steel, lever in AISI 304 stainless steel. IP 65 protection class.  
Rotation 90° right.  
Knob diameter: 53 mm



#### GN 1150 Hygienic Design Lever latches

*Knob side (front hygiene) /  
Knob and plunger side  
(full hygiene)*



AISI 316L stainless steel stator and rotor;  
stainless steel ring nut, lever, and screw;  
double flat face coupling. Silicone gasket, FDA compliant. Rotation 90°. IP 66 protection class.  
For use in environments that require high levels of hygiene. Dimensions: 24 - 45 mm



### 14.2 Snap locks



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#### Material

- Technopolymer (7)
- Technopolymer - Die-cast zinc alloy (1)
- Stainless steel (1)
- Die-cast zinc alloy (1)

#### BPS Ball catch *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 4490 Ball-shaped door lock *Die-cast zinc alloy or AISI 316 LHC stainless steel.*



Pass-through holes for countersunk head screws. Standard executions: die-cast zinc alloy, normal or reinforced AISI 301 stainless steel pressure spring; AISI 316 LHC stainless steel, normal or reinforced AISI 316 Ti stainless steel force spring. Dimensions: 38 - 50 - 68 - 80 mm



#### BMS Snap door lock *Technopolymer*



Standard executions: snap lock and unlock (BMS), snap lock, manual release by means of a lever (BMS.L), snap lock, manual release by means of hexagonal key (BMS.EH) or snap lock, manual release by means of a two-wing key (BMS.A). Mounting with TCEI M4 screws.  
Diameter: 38 mm



#### BMST Snap door lock *for T-slot profiles, technopolymer*



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



#### CMS Snap locks *with handle, technopolymer*



CMS integrates both functions of handle and snap lock into a single product.  
The door can be opened by pulling the handle towards the outside.  
Diameter: 60 mm



#### CMS-CLEAN Snap door lock *with handle, technopolymer, easy cleaning*



CMS integrates both functions of handle and snap lock into a single product.  
The door can be opened by pulling the handle towards the outside.  
Diameter: 60 mm



#### GN 315 Snap locks *with unlocking button, 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

#### GN 315.1 Snap locks *with unlocking button, technopolymer and zinc alloy*



Technopolymer unlock button, light grey colour; threaded body in zinc alloy; zinc-plated steel locking nut.  
Adjustment range: 20 to 25 mm





## 14. Latches

### 14.3 Latches with key



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#### Material

- Technopolymer (11)
- Technopolymer - Die-cast zinc alloy (4)
- Technopolymer - Zamac (3)
- Steel (6)
- Stainless steel (6)
- Aluminium (1)
- Die-cast zinc alloy (9)
- Brass zinc alloy (1)

#### PR-CH Flush pull handles with lever latch

with lock,  
snap-in assembly,  
technopolymer

PA



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. Dimension: 117 mm

#### ESC Door lock handles with or without lock,

technopolymer



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POM

PA



Standard executions: rear or front mounting, with or without lock, with removable key in closed position, 90° rotation or removable in two 180° positions, 180° rotation, left or right position. Dimension: 90 mm

#### GN 119 Cam latches

with key, zinc alloy or  
stainless steel



Stator and rotor in chrome-plated zinc alloy or AISI 303 stainless steel; screw, washer, spring washer and M22x1.5 nut in zinc-plated steel, spacer in aluminium or AISI 303 stainless steel. Keyway for triangular or two-winged key.

#### GN 115.10 Flush pull handles with lever latch

with key, 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

#### EBP-CH Handle with lever latch

with key, technopolymer



Technopolymer rotor, zinc alloy locking ring and locking lever. Brass boss, threaded blind hole with keyway for triangular or two-winged key. Rotation 90°. Fixing centre distance: 117 mm

#### CSMH Latches with push handle

with handles and lever,  
zinc alloy



Handle in black or grey colour. Standard executions: lock with different combinations or one combination. 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 936 Door lock handles

with or without lock-in  
lock, zinc alloy



Two keys in nickel-plated steel, removable in two positions at 180°. Technopolymer screw covers. With or without single or differentiated encryption lock.

#### GN 119.3 Cam latches

with handle and key,  
zinc alloy



Rotor, latch cam, screw, washer, spring washer and nut M22x1.5 in zinc-plated steel. Distance element in aluminium. With keyway for triangular, square 7 or two-winged key. Black or grey handle.

#### BOCK Cam latches with key

with key, steel or  
stainless steel cam



BOCK: nickel-plated steel stud; nickel-plated brass guide bush and locking nut; sintered, hardened steel cam; zinc-plated steel spring. BOCK-SST: stainless steel stud, guide bush, locking nut, cam and spring. Right or left opening. Lengths: 46 - 54 - 64 mm

#### EBR-CH Handle with safety locking device

For retractable sliding  
doors, technopolymer



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



## 14. Latches

### 14.3 Latches with key continues

#### **CKE.** **Locking bolt** *Technopolymer*



Technopolymer, black, matte finish, with anti-intrusion profile keyway. Locking bar in AISI 304 stainless steel with technopolymer button. Dimension: 53.5 mm

#### **CLT.** **Latches for cabinets** *with handle for rod controls, technopolymer*



Chrome-plated zinc alloy handle pin with NBR synthetic rubber O-ring. Standard executions: lock with different combinations, with one combination or for technopolymer key with zamak insert and two-wing groove, European style stator, execution with IP 65 protection class. Dimension: 160 mm

#### **CQT.AE-V0** **Lever latches** *with key, technopolymer*



UL-94 V0 self-extinguishing technopolymer; stainless steel self-tapping screw. Rotation 90°. Keyway for two-winged or triangular key. Dimensions: 18 - 20 - 24 - 32 mm

#### **CQT.FM-AE-V0** **Lever latches** *with key, quick assembly, self-extinguishing technopolymer*



Technopolymer black colour. Silicone packing ring, washer with elastic fixing wings and stainless steel self-tapping screw. Technopolymer key. Rotation 90°. IP 65 protection class. Dimensions: 18 - 20 - 22 - 25 - 30 mm

#### **CQ.SST** **Lever latches** *with key, stainless steel*



Stator and rotor in stainless steel; nut, shaped closing lever and screw in AISI 304 stainless steel; two-wing or triangular keyway. Rotation 90°. IP 65 protection class. Dimensions: 18 - 24 mm

#### **CLC.** **Latches for cabinets** *with handle for rod controls, technopolymer and zinc alloy*



Chrome-plated zinc alloy handle pin and rod with NBR synthetic rubber O-ring. Standard executions: lock with differentiated or single encryption with nickel-plated brass keys, 180° removable, or lock with two-wing keyway and technopolymer key with zamak insert, European type stator, 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

#### **CQT.FM-CR** **Lever latches** *with key, quick assembly, technopolymer*



Chrome technopolymer 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

#### **CQ.** **Lever latches** *with key, zinc alloy*



Nickel-plated zinc alloy stator and rotor; brass or zinc alloy nut, zinc-plated steel shaped closing lever and screw. Rotation 90°. IP 65 protection class. Keyway for two-winged or triangular key. Dimensions: 16 - 18 - 20 - 24 - 28 - 32 mm

#### **VC.308** **Lever latches** *with flat lever, technopolymer knob with lock*



Stator and rotor in die-cast zinc alloy. Two nickel-plated brass keys, removable in two positions at 180° (locked or unlocked position). Right or left-hand opening; lock with single or differentiated encryption or without lock. Knob diameter: 40 mm



## 14. Latches

### 14.3 Latches with key continues



#### VC.309

**Lever latches**  
with flat lever,  
technopolymer knob  
with lock

PP

Die-cast zinc alloy stator and rotor; two nickel-plated brass keys, removable in two 180° positions (lock open or closed). Right or left-hand opening; lock with single or differentiated encryption or without lock. Knob diameter: 40 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

#### CS-SST

**Lever latches**  
with lock, stainless steel



AISI 316L stainless steel stator and rotor, zinc-plated steel lever, washer and rowel. Two nickel-plated brass keys removable in two positions at 180°. With single or differentiated encryption lock. Dimensions: from 13 to 30 mm



#### CS-RPR.

**Lever latches**  
with reprogrammable  
lock, steel



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

#### CX.

**Lever latches**  
with safety lock,  
zinc alloy



Lock with double shear key with internal profile. Chrome-plated zinc alloy stator and rotor. 180° rotation. With single or differentiated encryption lock. Dimensions: 22.5 - 27.5 mm

#### CSMT.

**Lever latches**  
with T-handle and lock,  
anti-rotation device,  
technopolymer

PA



Handle, stator and nut in technopolymer, rotor in zinc alloy; flat closing lever in zinc-plated steel; two nickel-plated brass keys, removable in two 180° positions. 90° clockwise rotation (right). IP 65 protection class. Differentiated or single encryption lock. Dimensions: 13.5 mm

#### CSMT-A

**Lever latches**  
with T-handle and lock,  
anti-rotation device,  
technopolymer

PA



Technopolymer stator and nut; zinc alloy rotor; zinc-plated steel closing lever; two brass keys, removable in two 180° positions. IP 65 protection class. Rotation 90° right. With single or differentiated encryption lock. Handle dimension: 80 mm

#### ELCK

**Lever latches**  
with lever handle and  
lock, technopolymer

ERGOSTYLE® PA



Zinc alloy stator and rotor, brass nut, lever. Two nickel-plated brass keys removable in two positions (locked or unlocked position). Single encryption lock, right or left opening or either right or left opening. Dimensions: 67 - 85 mm

#### RH-FG9

**Handles with lock**  
Aluminum



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°. With single or differentiated encryption lock. Dimensions: from 13 to 30 mm

#### CSM.

**Lever latches**  
with T-handle and lock,  
steel



Technopolymer stator, rotor and nut in zinc alloy; zinc-plated steel closing lever; two brass keys, removable in two 180° positions. IP 65 Protection class. Rotation 90° right. With single or differentiated encryption lock. Handle size: 80 mm

## 14. Latches

### 14.3 Latches with key continues

#### GN 123

**Sheet metal puncher**  
Puncher for lock  
assemblies for latches  
in sheet metal, steel



Punch and die made of hardened steel; ball bearing and hexagon nut made of black-oxide and hardened steel. Hardened steel threaded guide pin; steel locking nut.

#### CQTF.FM-AE-V0

**Lever latches**  
Quick-assembly,  
technopolymer



Silicone packing ring.  
Washer with elastic fixing wings and self-tapping screw in stainless steel. Rotation 90°. IP 65 protection class. Keyway for two-winged or triangular key. Dimensions: 18 - 20 - 22 - 25 - 30 mm

#### CQTL.FM

**Lever latches**  
with key, quick assembly,  
technopolymer



Silicone packing ring.  
Washer with elastic fixing wings and self-tapping screw in stainless steel. Rotation 90°. IP 65 protection class. Keyway for two-winged or triangular key. Dimensions: 18 - 20 - 22 - 25 - 30 mm

#### CSL.FM

**Lever latches with key**  
with lock, technopolymer  
and zinc alloy



Stator in technopolymer, rotor in zinc alloy; flat closing lever in zinc-plated steel; two nickel-plated brass keys, removable in one position. Rotation 90° right. IP 65 protection class. With single or differentiated encryption lock. Dimensions: 18 - 20 - 22 - 25 - 30 - 32 mm

### 14.4 Toggle latches



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#### Material

- Steel (20)
- Stainless steel (13)
- Die-cast zinc alloy (2)

#### TLA.

**Toggle latches**  
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

#### TLC.

**Toggle latches**  
Steel or stainless steel



TLC.Z: zinc-plated steel.  
TLC.SST: AISI 304 stainless steel.  
Dimensions: 76 mm

#### TLG.

**Toggle latches**  
Steel or stainless steel



TLG.Z: zinc-plated steel.  
TLG.SST: AISI 304 stainless steel.  
Dimensions: 114 - 115 mm

#### TLI.

**Toggle latches**  
Steel or stainless steel



TLI.Z: zinc-plated steel.  
TLI.SST: AISI 304 stainless steel.  
Dimensions: 90 mm

#### TLV.

**Toggle latches**  
Steel or stainless steel



Lever body and matching part in zinc-plated steel or in AISI 304 stainless steel. Special executions on request: catch brackets in different shapes and finishes. Lever dimensions: 40 mm

#### TLE.

**Toggle latches**  
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



## 14. Latches

### 14.4 Toggle latches

continues



#### 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



#### TLW Toggle latches

Steel or stainless steel



Eyelet or T-shaped pulling hook and matching part in zinc-plated steel.  
Eyelet or T-shaped pulling hook and matching part in AISI 304 stainless steel, pins in AISI 303 stainless steel.  
Dimensions: 117.5 ÷ 189.5 mm



#### TLWS Toggle latches

with safety stop, steel or stainless steel



Eyelet or T-shaped pulling hook and matching part in AISI 301 stainless steel.  
Eyelet or T-shaped pulling hook and matching part in AISI 304 stainless steel, pins in AISI 303 stainless steel.  
Dimensions: 117.5 ÷ 189.5 mm



#### TLT. Adjustable hook clamps

Steel or stainless steel



Lever body and matching part in zinc-plated steel or in AISI 304 stainless steel.  
Special executions on request: stop locks that are lockable or with safety spring.  
Dimension: 60÷70 mm



#### TLS. Adjustable hook clamps

Steel

Lever body and matching part in zinc-plated steel or in zinc-plated steel.  
Special executions on request: Adjustable and lockable hook clamps.  
Dimension: 150 mm



#### GN 702 Stop locks

4 indexing positions (90°), zinc alloy

These stop locks are suitable for clamping drawers or doors in applications subject to strong vibrations. Mounting by means of base flange with two countersunk screw holes, body with threaded hole or threaded body with nut.  
Dimensions: 40 - 55 mm



#### GN 720 Stop locks

4 indexing positions (90°), zinc alloy

These stop locks are suitable for clamping drawers or doors in applications subject to strong vibrations. Black or light grey, matte finish. AISI 304 stainless steel countersunk-head assembly screws.  
Dimensions: 45 - 65 mm



#### TLL. Stop lock

Steel

Lever body in zinc-plated steel.  
Special executions on request: AISI 304 stainless steel hook clamps.  
Dimension: 125.5 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



#### TLN. Adjustable hook clamp

Steel

Lever body in zinc-plated steel.  
Special executions on request: nickel-plated steel stop locks.  
Dimension: 82÷94 mm



## 14. Latches

### 14.4 Toggle latches

*continues*

#### **TLP.** Stop lock *Steel*



Zinc-plated steel body.  
Special executions on request: AISI 304  
stainless steel hook clamps.  
Dimension: 66 mm

#### **TLU.** Adjustable hook clamps *Steel*



Used particularly for sloping surfaces.  
Lever body material and matching part in  
zinc-plated steel.  
Dimension: 60÷65 mm

#### **TLY.** Toggle latches *Steel*



Lever body in zinc-plated steel.  
Welding mounting.  
Special executions on request: AISI 304  
stainless steel hook clamps.  
Dimension: 81 mm

#### **TLR.** Clamps tensile compensated *Steel or stainless steel*



Suitable for use on doors subject to vibration  
due to the traction compensation action  
exerted by the springs.  
Zinc-plated steel or AISI 304 stainless steel.  
Dimension: 61.5 mm

#### **TLX.** Toggle latches *Steel or stainless steel*



Equipped with an internal spring mechanism  
that keeps both the control lever and the  
locking hook in the open position.  
Lever body, matching part and tension spring in  
zinc-plated steel or in AISI 304 stainless steel.  
Dimensions: 53 - 76 - 111 - 152 mm

#### **TLZ.** Toggle latches *Steel*



Lever body material and matching part in  
zinc-plated steel.  
Dimension: 93 mm





# 15

## Toggle and fastening clamps



A wide range of quick clamping tools, using toggle mechanisms; useful for industrial applications where strong clamping forces and repetitive movements are required to clamp components.

### 15.1 Horizontal toggle clamps



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#### Material

- Steel (7)
- Stainless steel (5)

#### MOC. Horizontal toggle clamps

with folded base, steel or stainless steel



Hardened and ground steel support bosses (for dimensions  $\geq 355$ ). Red polyurethane handle. With open clamping lever and two folded washers. Dimensions: 118 - 170 - 195 - 270 mm



#### MOA. Horizontal toggle clamps

with folded base, steel



Hardened and ground steel support bosses (for dimensions  $\geq 355$ ). Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 68 - 118 - 170 - 195 - 269 - 308 mm

#### MOA-SST Horizontal toggle clamps

with folded base, stainless steel



Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 68 - 118 - 170 - 195 mm



#### MOAS. Horizontal toggle clamps

with folded base and anti-release lever, steel or stainless steel



Hardened and ground steel support bosses (for dimensions  $\geq 355$ ). Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 118 - 171,5 - 196 - 269 - 305 mm

#### MOAS-PR Clamps with extended lever, horizontal series

with folded base and anti release lever, steel



Hardened and ground steel support bosses. Red polyurethane handle. Polyvinylchloride (PVC) anti-release lever coating. The main characteristic of the MOAS-PR clamp is the special extension of the locking arm to assist the specific use in checking templates. Dimensions: 171 - 196 mm

#### MOB. Horizontal toggle clamps

with straight base, steel



Hardened and ground steel support bosses (for dimensions  $\geq 355$ ). Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 118 - 170 - 195 - 269 - 308 mm

#### MOB-SST Horizontal toggle clamps

with straight base, stainless steel



Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 118 - 170 - 195 mm



#### MOBS. Horizontal toggle clamps

with straight base and safety stop, steel or stainless steel



Hardened and ground steel support bosses (for dimensions  $\geq 355$ ). Red polyurethane handle. With open clamping lever and two folded washers or with solid clamping lever and welding tie. Dimensions: 118 - 171,5 - 196 - 269 - 305 mm



## 15. Toggle and fastening clamps

### 15.1 Horizontal toggle clamps

*continues*

**MOBS-PR**  
Clamps with  
extended lever,  
horizontal series  
*with straight base and  
anti-release lever, steel*



Hardened and ground steel support bosses.  
Red polyurethane handle.  
Polyvinylchloride (PVC) anti-release lever  
cover. The special extension of the locking arm  
facilitates specific use in checking templates.  
Dimensions: 171 - 196 mm

### 15.2 Vertical toggle clamps



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#### Material

- Steel (11)
- Stainless steel (4)

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



Hardened and ground steel support bosses.  
Red polyurethane handle.  
With open clamping lever and two folded  
washers or with solid clamping lever and  
welding tie. Dimensions: 66,5 - 85 - 110,5 - 129  
- 164 - 223 mm

**MVAS.**  
Vertical toggle  
clamps  
*with folded base and  
anti-release lever, steel  
or stainless steel*



Hardened and ground steel support bosses.  
Red polyurethane handle. Polyvinylchloride  
(PVC) anti-release lever coating. With open  
clamping lever and two folded washers or with  
solid clamping lever and welding tie.  
Dimensions: 85 - 110,5 mm

**MVAS-PR**  
Clamps with  
extended lever,  
vertical series  
*with folded base and  
anti release lever, steel*



Hardened and ground steel support bosses.  
Red polyurethane handle. Polyvinylchloride  
(PVC) anti-release lever coating. With open  
clamping lever and two folded washers or with  
solid clamping lever and welding tie.  
Dimensions: 164 - 198 mm

**MVB.**  
Vertical toggle  
clamps  
*with straight base, steel  
or stainless steel*



Hardened and ground steel support bosses.  
Red polyurethane handle.  
With open clamping lever and two folded  
washers or with solid clamping lever and  
welding tie. Dimensions: 66,5 - 85 - 110,5 - 129  
- 164 - 223 mm

**MVBS.**  
Vertical toggle  
clamps  
*with straight base and  
safety stop, steel or  
stainless steel*



Hardened and ground steel support bosses.  
Red polyurethane handle. Polyvinylchloride  
(PVC) anti-release lever coating. With open  
clamping lever and two folded washers or with  
solid clamping lever and welding tie.  
Dimensions: 85 - 110,5 mm

**MVBS-PR**  
Clamps with  
extended lever,  
vertical series  
*with straight base and  
anti-release lever, steel*



Hardened and ground steel support bosses.  
Red polyurethane handle.  
Polyvinylchloride (PVC) anti-release lever  
cover. The special extension of the locking arm  
facilitates specific use in checking templates.  
Dimensions: 164 - 198 mm

**MVC.**  
Vertical toggle  
clamps  
*with double base, steel*

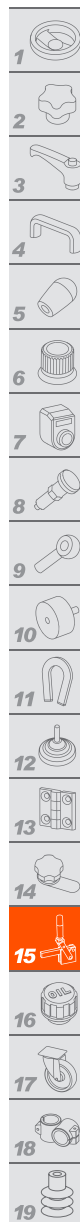


Red polyurethane handle.  
With open clamping lever and two folded  
washers or with solid clamping lever and  
welding tie.  
Dimensions: 157 - 193 mm

**MVD.**  
Vertical toggle  
clamps  
*with double base, steel*



Red polyurethane handle.  
With open clamping lever and two folded  
washers or with solid clamping lever and  
welding tie.  
Dimensions: 103 - 130 mm



## 15. Toggle and fastening clamps

### 15.2 Vertical toggle clamps

*continues*



#### MVA.L

##### Reinforced vertical toggle clamps

*with folded base, steel*



Hardened and ground steel support bosses and rotating pins.  
Red polyurethane handle.  
With open clamping lever and two folded washers or with solid clamping lever.  
Dimensions: 86 - 129,5 - 161 - 203 mm



#### MVB.L

##### Reinforced vertical toggle clamps

*with straight base, steel*



Hardened and ground steel support bosses and rotating pins.  
Red polyurethane handle.  
With open clamping lever and two folded washers or with solid clamping lever.  
Dimensions: 86 - 129,5 - 161 - 203 mm



#### MPB.

##### Heavy-duty vertical toggle clamps

*Steel*

Hardened and ground steel support bosses, rotating pins and seeger rings.  
Red polyurethane handle.  
Dimensions: 190 - 220 - 250 mm



### 15.3 Push Pull toggle clamps



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#### Material

- Steel (5)
- Stainless steel (1)

#### MFA.

##### Push-pull toggle clamps

*Steel*

Rivets and push lever in zinc-plated steel.  
Guide bush in zinc-plated brass.  
Red polyurethane handle.  
Dimensions: 130 - 167 mm



#### MFC.

##### Push-pull toggle clamps

*Steel*

Rivets and push lever in zinc-plated steel.  
Manganese phosphate pressed steel base, black colour.  
Red polyurethane handle.  
Dimensions: 86 - 116 - 122 - 164,5 - 182 - 238 - 316 mm



#### MFC-SST

##### Push-pull toggle clamps

*Stainless steel*



Rivets and push lever in stainless steel. AISI 304 stainless steel base.  
Red polyurethane handle.  
Dimensions: 86 - 116 - 122 mm



#### MLA.

##### Push-pull toggle clamps

*Steel*

Rivets, push lever and guide bush in zinc-plated steel.  
Red polyurethane handle.  
Pressure clamping with right or left rotation.  
Dimensions: 73 mm



#### MLB.

##### Push-pull toggle clamps

*Steel*

Rivets and push lever in zinc-plated steel.  
Manganese phosphate steel base, black colour, pass-through holes.  
Red polyurethane handle.  
Dimensions: 85 - 117 - 164,5 mm



#### MFE.

##### Push-pull toggle clamps

*Steel*

Rivets, push lever and guide bush in zinc-plated steel.  
Red polyurethane handle.  
Mounting bracket in zinc-plated steel available to order separately.  
Dimensions: 71 - 113 - 173 mm



## 15. Toggle and fastening clamps

### 15.3 Push Pull toggle clamps

*continues*

#### MFE-SST Push-pull toggle clamps

Stainless steel



Rivets and push lever in AISI 304 stainless steel. AISI 303 stainless steel guide bush. Red polyurethane handle. Mounting bracket in zinc-plated steel available to order separately. Dimensions: 71 - 113 - 173 mm



### 15.4 Latch clamps



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#### Material

- Steel (16)
- Stainless steel (11)

#### MTC. Latch clamps

Steel



Rivets, double pulling hook parallel to the clamping arm, oscillating pin and nuts in zinc-plated steel. Red polyurethane handle. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 98 - 152 - 220 mm



#### MTC-SST Latch clamps

Stainless steel



Rivets, oscillating pin and nuts in AISI 304 stainless steel. Double pulling hook parallel to the clamping arm in AISI 304 stainless steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 98 - 152 - 220 mm



#### MTC-S Latch clamps

with safety device, steel or stainless steel



Zinc-plated steel rivets, pulling hook, oscillating pin and nuts. Red polyurethane handle. The clamp opening is obtained by actuating the button to disengage the safety device, thus it is possible to operate with the control lever. Dimensions: 101 - 169 - 221 mm



#### MTD. Latch clamps

Steel



Rivets, double pulling hook, oscillating pin and nuts in zinc-plated steel. Red polyurethane handle. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 68 - 106 - 147 mm



#### MTD-SST Latch clamps

Stainless steel



AISI 304 stainless steel rivets. Double pulling hook perpendicular to the clamping arm, oscillating pin and nuts in AISI 304 stainless steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 68 - 106 - 147 mm



#### MTE. Latch clamps

Steel



AISI 304 stainless steel rivets. Double pulling hook perpendicular to the clamping arm, oscillating pin and nuts in AISI 303 stainless steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 68 - 106 - 147 mm



#### MTA. Latch clamps

Steel



Rivets, oscillating pin and nuts in zinc-plated steel. Red polyurethane handle. With traction pin or with traction hook. Dimensions: 203 - 226 - 250 - 278 - 305 - 343 mm



#### MTP. Heavy-duty latch clamps

Steel



Pin in ground and hardened steel. Double pulling hook, oscillating pin and nuts in zinc-plated steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 226 - 282 mm



## 15. Toggle and fastening clamps

### 15.4 Latch clamps

continues



#### MTP-SST Heavy-duty latch clamps

Stainless steel



Pin, double pulling hook, oscillating pin and nuts in AISI 303 stainless steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 226 - 282 mm



#### MTP-S Latch clamps

with safety device, steel or stainless steel



Pin in ground and hardened steel or in AISI 303 stainless steel. Double pulling hook, oscillating pin, nuts, lever and safety hook in zinc-plated steel or in AISI 304 stainless steel. The tool is opened by pressing the button to disengage the safety device. Dimensions: 226 - 282 mm



#### MTS-D Heavy-duty latch clamps

Steel



Pin in ground and hardened steel. Double pulling hook, oscillating pin and nuts in zinc-plated steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 159,5 mm



#### MTS. Heavy-duty latch clamps

weldable steel



Pin in ground and hardened steel. Double pulling hook, oscillating pin and nuts in zinc-plated steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 221 - 277 mm



#### MTS-SST Heavy-duty latch clamps

weldable stainless steel



Pin, double pulling hook, oscillating pin and nuts in AISI 303 stainless steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 221 - 277 mm



#### MTS-S Latch clamps, weldable

with safety stop, steel or stainless steel, heavy-duty series



Pin in ground and hardened steel or in AISI 303 stainless steel. Double pulling hook, oscillating pin, nuts, lever and safety hook in zinc-plated steel or in AISI 303 stainless steel. The tool is opened by pressing the button to disengage the safety device. Dimensions: 221 - 277 mm



#### MTS-D Heavy-duty latch clamps

weldable steel



Pin in ground and hardened steel. Double pulling hook, oscillating pin and nuts in zinc-plated steel. The position of the pulling hook can be adjusted in length according to the specific applications. Dimensions: 159,5 mm



#### TRU U-shaped pulling hooks for pulling hook clamps

Zinc-plated steel or stainless steel



TRU pulling hooks provide various fastening solutions for pulling hook clamps. They come with 4 nuts.



#### MTL. Heavy-duty latch clamps

with safety device, steel



Pins in ground and hardened steel. Red polyurethane handle. The engaging position can be length-regulated in order to suit better the application by means of a threaded hook, locked in place by a grub screw. Dimensions: 318 mm



#### MTB. Latch clamps

with safety device, steel



Rivets in zinc-plated steel. Red polyurethane handle. The engaging position can be length-regulated in order to suit better the application by means of a threaded hook, locked in place by a locking nut. Dimensions: 103 - 153 - 222 mm



## 15. Toggle and fastening clamps

### 15.4 Latch clamps

*continues*

#### MTB-SST

##### Latch clamps

*with safety device,  
stainless steel*



AISI 304 stainless steel rivets. Red polyurethane handle. The engaging position can be length-regulated in order to suit better the application by means of a threaded hook, locked in place by a locking nut. Dimensions: 103 - 153 - 222 mm



#### MTF.

##### Latch clamps

*Zinc-plated steel or  
stainless steel*



Polyurethane handle. With traction pin and matching part, with threaded hole without matching part, with eyelet-shaped pulling hook and matching part, with T-shaped pulling hook and matching part or with hook-shaped pulling hook and matching part. The position of the pulling hook can be adjusted in length. Dimensions: 200 - 248 mm



#### MTF-S

##### Latch clamps

*with safety stop,  
zinc-plated steel or  
stainless steel*



With traction pin and matching part, with threaded hole without matching part, with eyelet-shaped pulling hook and matching part, with T-shaped pulling hook and matching part or with hook-shaped pulling hook and matching part. The position of the pulling hook can be adjusted in length. Dimensions: 200 - 248 mm



### 15.5 Clamps for rotational moulds - Reverse clamps



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#### Material

- Steel (4)

#### MVA-R

##### Vertical toggle clamps

*with folded base, steel*

Phosphated weldable steel body. Phosphated steel rivets. Dimensions: 85 - 110 - 128 mm



#### MCR

##### Toggle clamps

*weldable steel*

Pin in ground and hardened steel. The position of the threaded screw can be adjusted according to specific applications. Dimensions: 54 mm



#### MOA-R

##### Horizontal toggle clamps

*with folded base, steel*

Phosphated weldable steel body. Phosphated steel rivets. They are particularly suitable for applications on moulds for plastic materials and in rotational moulding. Dimensions: 162 - 190 - 260,5 mm



#### MTR.

##### Latch clamps

*weldable steel*

Pin in ground and hardened steel. Double pulling hook, oscillating pin and nuts in natural steel. With clamping hole by removable tube or with clamping lever. Dimensions: 220 - 334 mm



### 15.6 Pneumatic fastening clamps



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#### PVB.

##### Heavy-duty pneumatic clamps

*Steel*

Rivets and pins in zinc-plated steel. With open or full clamping lever for welding or with magnetic cylinder. Dimensions: 162 - 195 - 259 - 307 - 363 mm

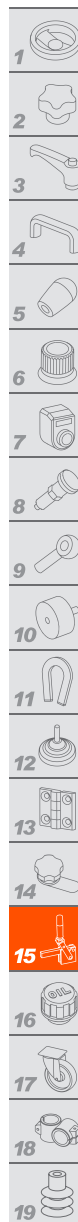


#### PPC.

##### Clamps, heavy-duty series

*for heavy duty applications, steel*

Spheroidal cast iron body painted black. Hexagon socket countersunk head screws for cylinder support in black-oxide steel. Hardened and ground steel rotating pins and seeger rings. Dimensions: 410 - 487 mm



## 15. Toggle and fastening clamps

### 15.6 Pneumatic fastening clamps continues



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#### Material

- Technopolymer (1)
- Steel (29)
- Aluminium (2)

**PVD.**  
**Heavy-duty pneumatic clamps**  
with toggle-joint support, steel



Rivets and pins in zinc-plated steel.  
With open or full clamping lever for welding or with magnetic cylinder.  
Dimensions: 99 - 118 - 153 - 182 mm

**PVE.**  
**Heavy-duty pneumatic clamps**  
with additional manual override and toggle mechanism, steel



Rivets and pins in zinc-plated steel.  
With open or full clamping lever for welding or with magnetic cylinder.  
Dimensions: 153 - 182 mm

**PFB.**  
**Heavy-duty pneumatic clamps**  
with push lever, steel



Manganese phosphate pressed steel base, black colour.  
Hardened and ground steel rotating pin and Seeger ring (for dimensions of 360).  
With magnetic cylinder.  
Dimensions: 163 - 274 - 361 - 482 mm

**PPD.**  
**Heavy-duty pneumatic clamps**  
for heavy duty applications, steel



Spheroidal cast iron body painted black.  
Hexagon socket countersunk head screws for cylinder support in hardened steel.  
Hardened steel cylinder support bosses.  
Hardened and ground steel rotating pins and seeger rings. Dimensions: 215 - 246,5 mm

**PPE.**  
**Heavy-duty pneumatic clamps**  
for heavy duty applications, steel



Rivets and pins in hardened steel.  
With open or full clamping lever for welding or with magnetic cylinder.  
Dimensions: 161 - 195 mm

**PSWX**  
**Limit switches**



Protection classification: IP 67  
Cable length: 3.0 m

**MM-BL-NK**  
**Pneumatic fastening clamps**  
For side locking



Nickel-plated steel. Maximum working pressure 10 bar. MM-BL-NK pneumatic fastening clamps are characterised by a "double effect" pneumatic cylinder which transmits a rotating movement to the clamping arm. Brackets, fasteners and sensors on request. Dimensions: 20 - 32 - 40 - 50 mm.

**MM-BI-NK**  
**Pneumatic fastening clamps**  
For axial locking



Nickel-plated steel. Maximum working pressure 10 bar. MM-BI-NK pneumatic fastening clamps are characterized by a "double effect" pneumatic cylinder which transmits a rotating movement to the clamping arm. Brackets, fasteners and sensors on request. Dimensions: 20 - 32 - 40 - 50 mm.

**MM-BC-NK**  
**Pneumatic fastening clamps**  
For axial locking with central fixing



Nickel-plated steel. Maximum working pressure 10 bar. MM-BC-NK pneumatic fastening clamps are characterised by a "double action" pneumatic cylinder that transmits a rotary motion to the clamping arm. Brackets, fasteners and sensors on request. Dimensions: 20 - 32 - 40 mm.

**MM-A-RG-NK**  
**Y-shaped brackets for clamping screws**  
Steel



Screws and MM-CC centring bosses in black-oxide steel. They are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps. Dimensions: 37 - 53 - 63 - 73 mm.



## 15. Toggle and fastening clamps

### 15.6 Pneumatic fastening clamps continues

#### **MM-A-RG1-NK** I-shaped brackets for clamping screw *Steel*



Screws and MM-CC centring bosses in black-oxide steel. They are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps.  
Dimensions: 37 - 53 - 63 - 73 mm.

#### **MM-A-SCL-NK** I-shaped brackets for jaw block *Steel*



Screws and MM-CC centring bosses in black-oxide steel. They are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps.  
Dimensions: 54 - 76 - 93 - 113 mm

#### **MM-FL-RG1-NK** Lower brackets for clamping screw *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BL-NK pneumatic fastening clamps.  
Dimensions: 38 - 54,5 - 63 - 73,5 mm

#### **MM-FL-SCL-NK** I-shaped lower brackets for jaw block *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BL-NK pneumatic fastening clamps.  
Dimensions: 55 - 77,5 - 93 - 113,5 mm

#### **MM-FI-RG1-NK** Long I-shaped brackets for clamping screw *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BI-NK pneumatic fastening clamps.  
Dimensions: 98,5 - 140 - 168 - 192,5 mm

#### **MM-A-SC-NK** Y-shaped brackets for jaw block *Steel*



Screws and MM-CC centring bosses in black-oxide steel. They are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps.  
Dimensions: 37 - 53 - 63 - 73 mm.

#### **MM-FL-RG-NK** Lower brackets for clamping screws *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BL-NK pneumatic fastening clamps.  
Dimensions: 38 - 54,5 - 63 - 73,5 mm

#### **MM-FL-SC-NK** Lower brackets for jaw block *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BL-NK pneumatic fastening clamps.  
Dimensions: 38 - 54,5 - 63 - 73,5 mm

#### **MM-FI-RG-NK** Long Y-shaped brackets for clamping screws *Steel*

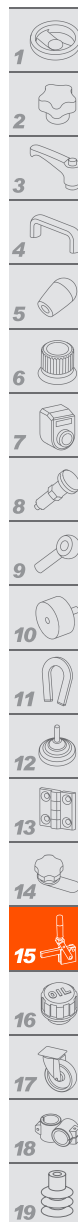


Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BI-NK pneumatic fastening clamps.  
Dimensions: 98,5 - 140 - 168 - 192,5 mm

#### **MM-FI-SC-NK** Long Y-shaped brackets for jaw block *Steel*



Screws and MM-CC centring bosses in black-oxide steel.  
They are compatible with MM-BI-NK pneumatic fastening clamps.  
Dimensions: 115,5 - 163 - 198 - 232,5 mm



## 15. Toggle and fastening clamps

### 15.6 Pneumatic fastening clamps continues



#### **MM-FI-SCL-NK** Long I-shaped brackets for jaw blocks *Steel*



Screws and MM-CC centring bosses in black-oxide steel. They are compatible with MM-BI-NK pneumatic fastening clamps. Dimensions: 115,5 - 163 - 198 - 232,5 mm

#### **MM-SC** Jaw blocks *Steel*



They are compatible with the brackets, which in turn are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps.

#### **MM-SI** Proximity switches for pneumatic fastening clamps *Inductive sensor*



Polyamide-based technopolymer (PA) housing, polyurethane (PUR) connector, thermoplastic polyurethane (TPU) cable and nickel-plated brass nut. They allow the MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps to induce controlled signals that have as their output the lighting of three LEDs that signal the position of the arm.

#### **MM-CC** Centring bosses *Steel*



In addition to ensuring the correct positioning of the jaw blocks, brackets and pneumatic fastening clamps, they also maintain the correct axiality of loads when clamping workpieces.

#### **MM-PTA** Rear protections for pneumatic fastening clamps MM-BL-NK



Black anodised aluminium. They prevent any processing residues or external bodies from penetrating inside the MM-BL-NK pneumatic fastening clamps.

#### **MM-RG** Grub screws *Ball terminal, steel*



Black-oxide steel screw and nut. Zinc-plated steel washers. Hardened steel knurled flat-faced ball, non-reversible. They are compatible with the arms and clips, which in turn are compatible with MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps.

#### **MM-GBK** Shim Kit *For jaw blocks*



Steel. The shims are used to correct any misalignments and facilitate the correct positioning of the MM-SC jaw blocks, in this way maximising the locking force. For each code a kit of 5 shims of different "s" sizes is supplied.

#### **MM-CS** Connector cable M12x1 *For proximity switch MM-SI*



Polyurethane (PUR) connector, black, thermoplastic polyurethane (TPU) cable, orange, and nickel-plated brass nut. Connector with housing and contact holder 4 pole M12x1. IP67 protection class and cables compatible with aggressive environments.

#### **MM-SBA** Mounting brackets *for pneumatic fastening clamps*



Anodised aluminium bracket, black colour. Screw and MM-CC centring bosses in black-oxide steel. Zinc-plated steel washers. They allow a quick and effective assembly of the MM-BL-NK, MM-BI-NK or MM-BC-NK pneumatic fastening clamps for different applications.

## 15. Toggle and fastening clamps

### 15.7 Toggle-joint mechanisms



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#### Material

- Steel (4)

#### MGC.L Toggle-joint mechanisms *Steel*



Rotating pins and support bosses made of hardened steel. They are very versatile as you can weld the different parts and accessories together, allowing you to build your own clamping tool.



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



Rotating pins and support bosses made of hardened steel. They are very versatile as you can weld the different parts and accessories together, allowing you to build your own clamping tool.



#### MGB.L Toggle-joint mechanisms *Steel*



Rotating pins and support bosses made of hardened steel. They are very versatile as you can weld the different parts and accessories together, allowing you to build your own clamping tool.



#### ALL. Accessories for toggle-joint mechanisms *Steel*

Red polyurethane handle. They are designed to optimise the use of toggle-joint mechanisms.



### 15.8 Toggle clamp accessories



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#### Material

- Technopolymer (2)
- Steel (4)
- Stainless steel (3)

#### SHH. - SHH-SST Bolts for toggle clamps *Steel or stainless steel*



Zinc-plated steel or AISI 304 stainless steel nuts.



#### SSH. Spring bolts for toggle clamps *Steel*

Nitrided steel base and flange. Zinc-plated steel rod with screwdriver socket for adjustment. Hardened harmonic steel spring. Nuts in zinc-plated steel.



#### SRH. - SRH-SST Bolts for toggle clamps *Steel or stainless steel, rubber*



Neoprene base in black, hardness 85 Shore A. Zinc-plated steel or AISI 304 stainless steel nuts.



#### SAH. - SAH-SST Bolts for toggle clamps *Steel or stainless steel*



AISI 304 stainless steel or zinc-plated steel base, threaded stem, and nuts.



#### NCH. Caps for bolts *Rubber*

Black neoprene, hardness 85 Shore A.



#### NCN. Caps for bolts with threaded insert, steel and rubber

Black neoprene, hardness 85 Shore A. Zinc-plated steel threaded insert.



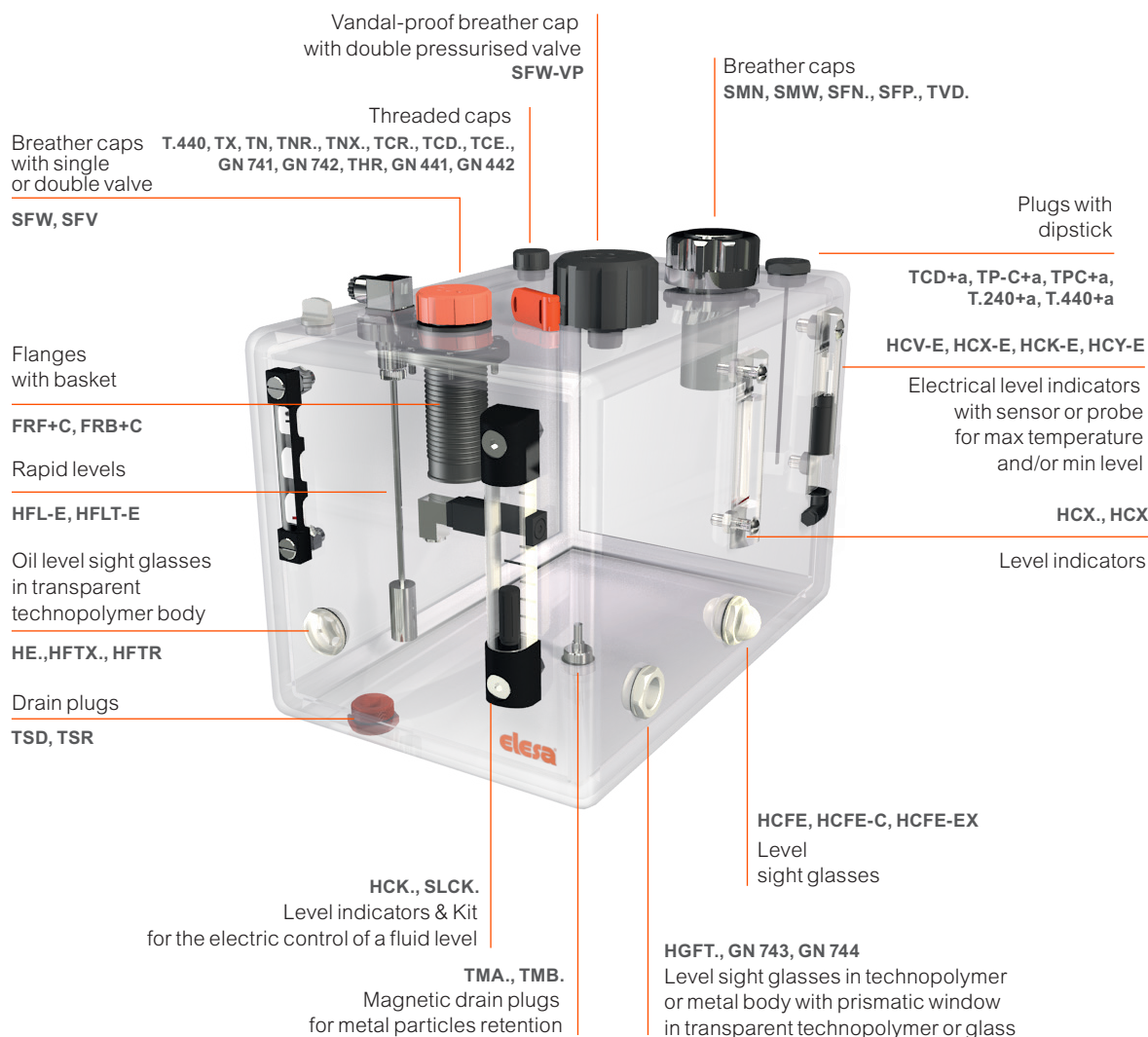


# 16

## Accessories for hydraulic systems



Components designed for a wide range of hydraulic system applications, available in various materials to withstand different liquids and oils, extreme temperatures, and environments with explosion risks.



## ATEX

### Compliant with ATEX European Directive

Non-electrical components complying with health and safety requirements according to ATEX European Directive 2014/34/EU (explosive atmospheres) for equipment in Group II, category 2GD.



## 16.1 Blanking plugs



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### Material

- Technopolymer (26)
- Duroplast (3)
- Steel (2)
- Aluminium (7)
- Stainless Steel (1)

### TN.

#### Oil plugs

flat packing ring,  
technopolymer



Standard executions: without or with side vent hole. Maximum continuous working temperature: 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

### TNR.

#### Oil plugs for high pressure

O-Ring,  
SUPER-technopolymer



Maximum continuous working temperature: 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

### TNX.

#### Oil plugs

Polyethylene



Maximum continuous working temperature: 60°C. Metric threadings: M8 - M10 - M12 - M14 - M16 - M18 - M20 - M22 - M24 - M25 - M26 - M27 - M28 - M30 - M32 - M33 - M36 - M38 - M42 - M45 - M48 - M52. GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 1 3/4 - 2

### MH.

#### Label for plugs

with fill or drain graphic symbol, aluminium



MH.N: neutral, without symbols;  
MH.C: "fill" graphic symbol in compliance with DIN standards;  
MH.S: "drain" graphic symbol in compliance with DIN standards. Maximum continuous working temperature: 100°C.  
Diameters: 15 - 17 - 20.5 - 25 - 31 mm

### TN-EX

#### Plugs -

ATEX Directive  
flat packing ring,  
technopolymer



TN-EX plugs comply with Health and Safety Requirements defined in 2014/34/EU ATEX European Directive (explosive atmospheres) for equipments in Group II, category 2GD. GAS threadings: 3/8 - 1/2 - 3/4

### TNR-PP

#### Oil plugs for high pressure

O-Ring, technopolymer  
(polypropylene)



Maximum continuous working temperature: 80°C  
Metric threadings (pitch 1.5): M16 - M20  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1

### TCR.

#### Oil plugs for high pressure

O-Ring, fill graphic symbol,  
SUPER-technopolymer



Maximum continuous working temperature: 100°C  
Metric threadings: M14 - M16 - M20 - M26 - M27 - M33 - M35 - M40 - M42  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

### TCD.

#### Oil plugs

flat packing ring, fill graphic symbol,  
technopolymer



Maximum continuous working temperature: 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



## 16. Accessories for hydraulic systems

### 16.1 Blanking plugs continues



#### TCD+a

##### Oil plugs

flat packing ring, flat dipstick, fill graphic symbol, technopolymer



Flat dipstick in phosphated steel.

Maximum continuous working temperature: 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

#### TCDF+P

##### Oil plugs

With side hole and anti-splash disc, technopolymer



Maximum continuous working temperature: 100°C.

Metric threadings (pitch 1.5): M16 - M18 - M20 - M25 - M26 - M35  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

#### TSD.

##### Oil plugs

flat packing ring, drain graphic symbol, technopolymer



Maximum continuous working temperature: 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

#### TSR.

##### Oil plugs for high pressure

O-Ring, drain graphic symbol, SUPER-technopolymer



Maximum continuous working temperature: 100°C

Metric threadings: M14 - M16 - M18 - M20 - M26 - M27 - M33 - M40 - M42  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### TMA.

##### Magnetic plugs

Aluminum



Permanent magnetic element made of a special alloy with high attraction power for the retention of any metal particles in the oil.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4

#### TMB.

##### Magnetic plugs

Aluminum



Magnetic element with a high attraction power for the retention of any metal particles in the oil.  
Maximum continuous working temperature: 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.

##### Oil plugs

with hexagon socket, technopolymer



NBR or FKM rubber flat washer.  
Suitable for use with fuels (such as diesel and high octane petrol), alcohols, and weak organic acids. Metric threadings (pitch 1.5): M10 - M12 - M14 - M16 - M18 - M20 - M22  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4

#### DIN 908

##### Oil plugs

with hexagon socket, steel



Standard executions: without gasket, with flat gasket in copper or in aluminium.  
Metric threadings: M8 - M10 - M12 - M14 - M16 - M18 - M20 - M22 - M24 - M26 - M27 - M30 - M33 - M42 - M48.  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### GN 749

##### Oil plugs for high pressure

with hexagon socket, steel



NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C.  
Metric threadings: M8 ÷ M48  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### GN 741

##### Oil plugs

Aluminum



NBR synthetic rubber flat washer. Standard executions: natural or anodised aluminium in black. Maximum continuous working temperature: 100°C. Metric threadings: M14 - M16 - M20 - M26 - M33 - M42. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2



## 16. Accessories for hydraulic systems

### 16.1 Blanking plugs continues

#### GN 742 Oil plugs for high temperatures Aluminum



Flat washer in FKM. Standard executions: natural or anodised aluminium in black. Maximum continuous working temperature: 180°C. Metric threadings: M14 - M16 - M20 - M26 - M33 - M42. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### GN 742.5 Oil plugs AISI 316L stainless steel



Flat washer in FKM. Standard executions: neutral, with load or unload symbol. Maximum continuous working temperature: 180°C. Metric threadings: M14 - M16 - M20 - M26 - M33. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1

#### THR. Oil plugs for manual tightening O-Ring, technopolymer



Maximum continuous working temperature: 100°C  
GAS threadings: 1/2 - 3/4 - 1

#### THR-RC Oil plugs for manual tightening With O-Ring and elastic fork, technopolymer



Maximum continuous working temperature: 100°C  
NBR synthetic rubber O-Ring.  
GAS threadings: 1/2 - 3/4 - 2

#### THR-LP Oil plugs for manual tightening With O-Ring and retaining chain, technopolymer



Maximum continuous working temperature: 100°C  
NBR synthetic rubber O-Ring.  
GAS threadings: 1/2 - 3/4 - 1

#### GN 441 Oil plugs Aluminum



Natural aluminium or with epoxy resin coating, black colour, matte finish. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C.  
Metric threadings (pitch 1.5): M16 - M20 - M26  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

#### GN 442 Oil plugs for high temperatures Aluminum



Natural aluminium or with epoxy resin coating, black colour, matte finish. Flat washer in FKM. Maximum continuous working temperature: 200°C.  
Metric threadings (pitch 1.5): M16 - M20 - M26  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

#### TP-C Push-fit plugs fill symbol, technopolymer



Graphic symbol "fill", with or without side breather hole.  
Two NBR synthetic rubber O-Rings.  
Maximum continuous working temperature: 100°C  
Diameters: 20 - 26 - 30 - 35 mm

#### TP-C+a Push-fit plugs with flat dipstick, fill symbol, technopolymer



Graphic symbol "fill", with or without side breather hole. Two NBR synthetic rubber O-Rings. Flat dipstick in phosphated steel. Maximum continuous working temperature: 100°C.  
Diameters: 26 - 30 - 35 mm

#### TP-C-LP Push-fit plugs with retaining chain, fill symbol, technopolymer



Graphic symbol "fill", with or without side breather hole.  
Two NBR synthetic rubber O-Rings.  
Maximum continuous working temperature: 60°C  
Diameters: 20 - 26 - 30 - 35 mm



## 16. Accessories for hydraulic systems

### 16.1 Blanking plugs continues



#### TP-C-RC

##### Push-fit plugs

with elastic fork, fill symbol, technopolymer



Graphic symbol "fill", with or without side breather hole.  
Two NBR synthetic rubber O-Rings.  
Maximum continuous working temperature: 100°C  
Diameters: 20 - 26 - 30 - 35 mm

#### TP-C+a-RC

##### Push-fit plugs

with elastic fork and flat dipstick, fill symbol, technopolymer



Graphic symbol "fill", with or without side breather hole. Two NBR synthetic rubber O-Rings. Flat dipstick in phosphated steel.  
Maximum continuous working temperature: 100°C  
Diameters: 26 - 30 - 35 mm

#### TPC.

##### Oil fill plugs

for push-fit, technopolymer



Graphic symbol "fill", with or without side breather hole. Two NBR synthetic rubber O-rings.  
Maximum continuous working temperature: 100°C  
Diameters: 20 - 26 mm

#### TPC+a

##### Oil fill plugs

push-fit, flat dipstick, technopolymer



Graphic symbol "fill", with or without side breather hole. Two NBR synthetic rubber O-rings. Flat dipstick in phosphated steel.  
Maximum continuous working temperature: 100°C  
Diameters: 20 - 26 mm

#### T.240

##### Oil plugs

Duroplast



NBR synthetic rubber.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### T.240+a

##### Oil plugs

with flat dipstick, Duroplast



NBR synthetic rubber flat washer. Flat dipstick in phosphated steel.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### T.440

##### Oil plugs

Technopolymer



NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### T.440+a

##### Oil plugs

with flat dipstick, technopolymer



NBR synthetic rubber flat washer. Flat dipstick in phosphated steel.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### TX.

##### Oil plugs

Polyethylene



TX: without gasket. TX-G: with gasket.  
Maximum working temperature: 60°C  
Metric threadings: M8 - M10 - M12 - M14 - M16 - M18 - M20 - M22 - M24 - M25 - M26  
GAS threadings: 1/8 - 1/4 - 3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1 - 1 1/4 - 1 1/2 - 2 - 3

#### T.270

##### Oil plugs

Duroplast



NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C  
GAS threadings: 1/2 - 3/4 - 1 - 1 1/4

## 16. Accessories for hydraulic systems

### 16.1 Blanking plugs

*continues*

#### T.470

##### Oil plugs

*Technopolymer*



PA

NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C  
Metric threadings (pitch 2): M60  
GAS threadings: 1/2 - 3/4 - 1 - 1 1/4

### 16.2 Breather caps



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#### Material

- Technopolymer (16)
- Technopolymer - Steel (2)
- Steel (2)
- Stainless steel (1)
- Aluminium (1)

#### SFC.

##### Breather cap

*with sealing closure, technopolymer*



PA

POM

Cover and threaded fitting in technopolymer.  
Air filter in "tech-foam" cross-linked polyurethane foam. The cover can be positioned in two different ways: vent position or closed position.  
Maximum continuous working temperature: 80°C.  
GAS threadings: 3/8

#### SFN.

##### Breather caps

*Technopolymer*



PA

Cover in orange or black technopolymer. Black technopolymer threaded fitting or quick bayonet connector in zinc-plated steel. With or without air filter. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Diameters: 30 - 40 - 57 - 70 mm. Metric threadings (pitch 1.5): M12 - M14 - M16 - M18 - M20 - M22. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2.

#### SFN-RT

##### Breather caps

*for mounting on rubber tubes, technopolymer*



PA

Cover in black technopolymer.  
Technopolymer fitting with a quick-connection system that allows application on rubber tubes.  
Maximum continuous working temperature: 100°C.  
Diameters: 40 - 70 mm.

#### SFP.

##### Breather caps

*with splash guard, technopolymer*



PA

Cover in orange or black technopolymer. Black technopolymer threaded fitting or quick bayonet connector in zinc-plated steel. With or without air filter. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Diameters: 30 - 40 - 57 - 70 mm. Metric threadings (pitch 1.5): M12 - M14 - M16 - M18 - M20 - M22. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2

#### SFP+a

##### Breather caps

*with splash guard and flat dipstick, technopolymer*



PA

Cover in orange or black technopolymer. Black threaded fitting or quick bayonet connector. With or without air filter. Flat dipstick in phosphated steel. Maximum continuous working temperature: 100°C. 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

#### SFP-EX

##### Breather caps - ATEX Directive

*with splash guard, technopolymer*



PA

Cover in yellow technopolymer; black threaded fitting. Splash guard with or without "tech-foam" air filter. NBR synthetic rubber flat washer. Maximum continuous working temperature: 80°C.  
GAS threadings: 3/8 - 1/2 - 3/4

#### SFP+a-EX

##### Breather caps - ATEX Directive

*with splash guard and flat dipstick, technopolymer*



PA

Cover in yellow technopolymer; black threaded fitting. With or without air filter.  
Maximum continuous working temperature: 80°C.  
Diameters: 30 - 40 mm  
GAS threadings: 3/8 - 1/2 - 3/4

#### SFP-RT

##### Breather caps

*for mounting on rubber tubes, with splash guard, technopolymer*



PA

Cover in black technopolymer. Technopolymer fitting with a quick-connection system that allows application on rubber tubes.  
Maximum working temperature: 100°C.  
Diameters: 40 - 70 mm.



## 16. Accessories for hydraulic systems

### 16.2 Breather caps

continues



#### SFP-LP

**Breather caps**  
with splash guard  
and retaining chain,  
technopolymer



Orange technopolymer cover. Black technopolymer threaded fitting. With or without air filter. NBR synthetic rubber flat washer. Maximum continuous working temperature: 60°C. Diameters: 30 - 40 - 57 mm. GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4

#### SFP-RC

**Breather caps**  
with splash guard  
and elastic ring,  
technopolymer



Orange technopolymer cover. Black technopolymer threaded fitting. With or without air filter. NBR synthetic rubber flat washer. Maximum continuous working temperature: 60°C. Diameters: 30 - 40 - 57 mm. GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4

#### SFX.

**Breather caps**  
with splash guard  
and external anti-  
splash semi-discs,  
technopolymer



Cover in technopolymer. Threaded fitting and external anti-splash disk. NBR rubber flat washer. With or without air filter. Maximum continuous working temperature: 80°C. Diameters: 30 - 40 - 57 mm. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2. Metric threadings (pitch 1.5): M16 - M18 - M20 - M22 - M24 - M26 - M30.

#### SFX+a

**Breather caps**  
with splash guard,  
external anti-splash  
semi-discs and dipstick,  
technopolymer



Cover in technopolymer; threaded fitting and external anti-splash disk. NBR rubber flat washer. Flat dipstick in phosphated steel. With or without air filter. Maximum continuous working temperature: 80°C. Diameters: 30 - 40 - 57 mm. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2. Metric threadings (pitch 1.5): M16 - M18 - M20 - M22 - M24 - M26 - M30

#### SFF

**Breather caps**  
with female thread,  
splash guard,  
technopolymer



Cover in black technopolymer; black threaded fitting. NBR rubber flat washer. Air filter in polyurethane foam. Maximum working temperature: 100°C. GAS threads: 3/4

#### SFF+a

**Breather caps**  
with female thread,  
splash guard, and  
dipstick, technopolymer



Cover in black technopolymer; black threaded fitting. NBR rubber flat washer. Air filter in polyurethane foam. Maximum working temperature: 100°C. GAS threadings: 3/4

#### SFN-PF+F

**Breather cap**  
push-fit, technopolymer



Cover in orange technopolymer; black threaded fitting. Pressure fitting to tubes. Annular air filter in polyurethane foam. Maximum continuous working temperature: 100°C. Diameter: 70 mm

#### TVD.

**Breather caps**  
with vacuum breaker  
valve, technopolymer



Red colour with EPDM synthetic rubber diaphragm gasket, green colour with FKM synthetic rubber diaphragm gasket. Maximum continuous working temperature: 50°C. GAS threading: 1 1/4

#### SFV.

**Valve breather caps**  
with valve,  
technopolymer



Cover in orange or black technopolymer. Black threaded fitting. NBR synthetic rubber flat washer. Valve: set to 10 mb or 100 mb. Maximum continuous working temperature: 100°C. Metric threadings (pitch 1.5): M12 - M14 - M16 - M18 - M20 - M22. GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1

#### SFW

**Breather caps**  
with double valve,  
technopolymer



Cover in orange or black technopolymer. Threaded fitting or quick bayonet connector; air filter. Overpressure valve set at 0.350 bar. Inlet valve set at 0.030 bar. Maximum continuous working temperature: 100°C. GAS threadings: 3/4 - 1 1/4 - 2

## 16. Accessories for hydraulic systems

### 16.2 Breather caps continues

#### SFW-P

##### Breather caps

double valve, with splash guard, technopolymer



Cover in orange technopolymer. Threaded fitting and air filter. Pressure relief valve set at 0.350 bar. Inlet valve set at 0.030 bar. Maximum continuous working temperature: 100°C. Threadings: M42 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2



#### SFW-P+a

##### Breather caps

double valve, with splash guard and flat dipstick, technopolymer



Cover in orange technopolymer. Threaded fitting and air filter. Pressure relief valve set at 0.350 bar. Inlet valve set at 0.030 bar. Maximum continuous working temperature: 100°C. Threadings: M42 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2



#### SFW-VP

##### Breather caps

with double valve and vandal-proof device, technopolymer



Cover and threaded fitting in black technopolymer. Pressure relief valve set at 0.350 bar. Inlet valve set at 0.030 bar. Max. continuous working temperature: 100°C. Metric threading (pitch 2): M42 GAS threading: 3/4



#### SMN. - SMW.

##### Breather caps

with double valve and threaded connector, steel



Cover in chrome-plated steel; flange and threaded fitting in zinc-plated steel. NBR synthetic rubber flat washer. Overpressure valve set at 0.350 bar and inlet valve set at 0.030 bar. Maximum continuous working temperature: 100°C. GAS threadings: 1/4 - 3/4

#### SMN-BA - SMW-BA

##### Breather caps

with double valve and bayonet assembly, steel



Overpressure valve and bayonet connection set at 0.350 bar and inlet valve set at 0.030 bar. Electro-galvanized steel filter basket. Maximum continuous working temperature: 100°C. Mounting by means of three or six M5x12 screws. Diameters: 47 - 81 mm

#### FRF+C

##### Flange with basket

for vertical mounting, threaded cap, technopolymer



Flange with threaded connection in technopolymer or zinc-plated steel for quick bayonet connection; technopolymer filter basket. Flat washer, cork impregnated MGS based rubber. Assembly by means of six self-tapping screws. GAS threading: 1 1/4

#### FRB+C

##### Flange with basket

for vertical mounting, bayonet cap, technopolymer



Flange in zinc-plated steel for quick bayonet connection; technopolymer filter basket. Flat washer, cork impregnated MGS based rubber. Assembly by means of six self-tapping screws. Diameter: 39 mm

#### PLRF+C

##### Side mount flange with basket

for threaded cap, technopolymer



Technopolymer plate with NBR synthetic rubber gasket; zinc-plated steel flange with bayonet connection or technopolymer flange with threaded connection and cork flat washer; technopolymer filter basket. GAS threading: 1 1/4

#### PLRB+C

##### Side mount flange with basket

for bayonet cap, technopolymer



Technopolymer plate with NBR synthetic rubber gasket; zinc-plated steel flange with rapid bayonet connection; technopolymer filter basket. Assembly by means of six self-tapping screws. Diameter: 39 mm

#### GN 7404

##### Breathable membrane filters

Aluminium or stainless steel



Protective filter in AISI 304 stainless steel. Breathable non-woven nylon membrane. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Metric threadings: M20 - M28 - M33. GAS threading: 1/2 - 3/4 - 1



## 16. Accessories for hydraulic systems

### 16.3 Oil level sight glasses



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#### Material

- Technopolymer (13)
- Stainless steel (3)
- Aluminium (5)
- Brass (5)

#### HGFT. Oil level sight glasses Technopolymer



Transparent technopolymer lens. With or without contrast screen. NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C.  
GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 2

#### HGFT-EX Oil level sight glasses - ATEX Directive Technopolymer



Transparent technopolymer lens. With or without contrast screen. NBR synthetic rubber flat washer. They comply with the European ATEX Directive 94/9/EC. Maximum continuous working temperature: 80°C.  
GAS threadings: 3/8 - 1/2 - 3/4

#### GN 743 Oil level sight glasses Aluminium



With or without technopolymer reflector. Natural glass lens. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Metric threadings (pitch 1.5): M14 - M16 - M20 - M26 - M27 - M33 - M40 - M42  
GAS thread: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### GN 743.1 Oil level sight glasses for high temperatures Aluminium



With or without technopolymer reflector. ESG safety glass lens. FKM flat washer. Maximum continuous working temperature: 180°C. Metric threadings (pitch 1.5): M14 - M16 - M20 - M26 - M27 - M33 - M40 - M42. GAS threading: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2

#### GN 743.2 Oil level sight glasses Brass



Natural glass lens. NBR synthetic rubber flat washer. With or without technopolymer contrast screen. Maximum continuous working temperature: 100°C. Metric threadings (pitch 1.5): M16 - M20 - M26 - M27 - M33  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

#### GN 743.3 Oil level sight glasses for high temperatures Brass



ESG safety glass lens. FKM flat washer. With or without technopolymer contrast screen. Maximum continuous working temperature: 180°C. Metric threadings (pitch 1.5): M16 - M20 - M26 - M27 - M33  
GAS threadings: 3/8 - 1/2 - 3/4 - 1

#### GN 743.4 Oil level sight glasses Stainless steel



Natural glass lens. NBR synthetic rubber flat washer. With or without technopolymer reflector. Maximum continuous working temperature: 100°C. Metric threadings: M16 - M20 - M26 - M27 - M33 - M42  
GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4

#### GN 743.5 Oil level sight glasses for high temperatures Stainless steel



ESG safety glass lens. FKM flat washer. With or without technopolymer reflector. Maximum continuous working temperature: 180°C. Metric threadings: M16 - M20 - M26 - M27 - M33 - M42  
GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4

#### GN 743.10 Oil level sight glasses for high temperatures AISI 316L stainless steel



With or without reflector. ESG safety glass lens. Flat washer in FKM. Maximum continuous working temperature: 180°C. Metric threadings (pitch 1.5): M16 - M20 - M26 - M33 - M42  
GAS threading: 3/8 - 1/2 - 3/4 - 1 - 1 1/4

#### GN 7440 Oil level sight glasses for high temperatures AISI 316L stainless steel



With reflector. Glass window. Flat washer in FPM or in copper. Maximum continuous working temperature: 300°C. Metric threadings (pitch 1.5): M16 - M20 - M26 - M33 - M42  
GAS threading: 3/8 - 1/2 - 3/4 - 1 - 1 1/4



## 16. Accessories for hydraulic systems

### 16.3 Oil level sight glasses continues

#### GN 743.6 Oil level sight glasses Aluminum



ESG safety glass lens. FKM flat washer.  
They comply with the European ATEX Directive 2014/34/EU. Maximum continuous working temperature: 150°C. Metric threadings (pitch 1.5): M16 - M20 - M26 - M27  
GAS threadings: 3/8 - 1/2 - 3/4



#### GN 743.7 Oil level sight glasses with conical threading, brass

Lens in natural glass.  
With or without technopolymer contrast screen.  
Maximum continuous working temperature: 100°C.  
Conical threading: R3/8 - R1/2 - R3/4 - R1 - R1 1/4



#### GN 743.8 Oil level sight glasses for high temperatures with conical threading, brass

ESG safety glass lens.  
With or without technopolymer contrast screen.  
Maximum continuous working temperature: 180°C.  
Conical threading: R3/8 - R1/2 - R3/4 - R1 - R1 1/4



#### GN 7430 Mounting Nuts Brass and AISI 316L stainless steel



Used for fitting the following indicators to reservoirs with thin walls.  
Metric threadings (pitch 1.5): M12 - M14 - M16 - M20 - M26 - M27 - M33 - M40 - M42  
GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 1 1/2 - 2



#### GN 7403 Breather filters Aluminium or stainless steel



AISI 304 stainless steel mesh filter with technopolymer surround. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Metric threadings (pitch 1.5): M20 - M26 - M33.  
GAS threadings: 1/2 - 3/4 - 1



#### HGFT-PR Oil level sight glasses with prismatic window, technopolymer

Prismatic lens in transparent polyamide-based technopolymer. NBR synthetic rubber flat washer.  
Maximum continuous working temperature: 100°C at 3 bar pressure.  
GAS threadings: 1/2 - 3/4 - 1 - 1 1/4



#### HGFT-HT-PR Oil level sight glasses for high temperatures with prismatic window, technopolymer



Prismatic lens in transparent technopolymer with a sulfonic base. FKM flat washer.  
Maximum continuous working temperature: 140°C at 7 bar pressure.  
GAS threads: 1/2 - 3/4 - 1



#### GN 744 Oil level sight glasses Aluminum

Transparent technopolymer lens. NBR synthetic rubber flat washer. Maximum continuous working temperature: 110°C.  
Prismatic lens, neutral or with rim.  
Metric threadings (pitch 1.5): M20 - M26 - M27 - M33. GAS threadings: 1/2 - 3/4 - 1



#### HRT. Oil level sight glasses push-fit, technopolymer



Transparent technopolymer window. White lacquered aluminium contrast screen.  
NBR synthetic rubber O-Ring.  
Maximum continuous working temperature: 100°C  
Diameters: 28 - 36 - 42 - 64 mm



#### HE. Oil level sight glasses push-fit, polycarbonate



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



## 16. Accessories for hydraulic systems

### 16.3 Oil level sight glasses

continues



#### HFTX.

##### Oil level sight glasses

Transparent  
technopolymer



With or without star-shaped contrast screen in aluminium. NBR synthetic rubber flat washer. Maximum continuous working temperature: 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-EX

##### Oil level sight glasses

- ATEX Directive  
Technopolymer



With or without star-shaped contrast screen in aluminium. NBR synthetic rubber flat washer. They comply with the European ATEX Directive 2014/34/EU. Metric threadings (pitch 1.5): M16 - M20 - M25 - M26 - M27 - M30 - M35 - M40 GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4



#### HFTX-PR

##### Oil level sight glasses

with prismatic  
window, transparent  
technopolymer



A continuous series of prisms provide a clear and immediate reading of the oil level due to refraction effect. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4



#### HFTX-HT-GL

##### Oil level sight glasses

Technopolymer with high  
chemical resistance also  
suitable for solutions with  
glycol



A continuous series of prisms provide a clear and immediate reading of the oil level due to refraction effect. Flat washer in FKM, green colour. Maximum continuous working temperature: -40°C ÷ +150°C. Metric threadings (pitch 1.5): M16 - M20 - M26 GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4



#### HFTR-PR

##### Oil level sight glasses for high clamping torque

with prismatic window,  
transparent technopolymer



A continuous series of prisms provide a clear and immediate reading of the oil level due to refraction effect. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C GAS threadings: 1/2 - 3/4 - 1 - 1 1/4



#### HCFE.

##### Oil level sight glasses

Transparent  
technopolymer



NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C. Metric threadings (pitch 1.5): M16 - M20 - M25 - M26 - M27 - M35 - M40 GAS threadings: 3/8 - 1/2 - 3/4 - 1 - 1 1/4



#### HCFE-C

##### Oil level sight glasses

with index level  
check, transparent  
technopolymer



Oil level reading area delimited by a small black or red colour externally tamper-printed reference circle. NBR synthetic rubber flat washer. Maximum continuous working temperature: 100°C GAS threadings: 1/2 - 3/4 - 1



#### HCFE-EX

##### Oil level sight glasses

- ATEX Directive  
Transparent  
technopolymer



NBR synthetic rubber flat washer. Compliant with the Essential Health and Safety Requirements of the European ATEX Directive 2014/34/EU. Maximum continuous working temperature: 80°C. GAS threadings: 3/8 - 1/2 - 3/4



#### GH.

##### Mounting Nuts

for level indicator  
mounting on thin-walled  
tanks, nickel-plated  
brass



Used for fitting the following indicators to reservoirs with thin walls. Metric threadings (pitch 1.5): M12 - M14 - M16 - M20 - M25 - M26 - M27 - M30 - M33 - M35 - M40 - M42 GAS threadings: 1/4 - 3/8 - 1/2 - 3/4 - 1 - 1 1/4 - 2

## 16. Accessories for hydraulic systems

### 16.4 Level indicators



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#### Material

- Technopolymer (18)
- Steel (1)
- Stainless steel (7)

#### HCX. Level indicators Transparent technopolymer



HCX: zinc-plated steel screws, nuts and washers; NBR synthetic rubber packing ring.  
HCX-SST: AISI 303 stainless steel screws, nuts and washers; FKM packing ring.  
HCX-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers; NBR synthetic rubber packing ring.  
Maximum continuous working temperature: 90°C.  
Assembly centre distances: 76 - 127 - 254 mm

#### HCX-AR Level indicators Transparent technopolymer, for use with fluids containing alcohol, high UV resistance



HCX-AR: zinc-plated steel screws, nuts and washers; NBR packing ring.  
HCX-AR-SST: AISI 304 stainless steel screws, nuts and washers; FKM packing ring.  
HCX-AR-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers; NBR packing ring.  
Maximum continuous working temperature: 90°C.  
Assembly centre distances: 76 - 127 - 254 mm

#### HCX/T-AR Level indicators with thermometer Transparent technopolymer, for use with fluids containing alcohol, high UV resistance



HCX/T-AR: zinc-plated steel screws, nuts and washers; NBR rubber packing ring.  
HCX/T-AR-SST: AISI 304 stainless steel screws, nuts and washers; FKM packing ring.  
HCX/T-AR-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers; NBR synthetic rubber packing ring.  
HCX/TB-AR: polished zinc-plated steel screws, nuts and washers, NBR packing ring.  
HCX-AR-SST: AISI 303 stainless steel screws, AISI 304 stainless steel nuts and washers, FKM packing ring.  
Assembly centre distances: 76 - 127 - 254 mm

#### HCX-P Level indicators with protection frame Zinc alloy and transparent technopolymer



Protection frame in zinc alloy.  
Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underneath.  
Maximum continuous working temperature: 90°C.  
Assembly centre distances: 127 mm

#### HCX/T-AR-P Level indicators with thermometer and protection frame Transparent technopolymer and zinc alloy, for use with fluids containing alcohol, high UV resistance



Protection frame in zinc alloy.  
Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underneath.  
White lacquered aluminium contrast screen.  
Incorporated thermometer for temperature reading of the liquid.  
Maximum continuous working temperature: 90°C.  
Assembly centre distances: 127 mm

#### HCX-PT Level indicators with protection frame SUPER-Technopolymer and transparent technopolymer



SUPER-technopolymer protection frame.  
HCX-PT: zinc-plated steel screws, nuts and washers; NBR packing ring.  
HCX-PT-SST: AISI 303 stainless steel screws, nuts and washers; FKM packing ring.  
HCX-PT-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers; NBR packing ring.  
Assembly centre distances: 76 - 127 - 254 mm



## 16. Accessories for hydraulic systems

### 16.4 Level indicators

continues



#### HCX/T-AR-PT

##### Level indicators with thermometer and protection frame

*SUPER-Technopolymer and transparent technopolymer, for use with fluids containing alcohol, high UV resistance*



SUPER-technopolymer protection frame. Incorporated thermometer for temperature reading of the liquid.  
HCX/T-AR-PT: zinc-plated steel screws, nuts and washers; NBR packing ring.  
HCX/T-AR-SST: AISI 304 stainless steel screws, nuts and washers; FKM packing ring.  
HCX/T-AR-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers; NBR packing ring.  
Assembly centre distances: 76 - 127 - 254 mm

#### HCX-BW-SST

##### Level indicators for hot water

*Transparent technopolymer, stainless steel assembly screws*



AISI 303 stainless steel screws, AISI 304 stainless steel nuts and washers.  
FKM O-ring packing rings.  
White lacquered aluminium contrast screen.  
Maximum continuous working temperature: 80°C or 90°C  
Assembly centre distances: 76 - 127 - 254 mm

#### HCX-LT

##### Oil level indicators with float for indirect level reading

*Transparent technopolymer, zinc-plated steel assembly screws*

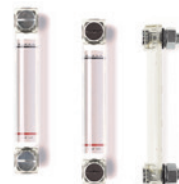


Zinc-plated steel screws, nuts and washers.  
NBR synthetic rubber O-ring packing rings.  
White lacquered aluminium contrast screen.  
Ebonite float, black.  
Maximum continuous working temperature: 90°C  
Assembly centre distances: 254 mm

#### HCZ

##### Level indicators

*Transparent technopolymer*



Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
HCZ: zinc-plated steel screws, nuts and washers.  
HCZ-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers.  
Maximum continuous working temperature: 90°C  
Assembly centre distances: 76 - 127 - 254 mm

#### HCZ-AR

##### Level indicators

*Transparent technopolymer, for use with fluids containing alcohol, high UV resistance*



Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
Maximum continuous working temperature: 90°C  
Assembly centre distances: 76 - 127 - 254 mm

#### HCZ/T-AR

##### Level indicators with thermometer

*Transparent technopolymer, for use with fluids containing alcohol, high UV resistance*



Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
HCZ/T-AR: zinc-plated steel screws, nuts and washers.  
HCZ/T-AR-VT: SUPER-technopolymer screws, AISI 304 stainless steel nuts and washers.  
Incorporated thermometer for temperature reading of the liquid.  
Assembly centre distances: 76 - 127 - 254 mm

## 16. Accessories for hydraulic systems

### 16.4 Level indicators

*continues*

#### HCZ-PT Level indicators with protection frame

*SUPER-Technopolymer  
and transparent  
technopolymer*



SUPER-technopolymer protection frame.  
Step-shaped packing ring for the seal on the  
reservoir walls and NBR synthetic rubber  
O-ring screw underneath.  
HCZ-PT: zinc-plated steel screws, nuts and  
washers.  
HCZ-PT-VT: SUPER-technopolymer screws,  
AISI 304 stainless steel nuts and washers.  
Maximum continuous working  
temperature: 90°C  
Assembly centre distances: 76 - 127 - 254 mm

#### HCZ/T-AR-PT Level indicators with thermometer and protection frame

*SUPER-Technopolymer  
and transparent  
technopolymer, for use  
with fluids containing  
alcohol, high UV  
resistance*



SUPER-technopolymer protection frame.  
Step-shaped packing ring for the seal on the  
reservoir walls and NBR synthetic rubber  
O-ring screw underneath.  
HCZ/T-AR-PT: zinc-plated steel screws, nuts  
and washers.  
HCZ/T-AR-PT-VT: SUPER-technopolymer  
screws, AISI 304 stainless steel nuts and  
washers. Incorporated thermometer for  
temperature reading of the liquid.  
Assembly centre distances: 76 - 127 - 254 mm

#### HCK. Level indicators suitable for oil and glycol-based solutions



Technopolymer assembly ends. Aluminium  
support. Transparent polycarbonate tube.  
Screws, nuts and washers in zinc-plated steel;  
screws in AISI 303 stainless steel, nuts and  
washers in AISI 304 stainless steel; in AISI 316  
stainless steel. NBR or FKM synthetic rubber  
O-Ring. With or without transparent polycarbonate  
front protection. With transparent borosilicate  
glass tube for use with oil, water or water/glycol  
solutions (50%) or with transparent polycarbonate  
tube for use with oil. Assembly centre  
distances: 76 - 127 - 176 - 254 - 381 - 508 mm

#### HCK-PP Level indicators suitable for acid or base liquids



Technopolymer assembly ends.  
Aluminium frame. Transparent polycarbonate  
front protection. Borosilicate glass transparent  
tube level column window.  
White lacquered aluminium contrast screen.  
AISI 316 stainless steel screws, nuts and  
washers.  
VMQ Red silicone packing rings. Produced  
from FDA compliant raw material (FDA CFR.21).  
Assembly centre distances: 76 - 127 - 176 -  
254 - 381 - 508 mm

#### SLCK Kit for the electric control of a fluid level

*for HCK. oil level  
indicators*



Bracket with male connector DIN 43650C or  
M12.  
Electrical sensor - NO or NC.  
Float and spacer sleeves in technopolymer.  
For applications with temperatures up to 80°C:  
polypropylene based (PP) technopolymer float.  
For applications with temperatures up to 120°C:  
polyamide based (PA) technopolymer float.

#### HCL. Oil level indicators with aluminium protection frame



Technopolymer assembly ends.  
Aluminium frame.  
Aluminium protection frame in natural colour.  
Transparent polymethylmethacrylate tube level  
column window.  
NBR synthetic rubber O-Ring.  
Graduated plastic contrast screen.  
Maximum continuous working  
temperature: 70°C.  
Assembly centre distances: 300 - 400 - 500 mm



## 16. Accessories for hydraulic systems

### 16.5 Electrical level indicators



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#### Material

- Technopolymer (15)
- Steel (2)

#### HCV-E Electrical level indicators

with MIN level electrical sensor, lateral output, transparent technopolymer



Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
Technopolymer float with magnetic element for contact activation.  
Bracket with male or female connector in technopolymer.  
Sensor with lateral or axial output.  
Available with NO, NC or SW electrical contact.  
Assembly centre distances: 76 - 127 - 254 mm



#### HCV-E-S Electrical level indicators

with MIN level electrical sensor, with temperature sensor or probe, side output, transparent technopolymer



Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
Technopolymer float with magnetic element for contact activation.  
Bracket with male or female connector in technopolymer.  
Sensor with lateral or axial output.  
Available with NO or NC electrical contact.  
Assembly centre distances: 76 - 127 - 254 mm



#### HCV-S Electrical level indicators

with temperature sensor and probe, lateral output, transparent technopolymer



Zinc-plated steel screws, nuts and washers.  
Step-shaped packing ring for the seal on the reservoir walls and NBR synthetic rubber O-ring screw underhead.  
Bracket with male or female connector in technopolymer.  
Sensor with lateral or axial output.  
Available with NO or NC electrical contact.  
Assembly centre distances: 76 - 127 - 254 mm



#### HCK-E Electrical level indicators

with MIN level electrical sensor



Zinc-plated, AISI 304 or AISI 316 stainless steel screws, nuts, and washers.  
Technopolymer assembly ends. Aluminium frame. Polycarbonate or glass transparent tube.  
Transparent polycarbonate front protection.  
NBR or FKM synthetic rubber O-Ring.  
Technopolymer float with magnetic element for contact activation.  
Available with NO, NC or SW electrical contact.  
Bracket with male or female connector in technopolymer.  
Assembly centre distances: 127 - 176 - 254 - 381 - 508 mm



#### HCK-E-S Electrical level indicators

with MIN level electrical sensor, temperature sensor or probe



Zinc-plated, AISI 304 or AISI 316 stainless steel screws, nuts, and washers.  
Technopolymer assembly ends. Aluminium frame. Polycarbonate or glass transparent tube.  
Transparent polycarbonate front protection. NBR or FKM synthetic rubber O-Ring.  
Technopolymer float with magnetic element for contact activation.  
Available with NO or NC electrical contact.  
Bracket with male or female connector in technopolymer.  
Assembly centre distances: 127 - 176 - 254 - 381 - 508 mm



#### HCK-S Electrical level indicators

with temperature sensor or probe



Zinc-plated, AISI 304 or AISI 316 stainless steel screws, nuts, and washers.  
Technopolymer assembly ends.  
Aluminium frame.  
Transparent polycarbonate or glass tube.  
Transparent polycarbonate front protection.  
NBR or FKM synthetic rubber O-Ring.  
Bracket with male or female connector in technopolymer.  
Assembly centre distances: 127 - 176 - 254 - 381 - 508 mm





## 16. Accessories for hydraulic systems

### 16.5 Electrical level indicators continues

#### HCY-E

##### Electrical level indicators

with MIN level electrical sensor, transparent technopolymer

PA-T



Nickel-plated brass screws. NBR synthetic 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. Maximum continuous working temperature: 80°C. Assembly centre distances: 76 - 127 - 254 mm

#### HCY-E-ST

##### Electrical level indicators

with electrical sensors for MIN level and MAX temperature, transparent technopolymer

PA-T



Nickel-plated brass screws. NBR synthetic rubber O-Ring. Red technopolymer float with magnetic element to activate the contact. MIN level electrical sensor. MAX temperature electrical sensor (80°C). Right side output connector. Available with NO or NC electrical contact. Technopolymer screw-covers. Assembly centre distances: 76 - 127 - 254 mm

#### FM Kit

##### Fast Mounting Kit

Steel and rubber



NBR

Zinc-plated threaded nut. Packing ring. NBR synthetic rubber.



### 16.6 Flow indicators



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#### HVF.

**Visual flow indicators**  
Technopolymer ends,  
transparent  
technopolymer



Glass lens; stainless steel pulling hooks;  
technopolymer shaft and helix rotor; NBR  
rubber gaskets; brass or stainless steel bosses  
with cylindrical gas thread. Maximum operating  
temperature: 100° C. Operation with  
bidirectional flow. GAS threads: 1/4 - 3/8 - 1/2



#### HVF-E

**Visual flow indicators with  
flow-meter sensor**  
Technopolymer ends,  
transparent technopolymer



Glass lens; stainless steel pulling hooks;  
technopolymer shaft and helix rotor; NBR  
rubber gaskets; brass bosses with cylindrical  
gas thread. Maximum working temperature:  
100°C. Operation with bi-directional flows.  
GAS threads: 3/8 - 1/2 - 3/4 - 1



Visual flow indicators with a flow meter sensor provide a clear **visual signal** of fluid movement within a tube. Commonly used in lubrication, refrigeration, heating, and water treatment systems across the chemical, food, and pharmaceutical industries, they are **also available with a sensor** for flow rate monitoring, enabling **connection to a PLC**.

The indicator can be mounted in any position and can function with two-way liquid flows.

Brass or AISI 316L stainless steel bushings with packing ring in synthetic rubber or VITON®. Cylindrical GAS or conical NPT GAS threading.

IP67

Axis and propeller rotor in technopolymer, red colour.

Technopolymer ends.



The inductive sensor (protection class IP 67), completely separated from the liquid passage area, reads the passage of the two metal clips mounted on the rotor, providing a frequency variation that can be transformed into a flow rate reading by connecting to a PLC.

#### Tubular lens

Borosilicate glass, high resistance, also suitable for use with solutions containing glycol. Clear visibility of flow from all angles.



Sensor activation clip in AISI 304 stainless steel.

### 16.7 Level sensors



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#### HFLT-E

**Rapid levels with float**  
Technopolymer



Sensor connector with side output and reed contact. Mounting by means of zinc-plated steel flange or threaded connection. Maximum continuous working temperature: 80°C  
HFLT-E rapid levels detect a predefined minimum or maximum level.



#### HFLT-E

**Rapid levels with float**  
Technopolymer



Connector with or without sensor with side output and reed contact. Mounting by means of zinc-plated steel flange or threaded connection. Maximum continuous working temperature: 80°C  
HFLT-E rapid levels detect a predefined minimum or maximum level.



## 16. Accessories for hydraulic systems

### 16.8 Flexible coolant hoses



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#### FH.1/4

##### Modular system for lubrication

Kit with tubes with a diameter of 1/4, technopolymer

POM

Kit components: One FHT modular tube, two FHJ threaded fittings, four FHN nozzles. The modular structure makes it possible to adjust and direct the lubricating jet with maximum flexibility while maintaining stability in operation even in the presence of vibrations.



#### FH.1/2

##### Modular system for lubrication

Kit with tubes with a diameter of 1/2, technopolymer

POM

Kit components: One FHT modular tube, two FHJ threaded fittings, four FHN nozzles. The modular structure makes it possible to adjust and direct the lubricating jet with maximum flexibility while maintaining stability in operation even in the presence of vibrations.



#### FHT Hoses

for flexible coolant hoses, technopolymer

POM

Blue BSPT conical threading or orange NPT conical threading. Fitting to be implemented by means of snap coupling with modular tubes.



#### FHJ

##### Threaded fittings

for flexible coolant hoses, technopolymer

POM

Modular tubes, pre-assembled in segments or pre-assembled and wound along a coil. The modular structure, formed by means of the snap mounting of the individual segments, allows the lubricating jet to be directed as required.



#### FHN Nozzles

for flexible coolant hoses, technopolymer

POM

Nozzle with single hole; nozzle with rectangular cross-section; nozzle with a joint head with sixteen holes. The use of nozzles allows the lubricating spray to be adjusted, concentrating it or distributing it on the surface concerned.



#### FHF

##### Y fittings

for flexible coolant hoses, technopolymer

POM

Recommended for equipping a system for the lubrication of two different flows at the outlet, keeping only one at the inlet.



#### FHS Sockets

for flexible coolant hoses, technopolymer

POM

Recommended for equipping a lubrication system with a threaded fitting both at the inlet and outlet of the modular tube.



#### FHV

##### Ball valve

for flexible coolant hoses, technopolymer

POM

Indicated when the flow needs to be separated or interrupted within the system.



#### FHB

##### Magnetic stand

for flexible coolant hoses, technopolymer

PA

Magnetic ferrite base. Nickel-plated brass cap and fitting. The stand allows you to use up to two 1/4" segments simultaneously; the magnet integrated in the structure allows the system to be anchored in multiple positions, also facilitating repeated movements.





# 17

## Castors and wheels

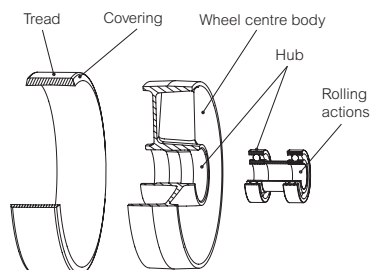
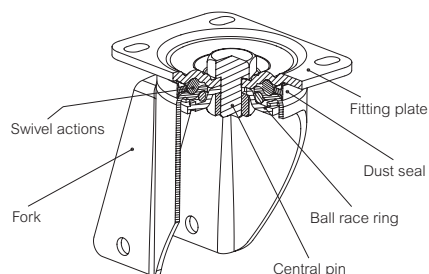


A wide range of castors and wheels, suitable for manual (4 km/h) or mechanical (16 km/h) handling for trucks and equipment. The range includes wheels with fixed or turning plate bracket, with or without brakes; specific series designed for heavy loads; drive wheels and pallet truck rollers.

### Choosing the wheel

The following table summarizes some **general indications** for choosing the right wheels according to the application's features.

		● Recommended    □ Tolerated    ▲ Not recommended										
Selection parameters	Value range	RE.FF	RE.F2	RE.F5	RE.F5-ESD	RE.F4	RE.F8	RE.G1	RE.E2	RE.E3	RE.G2	RE.G5
Load capacity	Light load, up to 250 kg	●	●	●	●	●	●	●	●	●	●	●
	Medium load, up to 500 kg	●	●	●	●	●	●	▲	▲	▲	●	●
	Heavy load, more than 500 kg	▲	●	●	●	●	□	▲	▲	▲	●	●
Rolling resistance	< 125 kg	●	●	●	●	●	●	●	●	●	●	●
	> 125 kg	●	●	●	●	●	●	▲	▲	▲	●	●
Flooring	Tiles	●	●	●	●	●	□	●	●	●	●	●
	Asphalt	□	●	□	□	□	▲	□	●	●	●	□
	Cement - Resin	●	●	●	●	●	●	●	●	●	●	●
	Not paved	□	●	□	□	□	□	□	●	●	●	□
	Expanded metal	▲	●	□	□	□	▲	▲	●	●	●	□
	With chips, obstacles, etc.	▲	□	□	□	□	▲	▲	●	●	●	□
Environmental chemical conditions	No aggressive chemicals	●	●	●	●	●	●	●	●	●	●	●
	With aggressive chemicals	●	□	□	□	□	●	●	▲	▲	□	□
Temperature	-40° / -20°	▲	▲	▲	▲	▲	□	▲	▲	□	□	●
	-20° / +80°	●	●	●	●	●	●	●	●	●	●	●
	+80° / +130°	▲	□	□	□	□	□	▲	▲	□	□	□
	> 130°	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Means of traction	Manual (speed ≤ 4 Km/h)	●	●	●	●	●	●	●	●	●	●	●
	Mechanical (speed ≤ 16 Km/h)	▲	●	●	●	●	▲	▲	▲	▲	□	●



## 17.1 Polyurethane castors and wheels



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### Material

- Steel (17)
- Stainless steel (2)

### Carrying capacity

- 0 - 1400 N (10)
- 1401 - 2600 N (11)
- 2601 - 5000 N (13)
- 5001 - 10000 N (12)
- 10001 - 25000 N (2)

### RE.FF

#### Injected polyurethane castor wheels

Technopolymer centre body, with or without bearings, injected polyurethane coating



Hub with pass-through hole or hub with ball bearings. Ideal solution for heavy loads and continuous moving with maximum silence. Excellent rolling resistance and elasticity features, good resistance to wear and tear. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



### RE.FF-N

#### Castors with steel bracket

Injected polyurethane coating



Hub with or without ball bearings. Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Excellent rolling resistance and elasticity features, good resistance to wear and tear. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



### RE.FF-SST-N

#### Castors with stainless steel bracket

Injected polyurethane coating



Bracket in AISI 304 stainless steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Excellent rolling resistance and elasticity features, good resistance to wear and tear. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



### RLE.FF-N

#### Castors with adjustable foot

Steel support, injected polyurethane coating



Hub with pass-through hole. Bracket in zinc-plated steel sheet with swivel plate. Foot with technopolymer base and stem with adjustment hexagon in zinc-plated steel. Excellent rolling resistance and elasticity features, good wear and tearing resistance. Wheel Ø: 80 - 100 - 125 mm



### RE.C6

#### Castors for general use

Injected polyurethane coating



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



### RE.C6-C

#### Castors for general use

Injected polyurethane coating



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central hole or threaded pin) with or without brake. Excellent rolling resistance and elasticity features, good wear and tear resistance. Wheel Ø: 40 - 50 - 60 mm



### RE.C6-G

#### Twin-castors for general use

Injected polyurethane coating



Bracket in zinc-plated steel sheet, swivel plate (also with central hole or threaded pin) with or without brake. Excellent rolling resistance and elasticity features, good wear and tear resistance. Wheel Ø: 50 mm



### RE.F1

#### Injected polyurethane castor wheels

Technopolymer centre body

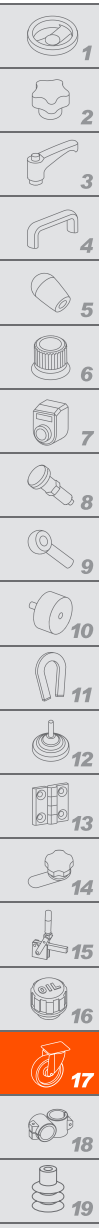


Hub with pass-through hole. Excellent rolling resistance and elasticity features, good wear and tear resistance. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



## 17. Castors and wheels

### 17.1 Polyurethane castors and wheels continues



#### RE.F1-N

##### Castors with steel bracket

Injected polyurethane coating

750 - 1800 N



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Excellent rolling resistance and elasticity features, good wear and tear resistance. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F1-SST-N

##### Castors with stainless steel bracket

Injected polyurethane coating

INOX STAINLESS STEEL 750 - 3000 N



Bracket in AISI 304 stainless steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Excellent rolling resistance and elasticity features, good wear and tear resistance. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F5

##### Mould-on polyurethane castor wheels

Aluminium centre body



Hub with pass-through hole and ball bearings. Ideal solution for heavy loads and continuous moving. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F5-N

##### Castors with steel bracket

Mould-on polyurethane coating

2000 - 3000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F5-H

##### Medium-heavy duty castors

Mould-on polyurethane coating

3500 - 7500 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 125 - 150 - 200 mm

#### RE.F5-ESD

##### ESD polyurethane castor wheels

Aluminium centre body

ESD 1700 - 6800 N



Hub with pass-through hole and shielded ball bearings. Excellent rolling resistance and elasticity features, high wear and tear resistance. Suitable for applications in "ESD PROTECTED AREAS" where all components sensitive to electrostatic discharges must be treated with the minimum risk of damage. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F5-N-ESD

##### Castors with steel bracket

ESD Mould-on polyurethane coating

ESD 1700 - 3000 N



Hub with shielded ball bearings. Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole), with or without brake. Suitable for applications in "ESD PROTECTED AREAS" where all components sensitive to electrostatic discharges must be treated with the minimum risk of damage. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.F5-H-ESD

##### Medium-heavy duty castors

ESD Mould-on polyurethane coating

ESD 3200 - 6800 N



Hub with shielded ball bearings. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Suitable for applications in "ESD PROTECTED AREAS" where all components sensitive to electrostatic discharges must be treated with the minimum risk of damage. Wheel Ø: 125 - 150 - 200 mm

#### RE.F4

##### Mould-on polyurethane castor wheels

Cast iron centre body

3000 - 25000 N



Hub with pass-through hole and ball bearings. Ideal solution for heavy loads and continuous moving or also as drive wheels. High wear and tear resistance. Wheel Ø: 100 - 125 - 150 - 200 - 250 - 300 mm

#### RE.F4-H

##### Medium-heavy duty castors

Mould-on polyurethane coating

3500 - 7500 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 100 - 125 - 150 - 200 mm



## 17. Castors and wheels

### 17.1 Polyurethane castors and wheels continues

#### RE.F4-WH Castors with bracket for heavy loads

Mould-on polyurethane coating

5500 - 10000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 125 - 150 - 200 mm

#### RE.F4-WEH Castors with bracket for extra-heavy loads

Mould-on polyurethane coating

10000 - 23000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 150 - 200 - 250 - 300 mm

#### RE.G5 Mould-on polyurethane rollers

Steel centre body

5600 - 8000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 80 - 82 - 85 mm

#### RE.F2 Soft polyurethane castor wheels

Aluminium centre body

3000 - 7000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 100 - 125 - 160 - 200 mm

#### RE.F2-N Castors with steel bracket

Soft polyurethane coating

2000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Excellent rolling resistance and elasticity features, high wear and tear resistance. Wheel Ø: 100 mm

#### RE.F2-H Medium-heavy duty castors

Soft polyurethane coating

3000 - 7000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 100 - 125 - 160 - 200 mm

#### RE.F2-WH Castors with bracket for heavy loads

Soft polyurethane coating

5500 - 7000 N



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 160 - 200 mm

#### RE.F8 Technopolymer monolithic wheels

Technopolymer

1200 - 9000 N



Hub with pass-through hole and ball bearings. Ideal solution for heavy loads and continuous moving. Excellent wear and tear resistance. Wheel Ø: 65 - 80 - 100 - 125 - 150 - 200 mm

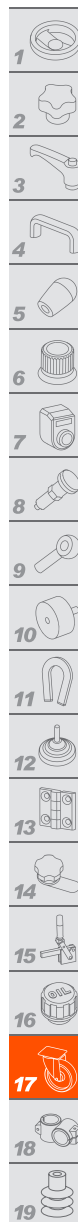
#### RE.F8-N Monolithic castor wheels with bracket

Technopolymer

1200 - 3000 N



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Excellent wear and tear resistance. Wheel Ø: 65 - 80 - 100 - 125 - 150 - 200 mm



### 17.2 Technopolymer castors and wheels



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## 17. Castors and wheels

### 17.2 Technopolymer castors and wheels continues



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#### Material

- Steel (3)
- Stainless steel (1)

#### Carrying capacity

- 0 - 1400 N (2)
- 1401 - 2600 N (4)
- 2601 - 5000 N (3)
- 5001 - 10000 N (3)

#### RE.F8-SST-N Monolithic castor wheels with stainless steel bracket Technopolymer



Bracket in AISI 304 stainless steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake.  
Excellent wear and tear resistance.  
Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



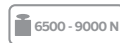
#### RE.F8-H Medium-heavy duty castors Technopolymer



Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake.  
Excellent wear and tear resistance.  
Wheel Ø: 100 - 125 - 150 - 200 mm



#### RE.F8-WH Castors with bracket for heavy loads Technopolymer



Hub with ball bearings. Ideal solution for heavy loads and continuous moving.  
Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake.  
Excellent wear and tear resistance.  
Wheel Ø: 125 - 150 - 200 mm



#### RLE.F8-N Monolithic castor wheels with adjustable feet Steel bracket, technopolymer



Hub with pass-through hole. Bracket in zinc-plated steel sheet with swivel plate.  
Foot with technopolymer base and stem with adjustment hexagon in zinc-plated steel.  
Excellent wear and tear resistance.  
Wheel Ø: 80 - 100 - 125 mm



### 17.3 Rubber castors and wheels



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#### Material

- Steel (6)
- Stainless steel (1)

#### Carrying capacity

- 0 - 1400 N (10)
- 1401 - 2600 N (8)
- 2601 - 5000 N (2)

#### RE.G1 Thermoplastic rubber castor wheels Technopolymer centre body



Hub with pass-through hole.  
Excellent rolling resistance and elasticity features.  
Wheel Ø: 80 - 100 - 125 - 150 mm



#### RE.G1-N Castors with steel bracket Thermoplastic rubber coating



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake.  
Excellent rolling resistance and elasticity features.  
Wheel Ø: 80 - 100 - 125 - 150 mm



#### RE.G1-SST-N Castors with stainless steel bracket Thermoplastic rubber coating



Bracket in AISI 304 stainless steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake.  
Excellent rolling resistance and elasticity features.  
Wheel Ø: 80 - 100 - 125 mm



#### RE.E2 Vulcanised rubber castor wheels Technopolymer centre body



Hub with pass-through hole.  
Suitable for medium-light loads and also for outdoor use e.g. industrial handling trolleys.  
Wheel Ø: 80 - 100 - 125 - 150 - 180 - 200 mm



#### RE.E2-N Castors with steel bracket Vulcanised rubber coating



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake.  
Suitable for medium-light loads and also for outdoor use e.g. industrial handling trolleys.  
Wheel Ø: 80 - 100 - 125 - 150 - 180 - 200 mm



#### RE.E3 Vulcanised rubber castor wheels Steel centre body



Hub with pass-through hole.  
Suitable for medium-light loads and also for outdoor use e.g. industrial handling trolleys.  
Wheel Ø: 80 - 100 - 125 - 150 - 200 mm



## 17. Castors and wheels

### 17.3 Rubber castors and wheels continues

#### RE.E3-N

##### Castors with steel bracket

Vulcanised rubber coating



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central pass-through hole) with or without brake. Suitable for medium-light loads and also for outdoor use e.g. industrial handling trolleys. Wheel Ø: 80 - 100 - 125 - 150 - 200 mm

#### RE.G2

##### Elastic rubber castor wheels

Aluminium centre body



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Wheel Ø: 100 - 125 - 160 - 200 mm

#### RE.G2-H

##### Medium-heavy duty castors

Elastic rubber coating



Hub with ball bearings. Ideal solution for heavy loads and continuous moving. Bracket in zinc-plated steel sheet, fixed or swivel plate, with or without brake. Wheel Ø: 100 - 125 - 160 - 200 mm

#### RE.C7

##### Castors for general use

Vulcanised rubber coating



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.C7-C

##### Castors for general use

Vulcanised rubber coating



Bracket in zinc-plated steel sheet, fixed or swivel plate (also with central hole or threaded pin) with or without brake. Excellent rolling resistance and elasticity features. Wheel Ø: 40 - 50 - 60 - 80 mm

#### RE.C7-G

##### Twin-castors for general use

Vulcanised rubber coating



Bracket in zinc-plated steel sheet, swivel plate (also with central threaded pin) with or without brake. Excellent rolling resistance and elasticity features. Wheel Ø: 50 - 75 mm

### 17.4 Duroplast wheels



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#### RE.F7-N-HT

##### Monolithic castor wheels with steel bracket

Duroplast, high temperatures



Bracket in zinc-plated steel sheet, swivel plate (also with central pass-through hole), without brake. Resistance to high temperatures makes it suitable for use in food industries and cooking ovens, especially in the baking sector. Wheel Ø: 80 - 100 mm

#### RE.F7-SST-N-HT

##### Monolithic castor wheels with stainless steel bracket

Duroplast, high temperatures



Bracket in AISI 304 stainless steel sheet, swivel plate (also with central pass-through hole), without brake. Resistance to high temperatures makes it suitable for use in food industries and cooking ovens, especially in the baking sector. Wheel Ø: 80 - 100 mm





# 18

## Tube connectors



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.

### 18.1 Connecting clamps for tubes



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#### Material

- Technopolymer (5)
- Stainless steel (15)
- Aluminium (32)

#### Type of tube

- Round (44)
- Square (15)
- Square-Round (5)

#### TCC-CR

##### Two-way connecting clamps

Technopolymer



Black or grey colour.  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.  
Self-locking nuts in AISI 304 stainless steel.  
Holes Ø: 18 - 30 mm



#### TCC-CR-VD

##### Two-way connecting clamps

Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Holes Ø: 18 - 30 mm



#### GN 131

##### Two-way connecting clamps

Aluminum

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 131-NI

##### Two-way connecting clamps

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
Special executions on request: different combinations of holes.  
Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm



#### GN 132

##### Two-way connecting clamps

Aluminum

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 132.5

##### Two-way connecting clamps

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
With or without sealing washers in technopolymer.  
Holes Ø: 30 - 50 mm



#### GN 133

##### Two-way connecting clamps

Aluminum

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 - 40 - 42 - 45 - 48 - 50 mm



#### GN 134

##### Two-way connecting clamps

Aluminum

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



## 18. Tube connectors

### 18.1 Connecting clamps for tubes continues

#### GN 134.7

##### Two-way connecting clamps

with locking device,  
aluminium



Aluminium, epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts. With threaded hole; with ball and spring plunger, AISI 303 stainless steel; with spring positioning plunger and retracted position stop, AISI 303 stainless steel. AISI 303 stainless steel locking nut  
Holes: 25 - 30 - 40 - 50 mm

#### GN 135

##### Two-way connecting clamps

Aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes: 30 - 40 - 48 - 50 mm

#### GN 141

##### Two-way 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 - 40 - 42 - 45 - 50 mm

#### TCC-TB

##### Connecting clamps with mounting plate

Technopolymer



Black or grey colour.  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.  
Self-locking nuts in AISI 304 stainless steel.  
Holes Ø: 18 - 30 mm

#### TCC-TB-VD

##### Connecting clamps with mounting plate

Visually Detectable  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel.  
Holes Ø: 18 - 30 mm

#### GN 145

##### Connecting clamps with mounting base

Aluminium



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 145-NI

##### Connecting clamps with mounting base

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 10 - 14 - 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 146.3

##### 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 mm

#### GN 146.5

##### Connecting clamps with mounting base

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. AISI 304 zinc-plated stainless steel nut. Base with 4 fixing holes without sealing washers and locking ring or with technopolymer sealing washers and silicone locking ring.  
Holes Ø: 30 - 50 mm



## 18. Tube connectors

### 18.1 Connecting clamps for tubes continues



#### GN 146.6 Connecting clamps with mounting base Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. AISI 304 zinc-plated stainless steel nut. Base with 4 fixing holes without sealing washers and locking ring or with technopolymer sealing washers and silicone locking ring. Holes Ø: 30 mm



#### GN 147 Tube connectors with mounting base, aluminium



Natural aluminium with zinc-plated steel or AISI 304 stainless steel screws and locking nuts. Aluminium, epoxy resin coating, black, with zinc-plated steel or AISI 304 stainless steel screws and locking nuts. Holes: 20 - 25 - 30 - 40 - 45 - 48 - 50 mm

#### GN 147.3 Connecting clamps with base Aluminium



Natural or with epoxy resin coating, black colour. AISI 304 stainless steel screws and nuts. Round or square hole. Holes Ø: 20 - 25 - 30 mm

#### GN 147.7 Connecting clamps with base with locking device, aluminium



Aluminium, epoxy resin coating, black colour. AISI 304 stainless steel screws and nuts. With threaded hole; with ball and spring plunger, AISI 303 stainless steel; with spring positioning plunger and retracted position stop, AISI 303 stainless steel. AISI 303 stainless steel locking nut. Holes: 25 - 30 - 40 - 50 mm

#### TCC-AB Connecting clamps with mounting base Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Holes Ø: 18 - 30 mm



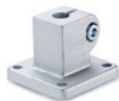
#### TCC-AB-VD Connecting clamps with mounting base Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Holes Ø: 18 - 30 mm



#### GN 162 Connecting clamp bases Aluminium



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

#### GN 162-NI Connecting clamp bases Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm

#### GN 162.3 Connecting clamp bases Aluminium



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



#### GN 162.3-NI Connecting clamp bases Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. Holes Ø: 12 - 14 - 15 - 16 - 18 mm





## 18. Tube connectors

### 18.1 Connecting clamps for tubes *continues*

#### GN 162.8 Connecting clamp bases

With grub screw,  
aluminum



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

#### GN 163 Connecting clamp bases

Aluminum



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 - 60 mm

#### GN 163.5 Connecting clamp bases

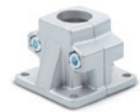
Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. AISI 304 zinc-plated stainless steel nut. Base with 4 fixing holes without sealing washers or with technopolymer sealing washers and silicone locking ring. Holes Ø: 30 - 50 mm

#### GN 165 Connecting clamp bases

Aluminum



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

#### GN 166 Bases with eccentric axis for connecting clamps

Aluminum



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes: 20 - 25 - 30 - 40 - 45 - 50 mm

#### GN 167 Connecting clamps bases with large support

Aluminum



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

#### GN 171 Side flanged bases with eccentric axis for connecting clamps

Aluminum



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

#### TCC-TS T-shaped connecting clamps

Technopolymer



Black or grey colour.  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.  
Self-locking nuts in AISI 304 stainless steel.  
Holes Ø: 18 - 30 mm

#### TCC-TS-VD T-shaped connecting clamps

Visually Detectable  
technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Holes Ø: 18 - 30 mm

#### TCC-TS-PR Connecting clamps with connector for profiles

Technopolymer and  
aluminium



Side mounts in technopolymer, black or grey colour. Anodised aluminium tube, natural colour. Standard execution with one or two connecting clamps in technopolymer, black or grey colour. Mounting via pass-through holes for cylindrical-head screws with hexagon socket. Dimensions: 224 - 274 mm



## 18. Tube connectors

### 18.1 Connecting clamps for tubes continues



#### GN 191 T-shaped connecting clamps Aluminum



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

#### GN 191-NI T-shaped connecting clamps Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screw and washer.  
Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm

#### GN 192 T-shaped connecting clamps Aluminum



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 192.5 T-shaped connecting clamps Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. AISI 304 stainless steel screw and washer. AISI 304 zinc-plated stainless steel nut. Without sealing washers or with technopolymer sealing washers and silicone locking ring.  
Holes Ø: 30 - 50 mm

#### GN 196 Angle Connector Clamps Aluminum



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 mm

#### GN 198 Angle Connector Clamps Aluminum



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: 25 - 30 - 40 - 42 - 45 - 48 - 50 mm

#### GN 193 T-shaped connecting clamps Aluminum



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

#### GN 194 T-shaped connecting clamps Aluminum



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

#### GN 195 T-shaped connecting clamps Aluminum



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

#### GN 231 Supports for round and square tubes Aluminum



Natural aluminium with zinc-plated steel or AISI 304 stainless steel screws and locking nuts. Aluminium, epoxy resin coating, black, with zinc-plated steel or AISI 304 stainless steel screws and locking nuts.  
Holes: 8 - 10 - 12 - 14 - 15 - 16 - 18 - 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 - 55 - 60 mm

## 18. Tube connectors

### 18.1 Connecting clamps for tubes continues

#### GN 241 Supports for round and square tubes Aluminum



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

#### TCC-SL Connecting clamps with sleeve Technopolymer



Black or grey colour.  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.  
Self-locking nuts in AISI 304 stainless steel.  
Holes Ø: 18 - 30 mm

#### TCC-SL-VD Connecting clamps with sleeve Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011).  
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Holes Ø: 18 - 30 mm

#### GN 242 Sleeve supports for connecting tubes Aluminum



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 mm

#### GN 271.4 Sensor holders Aluminum



Aluminium, epoxy resin coating, RAL 9005 black colour, matte finish.  
Holes Ø: 12 - 18 mm

#### GN 272.4 Sensor holders Aluminum



Aluminium, epoxy resin coating, RAL 9005 black colour, matte finish.  
Holes Ø: 18 - 30 mm

#### GN 273.4 Sensor holders Aluminum



Aluminium, epoxy resin coating, RAL 9005 black colour, matte finish.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 12 - 14 - 16 - 18 mm

#### GN 274.4 Sensor holders Aluminum



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 20 - 25 - 30 mm

#### GN 275.4 Sensor holders Aluminum



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 12 - 14 - 15 - 16 - 18 mm



## 18. Tube connectors

### 18.2 Hinged joints for tubes



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#### Material

- Technopolymer (10)
- Stainless steel (14)
- Aluminium (18)

#### Type of tube

- Round (22)
- Square (2)
- Square-Round (1)

#### TCC-PBF Mounting base for hinged joints

Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without external tothing. Holes Ø: 18 - 30 mm



#### TCC-PB Mounting base for hinged joints

Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without external tothing. Holes Ø: 18 - 30 mm



#### GN 271 Pivoting connecting clamp bases

Aluminium



Aluminium, epoxy resin coating, RAL 9005 black colour, matte finish. Width: 25 mm



#### GN 271-NI Pivoting connecting clamp bases

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. Width: 25 mm



#### GN 272 Pivoting connecting clamp bases

Aluminium

Natural aluminium or black epoxy resin coating, with raised centring ring or with raised or recessed reference teeth. Widths: 40 - 65 mm



#### GN 273 Sensor Holders

Aluminium

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



#### GN 273-NI Sensor Holders

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish. Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm



#### GN 274 Sensor Holders

Aluminium

Natural aluminium or with black epoxy resin coating, with raised centring ring or with raised or recessed reference tothing. AISI 304 stainless steel screws and nuts. Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm



#### TCC-AP Clamps for hinged joints

Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions without or with external or internal tothing. Holes Ø: 18 - 30 mm



#### GN 275 Sensor Holders

Aluminium

Natural or with epoxy resin coating, black colour. AISI 304 stainless steel screw and nut. Holes Ø: 12 - 14 - 16 - 18 mm



## 18. Tube connectors

### 18.2 Hinged joints for tubes continues

#### GN 275-NI Sensor Holders Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screw and nut.  
Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm



#### GN 276 Sensor Holders Aluminum

Natural aluminium or with black epoxy resin coating, with raised centring ring or with raised or recessed reference toothings.  
AISI 304 stainless steel screw and nut.  
Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm



#### GN 276.4 Device clamps Aluminum

Epoxy resin coating, black colour.  
AISI 304 stainless steel screw and nut.  
Holes Ø: 20 - 25 - 30 mm



#### TCC-TP Clamps for hinged joints Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions without or with external or internal toothings.  
Holes Ø: 18 - 30 mm



#### GN 277 Sensor Holders Aluminum

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



#### GN 277-NI Sensor Holders Stainless steel

Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screw and nut.  
Holes Ø: 12 - 14 - 15 - 16 - 18 - 20 mm



#### GN 277.4 Device clamps Aluminum

Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 12 - 14 - 15 - 16 - 18 mm



#### GN 278 Sensor Holders Aluminum

Natural aluminium or with black epoxy resin coating, with raised centring ring or with raised or recessed reference toothings.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm



#### GN 278.4 Device clamps Aluminum

Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nut.  
Holes Ø: 20 - 25 - 30 mm



#### GN 279 Sensor Holders Aluminum

Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Holes: 40 - 42 - 45 - 48 - 50 mm



## 18. Tube connectors

### 18.2 Hinged joints for tubes continues



#### **TCC-TP-PBF** Hinged joint with mounting base and clamp *Technopolymer*



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without tothing. Holes Ø: 18 - 30 mm



#### **TCC-TP-PB** Hinged joint with mounting base and clamp *Technopolymer*



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without tothing. Holes Ø: 18 - 30 mm



#### **TCC-AP-PBF** Hinged joint with mounting base and clamp *Technopolymer*



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without tothing. Holes Ø: 18 - 30 mm



#### **TCC-AP-PB** Hinged joint with mounting base and clamp *Technopolymer*



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without tothing. Holes Ø: 18 - 30 mm



#### **GN 281** Sensor Holders *Aluminum*



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



#### **GN 282** Sensor Holders *Aluminum*

Natural aluminium or with black epoxy resin coating, with continuous adjustment or in 15° increases. AISI 304 stainless steel screws and nuts. Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm



#### **GN 283** Sensor Holders *Aluminum*

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



#### **GN 284** Sensor Holders *Aluminum*

Natural aluminium or with black epoxy resin coating, with continuous adjustment or in 15° increases. AISI 304 stainless steel screws and nuts. Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm



#### **TCC-AP-AP** Hinged joints with clamps *Technopolymer*



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment. Self-locking nuts in AISI 304 stainless steel. Standard executions with or without tothing. Holes Ø: 18 - 30 mm



#### **GN 285** Sensor Holders *Aluminum*

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





## 18. Tube connectors

### 18.2 Hinged joints for tubes *continues*

#### GN 286 Sensor Holders Aluminum



Natural aluminium or with black epoxy resin coating, with continuous adjustment or in 15° increases.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm

#### GN 287 Sensor Holders Aluminum



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

#### GN 289 Sensor Holders Aluminum



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

#### TCC-AP-TP Hinged joints with clamps Technopolymer



Black or grey colour. Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.  
Self-locking nuts in AISI 304 stainless steel.  
Standard executions with or without tothing.  
Holes Ø: 18 - 30 mm

#### GN 288 Sensor Holders Aluminum



Natural aluminium or with black epoxy resin coating, with continuous adjustment or in 15° increases.  
AISI 304 stainless steel screws and nuts.  
Holes Ø: 20 - 25 - 30 - 40 - 42 - 45 - 48 - 50 mm

### 18.3 Tubes and accessories



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#### Material

- Technopolymer (2)
- Stainless steel (4)
- Aluminium (3)
- Die-cast zinc alloy (1)

#### Type of tube

- Round (2)
- Square (2)

#### TCC-A Hole reduction sleeve for TCC clamps, technopolymer



The reduction boss fits into the housing hole of the TCC clamps so that smaller round or square tubes can be used.  
Holes Ø: 12 - 14 - 15 - 16 - 20 - 25 mm  
Square holes: 10 - 12 - 20 mm

#### TCC-A-VD Hole reduction sleeve for TCC-VD clamps, Visually Detectable technopolymer



Produced from FDA compliant raw material (FDA CFR.21 and EU 10/2011). The reduction boss fits into the housing hole of the TCC clamps so that smaller round or square tubes can be used. Holes Ø: 12 - 14 - 15 - 16 - 20 - 25 mm. Square holes: 10 - 12 - 20 mm

#### TCC-KS Clamping kit for TCC Technopolymer



Recessed and wing nut handle and spacer bushing in technopolymer. Self-locking nut in AISI 304 stainless steel. Standard executions: recessed handle or clamping wing nut with threaded stud in AISI 303 stainless steel. Threadings: M6 - M8

#### TCC-KV Screws and nuts for TCC Stainless steel



Cylindrical-head screw with hexagon socket with anti-seizure treatment and self-locking nut. Threadings: M6 - M8



## 18. Tube connectors

### 18.3 Tubes and accessories

*continues*



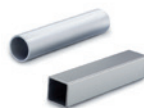
#### GN 990

##### Connecting tubes

Aluminium and stainless steel



Aluminium or AISI 304 stainless steel, round or square cross-section.



#### GN 992

##### Threaded hole end-caps for tubes

Aluminium



For round and square tubes.  
Special executions on request: terminals for tubes in AISI 303 stainless steel.  
Holes Ø: 20 - 25 - 30 - 32 - 35 - 40 - 42 - 45 - 48 - 50 mm

#### GN 911

##### Clamping kit

Zinc alloy and stainless steel



Die-cast zinc alloy lever, epoxy resin coating.  
AISI 303 stainless steel clamping element with retaining screw.  
AISI 303 stainless steel return spring.  
Threadings: M6 - M8 - M10



#### GN 911.3

##### Clamping kit

Stainless steel



Cast CF-8 stainless steel lever, sandblasted matte finish.  
AISI 303 stainless steel clamping element with retaining screw.  
AISI 301 stainless steel return spring.  
Threadings: M6



#### GN 197

##### Monitor mounts

Aluminium



Connector stud in aluminium, finely turned.  
AISI 304 stainless steel or nickel-plated brass screws.  
Diameters: 18 - 20 - 25 - 30 - 40 - 50 mm



### 18.4 Tube connectors for linear actuators



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#### Material

- Stainless steel (5)
- Aluminium (16)

#### Type of tube

- Round (30)
- Square (5)
- Square-Round (3)

#### GN 274.1

##### Sensor Holders

for linear actuators, aluminium



Epoxy resin coating, black colour. AISI 304 stainless steel screws and nut. Standard executions: without centring ring or with raised centring ring; with raised or recessed reference toothing. Hole d1: without sliding bushing or with technopolymer sliding bushing.  
Holes Ø: 30 - 40 - 50 mm

#### GN 278.1

##### Device 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 mm

#### GN 131.1

##### 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: 18 mm

#### GN 131.1-NI

##### Two-way connecting clamps

for linear actuators, stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
Sliding bushing in technopolymer.  
Holes Ø: 18 mm

## 18. Tube connectors

### 18.4 Tube connectors for linear actuators continues

#### GN 131.2 Two-way connecting clamps for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Without bushing or with sliding bushings in  
technopolymer.  
Holes Ø: 18 mm

#### GN 131.2-NI Two-way connecting clamps for linear actuators, stainless steel



Cast AISI CF-8 stainless steel, sandblasted  
matte finish.  
AISI 304 stainless steel screws and nuts.  
Sliding bushings in technopolymer.  
Holes Ø: 18 mm

#### GN 132.1 Two-way connecting clamps for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Without bushings or with sliding bushing in  
technopolymer.  
Holes Ø: 30 - 40 - 50 - 60 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 132.15 Two-way connecting clamps for linear actuators, for One-Axis System, stainless steel



Cast AISI CF-8 stainless steel, sandblasted  
matte finish.  
AISI 304 stainless steel screws and nuts.  
With or without sealing washers in  
technopolymer.  
Holes Ø: 30 - 50 mm

#### GN 132.25 Two-way connecting clamps for linear actuators, for two-axis systems, stainless steel



Cast AISI CF-8 stainless steel, sandblasted  
matte finish.  
AISI 304 stainless steel screws and nuts.  
With or without sealing washers in  
technopolymer.  
Holes Ø: 30 - 50 mm

#### GN 133.1 Two-way connecting clamps for linear actuators, for One-Axis System, aluminium



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

#### GN 133.2 Two-way connecting clamps for linear actuators, for Two-Axis System, aluminium



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

#### GN 145.1 Connecting clamps with mounting base for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screw and nut.  
With or without technopolymer sliding bushings.  
Holes Ø: 18 mm

#### GN 145.1-NI Connecting clamps with mounting base for linear actuators, stainless steel



Cast AISI CF-8 stainless steel, sandblasted  
matte finish.  
AISI 304 stainless steel screw and nut.  
Sliding bushing in technopolymer.  
Holes Ø: 18 mm



## 18. Tube connectors

### 18.4 Tube connectors for linear actuators continues



#### 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

#### GN 146.15 Connecting clamps with mounting base for linear actuators, stainless steel



Cast in AISI CF-8 stainless steel.  
Base with 4 fixing holes without sealing washers and locking ring or with technopolymer sealing washers and silicone locking ring.  
Holes Ø: 30 - 50 mm

#### GN 146.16 Connecting clamps with mounting base for linear actuators, stainless steel



Cast in AISI CF-8 stainless steel.  
Base with 2 fixing holes without sealing washers and locking ring or with technopolymer sealing washers and silicone locking ring.  
Holes Ø: 30 mm

#### GN 146.13 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 mm

#### GN 134.1 Two-way connecting clamps for linear actuators, aluminium



Epoxy resin coating, black colour. AISI 304 stainless steel screws and nuts. Connector nut in natural steel. Standard executions: two round holes; round hole and square hole; two square holes and a connecting nut; square hole complete with connector nut and round hole.  
Holes Ø: 30 - 40 - 50 mm

#### GN 134.2 Two-way connecting clamps for linear actuators, for Two-Axis System, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Two round holes; round hole and square hole; two square holes.  
Holes Ø: 30 - 40 - 50 mm

#### GN 135.1 Two-way connecting clamps for linear actuators, aluminium



Epoxy resin coating, black colour. AISI 304 stainless steel screws and nuts. Connector nut in natural steel. Standard executions: two round holes; round hole and square hole; two square holes and a connecting nut; square hole complete with connector nut and round hole.  
Holes Ø: 30 - 40 - 50 mm

#### GN 147.1 Connecting clamps with base for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Connector nut in natural steel.  
Holes: 30 - 40 - 50 mm

#### GN 165.1 Connecting clamps with base for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Connector nut in natural steel.  
Holes: 30 - 40 - 50 mm

#### GN 162.1 Bases for linear actuators Aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screw and nut.  
With or without technopolymer sliding bushing.  
Holes Ø: 18 mm

## 18. Tube connectors

### 18.4 Tube connectors for linear actuators *continues*

#### GN 162.1-NI Bases for linear actuators

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screw and nut.  
Sliding bushing in technopolymer.  
Holes Ø: 18 mm



#### GN 163.1 Bases for linear actuators

Aluminum



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

#### GN 163.15 Bases for linear actuators

Stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
With or without sealing washers in technopolymer.  
Holes Ø: 30 - 50 mm



#### GN 191.1 T-shaped 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: 18 mm

#### GN 191.1-NI T-shaped connecting clamps

for linear actuators, stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
AISI 304 stainless steel screws and nuts.  
Sliding bushing in technopolymer.  
Holes Ø: 18 mm



#### GN 192.1 T-shaped connecting clamps

for linear actuators, aluminium



Natural or with epoxy resin coating, black colour.  
AISI 304 stainless steel screws and nuts.  
Without sliding bushing or with technopolymer sliding bushing.  
Holes Ø: 18 mm

#### GN 192.15 T-shaped connecting clamps

for linear actuators, stainless steel



Cast AISI CF-8 stainless steel, sandblasted matte finish.  
Stainless steel screw, washer, and nut.  
Without sealing washers or with technopolymer sealing washers and silicone locking ring.  
Holes Ø: 30 - 50 mm



#### GN 273.1 Sensor Holders

for linear actuators, aluminium



Epoxy resin coating, black colour.  
AISI 304 stainless steel screw and nuts.  
With or without technopolymer sliding bushing.  
Holes Ø: 18 mm

#### GN 277.1 Device 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: 18 mm



## 18. Tube connectors

### 18.5 Linear actuators and accessories



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#### Material

- Steel (6)
- Stainless steel (1)
- Aluminium (1)

#### Type of tube

- Round (1)

#### GN 291

##### 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 291.1

##### Square 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 mm

#### GN 295

##### Installation kits on linear actuators of position indicators

Steel



Black-oxide steel spindle adapter. Locking bases in anodised aluminium, black colour. Standard executions: for digital position indicators DD50, DD51 and DD52R or electronic position indicators DD51-E and DD52R-E. Diameters: 8 - 12 - 14 mm

#### GN 297

##### Angular gears

Steel



Assembly by means of two supplied zinc-plated steel grub screws with hexagon socket. Standard executions: gear with teeth for clockwise or anti-clockwise rotation; set of two gears, one for clockwise and one for anti-clockwise rotation; set of three gears, one for clockwise and two for anti-clockwise rotation. Diameters: 14.5 - 25 - 33 - 40 mm

#### GN 298

##### T-shaped and angular connectors

Aluminium



Epoxy resin body coating. Hardened steel adjusting inserts. Assembly via 4 inserts with housing for countersunk head screws, 2 inserts with housing for countersunk head screws, without adjusting inserts. Max. rotation angle 180° (-20° and +160° with 0° = coplanarity of surfaces). Dimensions: 42 - 50 - 60 mm

#### GN 391

##### Connecting units for linear actuators

Steel



Chrome-plated steel guide tube. Natural steel spindle. End blanking plugs in technopolymer. Holes Ø: 18 - 30 - 40 - 50 - 60 mm

#### GN 391-NI

##### Connecting units for linear actuators

Stainless steel



AISI 304 stainless steel guide tube. Stainless steel spindle. End blanking plugs in technopolymer. Holes Ø: 18 - 30 - 40 - 50 - 60 mm

#### GN 292

##### Linear actuators

Steel



AISI 303 stainless steel worm screw with trapezoidal threading; brass slider. Slider connector nut in natural steel. End blanking plugs in technopolymer. Stroke: 120 - 130 - 205 - 255 - 300 - 350 mm

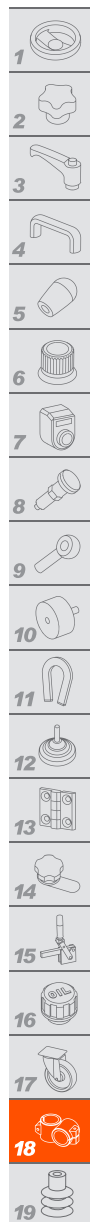
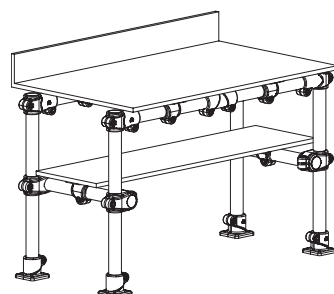
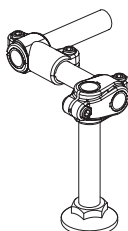
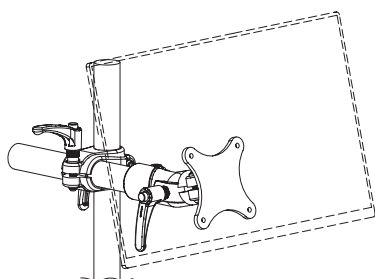
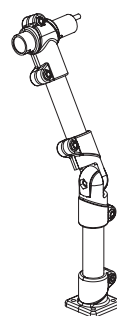
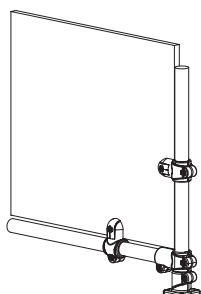
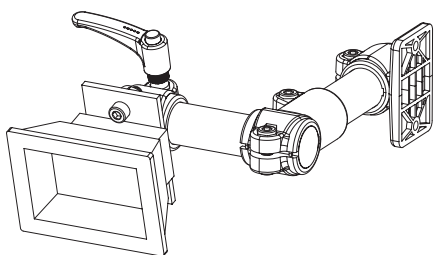


# Technopolymer connecting clamps and joints



- Lightweight, anti-rust, and high mechanical strength.
- Easy cleaning due to a design free from corners and edges and with a smooth surface.
- Jointed components to adapt the structure to all required angles.
- Compatible with all commercial tubes (diameter tolerance of  $\pm 0.2$  mm).
- Hole reduction sleeves to adapt to tubes with different diameters.
- Resistance to tube rotation and pull-out guaranteed at tightening torque indicated.

## Application examples





# 19

## Vacuum components



Vacuum cups, vacuum cup holders and related accessories that can be used for gripping and handling packaged products, including food, and plastic, metal, glass, marble, paper, and ceramic products. Different shapes, sizes, blends, and combinations of materials allow their use in various industrial contexts including packaging (flow-pack), robot-automation, paper, and electronics.

### 19.1 Vacuum suction cups



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#### Blend

- Oil-proof rubber (54)
- Natural rubber (57)
- Yellow natural rubber (4)
- Silicone rubber (63)
- Nitrilic rubber (4)

#### VVA-07

##### Mini vacuum cups

Diameter 7 mm, with and without support, rubber



They are used in the paper converting sector, in particular for handling paper sheets and labels. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products.

#### VVA-17

##### Flat vacuum cups with shank

Diameter 17 mm, with or without support, rubber



They are used in the paper converting sector, in particular for handling paper sheets and labels. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products.

#### VVA-18

##### Flat vacuum cups with shank

Diameter 18 mm, with or without support, rubber



They are used in the paper converting sector, in particular for handling paper sheets and labels. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products.

#### VVA-27

##### Flat vacuum cups with shank

Diameter 27 mm, with or without support, rubber



They are used in the packaging sector, in particular in packaging using plastic films and in the paper converting sector for the handling of sheets of paper. The moulded labyrinth on the vacuum cup support surface ensures a more effective grip on the product to be handled and a uniform distribution of the vacuum on the surface of the sheet or package.

#### VVA-30

##### Flat vacuum cups with shank

Diameter 30 mm, with or without support, rubber



They are used in the packaging sector, in particular in packaging using plastic films and in the paper converting sector for the handling of sheets of paper. The moulded labyrinth on the vacuum cup support surface ensures a more effective grip on the product to be handled and a uniform distribution of the vacuum on the surface of the sheet or package.

#### VVA-44

##### Flat vacuum cups with shank

Diameter 44 mm, with or without support, rubber



They are widely used in the paper converting sector, in particular for handling cardboard sheets. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products. The presence of the grooves on the surface of the vacuum cup allows for a superior grip and a more effective hold on the object to be manipulated.

#### VVA-50

##### Shaped flat vacuum cups

Diameter 50 mm, with or without support, rubber



They are widely used in the paper converting sector, in particular for handling cardboard sheets. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products. The presence of the grooves on the surface of the vacuum cup allows for a superior grip and a more effective hold on the object to be manipulated.

#### VVA-65

##### Shaped flat vacuum cups

Diameter 65 mm, with or without support, rubber



They are widely used in the paper converting sector, in particular for handling cardboard sheets. They can also be used in different sectors, including electronics, for gripping small electrical components, food or for use with small metal or plastic products. The presence of the grooves on the surface of the vacuum cup allows for a superior grip and a more effective hold on the object to be manipulated.

## 19. Vacuum components

### 19.1 Vacuum suction cups

*continues*

#### VVB

##### Round vacuum cups - High Grip

*With support, rubber*



They are used in the robotic-automotive sector and for surfaces such as sheet metal or glass. The flexibility of the gripping lip makes them suitable for flat, concave, and convex surfaces. The moulded labyrinth on the support surface ensures, even in the presence of liquids (oil, water), a strong grip on the load surface.

#### VVC

##### Round vacuum cups with one bellow - High Grip

*With support, rubber*



They are used in the robotic-automotive sector, for surfaces such as sheet metal or glass. The moulded labyrinth on the support surface ensures, even in the presence of liquids (oil, water), a strong grip on the load surface. The bellows allows adaptability to even irregular surfaces or those with planarity errors.

#### VVD

##### Elliptical flat vacuum cups - High Grip

*With support, rubber*



They are used in the robotic-automotive sector, for surfaces such as sheet metal or glass. The flexibility of the gripping lip makes them suitable for flat, concave, and convex surfaces. The moulded labyrinth on the support surface ensures, even in the presence of liquids (oil, water), a strong grip on the load surface.

#### VVE

##### Elliptical flat vacuum cups with one bellow - High Grip

*With support, rubber*



They are used in the robotic-automotive sector, for surfaces such as sheet metal or glass. The moulded labyrinth on the support surface ensures, even in the presence of liquids (oil, water), a strong grip on the load surface. The bellows allows adaptability to even irregular surfaces or those with planarity errors.

#### VVF

##### Elliptical vacuum cups

*With support, rubber*



Application sectors: paper industry (for cardboard boxes or cases), ceramics sector (tiles or bricks) and with iron or stainless steel profiles or sheets. Suitable for gripping, handling and clamping materials or products with elongated surfaces.

#### VVG

##### Elliptical vacuum cups with double bellow

*With support, rubber*



Application sectors: paper (cardboard boxes or cases), ceramics (tiles or bricks), iron or stainless steel profiles. Suitable for gripping and holding products with elongated surfaces. The bellows in contact with the load surface (even irregular or non-planar) folds up, lifting it from the surface.

#### VVH-04

##### Mini Cup-shaped vacuum cups

*Diameter 4 mm, with or  
without shaped support,  
rubber*



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter and the shaped support, they are suitable for moving even objects with very small dimensions.

#### VVH-05

##### Mini Cup-shaped vacuum cups

*Diameter 5 mm, with or  
without shaped support,  
rubber*



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter and the shaped support, they are suitable for moving even objects with very small dimensions.

#### VVH-06

##### Mini Cup-shaped vacuum cups

*Diameter 6 mm, with or  
without shaped support,  
rubber*



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter and the shaped support, they are suitable for moving even objects with very small dimensions.

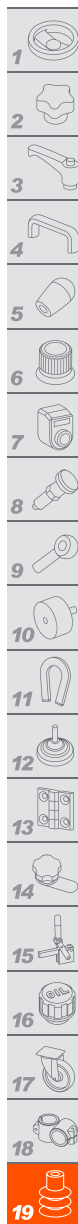
#### VVH-07

##### Mini Cup-shaped vacuum cups

*Diameter 7 mm, with or  
without shaped support,  
rubber*



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter and the shaped support, they are suitable for moving even objects with very small dimensions.



## 19. Vacuum components

### 19.1 Vacuum suction cups

continues



#### **VVH-08** Mini Cup-shaped vacuum cups

Diameter 8 mm, with or without shaped support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). Thanks to the small diameter and the shaped support, they are suitable for moving even objects with very small dimensions.

#### **VVH-09** Cup-shaped vacuum cups

Diameter 9 mm, with or without shaped support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-10** Cup-shaped vacuum cups

Diameter 10 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-12** Cup-shaped vacuum cups

Diameter 12 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-15** Cup-shaped vacuum cups

Diameter 15 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-18** Cup-shaped vacuum cups

Diameter 18 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-20** Cup-shaped vacuum cups

Diameter 20 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-22** Cup-shaped vacuum cups

Diameter 22 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-25** Cup-shaped vacuum cups

Diameter 25 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### **VVH-30** Cup-shaped vacuum cups

Diameter 30 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

## 19. Vacuum components

### 19.1 Vacuum suction cups *continues*

#### VVH-35

##### Cup-shaped vacuum cups

Diameter 35 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### VVH-40

##### Cup-shaped vacuum cups

Diameter 40 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### VVH-45

##### Cup-shaped vacuum cups

Diameter 45 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). They are used for handling ceramic or concrete tiles with smooth or moulded surfaces.

#### VVI-25

##### Flat Cup-shaped vacuum cups

Diameter 25 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### VVI-30

##### Flat Cup-shaped vacuum cups

Diameter 30 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### VVI-35

##### Flat Cup-shaped vacuum cups

Diameter 35 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave).

#### VVI-45

##### Flat Cup-shaped vacuum cups

Diameter 45 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). They are used for handling ceramic or concrete tiles with smooth or moulded surfaces.

#### VVI-60

##### Flat Cup-shaped vacuum cups

Diameter 60 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). They are used for handling ceramic or concrete tiles with smooth or moulded surfaces.

#### VVI-85

##### Flat Cup-shaped vacuum cups

Diameter 85 mm, with or without support, rubber



Application sectors: electronics, food packaging, multiple materials (metal or plastic) with different shapes and gripping surfaces (flat, slightly convex or concave). They are used for handling ceramic or concrete tiles with smooth or moulded surfaces.

#### VVK

##### Round Flat vacuum cups

Diameter 80 mm, with or without support, rubber



For handling tiles and possible use also with glass, marble, and cement products. Particularly flexible lip for smooth or rough flat surfaces, concave and convex, even very thin. The grooves on the support surface allow a superior grip and a more effective hold.



## 19. Vacuum components

### 19.1 Vacuum suction cups

continues



#### VVL-06 Mini bellows vacuum cups for food packaging

Diameter 6 mm, with or without support, rubber



They are suitable for the food packaging sector where the small size of the vacuum cup and the bellows shape allow adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and small dimensions.

#### VVL-08 Mini bellows vacuum cups for food packaging

Diameter 8 mm, with or without support, rubber



They are suitable for the food packaging sector where the small size of the vacuum cup and the bellows shape allow adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and small dimensions.

#### VVL-11 Bellows vacuum cups for food packaging

Diameter 11 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions.

#### VVL-16 Bellows vacuum cups for food packaging

Diameter 16 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions.

#### VVL-18 Bellows vacuum cups for food packaging

Diameter 18 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions.

#### VVL-19 Bellows vacuum cups for food packaging

Diameter 19 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions.

#### VVL-30-38 Multi - bellows vacuum cups for food packaging

Diameter 30 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions. The grooves on the surface of the suction cup allow for increased grip.

#### VVL-30-55 Multi - bellows vacuum cups for food packaging

Diameter 30 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions. The special inner machining of the vacuum cup surface allows for increased grip.

#### VVL-33 Multi - bellows vacuum cups for food packaging

Diameter 33 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions. The special inner machining of the vacuum cup surface allows for increased grip.

#### VVL-56 Bellows vacuum cups for food packaging

Diameter 56 mm, with or without support, rubber



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions. The special inner machining of the vacuum cup surface allows for increased grip.



## 19. Vacuum components

### 19.1 Vacuum suction cups *continues*

#### VVL-75 Bellows vacuum cups for food packaging

*Diameter 75 mm, with or without support, rubber*



They are suitable for the food packaging sector where the bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle packages with multiple shapes and dimensions. The special inner machining of the vacuum cup surface allows for increased grip.

#### VVM-20 Multi-Bellows Round vacuum cups for food packaging

*Diameter 20 mm, with or without support, rubber*



They are indicated in the food packaging sector, in particular for the handling of baked goods or confectionery products, where the multi-bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle multiple types of packaged products, even fragile ones. (e.g. biscuits, bread, snacks).

#### VVM-30 Multi-Bellows Round vacuum cups for food packaging

*Diameter 30 mm, with or without support, rubber*



They are indicated in the food packaging sector, in particular for the handling of baked goods or confectionery products, where the multi-bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle multiple types of packaged products, even fragile ones. (e.g. biscuits, bread, snacks).

#### VVM-40 Multi-Bellows Round vacuum cups for food packaging

*Diameter 40 mm, with or without support, rubber*



They are indicated in the food packaging sector, in particular for the handling of baked goods or confectionery products, where the multi-bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle multiple types of packaged products, even fragile ones. (e.g. biscuits, bread, snacks).

#### VVM-50 Multi-Bellows Round vacuum cups for food packaging

*Diameter 50 mm, with or without support, rubber*



They are indicated in the food packaging sector, in particular for the handling of baked goods or confectionery products, where the multi-bellows shape allows adaptability to different surfaces, even irregular ones or with planarity errors, allowing these vacuum cups to handle multiple types of packaged products, even fragile ones. (e.g. biscuits, bread, snacks).

#### VVN-20 Bellows vacuum cups for Flow Pack

*Diameter 20 mm, with or without support, silicone*



They are indicated for flow-pack type packaging in which the multi-bellows shape and the extremely flexible lip allow the vacuum cup to adapt to multiple types of packaged products. They are used in the food, pharmaceutical, industrial, and cosmetic sectors.

#### VVN-30 Bellows vacuum cups for Flow Pack

*Diameter 30 mm, with or without support, silicone*



They are indicated for flow-pack type packaging in which the multi-bellows shape and the extremely flexible lip allow the vacuum cup to adapt to multiple types of packaged products. They are used in the food, pharmaceutical, industrial, and cosmetic sectors.

#### VVN-40 Bellows vacuum cups for Flow Pack

*Diameter 40 mm, with or without support, silicone*



They are indicated for flow-pack type packaging in which the multi-bellows shape and the extremely flexible lip allow the vacuum cup to adapt to multiple types of packaged products. They are used in the food, pharmaceutical, industrial, and cosmetic sectors.

#### VVN-50 Bellows vacuum cups for Flow Pack

*Diameter 50 mm, with or without support, silicone*



They are indicated for flow-pack type packaging in which the multi-bellows shape and the extremely flexible lip allow the vacuum cup to adapt to multiple types of packaged products. They are used in the food, pharmaceutical, industrial, and cosmetic sectors.

#### VVO-40 Round vacuum cups with one bellows

*Diameter 40 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.



## 19. Vacuum components

### 19.1 Vacuum suction cups

*continues*



#### **VVO-50** Round vacuum cups with one bellow

*Diameter 50 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVO-60** Round vacuum cups with one bellow

*Diameter 60 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVO-85** Round vacuum cups with one bellow

*Diameter 85 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVP-40** Round vacuum cups with double bellows

*Diameter 40 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVP-50** Round vacuum cups with double bellows

*Diameter 50 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVP-60** Round vacuum cups with double bellows

*Diameter 60 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVP-85** Round vacuum cups with double bellows

*Diameter 85 mm, with support, vulcanised rubber*



They are suitable for leafing through and picking up thin metal sheets, glass plates, wood panels, and plastic laminates. The vacuum cup has a vulcanised treatment that makes it more resistant to abrasion, tensile forces, as well as wear and tear, and makes it more resistant to aggressive environmental agents.

#### **VVQ-22** Reinforced bellow vacuum cups

*Diameter 22 mm, with or without support, rubber*



They are indicated for leafing through and picking up sheets of paper and cardboard, thin sheet metal and wood panels. The reinforced bellows, wider and thicker than traditional bellows, allows for greater lifting force with the same size, combined with greater resistance to wear and tear.

#### **VVQ-34** Reinforced bellow vacuum cups

*Diameter 34 mm, with or without support, rubber*



They are indicated for leafing through and picking up sheets of paper and cardboard, thin sheet metal and wood panels. The reinforced bellows, wider and thicker than traditional bellows, allows for greater lifting force with the same size, combined with greater resistance to wear and tear.

#### **VVQ-43 - VVQ-53** Reinforced bellow vacuum cups

*Diameter 43 and 53 mm, with support, rubber*



They are specifically indicated for leafing through and picking up sheets of paper and cardboard, thin sheet metal and wood panels. The reinforced bellows, wider and thicker than traditional bellows, allows for greater lifting force with the same size, combined with greater resistance to wear and tear.

## 19. Vacuum components

### 19.2 Vacuum cup holders



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#### Material

- Stainless steel (1)
- Brass (2)
- Brass - Steel (5)

#### VPA

##### Vacuum cup holders

*Threaded connection  
male or female, steel,  
aluminium and brass*



4 available executions, each with three different effective spring strokes specific for each stem length. The spring cushions the impact of the vacuum cup and at the same time maintains a constant pressure with the load to be lifted.

#### VPC

##### Anti-rotation vacuum cup suspensions

*Threaded connection  
male, steel, aluminium  
and brass*



2 available executions, each with three different effective spring strokes for each stem length. The hexagonal shape of the stem prevents the shank and the vacuum cup fixed on it from rotating on its axis. The spring cushions the impact of the vacuum cup and maintains a constant pressure with the load to be lifted.

#### VPE

##### Mini vacuum cup with built-in spring suspensions

*Threaded connection  
female, steel, aluminium  
and brass*



2 available executions, each with different effective spring strokes. The particular shape of the shank prevents rotation during movement. The embedded spring protected by the body cushions the impact of the vacuum cup, maintaining a constant pressure with the load to be lifted.

#### VPG

##### Anti-rotation mini vacuum cups spring suspensions

*Threaded connection  
male or female, steel,  
aluminium and brass*



6 available executions, with an effective spring stroke equal to 25.5 mm. The specific hexagonal shape of the stem prevents the shank and the vacuum cup fixed on it from rotating on its axis. The spring cushions the impact of the vacuum cup and maintains a constant pressure with the load to be lifted.

#### VPB

##### Vacuum cups suspensions - Fixed

*Threaded connection  
male or female,  
aluminium and brass*



4 available executions. The threaded bosses, with clamping ring for height adjustment and mounting on the automatic device, with a minimum length of only 74 mm, represent a compact solution for fixing the vacuum cup with support.

#### VPD

##### Mini vacuum cup spring suspensions

*Threaded connection  
male or female, steel,  
aluminium and brass*



8 available executions and with an effective spring stroke of 25.5 mm. Small dimensions that allow a reduction in weight and bulk on the automation on which they are installed. The spring cushions the impact of the vacuum cup and maintains a constant pressure with the load to be lifted.

#### VPF

##### Mini vacuum cup suspensions - Fixed

*Threaded connection  
female, steel, aluminium  
and brass*



2 available executions. The threaded bosses, with clamping ring for height adjustment and mounting on the automatic device, with a minimum length of only 46 mm, represent a compact solution for fixing the vacuum cup with support.

#### VPH

##### Micro vacuum cup spring suspensions

*Threaded connection  
female, stainless steel,  
aluminium and brass*



5 available executions, with an effective spring stroke of 10 mm. With a minimum length of only 73 mm, it represents an extremely compact and lightweight solution for fixing vacuum cups with diameters up to 16 mm and with M5 male support.



### 19.3 Vacuum cup fittings



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#### VRA

##### Vacuum cup fittings

*For VVB, VVC, VVD e  
VVE High grip vacuum  
cups, aluminium or steel*



5 available executions, used to connect the vacuum cups to the vacuum cup holders equipped with threads with different dimensions. They allow both the passage from male to female and adaptation to GAS, metric, or NPT threads.

Designed for gripping and handling products and packages of various shapes and sizes, Elesa vacuum components are engineered for adaptability across a range of pneumatic automation systems.

They are widely used in industries such as packaging (flow-pack), robot automation, paper converting, and electronics. Selecting the ideal suction cup for your application is easy; simply consider the following features.



- **Diameter:** from mini sizes of just 4 mm up to 125 mm.
- **Compound:** 5 different types (oil-proof, natural, natural yellow, silicone and nitrile rubber) also with vulcanised treatments to improve tensile strength and extend its useful life.
- **Shape:** cup, flat and elliptical vacuum components adapt to various shapes and sizes and, in the bellows and multi-bellows executions, they can also compensate for errors in the flatness of the surfaces of the products to be handled.
- **Shaped support surface:** the grooves or the particular internal labyrinth design allow you to obtain a high grip even on surfaces with different roughness or in the presence of liquids (water and oil).

The breadth of the range offers unique lifting forces for each suction cup which allow the manipulation and grip of very light and delicate products such as chocolates, biscuits, eggs, stickers, labels and sheets of paper up to parts with considerable weight such as glass plates, marble and metal.

The range is completed by **complementary vacuum cup holders** in brass, steel or stainless steel available in different configurations and sizes: spring (also external), fixed, Mini, Micro. With threaded connection of different lengths to guarantee full adaptability to machinery.



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## TECHNICAL DATA

Designers and engineers can benefit from a full collection of Technical Data provided with all ELESIA Catalogues. They include information on production materials, specifications on mechanical, thermal, flame and chemical resistance, compliance with international standards, conversion tables, machining tolerances and thread types. In addition, guidelines for the correct selection and application of specific products are provided in order to allow the designers to always make the best choice.



# Technical Data index

## GENERAL

Production materials, mechanical, thermal and chemical resistance specifications. International standards compliances, conversion tables, ISO thread types.

## ADJUSTABLE LEVERS

Adjustable mechanism specifications and technopolymer stress resistance for repetitive clamping operations

## HANDLE WITH PNEUMATIC DRIVE

Directional control valves features and symbols to properly set the position of the valve according to the function required.

## GRADUATIONS

Instructions for properly filling-in your order information to obtain products with laser engraved precision graduations.

## POSITION INDICATORS

Introduction to position indicators features and functions. Instructions on how to select your position indicator, the ratios and how to assemble it.

## TRANSFER UNITS

Introduction to Transfer Units and instructions on how to select them properly. Speed and friction specifications.

## MODULAR ROLLER TRACKS

Main advantages and features of EleRoll® Modular Roller Track system. Instructions on how to select and order them properly.

## LEVEL BUBBLES

Introduction to Level Bubbles mechanism and functions. Physical features influencing sensitivity and angle inclination.

## TRANSMISSION ELEMENTS

Functions and main features of Spur Gears and Racks. Technical notes on couplings, operating distance, materials and lubrication. Glossary Addendum.

## RUBBER BUFFERS

Introduction to Rubber Buffers with technical data and guidelines on how to select them properly. Diagram for determining the degree of isolation.

## HIGH PERFORMANCE ELECTRICAL LEVEL INDICATORS VIBRATION DAMPERS

Introduction to the range of Anti vibration mounts, Spring mounts and Wire rope isolators with main features and specifications. Guidelines for the correct selection.

## MAGNETS

Magnet materials, technical information on adhesive force and introduction to the different shapes and applications.

## LEVELLING FEET

Table of the possible combinations base/stem and information on testing criteria for the check of the correct assembly of the no-slip disk to the technopolymer base.

## HYGIENIC DESIGN

Introduction to the product concept and design, main features and advantages. Compliancy to hygienic Standards. Static seals and moving seals assembly description.

## HINGES

Guidelines for the correct application of hinges in engineering plastics.

## PNEUMATIC FASTENING CLAMPS

Introduction to Pneumatic Fastening Clamps with main features and specifications. Standard accessories advantages and special executions on request.

## ELECTRICAL LEVEL INDICATORS

Warnings for an effective protection of the Reed switches. Inductive, capacity and lamp load main specifications. Wire capacitance effects on the Reed switch.

## CASTORS AND WHEELS

Wheel main features and different production material specifications. Wheels from the mechanical perspective (loads, friction and force). Guidelines for the correct selection.

## VACUUM COMPONENTS

Introduction to vacuum and general features of the different rubber compounds to select the appropriate product.

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