

Concept, design and realisation

item Industrietechnik GmbH

Photographs

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Conditions of use

The products in the item MB Building Kit System are suitable for use in dry conditions and over the temperature range -20°C to +70°C. item must be consulted where products are to be used for applications outside these limits.

Conformity with Directive 2011/65/EU (“RoHS”)

item has made a voluntary undertaking to refrain from using hazardous substances as defined in Directive 2011/65/EU in the products it sells, irrespective of their subsequent purpose which, in the majority of cases, does not fall under this Directive. As a result, apart from a few well-founded exceptions, the products listed in this catalogue comply with Directive 2011/65/EU. The products to which these exceptions relate are set out in an up-to-date list that is available to customers on request.





Profiles and Accessories



Fastening Technology



T-Slot Nuts



Screws and Universal Fasteners



Panel Fasteners



Enclosures, Guards and Partitions



Hinges and Fittings



Handles and Grips



Locks and Catches



Panel Elements



Floor Elements



Conveyors



Machine Accessories



Installation Elements



Linear Slides



Mechanical Drive Elements



Components made of special materials



Jigs, Fixtures and Tools



Technical Data

The item MB Building Kit System – one principle, a thousand enhancements, unlimited possibilities

The item MB Building Kit System is the solution for all design and construction tasks involving factory equipment engineering. It can be used to build everything from simple frames to fully automated production lines.

For more than 30 years, engineers around the world have been relying on the MB Building Kit System because it presents solutions that simply work. The modular components can be combined in a virtually unlimited number of variations, helping you turn your ideas into reality. Reliability and extendibility ensure that systems and structures have an extremely long useful life.

Innovation and originality

Thanks to a continuous process of innovation, the MB Building Kit System grows with the requirements of users. In their Solingen development centre, the engineers at item work hard to make sure you always have state-of-the-art components at your disposal. One of our foremost objectives as we continue to innovate is the full compatibility of our components. This compatibility is made possible because item designs all its components itself, meaning that when you buy a product bearing our name you are buying a true original. This catalogue represents the sum total of all our experience and ideas.



Service and partnership

item is always on hand to offer advice and practical support, whether with selecting products, resolving technical queries or configuring complex solutions. item consultants are always there for you.

You can find all the information in this catalogue, and much more besides, online at item24.com.

Databases containing detailed technical information and CAD data make it easy to pick out the right product and interactive product configurators help users put together parts lists in no time. If required, item can supply made-to-measure components. Our logistics centres in various countries and continents keep delivery times to a minimum and enable rapid access to all components.

Know-how and passion

Our core business is the development, production and supply of cost-effective solutions for the efficient construction of machinery and factory equipment. Every member of staff at item is committed to this goal. And that commitment and passion comes across in our products and services.



Quality and design

Nothing is more important than reliability. That's why designers put their trust in products from item. We place a great deal of value on quality management throughout every stage of production. All our components pass through a thorough programme of testing before they can move on from the design stage. Existing product lines are also subject to repeated testing.

For item, good design means utilising physical principles to find the optimum technical solution. The result is a range of products that are both elegant and functional. And that is why item regularly wins top design awards.



Applications – the item MB Building Kit System in use

The MB Building Kit System is the basis for innovative machinery and factory equipment. Reliability, versatility and consistently high quality are the hallmarks of these outstanding components. The enormous product range supports design engineers in developing customised solutions that can be continuously adapted and modified.

Machinery – the foundation for efficient production

The components in the MB Building Kit System have been optimised for a number of different application areas. Whether slimline profiles for dynamic linear motion or heavy-duty struts with exceptional load-carrying capacity, simple frames or complex machinery, robust systems in demanding environments or easy-to-clean profiles with closed surfaces – the MB Building Kit System has the right solution for every need.

Factory equipment – outstanding productivity from customised solutions

The MB Building Kit System is ideal for creating ergonomic working environments in production, assembly and administration areas. While certain floor elements keep shelving units, tables and display cases firmly in place, easy-running castors keep mobile solutions on the move.





Automation – processes for exceptional quality

Linear systems from item enable users to develop automatic solutions of the highest standards. Dynamic elements can be assembled to produce precise lifting and sliding doors, efficient conveyor lines and complex handling fixtures. Turnkey solutions supplied ready for installation save on the time and money otherwise taken up by development and assembly work.

Transport and conveyor technology – for an uninterrupted flow of goods

The versatile elements of the MB Building Kit System cover all the needs associated with a rapid-moving and precise flow of materials. They deliver outstanding stability and are extremely easy to combine. Specialised components for transport and conveyor applications offer solutions for manual and automated transport.

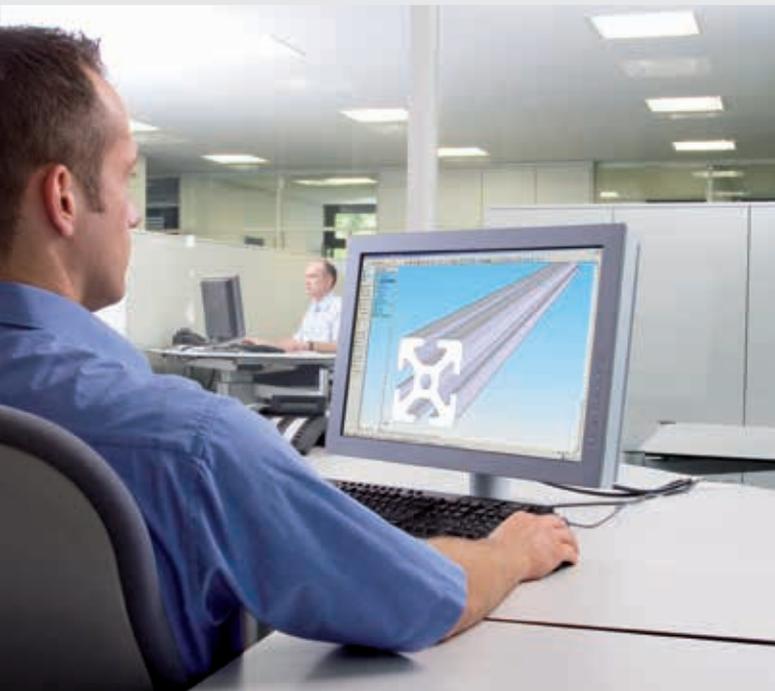
Enclosure and guard systems – customised health and safety

The modular elements of the MB Building Kit System enable you to meet the highest standards in health, safety and security in the workplace, all in line with the EC Machinery Directive. Tamper-proof fixtures, break-proof panels, noise-reducing enclosures and stable guards all help to boost active safety systems in production.

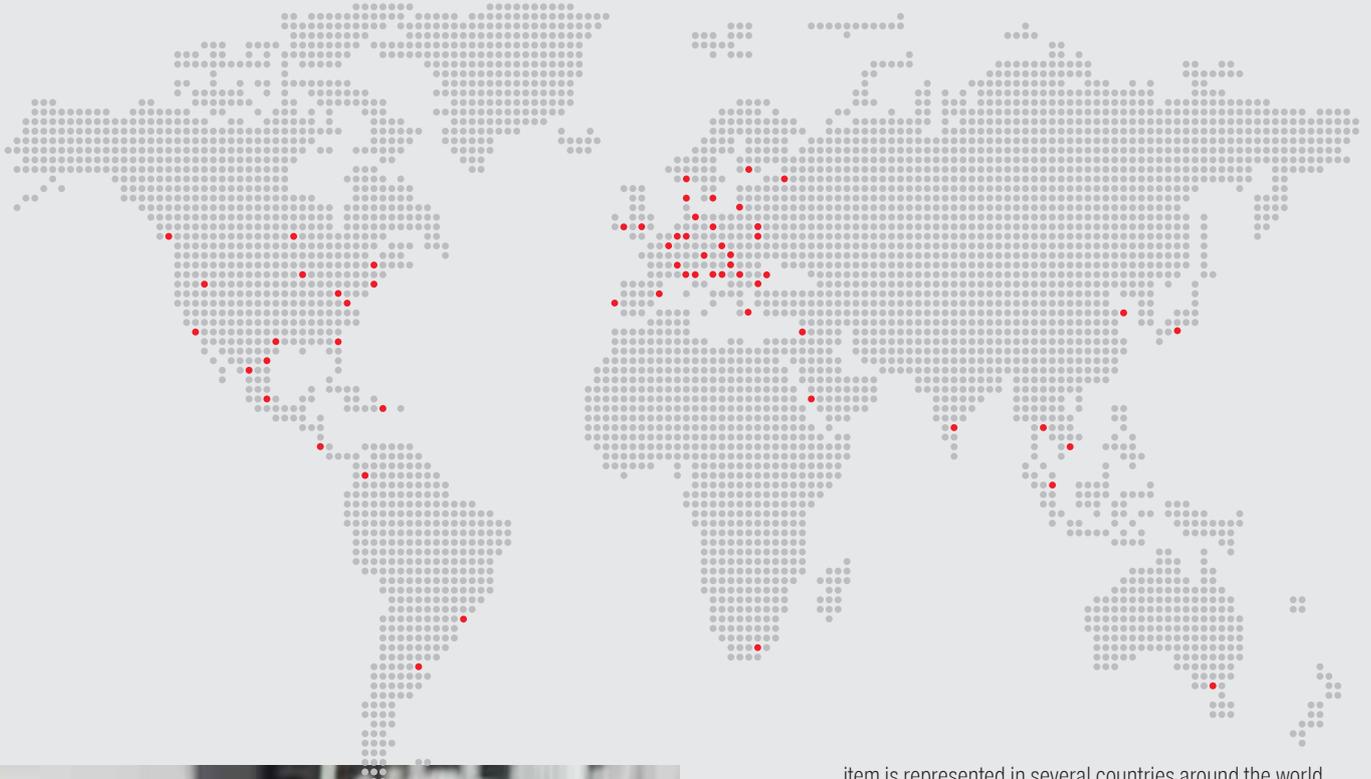
Service portfolio and distribution in Germany

Numerous local service centres throughout Germany provide users with a broad range of services:

- User support in resolving specific needs
- CAD-assisted project engineering, tendering and the design of installations and equipment
- Rapid delivery of all system elements
- Elements machined ready for assembly
- Provision of construction kits
- Turnkey solutions comprising system elements
- CAD software support for your project management
- Provision of catalogues and technical documentation
- Internal and external training courses



International Sales



item is represented in several countries around the world through a chain of branches and distribution partners.

- | | |
|----------------|----------------|
| Argentina | Norway |
| Australia | Poland |
| Austria | Portugal |
| Belarus | Romania |
| Belgium | Russia |
| Brazil | Saudi Arabia |
| Bulgaria | Serbia |
| Canada | Singapore |
| China | Slovakia |
| Columbia | Slovenia |
| Costa Rica | South Africa |
| Czech Republic | Spain |
| Denmark | Sweden |
| Finland | Switzerland |
| France | Thailand |
| Greece | Turkey |
| Hungary | Ukraine |
| India | United Kingdom |
| Ireland | USA |
| Israel | Vietnam |
| Italy | |
| Japan | |
| Lithuania | |
| Mexico | |
| Netherlands | |

You can find contact details for your local item distribution partner on our website: item24.com

Other item product lines

item also offers specialised product lines that complement the MB Building Kit System. All product lines can easily be combined with components from the MB Building Kit System – and vice-versa. For example, an item work bench can be used in combination with a machine frame made using the MB Building Kit System and a FIFO rack built using the Lean Production Building Kit System. Separate catalogues are available for the various product lines and can be downloaded at www.item24.com or ordered from your system partner.

item reviews and extends its product range on a regular basis. You can find all the latest information on new and existing products on our website.



Lean Production Building Kit System

Optimised for lean production! Aluminium Profile Tube System D30 is a speedy solution for building cost-effective factory equipment such as stable racks, transport trolleys and workstations. Entire logistics solutions with integrated roller conveyors can be constructed on site and continuously adapted and extended. Mechanical automation systems that don't need complex and costly drives or sensors provide an extra boost for productivity. Thanks to the long-lasting hold of the fasteners, running and maintenance costs are lean, too. item24.de/en/epaper-lp



Work Bench System

The item Work Bench System makes manual production in industrial environments more productive. Everything centres on robust, height-adjustable work benches that can be extended with Uprights, Pivot Arms, picking solutions, conveyor lines and mobile material supply trolleys. The end results are versatile and adaptable solutions for production, assembly and laboratory applications. The item Work Bench System is the first complete system to carry the AGR seal of approval for its end-to-end ergonomics. item24.de/en/epaper-wbs



Automation System

The item Automation System provides ready-to-install Linear Units that are preassembled in line with your requirements. This reduces overall costs significantly. The turnkey systems comprise carefully coordinated components, are supplied in the lengths required and are ready to use. A wide range of different drive elements etc. is available to suit all requirements. An intelligent configurator guides you to the perfect combination of components for your needs.
item24.de/en/epaper-au

Line XMS

The machine modules in Line XMS from item offer everything needed to build complete cabins in next to no time. Profiles with integrated cable conduits, doors with seals, and reinforced frames give structures built using Line XMS features and characteristics that otherwise require intricate planning and additional parts. Based on a concept that can be adapted to needs in no time, Line XMS drives down engineering costs and speeds up the construction of custom solutions. Line XMS is thus perfect for modular series production.
item24.de/en/epaper-xm



Stairway/Platform System

The Stairway/Platform System helps you easily build regulation-compliant bridges, maintenance platforms for elevated sections of machinery, and allround working platforms complete with guard-rails – all using one and the same system. As a result, staff are able to reach every corner of a machine or plant and work there safely. The components for building reliable stairways, guard-rails and platforms can be adjusted to suit the space available and integrate directly into machine frames.
item24.de/en/epaper-tp

Symbols in this catalogue



These symbols indicate which profile line(s) a product can be used with.



This symbol indicates that a product is part of Line X.



The antistatic symbol indicates that a product cannot become electrostatically charged.



The service symbol indicates that special support is available for complex projects.
Ask us about our bespoke customer solution planning services.



This symbol indicates that additional information is available for a product in our online catalogue.



This symbol indicates that a product is a particularly innovative development from item. A patent or utility model will either be in place or pending for the product.

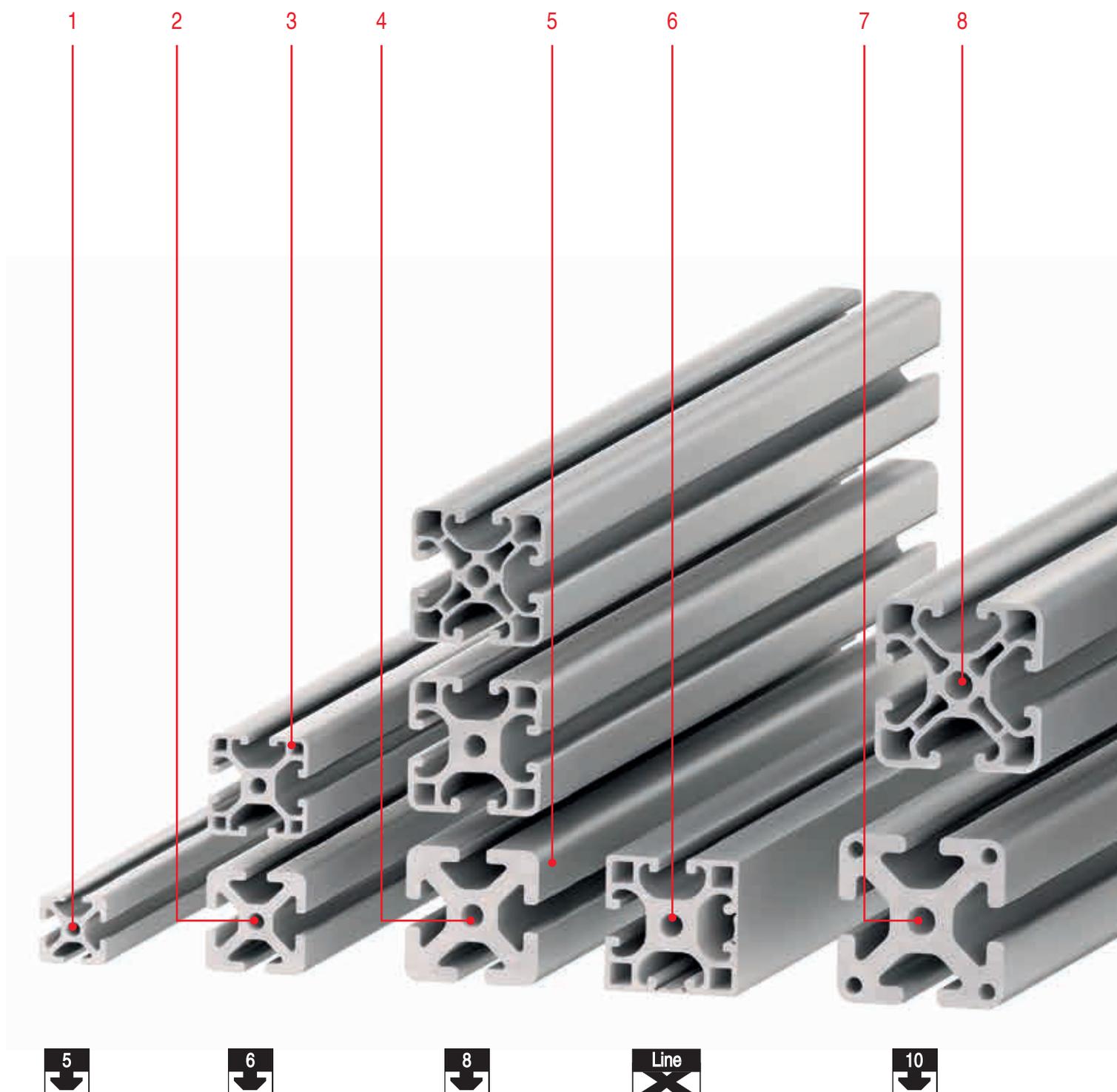


PROFILES AND ACCESSORIES

1

- Profiles in Modular Dimensions
- Profiles with a Cylindrical Cross-Section
- Angled and Flat Profiles
- Caps
- Covers for Bores/Holes
- Cover Profiles

Overview – item profile lines





9

12
↓

1 Profiles 5

- Our most compact aluminium profiles
- Modular dimension of 20 mm
- Full functionality, low bulk
- For applications where space is limited

17 Section **1**

6 Profiles X

- Minimised edge radii make this line ideal for building systems with closed surfaces
- Compatible with Line 8
- For constructions with a high-end look that are easy to clean

33 Section **1**

2 Profiles 6

- Economical use of materials, generous performance
- High carrying capacity despite low dead weight
- For systems with a compact design

21 Section **1**

7 Profiles 10

- Greater load-carrying capacity thanks to reinforced profile walls
- Exceptional reliability against pre-tension losses

47 Section **1**

3 Lightweight profiles

- Additional cavities help reduce weight
- Profile core offers full load-carrying capacity
- Available in Lines 6, 8 and 12

21 Section **1**

8 Profiles E

- Exceptionally light due to minimal use of materials
- Profile groove remains fully functional
- Available in Lines 8 and 10

27 Section **1**

4 Profiles 8

- The standard material for design engineers
- Huge selection of accessories and enhancements
- Robust and strong despite small dimensions

27 Section **1**

9 Profiles 12

- The strongest profile line in the MB Building Kit System
- Highest load-carrying capacity and maximum tensile loading
- Stable basis for extremely strong frames

49 Section **1**

5 Special materials

- The alternatives to aluminium – stainless steel or 70 percent wood composite material
- For special applications
- Available as Profiles 8

639 Section **17**

Key: See page Products in this section Products in other sections

Profiles and accessories

Products in this section



Profiles 5 – modular dimension 20 mm

- Extremely compact dimensions
- For refined, stable and flexible applications

17



Profiles 5 – flat cross-sections

- Particularly flat profiles
- Full functionality at a height of just 8.5 to 14 mm

19



Profiles 5 R

- Closed on two sides, rounded surface
- Available in various angles

20



Profiles 6 – modular dimension of 30 mm

- The weight-optimised profile line
- Ideal for slimline, robust design

21



Profiles 6 – flat cross-sections

- Low installation height
- For fastening lightweight components

24



Profiles 6 R

- Ideal for building protective hoods, frames and tables
- Closed on two sides, rounded surface
- Available in various angles

26



Profiles 8 – modular dimension of 40 mm

- The universal and robust all-rounder
- Three variants for constructions with optimised load-carrying capacity

27



Profiles 8 – Line X

- Exceptionally elegant
- Ideal for closed surfaces (cleanroom)

33



Profiles 8 – flat cross-sections

- Reduced construction height with full groove
- Suitable for use as a frame, support or strut

35



Bed Plate Profile 8

- For creating panels in any size
- As a cover or fastener

38



Profiles 8 – 45° Angle

- Elegant connection options for up to three profiles
- Ideal for display cases, tables and systems with an elegant aesthetic appeal

39



Profiles 8 D

- Large central bore
- Ideal for accommodating shafts, spindles and axles

41



Profiles 8 W

- Angled profiles for mounting components
- For use as a panel fixing strip

44



Profiles 8 D40

- Profiles with a cylindrical cross-section
- Covered grooves can be opened up

45



Profiles 10 – modular dimension 50 mm

- Higher load-carrying capacity for constructions under heavy loads
- Particularly secure fastenings

47



Profiles 10 – flat cross-sections

- Reduced construction height for space-saving frames and supports
- With full Line 10 groove

48



Profiles 12 – modular dimension of 60 mm

- The strongest profile line in the MB system
- For particularly stable, heavy-duty constructions

49



Solid profiles and profile edging

- Profiles without grooves for use as grip rails or edging
- For edging any panel elements

52



Caps

- Suitable for all profiles
- Made from plastic or metal

54



Caps for bores

- Dust-tight seal for profile bores
- Available in two colours

65



Cover Profiles Al

- Creates a closed surface
- Covers cables running through the groove

67



Cover Profiles PP

- One profile in various colours with two applications
- For covering the profile groove or fixing panel elements in place

68



Protective Profiles

- Safe impact protection thanks to hollow-chambered profiles
- Prevent damage and injuries

466

13

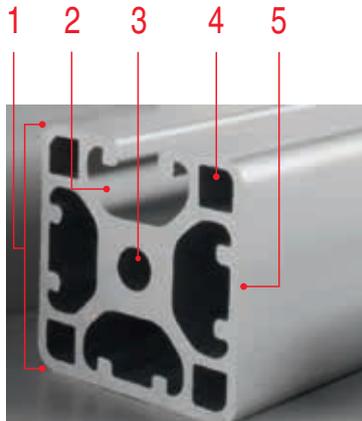


Note:

Technical data on the profiles can be found in Section 19.

Overview – finding the right profile fast

Key features of the item profiles



1 Modular dimension

Each line is based on square profiles with external dimensions of 20, 30, 40, 50 or 60 mm. Continuous grooves run along all four sides.

4 Lightweight profiles

Additional cavities reduce weight but also lower maximum tensile loading. Lightweight profiles use profile grooves in the relevant modular dimension.

2 Profile groove

The size and load-carrying capacity of the groove increases in line with the modular dimension. Most profile connections are anchored in the groove. The groove also serves as an anchor point for panel elements, etc.

5 Closed grooves

Profile variants with closed surfaces offer more than just aesthetic advantages. They are also easy to clean and eliminate the problem of dirt accumulation in grooves.

3 Core bore

The core bore offers a stable fastening point at the end faces of the profiles. It can also be used as a conduit for compressed air.

6 Line X

Thanks to its smooth, closed outer surfaces, Line X has a particularly elegant appearance. It has the same dimensions as Line 8 and can be used to create dust and dirt-tight constructions.

Side-by-side comparison of the profile lines	1 Modular dimension	2 Max. tensile loading	5 Closed groove	6 Line X
 5 <ul style="list-style-type: none"> Extremely compact dimensions For refined, stable and flexible applications 	20 mm	500 N	Yes	No
 6 <ul style="list-style-type: none"> The weight-optimised profile line Ideal for slimline, robust design 	30 mm	1,750 N	Yes	No
 8 <ul style="list-style-type: none"> The universal and robust all-rounder Three variants for constructions with optimised load-carrying capacity 	40 mm	5,000 N	Yes	Yes
 10 <ul style="list-style-type: none"> The Line for constructions under heavier loads Reliability against pre-tension losses 	50 mm	7,000 N	No	No
 12 <ul style="list-style-type: none"> The strongest profile line in the MB system For particularly stable, heavy-duty frame structures 	60 mm	10,000 N	No	No

Key:  See page



Profiles 5 – modular dimension of 20 mm

The compact profile for precision work

- Extremely compact dimensions
- Available with open or closed grooves
- Low material usage safeguards resources
- For refined, stable and flexible applications



Closed grooves make systems easier to clean and create a more elegant appearance.

Materials used in all the following products:

Al, anodized



Profile 5 20x20



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
1.80	0.48	0.72	0.72	0.07	0.72	0.72	
natural, cut-off max. 6000 mm							0.0.370.03
natural, 1 pce., length 6000 mm							0.0.611.45
natural, 1 pce., length 3000 mm							0.0.448.04
black, cut-off max. 3000 mm							0.0.370.15
black, 1 pce., length 3000 mm							0.0.448.05



Profile 5 20x20 1N



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
1.85	0.50	0.74	0.77	0.18	0.74	0.74	
natural, cut-off max. 3000 mm							0.0.437.74
natural, 1 pce., length 3000 mm							0.0.437.99



Profile 5 20x20 2N90



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
1.91	0.51	0.78	0.78	0.34	0.76	0.76	
natural, cut-off max. 3000 mm							0.0.437.66
natural, 1 pce., length 3000 mm							0.0.464.01



Profile 5 20x20 2N180



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
1.90	0.51	0.74	0.82	0.30	0.74	0.82	
natural, cut-off max. 3000 mm							0.0.437.67
natural, 1 pce., length 3000 mm							0.0.464.02



Profile 5 20x20 3N



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
1.92	0.52	0.77	0.80	0.51	0.76	0.80	
natural, cut-off max. 3000 mm							0.0.464.83
natural, 1 pce., length 3000 mm							0.0.448.33


Profile 5 40x20

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.32	0.89	1.41	5.14	0.62	1.41	2.57
natural, cut-off max. 6000 mm						0.0.370.04
natural, 1 pce., length 6000 mm						0.0.631.00
natural, 1 pce., length 3000 mm						0.0.448.07
black, cut-off max. 3000 mm						0.0.370.16
black, 1 pce., length 3000 mm						0.0.448.08


Profile 5 40x20 2N

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.38	0.91	1.47	5.21	1.32	1.44	2.61
natural, cut-off max. 3000 mm						0.0.437.75
natural, 1 pce., length 3000 mm						0.0.464.03


Profile 5 40x20 2N180

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.38	0.91	1.40	5.46	1.09	1.40	2.73
natural, cut-off max. 3000 mm						0.0.437.76
natural, 1 pce., length 3000 mm						0.0.464.04


Profile 5 40x20 3N90

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.42	0.92	1.48	5.37	1.53	1.44	2.66
natural, cut-off max. 3000 mm						0.0.437.77
natural, 1 pce., length 3000 mm						0.0.464.05


Profile 5 40x20 4N180

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.46	0.93	1.56	5.30	1.93	1.56	2.65
natural, cut-off max. 3000 mm						0.0.437.78
natural, 1 pce., length 3000 mm						0.0.464.06


Profile 5 40x40

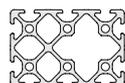
5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.14	1.39	9.30	9.30	5.38	4.65	4.65
natural, cut-off max. 6000 mm						0.0.370.05
natural, 1 pce., length 6000 mm						0.0.448.09


Profile 5 60x20

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.76	1.28	2.06	16.09	1.61	2.06	5.36
natural, cut-off max. 3000 mm						0.0.425.44
natural, 1 pce., length 3000 mm						0.0.448.11


Profile 5 60x40

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
7.67	2.07	13.52	28.14	11.05	6.76	9.09
natural, cut-off max. 6000 mm						0.0.425.45
natural, 1 pce., length 6000 mm						0.0.448.12


Profile 5 80x20

5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.19	1.67	2.72	36.08	2.38	2.72	9.02
natural, cut-off max. 3000 mm						0.0.370.86
natural, 1 pce., length 3000 mm						0.0.448.14



Profiles 5 – flat cross-sections

- Particularly flat profiles
- Full functionality at a height of just 8.5 to 14 mm
- Suitable as support profiles or anchor points
- For lightweight clamping and mounting surfaces



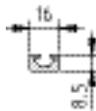
Flat profiles from item can be used to make handles of virtually any length.



High-precision linear slides use profiles with a flat cross-section as carriage profiles.

Materials used in all the following products:

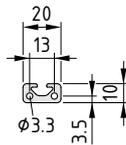
Al, anodized



Profile 5 16x8.5



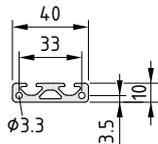
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.82	0.22	0.06	0.23	0.02	0.12	0.28
natural, cut-off max. 3000 mm						0.0.265.91
natural, 1 pce., length 3000 mm						0.0.448.02



Profile 5 20x10



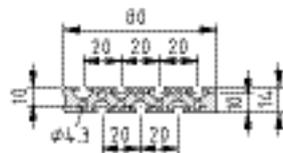
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.29	0.35	0.12	0.53	0.10	0.22	0.53
natural, cut-off max. 3000 mm						0.0.391.02
natural, 1 pce., length 3000 mm						0.0.448.03



Profile 5 40x10



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.39	0.65	0.24	3.63	0.27	0.44	1.81
natural, cut-off max. 3000 mm						0.0.391.06
natural, 1 pce., length 3000 mm						0.0.448.06



Profile 5 80x14



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.64	1.79	1.11	40.69	0.87	1.54	10.17
natural, cut-off max. 3000 mm						0.0.370.85
natural, 1 pce., length 3000 mm						0.0.448.13

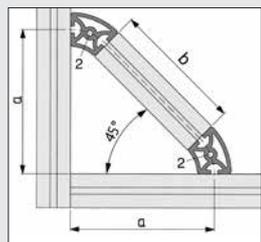


Profiles 5 R

- Closed on two sides, rounded surface
- External angles of 30°, 45°, 60° and 90° available
- Ideal for building protective hoods and frames

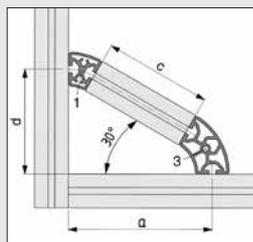


Profiles R can also be used to add bracing to profile constructions. Calculating the appropriate length for the struts is easy.



Connection at 45°

Profile 2	Profile 5 R20/40-45°
b	$(a - 30) \cdot \sqrt{2}$

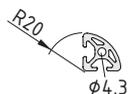


Connection at 30°

Profile 1	Profile 5 R20/40-30°
Profile 3	Profile 5 R20/40-60°
c	$2(a - 30) / \sqrt{3}$
d	$(a - 30) / \sqrt{3} + 30$

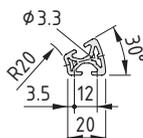
Materials used in all the following products:

Al, anodized



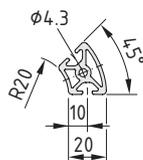
Profile 5 R20-90°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.71	0.46	0.58	0.58	0.19	0.53	0.53
natural, cut-off max. 3000 mm						0.0425.43
natural, 1 pce., length 3000 mm						0.0448.19



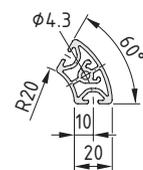
Profile 5 R20/40-30°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.68	0.45	0.43	0.68	0.16	0.38	0.57
natural, cut-off max. 3000 mm						0.0425.39
natural, 1 pce., length 3000 mm						0.0448.15



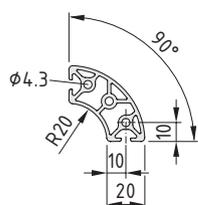
Profile 5 R20/40-45°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.38	0.64	1.26	0.98	0.65	0.79	0.75
natural, cut-off max. 3000 mm						0.0425.40
natural, 1 pce., length 3000 mm						0.0448.16



Profile 5 R20/40-60°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.16	0.85	2.48	1.65	1.27	1.31	1.09
natural, cut-off max. 3000 mm						0.0425.41
natural, 1 pce., length 3000 mm						0.0448.17



Profile 5 R20/40-90°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.18	1.13	5.40	5.40	2.99	2.70	2.70
natural, cut-off max. 3000 mm						0.0425.42
natural, 1 pce., length 3000 mm						0.0448.18



Profiles 6 - modular dimension of 30 mm

The lightweight alternative

- The weight-optimised profile line
- Ideal for slimline, robust design
- Available with open or closed grooves



Closed grooves are easy to clean and have a particularly elegant appearance. They create functional and attractive display cases, tables and cover hoods.

Materials used in all the following products:

Al, anodized



Profile 6 30x30 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.43	0.93	2.90	2.90	0.30	1.94	1.94
natural, cut-off max. 6000 mm						0.0419.06
natural, 1 pce., length 6000 mm						0.0451.07



Profile 6 30x30



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.67	1.26	4.15	4.15	0.41	2.77	2.77
natural, cut-off max. 6000 mm						0.0419.01
natural, 1 pce., length 6000 mm						0.0451.03



Profile 6 30x30 1N light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.49	0.94	2.91	3.01	0.78	1.94	1.98
natural, cut-off max. 6000 mm						0.0439.43
natural, 1 pce., length 6000 mm						0.0451.04



Profile 6 30x30 2N90 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.54	0.96	3.02	3.02	1.48	1.98	1.98
natural, cut-off max. 6000 mm						0.0439.45
natural, 1 pce., length 6000 mm						0.0451.06



Profile 6 30x30 2N180 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.54	0.96	2.90	3.14	1.29	1.93	2.09
natural, cut-off max. 6000 mm						0.0439.44
natural, 1 pce., length 6000 mm						0.0451.05



Profile 6 30x30 3N light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.60	1.00	3.02	3.14	2.23	1.98	2.09
natural, cut-off max. 6000 mm						0.0478.27
natural, 1 pce., length 6000 mm						0.0451.67


Profile 6 60x30 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.13	1.65	5.54	21.22	3.18	3.69	7.07	
natural, cut-off max. 6000 mm							0.0.419.07
natural, 1 pce., length 6000 mm							0.0.451.14


Profile 6 60x30


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
8.47	2.29	7.92	29.30	4.87	5.28	9.77	
natural, cut-off max. 6000 mm							0.0.419.02
natural, 1 pce., length 6000 mm							0.0.451.09


Profile 6 60x30 2N light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.24	1.68	5.77	21.47	5.23	3.78	7.16	
natural, cut-off max. 6000 mm							0.0.439.46
natural, 1 pce., length 6000 mm							0.0.451.10


Profile 6 60x30 2N180 light

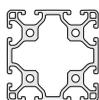

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.24	1.69	5.54	22.21	4.18	3.69	7.40	
natural, cut-off max. 6000 mm							0.0.439.49
natural, 1 pce., length 6000 mm							0.0.451.11


Profile 6 60x30 3N90 light

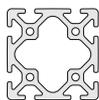

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.30	1.70	5.77	21.97	6.04	3.78	7.26	
natural, cut-off max. 6000 mm							0.0.439.48
natural, 1 pce., length 6000 mm							0.0.451.12


Profile 6 60x30 4N180 light

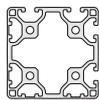

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.36	1.72	6.01	21.74	7.68	4.00	7.25	
natural, cut-off max. 6000 mm							0.0.439.47
natural, 1 pce., length 6000 mm							0.0.451.13


Profile 6 60x60 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
10.01	2.70	39.47	39.47	21.54	13.16	13.16	
natural, cut-off max. 6000 mm							0.0.419.09
natural, 1 pce., length 6000 mm							0.0.451.16


Profile 6 60x60


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
13.33	3.60	53.77	53.77	33.63	17.92	17.92	
natural, cut-off max. 6000 mm							0.0.419.03
natural, 1 pce., length 6000 mm							0.0.451.15


Profile 6 60x60 4N90 light

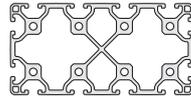

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
10.24	2.76	40.71	40.71	30.17	13.43	13.43	
natural, cut-off max. 6000 mm							0.0.491.31
natural, 1 pce., length 6000 mm							0.0.491.30



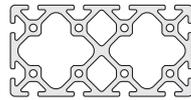
Profile 6 120x30 light							6
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.53	3.11	10.82	152.65	8.97	7.21	25.44	
natural, cut-off max. 6000 mm							0.0.419.08
natural, 1 pce., length 6000 mm							0.0.451.39



Profile 6 120x30							6
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
16.00	4.32	15.42	210.94	14.16	10.28	35.16	
natural, cut-off max. 6000 mm							0.0.419.04
natural, 1 pce., length 6000 mm							0.0.451.17



Profile 6 120x60 light							6
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
18.70	5.05	76.61	259.65	64.07	25.54	43.27	
natural, cut-off max. 6000 mm							0.0.419.10
natural, 1 pce., length 6000 mm							0.0.451.19



Profile 6 120x60							6
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
24.84	6.71	102.71	347.62	105.69	34.24	57.94	
natural, cut-off max. 6000 mm							0.0.419.05
natural, 1 pce., length 6000 mm							0.0.451.18



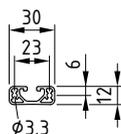
Profiles 6 – flat cross-sections

- Low installation height
- For fastening lightweight components



Materials used in all the following products:

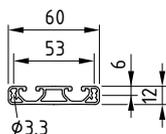
Al, anodized



Profile 6 30x12 light



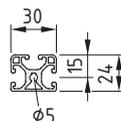
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.58	0.43	0.25	1.46	0.17	0.39	0.98
natural, cut-off max. 3000 mm						0.0.478.05
natural, 1 pce., length 3000 mm						0.0.451.63



Profile 6 60x12 light



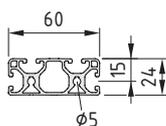
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.98	0.81	0.53	10.00	0.49	0.83	3.34
natural, cut-off max. 3000 mm						0.0.478.07
natural, 1 pce., length 3000 mm						0.0.451.65



Profile 6 30x24 light



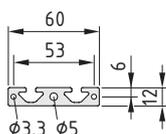
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.82	0.76	1.69	2.27	0.31	1.36	1.51
natural, cut-off max. 6000 mm						0.0.608.88
natural, 1 pce., length 6000 mm						0.0.608.87



Profile 6 60x24 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.98	1.34	3.14	17.10	2.74	2.53	5.70
natural, cut-off max. 6000 mm						0.0.608.91
natural, 1 pce., length 6000 mm						0.0.608.90



Profile X 6 60x12



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.82	1.30	0.71	15.56	0.81	1.11	5.18
natural, cut-off max. 3000 mm						0.0.609.32
natural, 1 pce., length 3000 mm						0.0.609.20



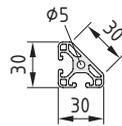
Profiles 6 – 45° Angle

- Create stylish designs
- For hoods, tables and display cases



item supplies Fastening Set 6 30x30-45° specifically for use with these 45° profiles. It combines two or three profiles to form an attractive right-angled corner unit.

Fastening Set 6 30x30-45°  107



Profile 6 30x30-45° light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.12	0.84	2.21	2.21	0.61	1.33	1.33
natural, cut-off max. 3000 mm						0.0.434.72
natural, 1 pce., length 3000 mm						0.0.451.08

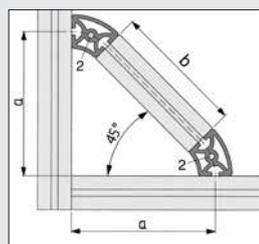


Profiles 6 R

- Closed on two sides, rounded surface
- Various external angles available
- Ideal for building protective hoods, frames and tables

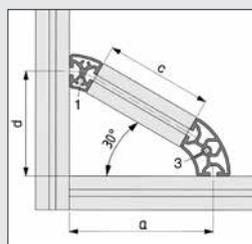


Profiles R can also be used to add bracing to profile constructions. Calculating the appropriate length for the struts is easy.



Connection at 45°

Profile 2	Profile 6 R30/60-45°
b	$(a-45)\sqrt{2}$

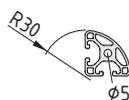


Connection at 30°

Profile 1	Profile 6 R30/60-30°
Profile 3	Profile 6 R30/60-60°
c	$2(a-45)/\sqrt{3}$
d	$(a-45)/\sqrt{3} + 45$

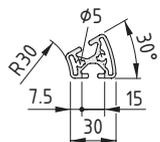
Materials used in all the following products:

Al, anodized



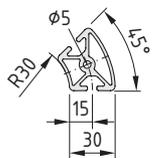
Profile 6 R30-90° light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.07	0.83	2.16	2.16	0.74	1.32	1.32
natural, cut-off max. 3000 mm						0.0434.73
natural, 1 pce., length 3000 mm						0.0451.20



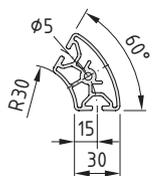
Profile 6 R30/60-30°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.27	0.88	1.95	2.77	0.78	1.16	1.57
natural, cut-off max. 6000 mm						0.0459.54
natural, 1 pce., length 6000 mm						0.0451.62



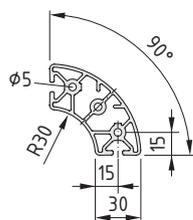
Profile 6 R30/60-45°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.52	1.22	5.81	4.15	2.78	2.42	2.31
natural, cut-off max. 6000 mm						0.0459.57
natural, 1 pce., length 6000 mm						0.0451.64



Profile 6 R30/60-60°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.28	1.43	10.01	6.34	4.82	3.48	2.86
natural, cut-off max. 6000 mm						0.0459.35
natural, 1 pce., length 6000 mm						0.0451.66



Profile 6 R30/60-90°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.06	2.18	22.94	22.94	12.58	7.57	7.57
natural, cut-off max. 6000 mm						0.0459.38
natural, 1 pce., length 6000 mm						0.0451.68



Profiles 8 - modular dimension of 40 mm

The standard material for design engineers

- The universal and robust all-rounder
- Three variants for constructions with optimised load-carrying capacity
- Available with open or closed grooves
- Products from Line X also available



The MB Building Kit System from item is a tried-and-tested basis for machines and systems of all sizes. Profiles 8 are the most frequently used profiles of all the lines world-wide. Thanks to their design, these aluminium profiles are light, robust and versatile with a service life of many years. Due to the wide selection of modules available, Profiles 8 can satisfy virtually all your construction needs.



Profiles with closed grooves are particularly easy to clean and can be combined with conventional profiles as required.

Some cross-sections incorporate closed grooves that can be easily opened.



The profiles in Line X can be built into elegant constructions with closed surfaces. The minimised edge radius results in a seamless connection between profiles and eliminates protruding edges. As a result, dirt and deposits have no chance of ruining the striking aesthetic appeal of Line X.

The profiles in Line X use Line 8 grooves, ensuring they are compatible with all the accessories in that line.

Materials used in all the following products:

Al, anodized



Profile 8 40x40 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.07	1.37	7.38	7.38	1.09	3.69	3.69	
natural, cut-off max. 6000 mm							7.0.000.09
natural, 1 pce., length 6000 mm							0.0.452.79



Profile 8 40x40 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.46	1.74	9.00	9.00	1.36	4.50	4.50	
natural, cut-off max. 6000 mm							0.0.026.33
natural, 1 pce., length 6000 mm							0.0.452.81
natural, 1 pce., length 3000 mm							0.0.452.80
black, cut-off max. 6000 mm							0.0.026.35
black, 1 pce., length 6000 mm							0.0.452.83



Profile 8 40x40



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
9.16	2.47	13.96	13.96	1.88	6.98	6.98	
natural, cut-off max. 6000 mm							0.0.026.03
natural, 1 pce., length 6000 mm							0.0.452.65
natural, 1 pce., length 3000 mm							0.0.452.66


Profile 8 40x40 1N light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.64	1.79	9.54	9.01	3.14	4.66	4.50
natural, cut-off max. 6000 mm						0.0.422.72
natural, 1 pce., length 6000 mm						0.0.452.68


Profile 8 40x40 2N90 E


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.83	1.30	8.06	8.06	4.82	3.87	3.87
natural, cut-off max. 6000 mm						7.0.000.06
natural, 1 pce., length 6000 mm						0.0.452.69


Profile 8 40x40 2N90 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.75	1.82	9.50	9.50	5.41	4.65	4.65
natural, cut-off max. 6000 mm						0.0.404.50
natural, 1 pce., length 6000 mm						0.0.452.71
black, cut-off max. 6000 mm						0.0.406.43
black, 1 pce., length 6000 mm						0.0.452.73


Profile 8 40x40 2N180 E


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.95	1.33	8.05	8.63	4.64	4.02	4.30
natural, cut-off max. 6000 mm						7.0.000.03
natural, 1 pce., length 6000 mm						0.0.452.74


Profile 8 40x40 2N180 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.78	1.83	10.12	9.12	4.99	5.05	4.55
natural, cut-off max. 6000 mm						0.0.404.51
natural, 1 pce., length 6000 mm						0.0.452.76


Profile 8 40x40 3N light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.96	1.90	9.62	10.22	8.27	4.70	5.11
natural, cut-off max. 6000 mm						0.0.480.26
natural, 1 pce., length 6000 mm						0.0.454.37

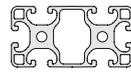

Profile 8 40x40 4N light


Profile features easy-to-open groove(s)

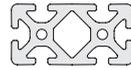
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.86	1.86	9.79	9.79	8.02	4.89	4.89
natural, cut-off max. 6000 mm						0.0.489.11
natural, 1 pce., length 6000 mm						0.0.488.88


Profile 8 80x40 E


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.93	2.42	15.15	57.81	9.42	7.58	14.45
natural, cut-off max. 6000 mm						7.0.000.26
natural, 1 pce., length 6000 mm						0.0.452.39



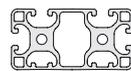
Profile 8 80x40 light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.38	3.04	16.60	69.54	9.94	8.30	17.38	
natural, cut-off max. 6000 mm							0.0.026.34
natural, 1 pce., length 6000 mm							0.0.452.41
natural, 1 pce., length 3000 mm							0.0.452.40
black, cut-off max. 6000 mm							0.0.026.36
black, 1 pce., length 6000 mm							0.0.452.43



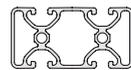
Profile 8 80x40							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
16.76	4.53	26.87	101.19	18.83	13.44	25.29	
natural, cut-off max. 6000 mm							0.0.026.04
natural, 1 pce., length 6000 mm							0.0.452.95
natural, 1 pce., length 3000 mm							0.0.452.94



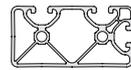
Profile 8 80x40 1N light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.53	3.11	16.92	72.13	12.07	8.46	17.81	
natural, cut-off max. 6000 mm							0.0.607.75
natural, 1 pce., length 6000 mm							0.0.607.26



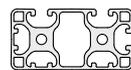
Profile 8 80x40 2N light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.60	3.13	17.73	70.87	16.79	8.63	17.72	
natural, cut-off max. 6000 mm							0.0.422.75
natural, 1 pce., length 6000 mm							0.0.452.97



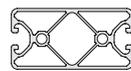
Profile 8 80x40 2N180 E							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
8.44	2.28	15.85	54.51	13.14	7.93	13.63	
natural, cut-off max. 6000 mm							7.0.000.23
natural, 1 pce., length 6000 mm							0.0.452.98



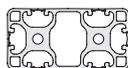
Profile 8 80x40 3N90 E							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
8.24	2.22	15.32	54.69	17.95	7.51	13.40	
natural, cut-off max. 6000 mm							7.0.000.20
natural, 1 pce., length 6000 mm							0.0.452.99



Profile 8 80x40 3N90 light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.75	3.17	17.70	73.25	19.61	8.65	18.09	
natural, cut-off max. 6000 mm							0.0.674.52
natural, 1 pce., length 6000 mm							0.0.674.51



Profile 8 80x40 4N180 E							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
8.04	2.17	15.12	55.41	21.90	7.56	13.85	
natural, cut-off max. 6000 mm							7.0.000.17
natural, 1 pce., length 6000 mm							0.0.452.34

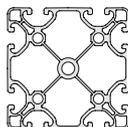


Profile 8 80x40 6N light



Profile features easy-to-open groove(s)

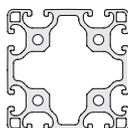
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.87	3.20	18.09	74.31	25.23	9.04	18.58
natural, cut-off max. 6000 mm						0.0.489.18
natural, 1 pce., length 6000 mm						0.0.488.82



Profile 8 80x80 E



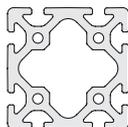
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
14.86	4.01	100.69	100.69	50.93	25.17	25.17
natural, cut-off max. 6000 mm						7.0.000.29
natural, 1 pce., length 6000 mm						0.0.453.01



Profile 8 80x80 light



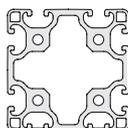
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
19.75	5.33	134.06	134.06	80.80	33.51	33.51
natural, cut-off max. 6000 mm						0.0.265.80
natural, 1 pce., length 6000 mm						0.0.453.03
natural, 1 pce., length 3000 mm						0.0.453.02



Profile 8 80x80



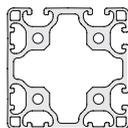
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
26.66	7.19	187.70	187.70	128.40	46.92	46.92
natural, cut-off max. 6000 mm						0.0.026.27
natural, 1 pce., length 6000 mm						0.0.452.35



Profile 8 80x80 2N light



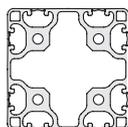
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
20.08	5.42	139.00	135.00	94.12	34.25	33.68
natural, cut-off max. 6000 mm						0.0.457.52
natural, 1 pce., length 6000 mm						0.0.452.45



Profile 8 80x80 4N90 light



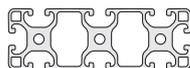
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
20.39	5.50	140.00	140.00	112.19	34.48	34.48
natural, cut-off max. 6000 mm						0.0.457.59
natural, 1 pce., length 6000 mm						0.0.452.47



Profile 8 80x80 8N light



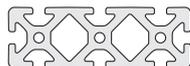
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
19.43	5.25	134.24	134.24	101.09	33.56	33.56
natural, cut-off max. 6000 mm						0.0.489.19
natural, 1 pce., length 6000 mm						0.0.488.84



Profile 8 120x40 light



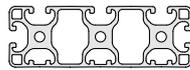
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
16.12	4.35	24.22	220.54	18.44	12.11	36.76
natural, cut-off max. 6000 mm						0.0.416.66
natural, 1 pce., length 6000 mm						0.0.453.13



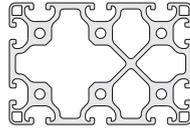
Profile 8 120x40



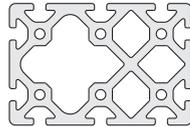
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
24.38	6.58	39.80	322.66	36.53	19.90	53.77
natural, cut-off max. 6000 mm						0.0.416.29
natural, 1 pce., length 6000 mm						0.0.453.11



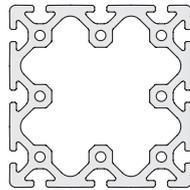
Profile 8 120x40 3N light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
16.57	4.48	25.80	226.04	31.29	12.58	37.67	
natural, cut-off max. 6000 mm							0.0.675.52
natural, 1 pce., length 6000 mm							0.0.675.51



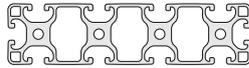
Profile 8 120x80 light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
30.13	8.13	201.89	421.67	164.96	50.47	68.34	
natural, cut-off max. 6000 mm							0.0.416.65
natural, 1 pce., length 6000 mm							0.0.453.17



Profile 8 120x80							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
40.23	11.07	275.62	577.61	261.66	68.90	93.57	
natural, cut-off max. 6000 mm							0.0.416.30
natural, 1 pce., length 6000 mm							0.0.453.15



Profile 8 120x120							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
45.92	12.39	798.83	798.83	577.75	133.13	133.13	
natural, cut-off max. 6000 mm							0.0.609.79
natural, 1 pce., length 6000 mm							0.0.609.71



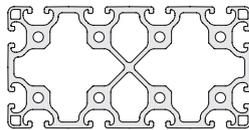
Profile 8 160x40 light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
20.90	5.64	31.81	500.32	26.76	15.90	62.54	
natural, cut-off max. 6000 mm							0.0.418.35
natural, 1 pce., length 6000 mm							0.0.453.26



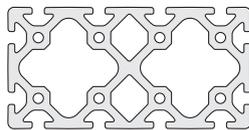
Profile 8 160x40							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
32.00	8.64	52.72	739.62	54.48	26.36	92.45	
natural, cut-off max. 6000 mm							0.0.265.23
natural, 1 pce., length 6000 mm							0.0.453.22



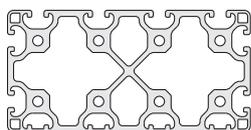
Profile 8 160x40 4N light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
21.50	5.80	33.90	512.66	45.36	16.52	64.08	
natural, cut-off max. 6000 mm							0.0.429.04
natural, 1 pce., length 6000 mm							0.0.453.24



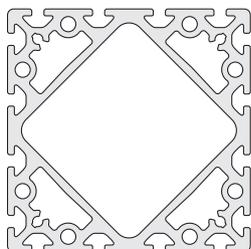
Profile 8 160x80 light							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
37.80	10.21	267.07	907.88	250.35	66.77	113.48	
natural, cut-off max. 6000 mm							0.0.411.18
natural, 1 pce., length 6000 mm							0.0.453.32



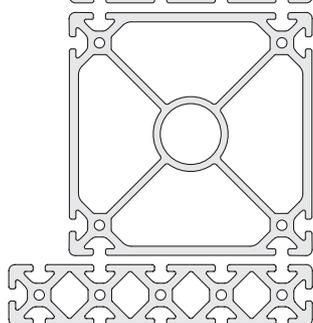
Profile 8 160x80							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
50.07	13.52	360.89	1,228.33	397.41	90.22	153.54	
natural, cut-off max. 6000 mm							0.0.265.26
natural, 1 pce., length 6000 mm							0.0.453.28

**Profile 8 160x80 4N light**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
38.34	10.35	275.91	919.80	310.07	68.97	114.97	
natural, cut-off max. 6000 mm						0.0.429.05	
natural, 1 pce., length 6000 mm						0.0.453.30	

**Profile 8 160x160**

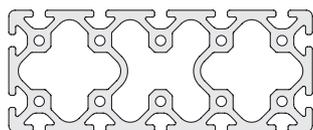
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
74.20	20.04	2,355.00	2,355.00	1,876.66	294.40	294.40	
natural, cut-off max. 8000 mm						0.0.480.75	
natural, 1 pce., length 8000 mm						0.0.480.76	
natural, 1 pce., length 6000 mm						0.0.465.85	

**Profile 8 160x160 8EN**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
61.60	16.62	1,882.81	1,882.81	2,032.51	235.35	235.35	
natural, cut-off max. 6000 mm						0.0.474.58	
natural, 1 pce., length 6000 mm						0.0.454.30	

Profile 8 200x40

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
39.60	10.69	65.62	1,411.47	72.04	32.81	141.14	
natural, cut-off max. 6000 mm						0.0.473.82	
natural, 1 pce., length 6000 mm						0.0.454.20	

**Profile 8 200x80**

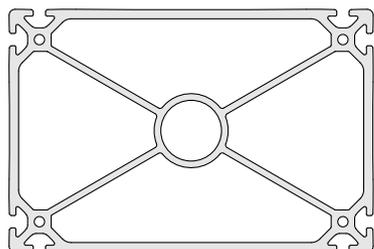
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
55.74	15.05	427.59	2,181.99	489.79	106.90	218.20	
natural, cut-off max. 6000 mm						0.0.483.35	
natural, 1 pce., length 6000 mm						0.0.483.34	

**Profile 8 240x40**

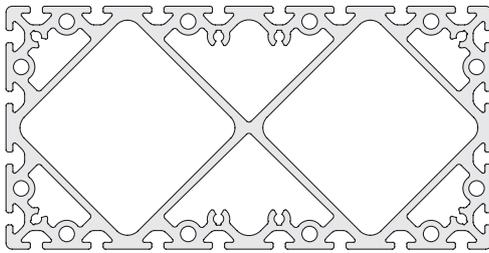
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
47.21	12.69	78.54	2,400.72	89.87	39.27	200.22	
natural, cut-off max. 6000 mm						0.0.473.84	
natural, 1 pce., length 6000 mm						0.0.454.22	

**Profile 8 240x40 8N light**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
15.52	4.19	42.18	1,098.70	99.97	20.28	91.56	
natural, cut-off max. 6000 mm						0.0.629.44	
natural, 1 pce., length 6000 mm						0.0.629.41	

**Profile 8 240x160 8EN**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
76.77	20.73	2,525.49	5,229.22	3,888.75	312.50	435.77	
natural, cut-off max. 8000 mm						0.0.474.57	
natural, 1 pce., length 8000 mm						0.0.615.30	



Profile 8 320x160							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
125.55	33.90	4,398.20	14,194.10	5,293.30	549.80	887.30	
natural, cut-off max. 8000 mm							0.0.480.77
natural, 1 pce., length 8000 mm							0.0.465.86



Profile X 8 40x40 light							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.61	1.78	9.47	9.47	1.37	4.73	4.73	
natural, cut-off max. 6000 mm							0.0.492.91
natural, 1 pce., length 6000 mm							0.0.492.90



Profile X 8 40x40 1N light							
Profile features easy-to-open groove(s)							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.68	1.80	9.74	9.47	2.71	4.82	4.73	
natural, cut-off max. 6000 mm							0.0.611.87
natural, 1 pce., length 6000 mm							0.0.611.86



Profile X 8 40x40 2N90 light							
Profile features easy-to-open groove(s)							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.75	1.82	9.74	9.74	4.56	4.82	4.82	
natural, cut-off max. 6000 mm							0.0.611.90
natural, 1 pce., length 6000 mm							0.0.611.89



Profile X 8 40x40 2N180 light							
Profile features easy-to-open groove(s)							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.75	1.82	10.03	9.47	4.08	5.01	4.73	
natural, cut-off max. 6000 mm							0.0.611.93
natural, 1 pce., length 6000 mm							0.0.611.92



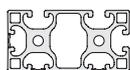
Profile X 8 40x40 3N light							
Profile features easy-to-open groove(s)							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.82	1.84	9.75	10.03	6.14	4.82	5.01	
natural, cut-off max. 6000 mm							0.0.611.96
natural, 1 pce., length 6000 mm							0.0.611.95



Profile X 8 40x40 4N light							
Profile features easy-to-open groove(s)							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.90	1.86	10.03	10.03	8.37	5.01	5.01	
natural, cut-off max. 6000 mm							0.0.492.88
natural, 1 pce., length 6000 mm							0.0.492.87

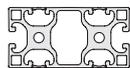


Profile X 8 80x40 light							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
11.46	3.09	17.18	71.65	10.02	8.59	17.91	
natural, cut-off max. 6000 mm							0.0.492.94
natural, 1 pce., length 6000 mm							0.0.492.93


Profile X 8 80x40 3N90 light

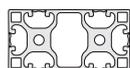

Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.68	3.15	17.72	73.38	16.90	8.78	18.25
natural, cut-off max. 6000 mm						0.0.666.75
natural, 1 pce., length 6000 mm						0.0.666.74


Profile X 8 80x40 4N180 light

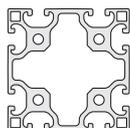

Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.75	3.17	18.29	72.82	20.86	9.15	18.21
natural, cut-off max. 6000 mm						0.0.666.77
natural, 1 pce., length 6000 mm						0.0.666.76

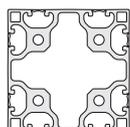

Profile X 8 80x40 6N light


Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.89	3.21	18.30	75.12	25.98	9.15	18.78
natural, cut-off max. 6000 mm						0.0.493.01
natural, 1 pce., length 6000 mm						0.0.492.99

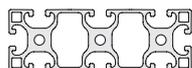

Profile X 8 80x80 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
19.37	5.23	132.82	132.82	73.37	33.20	33.20
natural, cut-off max. 6000 mm						0.0.492.97
natural, 1 pce., length 6000 mm						0.0.492.96

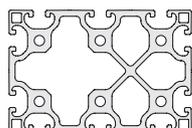

Profile X 8 80x80 8N light


Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
19.96	5.39	138.57	138.57	104.16	34.64	34.64
natural, cut-off max. 6000 mm						0.0.493.04
natural, 1 pce., length 6000 mm						0.0.493.03


Profile X 8 120x40 light

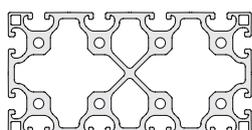

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
16.31	4.40	24.88	225.53	12.44	37.59	
natural, cut-off max. 6000 mm						0.0.656.63
natural, 1 pce., length 6000 mm						0.0.656.62


Profile X 8 120x80 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
30.36	8.20	204.88	427.82	51.22	69.34	
natural, cut-off max. 6000 mm						0.0.656.69
natural, 1 pce., length 6000 mm						0.0.656.68


Profile X 8 160x40 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
21.16	5.71	32.58	509.90	16.29	63.74	
natural, cut-off max. 6000 mm						0.0.656.65
natural, 1 pce., length 6000 mm						0.0.656.64


Profile X 8 160x80 light


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
37.99	10.26	270.35	919.31	67.59	114.91	
natural, cut-off max. 6000 mm						0.0.656.70
natural, 1 pce., length 6000 mm						0.0.656.67



Profiles 8 – Flat Cross-Sections

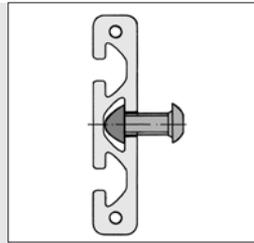
- Full groove despite low construction height
- For attaching elements
- Suitable for use as a frame, support or strut
- Products from Line X also available



Profile 8 40x16 E can be used in conjunction with Hand Grip Element 8 to construct grip rails and handles.



Profiles 8 80x16 and 160x28 are suitable for building the sliding carriages of roller guides 8 D6 and D14.



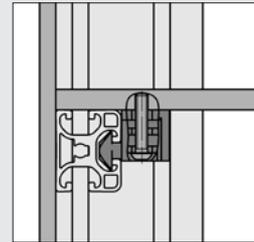
When using the centre groove of Profile 8 80x16, an access hole must be provided at the envisaged fastening position.



Profile 8 160x28 can also be used as a clamping and mounting surface or edgewise as a heavy-duty supporting profile.



Profiles 8 40x32 and 80x32 light are particularly suitable for use as frames and struts in table, shelving and cabinet constructions. They are then used to connect profiles of modular dimension 40 mm.



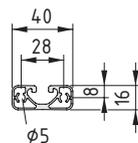
Perfect as a robust cover: Flat Profile 8 120x16 E features three grooves on one side and a smooth surface on the other. It is used as a foot-rail on platforms, for example.



Slim Profile X 8 40x16 light is used as a space-saving holder for Proximity Switches and other attachments on XMS machine frames and constructions built using Profiles X 8.

Materials used in all the following products:

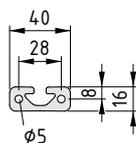
Al, anodized



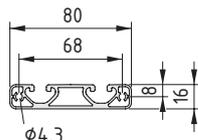
Profile 8 40x16 E



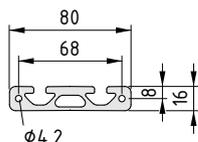
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.24	0.60	0.64	3.34	0.53	0.78	1.67
natural, cut-off max. 3000 mm						7.0.000.01
natural, 1 pce., length 3000 mm						0.0.452.64

**Profile 8 40x16**

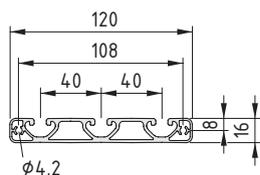
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
4.24	1.13	1.05	6.89	0.97	1.22	3.45	
natural, cut-off max. 6000 mm							0.0.026.84
natural, 1 pce., length 6000 mm							0.0.492.75
natural, 1 pce., length 3000 mm							0.0.452.62
black, cut-off max. 3000 mm							0.0.026.25
black, 1 pce., length 3000 mm							0.0.452.63

**Profile 8 80x16 E**

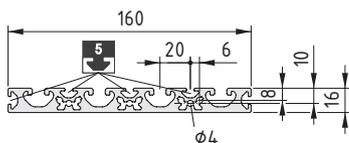
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
4.86	1.31	1.49	26.80	1.62	1.78	6.70	
natural, cut-off max. 3000 mm							7.0.000.15
natural, 1 pce., length 3000 mm							0.0.452.93

**Profile 8 80x16**

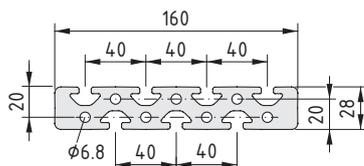
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
8.13	2.20	2.15	50.76	2.57	2.69	12.69	
natural, cut-off max. 3000 mm							0.0.364.72
natural, 1 pce., length 3000 mm							0.0.452.91

**Profile 8 120x16 E**

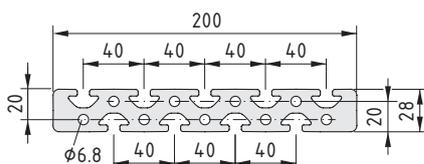
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.97	1.89	2.31	87.54	2.69	2.77	14.59	
natural, cut-off max. 6000 mm							0.0.650.86
natural, 1 pce., length 6000 mm							0.0.650.85

**Profile 8 160x16**

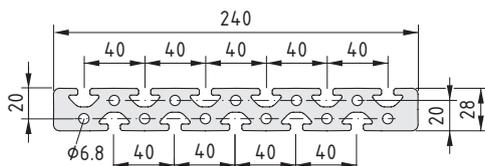
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
13.88	3.75	3.80	307.83	2.61	4.25	38.48	
natural, cut-off max. 3000 mm							0.0.265.90
natural, 1 pce., length 3000 mm							0.0.453.18

**Profile 8 160x28**

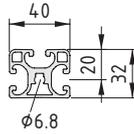
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
31.07	8.39	20.49	726.82	18.90	14.33	90.85	
natural, cut-off max. 6000 mm							0.0.026.85
natural, 1 pce., length 6000 mm							0.0.453.20

**Profile 8 200x28**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
38.39	10.37	25.37	1,383.53	22.91	17.74	138.35	
natural, cut-off max. 6000 mm							0.0.473.86
natural, 1 pce., length 6000 mm							0.0.454.24

**Profile 8 240x28**

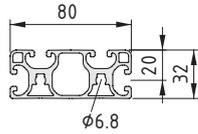
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
45.70	12.29	30.25	2,347.38	26.82	21.30	195.62	
natural, cut-off max. 6000 mm							0.0.473.88
natural, 1 pce., length 6000 mm							0.0.454.26



Profile 8 40x32 light



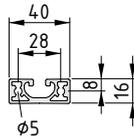
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.97	1.34	5.06	7.19	1.20	3.14	3.59
natural, cut-off max. 6000 mm						0.0.494.97
natural, 1 pce., length 6000 mm						0.0.494.95



Profile 8 80x32 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.65	2.33	9.27	53.73	8.59	5.76	13.43
natural, cut-off max. 6000 mm						0.0.494.98
natural, 1 pce., length 6000 mm						0.0.494.96

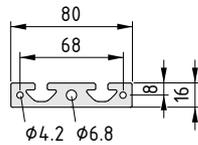


Profile X 8 40x16 light



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.05	0.82	0.87	5.18	1.03	2.59
natural, cut-off max. 3000 mm					0.0.652.12
natural, 1 pce., length 3000 mm					0.0.651.97



Profile X 8 80x16

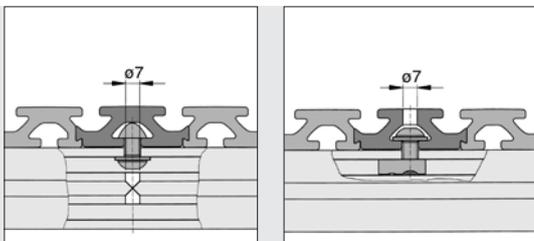


A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
9.23	2.49	2.33	52.01	2.93	2.74	13.00
natural, cut-off max. 3000 mm						0.0.609.34
natural, 1 pce., length 3000 mm						0.0.609.21



Bed Plate Profile 8

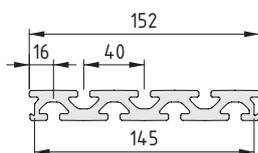
- For creating panels in any size
- Can be fastened to all types of substructures



Options for connecting the plate to the frame structure (using Button-Head Screw M8x16, washer DIN 125-8.4 and T-Slot Nut 8 St M8).

Materials used in all the following products:

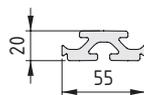
Al, anodized



Bed Plate Profile 8 152x20



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
18.39	4.97	7.39	350.50	2.69	7.20	46.12
natural, cut-off max. 6000 mm						0.0.465.79
natural, 1 pce., length 6000 mm						0.0.454.09



Bed Plate Connection Profile 8 55x20



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.71	1.54	2.12	11.30	0.77	1.98	4.10
natural, cut-off max. 6000 mm						0.0.465.80
natural, 1 pce., length 6000 mm						0.0.454.11



Profiles 8 – 45° Angle

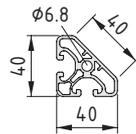
- Connect up to three profiles
- For sophisticated tables, display cases and systems



The 45° profiles bring a sophisticated aesthetic appeal to a whole range of constructions. Fastening Set 8 40x40-45° creates particularly elegant corner units.

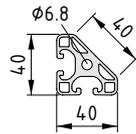
Fastening Set 8
40x40-45° 

Materials used in all the following products:
Al, anodized



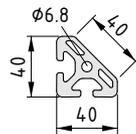
Profile 8 40x40-45° E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
4.35	1.17	5.70	5.70	2.00	2.51	2.51	
natural, cut-off max. 6000 mm							7.0.000.12
natural, 1 pce., length 6000 mm							0.0.452.86



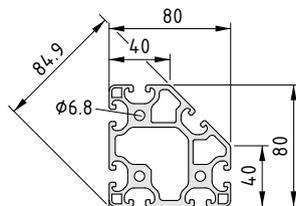
Profile 8 40x40-45° light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.58	1.50	6.50	6.50	2.13	2.90	2.90	
natural, cut-off max. 6000 mm							0.0.404.52
natural, 1 pce., length 6000 mm							0.0.452.88
black, cut-off max. 6000 mm							0.0.406.45
black, 1 pce., length 6000 mm							0.0.452.90



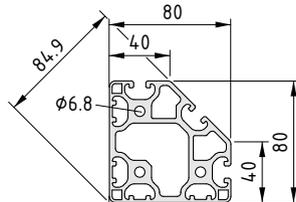
Profile 8 40x40-45°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
7.30	1.97	9.39	9.39	2.75	4.08	4.08	
natural, cut-off max. 6000 mm							0.0.373.45
natural, 1 pce., length 6000 mm							0.0.452.84



Profile 8 80x80-45° light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
18.86	5.09	109.11	109.11	62.51	24.97	24.97	
natural, cut-off max. 6000 mm							0.0.416.89
natural, 1 pce., length 6000 mm							0.0.453.07



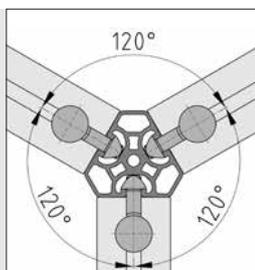
Profile 8 80x80-45° 4N90 light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
19.48	5.25	106.20	106.20	91.44	24.69	24.69	
natural, cut-off max. 6000 mm							0.0.422.54
natural, 1 pce., length 6000 mm							0.0.453.05



Profiles 8 – 120° Angle

- Three grooves in one profile
- Ideal as a stand profile when building partition systems



Grooves 8 are positioned at angles of 120° to each other. The relevant side faces have a width of modular dimension 40 mm for attaching Line 8 profiles and accessories.



Profile 8 3x40-120° light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.59	1.73	10.65	10.71	3.42	3.98	5.33
natural, cut-off max. 6000 mm						0.0.480.59
natural, 1 pce., length 6000 mm						0.0.480.58



Profiles 8 D

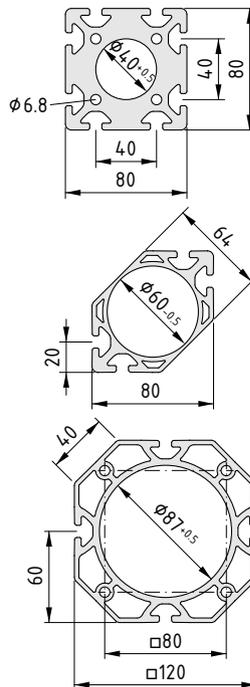
- With large central bore
- Ideal for the mounting of bearings
- Ideal for accommodating shafts, spindles and axles



Profile 8 80x80-45° D60 is the basis for Coupling Housings 8 D30 and 8 D55, Profile 8 120x120-45° D87 is used for Coupling Housing 8 D80. The profiles can be used to produce Coupling Housings of special lengths or housings for synchronising shafts between mechanical drive elements.

Materials used in all the following products:

Al, anodized



Profile 8 80x80 D40

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
37.20	10.04	222.00	222.00	190.01	55.50	55.50
natural, cut-off max. 3000 mm						0.0.408.28
natural, 1 pce., length 3000 mm						0.0.452.29

Profile 8 80x80-45° D60

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
15.26	4.12	109.56	109.56	84.65	27.39	27.39
natural, cut-off max. 6000 mm						0.0.463.24
natural, 1 pce., length 6000 mm						0.0.452.55

Profile 8 120x120-45° D87

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
31.29	8.45	465.86	465.86	535.22	77.64	77.64
natural, cut-off max. 6000 mm						0.0.463.25
natural, 1 pce., length 6000 mm						0.0.453.91

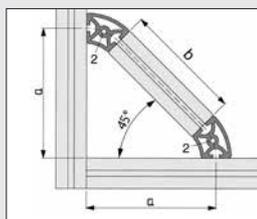


Profiles 8 R

- Closed on two sides, rounded surface
- Various external angles available
- Ideal for building protective hoods, frames and tables

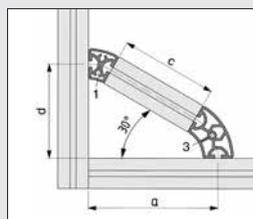


Profiles R can also be used to add bracing to profile constructions. Calculating the appropriate length for the struts is easy.



Connection at 45°

Profile 2	Profile 8 R40/80-45°
b	$(a - 60) \cdot \sqrt{2}$

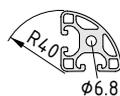


Connection at 30°

Profile 1	Profile 8 R40/80-30°
Profile 3	Profile 8 R40/80-60°
c	$2(a - 60) / \sqrt{3}$
d	$(a - 60) / \sqrt{3} + 60$

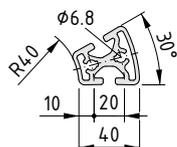
Materials used in all the following products:

Al, anodized



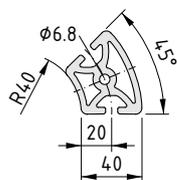
Profile 8 R40-90° light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.72	1.54	6.65	6.65	2.69	3.04	3.04
natural, cut-off max. 6000 mm						0.0.436.33
natural, 1 pce., length 6000 mm						0.0.453.39



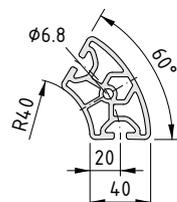
Profile 8 R40/80-30°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.20	1.67	6.42	8.90	2.89	2.84	3.80
natural, cut-off max. 6000 mm						0.0.427.66
natural, 1 pce., length 6000 mm						0.0.453.33



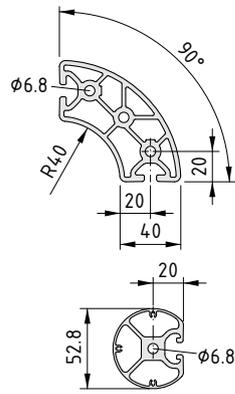
Profile 8 R40/80-45°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
10.23	2.76	21.33	16.06	12.05	6.74	6.14
natural, cut-off max. 6000 mm						0.0.409.14
natural, 1 pce., length 6000 mm						0.0.453.35



Profile 8 R40/80-60°

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
10.50	2.83	34.90	22.64	18.28	9.20	7.50
natural, cut-off max. 6000 mm						0.0.427.67
natural, 1 pce., length 6000 mm						0.0.453.36



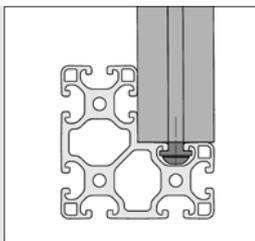
Profile 8 R40/80-90°							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
15.00	4.05	76.25	76.25	41.46	18.69	18.69	
natural, cut-off max. 6000 mm							0.0.427.68
natural, 1 pce., length 6000 mm							0.0.453.37

Profile 8 R26-270°							8
Al, anodized							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
6.45	1.75	12.08	10.96	11.90	4.62	5.40	
natural, cut-off max. 6000 mm							0.0.474.48
natural, 1 pce., length 6000 mm							0.0.454.29



Profiles 8 W

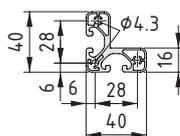
- Angled profiles with grooves
- For use as panel fixing strips
- For supporting shelves



The inside corner of the angled profiles is provided with an undercut. Attachments with sharp edges can therefore be screwed flush with the surface on both sides.

Materials used in all the following products:

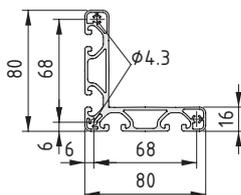
Al, anodized



Profile 8 W40x40 E



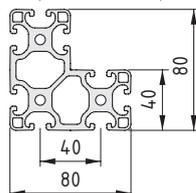
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.09	1.10	4.82	4.82	0.70	1.95	1.95
natural, cut-off max. 3000 mm						7.0.001.10
natural, 1 pce., length 3000 mm						0.0.453.40



Profile 8 W80x80 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.60	2.32	48.52	48.52	2.85	8.92	8.92
natural, cut-off max. 3000 mm						7.0.001.12
natural, 1 pce., length 3000 mm						0.0.453.41



Profile 8 W80x80x40 light



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
17.77	4.79	95.32	95.32	30.35	20.54	20.54
natural, cut-off max. 6000 mm						0.0.458.92
natural, 1 pce., length 6000 mm						0.0.454.02



Profiles 8 D40

Edge-free elegance

- Profiles with a cylindrical cross-section
- Can be combined with square profiles
- Available with open or closed grooves
- Closed grooves can be subsequently opened up



The cylindrical cross-section, which is 40 mm in diameter, is the main feature of Profiles 8 D40. Their four Line 8 grooves are arranged at 90° angles to each other and can be either open or closed, as required. Cylindrical profiles are ideal for use in hand rails, tables, shelves and ancillary factory equipment such as signage.

Cylindrical and angular profiles from the MB Building Kit System can be combined to suit the task at hand. This compatibility is made possible by Adapter 8 D40. The connections meet the same standards in stability and reliability that design engineers have come to expect from all item products.

Materials used in all the following products:

Al, anodized



Profile 8 D40



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.45	1.47	5.63	5.63	0.94	2.88	2.88	
natural, cut-off max. 6000 mm							0.0.493.36
natural, 1 pce., length 6000 mm							0.0.493.37



Profile 8 D40 1N



Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.51	1.48	5.87	5.63	2.02	3.00	2.80	
natural, cut-off max. 6000 mm							0.0.493.39
natural, 1 pce., length 6000 mm							0.0.493.40



Profile 8 D40 2N90



Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.58	1.50	5.88	5.88	3.39	2.90	2.90	
natural, cut-off max. 6000 mm							0.0.489.40
natural, 1 pce., length 6000 mm							0.0.489.39


Profile 8 D40 2N180


Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.58	1.50	6.13	5.63	3.16	3.07	2.92
natural, cut-off max. 6000 mm						0.0.493.42
natural, 1 pce., length 6000 mm						0.0.493.43


Profile 8 D40 3N

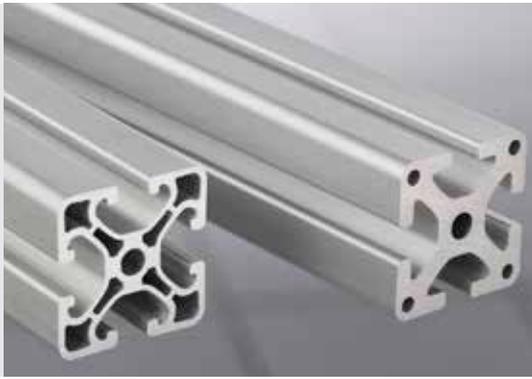

Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.64	1.53	5.88	6.13	4.82	2.97	3.07
natural, cut-off max. 6000 mm						0.0.493.45
natural, 1 pce., length 6000 mm						0.0.493.46


Profile 8 D40 4N


Profile features easy-to-open groove(s)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.71	1.54	6.13	6.13	6.64	3.07	3.07
natural, cut-off max. 6000 mm						0.0.493.48
natural, 1 pce., length 6000 mm						0.0.493.49



Profiles 10 – modular dimension of 50 mm

The added-value profile with increased load-carrying capacity

- Increased load-carrying capacity for robust constructions
- Reliability against pre-tension losses
- Tensile loading up to 7,000 N per screw connection
- Also available in lightweight versions as Profiles 10 E



Materials used in all the following products:

Al, anodized



Profile 10 50x50 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.47	2.29	20.34	20.34	2.80	8.14	8.14

natural, cut-off max. 6000 mm 0.0.624.93

natural, 1 pce., length 6000 mm 0.0.624.92



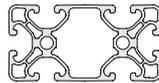
Profile 10 50x50



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
13.31	3.59	30.68	30.68	4.17	12.27	12.27

natural, cut-off max. 6000 mm 0.0.624.52

natural, 1 pce., length 6000 mm 0.0.624.51



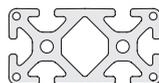
Profile 10 100x50 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
13.40	3.62	36.40	143.75	19.44	14.56	28.75

natural, cut-off max. 6000 mm 0.0.625.14

natural, 1 pce., length 6000 mm 0.0.625.13



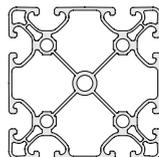
Profile 10 100x50



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
24.70	6.67	61.28	227.47	44.03	24.51	45.49

natural, cut-off max. 6000 mm 0.0.624.60

natural, 1 pce., length 6000 mm 0.0.624.59



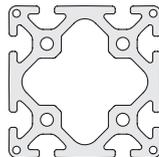
Profile 10 100x100 E



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
21.74	5.87	237.98	237.98	103.30	47.60	47.60

natural, cut-off max. 6000 mm 0.0.625.18

natural, 1 pce., length 6000 mm 0.0.625.17



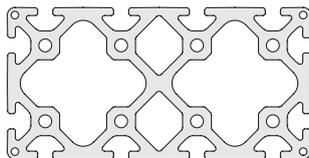
Profile 10 100x100



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
39.57	10.68	431.41	431.41	300.38	86.28	86.28

natural, cut-off max. 6000 mm 0.0.624.56

natural, 1 pce., length 6000 mm 0.0.624.55



Profile 10 200x100



A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
74.36	20.08	838.55	2,840.55	946.29	167.71	284.06

natural, cut-off max. 6000 mm 0.0.624.68

natural, 1 pce., length 6000 mm 0.0.624.67

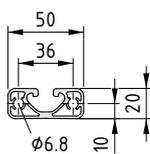


Profile 10 50x20 E

- Lightweight thanks to flat cross-section
- Full Profile 10 groove on one side, closed surface on the other
- Ideal for stable, space-saving struts and frames



Thanks to its flat cross-section, Profile 10 50x20 E takes up little space when integrated into constructions. The Line 10 groove leaves open all the fastening options associated with Profiles 10, providing a secure hold for all fastening elements. The closed surface on the rear of the profile is easy to clean. This profile makes it easy to add flat struts to a construction or build stable lightweight frames.



Profile 10 50x20 E



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.69	0.99	1.70	9.08	1.38	1.70	3.63
natural, cut-off max. 6000 mm						0.0.632.54
natural, 1 pce., length 6000 mm						0.0.632.53



Profiles 12 – modular dimension of 60 mm

The robust option for load-carrying applications

- The strongest profile line in the MB system
- Exceptional reliability against pre-tension losses
- Tensile loading up to 10,000 N per screw connection
- For particularly stable, heavy-duty frame structures



Materials used in all the following products:

Al, anodized



Profile 12 60x60 light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
14.50	3.91	46.02	46.02	7.05	15.36	15.36

natural, cut-off max. 6000 mm 0.0.001.16

natural, 1 pce., length 6000 mm 0.0.001.06

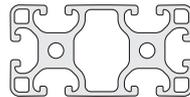


Profile 12 60x60

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
20.60	5.55	70.50	70.50	9.59	23.50	23.50

natural, cut-off max. 6000 mm 0.0.001.11

natural, 1 pce., length 6000 mm 0.0.001.01



Profile 12 120x60 light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
26.15	7.10	88.15	355.50	54.94	29.40	59.40

natural, cut-off max. 6000 mm 0.0.001.17

natural, 1 pce., length 6000 mm 0.0.001.07

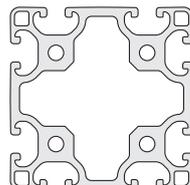


Profile 12 120x60

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
37.58	10.15	135.40	509.70	98.17	45.10	85.10

natural, cut-off max. 6000 mm 0.0.001.12

natural, 1 pce., length 6000 mm 0.0.001.02

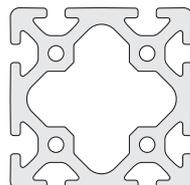


Profile 12 120x120 light

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
44.45	12.00	679.60	679.60	403.50	113.50	113.50

natural, cut-off max. 6000 mm 0.0.001.18

natural, 1 pce., length 6000 mm 0.0.001.28

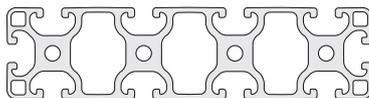


Profile 12 120x120

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
60.40	16.30	948.00	948.00	656.82	159.00	159.00

natural, cut-off max. 6000 mm 0.0.001.13

natural, 1 pce., length 6000 mm 0.0.001.23

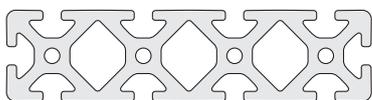


Profile 12 240x60 light

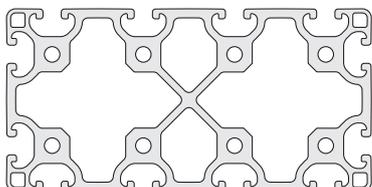
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
49.10	13.25	170.65	2,585.50	158.42	57.02	215.90

natural, cut-off max. 6000 mm 0.0.001.20

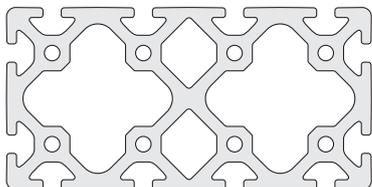
natural, 1 pce., length 6000 mm 0.0.001.30

**Profile 12 240x60**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
72.60	19.60	269.38	3,777.20	286.77	89.60	314.80
natural, cut-off max. 6000 mm						0.0.001.15
natural, 1 pce., length 6000 mm						0.0.001.25

**Profile 12 240x120 light**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
84.02	22.68	1,348.66	4,595.18	1,218.24	224.78	382.93
natural, cut-off max. 6000 mm						0.0.001.19
natural, 1 pce., length 6000 mm						0.0.001.29

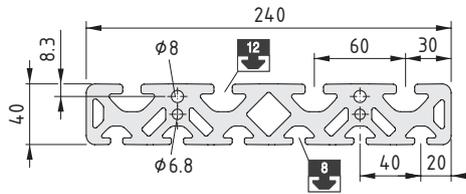
**Profile 12 240x120**

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
112.00	30.24	1,815.20	6,168.90	2,067.75	302.00	514.10
natural, cut-off max. 6000 mm						0.0.001.14
natural, 1 pce., length 6000 mm						0.0.001.24



Profile 12/8 240x40

- Special profile with Line 8 and 12 grooves
- For building carriages for linear slides



Profile 12/8 240x40



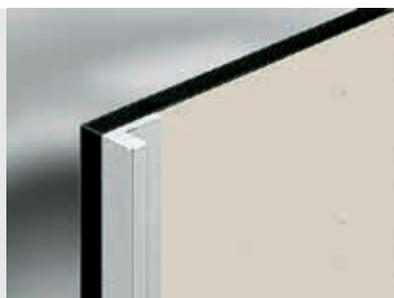
Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
57.94	15.70	83.90	2,904.15	81.39	41.60	242.15
natural, cut-off max. 6000 mm						0.0.001.04
natural, 1 pce., length 6000 mm						0.0.001.03



Solid profiles and profile edging

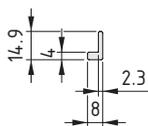
- Profiles without grooves
- Used as edging or grip rails
- For edging any panel elements
- For special constructions of all types



Can be used as a grip rail or edging and for stabilising panel elements.

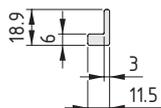
Materials used in all the following products:

Al, anodized



Profile Edging 15x8

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.56	0.15	0.10	0.03	0.02	0.10	0.05
natural, cut-off max. 6000 mm						0.0.431.16
natural, 1 pce., length 6000 mm						0.0.453.43



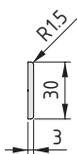
Profile Edging 19x11.5

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.14	0.30	0.28	0.12	0.07	0.22	0.17
natural, cut-off max. 6000 mm						0.0.196.30
natural, 1 pce., length 6000 mm						0.0.453.45



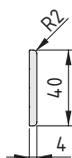
Profile M 20x4 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.78	0.21	0.24	0.01	0.04	0.24	0.05
natural, cut-off max. 2000 mm						7.0.001.14
natural, 1 pce., length 2000 mm						7.0.002.62



Profile M 30x3 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.89	0.24	0.65	0.01	0.02	0.44	0.04
natural, cut-off max. 2000 mm						0.0.609.60
natural, 1 pce., length 2000 mm						0.0.609.59



Profile M 40x4 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.57	0.42	2.06	0.02	0.08	1.03	0.10
natural, cut-off max. 2000 mm						7.0.001.18
natural, 1 pce., length 2000 mm						7.0.002.66



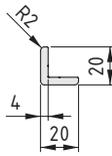
Profile M 60x6 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.56	0.96	10.46	0.11	0.40	3.49	0.35
natural, cut-off max. 2000 mm						0.0.609.62
natural, 1 pce., length 2000 mm						0.0.609.61



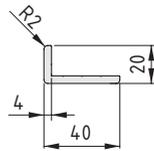
Profile M 80x8 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.32	1.70	33.05	0.33	1.26	8.26	0.81
natural, cut-off max. 2000 mm						7.0.001.22
natural, 1 pce., length 2000 mm						7.0.002.67



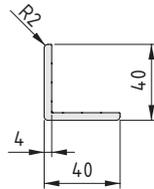
Profile M W20x20x4 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.41	0.38	0.48	0.48	0.07	0.35	0.35
natural, cut-off max. 2000 mm						7.0.001.26
natural, 1 pce., length 2000 mm						7.0.002.68



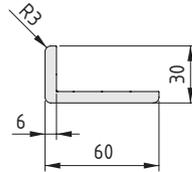
Profile M W40x20x4 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.21	0.59	0.59	3.52	0.11	0.38	1.40
natural, cut-off max. 2000 mm						7.0.001.28
natural, 1 pce., length 2000 mm						7.0.002.69



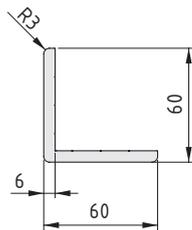
Profile M W40x40x4 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.01	0.81	4.51	4.51	0.16	1.58	1.58
natural, cut-off max. 2000 mm						7.0.001.30
natural, 1 pce., length 2000 mm						7.0.002.70



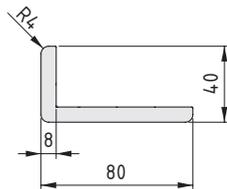
Profile M W60x30x6 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.98	1.34	3.00	17.88	0.58	1.32	4.74
natural, cut-off max. 2000 mm						0.0.609.64
natural, 1 pce., length 2000 mm						0.0.609.63



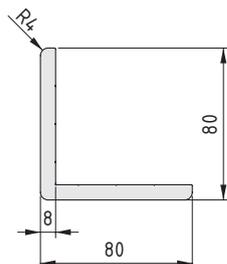
Profile M W60x60x6 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.78	1.83	22.86	22.86	0.80	5.34	5.34
natural, cut-off max. 2000 mm						0.0.609.66
natural, 1 pce., length 2000 mm						0.0.609.65



Profile M W80x40x8 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.85	2.39	9.48	56.54	1.84	3.12	11.25
natural, cut-off max. 2000 mm						7.0.001.32
natural, 1 pce., length 2000 mm						7.0.002.71



Profile M W80x80x8 E

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
12.05	3.25	72.27	72.27	2.54	12.66	12.66
natural, cut-off max. 2000 mm						7.0.001.34
natural, 1 pce., length 2000 mm						7.0.002.72



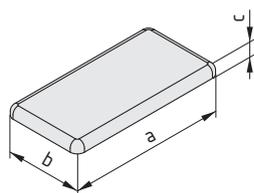
Caps for Profiles in modular dimensions

- Robust Caps made from glass-fibre-reinforced plastic
- Vibration-proof and temperature-resistant
- Protection against sharp cut edges
- Numerous designs also available in grey
- Products from Line X also available



Materials used in all the following products:

PA-GF



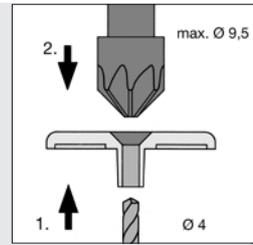
Cap 5 20x20	
a = 20 mm b = 20 mm c = 2.5 mm m = 1.2 g	
black, 1 pce.	0.0.370.09
Cap 5 40x20	
a = 40 mm b = 20 mm c = 2.5 mm m = 2.2 g	
black, 1 pce.	0.0.370.11
Cap 5 40x40	
a = 40 mm b = 40 mm c = 2.5 mm m = 5.0 g	
black, 1 pce.	0.0.370.13
Cap 5 60x20	
a = 60 mm b = 20 mm c = 2.5 mm m = 3.3 g	
black, 1 pce.	0.0.425.53
Cap 5 60x40	
a = 60 mm b = 40 mm c = 2.5 mm m = 7.0 g	
black, 1 pce.	0.0.425.56
Cap 5 80x20	
a = 80 mm b = 20 mm c = 2.5 mm m = 4.4 g	
black, 1 pce.	0.0.370.92
Cap 6 30x30	
a = 30 mm b = 30 mm c = 3.0 mm m = 2.6 g	
black, 1 pce.	0.0.419.22
Cap 6 60x30	
a = 60 mm b = 30 mm c = 3.0 mm m = 5.2 g	
black, 1 pce.	0.0.419.23
Cap 6 60x60	
a = 60 mm b = 60 mm c = 3.0 mm m = 9.4 g	
black, 1 pce.	0.0.419.24
Cap 6 120x30	
a = 120 mm b = 30 mm c = 3.0 mm m = 10.2 g	
black, 1 pce.	0.0.419.25
Cap 6 120x60	
a = 120 mm b = 60 mm c = 3.0 mm m = 20.8 g	
black, 1 pce.	0.0.419.26

Cap 8 40x40 			
a = 40 mm	b = 40 mm	c = 4.0 mm	m = 4.8 g
black, 1 pce.			0.0.026.01
grey similar to RAL 7042, 1 pce.			0.0.627.16
Cap 8 80x40 			
a = 80 mm	b = 40 mm	c = 4.0 mm	m = 9.6 g
black, 1 pce.			0.0.026.02
grey similar to RAL 7042, 1 pce.			0.0.627.18
Cap 8 80x80 			
a = 80 mm	b = 80 mm	c = 4.0 mm	m = 19.4 g
black, 1 pce.			0.0.026.37
grey similar to RAL 7042, 1 pce.			0.0.627.20
Cap 8 120x40 			
a = 120 mm	b = 40 mm	c = 4.0 mm	m = 15.2 g
black, 1 pce.			0.0.418.54
grey similar to RAL 7042, 1 pce.			0.0.627.27
Cap 8 120x80 			
a = 120 mm	b = 80 mm	c = 4.0 mm	m = 30.4 g
black, 1 pce.			0.0.418.57
grey similar to RAL 7042, 1 pce.			0.0.627.28
Cap 8 120x120 			
a = 120 mm	b = 120 mm	c = 4.0 mm	m = 43.4 g
black, 1 pce.			0.0.609.88
Cap 8 160x40 			
a = 160 mm	b = 40 mm	c = 4.0 mm	m = 21.4 g
black, 1 pce.			0.0.265.39
grey similar to RAL 7042, 1 pce.			0.0.627.30
Cap 8 160x80 			
a = 160 mm	b = 80 mm	c = 4.0 mm	m = 37.0 g
black, 1 pce.			0.0.265.40
grey similar to RAL 7042, 1 pce.			0.0.627.31
Cap 8 200x40 			
a = 200 mm	b = 40 mm	c = 4.0 mm	m = 29.0 g
black, 1 pce.			0.0.474.01
Cap 8 200x80 			
a = 200 mm	b = 80 mm	c = 4.0 mm	m = 60.0 g
black, 1 pce.			0.0.485.94
Cap 8 240x40 			
a = 240 mm	b = 40 mm	c = 4.0 mm	m = 36.0 g
black, 1 pce.			0.0.474.04

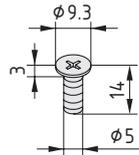
Cap 10 50x50				
a = 50 mm	b = 50 mm	c = 5.0 mm	m = 8.5 g	
black, 1 pce.				0.0.625.09
grey similar to RAL 7042, 1 pce.				0.0.632.25
Cap 10 100x50				
a = 100 mm	b = 50 mm	c = 5.0 mm	m = 18.0 g	
black, 1 pce.				0.0.625.10
grey similar to RAL 7042, 1 pce.				0.0.632.26
Cap 10 100x100				
a = 100 mm	b = 100 mm	c = 5.0 mm	m = 36.0 g	
black, 1 pce.				0.0.625.11
grey similar to RAL 7042, 1 pce.				0.0.632.27
Cap 10 200x100				
a = 200 mm	b = 100 mm	c = 5.0 mm	m = 87.0 g	
black, 1 pce.				0.0.625.12
grey similar to RAL 7042, 1 pce.				0.0.632.28
Cap 12 60x60				
a = 60 mm	b = 60 mm	c = 6.0 mm	m = 14.7 g	
black, 1 pce.				0.0.005.01
Cap 12 120x60				
a = 120 mm	b = 60 mm	c = 6.0 mm	m = 28.0 g	
black, 1 pce.				0.0.005.02
Cap 12 120x120				
a = 120 mm	b = 120 mm	c = 6.0 mm	m = 54.0 g	
black, 1 pce.				0.0.005.03
Cap 12 240x60				
a = 240 mm	b = 60 mm	c = 6.0 mm	m = 54.0 g	
black, 1 pce.				0.0.005.05
Cap 12 240x120				
a = 240 mm	b = 120 mm	c = 6.0 mm	m = 106.0 g	
black, 1 pce.				0.0.005.04
Line				
Cap X 8 40x16				 
a = 40 mm	b = 16 mm	c = 4 mm	m = 3.0 g	
grey similar to RAL 7042, 1 pce.				0.0.652.13
Cap X 8 40x40				 
a = 40 mm	b = 40 mm	c = 2.0 mm	m = 5.0 g	
grey similar to RAL 7042, 1 pce.				0.0.489.60
Cap X 8 80x40				 
a = 80 mm	b = 40 mm	c = 2.0 mm	m = 8.0 g	
grey similar to RAL 7042, 1 pce.				0.0.489.61
Cap X 8 80x80				 
a = 80 mm	b = 80 mm	c = 2.0 mm	m = 16.0 g	
grey similar to RAL 7042, 1 pce.				0.0.489.98



Screw for reinforcing the retention force of Caps 8 (PA-GF) in the core bores of Profiles 8.



The machining required is limited to counter boring and countersinking of the Caps.



Fastening Screw 8 5x14



St
m = 1.6 g
black, 1 pce.

0.0.427.08

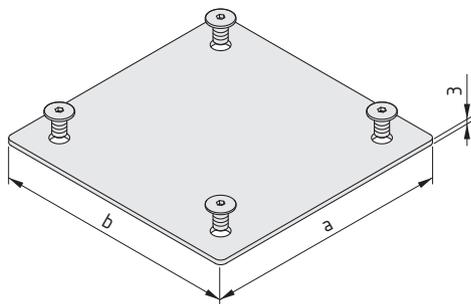


Caps 8 St

- Robust steel plates
- Screws ensure a secure hold
- Closes large Profiles 8



Caps St must be screwed to the core bores of the profiles.



Cap 8 160x80 St



Cap 8 160x80, St, white aluminium similar to RAL 9006
4 dome-head screws M8x14, St, bright zinc-plated
a = 160 mm b = 80 mm m = 324.0 g

1 set

0.0.674.49

Cap 8 160x160



Cap 8 160x160, St, black
4 dome-head screws M8x14, St, black
a = 160 mm b = 160 mm m = 624.0 g

1 set

0.0.475.15

Cap 8 160x160 St



Cap 8 160x160, St, white aluminium similar to RAL 9006
4 dome-head screws M8x14, St, bright zinc-plated
a = 160 mm b = 160 mm m = 625.0 g

1 set

0.0.674.57

Cap 8 240x160



Cap 8 240x160, St, black
4 dome-head screws M8x14, St, black
a = 240 mm b = 160 mm m = 907.0 g

1 set

0.0.475.16

Cap 8 320x160



Cap 8 320x160, St, black
4 dome-head screws M8x14, St, black
a = 320 mm b = 160 mm m = 1.2 kg

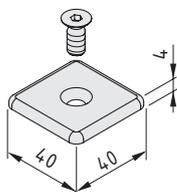
1 set

0.0.476.64



Cap 8 40x40, rubber coated

- Steel cap with rubber coating
- Closes and cushions at the same time
- With self-tapping screw for rapid installation



Cap 8 40x40, rubber coated

Steel plate, coated, NBR 80 Sh A, black
Countersunk Screw 8 SF M7.1, St, black
m = 24.0 g

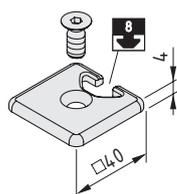
1 set

0.0.626.90



Cap 8 40x40 N

- Safely cover profile ends
- One groove stays open
- T-Slot Nut F can be used to secure the groove
- With self-tapping screw for rapid installation



Cap 8 40x40 N

PA-GF, black
Countersunk Screw 8 SF M7.1, St, black
m = 9.0 g

1 set

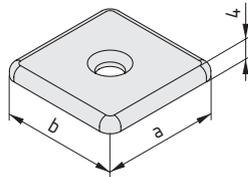
0.0.624.47





Caps 8 Zn

- Sturdy caps made from zinc
- Screws ensure a secure hold
- Closes Profiles 8 and protects against impacts



Cap 8 40x40 Zn



Die-cast zinc
 a = 40 mm b = 40 mm m = 26.0 g

black, 1 pce.

0.0.427.09

Cap 8 80x40 Zn



Die-cast zinc
 a = 80 mm b = 40 mm m = 49.0 g

black, 1 pce.

0.0.427.11

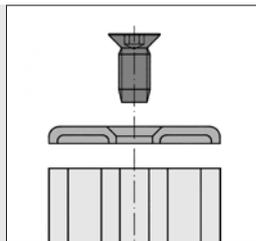
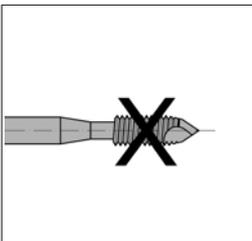
Cap 8 80x80 Zn



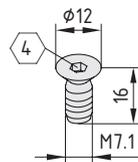
Die-cast zinc
 a = 80 mm b = 80 mm m = 96.0 g

black, 1 pce.

0.0.427.13



Self-threading screw for securing Caps Zn in the core bore of Profiles 8.



Countersunk Screw 8 SF M7.1



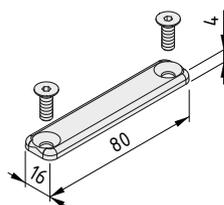
St
 Slide coating
 Head shape to DIN 7991 (M6)
 m = 4.3 g

black, 1 pce.

0.0.428.05



Cap 8 80x16 Zn is fixed to Profiles 8 80x16 using the enclosed screws to create a secure and friction-based connection, which ensures it can resist impacts and vibration over long-term use. A thread must be tapped into both screw channels of the flat profiles.



Cap 8 80x16 Zn



Cap, die-cast zinc, white aluminium
 2 Countersunk Screws DIN 7991-M5x14, St, bright zinc-plated
 m = 24.0 g

1 set

0.0.674.71



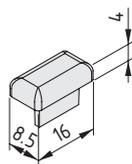
Caps for Flat Cross-Sections

- Simply push in to safely cover cut edges
- Neatly close side areas and end faces
- Suitable for profiles with flat cross-sections
- Products from Line X also available

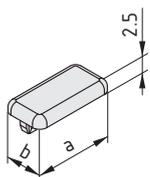


Materials used in all the following products:

PA-GF



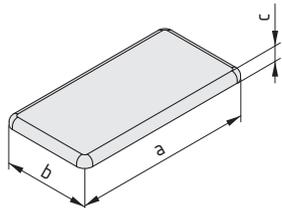
Cap 5 16x8.5	
m = 0.7 g	
black, 1 pce.	0.0.364.60



Cap 5 20x10	
a = 20 mm b = 10 mm m = 0.6 g	
black, 1 pce.	0.0.391.12

Cap 5 40x10	
a = 40 mm b = 10 mm m = 1.0 g	
black, 1 pce.	0.0.391.14

Cap 5 80x14	
a = 80 mm b = 14 mm m = 3.4 g	
black, 1 pce.	0.0.370.91



Cap 6 30x12	
a = 30 mm b = 12 mm c = 3.0 mm m = 1.0 g	
black, 1 pce.	0.0.478.09

Cap 6 30x24	
a = 30 mm b = 24 mm c = 3.0 mm m = 2.2 g	
black, 1 pce.	0.0.610.29

Cap 6 60x12	
a = 60 mm b = 12 mm c = 3.0 mm m = 2.0 g	
black, 1 pce.	0.0.478.11

Cap 6 60x24	
a = 60 mm b = 24 mm c = 3.0 mm m = 4.3 g	
black, 1 pce.	0.0.610.30

Cap 8 40x16	
a = 40 mm b = 16 mm c = 4.0 mm m = 2.5 g	
black, 1 pce.	0.0.026.79
grey similar to RAL 7042, 1 pce.	0.0.627.21
Cap 8 40x32	
a = 40 mm b = 32 mm c = 4.0 mm m = 4.1 g	
black, 1 pce.	0.0.610.23
Cap 8 80x16	
a = 80 mm b = 16 mm c = 4.0 mm m = 4.6 g	
black, 1 pce.	0.0.265.98
grey similar to RAL 7042, 1 pce.	0.0.627.25
Cap 8 80x32	
a = 80 mm b = 32 mm c = 4.0 mm m = 8.5 g	
black, 1 pce.	0.0.610.22
Cap 8 120x16	
a = 120 mm b = 16 mm c = 4 mm m = 6.0 g	
grey similar to RAL 7042, 1 pce.	0.0.650.87
Cap 8 160x16	
a = 160 mm b = 16 mm c = 4.0 mm m = 8.6 g	
black, 1 pce.	0.0.373.00
Cap 8 160x28	
a = 160 mm b = 28 mm c = 4.0 mm m = 16.1 g	
black, 1 pce.	0.0.026.80
grey similar to RAL 7042, 1 pce.	0.0.627.29
Cap 8 200x28	
a = 200 mm b = 28 mm c = 4.0 mm m = 22.0 g	
black, 1 pce.	0.0.474.07
Cap 8 240x28	
a = 240 mm b = 28 mm c = 4.0 mm m = 27.0 g	
black, 1 pce.	0.0.474.10
Cap 10 50x20	
a = 50 mm b = 20 mm c = 5 mm m = 4.0 g	
black, 1 pce.	0.0.632.55
grey similar to RAL 7042, 1 pce.	0.0.632.56



Cap X 6 60x12	 
a = 60 mm b = 12 mm c = 3.0 mm m = 2.5 g	
grey similar to RAL 7042, 1 pce.	0.0.609.29
Cap X 8 80x16	 
a = 80 mm b = 16 mm c = 4.0 mm m = 6.0 g	
grey similar to RAL 7042, 1 pce.	0.0.609.28



Caps with Radiused Outside Surface

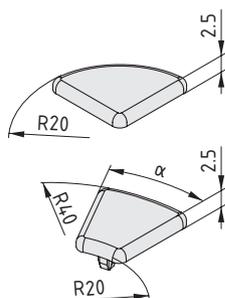
- Aesthetically appealing
- No need to deburr cut edges
- Suitable for various angle measurements: 30°, 45°, 60°, 90° and 270°



Rounded Cap for the profile end face, suitable for all Profile 8 D40 versions. No deburring of the cut edge is required.

Materials used in all the following products:

PA-GF



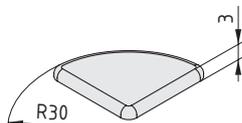
Cap 5 R20-90°	
m = 0.9 g	
black, 1 pce.	0.0.425.71

Cap 5 R20/40-30°	
$\alpha = 30^\circ$ m = 0.7 g	
black, 1 pce.	0.0.425.59

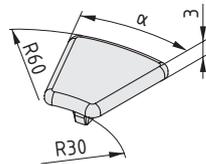
Cap 5 R20/40-45°	
$\alpha = 45^\circ$ m = 1.2 g	
black, 1 pce.	0.0.425.62

Cap 5 R20/40-60°	
$\alpha = 60^\circ$ m = 1.5 g	
black, 1 pce.	0.0.425.65

Cap 5 R20/40-90°	
$\alpha = 90^\circ$ m = 2.7 g	
black, 1 pce.	0.0.425.68



Cap 6 R30-90°	
m = 2.0 g	
black, 1 pce.	0.0.434.75

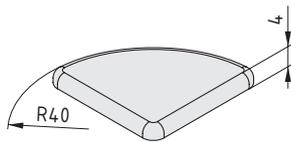


Cap 6 R30/60-30°	
$\alpha = 30^\circ$ $m = 2.0$ g	
black, 1 pce.	0.0.459.39

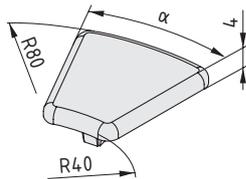
Cap 6 R30/60-45°	
$\alpha = 45^\circ$ $m = 3.0$ g	
black, 1 pce.	0.0.459.40

Cap 6 R30/60-60°	
$\alpha = 60^\circ$ $m = 4.0$ g	
black, 1 pce.	0.0.459.41

Cap 6 R30/60-90°	
$\alpha = 90^\circ$ $m = 6.0$ g	
black, 1 pce.	0.0.459.42



Cap 8 R40-90°	
$m = 4.4$ g	
black, 1 pce.	0.0.436.34
grey similar to RAL 7042, 1 pce.	0.0.627.56

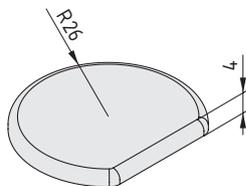


Cap 8 R40/80-30°	
$\alpha = 30^\circ$ $m = 4.2$ g	
black, 1 pce.	0.0.427.69
grey similar to RAL 7042, 1 pce.	0.0.627.52

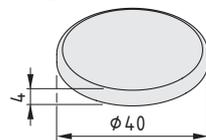
Cap 8 R40/80-45°	
$\alpha = 45^\circ$ $m = 5.8$ g	
black, 1 pce.	0.0.409.15
grey similar to RAL 7042, 1 pce.	0.0.627.53

Cap 8 R40/80-60°	
$\alpha = 60^\circ$ $m = 7.8$ g	
black, 1 pce.	0.0.427.70
grey similar to RAL 7042, 1 pce.	0.0.627.54

Cap 8 R40/80-90°	
$\alpha = 90^\circ$ $m = 11.0$ g	
black, 1 pce.	0.0.427.71
grey similar to RAL 7042, 1 pce.	0.0.627.55



Cap 8 R26-270°	
$m = 5.6$ g	
black, 1 pce.	0.0.474.46



Cap 8 D40	
PA-GF	
$m = 4.3$ g	
black, 1 pce.	0.0.489.53
grey similar to RAL 7042, 1 pce.	0.0.627.32

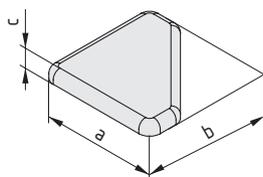


Caps with 45° and 120° angles



Materials used in all the following products:

PA-GF



Cap 6 30x30-45°



a = 30 mm b = 30 mm c = 3 mm m = 1.9 g

black, 1 pce.

0.0.434.74

Cap 8 40x40-45°



a = 40 mm b = 40 mm c = 4 mm m = 4.5 g

black, 1 pce.

0.0.373.48

grey similar to RAL 7042, 1 pce.

0.0.627.24

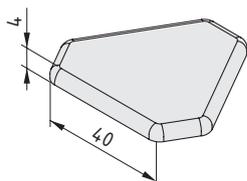
Cap 8 80x80-45°



a = 80 mm b = 80 mm c = 4 mm m = 17.6 g

black, 1 pce.

0.0.418.36



Cap 8 3x40-120°



m = 5.0 g

black, 1 pce.

0.0.482.39

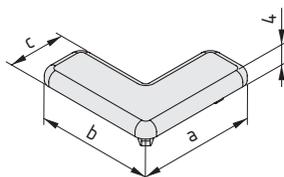


Caps W Angle Geometry



Materials used in all the following products:

PA-GF



Cap 8 W40x40 E



a = 40 mm b = 40 mm c = 16 mm m = 4.2 g

black, 1 pce.

0.0.429.51

Cap 8 W80x80 E



a = 80 mm b = 80 mm c = 16 mm m = 9.2 g

black, 1 pce.

0.0.429.54

Cap 8 W80x80x40



a = 80 mm b = 80 mm c = 40 mm m = 14.0 g

black, 1 pce.

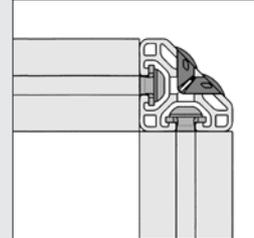
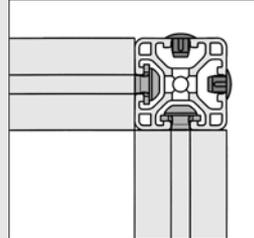
0.0.465.50



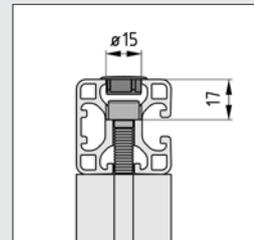
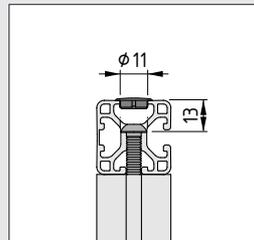
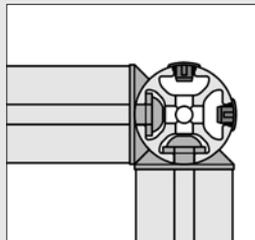
Caps for bores

Safe and clean

- Seal profile bores to stop dust getting inside
- Available in two colours

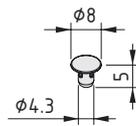


Grey Caps can be used to seal the holes in the sides of profiles with closed grooves. The grey blends in well with the aluminium.



Cap 8 D7-D40 can be used to seal the 7 mm dia. through hole for the Standard Fastener 8 tool in Profiles 8 D40 with closed grooves. The grey colour is matched to the surface of the natural anodized profiles.

When screwing together profiles, users must drill through one profile to reach the core bore of the other profile. Cap 6 D11 and Cap 8 D15 seal this opening on profiles with closed grooves. This ensures that cut edges are safely covered over and keeps dust out of the grooves.



Cap 5 D4.3



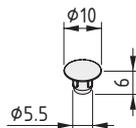
PA
m = 8 g/100

black, 1 pce.

0.0.437.89

grey similar to RAL 7042, 1 pce.

0.0.484.34



Cap 6 D5.5



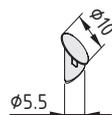
PA
m = 14 g/100

black, 1 pce.

0.0.439.86

grey similar to RAL 7042, 1 pce.

0.0.478.99



Cap 6 D5.5-45°



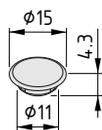
PA
m = 18 g/100

black, 1 pce.

0.0.439.87

grey similar to RAL 7042, 1 pce.

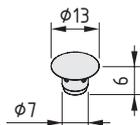
0.0.491.03

**Cap 6 D11**

PA
m = 30 g/100

grey similar to RAL 7042, 1 pce.

0.0.672.31

**Cap 8 D7**

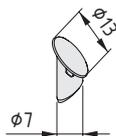
PA
m = 27 g/100

black, 1 pce.

0.0.432.06

grey similar to RAL 7042, 1 pce.

0.0.489.47

**Cap 8 D7-45°**

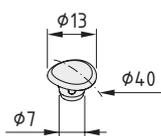
PA
m = 36 g/100

black, 1 pce.

0.0.432.96

grey similar to RAL 7042, 1 pce.

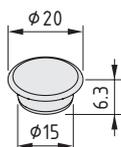
0.0.489.50

**Cap 8 D7-D40**

PA
m = 30 g/100

grey similar to RAL 7042, 1 pce.

0.0.493.88

**Cap 8 D15**

PA
m = 83 g/100

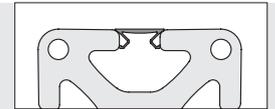
grey similar to RAL 7042, 1 pce.

0.0.492.55



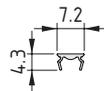
Cover Profiles Al

- Dust-tight and easy to clean
- For covering cables running through the groove



Cover Profiles can also be printed or engraved for labelling modules.

Whenever it is especially important that constructions are kept clean and look good, Cover Profiles Al neatly close over the groove, either in sections or along the entire length of the profile.



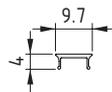
Cover Profile 6 Al



Al, anodized
m = 30 g/m

natural, 1 pce., length 2000 mm

0.0.439.70



Cover Profile 8 Al



Al, anodized
m = 32 g/m

natural, 1 pce., length 2000 mm

0.0.452.03

black, 1 pce., length 2000 mm

0.0.452.04



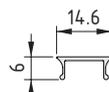
Cover Profile 10 Al



Al, anodized
m = 40 g/m

natural, 1 pce., length 2000 mm

0.0.632.63



Cover Profile 12 Al



Al, anodized
m = 62 g/m

natural, 1 pce., length 2000 mm

0.0.003.25



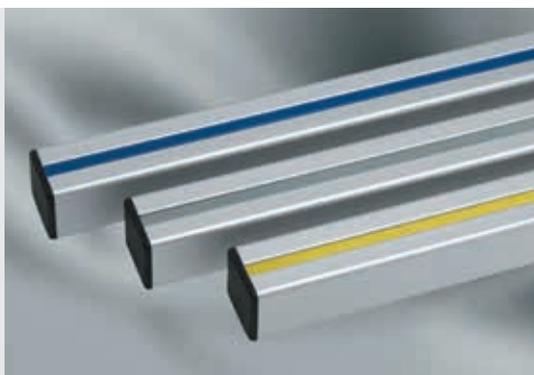
Cover Profile X 8 Al



Al, anodized
m = 31.5 g/m

natural, 1 pce., length 2000 mm

0.0.654.89



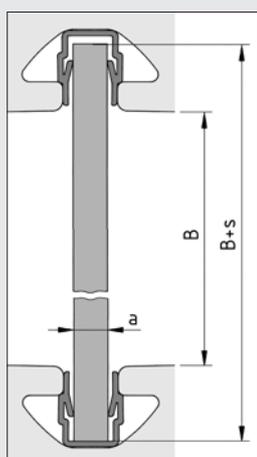
Cover Profiles PP

One profile, two applications

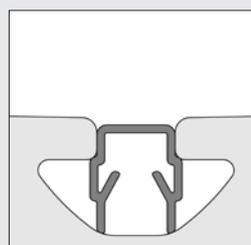
- Protection from dirt and dust when used as cover profiles
- Securing of panel elements in the groove when used as panel-fixing profiles
- Various colours for creating aesthetic effects
- ESD-safe versions also available



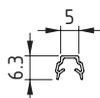
Cover Profile can be used as a cover for the profile groove or as a panel-fixing profile for panel elements.



Cover Profile	a [mm]	s [mm]
5	1.5-2.0	10
6	2.0-3.5	16
8 (ESD)	4.0-5.5	21
10 (ESD)	4.0-8.0	27.5
12	6.0-9.5	33



When inserted with its smooth side facing up, the Cover Profile keeps dirt and dust out of the groove.

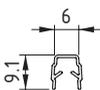


Cover Profile 5



PP/TPE
m = 8.9 g/m

natural, 1 pce., length 2000 mm	0.0.391.73
black, 1 pce., length 2000 mm	0.0.391.74
grey similar to RAL 7042, 1 pce., length 2000 mm	0.0.639.02



Cover Profile 6



PP/TPE
m = 15.4 g/m

natural, 1 pce., length 2000 mm	0.0.419.48
black, 1 pce., length 2000 mm	0.0.431.01



Cover Profile 8

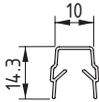


PP/TPE
m = 19 g/m

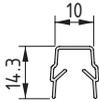
natural, 1 pce., length 2000 mm	0.0.422.23
black, 1 pce., length 2000 mm	0.0.422.26
green, similar to RAL 6016, 1 pce., length 2000 mm	0.0.489.44
red, similar to RAL 3003, 1 pce., length 2000 mm	0.0.489.46
yellow, similar to RAL 1018, 1 pce., length 2000 mm	0.0.489.43
blue, similar to RAL 5010, 1 pce., length 2000 mm	0.0.481.01
grey similar to RAL 7042, 1 pce., length 2000 mm	0.0.489.45



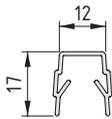
Cover Profile 8 ESD	ESD	8
PP/TPE m = 19 g/m		
black, 1 pce., length 2000 mm		0.0.617.80



Cover Profile 10	10
PP/TPE m = 26.9 g/m	
natural, 1 pce., length 2000 mm	0.0.632.10



Cover Profile 10 ESD	ESD	10
PP/TPE m = 26.9 g/m		
black, 1 pce., length 2000 mm		0.0.632.04



Cover Profile 12	12
PP/TPE m = 42.8 g/m	
natural, 1 pce., length 2000 mm	0.0.005.08
black, 1 pce., length 2000 mm	0.0.005.28

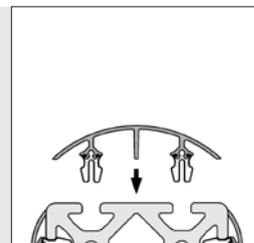
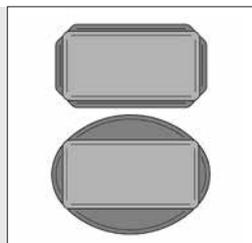
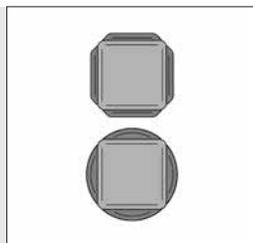


Cover Profiles R, WR and F

- Clads rectangular profiles with a rounded contour
- Ideal for table legs and other high-quality constructions
- Reduces risk of injury associated with protruding edges

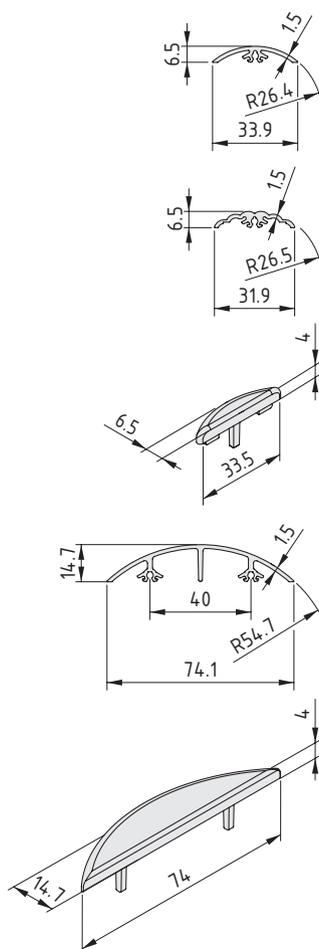


Cover Profile WR creates a uniformly wavy pattern around the main profile, neatly integrating the four corners.



To achieve a completely smooth surface, both the Cap of the rectangular base profile and Caps R or F for the segments of the relevant Cover Profile must be used.

The round and flat Cover Profiles R, W and F are inserted into the grooves of Profiles 8 in conjunction with Clip 8 St.



Cover Profile 8 R40 Al

Al, anodized
m = 190 g/m

natural, cut-off max. 3000 mm

0.0.422.76

Cover Profile 8 WR40 Al

Al, anodized
m = 200 g/m

natural, cut-off max. 3000 mm

0.0.457.72

Cap 8 R40

PA-GF
m = 0.6 g

black, 1 pce.

grey similar to RAL 7042, 1 pce.

0.0.429.60

0.0.627.50

Cover Profile 8 R80 Al

Al, anodized
m = 550 g/m

natural, cut-off max. 3000 mm

0.0.422.77

Cap 8 R80

PA-GF
m = 2.3 g

black, 1 pce.

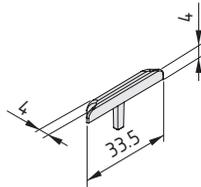
grey similar to RAL 7042, 1 pce.

0.0.429.61

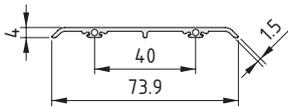
0.0.627.51



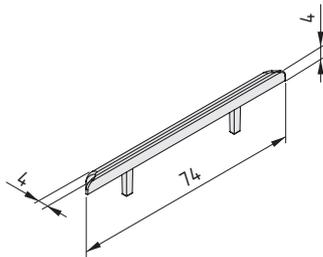
Cover Profile 8 F40 Al	
Al, anodized m = 170 g/m	
natural, cut-off max. 3000 mm	0.0.428.95



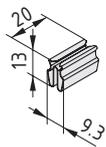
Cap 8 F40	
PA-GF m = 0.4 g	
black, 1 pce.	0.0.429.62



Cover Profile 8 F80 Al	
Al, anodized m = 370 g/m	
natural, cut-off max. 3000 mm	0.0.428.96



Cap 8 F80	
PA-GF m = 0.8 g	
black, 1 pce.	0.0.429.63

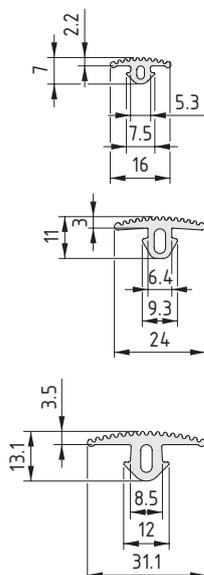


Clip 8 St	
St Recommended amount: 5 pce./m m = 2.5 g	
bright zinc-plated, 1 pce.	0.0.428.97



Cover Profiles NBR

- Elastic covering for profile grooves
- Creates a non-slip surface
- Suitable as a buffer strip for sliding doors



Cover Profile 5 16x3

5

NBR
Hardness 80° Shore A, oil and water resistant
m = 57 g/m

black, cut-off max. 20 m

0.0.425.23

Cover Profile 6 24x3

6

NBR
Hardness 80° Shore A, oil and water resistant
m = 119 g/m

black, cut-off max. 20 m

0.0.439.34

Cover Profile 8 32x4

8

NBR
Hardness 80° Shore A, oil and water resistant
m = 180 g/m

black, cut-off max. 20 m

0.0.429.02

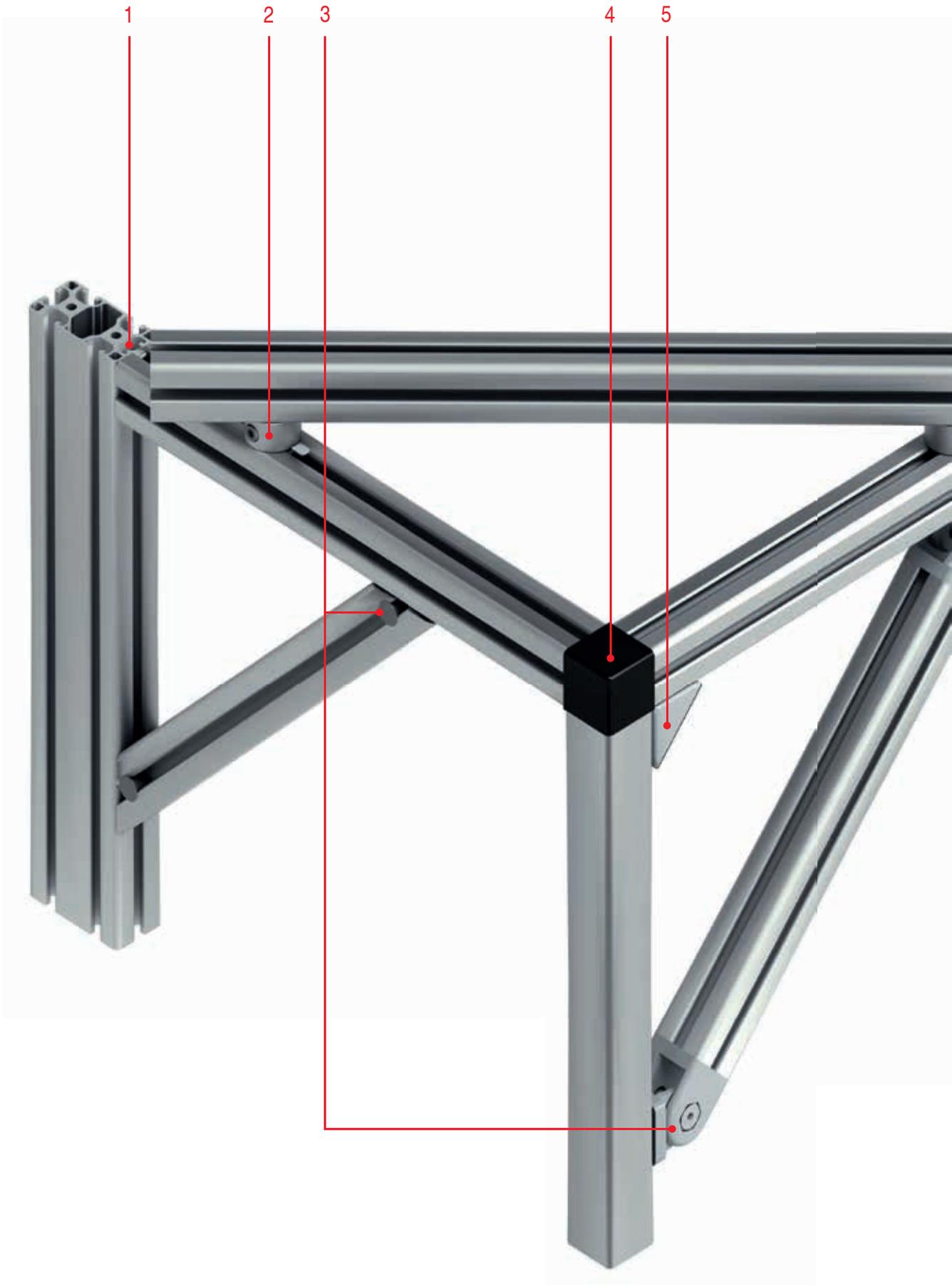


FASTENING TECHNOLOGY

2

Right-Angled Connections
Angled Connections
Cross-Profile Connections
Butt Fasteners
Parallel-Profile Connections
Secure Connections

Application example – fastening technology
Connecting profiles





1 Right-angled connections

- Fastening sets for the rapid and stable assembly of profiles
- Numerous variants for each application
- Innovative fastening sets for power-locking connections without profile machining

79

Section **2**

2 Cross-profile connections

- Power-lock connection between profiles that cross
- Adjustable to desired angle
- Solutions for rapid angle adjustment

119

Section **2**

3 Angle Fasteners

- Hinges and fasteners for constructions with non-standard angle measurements
- Angle elements for stable and lightweight latticework
- Adjustable solutions for the rapid installation of supporting struts

112

Section **2**

4 Corner fasteners

- Connect up to three profiles to form one corner unit
- For building tables, display cases and hoods
- Versatile design options thanks to various angles and caps

106

Section **2**

5 Angle Bracket Sets

- Additional hold without profile machining for load-bearing supports
- Wide selection ranging from simple angle brackets to heavy-duty anchor points
- Models with caps for a closed look and easy cleaning

94

Section **2**

6 T-Slot Nuts

- For fastening components
- Suitable for appropriate profile size
- Versions with different load-carrying capacities as required for specific applications

136

Section **3**

7 Butt fasteners

- For extending profiles
- Simple end-face connections
- Also suitable for use with mitre cuts

125

Section **2**

8 Parallel fasteners

- Connect parallel profiles to make an exceptionally stable unit
- Available in various sizes and strengths
- Connection Profiles for extremely strong struts

130

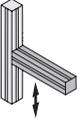
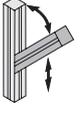
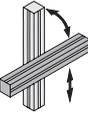
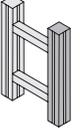
Section **2**

Key:  See page

0 Products in this section

0 Products in other sections

Overview – finding the right fastener fast

Configuration	Application	Product
Right-angled profile connections		
	Extremely rapid and repositionable profile connections with no machining	Automatic-Fastening Sets  79
	High-strength and repositionable screw connections with minimal assembly requirements	Universal-Fastening Sets  82
	Cost-effective and fixed connection	Standard-Fastening Sets  85
	Flexible and rapid construction of frames for panel elements	Central-Fastening Sets  91
	Rapid profile connection with simple angle adjustment system	Click-Fastening Set 90°  92
	The fastest profile connection – put in place, tighten and it holds	Automatic Angle Bracket Sets  94
	Right-angled profile connections at any angle of rotation	Direct-Fastening Set 90°  93
	Extra hold for load-bearing support profiles without additional profile machining	Angle Bracket Zn  96
	Simple connection of three profiles to form one corner unit	Corner Fastening Sets  106
Connections at various angles		
	Construction of load-carrying latticework and supporting struts at a 45° angle	Angle Elements  112
	Construction of fixable tool rails or load-carrying hinges	Hinges, heavy-duty  114
	Permanent swivel capability and secure connection	Ball-Bearing Hinge  116
	Easily adjustable fastening for lightweight attachments	Ball joint  117
	Movable profile connections at any angle	Mitre-Fastening Sets  118
Cross-profile connections		
	Power-lock connection between profiles that cross	Direct-Fastening Sets  119
	Rapid fixing of struts at any (variable) position with minimal assembly requirements	Click-Fastening Sets  120
	Cost-effective angled fixing	Face Fastening Set  121
	Secure and fixed connection between profiles that cross	Angle Clamp Brackets  123
	Shelves with high load-carrying capacity and extremely easy-to-use angle adjustment system	Angle Locking Bracket  124
Butt fasteners for extending lengths		
	High load-carrying capacity with average machining requirements	Universal-Butt-Fastening Sets  127
	Medium load-carrying capacity with no profile machining	Automatic Butt-Fastening Sets  125
	Fastening mitre-cut profiles to frames	Mitre-Butt-Fastening Sets  129
Parallel fasteners for adjoining profiles		
	Gap-free assembly with moderate profile machining	Central-Fastening Sets  130
	Partition assembly with small gaps and no profile machining	Parallel-Fastening Sets  131
	Strong, continuous struts for profile constructions with exceptional load-carrying capacity	Connecting Profiles  132



Note:

Technical data on fastening technology can be found in Section 19.

In addition to fasteners for profiles, the catalogue also contains additional fastening elements:

- T-Slot Nuts – for universal fastening to the profile groove Section 3
- Panel Fasteners – for installing panels in profile constructions Section 5
- Floor elements – for fastening profiles to a floor or wall. Section 11

Fastening technology

Products in this section



Automatic-Fastening Sets

- No profile machining required
- For stable, repositionable connections

79



Universal-Fastening Sets

- For stable, repositionable connections
- Minimal assembly requirements

82



Standard-Fastening Sets

- For a fixed profile connection
- Outstanding resistance to displacement and torsion

85



Automatic-Fastening Sets 8 N

- For profiles with closed grooves
- Surfaces stay easy to clean

89



Central-Fastening Sets

- For building frames for panel elements
- Repositionable connection with a stand profile

91



Click-Fastening Set 8 90°

- Connect profiles at any angle of rotation
- Ideal for prototypes and temporary structures

92



Direct-Fastening Set 8 90°

- Right-angled connection at any angle of rotation
- Power-locking profile connection

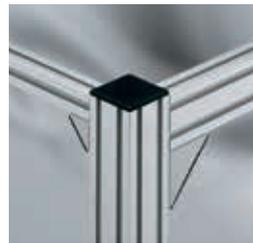
93



Automatic flat and angle bracket sets

- Preassembled and ready for immediate use
- Holds straight away with no profile machining

94



Angle Brackets

- Reinforcement for profile connections
- Power-lock connection with no profile machining

96



Diagonal Strut Set 8

- Complete package for supporting profiles
- Smooth surface

105



Corner Fastening Sets

- Connect three profiles to form one corner unit
- Stylish covers in various shapes

106



Angle Elements

- Latticework reinforcement for profile constructions
- Profile connection at a 45° angle

112



Hinges, heavy-duty

- Stable connection at any angle of adjustment from 0° to 180°
- Clamp lever enables rapid adjustment

114



Ball-Bearing Hinge 8 40x40

- Enables movement through up to 180°
- Wear-resistant and robust

116



Ball Joint 8

- Two-dimensional pivoting
- Available with optional clamp lever for rapid adjustment

117



Mitre-Fastening Sets

- At any angle from 30° to 90°
- The profile groove stays free to accommodate panel elements

118



Click-Fastening Set 8

- For fitting profiles that cross at any position
- For assembling struts quickly, no machining required

120



Face Fastening Set 8

- Toothed fastener for inclined working and storage surfaces
- Angle adjustment in 5° increments

121



Angle Hinge Brackets, Angle Clamp Brackets

- Simple fixing for profiles that cross
- Angle adjustment via Angle Clamp Bracket

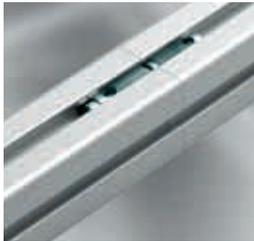
122



Angle Locking Bracket 8 80x40

- Angular adjustment without tools
- Secure, rigid connection

124



Butt-Fastening Sets

- Connect identical profiles via their end faces
- No profile machining necessary

125



Mitre-Butt-Fastening Sets

- Connect two profiles with the same mitre angle
- Overall angle of 60° to 180° possible

129



Central-Fastening Set P 8

- Connect two parallel Profiles 8
- Flush connection for partitioning and room dividers

130



Parallel Fastener

- Connect two parallel Profiles 8
- No machining required
- Easy to use thanks to snap-in function

131



Connecting Profiles

- Simple engineering for stable composite profiles
- For open and closed supports
- No machining required

132



Pin Elements

- Additional rigidity from dowel pin
- Excellent resistance against impact and overload

134



Note:

Technical data on fastening technology can be found in Section 19.



Automatic-Fastening Sets

The fastest and most flexible profile connection

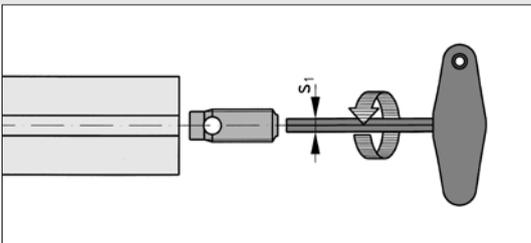
- No additional profile machining required
- For a profile connection that is stable and can also be repositioned
- Outstanding resistance to displacement, torsion and deflection



The Automatic-Fastening Set is an innovative solution for power-lock connections between profiles. Because no profile machining is required, it can be fitted quickly and easily. Due to the special design of the fasteners in the set, screw connections are all that is needed to fix them in place. They can be retrofitted to structures and repositioned in a matter of moments.

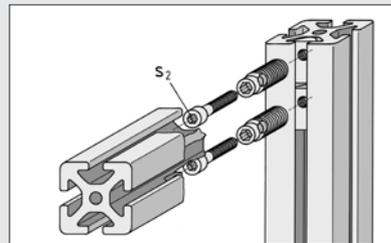
Automatic Fasteners can withstand the heaviest loads. A stainless steel version is also available for special requirements.

The Automatic-Fastening Set ensures that design engineers benefit from maximum design flexibility without having to compromise on stability.

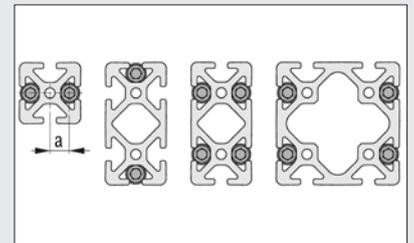


The Fastener is screwed into a profile groove in the end face, the thread being cut automatically. Use of a lubricant is recommended.

Note: All Fasteners with a through bore for the fastening screw have a counter-clockwise thread on the outside in order to prevent the Fastener twisting when the screw is tightened.



L-Keys from item are the ideal tool for tightening the screws of the Automatic-Fastening Set (tightening torque M).

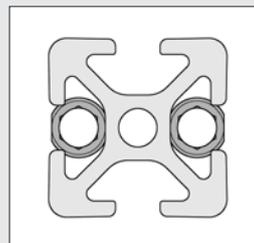


Automatic-Fastening Sets should always be used in pairs.

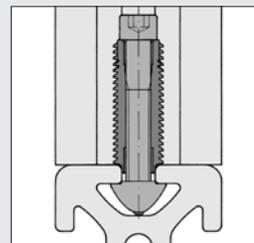
Automatic Fasteners with a double T-Slot Nut are available as complete sets to enable rapid installation in pairs. They make it easier to position the T-Slot Nuts and speed up the installation process.

Automatic-Fastening Set

	5	6	8	10	12
a [mm]	6.8	9.5	13.2	16.2	19.5
s ₁	4 A/F	5 A/F	6 A/F	8 A/F	8 A/F
s ₂	3 A/F	4 A/F	5 A/F	5 A/F	6 A/F



Automatic-Fastening Set 5 should be inserted so that the flattening on the thread is flush with the outer edge of the profile.

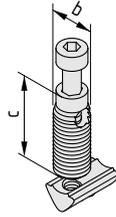


Automatic-Fastening Sets 6, 8, 10 and 12 also have an anti-torsion feature. Once the profile has been pre-assembled, this feature can be deployed by unscrewing the fastener sufficiently so that the end of it projects into the profile groove.



A special version of the Automatic-Fastening Set is available for Profile 8 with closed grooves (which can be opened up).

Automatic-Fastening Set 8 N 89



The following applies to all the sets below:

Automatic Fastener, St
Hexagon Socket Head Cap Screw, St
T-Slot Nut St

Automatic-Fastening Set 5				5
b = 7 mm	c = 24 mm	$M_{bz-p} = 2.5 \text{ Nm}$	m = 8.0 g	
bright zinc-plated, 1 set				0.0.391.60
Automatic-Fastening Set 5				5
b = 7 mm	c = 24 mm	$M_{stainl.} = 2.5 \text{ Nm}$	m = 8.0 g	
stainless, 1 set				0.0.437.46
Automatic-Fastening Set 6				6
b = 10 mm	c = 27 mm	$M_{bz-p} = 8.0 \text{ Nm}$	m = 18.0 g	
bright zinc-plated, 1 set				0.0.419.71
Automatic-Fastening Set 6				6
b = 10 mm	c = 27 mm	$M_{stainl.} = 6.5 \text{ Nm}$	m = 18.0 g	
stainless, 1 set				0.0.441.67
Automatic-Fastening Set 8				8
b = 12 mm	c = 31 mm	$M_{bz-p} = 14 \text{ Nm}$	m = 35.0 g	
bright zinc-plated, 1 set				0.0.388.08
Automatic-Fastening Set 8				8
b = 12 mm	c = 31 mm	$M_{stainl.} = 11 \text{ Nm}$	m = 35.0 g	
stainless, 1 set				0.0.440.58
Automatic-Fastening Set 10				10
b = 15 mm	c = 39 mm	$M_{bz-p} = 25 \text{ Nm}$	m = 69.5 g	
bright zinc-plated, 1 set				0.0.624.74
Automatic-Fastening Set 12				12
b = 18 mm	c = 47 mm	$M_{bz-p} = 34 \text{ Nm}$	m = 125.0 g	
bright zinc-plated, 1 set				0.0.003.50



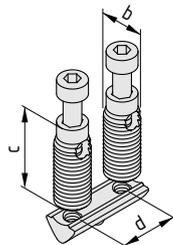
The Automatic Fasteners with double T-Slot Nut come in complete sets for the Line 8 groove (suitable for profile widths of 40 and 80 mm), Line 6 groove (profile widths of 30 and 60 mm) and Line 5 groove (profile width of 20 mm).

The following applies to all the sets below:

2 Automatic Fasteners, St, bright zinc-plated

2 Hexagon Socket Head Cap Screws, St, bright zinc-plated

T-Slot Nut, St, bright zinc-plated



Automatic-Fastening Set 5 20

b = 7 mm c = 24 mm d = 13.6 mm M = 2.5 Nm m = 18.0 g

1 set

0.0.672.88

Automatic-Fastening Set 6 30

b = 10 mm c = 27 mm d = 19 mm M = 8 Nm m = 39.0 g

1 set

0.0.672.86

Automatic-Fastening Set 6 60

b = 10 mm c = 27 mm d = 49 mm M = 8 Nm m = 49.0 g

1 set

0.0.672.87

Automatic-Fastening Set 8 40

b = 12 mm c = 31 mm d = 26.4 mm M = 14 Nm m = 60.4 g

1 set

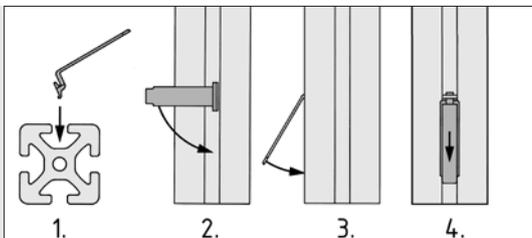
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Automatic-Fastening Set 8 80

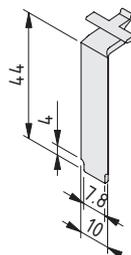
b = 12 mm c = 31 mm d = 66.4 mm M = 14 Nm m = 81.5 g

1 set

0.0.672.85



A cover is available for Automatic-Fastening Set 8. It is fitted after the fastening has been installed.



Automatic-Fastening Set 8 Cap

8

PA-GF
m = 0.7 g

black similar to RAL 9005, 1 pce.

0.0.388.66

grey similar to RAL 7042, 1 pce.

0.0.616.31



Universal-Fastening Sets

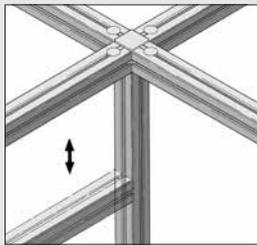
The high-strength and flexible profile connection

- For a profile connection that is stable and can also be repositioned
- Outstanding resistance to displacement, torsion and deflection
- Minimal assembly requirements – just one hole to cut

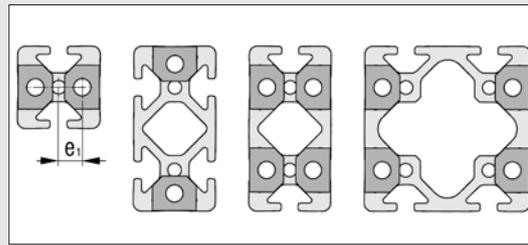
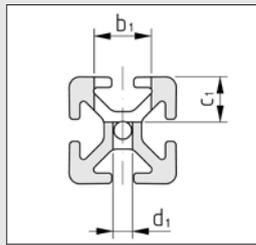
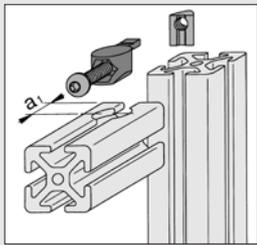


When it comes to creating flexible and strong profile connections, the Universal-Fastening Sets from item are an excellent choice. They are anchored via a single hole cut into one profile, while the fastening in the second profile can be repositioned at any time. As a result, they can also be installed in existing constructions.

Universal Fasteners made from cast stainless steel are exceptionally resistant to strong forces, changes in temperature and vibrations. They are also ideal for use in outdoor areas and cleanrooms.



Where required, the anti-torsion pin of the Universal Fastener can be broken off at a specified breakpoint. This Universal-Fastening Set can thus also be used to secure profiles to e.g. panels.



Universal-Fastening Sets should always be used in pairs.

Universal-Fastening Set

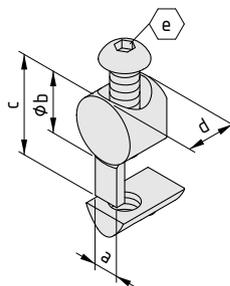
	5	6	8	10	12
a_1	10.0 mm	15.0 mm	20.0 mm	25.0 mm	30.0 mm
b_1	∅ 12.0 mm	∅ 16.0 mm	∅ 20.0 mm	∅ 25.0 mm	∅ 30.0 mm
c_1	8.5 mm	12.7 mm	16.0 mm	20.0 mm	24.0 mm
d_1	∅ 4.3 mm	∅ 5.5 mm	∅ 7.0 mm	∅ 9.0 mm	∅ 12.0 mm
e_1	5.8 mm	8.7 mm	12.0 mm	15.1 mm	17.8 mm

The following applies to all the sets below:

Universal Fastener, die-cast zinc

Screw, St

T-Slot Nut, St



Universal-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M_{bz-p} [Nm]	m [g]	
5	12	17.2	8.5	3	3	7.0	
bright zinc-plated, 1 set							0.0.370.27

Universal-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	$M_{stainl.}$ [Nm]	m [g]	
5	12	17.2	8.5	3	2.4	7.0	
stainless, 1 set							0.0.437.52

Universal-Fastening Set 6 						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{bz-p} [Nm]	m [g]
6.2	16	25.2	12.6	4	8	18.0
bright zinc-plated, 1 set						0.0.419.52

Universal-Fastening Set 6 						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{stainl.} [Nm]	m [g]
6.2	16	25.2	12.6	4	6.5	18.0
stainless, 1 set						0.0.441.74

Universal-Fastening Set 8 						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{bz-p} [Nm]	m [g]
8	20	33.5	16	5	25	41.0
bright zinc-plated, 1 set						0.0.026.92

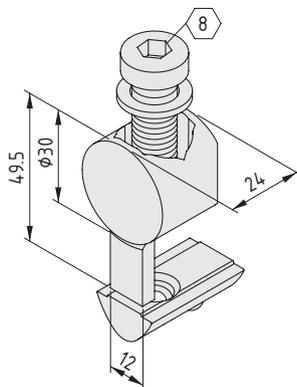
Universal-Fastening Set 8 						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{stainl.} [Nm]	m [g]
8	20	33.5	16	5	20	41.0
stainless, 1 set						0.0.444.18

Universal-Fastening Set 8 St 						
Universal Fastener St, stainless						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{bz-p} [Nm]	m [g]
8	20	32.5	16	5	25	45.0
bright zinc-plated, 1 set						0.0.488.60

Universal-Fastening Set 8 St 						
Universal Fastener St, stainless						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{stainl.} [Nm]	m [g]
8	20	32.5	16	5	20	45.0
stainless, 1 set						0.0.488.51

Universal-Fastening Set 10 						
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	M _{bz-p} [Nm]	m [g]
10	25	41	20	6	46	97.4
bright zinc-plated, 1 set						0.0.632.07

Universal-Fastening Set 12 						
Universal Fastener 12, die-cast zinc						
Hexagon Socket Head Cap Screw DIN 7984-M12x45, St						
Washer DIN 433-13, St						
T-Slot Nut 12 St M12						
M _{bz-p} = 60 Nm m = 155.0 g						
bright zinc-plated, 1 set						0.0.003.57





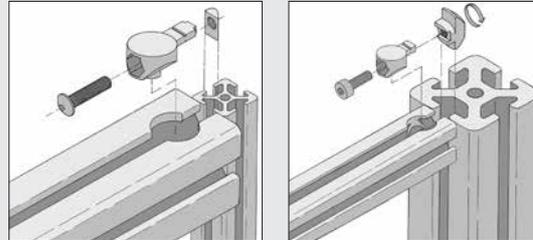
Universal-Fastening Sets 5/8 and 8/5

- For connecting together profiles from Lines 5 and 8
- Suitable for retrofitting and repositionable

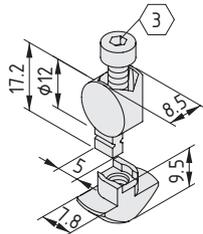


For universal power-lock interconnection of Profiles 5 and Profiles 8. Suitable for profiles which need to be moved subsequently, since only one profile is processed. These Fastening Sets can be installed easily into existing constructions.

Connection processing of the profiles is the same as for the Universal-Fastening Sets.



Universal-Fastening Sets should always be used in pairs. Where required, the anti-torsion pin of the Universal Fastener can be broken off at a specified breakpoint.



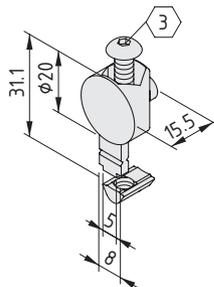
Universal-Fastening Set 5/8



Universal Fastener 5, die-cast zinc
Hexagon Socket Head Cap Screw DIN 912-M4x18, St
Special T-Slot Nut 8 Zn M4
 $M_{bz,p} = 3 \text{ Nm}$ $m = 9.0 \text{ g}$

bright zinc-plated, 1 set

0.0.370.34



Universal-Fastening Set 8/5



Universal Fastener 8/5, die-cast zinc
Button-Head Screw ISO 7380-M5x25, St
T-Slot Nut 5 St M5
 $M_{bz,p} = 3 \text{ Nm}$ $m = 18.0 \text{ g}$

bright zinc-plated, 1 set

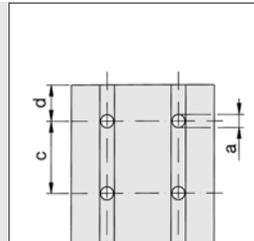
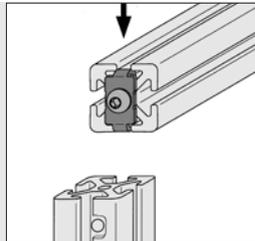
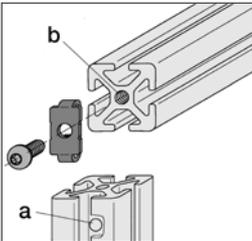
0.0.370.25



Standard-Fastening Sets

Stable, fixed screw connection for profiles

- For a fixed profile connection
- Outstanding resistance to displacement and torsion



The necessary thread is tapped directly into the core bore of the profiles.

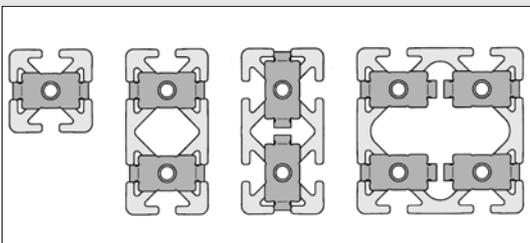
Position of the through holes for the key.

Standard-Fastening Set ESD is used in the same way as a conventional Standard-Fastening Set. The special design of the fastening screw partially destroys the insulating anodized layer on the profile groove and creates an electrical contact between the connected profiles.

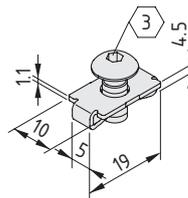
For better identification, fastening elements ESD are given a yellow passivation layer in compliance with Directive 2002/95/EC ("RoHS").

Standard-Fastening Set

	5	6	8	8 E	10	12
a	∅ 4.3 mm	∅ 5.5 mm	∅ 7 mm	∅ 7 mm	∅ 9 mm	∅ 11.5 mm
b	M5 12 mm deep	M6 15 mm deep	M8 18 mm deep	-	M10 22 mm deep	M12 30 mm deep
c	20 mm	30 mm	40 mm	40 mm	50 mm	60 mm
d	10 mm	15 mm	20 mm	20 mm	25 mm	30 mm



The standard connecting plates can be arranged to match the way in which the profiles are fitted. Large profiles with high load-bearing capabilities can be connected using a larger number of Standard Fasteners.



Standard-Fastening Set 5



Standard connecting plate 5, St
Special Button-Head Screw similar to ISO 7380-M5x12, St
 $M_{bzp} = 4.5 \text{ Nm}$ $m = 4.0 \text{ g}$
bright zinc-plated, 1 set

0.0.370.08

Standard-Fastening Set 5



$M_{stainl.} = 3.6 \text{ Nm}$ $m = 4.0 \text{ g}$
stainless, 1 set

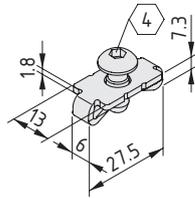
0.0.437.49

Standard-Fastening Set 5 ESD



$M_{bzp} = 4.5 \text{ Nm}$ $m = 4.0 \text{ g}$
bright zinc-plated, 1 set

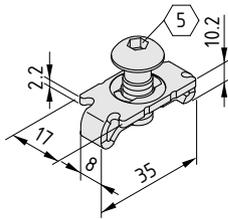
0.0.612.14



Standard-Fastening Set 6	6
Standard connecting plate 6, St Special Button-Head Screw similar to ISO 7380-M6x14, St $M_{bz-p} = 10 \text{ Nm}$ $m = 9.0 \text{ g}$	
bright zinc-plated, 1 set	0.0.419.14

Standard-Fastening Set 6	6
$M_{stainl.} = 8 \text{ Nm}$ $m = 9.0 \text{ g}$	
stainless, 1 set	0.0.439.10

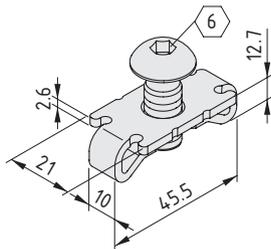
Standard-Fastening Set 6 ESD	ESD 6
$M_{bz-p} = 10 \text{ Nm}$ $m = 9.0 \text{ g}$	
bright zinc-plated, 1 set	0.0.612.04



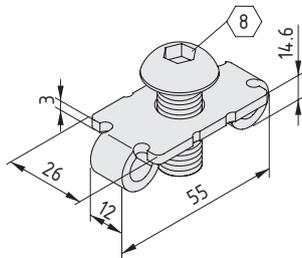
Standard-Fastening Set 8	8
Standard connecting plate 8, St Special Button-Head Screw similar to ISO 7380-M8x20, St $M_{bz-p} = 25 \text{ Nm}$ $m = 21.0 \text{ g}$	
bright zinc-plated, 1 set	0.0.026.07

Standard-Fastening Set 8	8
$M_{stainl.} = 20 \text{ Nm}$ $m = 21.0 \text{ g}$	
stainless, 1 set	0.0.388.79

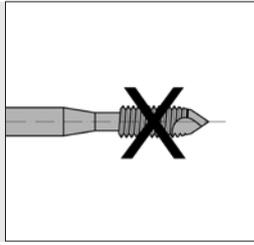
Standard-Fastening Set 8 ESD	ESD 8
$M_{bz-p} = 25 \text{ Nm}$ $m = 21.0 \text{ g}$	
bright zinc-plated, 1 set	0.0.610.11



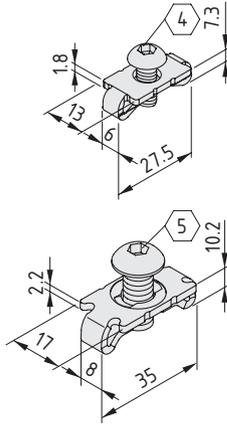
Standard-Fastening Set 10	10
Standard connecting plate 10, St Special Button-Head Screw similar to ISO 7380-M10x25, St $M_{bz-p} = 46 \text{ Nm}$ $m = 43.2 \text{ g}$	
bright zinc-plated, 1 set	0.0.625.08



Standard-Fastening Set 12	12
Standard connecting plate 12, St Special Button-Head Screw similar to ISO 7380-M12x30, St $M_{bz-p} = 80 \text{ Nm}$ $m = 70.0 \text{ g}$	
bright zinc-plated, 1 set	0.0.003.35



For connections with slightly reduced loading, Standard-Fastening Set E with a self-threading special screw which further reduces the machining requirement.



Standard-Fastening Set 6 E



Standard connecting plate 6, St
Self-tapping Button-Head Screw, head similar to ISO 7380-M5.4x14, St, bright zinc-plated

$M_{bz-p} = 10 \text{ Nm}$ $m = 9.0 \text{ g}$

bright zinc-plated, 1 set

0.0.648.65

Standard-Fastening Set 8 E



Standard connecting plate 8, St
Self-threading, Button-Head Screw, head shape similar to ISO 7380-M7.3x20, St
 $M_{bz-p} = 20 \text{ Nm}$ $m = 20.0 \text{ g}$

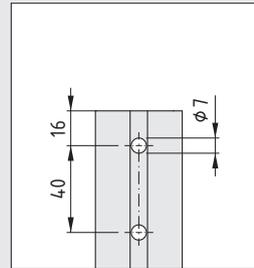
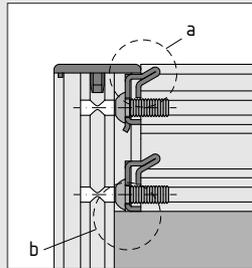
bright zinc-plated, 1 set

0.0.421.75

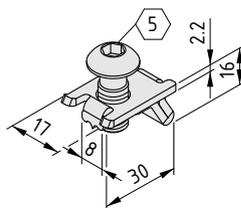


Standard-Fastening Set 8, one-sided has a modified centring feature that allows users to offset profiles. This means that right-angled profile connections can be achieved with a flush fit that factors in Caps (a). Furthermore, because the anti-torsion feature is located

on just one side, the internal grooves are left clear. This means that panel elements can be inserted into the grooves without having to trim the corners first (b).



Position of the through holes for the key.



Standard-Fastening Set 8, one-sided



Standard connecting plate 8, one-sided, St, bright zinc-plated
Special Button-Head Screw similar to ISO 7380 M8x20, St, bright zinc-plated
 $M = 25 \text{ Nm}$ $m = 19.0 \text{ g}$

1 set

0.0.672.99

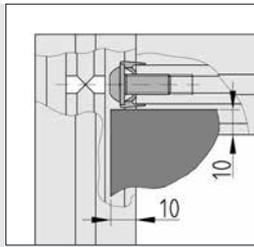
Standard-Fastening Set 8 ESD, one-sided



Standard connecting plate 8, one-sided, St, bright zinc-plated
Special Button-Head Screw similar to ISO 7380 M8x20, St, bright zinc-plated
 $M = 25 \text{ Nm}$ $m = 19.0 \text{ g}$

1 set

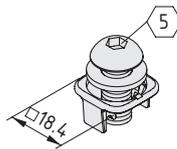
0.0.673.00



Standard-Fastening Set 8 K is a special version of the proven Standard-Fastening Set. It is employed for right-angled connection of Line 8 Profiles in which the profile grooves are used for holding panel elements.

Panel elements can be slid into the profile groove without needing cutouts in the corners.

We recommend that panel elements be inserted to a depth of 10 mm into a Profile 8 groove.



Standard-Fastening Set 8 K



- Spacer, POM, black
- Washer ISO 7089-8, St, bright zinc-plated
- Button-Head Screw ISO 7380-M8x20, St, bright zinc-plated
- M = 25 Nm m = 11.0 g

1 set 0.0.488.07

Standard-Fastening Set 8 K ESD



- Spacer, POM, black
- Washer D9/D16-1.6, St, bright zinc-plated
- Button-Head Screw M8x20 ESD, St, bright zinc-plated
- M = 25 Nm m = 11.0 g

1 set 0.0.625.33

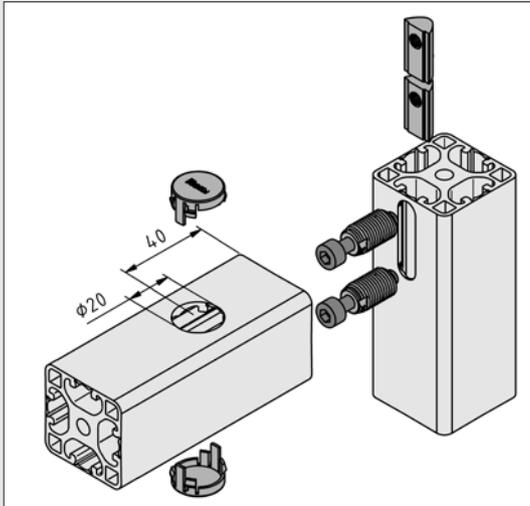


Automatic-Fastening Set 8 N

- For rectangular profiles with closed grooves
- Surfaces stay easy to clean

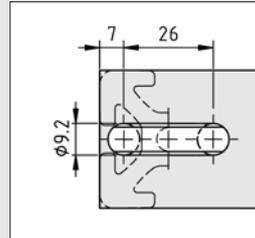


Special form of the Automatic-Fastening Set for installation in profiles with closed grooves. The groove is opened as shown below.

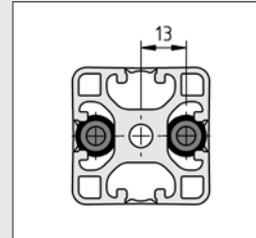


The fastener is located inside the profile cavity. To access the fastening screw just drill a hole into the profile. The grey Cap is used to close the hole.

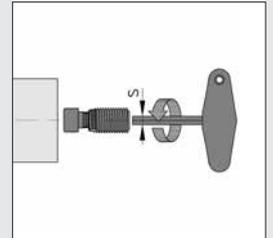
A T-Slot Nut is inserted into the groove in the second profile and forms the counterpart for the Automatic Fastener screw. If this groove in the second profile is also closed, the T-Slot Nut must be inserted from either the profile's end face or through a larger opening in the groove cover created beforehand.



Opening the closed groove of a Line 8 Profile in order to insert the T-Slot Nuts of two Automatic-Fastening Sets 8 N.



Automatic-Fastening Sets should always be used in pairs.



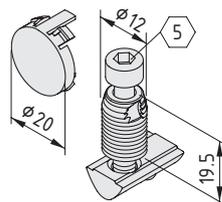
s = 6 A/F



Note:

A special 5 A/F N L-Key is available for tightening the screw connection of Automatic-Fastening Sets 8 N.

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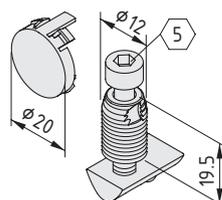


Automatic-Fastening Set 8 N

Automatic Fastener 8 N, St, black
 Cap, PA grey
 Hexagon Socket Head Cap Screw M6x30, St, bright zinc-plated
 T-Slot Nut V 8 St M6, bright zinc-plated
 M = 14 Nm m = 27.0 g

bright zinc-plated, 1 set

0.0.489.96



Automatic-Fastening Set 8 N

Automatic Fastener 8 N, St, stainless
 Cap, PA grey
 Hexagon Socket Head Cap Screw M6x30, St, stainless
 T-Slot Nut 8 St M6, stainless
 M = 11 Nm m = 29.0 g

stainless, 1 set

0.0.669.05



Automatic-Fastening Set 8 N D40

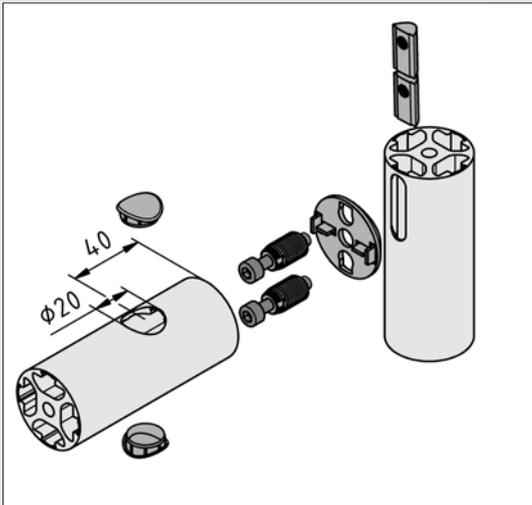
- Connect cylindrical Profiles 8 D40
- Suitable for open and closed grooves



Automatic-Fastening Set 8 N D40 can be used for connecting Profiles 8 D40 to other Profiles 8 D40 or – if an Adapter 8 D40 is used – to Profiles 8 with rectangular cross-sections.

When used with Profiles 8 that have closed grooves, a hole with a diameter of 20 mm must be cut into the profile, 40 mm from the profile end face, for the fastening screw.

However, when used with profiles that have open grooves, there is no need to machine the profiles. The self-tapping Automatic Fastener is simply driven into the profile groove from the end face.



Automatic-Fastening Set 8 N D40 can be used to connect Profiles 8 with both open and closed grooves (where designed for opening). To cover the mounting bore in the side face of profiles with closed grooves, Automatic-Fastening Set 8 N D40 contains Caps for Profiles 8 with rectangular and round cross-sections. Depending on the profile attached, the Cap with a rounded or flat outer contour will be used. In the case of Profiles 8 with open grooves, no bore is needed. Consequently, the Caps are not required in this instance.

The length of the screw in Automatic-Fastening Set 8 N D40 is matched to the thickness of Adapter 8 D40. The full length of the thread is therefore available in order to ensure that the maximum fastening force is applied.

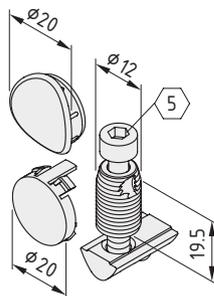
Adapter 8 D40 111



Note:

A special 5 A/F N L-Key is available for tightening the screw connection of Automatic-Fastening Sets 8 N.

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Automatic-Fastening Set 8 N D40

Automatic Fastener 8 N, St, black
 2 caps, PA grey
 Hexagon Socket Head Cap Screw M6x32, St, bright zinc-plated
 T-Slot Nut V 8 St M6, bright zinc-plated
 M = 14 Nm m = 28.5 g

1 set

0.0.493.91



Central-Fastening Sets

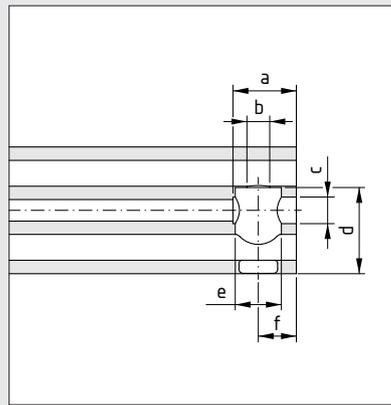
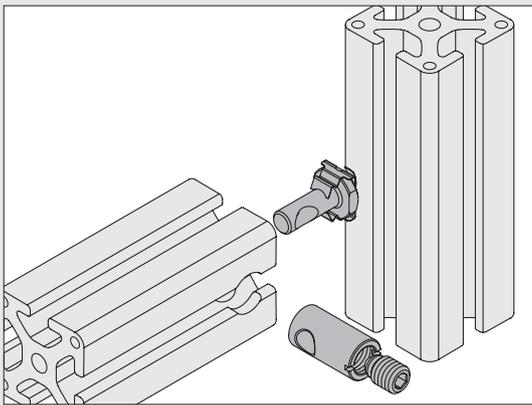
- For building frames for panel elements
- Flexible connection with a stand profile
- Medium resistance to displacement



The Central-Fastening Set connects profiles at right angles to each other and leaves the grooves that are facing each other completely free. This is useful when the profile

grooves are to accommodate a panel element. It eliminates the need to specially machine the corner areas of the panel element, which

instead can be inserted directly into the grooves.



The profile to be connected via its end face needs to be machined before the Central-Fastening Set can be used.

The hole to accommodate Central-Fastening Set 8 should be produced with Step Drill D14.2 (0.0.492.60).

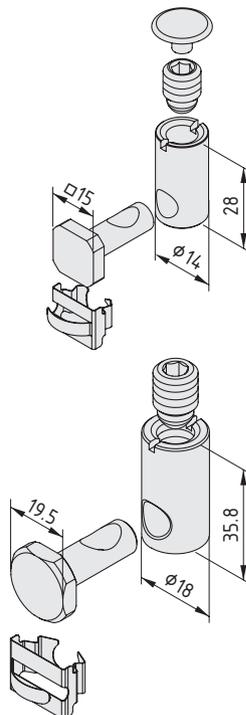
The hole to accommodate Central-Fastening Set 10 should be produced with Step Drill D18.2 (0.0.632.75).

Due to the reduced clamping force and the lack of any anti-torsion feature between the profiles, this fastening set should only be used in combination with panel elements in the profile groove and only for profile connections subject to low loads. Where more stringent requirements need to be satisfied and parts are important for safety considerations, it is advisable to use the proven fastening techniques for basic constructions (Standard-Fastening, Universal-Fastening or Automatic-Fastening Sets).

Central-Fastening Set

	a	b	c	d	e	f
8	20 mm	∅ 7 mm	∅ 8.2 mm	26.7 mm	∅ 14.2 mm	12/11 mm*
10	25 mm	∅ 9 mm	∅ 10.5 mm	34 mm	∅ 18.2 mm	15 mm

* When using Radius Seals in combination with Central-Fastening Set 8, the distance between the hole and the end face of the profile should be reduced from 12 mm to 11 mm.



Central-Fastening Set 8



Clamping pin, St, bright zinc-plated
Clamping spring, St, stainless
Sleeve with bore, St, bright zinc-plated
Grub screw M10, St, bright zinc-plated
Cap, PA grey
M = 15 Nm m = 42.0 g

1 set

0.0.494.15

Central-Fastening Set 10



Clamping pin, St, bright zinc-plated
Spring element, St, stainless
Sleeve with bore, St, bright zinc-plated
Grub screw M12, St, bright zinc-plated
M = 22 Nm m = 87.0 g

bright zinc-plated, 1 set

0.0.632.74

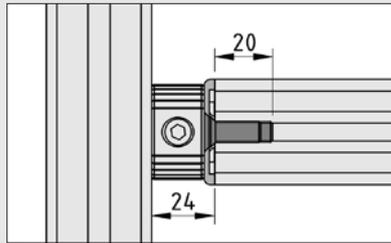
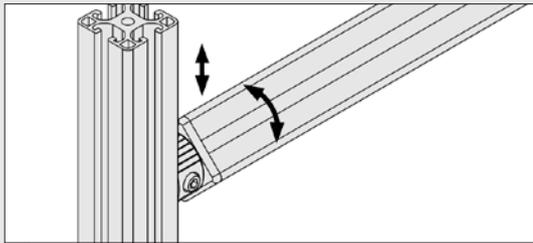


Click-Fastening Set 8 90°

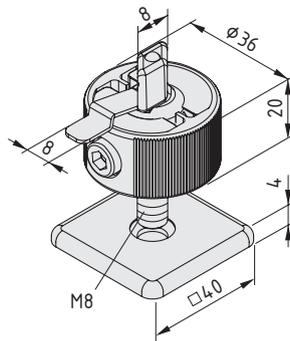
- For simple and flexible constructions
- Connect profiles at any angle of rotation
- Repositionable
- Ideal for prototypes and temporary structures



One click and it's ready – it really can be that easy to fit a strut. The practical Click Fastening Set connects together profiles at any point and at virtually any angle of rotation. Profile sections can be easily added to existing constructions and used as reusable, variable struts. That makes the Click-Fastening Set particularly useful when building temporary structures. Modifications can also be made quickly and easily.



To use Click-Fastening Set 8 90°, the core bore of the Profile 8 connected via the end face must have an M8x20 tapped hole. In this case, the distance between the end face of the profile and the side of the second profile is 24 mm.



Click-Fastening Set 8 90°



- Clamping profile Al, natural
- Clamping elements, St, stainless
- Locking strip, St, stainless
- Hex. Socket Head Cap Screw M6x25, St, bright zinc-plated
- Tensioning screw M8, St, bright zinc-plated
- Cap 8 40x40, die-cast zinc, white aluminium
- m = 125.0 g

1 set

0.0.606.94

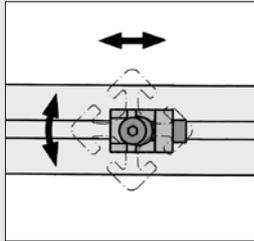


Direct-Fastening Set 8 90°

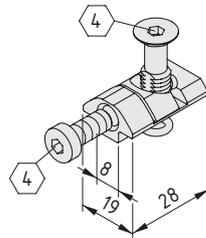
- Right-angled profile connections
- Connections possible at any angle of rotation



Direct-Fastening Set 8 90° is used for right-angled connection of Profiles 8. The profile can be secured at the end face and at any angle. The core bore must have an M8x18 thread.



Direct-Fastening Set 8 90° is particularly suitable when a repositionable connection is required with a profile that has one or more closed grooves and Universal or Automatic Fasteners cannot be used.



Direct-Fastening Set 8 90°



Fastener, die-cast steel
 Countersunk Screw M8x27, St
 O-ring, NBR, black
 Hexagon Socket Head Cap Screw DIN 7984-M6x14, St
 $M_{\text{stainl.}} = 5.5 \text{ Nm}$ $m = 30.0 \text{ g}$
 stainless, 1 set

0.0.388.67



Automatic flat and angle bracket sets

- Ready for use thanks to preassembled components
- Automatically fits into the profile groove
- Installed in seconds
- Holds straight away with no profile machining

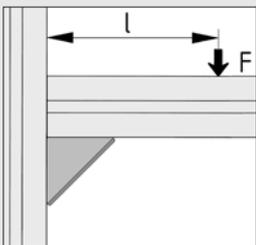


Automatic Angle Bracket Cap 8 is just as easy to fit – and to remove again, if required.

This ingenious accessory for keeping out dust and dirt can be pushed into place by hand and removed with ease using a screwdriver.



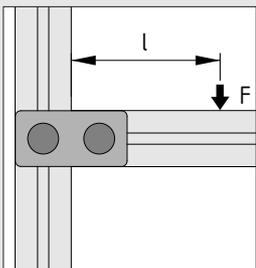
When using Automatic Flat Bracket Sets, caps cover the nuts, which are located on the outside of the construction.



Automatic Angle Bracket Set 8 40x40 Al	$F < 1,000 \text{ N} \wedge F \times l < 50 \text{ Nm}$
Automatic Angle Bracket Set 8 80x80 Al	$F < 2,000 \text{ N} \wedge F \times l < 150 \text{ Nm}$

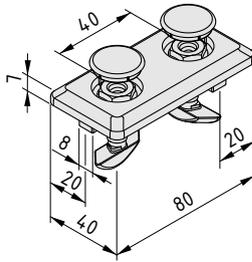
When used to reinforce the joints of large profiles or conduits, several Angle Brackets can be used in parallel.

Note: Ensure the maximum permissible tensile load on the Profile Groove is not exceeded!



Automatic Flat Bracket Set 8 40x40 Al	$F < 1,000 \text{ N} \wedge F \times l < 50 \text{ Nm}$
Automatic Flat Bracket Set 8 80x80 Al	$F < 2,000 \text{ N} \wedge F \times l < 150 \text{ Nm}$

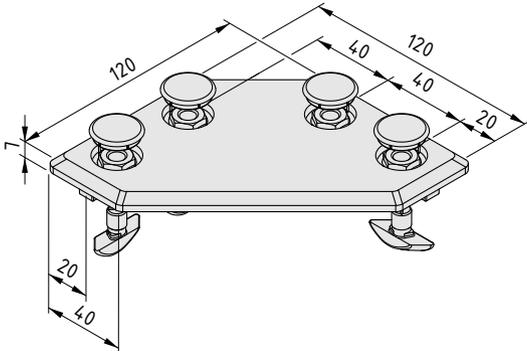
The load-carrying capacity is to be checked to ensure both conditions are met.

**Automatic Flat Bracket Set 8 80x40 Al**

Automatic flat bracket 8 80x40, die-cast Al, white aluminium similar to RAL 9006
 2 automatic T-slot screws M8x11, St, bright zinc-plated
 2 countersunk nuts M8x6, St, bright zinc-plated
 2 Caps 8 D20, PA-GF, grey similar to RAL 7042
 m = 88.0 g

1 set

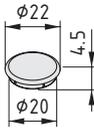
0.0.642.53

**Automatic Flat Bracket Set 8 120x120 Al**

Automatic flat bracket 8 120x120, die-cast Al, white aluminium similar to RAL 9006
 4 automatic T-slot screws M8x11, St, bright zinc-plated
 4 countersunk nuts M8x6, St, bright zinc-plated
 4 Caps 8 D20, PA-GF, grey similar to RAL 7042
 m = 257.0 g

1 set

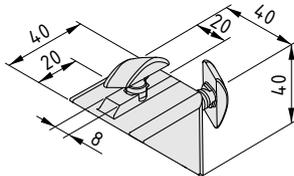
0.0.642.55

**Cap 8 D20**

PA-GF
 m = 1.0 g

grey similar to RAL 7042, 1 pce.

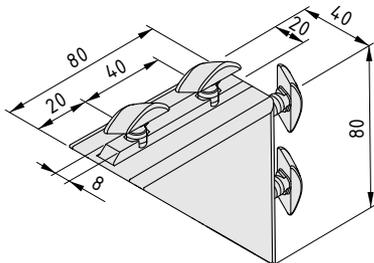
0.0.651.65

**Automatic Angle Bracket Set 8 40x40 Al**

Automatic angle bracket 8 40x40, die-cast Al, white aluminium similar to RAL 9006
 2 automatic T-slot screws M8x11, St, bright zinc-plated
 2 countersunk nuts M8x6, St, bright zinc-plated
 m = 87.0 g

1 set

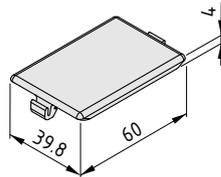
0.0.642.54

**Automatic Angle Bracket Set 8 80x80 Al**

Automatic angle bracket 8 80x80, die-cast Al, white aluminium similar to RAL 9006
 4 automatic T-slot screws M8x11, St, bright zinc-plated
 4 countersunk nuts M8x6, St, bright zinc-plated
 m = 208.0 g

1 set

0.0.642.56

**Automatic Angle Bracket Cap 8 40x40**

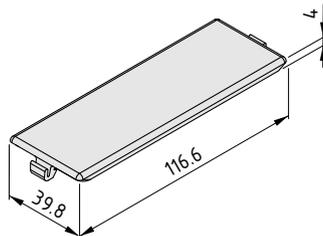
PA-GF
 m = 7.0 g

black similar to RAL 9005, 1 pce.

0.0.669.89

grey similar to RAL 7042, 1 pce.

0.0.669.28

**Automatic Angle Bracket Cap 8 80x80**

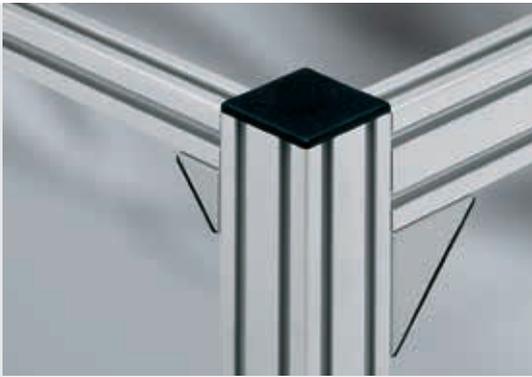
PA-GF
 m = 15.0 g

black similar to RAL 9005, 1 pce.

0.0.669.90

grey similar to RAL 7042, 1 pce.

0.0.669.88



Angle Bracket Zn

Simple, stable connection

- Reinforcement for profile connections
- Power-lock connection with no profile machining
- Can be retrofitted rapidly
- Products from Line X also available



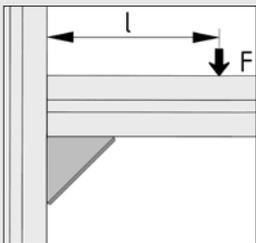
To ensure Angle Bracket installation is particularly straightforward, it is advisable to use the Angle Bracket Sets containing the corresponding screws and special washers.



Angle Brackets are ideal for connecting cable conduits. The rounded internal edge prevents damage to the cables.



Specially designed Angle Brackets X 8 are available for profile constructions built with Line X.



When used to reinforce the joints of large profiles or conduits, several Angle Brackets can be used in parallel.

Note: Ensure the maximum permissible tensile load on the Profile Groove is not exceeded!

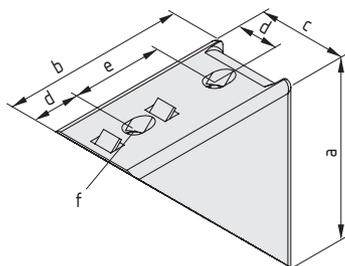
For Angle Brackets of Lines 6, 8 and 12, special square washers are used to improve the application of the clamping force.

Angle Bracket 5	20x20 Zn	$F < 250 \text{ N} \wedge F \cdot l < 5 \text{ Nm}$
Angle Bracket 5	40x40 Zn	$F < 500 \text{ N} \wedge F \cdot l < 25 \text{ Nm}$
Angle Bracket 6	30x30 Zn	$F < 500 \text{ N} \wedge F \cdot l < 12 \text{ Nm}$
Angle Bracket 6	60x60 Zn	$F < 1,000 \text{ N} \wedge F \cdot l < 36 \text{ Nm}$
Angle Bracket (X) 8	40x40 Zn	$F < 1,000 \text{ N} \wedge F \cdot l < 50 \text{ Nm}$
Angle Bracket (X) 8	80x80 Zn	$F < 2,000 \text{ N} \wedge F \cdot l < 150 \text{ Nm}$
Angle Bracket 8	160x80 Zn	$F < 2,000 \text{ N} \wedge F \cdot l < 150 \text{ Nm}$
Angle Bracket 10	50x50 Zn	$F < 1,500 \text{ N} \wedge F \cdot l < 75 \text{ Nm}$
Angle Bracket 10	100x100 Zn	$F < 3,000 \text{ N} \wedge F \cdot l < 200 \text{ Nm}$
Angle Bracket 12	60x60 Zn	$F < 2,000 \text{ N} \wedge F \cdot l < 100 \text{ Nm}$
Angle Bracket 12	120x120 Zn	$F < 4,000 \text{ N} \wedge F \cdot l < 250 \text{ Nm}$

The load-carrying capacity is to be checked to ensure both conditions are met.

Materials used in all the following products:

Die-cast zinc

**Angle Bracket 5 20x20 Zn**

5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
20	20	20	10	-	Ø5.3	14.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.425.03

Angle Bracket 5 40x40 Zn

5

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	20	10	20	Ø5.3	39.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.425.06

Angle Bracket 6 30x30 Zn

6

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
30	30	30	15	-	Ø6.6	47.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.419.63

Angle Bracket 6 60x60 Zn

6

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
60	60	30	15	30	Ø6.6	130.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.419.65

Angle Bracket 8 40x40 Zn

8

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
40	40	40	20	-	Ø8.2	119.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.411.24

Angle Bracket 8 80x80 Zn

8

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
80	80	40	20	40	Ø8.2	270.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.411.23

Angle Bracket 8 160x80 Zn

8

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
80	160	40	20	40	Ø8.2	530.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.436.23

Angle Bracket 12 60x60 Zn

12

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
60	60	60	30	-	Ø12.5	350.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.003.20

Angle Bracket 12 120x120 Zn

12

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
120	120	60	30	60	Ø12.5	900.0
white aluminium, similar to RAL 9006, 1 pce.						0.0.003.21

Angle Bracket	Art. No.
6 30x30	0.0.491.43
6 60x60	0.0.491.43
8 40x40	0.0.494.45
8 80x80	0.0.494.45
8 160x80	0.0.416.11

Angle Brackets should always be used with the appropriate washers.

Washer 10.5x10.5x1.3

St

m = 0.6 g

bright zinc-plated, 1 pce.

0.0.491.43

Washer 13.5x9x1

St

m = 0.6 g

bright zinc-plated, 1 pce.

0.0.416.11

Washer 13.9x13.9x2

St

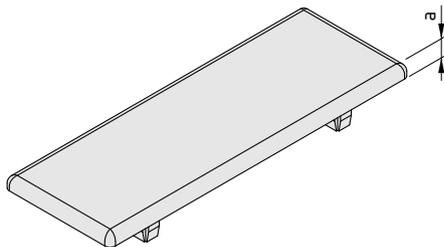
m = 1.7 g

bright zinc-plated, 1 pce.

0.0.494.45

Materials used in all the following products:

PA-GF


Angle Bracket Cap 5 20x20

a = 2.5 mm m = 1.0 g

black, 1 pce.

0.0.425.04

Angle Bracket Cap 5 40x40

a = 2.5 mm m = 3.0 g

black, 1 pce.

0.0.425.07

Angle Bracket Cap 6 30x30

a = 3.0 mm m = 4.0 g

black, 1 pce.

0.0.419.64

Angle Bracket Cap 6 60x60

a = 3.0 mm m = 7.0 g

black, 1 pce.

0.0.419.66

Angle Bracket Cap 8 40x40

a = 4.0 mm m = 6.0 g

black, 1 pce.

0.0.411.26

grey similar to RAL 7042, 1 pce.

0.0.627.57

Angle Bracket Cap 8 80x80

a = 4.0 mm m = 13.0 g

black, 1 pce.

0.0.411.25

grey similar to RAL 7042, 1 pce.

0.0.627.58

Angle Bracket Cap 8 160x80	
a = 4.0 mm m = 23.0 g	
black, 1 pce.	0.0.436.25
grey similar to RAL 7042, 1 pce.	0.0.627.59

Angle Bracket Cap 12 60x60	
a = 5.4 mm m = 20.0 g	
black, 1 pce.	0.0.005.06

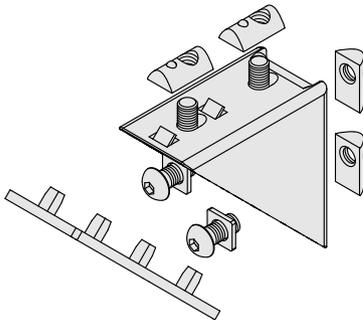
Angle Bracket Cap 12 120x120	
a = 5.4 mm m = 40.0 g	
black, 1 pce.	0.0.005.07

The following applies to all the sets below:

Angle Bracket Zn, die-cast zinc, RAL9006

Angle Bracket Cap, PA, black

Fastening elements and washers, St, bright zinc-plated



Angle Bracket Set 5 20x20	
m = 23.0 g	
1 set	0.0.425.02

Angle Bracket Set 5 40x40	
m = 58.0 g	
1 set	0.0.425.05

Angle Bracket Set 6 30x30	
m = 66.0 g	
1 set	0.0.419.67

Angle Bracket Set 6 60x60	
m = 166.0 g	
1 set	0.0.419.68

Angle Bracket Set 8 40x40	
m = 163.0 g	
1 set	0.0.411.15

Angle Bracket Set 8 80x80	
m = 360.0 g	
1 set	0.0.411.32

Angle Bracket Set 8 160x80	
m = 662.0 g	
1 set	0.0.436.24

Angle Bracket Set 12 60x60	
m = 520.0 g	
1 set	0.0.003.53

Angle Bracket Set 12 120x120	
m = 1.2 kg	
1 set	0.0.003.54

The following applies to all the sets below:

Angle Bracket Zn, die-cast zinc, RAL9006

Angle Bracket Cap, PA, grey

Fastening elements and washers, St, bright zinc-plated

Angle Bracket Set 8 40x40 

m = 176.0 g

1 set 0.0.670.11

Angle Bracket Set 8 80x80 

m = 414.0 g

1 set 0.0.670.12

Angle Bracket Set 10 50x50 

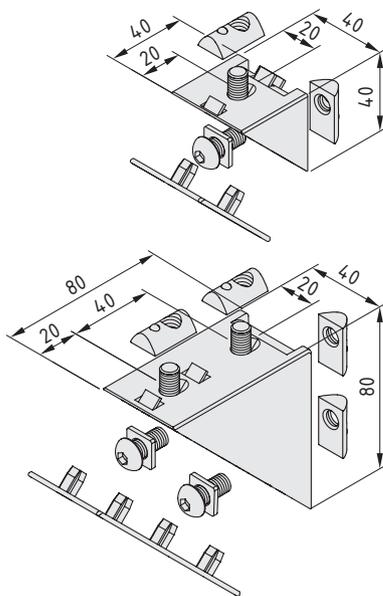
m = 335.0 g

1 set 0.0.625.23

Angle Bracket Set 10 100x100 

m = 826.0 g

1 set 0.0.625.26



Line 8 

Angle Bracket Set X 8 40x40 

m = 150.0 g

1 set 0.0.601.62

Angle Bracket Set X 8 80x80 

m = 360.0 g

1 set 0.0.601.61



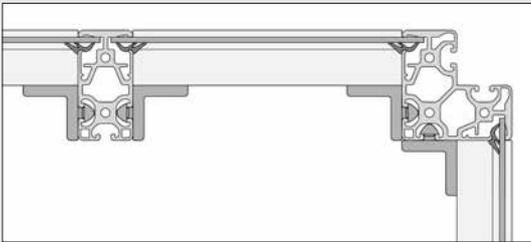
Angle Bracket V Zn

- Simple, torsion-resistant profile connections
- For medium loads
- No machining required



Angle Brackets V Zn are very easy-to-use fastening elements for right-angled profile connections. The profiles do not need to be processed. Angle Brackets V Zn have an anti-torsion feature which locates them in the correct position in the profile groove.

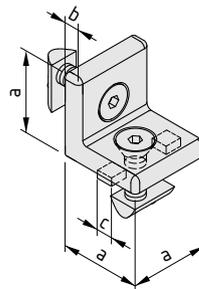
The integral anti-torsion lugs are present on one face only, so that the Brackets can also be used for fastening any other parts to profiles.



The Clamp Profiles light are connected using Angle Bracket V 8 40 Zn.

The following applies to all the sets below:

Angle Bracket, die-cast zinc, RAL 9006 white aluminium
2 T-Slot Nuts, St, bright zinc-plated
2 Countersunk Screws DIN 7991, St, bright zinc-plated



Angle Bracket V 5 20 Zn

5

a [mm]	b [mm]	c [mm]	m [g]
20	3	5	18.0

1 set

0.0.612.79

Angle Bracket V 6 30 Zn

6

a [mm]	b [mm]	c [mm]	m [g]
30	6	6	68.5

1 set

0.0.612.78

Angle Bracket V 8 40 Zn

8

a [mm]	b [mm]	c [mm]	m [g]
40	8	8	167.0

1 set

0.0.486.28



Angle Bracket Al and St

Maximum load-carrying capacity for large profile cross-sections

- Heavy-duty fastening elements for profiles
- For fastening heavy-duty components
- Power-lock connection with no profile machining

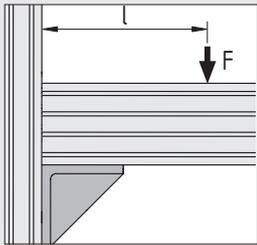


These Angle Brackets are heavy-duty fastening elements that produce power-lock, non-machined connections between large profiles. They can also be used as screw connections between profiles and floors or walls and for fastening heavy parts that are not part of the MB Building Kit System.

The Angle Brackets can be screwed to the profile with up to four Fastening Sets, according to requirements. They support the load-bearing component above them without the need for further machining.

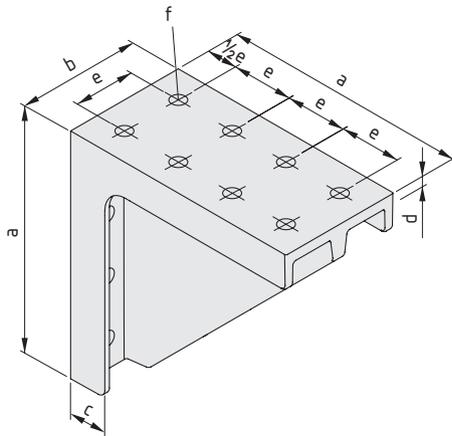


The substantial web gives the Angle Bracket its high load-carrying capacity but the screws are still readily accessible, thereby ensuring easy installation.



Angle Bracket 8 160x160-40 Al	$F < 4,000 \text{ N} \wedge F \times l < 400 \text{ Nm}$
Angle Bracket 8 160x160 Al	$F < 8,000 \text{ N} \wedge F \times l < 800 \text{ Nm}$
Angle Bracket 8 160x160 St	$F < 8,000 \text{ N} \wedge F \times l < 1,200 \text{ Nm}$
Angle Bracket 10 200x200-50 Al	$F < 5,000 \text{ N} \wedge F \times l < 500 \text{ Nm}$
Angle Bracket 12 240x240 Al	$F < 16,000 \text{ N} \wedge F \times l < 4,200 \text{ Nm}$

The load-carrying capacity is to be checked to ensure both conditions are met.



Angle Bracket 8 160x160 Al M8

Die-cast Al

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
160	80	24	7.5	40	Ø9	1.1
white aluminium, similar to RAL 9006, 1 pce.						0.0.602.36

Angle Bracket 8 160x160 St M8

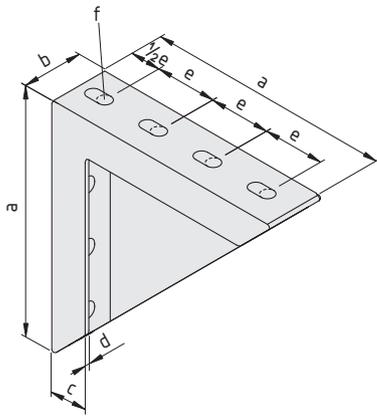
High-strength cast iron

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
160	80	24	7	40	Ø9	2.4
white aluminium, similar to RAL 9006, 1 pce.						0.0.475.21

Angle Bracket 12 240x240 Al M12

Die-cast Al

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [kg]
240	120	26	9.5	60	Ø13.5	2.7
white aluminium, similar to RAL 9006, 1 pce.						0.0.007.79

**Angle Bracket 8 160x160-40 Al M8**

8

Die-cast Al

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
160	40	24	7.5	40	∅9	480.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.619.56

Angle Bracket 10 200x200-50 Al M10

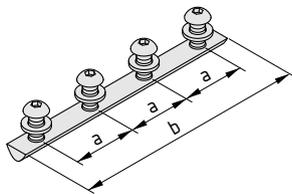
10

Die-cast Al

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
200	50	30	10	50	∅11	899.0

white aluminium, similar to RAL 9006, 1 pce.

0.0.624.78

**Fastening Set for Angle Bracket 8 160x160 M8**

8

Profile Bar 8 St M8, bright zinc-plated

4 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated

4 washers DIN 1441-9.0, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
40	150	25	132.0

1 set

0.0.479.96

Fastening Set for Angle Bracket 10 200x200 M10

10

Profile Bar 10 St M10, bright zinc-plated

4 Button-Head Screws ISO 7380-M10x25, St, bright zinc-plated

4 washers DIN 125-10.5, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
50	190	46	231.8

1 set

0.0.632.41

Fastening Set for Angle Bracket 12 240x240 M12

12

Profile Bar 12 St M12-60, bright zinc-plated

4 Button-Head Screws ISO 7380-M12x30, St, bright zinc-plated

4 washers DIN 1441-13.0, St, bright zinc-plated

a [mm]	b [mm]	M [Nm]	m [g]
60	230	80	400.0

1 set

0.0.609.16

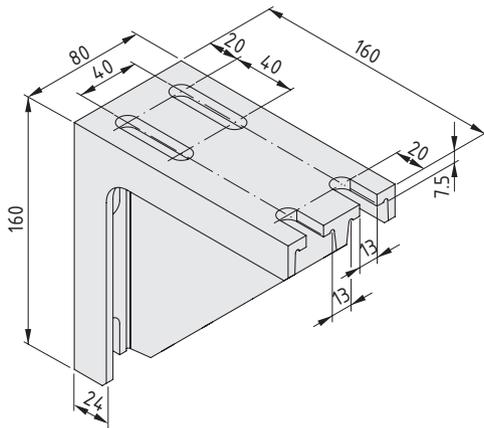


Angle Bracket 8 160x160 St M12 is used for screw attachment with Fasteners 8 M12. A particularly heavy-duty connection is possible for the profiles by using an M12 bolt with Profile 8 grooves. Alternatively, Angle Bracket 8 St M12 can also be screw attached using bolts and T-Slot Nuts 8 St M8.



Two-part Fastener for heavy-duty securing of parts to the Profile 8 groove. The two halves of the Fastener are fitted into the groove at any point where they are then slid together. The integrated spring ball holds the Fastener in place and facilitates screw attachment.

The tightening torque for the nut of Fastener 8 M12 is $M = 80 \text{ Nm}$.

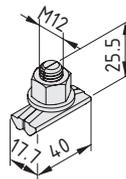


Angle Bracket 8 160x160 St M12

High-strength cast iron
m = 2.2 kg

white aluminium, similar to RAL 9006, 1 pce.

0.0.475.20



Fastener 8 M12

Fastener half, cast steel, stainless
Fastener half with spring ball, cast steel, stainless
Nut DIN 934-M12, St, bright zinc-plated
Washer DIN 125-12, St, bright zinc-plated
M = 80 Nm m = 70.0 g

1 set

0.0.473.02



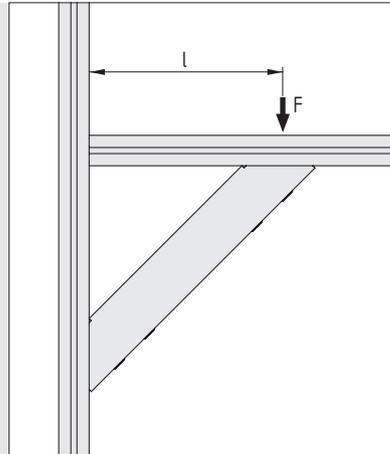
Diagonal Strut Set 8

- Complete package for supporting profiles
- Increases load-carrying capacity
- Reduces profile deflection
- Smooth surface



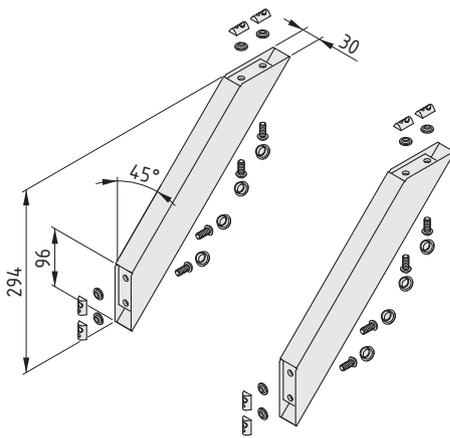
Improved load-carrying capacity for individual supporting struts and cantilever arms! Diagonal Strut Set 8 300x300 is a strong solution that increases the load-carrying capacity of horizontal profiles. This means users can build more elegant constructions without having to compromise their suitability for day-to-day use.

The 45° diagonal struts have a closed, easy-clean outer surface.



$$F < 1000 \text{ N} \wedge F \times l < 300 \text{ Nm}$$

Load-carrying capacity is to be checked to ensure both conditions are met.



Diagonal Strut Set 8 300x30



2 Diagonal Struts 8 300x30, St, white aluminium similar to RAL 9006
 8 T-Slot Nuts 8 St M8, bright zinc-plated
 8 Anti-Loss Washers M8, St, bright zinc-plated
 8 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated
 8 Caps 8 D15, PA, grey similar to RAL 7042
 m = 2.3 kg

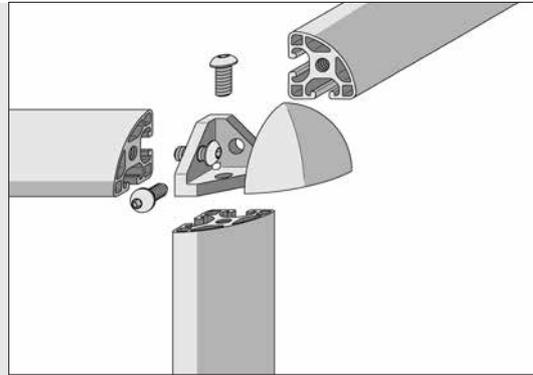
1 set

0.0.659.03



Corner Fastening Sets

- Connect three profiles to form one corner unit
- Stylish covers in two colours

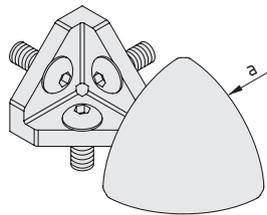


Fastening Sets can be used to construct a corner unit with three profiles or one corner angle with two profiles, ensuring a continuous profile geometry.

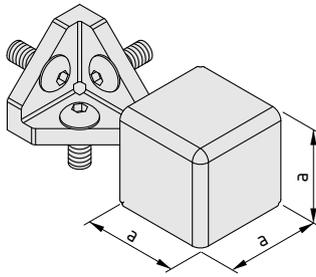
Fastening Sets are ideal for constructing attractive display cases, tables, cover hoods etc. The profiles must be provided with threads in the core bores.

The following applies to all the sets below:

Fastener, die-cast zinc, black
Fastener Cap
3 Button-Head Screws ISO 7380



Fastening Set 5 R20-90°		
a = R20	m = 21.0 g	
black, 1 set		0.0.425.97
grey similar to RAL 7042, 1 set		0.0.642.11
Fastening Set 6 R30-90°		
a = R30	m = 54.0 g	
black, 1 set		0.0.434.87
grey similar to RAL 7042, 1 set		0.0.642.13
Fastening Set 8 R40-90°		
a = R40	m = 120.0 g	
black, 1 set		0.0.436.35
grey similar to RAL 7042, 1 set		0.0.640.33

**Fastening Set 5 20x20x20**

5

a = 20 mm m = 22.0 g

black, 1 set 0.0.437.96

grey similar to RAL 7042, 1 set 0.0.642.12

Fastening Set 6 30x30x30

6

a = 30 mm m = 59.0 g

black, 1 set 0.0.434.88

grey similar to RAL 7042, 1 set 0.0.642.15

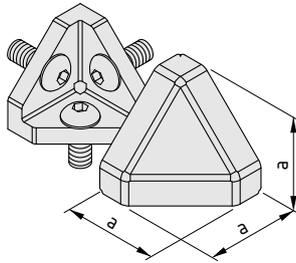
Fastening Set 8 40x40x40

8

a = 40 mm m = 133.0 g

black, 1 set 0.0.416.08

grey similar to RAL 7042, 1 set 0.0.640.32

**Fastening Set 6 30x30-45°**

6

a = 30 mm m = 54.0 g

black, 1 set 0.0.434.86

grey similar to RAL 7042, 1 set 0.0.642.14

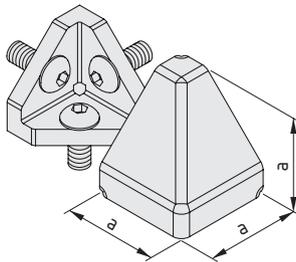
Fastening Set 8 40x40-45°

8

a = 40 mm m = 127.0 g

black, 1 set 0.0.388.68

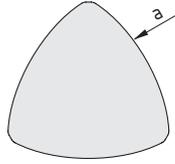
grey similar to RAL 7042, 1 set 0.0.640.34

**Fastening Set 8 40x40-2x45°**

8

a = 40 mm m = 128.0 g

black, 1 set 0.0.436.63



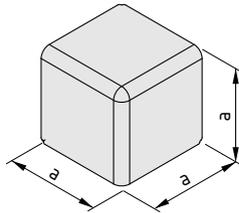
Materials used in all the following products:

PA-GF

Fastener Cap 5 R20-90°	5
a = R20 m = 0.7 g	
black, 1 pce.	0.0.425.94
grey similar to RAL 7042, 1 pce.	0.0.641.48

Fastener Cap 6 R30-90°	6
a = R30 m = 3.0 g	
black, 1 pce.	0.0.434.83
grey similar to RAL 7042, 1 pce.	0.0.636.17

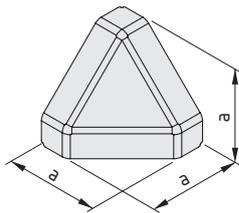
Fastener Cap 8 R40-90°	8
a = R40 m = 8.0 g	
black, 1 pce.	0.0.436.32
grey similar to RAL 7042, 1 pce.	0.0.627.60



Fastener Cap 5 20x20x20	5
a = 20 mm m = 1.0 g	
black, 1 pce.	0.0.437.73
grey similar to RAL 7042, 1 pce.	0.0.641.46

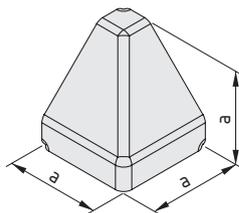
Fastener Cap 6 30x30x30	6
a = 30 mm m = 8.0 g	
black, 1 pce.	0.0.434.84
grey similar to RAL 7042, 1 pce.	0.0.636.18

Fastener Cap 8 40x40x40	8
a = 40 mm m = 16.0 g	
black, 1 pce.	0.0.415.97
grey similar to RAL 7042, 1 pce.	0.0.628.69



Fastener Cap 6 30x30-45°	6
a = 30 mm m = 3.0 g	
black, 1 pce.	0.0.434.85
grey similar to RAL 7042, 1 pce.	0.0.636.19

Fastener Cap 8 40x40-45°	8
a = 40 mm m = 9.0 g	
black, 1 pce.	0.0.373.52
grey similar to RAL 7042, 1 pce.	0.0.628.68



Fastener Cap 8 40x40-2x45°	8
a = 40 mm m = 10.0 g	
black, 1 pce.	0.0.436.62



Radius Seals

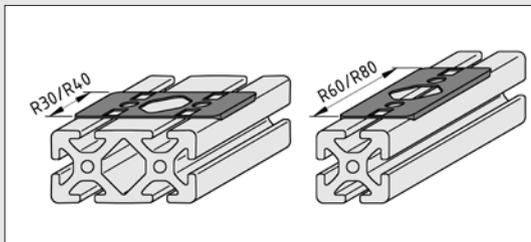
- Sealing for the end face of a profile
- Protection against dirt and dust
- Ideal for cleanroom applications



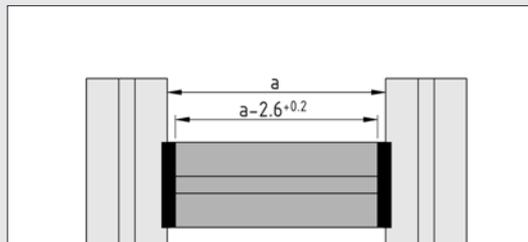
The plastic Radius Seals ensure a continuous transition for the external contour of 90° profile connections. The gap between the straight end-face saw cut of the profile and the profile edge radius is filled by the seal. The Radius Seals can be used in combination with all fastening elements in the MB Building Kit System.

Note:

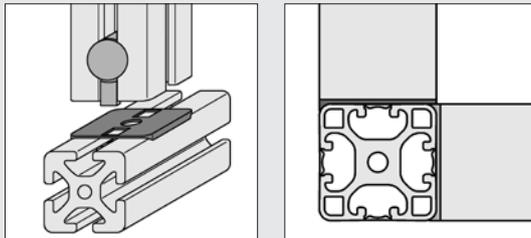
When using the Radius Seal with Standard, Universal and Automatic Fasteners the power-lock connection is achieved by an intermediate plastic element. It is advisable to double the safety factor at the design stage.



The designations R30, R40, R60 and R80 refer to the length of the side of the seal facing the profile radius.



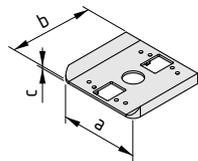
In calculating the length of the cross profiles between two profiles, the thickness of the Radius Seals on each side must be taken into account.



Where a radius seal is already fitted to a perpendicular connection, a Radius Seal 1R should be used.

Materials used in all the following products:

PA



Radius Seal 6 30x30



a [mm]	b [mm]	c [mm]	m [g]
30	30	1.3	1.1

grey similar to RAL 7042, 1 pce.

0.0.478.73

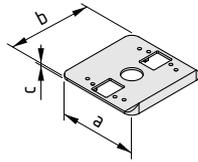
Radius Seal 8 40x40



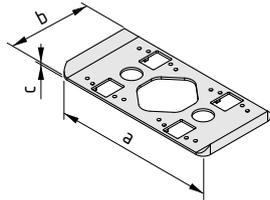
a [mm]	b [mm]	c [mm]	m [g]
40	40	1.3	2.0

grey similar to RAL 7042, 1 pce.

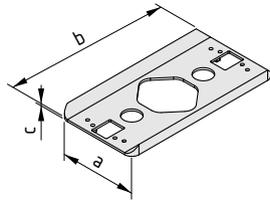
0.0.480.01



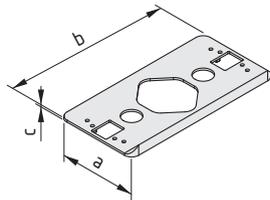
Radius Seal 6 30x30 1R				6
a [mm]	b [mm]	c [mm]	m [g]	
30	30	1.3	1.0	
grey similar to RAL 7042, 1 pce.				0.0.491.37



Radius Seal 8 40x40 1R				8
a [mm]	b [mm]	c [mm]	m [g]	
40	40	1.3	2.0	
grey similar to RAL 7042, 1 pce.				0.0.494.46



Radius Seal 6 60x30 R30				6
a [mm]	b [mm]	c [mm]	m [g]	
60	30	1.3	1.7	
grey similar to RAL 7042, 1 pce.				0.0.478.75



Radius Seal 8 80x40 R40				8
a [mm]	b [mm]	c [mm]	m [g]	
80	40	1.3	4.0	
grey similar to RAL 7042, 1 pce.				0.0.480.03



Radius Seal 6 60x30 R60				6
a [mm]	b [mm]	c [mm]	m [g]	
30	60	1.3	2.1	
grey similar to RAL 7042, 1 pce.				0.0.478.74



Radius Seal 8 80x40 R80				8
a [mm]	b [mm]	c [mm]	m [g]	
40	80	1.3	4.0	
grey similar to RAL 7042, 1 pce.				0.0.480.02

Radius Seal 6 60x30 1R60				6
a [mm]	b [mm]	c [mm]	m [g]	
30	60	1.3	2.0	
grey similar to RAL 7042, 1 pce.				0.0.491.40

Radius Seal 8 80x40 1R80				8
a [mm]	b [mm]	c [mm]	m [g]	
40	80	1.3	4.0	
grey similar to RAL 7042, 1 pce.				0.0.494.49



Adapter 8 D40

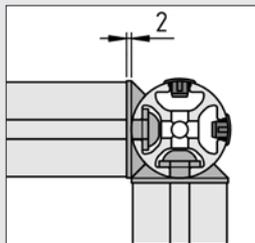
- Connect together cylindrical Profiles 8 D40
- Combine rectangular Profiles 8 with Profiles 8 D40



Profiles 8 D40 can be connected with other Profiles 8 D40 or with Profiles 8 40x40 or 80x40 using Line 8 fastening elements. In contrast to connecting two profiles with rectangular cross-sections, suitable adapters must be used for Profiles 8 D40.

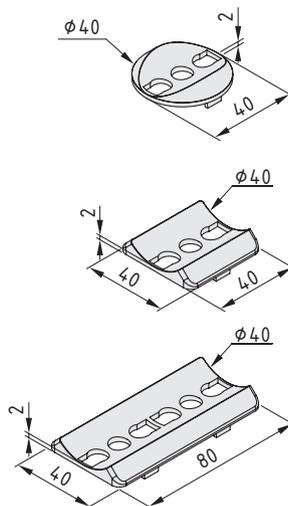
Standard-Fastening Set 8 and the Automatic-Fastening Set 8 N D40 are well suited for right-angled profile connections. When calculating the cut-off length of the profiles, the 2 mm wall thickness of Adapters 8 D40 must be taken into account.

Universal-Fastening Set 8 can also be used when connecting the rectangular end face of a Profile 8 to a Profile 8 D40. It is important to ensure that, due to the wall thickness of the adapter, the distance from the centre of the 20 mm dia. mounting bores of the Universal Fastener to the end of the profile must not exceed 18 mm. In addition, the anti-torsion feature of Universal Fastener 8 must be removed.



The gap that would result when connecting the rounded outer surface of Profiles 8 D40 and the straight profile end faces (or any other flat components) is closed off completely by Adapter 8 D40. A smooth transition is made from the outer contour of the profile to the connecting face of the second profile.

Adapters 8 D40 also serve as radial seals. In completely covering the end face of the profile, they seal the openings of the profile cross-section.



Adapter 8 D40/D40



Die-cast zinc
m = 28.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.489.88

Adapter 8 40x40/D40



Die-cast zinc
m = 42.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.489.86

Adapter 8 80x40/D40



Die-cast zinc
m = 84.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.489.87

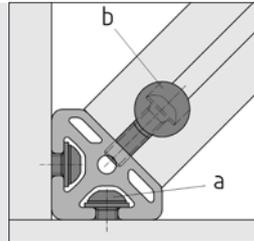


Angle Elements T1

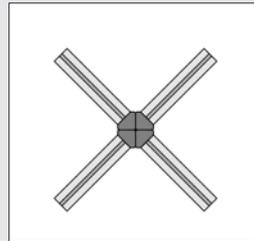
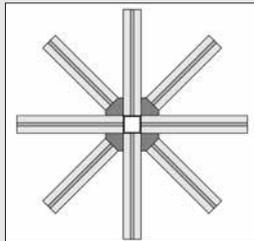
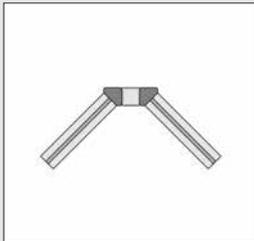
- Latticework reinforcement for profile constructions
- Profile connection at a 45° angle



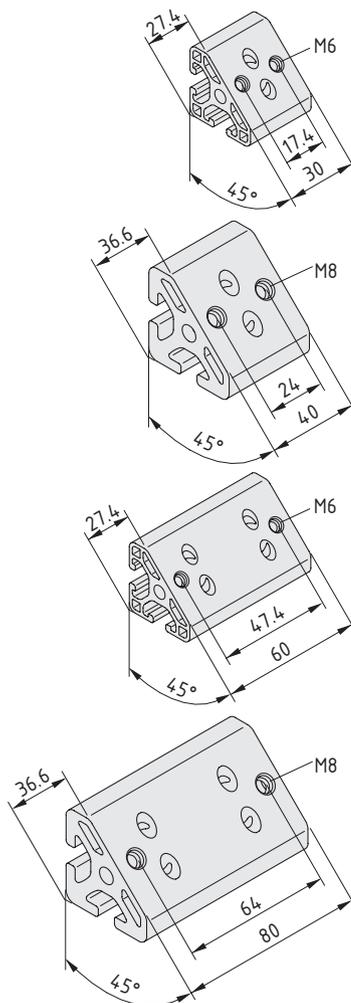
Angle Elements T1 create 45° angle connections either between two profiles or between themselves. They are fastened using Button-Head Screws ISO 7380 and DIN 125 washers. The profile to be connected via its end face can be screwed into place using two Universal Fasteners (anti-torsion feature removed) and Button-Head Screws ISO 7380.



	a	Button Head Screws ISO 7380-M6x12 Washers DIN 125-6.4
	b	Universal Fasteners 6 Button Head Screws ISO 7380-M6x20
	a	Button Head Screws ISO 7380-M8x16 Washers DIN 125-8.4
	b	Universal Fasteners 8 Button Head Screws ISO 7380-M8x25



The ends of the Angle Elements can be covered with Caps 6 30x30-45° or 8 40x40-45°.



Angle Element 6 T1-30	
Al, anodized m = 23.0 g	
natural, 1 pce.	0.0.459.70

Angle Element 8 T1-40	
Al, anodized m = 73.0 g	
natural, 1 pce.	0.0.388.00

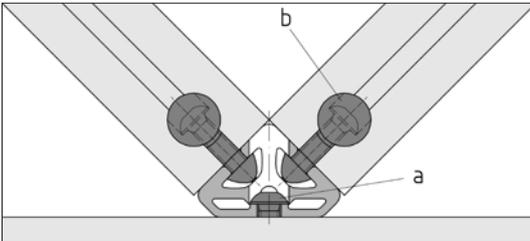
Angle Element 6 T1-60	
Al, anodized m = 40.0 g	
natural, 1 pce.	0.0.459.74

Angle Element 8 T1-80	
Al, anodized m = 148.0 g	
natural, 1 pce.	0.0.388.01

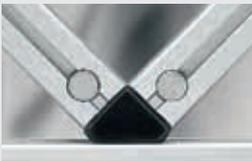


Angle Elements T2

- Connect two profiles at a 45° angle
- Latticework design produces greater stability



Angle Elements T2 are fastened with Button-Head Screws, Universal Fasteners or Automatic Fasteners and a special T-Slot Nut (see table).



The ends of the Angle Elements can be covered with Caps 6 30x30-45° or 8 40x40-45°.

a Button-Head Screws ISO 7380-M6x16

Universal Fastener 6

b Button-Head Screws ISO 7380-M6x22
T-Slot Nut 6 St 2xM6-28 or 6 St 2x M6-58

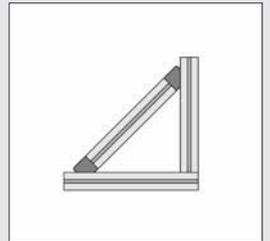
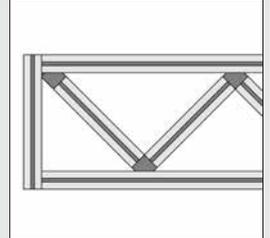
Automatic Fastener 6; Hexagon Socket
Head Cap Screws DIN 912-M5x35
T-Slot Nut 6 St 2xM5-28 or 6 St 2x M5-58

a Button-Head Screws ISO 7380-M8x16

Universal Fastener 8

b Button-Head Screws ISO 7380-M8x30
T-Slot Nut 8 St 2xM8-36 or 8 St 2x M8-76

Automatic Fastener 8; Hexagon Socket
Head Cap Screws DIN 912-M6x40
T-Slot Nut 8 St 2xM6-36 or 8 St 2x M6-76



Angle Element 6 T2-30



Al, anodized
m = 23.0 g

natural, 1 pce.

0.0.459.72

Angle Element 8 T2-40



Al, anodized
m = 67.0 g

natural, 1 pce.

0.0.388.02

Angle Element 6 T2-60



Al, anodized
m = 44.0 g

natural, 1 pce.

0.0.459.76

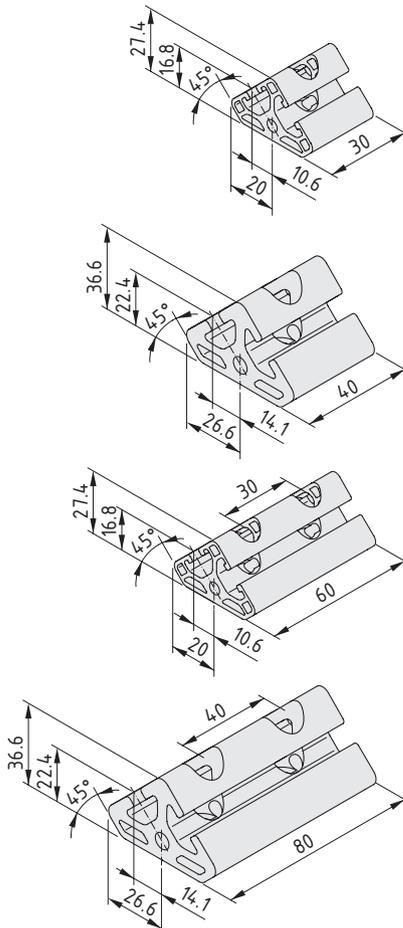
Angle Element 8 T2-80



Al, anodized
m = 135.0 g

natural, 1 pce.

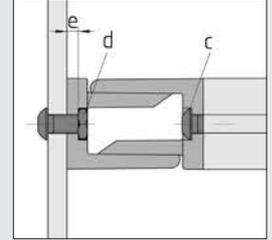
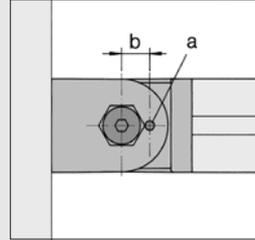
0.0.388.03





Hinges, heavy-duty

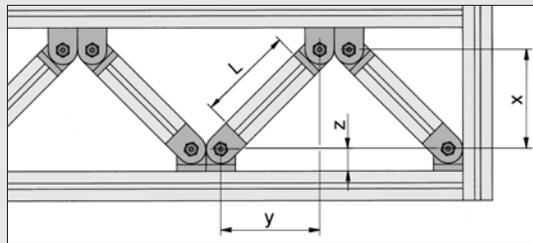
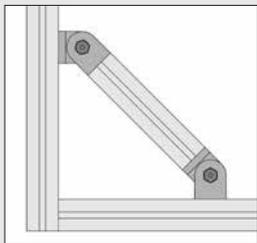
- Stable connection at any angle of adjustment from 0° to 180°
- Clamp lever enables rapid adjustment
- Fixing also possible using a dowel pin
- Products from Line X also available



The Hinges with Clamp Lever can be locked in position or released. Particularly suitable for adjustable holders, swivel-type arms for Parts Containers and other similar equipment.

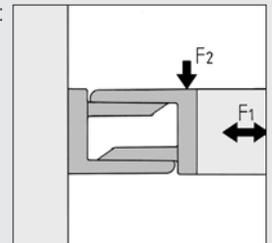
Specially designed Hinges X 8 with or without a clamp lever are available for profile constructions built with Line X.

A Hinge heavy-duty can be fixed at any angle by pinning (a).



Calculation of the strut length L:

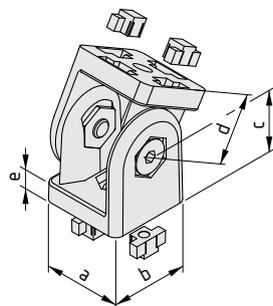
$$L = \sqrt{x^2 + y^2} - 2z$$



Hinge, heavy-duty	Dowel DIN 6325		Screw		Nut		Connection			
	a	b	c	d	e	rigid		movable		
						F1	F2	F1	F2	
5 20x20	2m6x20	7 mm	Button-Head Screw ISO 7380-M5x8	DIN 557 M5	3.3 mm	500 N	200 N	200 N	100 N	
6 30x30	4m6x30	10 mm	Button-Head Screw ISO 7380-M6x14	DIN 439 M6	3.5 mm	1,750 N	500 N	500 N	500 N	
8 40x40	4m6x40	12 mm	Button-Head Screw ISO 7380-M8x16	DIN 439 M8	5.0 mm	5,000 N	1,000 N	750 N	750 N	
8 80x40	6m6x40	24 mm	Button-Head Screw ISO 7380-M8x16	DIN 439 M8	5.0 mm	10,000 N	2,000 N	1,500 N	1,500 N	

The following applies to all the sets below:

- 2 hinge halves, die-cast zinc, white aluminium
- 4 anti-torsion lugs
- 2 thread bushes
- 2 spacer rings
- 2 Countersunk Screws DIN 7991



Hinge 5 20x20, heavy-duty



a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
20	20	15	15	5	39.0
1 pce.					
					0.0.464.39

Hinge 6 30x30, heavy-duty						6
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]	
30	30	22.5	22.5	7	125.0	
1 pce.						0.0.419.80

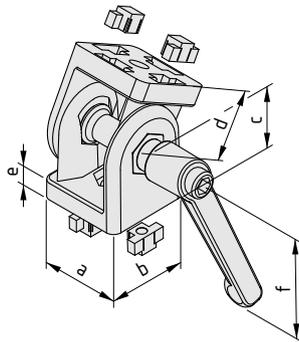
Hinge 8 40x40, heavy-duty						8
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]	
40	40	30	30	9	320.0	
1 pce.						0.0.265.31

Hinge 8 80x40, heavy-duty						8
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [kg]	
40	80	50	50	9	1.0	
1 pce.						0.0.373.91



Hinge X 8 40x40, heavy-duty						Line 8
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]	
40	40	30	30	9	310.0	
1 pce.						0.0.601.12

The following applies to all the sets below:
 2 hinge halves, die-cast zinc, white aluminium
 4 anti-torsion lugs
 1 thread bush
 1 bush liner
 1 spacer collar
 1 clamp lever



Hinge 5 20x20, heavy-duty with Clamp Lever							5
Max. holding torque = 5 Nm							
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
20	20	15	15	5	45	81.0	
1 pce.							0.0.464.43

Hinge 6 30x30, heavy-duty with Clamp Lever							6
Max. holding torque = 10 Nm							
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
30	30	22.5	22.5	7	45	163.0	
1 pce.							0.0.419.85

Hinge 8 40x40, heavy-duty with Clamp Lever							8
Max. holding torque = 20 Nm							
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
40	40	30	30	9	63	410.0	
1 pce.							0.0.373.93

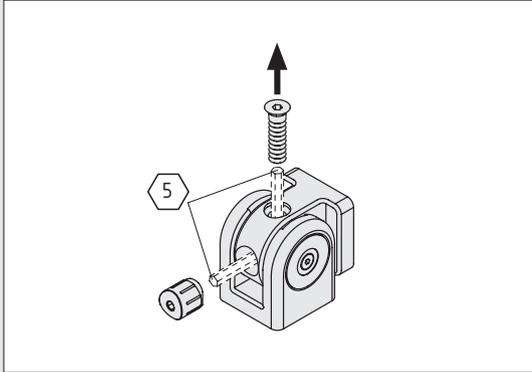


Hinge X 8 40x40, heavy-duty with Clamp Lever							Line 8
Max. holding torque = 20 Nm							
a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
40	40	30	30	9	63	390.0	
1 pce.							0.0.601.13

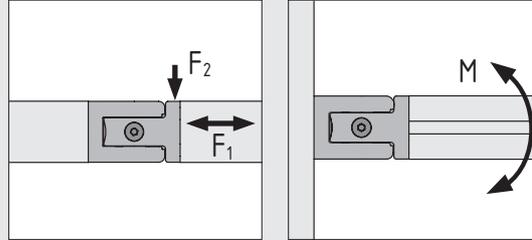


Ball-Bearing Hinge 8 40x40

- Enables movement through up to 180°
- Two ball bearings provide excellent load-carrying capacity
- Wear-resistant and robust



The Ball-Bearing Hinge can be screwed to any components using the integrated M8x16 fastening screws. These screws are driven through the holes in the bearing block using a 5 A/F hexagon key. To access the screws, simply remove the retaining screw from the bearing block. The Ball-Bearing Hinge does not need to be disassembled.



Permissible load:

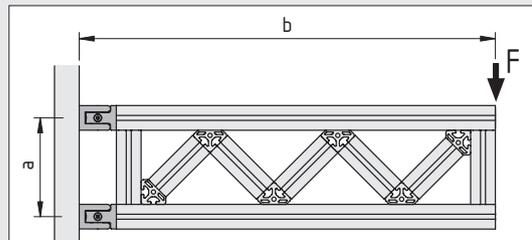
$$F_{1\max} = 2500 \text{ N}$$

$$F_{2\max} = 750 \text{ N}$$

$$M_{1\max} = 45 \text{ Nm}$$

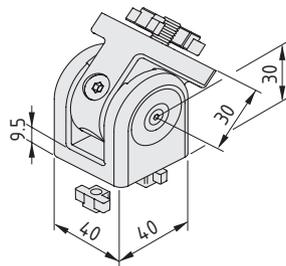
Where there is a combination of radial (F_1) and axial (F_2) load, the total load must satisfy the following equation:

$$\frac{F_1}{F_{1\max}} + \frac{F_2}{F_{2\max}} \leq 1$$



$$F_{\max} \leq F_{1\max} \frac{a}{b}$$

$$F_{\max} \leq F_{2\max} / 2$$



Ball-Bearing Hinge 8 40x40

- Ball-Bearing Hinge fork, die-cast zinc, RAL 9006 white aluminium
- Ball-Bearing Hinge bearing block, die-cast zinc, RAL 9006 white aluminium
- 4 anti-torsion lugs, die-cast zinc
- 2 fastening screws M8x16, St, bright zinc-plated
- Cap, PA-GF, grey
- Retaining screw M8, St, bright zinc-plated
- m = 510.0 g

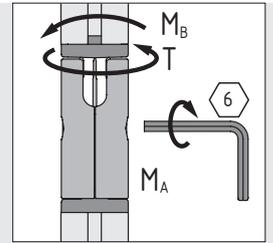
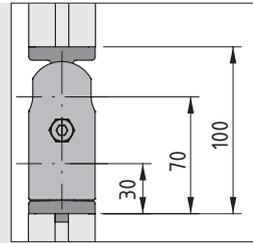
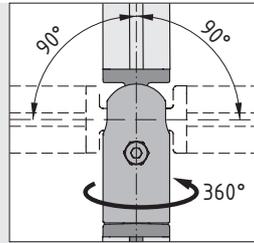
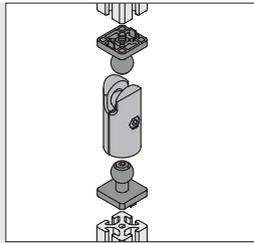
1 pce.

0.0.494.11



Ball Joints 8

- Two-dimensional pivoting
- Available with clamp lever for rapid adjustment

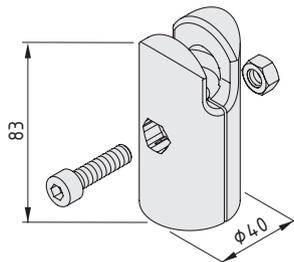


Each Ball Joint 8 requires two balls that are suitable for the profiles being connected:

- Ball 40x40 for connection to Profiles 8 with right-angled cross-sections
- Ball D40 for connection to Profiles 8 D40 (with cylindrical cross-section)

Max. tightening torque of central securing screw M8:
 $M_A = 25 \text{ Nm}$

Permissible loading moments for Ball Joint 8:
 Deflection $M_B = 2 \text{ Nm}$
 Torsion $T = 3 \text{ Nm}$



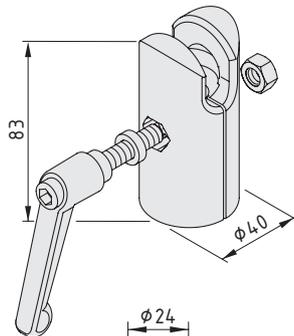
Ball Joint 8, Socket



2 hinge halves, die-cast aluminium, RAL 9006 white aluminium
 Hexagon Socket Head Cap Screw M8x30, St, bright zinc-plated
 Hexagon Nut M8, St, bright zinc-plated
 $m = 200.0 \text{ g}$

1 set

0.0.608.69



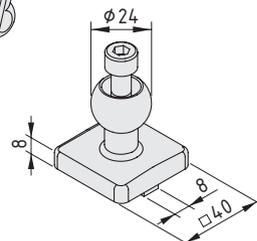
Ball Joint 8, Socket with Clamp Lever



2 hinge halves, die-cast aluminium, RAL 9006 white aluminium
 Clamp Lever M8x32
 Spacer sleeve, St, bright zinc-plated
 Hexagon Nut M8, St, bright zinc-plated
 $m = 272.0 \text{ g}$

1 set

0.0.611.00



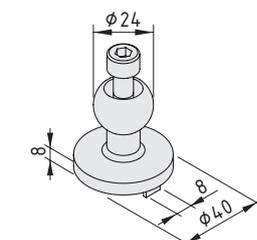
Ball Joint 8, Ball End 40x40



Ball, die-cast aluminium, RAL 9006 white aluminium
 Hexagon Socket Head Cap Screw M8x40, St, bright zinc-plated
 $m = 55.0 \text{ g}$

1 set

0.0.610.95



Ball Joint 8, Ball End D40



Ball, die-cast aluminium, RAL 9006 white aluminium
 Hexagon Socket Head Cap Screw M8x40, St, bright zinc-plated
 $m = 51.0 \text{ g}$

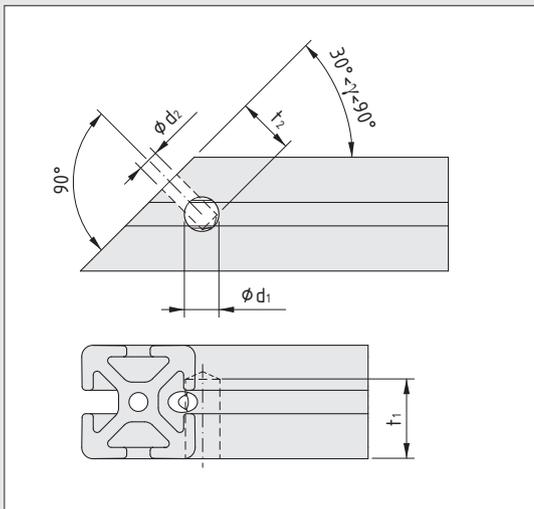
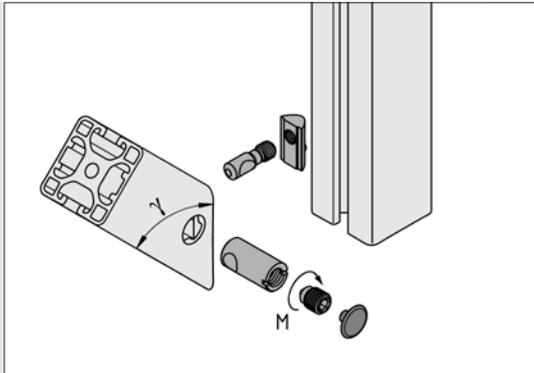
1 set

0.0.610.98



Mitre-Fastening Sets

- Profile connection at any angle from 30° to 90°
- The profile groove stays free to accommodate panel elements



Drilling Jig and Step Drill, Mitre Connection 657

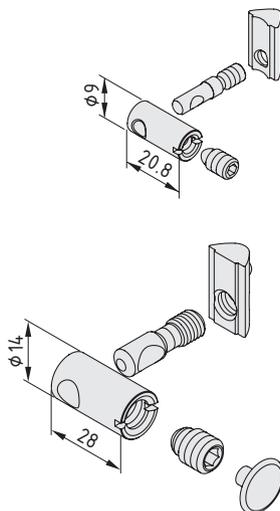
Using the Mitre-Fastening Set:

1. Mitre-cut profile at angle γ .
2. Drill a counterbore ($\varnothing d_1$) for the fastener sleeve into the side of the mitre-cut profile.
3. Drill a hole ($\varnothing d_2$) into the mitred face of the profile
4. Insert the T-Slot Nut into the profile groove of the continuous profile and screw in the clamping pin until the mark around the perimeter is level with the profile surface.
5. Insert the fastener sleeve into the counterbore of the mitred profile and fit the assembly over the clamping pin.
6. Drive the grub screw into the fastener sleeve and clamp the profile connection.
7. Fit the cap onto the fastener sleeve (Line 8).

Note: Despite the optimised design, the flow of forces across the inclined contact faces of the profiles is such that only part of the pretension of the screw connection is utilized. Mitre connections therefore have a lower load bearing capacity than other, right-angled profile connections (Standard-Fastening, Universal-Fastening or Automatic-Fastening Set). Mitre-Fastening Sets should therefore not be used for constructing basic frames and safety-related parts that are subject to high loads.

	d_1	t_1	d_2	t_2	M [Nm]
	$\varnothing 9.1$	21	$\varnothing 5.5$	15	3.5
Drill	0.0.628.25		0.0.628.55		
Drilling Jig	0.0.616.77		0.0.616.89		
	$\varnothing 14.2$	26.7	$\varnothing 9$	12	15
Drill	0.0.492.60		-		
Drilling Jig	0.0.493.72		0.0.493.71		

Your item dealer can provide the required mitre cuts and profile processing as a service.



Mitre-Fastening Set 6

Clamping pin M5x23, St, bright zinc-plated
Sleeve with bore, St, bright zinc-plated
Grub screw M6, St, bright zinc-plated
T-Slot Nut 6 St M5, bright zinc-plated
 $m = 17.0$ g

1 set 0.0.627.12

Mitre-Fastening Set 8

Clamping pin M8x28.5, St, bright zinc-plated
Sleeve with bore, St, bright zinc-plated
Grub screw M10, St, bright zinc-plated
T-Slot Nut V 8 St M8, bright zinc-plated
Cap, PA grey
 $m = 40.0$ g

1 set 0.0.492.30



Direct-Fastening Set 8

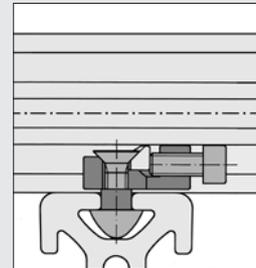
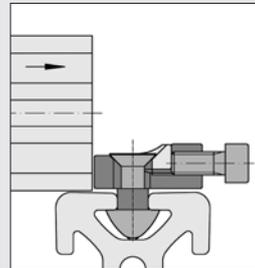
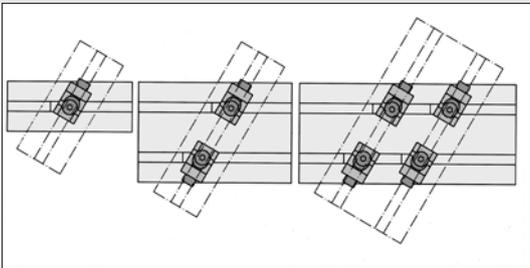
- Power-lock connection for profiles that cross
- Profile sides abut against each other



Power-lock connection (without machining) of two Profiles 8 that touch along their outer faces. The profiles can also run in parallel over a certain distance. Both profiles can be moved in the direction of the groove.

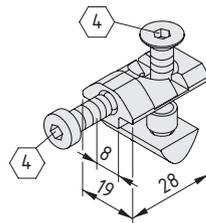
The Direct-Fastening Set is particularly suitable for connecting the profiles of ball-bush block guides with other profiles, so that the profiles can be moved and no machining is required.

Note: Where anodized surfaces are to be fitted together, we recommend greasing the contact points. This minimises the level of noise generated.



Installation note:
Loosen the Cap Screw to maximise the adjustment range of the wedge and gently tighten the Countersunk Screw.

Push the profiles together and tension the Direct-Fastening Set by tightening the Cap Screw.



Direct-Fastening Set 8



Fastener, cast steel
Countersunk Screw DIN 7991-M6x20, St
Hexagon Socket Head Cap Screw DIN 7984-M6x14, St
Spacer sleeve, POM, black
T-Slot Nut 8 St M6
 $M_{bzp} = 5.5 \text{ Nm}$ $m = 37.0 \text{ g}$

bright zinc-plated, 1 set

0.0.388.63

Direct-Fastening Set 8



$M_{stainl.} = 4.5 \text{ Nm}$ $m = 37.0 \text{ g}$

stainless, 1 set

0.0.440.65



Click-Fastening Set 8

Adjustable and fast

- For profiles that cross, can be fitted at any position
- For assembling struts without the need for machining
- Particularly quick to fit
- Ideal for temporary structures



The item MB Building Kit System opens up a whole new dimension in flexibility. Profiles can be connected to other profiles at any position and at virtually any angle without machining.

Profile sections are attached to existing constructions and are employed as re-usable, variable struts. Thanks to the Click-Fastening Set, profiles no longer need to be cut off with absolute accuracy!

The Click-Fastening Set is particularly attractive for temporary structures - modifications can be made quickly and easily!



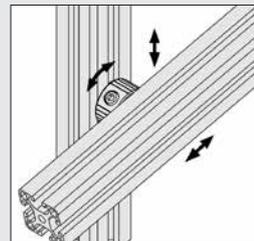
Mount the CLICK-Fastening Set onto the profile groove and **lock** in position (CLICK!).



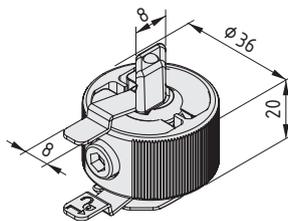
Connect the CLICK-Fastening Set with the second profile.



Align the CLICK-Fastening Set and **tighten** the tensioning screw.



Dismantling: Loosen the tensioning screw, lift the locking strip out of the profile groove and swivel it back. The CLICK-Fastening Set does not need to be taken apart and is immediately ready for use again.



Click-Fastening Set 8



- Clamping profile Al, natural
- Clamping elements, St, stainless
- Locking strips, St, stainless
- Hex. Socket Head Cap Screw M6x25, St, bright zinc-plated
- m = 105.0 g

1 set

0.0.489.79



Face Fastening Set 8

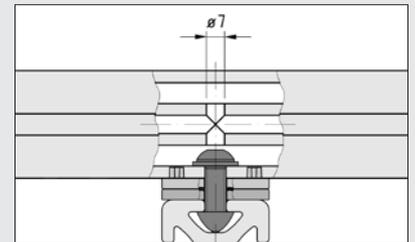
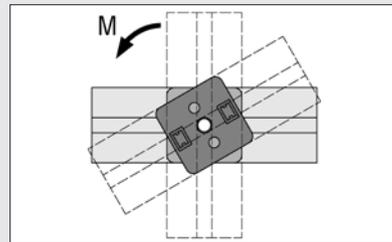
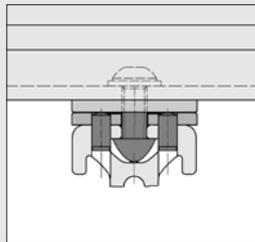
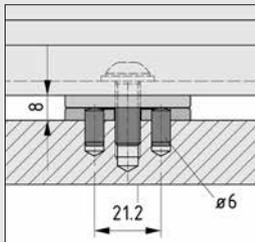
- Toothed fastener reinforces the rigid angled connection
- For inclined working surfaces
- Adjustment in 5° increments with anti-torsion feature



Face Fastening Set 8 is used to create a rigid angled connection between two profiles whose grooved sides face each other. It can also be used to connect the end face of one profile to the grooved side of another profile.

The two halves of the Face Fastening Set are located between the profiles being connected.

A clamp lever extending all the way through may be used with Face Fastening Set 8 to facilitate adjustment.



The anti-torsion blocks must be removed when attaching to panel elements.

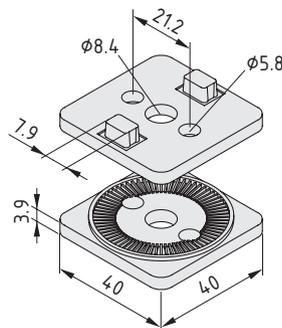
Position of the fixing bores in the panel elements and profiles. These fixing bores are predrilled in the fastener ($\varnothing 5.8$ mm).

The angle between the profiles can be selected in 5° increments. The tothing ensures that the two halves fit together securely at the correct angle.

The two halves must be pinned together if a moment of $M > 10$ Nm is applied to the Face Fastening Set.

The permissible load is $M_{max.} = 20$ Nm.

Two Line 8 Profiles are screw-connected using screw ISO 7380-M8x25, Washer DIN 125-8,4 and T-Slot Nut 8 St M8. An access hole must be made in one of the profiles to accommodate the Allen key.



Face Fastening Set 8



Die-cast zinc
m = 71.0 g

black, 1 set

0.0.474.44

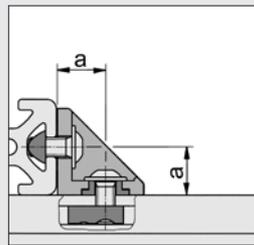
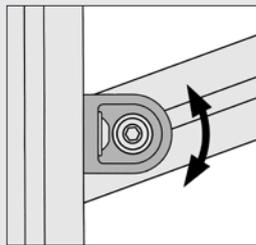


Angle Hinge Brackets, Angle Clamp Brackets

- Simple, secure fixing for profiles that cross
- Adjustable via angle bracket with clamp lever
- For creating any angle

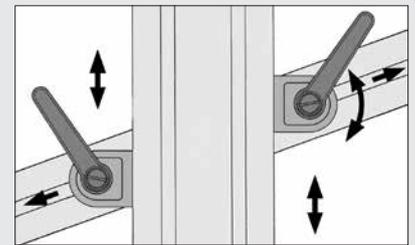
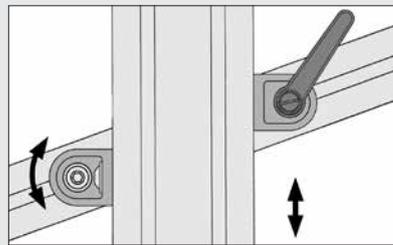
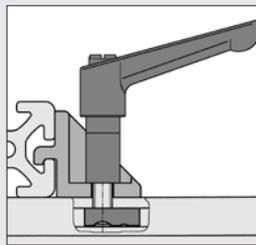
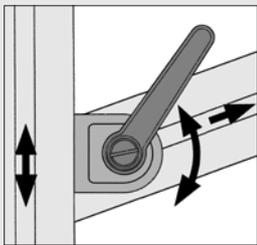


The Angle Hinge Brackets and Angle Clamp Brackets are used for connecting two profiles of the same Line whose side faces are in contact and which cross at an angle.



Angle Hinge Bracket	5	6	8
a	10 mm	15 mm	20 mm

The Angle Hinge Bracket serves as a fixed point of rotation for profiles crossing each other. When the screws are tight, the rotational position around the bearing bush can still be selected at will.

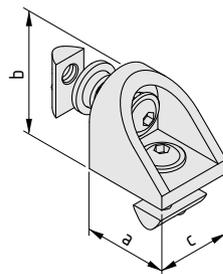


The Angle Clamp Bracket can be used in combination with an Angle Hinge Bracket or a second Angle Clamp Bracket to provide a simple connection between two crossing profiles.

Loosening the screw or clamp lever releases the tension in the two profile grooves and allows rotation at any angle and movement along the grooves.

Combination of Angle Hinge Bracket and Angle Clamp Bracket, e.g. for adjusting the angle of a shelf around a fixed point of rotation.

Combination of two Angle Clamp Brackets, e.g. for adjusting a rest (in terms of height, lateral location and angle).



Angle Hinge Bracket 5

Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]	
18	18	16	20.0	
1 set				0.0.437.83

Angle Hinge Bracket 6

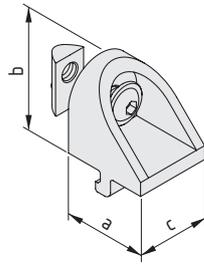
Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]	
27	27	24	65.0	
1 set				0.0.441.97

Angle Hinge Bracket 8

Angle bracket, die-cast Al, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]	
36	36	32	85.0	
1 set				0.0.457.76

**Angle Clamp Bracket 5**

Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
18	18	16	19.0

1 set 0.0.437.84

Angle Clamp Bracket 6

Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
27	27	24	66.0

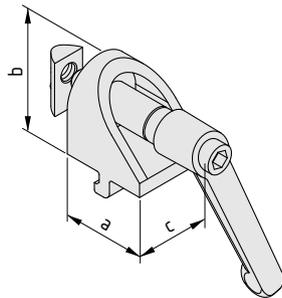
1 set 0.0.441.98

Angle Clamp Bracket 8

Angle bracket, die-cast Al, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
36	36	32	64.0

1 set 0.0.457.77

**Angle Clamp Bracket 5 with Clamp Lever**

Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
18	18	16	51.0

1 set 0.0.437.85

Angle Clamp Bracket 6 with Clamp Lever

Angle bracket, die-cast zinc, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
27	27	24	103.0

1 set 0.0.441.99

Angle Clamp Bracket 8 with Clamp Lever

Angle bracket, die-cast Al, RAL 9006 white aluminium
Fastening materials

a [mm]	b [mm]	c [mm]	m [g]
36	36	32	161.0

1 set 0.0.457.78



Angle Locking Bracket 8 80x40

Secure fixing and rapid adjustment

- Toothed fastener reinforces rigid angled connection
- For inclined ledges and shelves
- Adjustment in 2.5° increments
- Easy to adjust without the need for tools

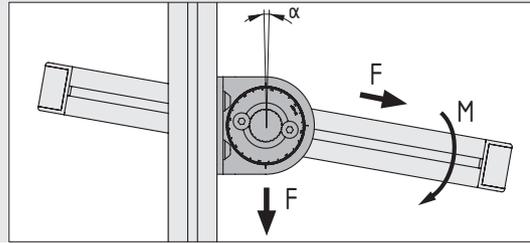


Angle Locking Bracket 8 80x40 is an ideal fastening element for adjustable fixtures. It enables the set-up and easy adjustment of ergonomic work benches. Typical areas of application include stand-alone shelves, shelving units, material trolleys, etc.

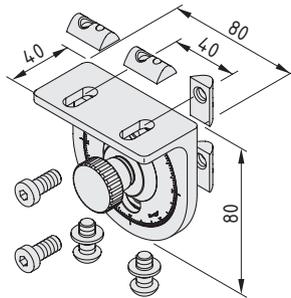
The Angle Locking Bracket is incredibly easy to adjust: When the knurled screw is loosened, spring pressure lifts the disc out of the tothing and enables adjustments to be carried out easily without the need for tools. The tothing creates an extremely strong rigid angled fixing. The angle of incline can be adjusted in 2.5° increments.



The Angle Locking Bracket is supplied preassembled and is screwed easily to Profiles 8 using the enclosed fastening elements without processing.



An adjustable profile frame with 2 Angle Locking Brackets 8 80x40 can withstand a force $F_{max} = 2000$ N. This profile frame has a permissible loading moment of: $M = 100$ Nm



Angle Locking Bracket 8 80x40



Bracket and locking discs, die-cast aluminium, RAL 9006 white aluminium
 Knurled screw M8x18, St, bright zinc-plated
 2 compression springs, St
 2 Button-Head Screws M8x18, St, bright zinc-plated
 2 Hexagon Socket Head Cap Screws M8x18, St, bright zinc-plated
 3 washers, St, bright zinc-plated
 4 T-Slot Nuts 8 St M8, bright zinc-plated
 m = 290.0 g

1 set

0.0.615.59



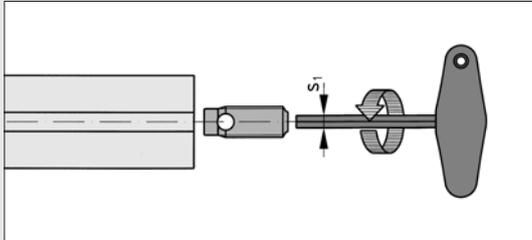
Automatic Butt-Fastening Sets

- Connect identical profiles via their end faces
- No profile machining required



The Automatic Butt-Fastening Sets can be used to connect the end faces of two profiles from the same Line without mechanical processing.

Automatic Butt-Fastening Sets should always be used in pairs. Depending on the profile size and load, several pairs may be necessary.

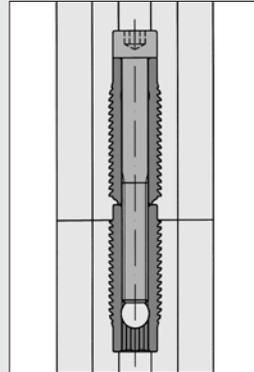


Automatic Butt-Fastening Set

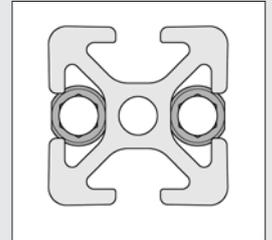
	5	6	8	12
s_1	4 A/F	5 A/F	6 A/F	8 A/F

The Fastener is screwed into a profile groove in the end face, the thread being cut automatically. Use of a lubricant is recommended.

Note: All Fasteners with a through bore for the fastening screw have a counter-clockwise thread on the outside in order to prevent the Fastener twisting when the screw is tightened. The Fasteners with internal threads have a clockwise thread on the outside.



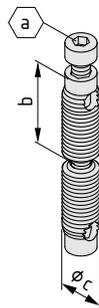
When driving the Fastener with internal thread into a profile, additional anti-torsion protection can be provided by leaving the end protruding out so that it projects into the groove opposite. The Fastener with through bore will then need to be driven far enough into the adjoining profile to accommodate it.



Automatic-Fastening Set 5 should be inserted so that the flattening on the thread is flush with the outer edge of the profile.

The following applies to all the sets below:

Automatic Fastener with through bore, St
Automatic Fastener with threaded bore, St
Hex. Socket Head Cap Screw, St



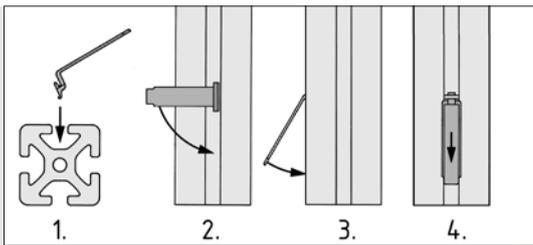
Automatic Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	M_{bzp} [Nm]	m [g]	
3	24	7	2.5	11.0	
bright zinc-plated, 1 set					0.0.464.19

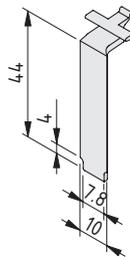
Automatic Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	$M_{stainl.}$ [Nm]	m [g]	
3	24	7	2.5	11.0	
stainless, 1 set					0.0.464.18

Automatic Butt-Fastening Set 6					6
a [mm]	b [mm]	c [mm]	M _{bzp} [Nm]	m [g]	
4	27	10	8.0	23.0	
bright zinc-plated, 1 set					0.0.419.74
Automatic Butt-Fastening Set 6					6
a [mm]	b [mm]	c [mm]	M _{stainl.} [Nm]	m [g]	
4	27	10	6.5	23.0	
stainless, 1 set					0.0.441.71
Automatic Butt-Fastening Set 8					8
a [mm]	b [mm]	c [mm]	M _{bzp} [Nm]	m [g]	
5	31	12	14	43.0	
bright zinc-plated, 1 set					0.0.406.80
Automatic Butt-Fastening Set 8					8
a [mm]	b [mm]	c [mm]	M _{stainl.} [Nm]	m [g]	
5	31	12	11	43.0	
stainless, 1 set					0.0.444.15
Automatic Butt-Fastening Set 12					12
a [mm]	b [mm]	c [mm]	M _{bzp} [Nm]	m [g]	
6	47	18	34	140.0	
bright zinc-plated, 1 set					0.0.003.51



A cover is available for Automatic-Fastening Set 8. It is fitted after the fastening has been installed.



Automatic-Fastening Set 8 Cap		8
PA-GF m = 0.7 g		
black similar to RAL 9005, 1 pce.	0.0.388.66	
grey similar to RAL 7042, 1 pce.	0.0.616.31	

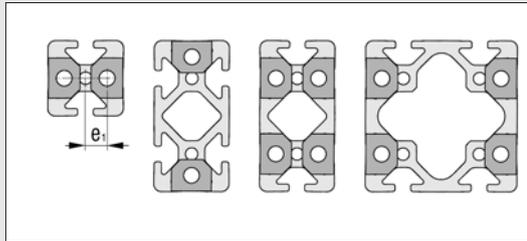
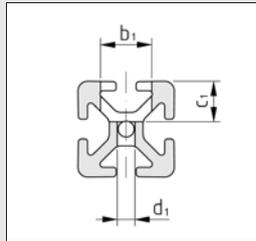
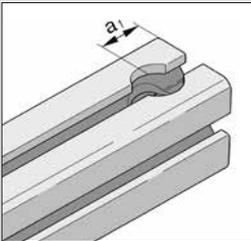


Universal-Butt-Fastening Sets

- Connect identical profiles via their end faces



Extend the profiles only with the aid of the corresponding fastening elements and, where possible, support them at the joints.



Universal-Fastening Sets should always be used in pairs.

Universal-Fastening Set

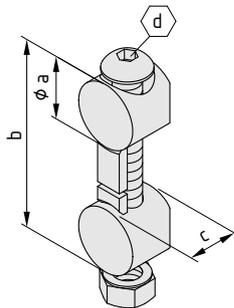
	5	6	8	10	12
a_1	10.0 mm	15.0 mm	20.0 mm	25.0 mm	30.0 mm
b_1	∅ 12.0 mm	∅ 16.0 mm	∅ 20.0 mm	∅ 25.0 mm	∅ 30.0 mm
c_1	8.5 mm	12.7 mm	16.0 mm	20.0 mm	24.0 mm
d_1	∅ 4.3 mm	∅ 5.5 mm	∅ 7.0 mm	∅ 9.0 mm	∅ 12.0 mm
e_1	5.8 mm	8.7 mm	12.0 mm	15.1 mm	17.8 mm

The following applies to all the sets below:

2 Universal Fasteners, die-cast zinc

Screw, St

Hexagon nut, St



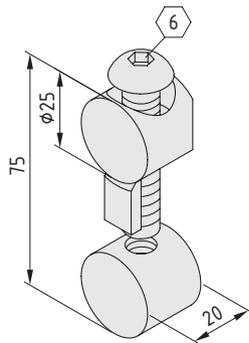
Universal-Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	M_{bz-p} [Nm]	m [g]	
12	32	8.5	3	3.0	10.0	
bright zinc-plated, 1 set						0.0.370.32

Universal-Butt-Fastening Set 5

a [mm]	b [mm]	c [mm]	d [mm]	$M_{stainl.}$ [Nm]	m [g]	
12	32	8.5	3	2.5	10.0	
stainless, 1 set						0.0.437.55

Universal-Butt-Fastening Set 6						6
a [mm]	b [mm]	c [mm]	d [mm]	M _{bz-p} [Nm]	m [g]	
16	46	12.6	4	8.0	27.0	
bright zinc-plated, 1 set						0.0.419.53
Universal-Butt-Fastening Set 6						6
a [mm]	b [mm]	c [mm]	d [mm]	M _{stainl} [Nm]	m [g]	
16	46	12.6	4	6.5	27.0	
stainless, 1 set						0.0.441.77
Universal-Butt-Fastening Set 8						8
a [mm]	b [mm]	c [mm]	d [mm]	M _{bz-p} [Nm]	m [g]	
20	60	16	5	25	60.0	
bright zinc-plated, 1 set						0.0.265.46
Universal-Butt-Fastening Set 8						8
a [mm]	b [mm]	c [mm]	d [mm]	M _{stainl} [Nm]	m [g]	
20	60	16	5	20	60.0	
stainless, 1 set						0.0.440.94
Universal-Butt-Fastening Set 12						12
a [mm]	b [mm]	c [mm]	d [mm]	M _{bz-p} [Nm]	m [g]	
30	90	24	6	60	200.0	
bright zinc-plated, 1 set						0.0.003.61



Universal-Butt-Fastening Set 10		10
Universal Fastener 10, St Button-Head Screw ISO 7380-M10x50, St Universal Butt-Fastener 10, St M _{bz-p} = 46 Nm m = 148.5 g		
bright zinc-plated, 1 set		0.0.632.08



Mitre-Butt-Fastening Sets

- Connect two profiles with the same mitre angle
- Overall angle of 60° to 180° possible



Mitre-Butt-Fastening Sets are suitable for connecting two profiles at an angle. They are used primarily when constructing frame elements and panel edging. The profile grooves facing each other inside the frame remain unobstructed so they can be used for holding panel elements.

Two mitred profiles (each with an identical angle γ between 30° and 90°) are connected together. This gives a possible angle between the profiles of (2γ) between 60° and 180°.

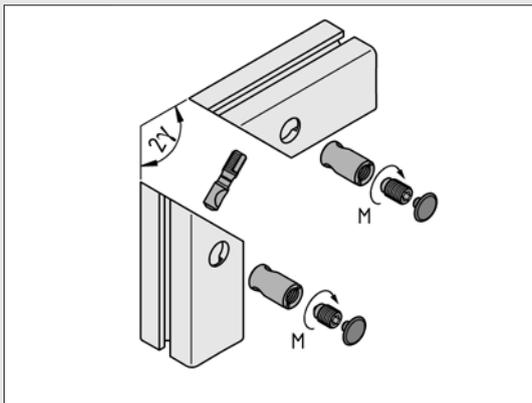
The position of the clamping pins at right angles to the cut profile edge generates particularly high clamping forces on the fastening elements. The clamping screws are accessed from the side of the profile frame.

Note:

Despite the optimized design, the flow of forces across the inclined contact faces of the profiles is such that only part of the pretension

of the screw connection is utilized. Mitre connections therefore have a lower load bearing capacity than other, right-angled profile connections (Standard-Fastening, Universal-Fastening or Automatic-Fastening Set).

Mitre-Fastening Sets should therefore not be used for constructing basic frames and safety-related parts that are subject to high loads.

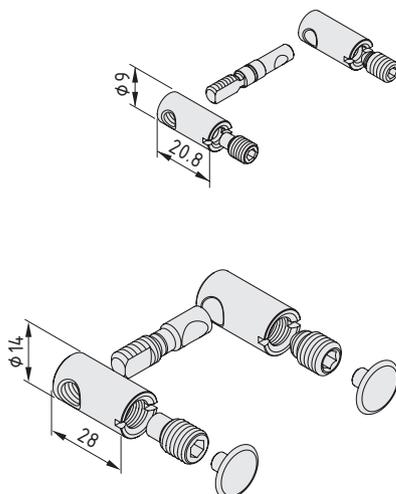


Connection processing of the profiles is the same as for the Mitre-Fastening Set. Your item dealer can provide the required mitre cuts and profile processing as a service.

Using the Mitre-Butt-Fastening Set:

1. Mitre-cut profile at angle γ .
2. Drill counterbores for the fastener sleeves into the side of each profile (use of drilling jig recommended).
3. Drill a hole into the mitred face of both profiles (use of drilling jig recommended).
4. Insert the fastener sleeve with lateral thread into the counterbore of one of the profiles and screw in the clamping pin until the perimeter mark is level with the cut profile edge.
5. Use grub screw DIN 915 to tighten the clamping pin in the fastener sleeve with thread.
6. Insert the fastener sleeve with bore into the second profile, and fit the assembly over the clamping pin.
7. Drive the special grub screw into the fastener sleeve and clamp the profile connection.
8. Fit the caps onto the fastener sleeves (Line 8).

Drilling Jig and Step Drill, Mitre Connection 657



Mitre-Butt-Fastening Set 6

Clamping pin M5x29, St, bright zinc-plated
Sleeve with bore, St, bright zinc-plated
Threaded sleeve, St, bright zinc-plated
Grub screw M6, St, bright zinc-plated
Grub screw DIN 915-M6x10, St, bright zinc-plated
m = 20.0 g

1 set

0.0.606.47

Mitre-Butt-Fastening Set 8

Clamping pin M8x33, St, bright zinc-plated
Sleeve with bore, St, bright zinc-plated
Threaded sleeve, St, bright zinc-plated
Grub screw M10, St, bright zinc-plated
Grub screw DIN 915-M10x16, St, bright zinc-plated
2 Caps, PA grey
m = 58.0 g

1 set

0.0.492.25



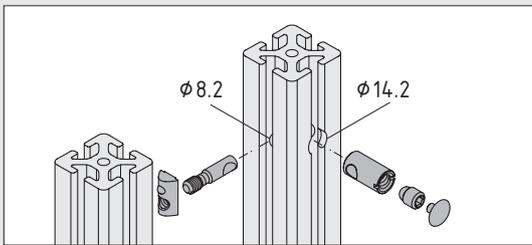
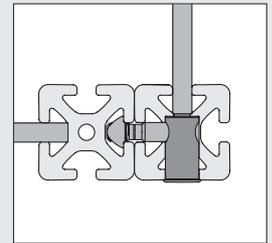
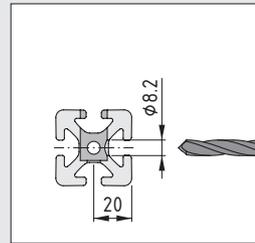
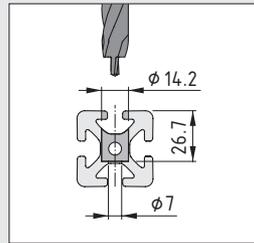
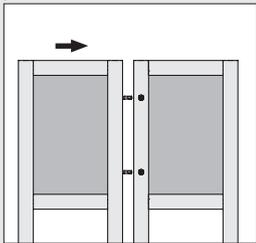
Central-Fastening Set P 8

- Connect two parallel Profiles 8
- Flush connection for partitioning and room dividers



Central-Fastening Set P 8 can be used to quickly connect together individual, inherently stable partitions or partition elements side by side without time-consuming alignment procedures.

Unevenness in the ground can be compensated for by adjusting the position of the T-Slot Nut in the profile groove.



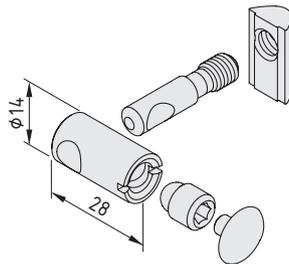
Profile processing: To accommodate the fastener sleeve, a $\varnothing 14.2$ mm counterbore is drilled into the side of one of the profiles being connected (using Step Drill 0.0.492.60) along with a $\varnothing 8.2$ mm fastening hole located perpendicular to this.

T-Slot Nut V 8 St M8 is fitted into the facing groove of the second profile and the clamping pin is screwed into this T-Slot Nut as far as the marking.

After the clamping pin has been inserted into the fastener sleeve, the profile connection is tightened with an M10 grub screw (tightening torque $M = 15$ Nm).

N.B.: At least 2 grooves always remain free for fitting panel elements into the profile grooves. Frame elements can also be connected to each other at an angle of 90° by positioning Central-Fastening Set P 8 appropriately.

Drilling Jig and Step Drill, Mitre Connection 



Central-Fastening Set P 8



- Clamping pin, St, bright zinc-plated
- T-Slot Nut V 8 St M8, bright zinc-plated
- Threaded sleeve with bore, St, bright zinc-plated
- Grub screw M10, St, bright zinc-plated
- Cap, PA, grey
- m = 44.0 g

1 set

0.0.619.69

Parallel Fastener 8

Holds by itself

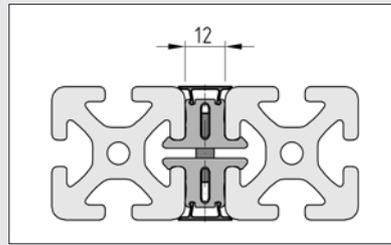
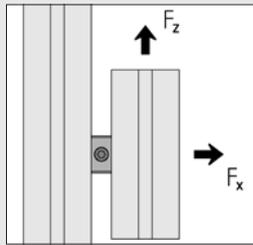
- Connect two parallel Profiles 8
- No machining required
- Easy to use thanks to snap-in function



Element for fastening two parallel Line 8 Profiles at a distance of 12 mm.

Parallel Fastener 8 is very easy to use: Both halves of the spring loaded fastener engage in the profile grooves facing

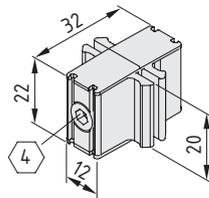
each other. This fixes the profiles in position. The fastener is then clamped by tightening an internal screw.



Using the Parallel Fastener 8 Cover Profile: The gap (12 mm wide) between the profiles which is generated when Parallel Fastener 8 is used can be covered in full using this profile. The Cover Profile must be fitted over at least 2 Parallel Fasteners 8. Parallel Fastener 8 Cover Profile Cap covers the end-face gap between the profiles when using Parallel Fastener 8 Cover Profiles.

Max. torque for the tensioning screw:
 $M = 2.5 \text{ Nm}$

Permissible loading force per Fastener:
 $F_x = 1,000 \text{ N}$
 $F_z = 100 \text{ N}$

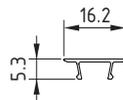


Parallel Fastener 8

2 clamping elements, Al, anodized natural
Housing, PA-GF, black
Compression spring
Tensioning screw, St, bright zinc-plated
 $m = 21.0 \text{ g}$

1 set

0.0.476.58

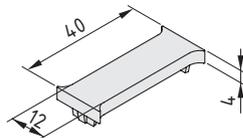


Parallel Fastener 8 Cover Profile

Al, anodized
 $m = 50 \text{ g/m}$
natural, 1 pce., length 2000 mm

Parallel Fastener 8 Cover Profile End Cap

PA-GF
 $m = 2.5 \text{ g}$
black, 1 pce.



0.0.476.59

0.0.476.60



Connection Profiles

Connect Profiles 8 to make extra strong supports

- Simple engineering for stable composite profiles
- For open and closed supports
- Suitable Cover Profile for easy-to-clean surfaces

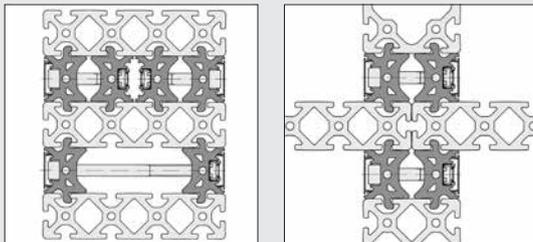


Connection Profile 8 40 is supplied in pairs and machined with 11 mm \varnothing bores (bore spacing 200 mm) for the fastening screws.

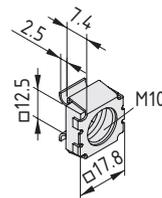
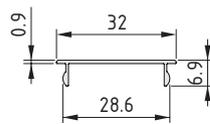
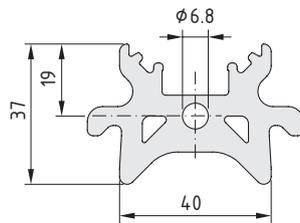
The use of Captive Nuts (designed to fix positions and prevent

torsion) allows the Connection Profile to be fitted from one side. DIN 912-M10x60, M10x100 or M10x140 Hexagon Socket Head Cap Screws (tightening torque $M = 34 \text{ Nm}$)

are inserted at the relevant predetermined positions to join Connection Profiles. The joint and/or screw heads and Captive Nuts can be covered over with a dust-tight Cover Profile 32.



Hexagon Socket Head Cap Screw DIN 912 M10x60



Connection Profile 8 40

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.97	2.42	5.73	19.85	4.59	2.90	6.96
natural, cut-off max. 6000 mm, 1 pair						0.0.422.35
natural, 1 pair, length 6000 mm						0.0.453.90

Cover Profile 32

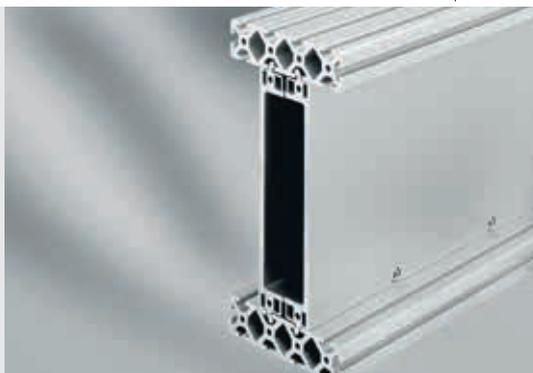
Al, anodized

A [cm ²]	m [kg/m]
0.41	0.11
natural, cut-off max. 3000 mm	
natural, 1 pce., length 3000 mm	

Captive Nut M10

Cage and square nut, St
m = 8.0 g

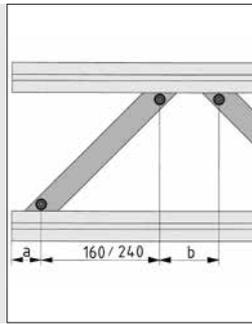
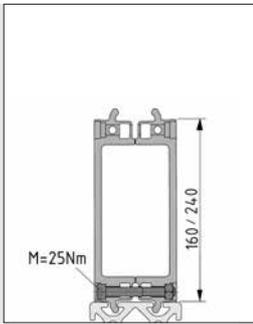
bright zinc-plated, 1 pce.	8.0.004.02
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Connection Profiles 8 160 and 8 240 are supplied in pairs and machined with bores for the DIN 912-M8x60 fastening screws and DIN 934-M8 Hexagon Nuts.

The Connection Profile Braces 8 are ready-to-install kits complete with screws and nuts.

Hexagon Socket Head Cap Screw DIN 912 M8x60



The Connection Profile Braces (45° sections of the Connection Profiles) are suitable for constructing lightweight, open “composite profiles”. These Connection Profile Braces consist of left and right diagonal sections together with the corresponding nuts and bolts. They can be retrofitted at any point and any distance (dimension a / b) along the profiles which are being joined. With a fixed spacing of 160 or 240 mm, the Connection Profiles Braces represent an inexpensive alternative to the latticework construction.

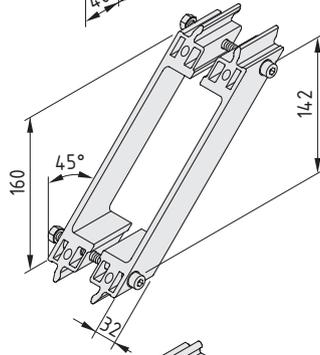
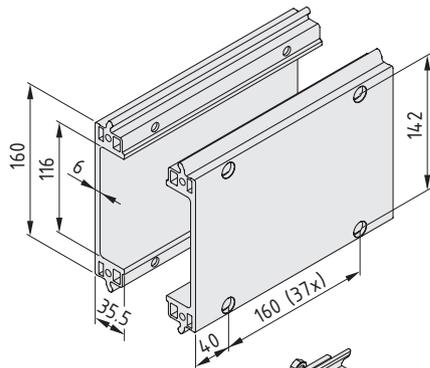
Connection Profile 8 160

8

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
17.80	4.76	618.43	17.51	10.34	69.10	7.14
natural, cut-off max. 6000 mm, 1 pair						0.0.458.03
natural, 1 pair, length 6000 mm						0.0.458.08



Connection Profile Brace 8 160-45°

8

Al, anodized, natural

Brace right

Brace left

2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated

2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated

a_{min.} = 33 mm (recommended 40 mm)

b_{min.} = 65 mm (recommended 80 mm)

m = 488.0 g

1 set 0.0.458.18

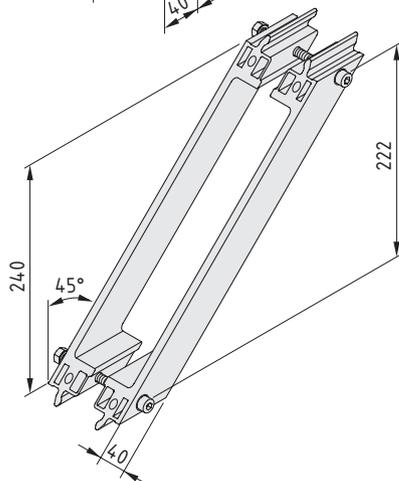
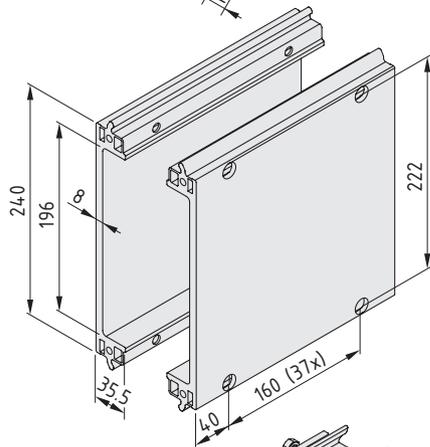
Connection Profile 8 240

8

Al, anodized

(The values apply for an individual profile section and not for a pair)

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
26.00	6.97	1,808.44	19.33	12.54	139.65	7.24
natural, cut-off max. 6000 mm, 1 pair						0.0.458.17
natural, 1 pair, length 6000 mm						0.0.458.14



Connection Profile Brace 8 240-45°

8

Al, anodized, natural

Brace right

Brace left

2 Hexagon Socket Head Cap Screws DIN 912-M8x60, St, bright zinc-plated

2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated

a_{min.} = 38 mm (recommended 40 mm)

b_{min.} = 76 mm (recommended 80 mm)

m = 846.0 g

1 set 0.0.458.21

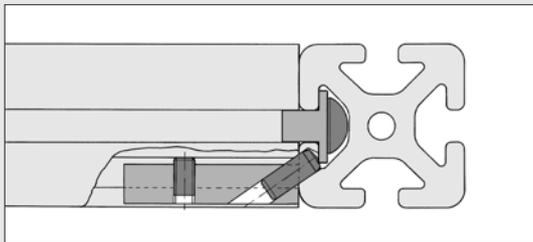


Pin Elements

- Excellent resistance against impact and overload
- Additional rigidity from dowel pin

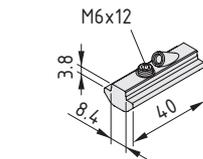


The Pin Element is used to add extra rigidity to power-lock connections, e.g. between horizontal braces and continuous vertical profiles which are subject to heavy load. Preferably used in pairs, Pin Elements can provide additional support for Standard, Universal and Automatic Fasteners.



The Pin Element is inserted into the profile groove through the end face and, after applying the Standard, Universal or Automatic Fasteners, is then pushed to the end of the profile and fixed in position. A hole (Line 8: \varnothing 5.9 mm; Line 10: \varnothing 7.9 mm; Line 12: \varnothing 9.9 mm) is drilled in the profile to accommodate the dowel.

Each element that is deployed increases the displacement resistance of the connection to a maximum of 3,000 N (Line 8); 4,000 N (Line 10) or 6,000 N (Line 12).



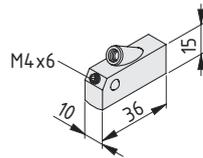
Pin Element 8



Body, St, bright zinc-plated
Grub screw DIN 916-M6x12, St, bright zinc-plated
Dowel ISO 8735-6m6x16, St, hardened
m = 34.0 g

1 pce.

0.0.265.37



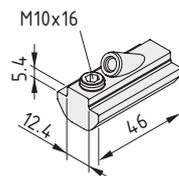
Pin Element 10



Basic unit, St, bright zinc-plated
Grub screw DIN 914-M4x6, St, bright zinc-plated
Dowel ISO 8735-8m6x16, St, hardened
m = 48.3 g

1 pce.

0.0.624.87



Pin Element 12



Body, St, bright zinc-plated
Grub screw DIN 913-M10x16, St, bright zinc-plated
Dowel ISO 8735-10m6x24, St, hardened
m = 100.0 g

1 pce.

0.0.010.06



T-SLOT NUTS

3

- T-Slot Nuts
- T-Slot Nut Profiles
- Screw Strips

Overview – finding the right T-Slot Nut fast

3

	5		6		8		10		12	
	Type	max. F [N]	Type	max. F [N]	Type	max. F [N]	Type	max. F [N]	Type	max. F [N]
T-Slot Nuts St and V St – the stable fastening that is suitable for all profile fasteners 										
	5 St M5	500	6 St M6	1,750*	8 St M8	5,000*	10 St M10	7,000*	12 St M12	10,000*
	5 St M5, stainless	400	6 St M6, stainless	1,400*	8 St M8, stainless	4,000*	10 St M8	6,000*	12 St M10	10,000*
	5 St M4	500	6 St M5	1,750*	8 St M6	3,500*	10 St M6	3,500*	12 St M8	6,000*
	5 St M4, stainless	400	6 St M5, stainless	1,400*	8 St M6, stainless	2,800*			12 St M6	3,500*
	5 St M3	500	6 St M4	1,750*	8 St M5	2,500*				
			6 St M3	500	8 St M5, stainless	2,000*				
					8 St M4	2,500*				
					8 St M4, stainless	2,000*				
					V 8 St M8	4,000*				
					V 8 St M6	3,500*				
					V 8 St M5	2,500*				
					V 8 St M4	2,500*				
T-Slot Nuts Zn – simple installation and a fixed hold in the groove 										
	5 Zn M3	50	6 Zn M4	150	8 Zn M5	250				
					8 Zn M4	250				
					8 Zn M3	250				
T-Slot Nuts PA – for lightweight attachments 										
					8 PA	150				
T-Slot Nuts F St – electrostatically dissipative and fixed in position 										
			F 6 St M6	1,750*	F 8 St M6	3,500*				
			F 6 St M5	1,750*	F 8 St M5	2,500*				
			F 6 St M4	1,750*	F 8 St M4	2,500*				
T-Slot Nuts St, heavy duty – for the ultimate loads 										
					8 St M8, heavy duty	5,000*	10 St M10, heavy duty	8,000*	12 St M12, heavy duty	10,000*
					8 St M6, heavy duty	3,500*	10 St M8, heavy duty	6,000*	12 St M10, heavy duty	10,000*
									12 St M8, heavy duty	6,000*

* take load-carrying capacity of profile groove into account!

T-Slot Nuts

Products in this section

3



T-Slot Nuts St

- For universal in-groove fastening
- Practical, secure and tried and tested

138



T-Slot Nuts St with 2 Threads

- Easy to fit for dual screw connections

141



Hammerhead Nut 8 M6

- Rapid hold with a flick of the wrist
- ESD contact as standard

142



T-Slot Nuts Zn

- Simple fastening for components
- Automatically locked when screw is tightened

143



T-Slot Nut PA

- For fastening lightweight components with low loads
- Easy to fit, fixed positioning

144



T-Slot Nuts F

- For conductive profile connections
- Fixed in position by grub screw

145



T-Slot Nuts St, heavy-duty

- Effective transferral of tensile loads into the profile
- More supporting threads for stronger screw connections

146



Profile Bars and Groove Profiles

- For anchoring entire modules in the profile groove
- Threads can be positioned at will according to requirements

147



Screw Strips Al

- Screw channel for creating fastenings at any position using Self-Tapping Screws
- Strips are simply pressed into the profile groove

149



Note:

Technical data on the T-Slot Nuts can be found in Section 19.



T-Slot Nuts St

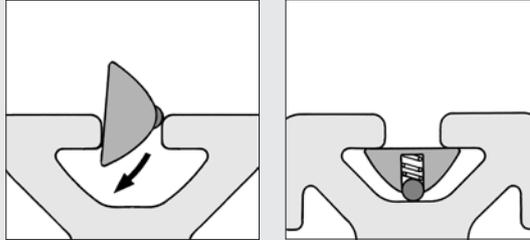
Practical, secure and tried and tested

- The T-Slot Nut with the broadest product diversity
- Available in seven thread sizes
- Available with anti-torsion feature (V)



A secure hold in all positions. T-Slot Nut St is available for all profile lines. Its key feature is the thrust piece on the underside, which incorporates a spring that enables the user to roll the T-Slot Nut into the groove. The thrust piece then holds the T-Slot Nut securely in place, making assembly much easier.

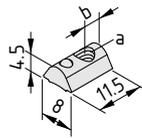
T-Slot Nut St is available in a range of thread sizes from M3 to M12 to suit various applications and loads.



T-Slot Nuts St are inserted into the profile groove where they are secured in position by means of thrust pieces.

Materials used in all the following products:

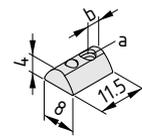
St



T-Slot Nut 5 St M3	
a = M3 b = 3 mm M = 1.5 Nm m = 2.0 g	
bright zinc-plated, 1 pce.	0.0.437.19

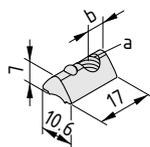
T-Slot Nut 5 St M4	
a = M4 b = 3 mm M = 3 Nm m = 2.0 g	
bright zinc-plated, 1 pce.	0.0.370.06

T-Slot Nut 5 St M5	
a = M5 b = 4 mm M = 4.5 Nm m = 2.0 g	
bright zinc-plated, 1 pce.	0.0.370.01



T-Slot Nut 5 St M4	
a = M4 b = 3 mm M = 2.4 Nm m = 2.0 g	
stainless, 1 pce.	0.0.425.10

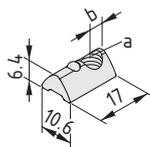
T-Slot Nut 5 St M5	
a = M5 b = 4 mm M = 3.6 Nm m = 2.0 g	
stainless, 1 pce.	0.0.425.11



T-Slot Nut 6 St M3	
a = M3 b = 4.5 mm M = 1.5 Nm m = 4.0 g	
bright zinc-plated, 1 pce.	0.0.459.44

T-Slot Nut 6 St M4	
a = M4 b = 4.5 mm M = 4 Nm m = 4.0 g	
bright zinc-plated, 1 pce.	0.0.419.46

T-Slot Nut 6 St M5	
a = M5 b = 4.5 mm M = 8 Nm m = 4.0 g	
bright zinc-plated, 1 pce.	0.0.419.43

**T-Slot Nut 6 St M6**

a = M6 b = 5.5 mm M = 14 Nm m = 4.0 g

bright zinc-plated, 1 pce. 0.0.419.40

T-Slot Nut 6 St M5

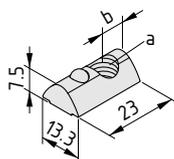
a = M5 b = 4.5 mm M = 6.5 Nm m = 4.0 g

stainless, 1 pce. 0.0.439.72

T-Slot Nut 6 St M6

a = M6 b = 5.5 mm M = 11 Nm m = 4.0 g

stainless, 1 pce. 0.0.439.75

**T-Slot Nut V 8 St M4**

a = M4 b = 7.5 mm M = 4 Nm m = 11.1 g

bright zinc-plated, 1 pce. 0.0.480.57

T-Slot Nut V 8 St M5

a = M5 b = 7.5 mm M = 8 Nm m = 10.6 g

bright zinc-plated, 1 pce. 0.0.480.54

T-Slot Nut V 8 St M6

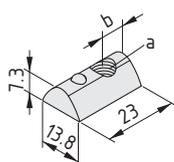
a = M6 b = 6.5 mm M = 14 Nm m = 10.3 g

bright zinc-plated, 1 pce. 0.0.480.50

T-Slot Nut V 8 St M8

a = M8 b = 7.5 mm M = 20 Nm m = 9.3 g

bright zinc-plated, 1 pce. 0.0.480.48

**T-Slot Nut 8 St M4**

a = M4 b = 7.5 mm M = 4 Nm m = 11.0 g

bright zinc-plated, 1 pce. 0.0.420.06

T-Slot Nut 8 St M4

a = M4 b = 7.5 mm M = 3.2 Nm m = 11.0 g

stainless, 1 pce. 0.0.428.54

T-Slot Nut 8 St M5

a = M5 b = 7.5 mm M = 8 Nm m = 11.0 g

bright zinc-plated, 1 pce. 0.0.420.05

T-Slot Nut 8 St M5

a = M5 b = 7.5 mm M = 6.5 Nm m = 11.0 g

stainless, 1 pce. 0.0.428.55

T-Slot Nut 8 St M6

a = M6 b = 6.5 mm M = 14 Nm m = 10.0 g

bright zinc-plated, 1 pce. 0.0.026.23

T-Slot Nut 8 St M6

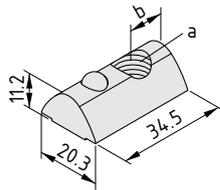
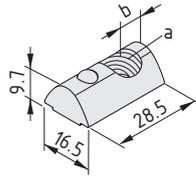
a = M6 b = 6.5 mm M = 11 Nm m = 10.0 g

stainless, 1 pce. 0.0.388.51

T-Slot Nut 8 St M8

a = M8 b = 7.5 mm M = 25 Nm m = 10.0 g

bright zinc-plated, 1 pce. 0.0.026.18

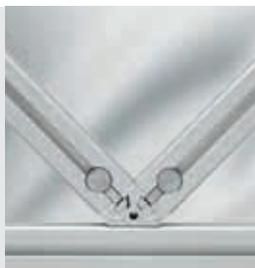


T-Slot Nut 8 St M8				8
a = M8	b = 7.5 mm	M = 20 Nm	m = 10.0 g	
stainless, 1 pce.				0.0.388.49
T-Slot Nut 10 St M6				10
a = M6 mm	b = 8.5 mm	M = 14 Nm	m = 22.4 g	
bright zinc-plated, 1 pce.				0.0.625.06
T-Slot Nut 10 St M8				10
a = M8 mm	b = 8.5 mm	M = 34 Nm	m = 21.1 g	
bright zinc-plated, 1 pce.				0.0.625.04
T-Slot Nut 10 St M10				10
a = M10 mm	b = 8.5 mm	M = 46 Nm	m = 19.4 g	
bright zinc-plated, 1 pce.				0.0.625.02
T-Slot Nut 12 St M6				12
a = M6	b = 11.3 mm	M = 14 Nm	m = 38.0 g	
bright zinc-plated, 1 pce.				0.0.003.72
T-Slot Nut 12 St M8				12
a = M8	b = 11.3 mm	M = 34 Nm	m = 35.0 g	
bright zinc-plated, 1 pce.				0.0.003.63
T-Slot Nut 12 St M10				12
a = M10	b = 11.3 mm	M = 46 Nm	m = 33.0 g	
bright zinc-plated, 1 pce.				0.0.003.64
T-Slot Nut 12 St M12				12
a = M12	b = 11.3 mm	M = 80 Nm	m = 31.0 g	
bright zinc-plated, 1 pce.				0.0.003.65



T-Slot Nuts St with 2 Threads

- Second thread provides additional hold
- Extremely easy to use

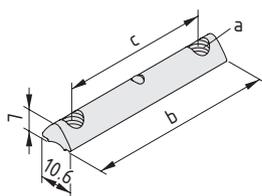
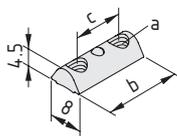


T-Slot Nuts St with 2 Threads are primarily intended for use with Angle Elements T2 and Universal and Automatic Fasteners (see section on fastening technology) to construct stable latticework structures. However, they can also be used with all other profile connections.

With a suitable grub screw in one of their threaded bores, these T-Slot Nuts create a non-slip thread in the profile groove.

Materials used in all the following products:

St



T-Slot Nut 5 St 2xM4-18

a	b [mm]	c [mm]	M [Nm]	m [g]
M4	18	11.6	8	3.0
bright zinc-plated, 1 pce.				0.0.614.40

T-Slot Nut 5 St 2xM4-20

a	b [mm]	c [mm]	M [Nm]	m [g]
M4	20	13.6	8	3.3
bright zinc-plated, 1 pce.				0.0.614.42

T-Slot Nut 6 St 2xM5-28

a	b [mm]	c [mm]	M [Nm]	m [g]
M5	28	19	8	8.0
bright zinc-plated, 1 pce.				0.0.615.73

T-Slot Nut 6 St 2xM5-58

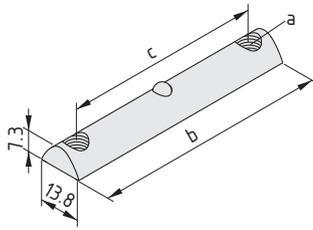
a	b [mm]	c [mm]	M [Nm]	m [g]
M5	58	49	8	17.0
bright zinc-plated, 1 pce.				0.0.615.76

T-Slot Nut 6 St 2xM6-28

a	b [mm]	c [mm]	M [Nm]	m [g]
M6	28	17	14	7.0
bright zinc-plated, 1 pce.				0.0.610.10

T-Slot Nut 6 St 2xM6-58

a	b [mm]	c [mm]	M [Nm]	m [g]
M6	58	47	14	16.0
bright zinc-plated, 1 pce.				0.0.610.72



T-Slot Nut 8 St 2xM6-36					8
a	b [mm]	c [mm]	M [Nm]	m [g]	
M6	36	26.4	14	17.0	
bright zinc-plated, 1 pce.					0.0.644.51
T-Slot Nut 8 St 2xM6-76					8
a	b [mm]	c [mm]	M [Nm]	m [g]	
M6	76	66.4	14	38.0	
bright zinc-plated, 1 pce.					0.0.644.14
T-Slot Nut 8 St 2xM8-36					8
a	b [mm]	c [mm]	M [Nm]	m [g]	
M8	36	24	25	14.0	
bright zinc-plated, 1 pce.					0.0.610.80
T-Slot Nut 8 St 2xM8-76					8
a	b [mm]	c [mm]	M [Nm]	m [g]	
M8	76	64	25	36.0	
bright zinc-plated, 1 pce.					0.0.611.08



Hammerhead Nut 8 M6

- Rapid hold with a flick of the wrist
- Secure ESD contact as standard

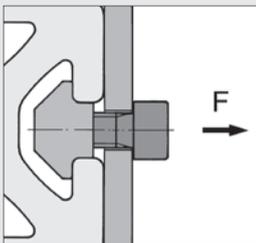


For the fastest possible fastening in the profile groove – insert a screw that has already been fitted with Hammerhead Nut 8 St. When the screw is tightened, the Hammerhead Nut rotates around 90° and is clamped in the groove. A safe contact is made by partially destroying the anodized layer, making the fastening ESD dissipative.

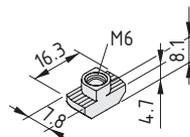


Note:

The Hammerhead Nut has a self-locking thread. This generates the drag torque (2 Nm) when tightening the screw.



Permissible operating load
F = 1,000 N



Hammerhead Nut 8 M6			ESD	8
St				
M = 6 Nm	m = 4.2 g			
bright zinc-plated, 1 pce.				0.0.626.06



T-Slot Nuts Zn

Straightforward fixing due to preassembly

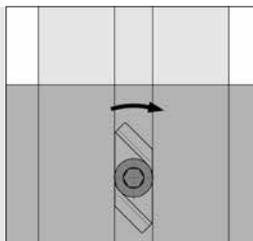
- Simple fastening for components
- Automatically locked when screw is tightened



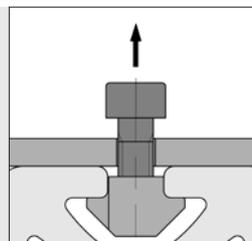
The ideal solution when speed is of the essence. T-Slot Nut Zn is provisionally screwed into place on the component that is to be fastened and then inserted anywhere along the groove of the supporting profile. When the screw is tightened, T-Slot Nut Zn automatically locks into place and creates a secure thread.

Note:

T-Slot Nut Zn is not suitable for connecting profiles to other profiles.



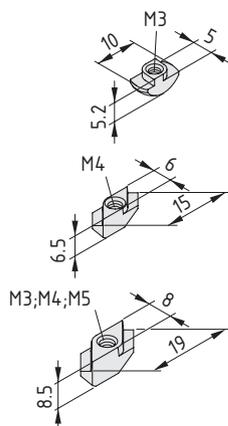
T-Slot Nuts Zn can, if required, be prefitted (with the screw) to the component to be secured and are inserted at any position in the profile groove.



Tightening the screw automatically locks the T-Slot Nut in the groove. Pulling the screw fixes T-Slot Nuts 6 Zn and 8 Zn in the groove by means of the conical flanks.

The following applies to all the products below:

Die-cast zinc



T-Slot Nut 5 Zn M3

M = 1 Nm m = 1.0 g

bright zinc-plated, 1 pce.

0.0.391.20

T-Slot Nut 6 Zn M4

M = 1.5 Nm m = 2.2 g

bright zinc-plated, 1 pce.

0.0.441.45

T-Slot Nut 8 Zn M3

M = 1 Nm m = 5.0 g

bright zinc-plated, 1 pce.

0.0.373.59

T-Slot Nut 8 Zn M4

M = 1.5 Nm m = 5.0 g

bright zinc-plated, 1 pce.

0.0.373.58

T-Slot Nut 8 Zn M5

M = 1.5 Nm m = 5.0 g

bright zinc-plated, 1 pce.

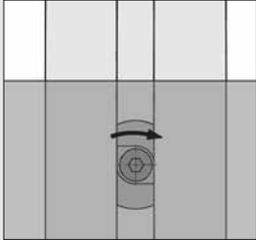
0.0.373.44

3

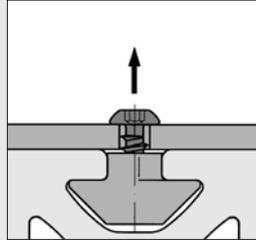


T-Slot Nut PA

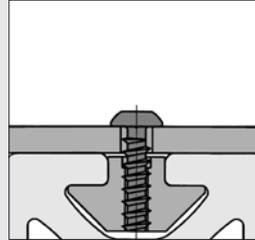
- For fastening lightweight components with low loads
- Straightforward assembly



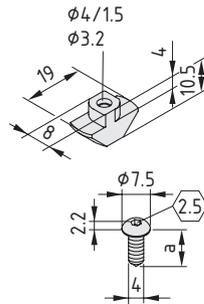
T-Slot Nut PA can, if required, be prefitted (using the screw) to the component to be secured and is inserted at any position in the profile groove.



Tightening the screw automatically locks the T-Slot Nut in the groove.



Button-Head Screw T4 from item has been specially designed for use with T-Slot Nut 8 PA. This screw cuts its own thread in the plastic body.



T-Slot Nut 8 PA



PA-GF
M = 1.5 Nm m = 1.0 g
black, 1 pce.

0.0.436.52

Button-Head Screw T4x12

St
a = 12 mm m = 1.0 g
bright zinc-plated, 1 pce.

0.0.440.39

Button-Head Screw T4x14

St
a = 14 mm m = 1.1 g
black, 1 pce.

0.0.440.40

Button-Head Screw T4x16

St
a = 16 mm m = 1.2 g
black, 1 pce.

0.0.440.41

Button-Head Screw T4x18

St
a = 18 mm m = 1.3 g
black, 1 pce.

0.0.440.42

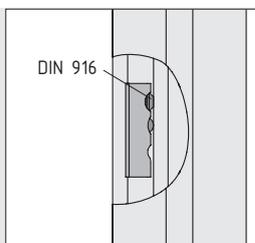
Button-Head Screw T4x25

St
a = 25 mm m = 1.6 g
bright zinc-plated, 1 pce.

0.0.440.43

T-Slot Nuts F

- For conductive profile connections
- Securely held in position

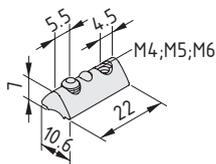


T-Slot Nut F combines the advantages of T-Slot Nut St with the requirements of ESD-safe systems. It produces a permanent conductive connection between the T-Slot Nut and the profile. This establishes an electrically conductive profile connection without the need for any additional elements. This is made possible by partially destroying the electrically insulating anodized surface covering of the profile at the base of the T-slot.

Materials used in all the following products:

St

Grub screw DIN 916 M5x5, St, bright zinc-plated



T-Slot Nut F 6 St M4	
M = 4 Nm m = 7.0 g	
bright zinc-plated, 1 pce.	0.0.613.23

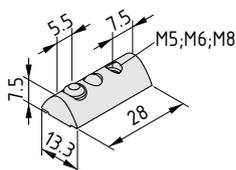
T-Slot Nut F 6 St M5	
M = 4 Nm m = 6.7 g	
bright zinc-plated, 1 pce.	0.0.613.22

T-Slot Nut F 6 St M6	
M = 4 Nm m = 6.4 g	
bright zinc-plated, 1 pce.	0.0.613.21

Materials used in all the following products:

St

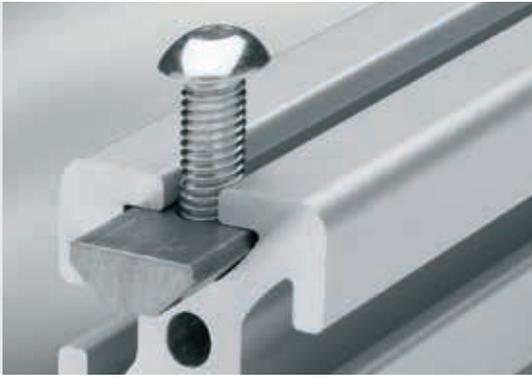
Grub screw DIN 916 M6x6, St, bright zinc-plated



T-Slot Nut F 8 St M5	
M = 4 Nm m = 12.7 g	
bright zinc-plated, 1 pce.	0.0.613.20

T-Slot Nut F 8 St M6	
M = 4 Nm m = 12.3 g	
bright zinc-plated, 1 pce.	0.0.613.19

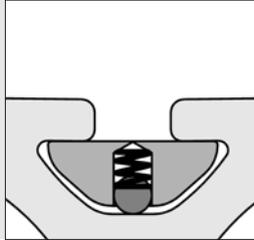
T-Slot Nut F 8 St M8	
M = 4 Nm m = 11.4 g	
bright zinc-plated, 1 pce.	0.0.613.18



T-Slot Nuts St, heavy-duty

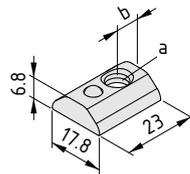
The heavyweights – for constructions with exceptionally high loads

- Effective transferral of tensile loads into the profile
- More supporting threads for stronger screw connections
- Ideal for heavily loaded connections

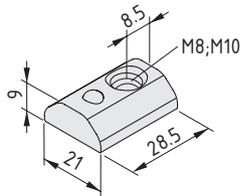


T-Slot Nuts St, heavy-duty are inserted into the profile groove in the end face where they are secured in position by means of a thrust piece.

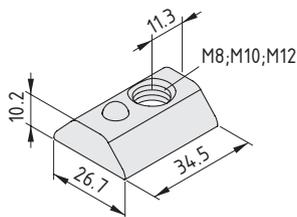
Materials used in all the following products:
St



T-Slot Nut 8 St M6, heavy-duty	
a = M6 b = 6.5 mm M = 14 Nm m = 17.0 g	
bright zinc-plated, 1 pce.	0.0.427.75



T-Slot Nut 8 St M8, heavy-duty	
a = M8 b = 7.5 mm M = 34 Nm m = 16.0 g	
bright zinc-plated, 1 pce.	0.0.420.83



T-Slot Nut 10 St M8, heavy-duty	
M = 34 Nm m = 32.0 g	
bright zinc-plated, 1 pce.	0.0.624.97

T-Slot Nut 10 St M10, heavy-duty	
M = 65 Nm m = 30.5 g	
bright zinc-plated, 1 pce.	0.0.624.95

T-Slot Nut 12 St M8, heavy-duty	
M = 34 Nm m = 50.0 g	
bright zinc-plated, 1 pce.	0.0.003.66

T-Slot Nut 12 St M10, heavy-duty	
M = 65 Nm m = 47.0 g	
bright zinc-plated, 1 pce.	0.0.003.67

T-Slot Nut 12 St M12, heavy-duty	
M = 100 Nm m = 45.0 g	
bright zinc-plated, 1 pce.	0.0.003.68

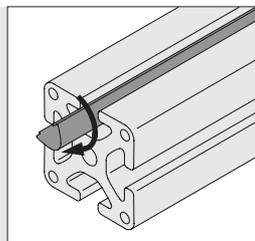


Profile Bars and Groove Profiles

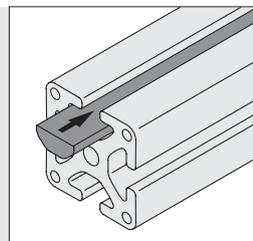
- For anchoring entire modules in the profile groove
- Threads can be positioned at will according to requirements



The ability to customise the Profile Bars and Groove Profiles mean that fastening elements can be produced which are geared to the needs of specific applications.



Profile Bars St are swivelled into the profile groove.



Profile Bars St, heavy-duty are slid into the groove profile.



Profile Bar 5 St



St
Threaded bore max. M5
m = 89.0 g

bright zinc-plated, 1 pce., length 500 mm

0.0.370.56



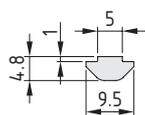
Profile Bar 5 St



St
Threaded bore max. M5
m = 89.0 g

stainless, 1 pce., length 500 mm

0.0.425.18



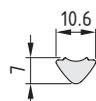
Groove Profile 5 Al



Al, anodized
Threaded bore max. M5
m = 178.0 g

natural, 1 pce., length 2000 mm

0.0.425.82



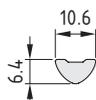
Profile Bar 6 St



St
Threaded bore max. M6
m = 170.0 g

bright zinc-plated, 1 pce., length 500 mm

0.0.431.04



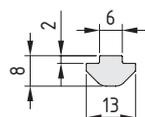
Profile Bar 6 St



St
Threaded bore max. M6
m = 170.0 g

stainless, 1 pce., length 500 mm

0.0.439.03



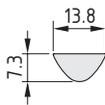
Groove Profile 6 Al



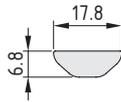
Al, anodized
Threaded bore max. M6
m = 400.0 g

natural, 1 pce., length 2000 mm

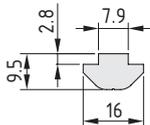
0.0.434.29



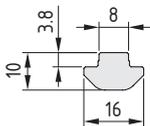
Profile Bar 8 St	
St Threaded bore max. M8 m = 270.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.026.70
stainless, 1 pce., length 500 mm	0.0.388.48



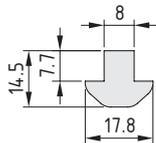
Profile Bar 8 St, heavy-duty	
St Threaded bore max. M8 m = 410.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.427.23



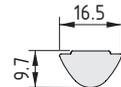
Groove Profile 8 Al	
Al, anodized Threaded bore max. M8 m = 585.0 g	
natural, 1 pce., length 2000 mm	0.0.427.39



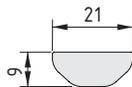
Groove Profile 8 St	
St Threaded bore max. M8 m = 440.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.444.32



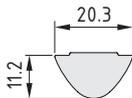
Locating Profile 8 Al	
Al, anodized m = 900.0 g	
natural, 1 pce., length 2000 mm	0.0.009.20



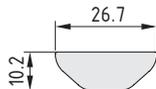
Profile Bar 10 St	
St Threaded bore max. M10 m = 438.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.624.81



Profile Bar 10 St, heavy-duty	
St Threaded bore max. M10 m = 615.4 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.624.85



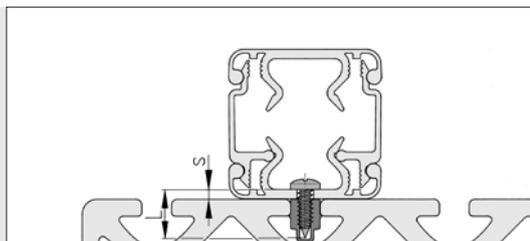
Profile Bar 12 St	
St Threaded bore max. M12 m = 600.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.003.74



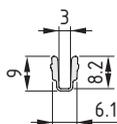
Profile Bar 12 St, heavy-duty	
St Threaded bore max. M12 m = 840.0 g	
bright zinc-plated, 1 pce., length 500 mm	0.0.003.75

Screw Strips Al

- Screw channel for creating fastenings at any position using Self-Tapping Screws
- Strips are simply pressed into the profile groove



Example of how a cable conduit is secured with Screw Strip 8 Al and Self-Tapping Screws DIN 7981 St 4.2x13. The required screw length L must be selected to match the workpiece thickness s.



Screw Strip 6 Al



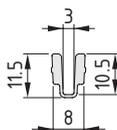
Al, anodized
m = 70 g/m

natural, cut-off max. 2000 mm

0.0.439.17

natural, 1 pce., length 2000 mm

0.0.451.50



Screw Strip 8 Al



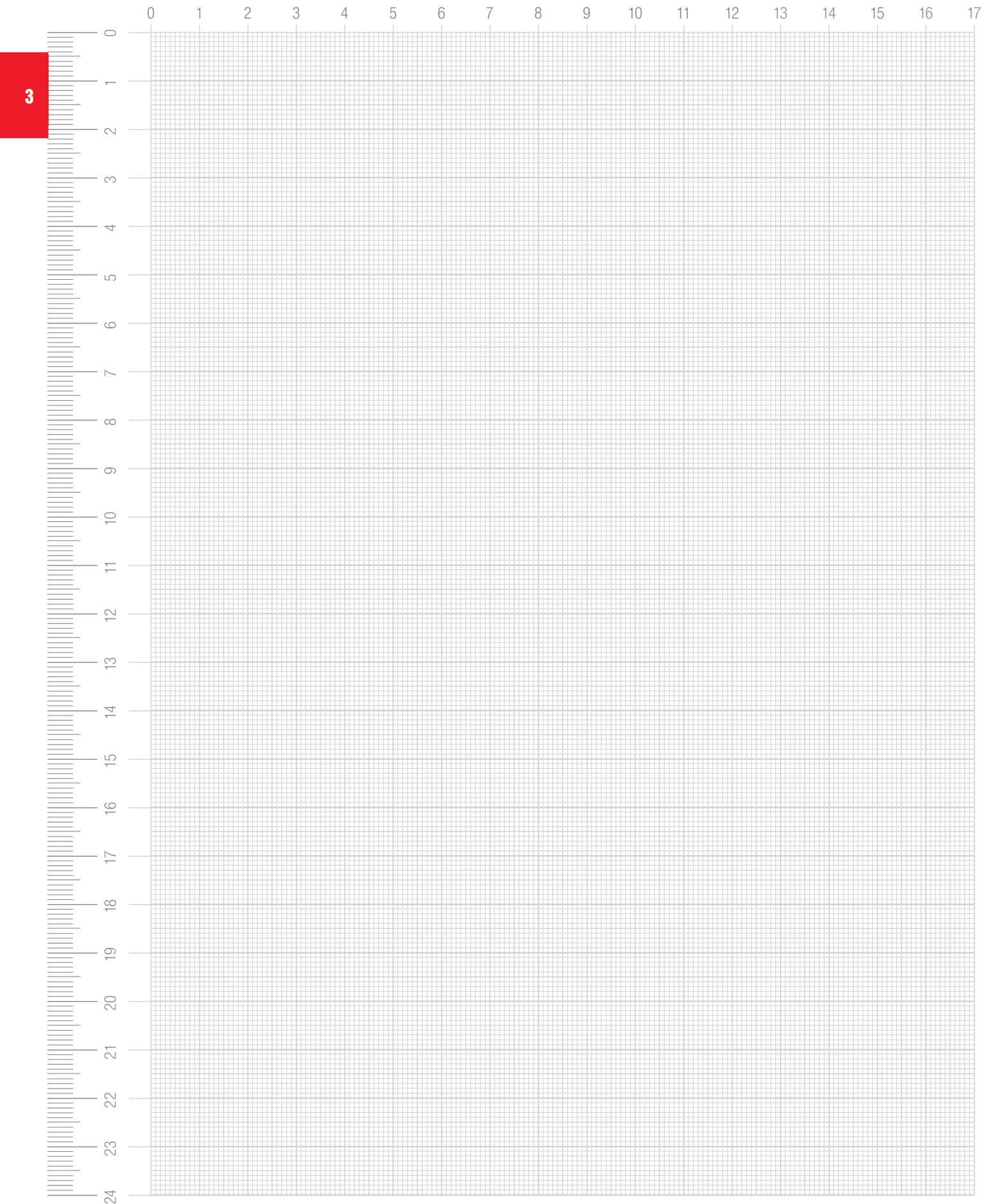
Al, anodized
m = 130 g/m

natural, cut-off max. 2000 mm

0.0.411.44

natural, 1 pce., length 2000 mm

0.0.453.47





SCREWS AND UNIVERSAL FASTENERS

4

Screws
Locating Washers
Bracket Flat and Angle Bracket Right-Angled
Adapter Profiles

Screws and universal fasteners
Products in this section

4



Button-Head Screws ISO 7380

- High-strength standard screws for the MB Building Kit System
- Specifically suitable for use in the profile groove

153



Caps, Button-Head Screws

- Protect screws and screw heads from dirt and corrosion
- For use with item Button-Head Screws M6 and M8

157



Hexagon Socket Head Cap Screws

- Screws for universal use
- High property class of 10.9

158



Countersunk Screws DIN 7991

- For screw connections that are flush with the surface of components and panel elements
- Secure hold for panels

160



Locating Washers

- Rear fastening of screws in the groove
- Suitable for use with Button-Head Screws ISO 7390

161



Angle Bracket Zn

- Variable angle brackets for fastening components
- Slots for wide adjustment range

163



Bracket flat and Angle Bracket right-angled

- Universal fastening elements
- For panel elements, light-weight shelving, etc.

164



Flat Bracket 8 D40/D40

- Connect two cylindrical Profiles D40
- For constructing room dividers, partitions and sound protection walls

166



Adapter Profile 12/8

- For fitting elements from Line 8 to a Line 12 groove
- The Adapter Profile makes a Line 12 groove smaller

167



Button-Head Screws ISO 7380

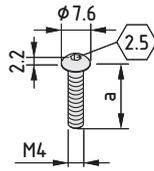
- High-strength standard screws for the MB Building Kit System
- Specifically suitable for use in the profile groove

4

The following applies to all the products below:

St

Property class 10.9 (bright zinc-plated designs)



Button-Head Screw M4x8

a = 8 mm m = 1.1 g

bright zinc-plated, 1 pce.

8.0.001.98

Button-Head Screw M4x10

a = 10 mm m = 1.3 g

bright zinc-plated, 1 pce.

8.0.002.01

Button-Head Screw M4x12

a = 12 mm m = 1.5 g

bright zinc-plated, 1 pce.

8.0.002.04

Button-Head Screw M4x14

a = 14 mm m = 1.7 g

bright zinc-plated, 1 pce.

8.0.002.07

Button-Head Screw M4x16

a = 16 mm m = 1.9 g

bright zinc-plated, 1 pce.

8.0.000.05

Button-Head Screw M4x18

a = 18 mm m = 2.0 g

bright zinc-plated, 1 pce.

8.0.002.10

Button-Head Screw M4x20

a = 20 mm m = 2.2 g

bright zinc-plated, 1 pce.

8.0.002.13

Button-Head Screw M4x22

a = 22 mm m = 2.4 g

bright zinc-plated, 1 pce.

8.0.002.16

Button-Head Screw M4x25

a = 25 mm m = 2.7 g

bright zinc-plated, 1 pce.

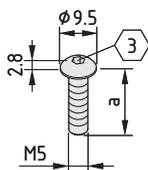
8.0.002.19

Button-Head Screw M4x30

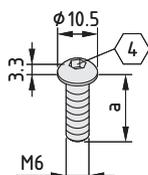
a = 30 mm m = 3.2 g

bright zinc-plated, 1 pce.

8.0.002.22

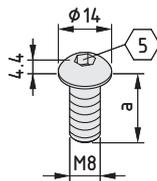


Button-Head Screw M5x8	a = 8 mm	m = 2.0 g	
bright zinc-plated, 1 pce.			8.0.000.24
Button-Head Screw M5x10	a = 10 mm	m = 2.3 g	
bright zinc-plated, 1 pce.			8.0.000.06
Button-Head Screw M5x12	a = 12 mm	m = 2.6 g	
bright zinc-plated, 1 pce.			8.0.005.45
Button-Head Screw M5x14	a = 14 mm	m = 2.9 g	
bright zinc-plated, 1 pce.			0.0.417.30
Button-Head Screw M5x16	a = 16 mm	m = 3.2 g	
bright zinc-plated, 1 pce.			8.0.000.07
Button-Head Screw M5x18	a = 18 mm	m = 3.5 g	
bright zinc-plated, 1 pce.			8.0.002.25
Button-Head Screw M5x20	a = 20 mm	m = 3.8 g	
bright zinc-plated, 1 pce.			0.0.404.11
Button-Head Screw M5x25	a = 25 mm	m = 4.6 g	
bright zinc-plated, 1 pce.			8.0.000.25
Button-Head Screw M5x30	a = 30 mm	m = 5.3 g	
bright zinc-plated, 1 pce.			8.0.002.31
Button-Head Screw M5x35	a = 35 mm	m = 6.1 g	
bright zinc-plated, 1 pce.			8.0.002.34
Button-Head Screw M5x40	a = 40 mm	m = 6.8 g	
bright zinc-plated, 1 pce.			0.0.391.26
Button-Head Screw M5x45	a = 45 mm	m = 7.6 g	
bright zinc-plated, 1 pce.			8.0.005.24



Button-Head Screw M6x10	a = 10 mm	m = 3.2 g	
bright zinc-plated, 1 pce.			8.0.002.37
Button-Head Screw M6x12	a = 12 mm	m = 3.6 g	
bright zinc-plated, 1 pce.			8.0.002.40

Button-Head Screw M6x14	
a = 14 mm	m = 4.0 g
bright zinc-plated, 1 pce.	8.0.017.26
Button-Head Screw M6x16	
a = 16 mm	m = 4.4 g
bright zinc-plated, 1 pce.	8.0.000.63
Button-Head Screw M6x18	
a = 18 mm	m = 4.8 g
bright zinc-plated, 1 pce.	8.0.002.45
Button-Head Screw M6x20	
a = 20 mm	m = 5.2 g
bright zinc-plated, 1 pce.	8.0.000.08
Button-Head Screw M6x22	
a = 22 mm	m = 5.6 g
bright zinc-plated, 1 pce.	8.0.002.48
stainless, 1 pce.	8.0.005.56
Button-Head Screw M6x25	
a = 25 mm	m = 6.2 g
bright zinc-plated, 1 pce.	8.0.000.01
Button-Head Screw M6x30	
a = 30 mm	m = 7.2 g
bright zinc-plated, 1 pce.	8.0.000.15
Button-Head Screw M6x35	
a = 35 mm	m = 8.2 g
bright zinc-plated, 1 pce.	8.0.000.16
Button-Head Screw M6x40	
a = 40 mm	m = 9.2 g
bright zinc-plated, 1 pce.	8.0.001.15
Button-Head Screw M6x45	
a = 45 mm	m = 10.2 g
bright zinc-plated, 1 pce.	8.0.002.53
Button-Head Screw M6x50	
a = 50 mm	m = 11.2 g
bright zinc-plated, 1 pce.	8.0.002.56
Button-Head Screw M8x10	
a = 10 mm	m = 6.7 g
bright zinc-plated, 1 pce.	8.0.000.17
Button-Head Screw M8x12	
a = 12 mm	m = 7.4 g
bright zinc-plated, 1 pce.	8.0.002.59
Button-Head Screw M8x14	
a = 14 mm	m = 8.1 g
bright zinc-plated, 1 pce.	8.0.000.18



Button-Head Screw M8x16		
a = 16 mm	m = 8.8 g	
bright zinc-plated, 1 pce.		8.0.000.19
Button-Head Screw M8x18		
a = 18 mm	m = 9.5 g	
bright zinc-plated, 1 pce.		8.0.000.02
Button-Head Screw M8x20		
a = 20 mm	m = 10.2 g	
bright zinc-plated, 1 pce.		8.0.009.11
Button-Head Screw M8x25		
a = 25 mm	m = 11.9 g	
bright zinc-plated, 1 pce.		8.0.000.04
Button-Head Screw M8x30		
a = 30 mm	m = 13.6 g	
bright zinc-plated, 1 pce.		8.0.000.09
Button-Head Screw M8x35		
a = 35 mm	m = 15.3 g	
bright zinc-plated, 1 pce.		8.0.002.65
Button-Head Screw M8x40		
a = 40 mm	m = 17.0 g	
bright zinc-plated, 1 pce.		8.0.000.10
Button-Head Screw M8x45		
a = 45 mm	m = 18.7 g	
bright zinc-plated, 1 pce.		8.0.000.20
Button-Head Screw M8x50		
a = 50 mm	m = 20.4 g	
bright zinc-plated, 1 pce.		8.0.002.68
Button-Head Screw M8x55		
a = 55 mm	m = 22.1 g	
bright zinc-plated, 1 pce.		8.0.002.71
Button-Head Screw M8x60		
a = 60 mm	m = 23.8 g	
bright zinc-plated, 1 pce.		8.0.000.11
Button-Head Screw M8x80		
a = 80 mm	m = 30.8 g	
bright zinc-plated, 1 pce.		8.0.000.12



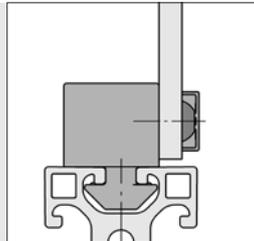
Cap, Button-Head Screw

- Protect screws and screw heads from dirt and corrosion
- For use with item Button-Head Screws M6 and M8

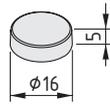


4

The Caps cover the hexagon socket of the screw head and the gap around the screw connection. They are suitable for Button-Head Screws and button-head flange screws.



Application of the Cap, Button-Head Screw M6 on Button-Head Screws used to fasten panel elements to Multiblocks.



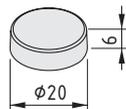
Cap, Button-Head Screw M6



PA-GF
m = 0.4 g

grey similar to RAL 7042, 1 pce.

0.0.606.61



Cap, Button-Head Screw M8



PA-GF
m = 0.9 g

grey similar to RAL 7042, 1 pce.

0.0.606.67

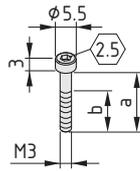


Hexagon Socket Head Cap Screws

- Screws for universal use
- Various diameters and lengths
- High property class of 10.9

The following applies to all the products below:

St
property class 10.9



Hexagon Socket Head Cap Screw DIN 912 M3x50

a = 50 mm b = 18 mm m = 2.9 g

black, 1 pce.

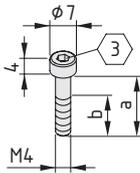
8.0.004.61

Hexagon Socket Head Cap Screw DIN 912 M3x60

a = 60 mm b = 18 mm m = 3.3 g

black, 1 pce.

8.0.004.83



Hexagon Socket Head Cap Screw DIN 912 M4x14

a = 14 mm b = 14 mm m = 2.1 g

bright zinc-plated, 1 pce.

8.0.000.21

Hexagon Socket Head Cap Screw DIN 912 M4x16

a = 16 mm b = 16 mm m = 2.2 g

bright zinc-plated, 1 pce.

8.0.000.28

Hexagon Socket Head Cap Screw DIN 912 M4x18

a = 18 mm b = 18 mm m = 2.4 g

bright zinc-plated, 1 pce.

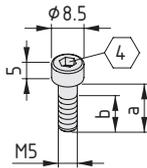
8.0.000.22

Hexagon Socket Head Cap Screw DIN 912 M4x20

a = 20 mm b = 20 mm m = 2.6 g

bright zinc-plated, 1 pce.

8.0.000.23



Hexagon Socket Head Cap Screw DIN 912 M5x45

a = 45 mm b = 22 mm m = 7.8 g

bright zinc-plated, 1 pce.

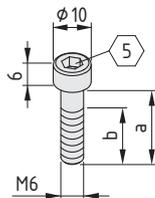
8.0.004.88

Hexagon Socket Head Cap Screw DIN 912 M5x65

a = 65 mm b = 22 mm m = 10.5 g

bright zinc-plated, 1 pce.

0.0.604.19



Hexagon Socket Head Cap Screw DIN 912 M6x12

a = 12 mm b = 12 mm m = 5.0 g

bright zinc-plated, 1 pce.

8.0.007.16

Hexagon Socket Head Cap Screw DIN 912 M6x14

a = 14 mm b = 14 mm m = 5.4 g

bright zinc-plated, 1 pce.

0.0.655.08

Hexagon Socket Head Cap Screw DIN 912 M6x20

a = 20 mm b = 20 mm m = 6.5 g

bright zinc-plated, 1 pce.

8.0.000.92

Hexagon Socket Head Cap Screw DIN 912 M6x28

a = 28 mm b = 24 mm m = 7.9 g

bright zinc-plated, 1 pce.

0.0.668.97

Hexagon Socket Head Cap Screw DIN 912 M6x55

a = 55 mm b = 24 mm m = 14.3 g

bright zinc-plated, 1 pce.

8.0.000.61

Hexagon Socket Head Cap Screw DIN 912 M6x100

a = 100 mm b = 24 mm m = 24.7 g

bright zinc-plated, 1 pce.

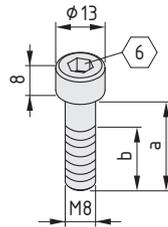
8.0.004.70

Hexagon Socket Head Cap Screw DIN 912 M6x140

a = 140 mm b = 24 mm m = 33.2 g

bright zinc-plated, 1 pce.

8.0.004.74

**Hexagon Socket Head Cap Screw DIN 912 M8x60**

a = 60 mm b = 28 mm m = 28.9 g

bright zinc-plated, 1 pce.

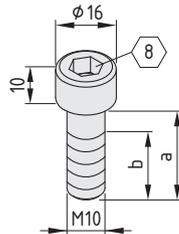
8.0.006.36

Hexagon Socket Head Cap Screw DIN 912 M8x180

a = 180 mm b = 120 mm m = 66.5 g

bright zinc-plated, 1 pce.

8.0.008.88

**Hexagon Socket Head Cap Screw DIN 912 M10x60**

a = 60 mm b = 32 mm m = 45.7 g

bright zinc-plated, 1 pce.

8.0.003.98

Hexagon Socket Head Cap Screw DIN 912 M10x100

a = 100 mm b = 32 mm m = 71.2 g

bright zinc-plated, 1 pce.

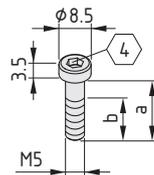
8.0.004.47

Hexagon Socket Head Cap Screw DIN 912 M10x140

a = 140 mm b = 32 mm m = 92.5 g

bright zinc-plated, 1 pce.

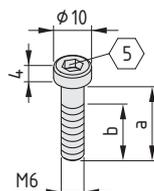
8.0.004.50

**Hexagon Socket Head Cap Screw DIN 6912 M5x8**

a = 8 mm b = 8 mm m = 2.6 g

bright zinc-plated, 1 pce.

8.0.004.34

**Hexagon Socket Head Cap Screw DIN 6912 M6x40**

a = 40 mm b = 24 mm m = 9.5 g

bright zinc-plated, 1 pce.

8.0.007.43



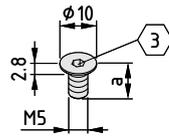
Countersunk Screws DIN 7991

- For screw connections that are flush with the surface of components and panel elements

The following applies to all the products below:

St

Property class 10.9

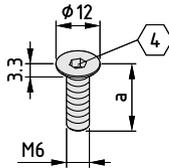


Countersunk Screw DIN 7991 M5x10

a = 10 mm m = 1.8 g

black, 1 pce.

8.0.001.84

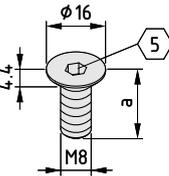


Countersunk Screw DIN 7991 M6x10

a = 10 mm m = 2.7 g

black, 1 pce.

8.0.007.48



Countersunk Screw DIN 7991 M8x14

a = 14 mm m = 7.1 g

black, 1 pce.

8.0.007.07

Countersunk Screw DIN 7991 M8x16

a = 16 mm m = 7.3 g

bright zinc-plated, 1 pce.

8.0.001.09

Countersunk Screw DIN 7991 M8x18

a = 18 mm m = 7.7 g

black, 1 pce.

8.0.001.85

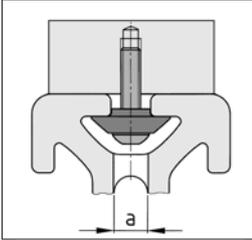


Locating Washers

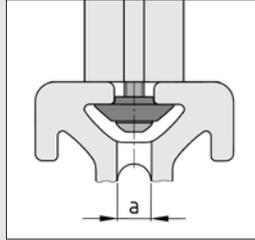
- Rear fastening of screws in the groove
- Suitable for use with Button-Head Screws ISO 7380



4

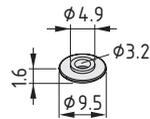


Locating Washers can be used to conceal the component securing mechanism (screw head in profile groove, thread in component).



In addition, the Locating Washers allow Standard Connections (without anti-torsion element) between profiles of different Lines or they may be used simply to centre attachments.

Locating Washer	$a_{min.}$
5 D3	∅ 3.0
5 D4	∅ 3.5
6 D3	∅ 3.0
6 D4	∅ 3.5
6 D5	∅ 4.0
8 D4	∅ 3.5
8 D5	∅ 4.0
8 D6	∅ 5.0

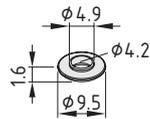


Locating Washer 5 D3



St
m = 0.6 g
bright zinc-plated, 1 pce.

0.0.444.48

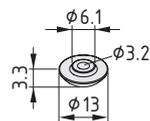


Locating Washer 5 D4



St
m = 0.6 g
bright zinc-plated, 1 pce.

0.0.444.47

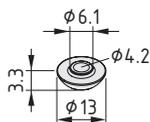


Locating Washer 6 D3



St
m = 2.3 g
bright zinc-plated, 1 pce.

0.0.444.46

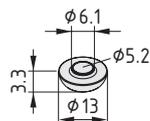


Locating Washer 6 D4



St
m = 2.3 g
bright zinc-plated, 1 pce.

0.0.444.45

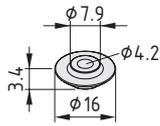


Locating Washer 6 D5



St
m = 2.4 g
bright zinc-plated, 1 pce.

0.0.444.44



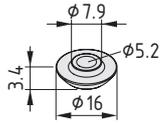
Locating Washer 8 D4



St
m = 3.7 g

bright zinc-plated, 1 pce.

0.0.444.43



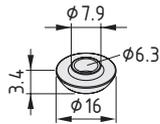
Locating Washer 8 D5



St
m = 3.8 g

bright zinc-plated, 1 pce.

0.0.444.42



Locating Washer 8 D6



St
m = 3.8 g

bright zinc-plated, 1 pce.

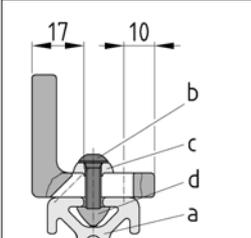
0.0.444.41



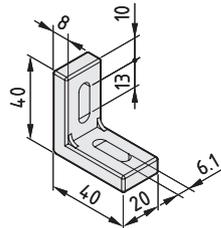
Angle Bracket Zn

- Variable angle bracket for fastening components
- Slots for wide adjustment range

4



Profile	a	5	6	8	10	12
Screw ISO 7380	b	M5x16	M5x20	M6x20	M6x22	M6x25
	c	Locating Washer 6 D5		Washer DIN 9021-6,4		
T-Slot Nut	d	5 St M5	6 St M5	8 St M6	10 St M6	12 St M6

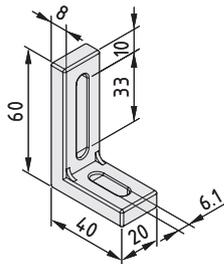


Bracket 40x40x20 Zn

Die-cast zinc
m = 63.0 g

black, 1 pce.

0.0.474.60

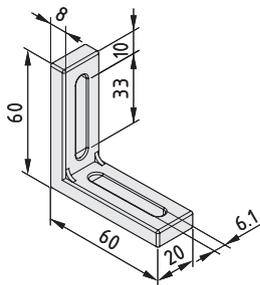


Bracket 60x40x20 Zn

Die-cast zinc
m = 77.0 g

black, 1 pce.

0.0.474.61

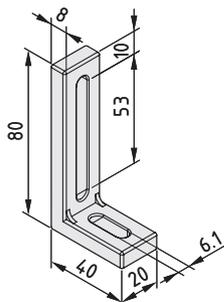


Bracket 60x60x20 Zn

Die-cast zinc
m = 92.0 g

black, 1 pce.

0.0.474.62



Bracket 80x40x20 Zn

Die-cast zinc
m = 92.0 g

black, 1 pce.

0.0.474.63



Flat Brackets and Angle Brackets

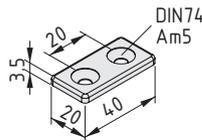
- Universal fastening elements
- For panel elements, lightweight shelving, etc.



Fastening elements suitable for connecting and attaching cable conduits, Support and Wall Profiles, panel elements or any other components.
When connecting Bracket flat and Angle Bracket right-angled to components without profile grooves, these must be provided with appropriate through bores or threads.



Angle Bracket right-angled can also be used to support a table top on a profile structure.



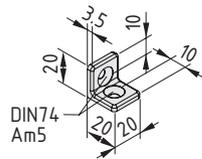
Bracket 5 20 flat



St
m = 16.4 g

black, 1 pce.

0.0.464.23



Angle Bracket 5 20 right-angled



St
m = 15.0 g

black, 1 pce.

0.0.464.22



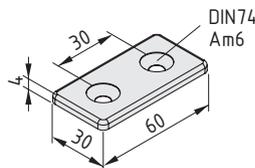
Fastening Set 5 for Bracket / Angle Bracket 5 20 / profile side for Hinge 5 PA



Countersunk Screw DIN 7991-M5x8, St, black
T-Slot Nut 5 St M5, bright zinc-plated
m = 2.5 g

1 set

0.0.370.70



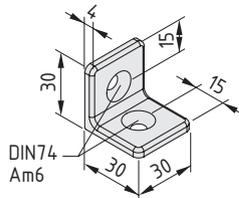
Bracket 6 30 flat



St
m = 38.4 g

black, 1 pce.

0.0.459.11



Angle Bracket 6 30 right-angled



St
m = 37.0 g

black, 1 pce.

0.0.459.12



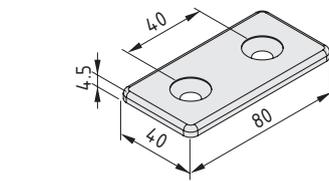
Fastening Set 6 for Bracket / Angle Bracket 6 30



Countersunk Screw DIN 7991-M6x10, St, black
T-Slot Nut 6 St M6, bright zinc-plated
m = 7.0 g

1 set

0.0.459.26

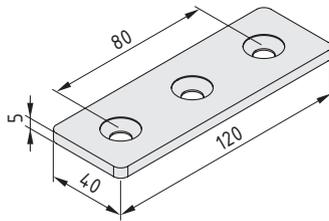
**Bracket 8 40 flat**

St

m = 91.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.666.35

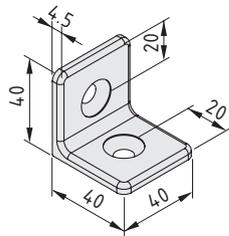
**Bracket 8 120x40 flat**

St

m = 173.0 g

black, 1 pce.

0.0.640.54

**Angle Bracket 8 40 right-angled**

St

m = 88.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.665.53

**Fastening Set 8 2-5mm with Countersunk Screw M8**

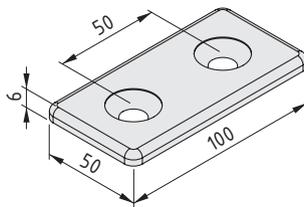
1 Countersunk Screw DIN 7991-M8x14, St, bright zinc-plated

1 T-Slot Nut 8 St M8, bright zinc-plated

m = 17.0 g

1 set

0.0.680.96

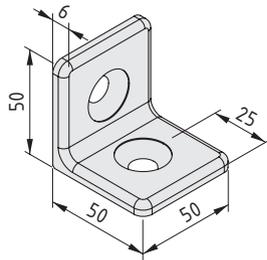
**Flat Bracket 10 50**

St

m = 204.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.632.45

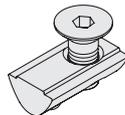
**Angle Bracket 10 50**

St

m = 185.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.632.46

**Fastening Set 10 for Angle Bracket 10 50 / Flat Bracket 10 50**

Countersunk Screw DIN 7991-M10x18, St, bright zinc-plated

T-Slot Nut 10 St M10, bright zinc-plated

m = 21.0 g

1 set

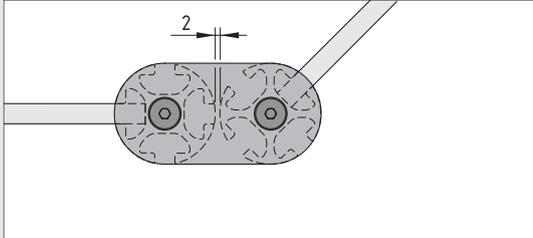
0.0.632.47

4



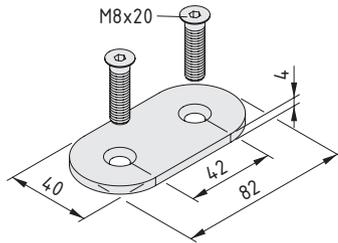
Flat Bracket 8 D40/D40

- Connect two cylindrical Profiles 8 D40
- For constructing room dividers, partitions and sound protection walls



Note

You can create partition elements made from Profiles D40 using just the accessories returned by a search for "D40" in the online catalogue at item24.com



Bracket 8 D40/D40 flat



St
2 Countersunk Screws M8x20, St, bright zinc-plated
m = 102.0 g

white aluminium, similar to RAL 9006, 1 set

0.0.628.63



Adapter Profile 12/8

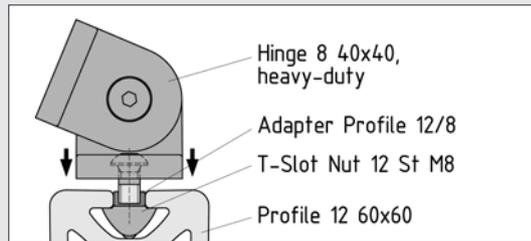
- For fitting elements from Line 8 to a Line 12 groove
- The Adapter Profile makes a Line 12 groove smaller



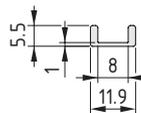
4

Adapter Profile with and without drilled holes for fastening various attachments from Line 8 to a Line 12 groove.

Hinges, heavy-duty hinges, multiblocks and many other elements are equipped with anti-torsion elements and centring aids that are intended for use with the Line 8 groove. These can be attached to Line 12 profiles using Adapter Profile 12/8 without losing the centring effect.



Application example:
Connecting a Hinge 8 40x40, heavy duty with a Profile 12 using Adapter Profile 12/8 Al. The anti-torsion features of the heavy-duty Hinge in the groove remain effective.



Adapter Profile 12/8 Al



Al, anodized
m = 75 g/m

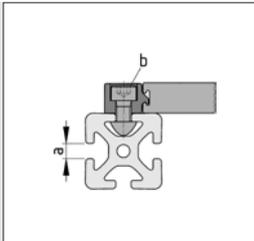
natural, 1 pce., length 2000 mm

0.0.003.24

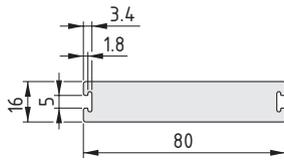


Adapter Plate Profiles

- For fastening functional elements to profile constructions
- Secure hold thanks to clamping elements
- Can be machined to suit requirements



a	b Hexagon Socket Head Cap Screw	Torque M
5	DIN 912 M5x14	4.5 Nm
6	DIN 912 M6x16	10.0 Nm
8	DIN 912 M8x16	10.0 Nm



Adapter Plate Profile 80x16 N5

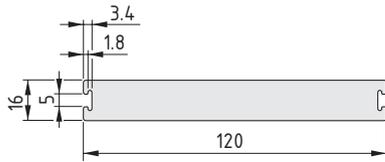
Al, anodized
m = 3.34 kg/m

natural, cut-off max. 2000 mm

0.0.444.81

natural, 1 pce., length 2000 mm

0.0.444.06



Adapter Plate Profile 120x16 N5

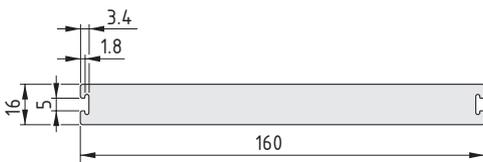
Al, anodized
m = 5.07 kg/m

natural, cut-off max. 2000 mm

0.0.444.82

natural, 1 pce., length 2000 mm

0.0.444.07



Adapter Plate Profile 160x16 N5

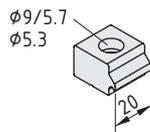
Al, anodized
m = 6.79 kg/m

natural, cut-off max. 2000 mm

0.0.444.83

natural, 1 pce., length 2000 mm

0.0.444.08



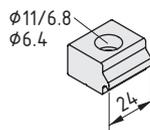
Adapter Plate Clamp 5 N5



Al, anodized
m = 15.0 g

natural, 1 pce.

0.0.444.03



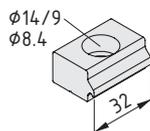
Adapter Plate Clamp 6 N5



Al, anodized
m = 17.0 g

natural, 1 pce.

0.0.444.04



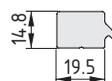
Adapter Plate Clamp 8 N5



Al, anodized
m = 22.0 g

natural, 1 pce.

0.0.444.05



Adapter Plate Clamping Profile N5

Al, anodized
m = 0.82 kg/m

natural, cut-off max. 2000 mm

0.0.444.84

natural, 1 pce., length 2000 mm

0.0.444.09



PANEL FASTENERS

Fastenings for Panels in the Groove
Fastenings for Panels on the Groove

Panel fasteners
Products in this section

5



Cover Profiles PP

- Ideal for covering grooves or fixing panels
- Available in several colours

171



Lip Seals

- Durable elastic hold for panel elements
- Cover edges to prevent dirt and dampness getting in

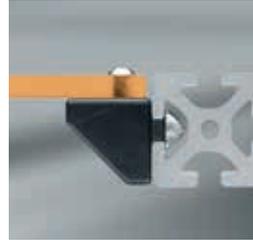
173



Multiblocks PA

- Variable thanks to two contact faces and height adjuster
- Screw attachment ensures a firm hold

176



Multiblocks Zn

- Exceptionally stable fasteners
- Easy adjustment for material thickness

179



Safety Fastening Set Multiblock 8

- The captive panel fastener
- For use with Multiblock 8 PA and 8 Zn

180



Multi Bracket 12 Zn

- For fastening panel elements to Profiles 12
- Simple adjustment to the height of the element

181



Quick Multiblocks

- Prevent inadvertent opening of fixings
- Secure panel fastening – cannot be released without being destroyed

183



Clamp Multiblocks PA

- For fastening panels on the groove without the need for machining
- Flexible locating lug securely holds panels of different thicknesses

185



Panel-Clamping Strips

- Retrofit panels in closed frames
- Holds all types of panels on the groove

187



Double Panel Profiles

- For building double-walled frame elements
- Straightforward assembly

189



Rebate Profiles Al

- Flexible panel fastening anchored in the groove
- Also suitable as a rebate strip for doors

192



Panel/Glass Clamp

- Fasten panel elements without needing to machine them
- Continuous air gap between frame and panel

195



Support Arm X 6-8

- Shelf support with clamping system for the panel element
- Clean, elegant design

197



Table-Top Fastening Set

- Secure table tops to profile frames
- Self-tapping screws for all types of wooden panels

198



Flange

- Mounting plate for table columns
- Used with Column Profile D110

199



Note:

You can find Clamp Profiles for building protective enclosures in Chapter 6 and panel elements in Chapter 10.



Cover Profiles PP

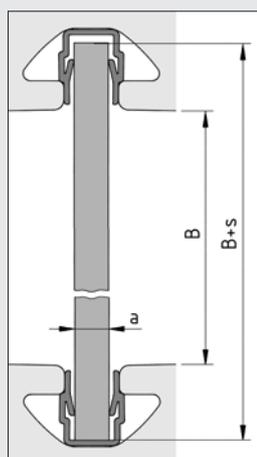
The multi-purpose solution

- Ideal for covering grooves or fixing panels
- Available in several colours
- Also ESD-safe

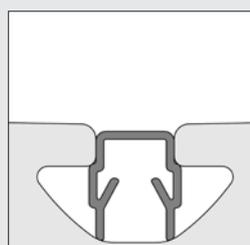


5

Cover Profile can be used as a cover for the profile groove or as a panel-fixing profile for panel elements.



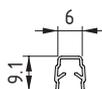
Cover Profile	a [mm]	s [mm]
5	1.5-2.0	10
6	2.0-3.5	16
8 (ESD)	4.0-5.5	21
10 (ESD)	4.0-8.0	27.5
12	6.0-9.5	33



When inserted with its smooth side facing up, the Cover Profile keeps dirt and dust out of the groove.



Cover Profile 5		5
PP/TPE m = 8.9 g/m		
natural, 1 pce., length 2000 mm		0.0.391.73
black, 1 pce., length 2000 mm		0.0.391.74
grey similar to RAL 7042, 1 pce., length 2000 mm		0.0.639.02



Cover Profile 6		6
PP/TPE m = 15.4 g/m		
natural, 1 pce., length 2000 mm		0.0.419.48
black, 1 pce., length 2000 mm		0.0.431.01



Cover Profile 8		8
PP/TPE m = 19 g/m		
natural, 1 pce., length 2000 mm		0.0.422.23
black, 1 pce., length 2000 mm		0.0.422.26
green, similar to RAL 6016, 1 pce., length 2000 mm		0.0.489.44
red, similar to RAL 3003, 1 pce., length 2000 mm		0.0.489.46
yellow, similar to RAL 1018, 1 pce., length 2000 mm		0.0.489.43
blue, similar to RAL 5010, 1 pce., length 2000 mm		0.0.481.01
grey similar to RAL 7042, 1 pce., length 2000 mm		0.0.489.45



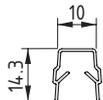
Cover Profile 8 ESD



PP/TPE
m = 19 g/m

black, 1 pce., length 2000 mm

0.0.617.80



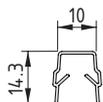
Cover Profile 10



PP/TPE
m = 26.9 g/m

natural, 1 pce., length 2000 mm

0.0.632.10



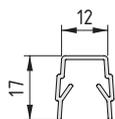
Cover Profile 10 ESD



PP/TPE
m = 26.9 g/m

black, 1 pce., length 2000 mm

0.0.632.04



Cover Profile 12



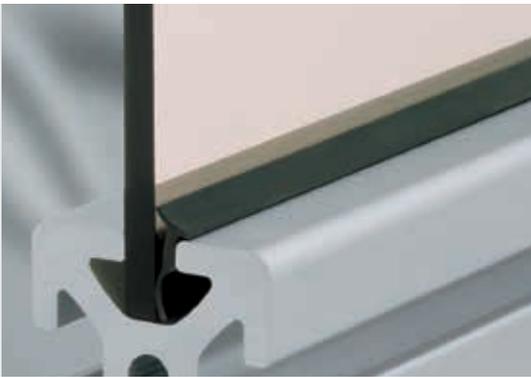
PP/TPE
m = 42.8 g/m

natural, 1 pce., length 2000 mm

0.0.005.08

black, 1 pce., length 2000 mm

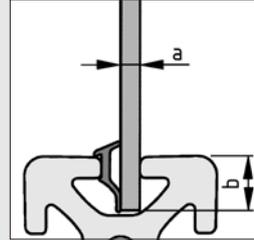
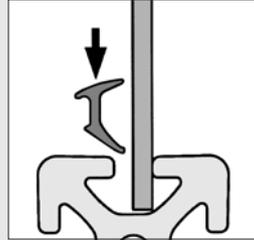
0.0.005.28



Lip Seals

Long-term elasticity and resistance

- Fix panel elements in the groove
- Neatly cover over edges
- Resistant to cleaning agents

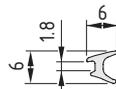


The Assembly Tool facilitates the process of pressing the Lip Seal into the profile groove in the right orientation.

The Lip Seals are best wetted with soapy water prior to assembly to ensure they are fitted easily and correctly. Careful pressure must be applied to lock them into the profile groove.

Lip Seal	a [mm]	b [mm]
5 2-3	2-3	5.3
6 2-4	2-4	8.7
8 2-4	2-4	11.2
8 4-6	4-6	11.2
12 6-8	6-8	17.3

Assembly Tool Lip Seal 



Lip Seal 5 2-3mm

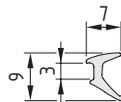
TPE
m = 13 g/m

black, 1 roll length 20 m

0.0.437.12

grey, similar to RAL 7040, 1 roll length 20 m

0.0.484.39



Lip Seal 6 2-4mm

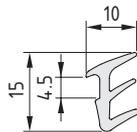
TPE
m = 20 g/m

black, 1 roll length 20 m

0.0.439.20

grey, similar to RAL 7040, 1 roll length 20 m

0.0.491.08



Lip Seal 8 2-4mm

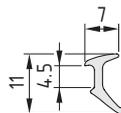
TPE
m = 52 g/m

black, 1 roll length 20 m

0.0.436.85

grey, similar to RAL 7040, 1 roll length 20 m

0.0.489.91



Lip Seal 8 4-6mm

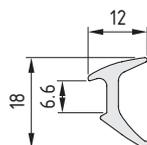
TPE
m = 26 g/m

black, 1 roll length 20 m

0.0.436.88

grey, similar to RAL 7040, 1 roll length 20 m

0.0.489.94



Lip Seal 12 6-8mm

TPE
m = 58 g/m

black, 1 roll length 20 m

0.0.005.33

grey, similar to RAL 7040, 1 roll length 20 m

0.0.005.37

5



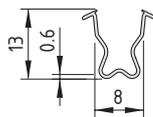
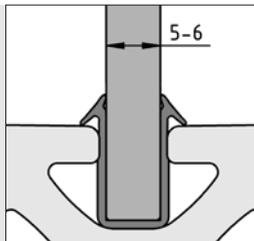
Panel Fixing Profile 8

- Fasten panels in the groove
- Made from inherently stable plastic
- Exceptionally easy to install



Stronger! Easier to use! Long-term cushioning! Panel Fixing Profile 8 is the advanced solution for holding panels and panel elements in thicknesses of 6 mm in a Line 8 groove.

The inherently stable shape is exceptionally easy to press into the profile groove, covers the edges and prevents direct contact between the panel and the aluminium profile. The flexible plastic cushions vibrations and prevents rattling and clattering. Panel Fixing Profile 8 also provides a durable seal for the groove and safely covers over cut edges where previously closed profile grooves have been opened up.



Panel Fixing Profile 8



PP

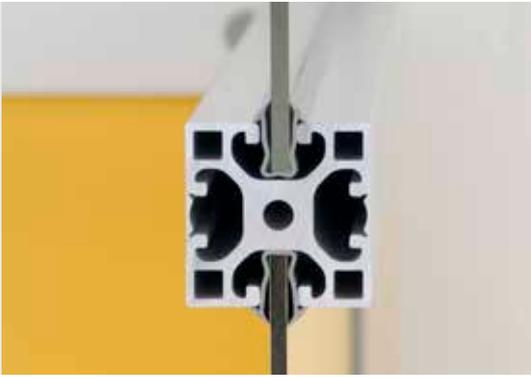
m = 22 g/m

grey, 1 pce., length 2000 mm

0.0.653.68

grey, cut-off max. 2000 mm

0.0.655.31



Double-Lip Seal 8 4-6mm

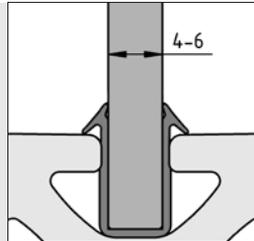
- For panels made from plastic or safety glass
- Prevent direct contact with the aluminium profile
- Absorb vibrations and seal the groove



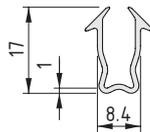
5

Double-Lip Seal 8 is used for fitting panel elements directly into grooves of Profiles 8. It provides a sealing function and prevents direct contact with the aluminium profile. Double-Lip Seal 8 completely encloses panel elements of thickness 4 to 6 mm in the profile groove.

Double-Lip Seal 8 4-6mm is ideal for all types of panel elements – including those made of plastic or safety glass.



N.B.: Double-Lip Seal 8 is best installed using soapy water. It is then slipped onto the panel element and pushed into the profile groove. The profile frame is assembled around the panel element.



Double-Lip Seal 8 4-6mm



TPE

m = 50 g/m

black, 1 roll length 20 m

0.0.495.08

grey similar to RAL 7042, 1 roll length 20 m

0.0.611.40



Multiblocks PA

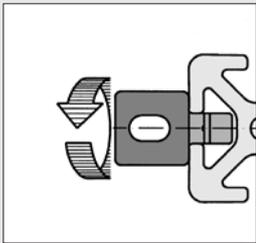
- Variable thanks to two contact faces and height adjuster
- Screw attachment ensures a firm hold for panel elements
- One fastening – four positions



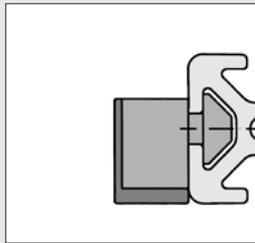
Multiblock PA is inserted into the profile groove at any position. Light cladding panels and panel elements made from Acrylic Glass, Plastic or Compound Material must be provided with a bore at the appropriate location and screwed to the Multiblock.

Multiblock PA has two mounting locations plus a height adjuster which combine to give four offset positions from the edge of the profile. This allows different distances to be set to the edge of the profile so that panel elements of varying thicknesses can be screwed on flush.

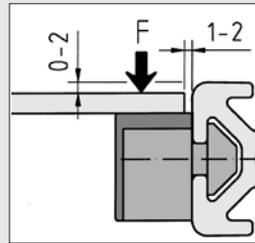
The panels are secured by screw connection with the square nut inserted in the Multiblock. This nut can be moved within a slot, a fact that allows a considerable degree of tolerance for the position of the bores in the panel element.



Twisting the Multiblock PA into the profile groove. The Multiblocks can be moved within the groove in order to align them with the bore in the panel element.

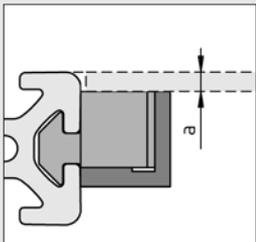


The contact face can be varied thanks to two different mounting orientations and the movable height adjuster.

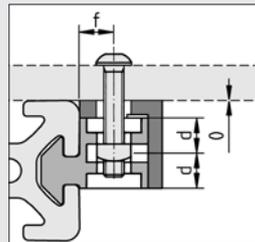
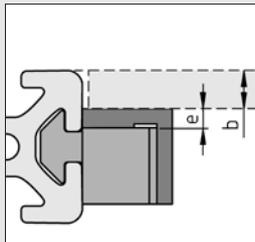


Recommendation for mounting the panel element and permissible loading forces for Multiblocks PA.

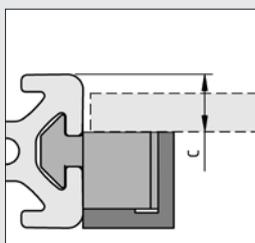
Multiblock	F [N]
5 PA	100
6 PA	150
8 PA	250
10 PA	400



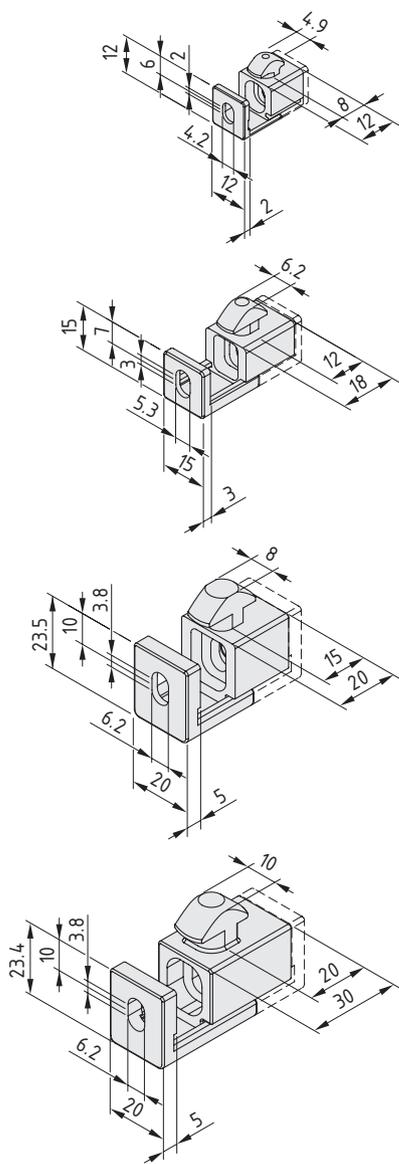
Possible offset distances between the mounting locations and the edge of the profile.



The length of the fastening screw depends on the thickness of the panel element and use of the height adjuster.



Multiblock	5 PA	6 PA	8 PA	10 PA
a [mm]	2	3	5	5
b [mm]	4	6	10	10
c [mm]	6	9	15	15
d [mm]	8	9	10	15
e [mm]	2	3	5	5
f [mm]	6	7	10	10



Multiblock 5 PA 	
Basic unit and height adjuster, PA-GF	
Square nut DIN 562-M4, St, bright zinc-plated	
m = 2.0 g	
black, 1 pce.	0.0.370.71
grey, 1 pce.	0.0.641.58

Multiblock 6 PA 	
Basic unit and height adjuster, PA-GF	
Square nut DIN 557-M5, St, bright zinc-plated	
m = 6.0 g	
black, 1 pce.	0.0.419.58
grey, 1 pce.	0.0.635.68

Multiblock 8 PA 	
Basic unit and height adjuster, PA-GF	
Square nut DIN 557-M6, St, bright zinc-plated	
Spring clip, St, stainless	
m = 14.0 g	
black, 1 pce.	0.0.026.72
grey, 1 pce.	0.0.630.28

Multiblock 10 PA 	
Basic unit and height adjuster, PA-GF	
Square nut DIN 557-M6, St, bright zinc-plated	
Spring clip, St, stainless	
m = 19.1 g	
grey, 1 pce.	0.0.635.09



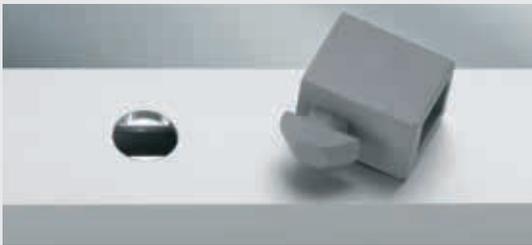


Multiblocks X 8 PA

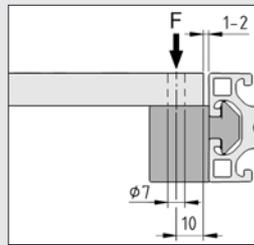
- Compatible with Profiles X
- Easy-to-use fastening for pre-drilled panel elements
- Variable thanks to two contact faces
- Screw attachment ensures a firm hold for panel elements



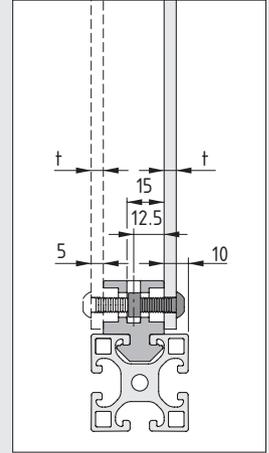
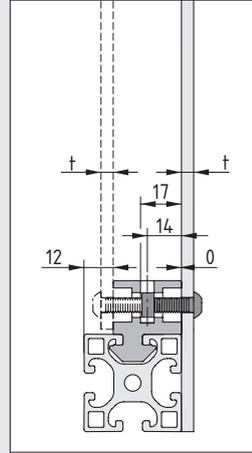
The shape and colour of Multiblocks X 8 PA matches Profiles X 8. Multiblocks X 8 PA each have two contact faces for panel elements of different thicknesses.



To insert Multiblock X PA in profiles with closed grooves, it is recommended to remove the groove cover at the relevant location using a counterbore. The Step Drill, Universal Connection 6 (Art. No. 0.0.431.19) is ideal for this purpose. The required counterbore depth is just 2 mm!

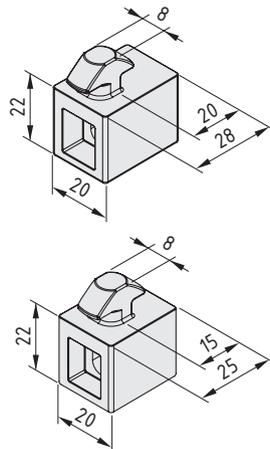


Recommendation for mounting the panel element. The permissible load for Multiblocks X 8 PA is $F = 250 \text{ N}$.



The length of the fastening screw depends on the thickness of the panel element.

When using a thick panel element, the Multiblock can be secured from the inside by drilling and tapping a blind hole in the panel. In such a case, the square nut can be removed from the Multiblock.



Multiblock X 8 PA 0/12 mm



Basic unit, PA-GF
Spring, St, stainless
Square nut DIN 557-M6, St, bright zinc-plated
 $m = 18.0 \text{ g}$

grey, 1 pce.

0.0.603.14

Multiblock X 8 PA 5/10 mm



Basic unit, PA-GF
Spring, St, stainless
Square nut DIN 557-M6, St, bright zinc-plated
 $m = 15.0 \text{ g}$

grey, 1 pce.

0.0.603.15



Safety Fastening Set Multiblock 8

Safe and secure.

- For use with Multiblock 8 PA and 8 Zn
- Creates a permanently joined unit after fitting

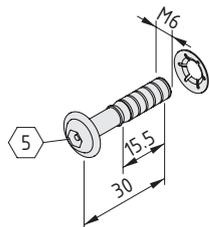


5

Panel fastening in line with Machinery Directive 2006/42/EC: Safety Fastening Set Multiblock 8. After fitting, the screw and retaining spring form a single, permanently joined unit that is secured in the through hole. You will always be able to tell when a screw has become loose by the position of the panel element.

Suitable for use with Multiblocks 8 PA (for panel thicknesses from 2 to 9 mm) and Multiblocks Zn (panel thickness 8 mm).

Security L-Key Set 675



Safety Fastening Set Multiblock 8



Security flanged button head screw M6x30, St, bright zinc-plated
Retaining spring M6, St, stainless
m = 7.5 g

1 set

0.0.626.63



Multi Bracket 12 Zn

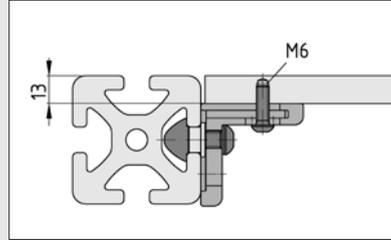
- For fastening panel elements to Profiles 12
- Simple adjustment to the height of the element



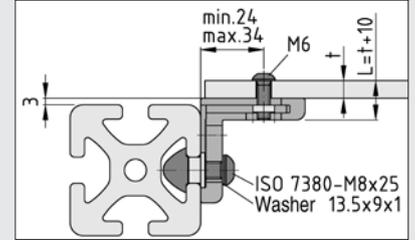
5

Universal element for fastening panels to Line 12 profiles. Since the location lug can be adjusted in various positions within the bracket across the profile groove, panels can be positioned virtually flush with the outer face of the profile irrespective of their thickness.

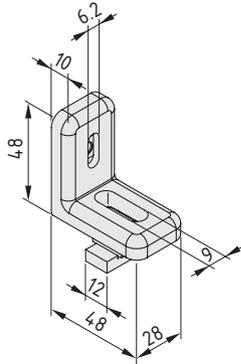
Multi Bracket 12 can be moved along the profile groove so that it can be easily aligned with the hole in the panel element.



If the panel element is of sufficient thickness, Multi Bracket 12 can also be secured internally so that the fastening is not visible and cannot be detached.



The panel element with through hole is secured by means of an M6 bolt fitted into the square nut of Multi Bracket 12 Zn.



Multi Bracket 12 Zn



- Bracket, die-cast zinc, RAL9006 white aluminium
- Locating lug, die-cast zinc, RAL9006 white aluminium
- Square nut DIN 562-M6, St, bright zinc-plated
- Retaining plate, St
- m = 120.0 g

1 set

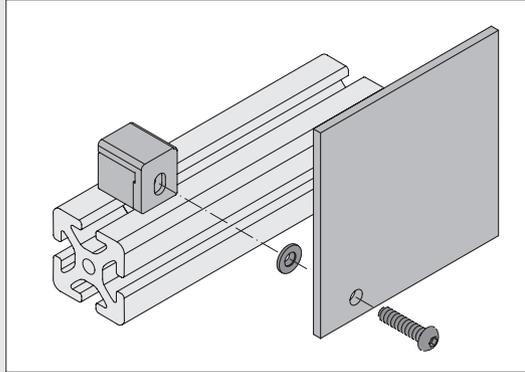
0.0.007.18



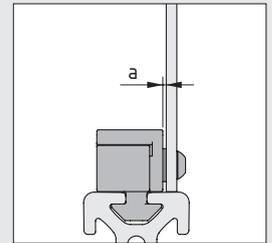
Anti-Loss Washer

- Hold screws securely and permanently in their holes
- Simply push on and screw into place
- Can be easily combined with Multiblocks or Angle Brackets

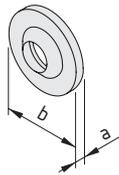
Create captive screws for a whole range of fasteners such as Multiblocks and Angle Brackets using the universal Anti-Loss Washers (M4, M5 and M6). Simply place these onto a screw that has been inserted into its through hole and, when the screw connection is dismantled, the screw will be held safely and securely in the through hole of the panel element.



A mounting aid and safety device in one.



Note: the thickness of the washer (a) determines the position of the panel element.



Anti-Loss Washer M4

PA

a = 1.2 mm b = 9.0 mm m = 0.1 g

natural, 1 pce.

0.0.627.71

Anti-Loss Washer M5

PA

a = 1.65 mm b = 10.1 mm m = 0.1 g

natural, 1 pce.

0.0.627.70

Anti-Loss Washer M6

PA

a = 1.3 mm b = 12.5 mm m = 0.2 g

natural, 1 pce.

0.0.627.69



Quick Multiblocks with Securing Pin and with Slotted Pin

- For rapid opening and closing
- No tools required
- Plastic or metal pin, as required

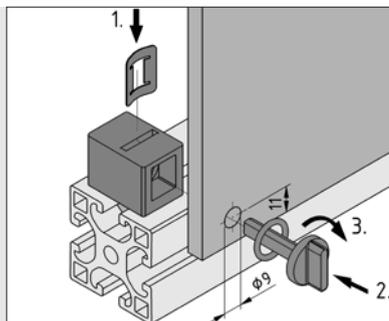


Quick Multiblocks 8 offer the option of fastening a panel element securely in a profile frame in such a way that it can easily be removed. The securing pin is operated either by hand without the need for a tool or using a coin (Quick Multiblock 8 with Slotted Pin).

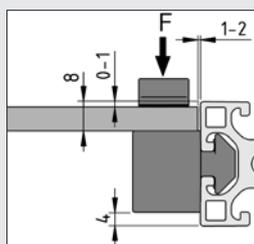
Lightweight metal sheet and panel elements made from Acrylic Glass, Plastic or Compound Material must be provided with a drill hole at the appropriate location. They are locked in place using the securing pin.

Plastic securing pins are suitable for very occasional operation and die-cast zinc pins for more frequent use or high loads.

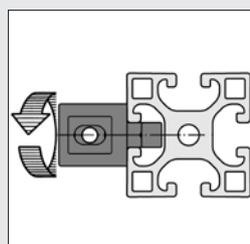
Quick Multiblocks 8 can be moved within the groove in order to align them with the hole in the panel element.



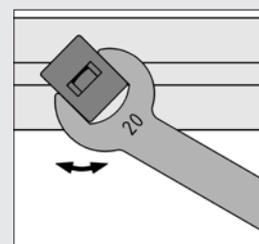
Quick Multiblocks can be used for panel elements of any thickness (up to 8 mm). They can be adapted to the thickness of the panel thanks to two different mounting positions (4 or 8 mm from the edge of the profile). The spring clip is to be inserted in the Quick Multiblock according to the direction in which the load is applied. The concave side of the spring must face the panel and pin. Locking the pin also tightens the spring.



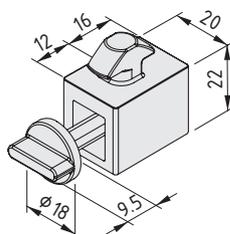
Recommendation for mounting the panel element. The permissible load for Quick Multiblocks 8 is $F = 250 \text{ N}$.



Quick Multiblock 8 is inserted in the profile groove and locked in place with a 90° turn to the right.



A wrench 20 A/F is recommended for this step.



Quick Multiblock 8 with Securing Pin PA



Basic unit, PA-GF
 Spring clip, St, stainless
 O-ring 12x2, NBR, black
 Securing pin PA
 $m = 14.0 \text{ g}$

grey, 1 pce.

0.0.604.10

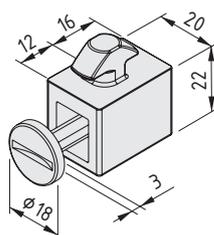
Quick Multiblock 8 with Securing Pin Zn



Basic unit, PA-GF
 Spring clip, St, stainless
 O-ring 12x2, NBR, black
 Securing pin die-cast zinc
 $m = 23.0 \text{ g}$

grey, 1 pce.

0.0.603.41



Quick Multiblock 8 with Slotted Pin Zn



Basic unit, PA-GF
 Spring clip, St, stainless
 O-ring 12x2, NBR, black
 Slotted pin die-cast zinc, white aluminium
 $m = 20.0 \text{ g}$

grey, 1 pce.

0.0.603.42

5



Quick Multiblock 8 with Non-Removable Pin

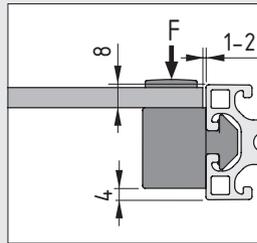
The quick-action non-removable fastening

- Prevent inadvertent opening of fixings
- Secure panel fastening – cannot be released without being destroyed

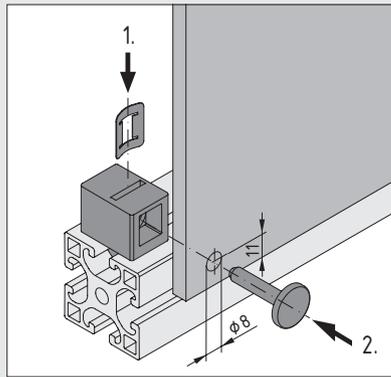


It doesn't get any faster: push the non-removable pin through the hole in the panel element and into the Quick Multiblock – that's it, the secure panel fastening cannot be released without destroying it.

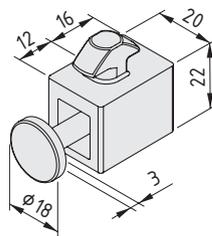
Safe and sound: say goodbye to unauthorised access!



Recommendation for mounting the panel element.
Permissible loading force for Multiblocks 8 is $F = 250 \text{ N}$.



Quick Multiblocks can be used for panel elements of any thickness (up to 8 mm). They can be adapted to the thickness of the panel thanks to two different mounting positions (4 or 8 mm from the edge of the profile). The spring clip is to be inserted in the Quick Multiblock according to the direction in which the load is applied: the convex side of the clip must face away from the panel and pin. Pressing in the pin also tightens the spring. The head of the pin needs to be broken off before the pin can be removed.



Quick Multiblock 8 with Non-Removable Pin



Quick Multiblock 8, PA
Non-removable pin, PA
Spring clip, St, stainless
m = 14.0 g

black, 1 set	0.0.625.91
grey, 1 set	0.0.625.90



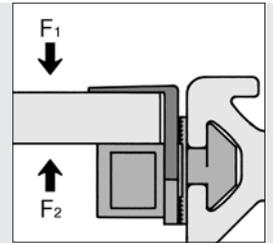
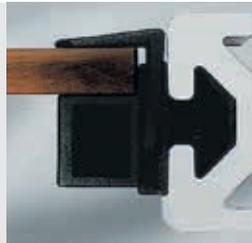
Clamp Multiblocks PA

- For machining-free panel fastening
- Flexible securing clip securely holds panels of different thicknesses

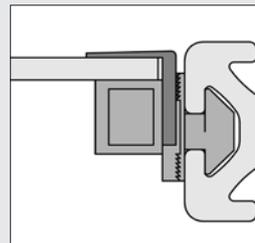
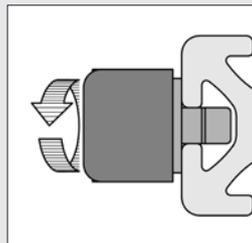


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Clamp Multiblocks secure panel elements in profile frames without need for further machining. Clamp Multiblock PA is inserted into the profile groove; a locating lug secures lightweight panel elements of different thicknesses, such as cladding panels, panel elements made from Acrylic Glass, etc.

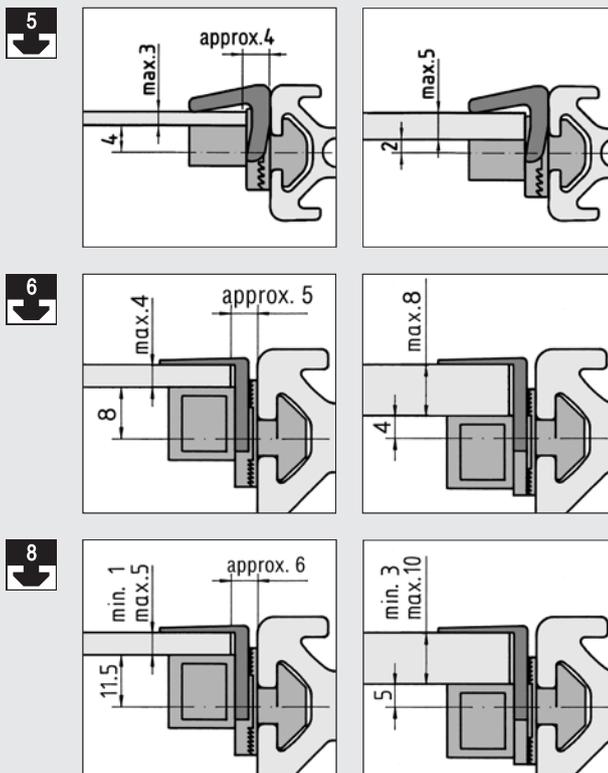


The securing clip can be detached again by means of a screwdriver.

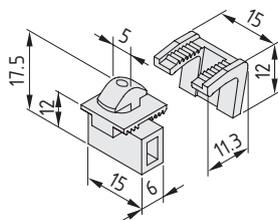


	F ₁ [N]	F ₂ [N]
	100	20
	150	30
	250	50

The basic unit is twisted into the groove, the panel element fitted and clamped in position by means of the securing clip.



Two mounting dimensions are available depending on the orientation of the Multiblock.

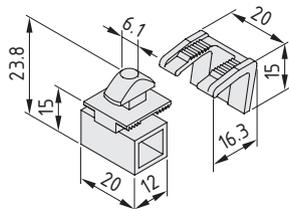


Clamp-Multiblock 5 PA



PA-GF
Basic unit and securing clip
m = 2.0 g

black, 1 pce.	0.0.437.24
grey, 1 pce.	0.0.641.59

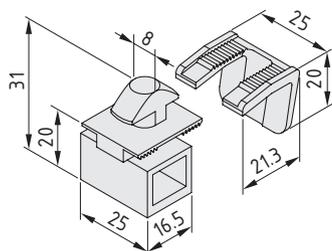


Clamp-Multiblock 6 PA



PA-GF
Basic unit and securing clip
m = 4.0 g

black, 1 pce.	0.0.439.66
grey, 1 pce.	0.0.636.22



Clamp-Multiblock 8 PA



PA-GF
Basic unit and securing clip
m = 10.0 g

black, 1 pce.	0.0.196.63
grey, 1 pce.	0.0.641.45



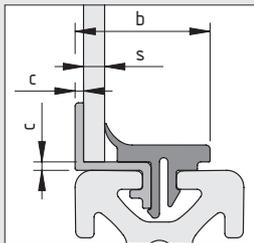
Panel-Clamping Strips

- Retrofit panels in closed frames
- Existing constructions do not need to be opened up
- Virtually flush with the outer surface of the profile



5

Panel-Clamping Strips are ideal for retrofitting panel elements (primarily made of Acrylic Glass, PET-G or Polycarbonate) into an assembled profile frame. Apart from straight saw cuts, no further machining of the panel element or Panel-Clamping Strips is required.

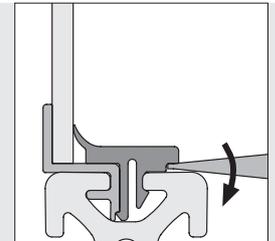
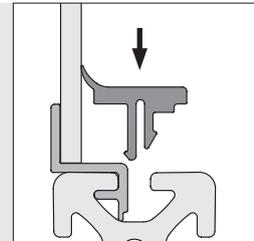


	Al		s [mm]			
	b [mm]	c [mm]	2-4	4-6	6-8	8-10
	24	1.6	2-4	4-6		
	34	2.0	2-4	4-6	6-8	8-10
	42	2.0		4-6		

Panel-Clamping Strips secure the panel element so that there is a minimal offset of 2 mm to the outer edge of the profile. This produces a smooth outer wall for protective enclosures and helps reduce turbulence caused by air flows.

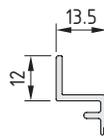
The thickness of the panel element (s) determines which Panel-Clamping Strip is required:

s = 2 - 4 / 4 - 6 / 6 - 8 / 8 - 10 mm



Panel-Clamping Strips consist of two components. The first of these, an aluminium strip, locates into the profile groove and holds the panel element in place. A second strip, made of flexible plastic, is then used to secure both the panel element and the aluminium strip in the groove. If necessary, the plastic strip can be levered out in order to remove the panel element from the frame.

A screwdriver is used to lever out the Panel-Clamping Strip so as to enable removal of the panel element from the frame.

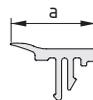


Panel-Clamping Strip 6 Al

Al, anodized
m = 124.0 g/m

natural, cut-off max. 3000 mm 0.0.615.01

natural, 1 pce., length 3000 mm 0.0.615.00



Panel-Clamping Strip 6 2-4mm

PP/TPE
a = 22.5 mm m = 76.5 g/m

grey similar to RAL 7042, cut-off max. 3000 mm 0.0.614.94

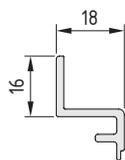
grey similar to RAL 7042, 1 pce., length 3000 mm 0.0.614.93

Panel-Clamping Strip 6 4-6mm

PP/TPE
a = 20.5 mm m = 71.6 g/m

grey similar to RAL 7042, cut-off max. 3000 mm 0.0.614.91

grey similar to RAL 7042, 1 pce., length 3000 mm 0.0.614.90



Panel-Clamping Strip 8 Al



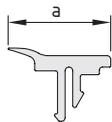
Al, anodized
m = 238 g/m

natural, cut-off max. 3000 mm

0.0.495.05

natural, 1 pce., length 3000 mm

0.0.493.53



Panel-Clamping Strip 8 2-4mm



PP/TPE
a = 30 mm m = 151 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.495.04

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.493.75

Panel-Clamping Strip 8 4-6mm



PP/TPE
a = 28.2 mm m = 142 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.495.03

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.494.64

Panel-Clamping Strip 8 6-8mm



PP/TPE
a = 27 mm m = 127 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.495.02

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.493.73

Panel-Clamping Strip 8 8-10mm



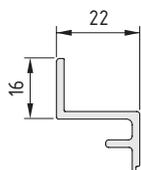
PP/TPE
a = 25 mm m = 135 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.614.76

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.614.71



Panel-Clamping Strip 10 Al



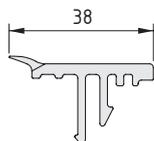
Al, anodized
m = 306 g/m

natural, cut-off max. 3000 mm

0.0.632.89

natural, 1 pce., length 3000 mm

0.0.632.88



Panel-Clamping Strip 10 4-6mm



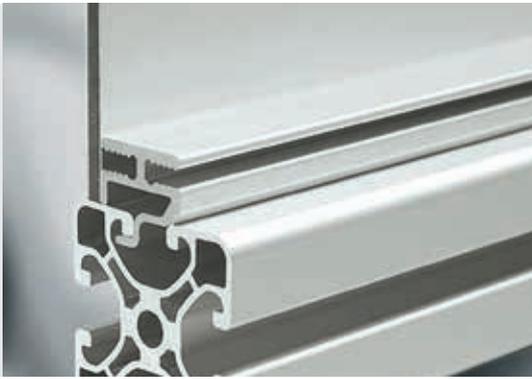
PP/TPE
m = 178 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.632.91

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.632.90



Double Panel Profile 8 Al E

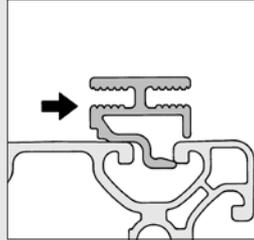
- For building double-walled frame elements
- Extremely easy to fit



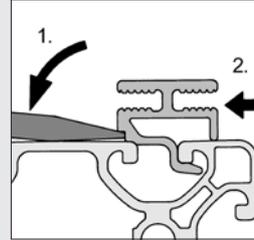
5

Double Panel Profile 8 Al E can be locked into the groove of Profiles 8 without the need for screw connections.

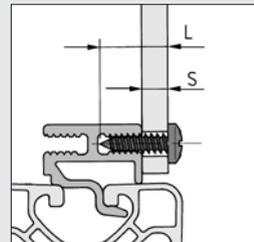
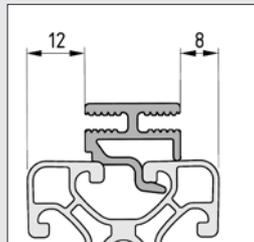
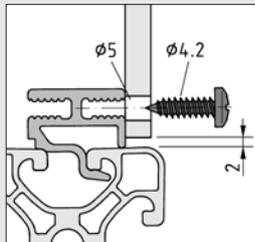
Panel elements can be secured to both sides of the Double Panel Profile using Self-Tapping Screws.



Assembling Double Panel Profile 8 Al E.

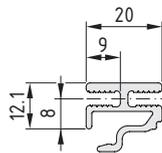


Disassembling Double Panel Profile 8 Al E.



s [mm]	L [mm]
< 3	4.2 x 9.5
3 - 6	4.2 x 13
6 - 9	4.2 x 16
9 - 12	4.2 x 19
12 - 15	4.2 x 22
15 - 18	4.2 x 25

The length of the screws for fixing the panel elements depends on the element's thickness.



Double Panel Profile 8 Al E



Al, anodized

A [cm²] m [kg/m]

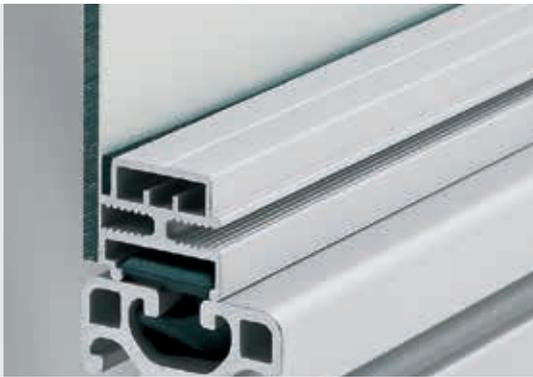
1.35 0.36

natural, cut-off max. 3000 mm

7.0.001.65

natural, 1 pce., length 3000 mm

0.0.453.71



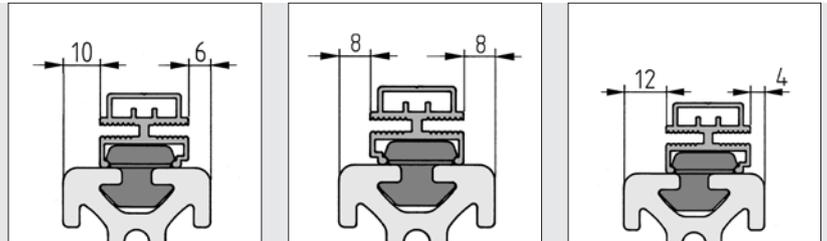
Double Panel Profile 8 Al

- For building double-walled frame elements
- Fastening still possible when the groove is already partially in use

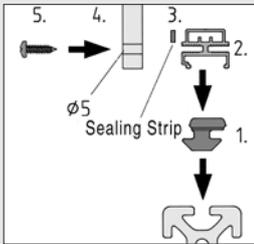


Double Panel Profile 8 Al is ideal for profile constructions in which the groove cannot be used along its entire length.

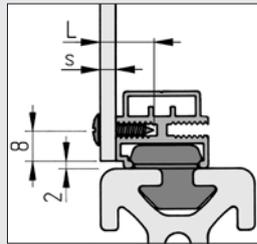
Fastening to the profile groove is via Clip 8 PA.



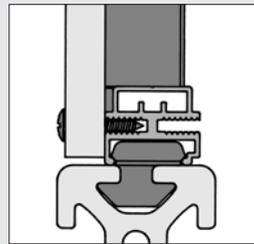
Matching to the wall thickness of the Panel Element by adjusting the positions of Double Panel Profile 8 Al and Clip 8 PA.



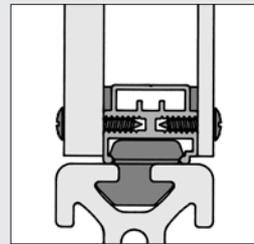
- 1 Clip 8 PA
- 2 Double Panel Profile 8 Al
- 3 Sealing Strip 6x3 sk
- 4 Panel element
- 5 Self-Tapping Screw



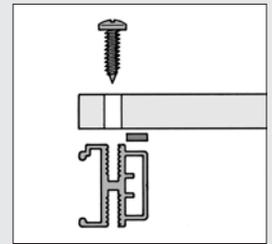
s [mm]	L [mm]
< 3	4.2 x 9.5
3 - 6	4.2 x 13
6 - 9	4.2 x 16
9 - 12	4.2 x 19
12 - 15	4.2 x 22
15 - 18	4.2 x 25



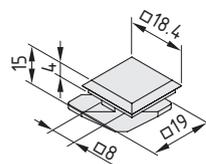
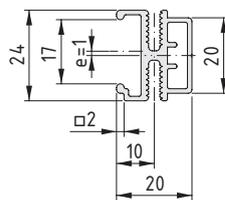
Double Panel Profile in conjunction with Lip Seal 6x3 sk and Sound-Insulating Material 20 mm.



Double Panel Profile in conjunction with Sealing Strip 6x3 sk when used for double-walled constructions.



Sealing Strip, self-adhesive on one side, for sealing frame elements. Can also be used as a damping element on mating surfaces, particularly in combination with Double Panel Profile 8 Al.



Double Panel Profile 8 Al

Al, anodized

A [cm²] m [kg/m]

1.62 0.44

natural, cut-off max. 3000 mm

0.0.420.99

natural, 1 pce., length 3000 mm

0.0.453.70

Clip 8 PA

PA-GF

Recommended number: 4 pce./m

m = 3.0 g

black, 1 pce.

0.0.422.38

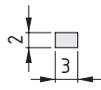
The following applies to all the products below:

Cellular rubber

Closed-cell, self-adhesive on one side

Temperature range: -30°C to +110°C

Resistant to many oils, fuels, acids and alkaline solutions

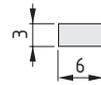


Sealing Strip 3x2 sk

m = 1.6 g/m

black, 1 pce., length 1000 mm

0.0.479.98

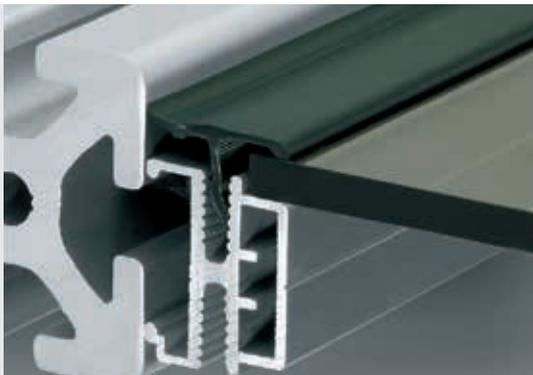


Sealing Strip 6x3 sk

m = 3 g/m

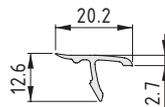
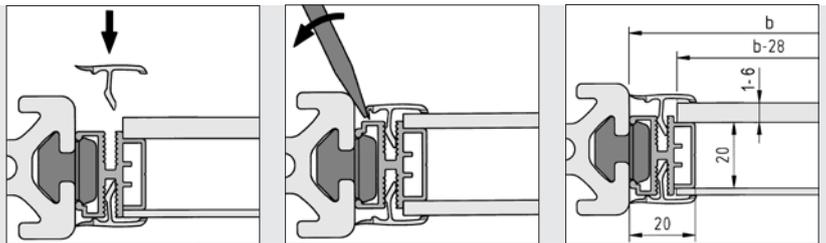
black, 1 roll length 10 m

0.0.422.66



Panel-Fixing Strip

- Fasten panels rapidly on Double Panel Profile 8 AL
- No need to machine the panel element



Panel-Fixing Strip 8

PVC
m = 55 g/m

black, 1 pce., length 2000 mm

0.0.429.64





Rebate Profiles Al

- The variable fastener for all types of elements
- Strong thanks to secure anchoring in the groove
- Suitable for use as a rebate strip for doors

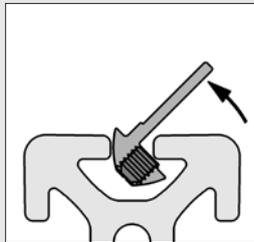
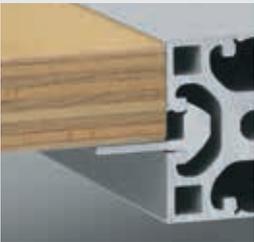


Fastening for panel elements, steps or devices installed between Profiles – the continuous Rebate Profile enables constructions that are virtually dust and dirt-tight, e.g. for panel elements, or can be used as a rebate strip for doors.

Supports particularly high loads thanks to forces being transferred along the entire length.

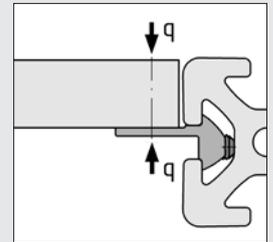
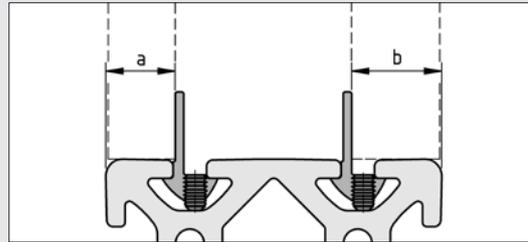
Rebate Profile 8 Al 19" is used for fixing 19" front plates or 19" housings or other panel elements. These are secured by Captive Nuts which can be inserted in the square openings of the Rebate Profile.

1 HU corresponds to a length of 44.45 mm



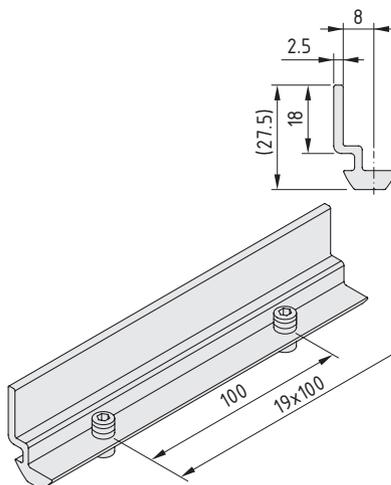
The Rebate Profile is rolled into the groove and fixed in position with grub screws. Rebate Profile 8 Al 16 M5, 8 Al M6 and 10 Al M6 are supplied with pre-tapped threaded bores and the corresponding grub screws.

Connection dimensions for the Rebate Profile Al to Profiles.



Rebate Profile	a [mm]	b [mm]	q_{max} [N/m]
8 Al (M6; 19")	10.5	27.0	1,000
8 Al 16 (M5)	16.5	21.5	1,000
10 Al	10.5	36.5	1,200

Permissible linear load for Rebate Profiles.



Rebate Profile 8 Al

Al, anodized
m = 310 g/m

natural, 1 pce., length 2000 mm

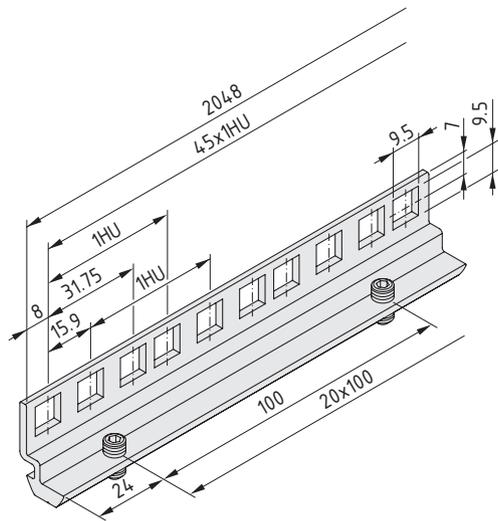
0.0.411.14

Rebate Profile 8 Al M6

Al, anodized
Fully machined with 20 threads M6
incl. grub screws DIN 913-M6x12, St, bright zinc-plated
m = 540.0 g

natural, 1 pce., length 2000 mm

0.0.444.89



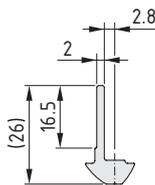
Rebate Profile 8 Al 19"



Al, anodized
Fully machined with openings and 21 M6 threads incl. grub screws DIN 913-M6x12, St, bright zinc-plated
m = 576.0 g

natural, 1 pce., length 2048 mm

0.0.398.19



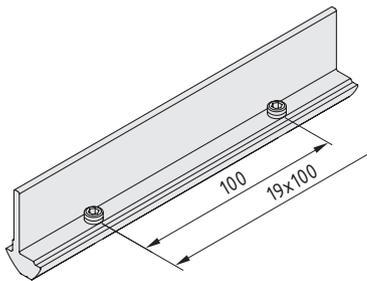
Rebate Profile 8 Al 16



Al, anodized
m = 268 g/m

natural, 1 pce., length 2000 mm

0.0.607.10



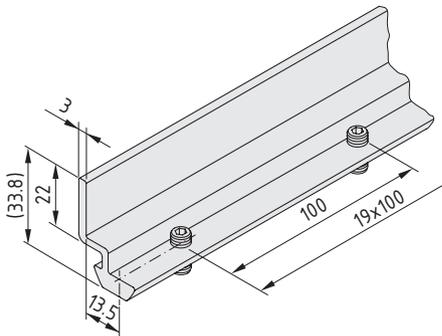
Rebate Profile 8 Al 16 M5



Al, anodized
Fully machined with 20 M5 threads
incl. grub screws DIN 913-M5x6
m = 554.0 g

natural, 1 pce., length 2000 mm

0.0.605.21



Rebate Profile 10 Al M6



Al, anodized
Fully machined with 20 threads M6
incl. grub screws DIN 913-M6x14, St, bright zinc-plated
m = 1000.0 g

natural, 1 pce., length 2000 mm

0.0.625.30

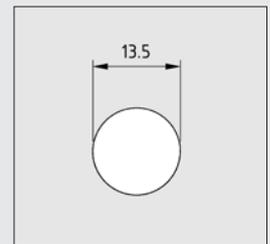
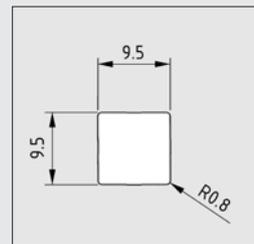
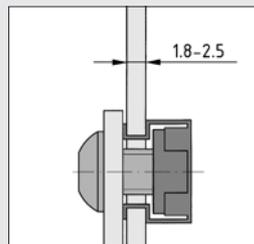
5



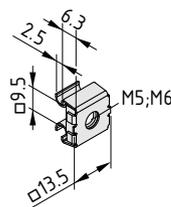
Captive Nuts

- Nut clips into Rebate Profile 8 Al 19"
- Quickly fitted and removed

Universal usage for installation in Rebate Profile 8 Al 19" or in panel elements. The Captive Nuts can be installed by snapping the latch springs into the corresponding recess.



The recesses can be either:
 - Square - with anti-torsion feature
 - Round - no anti-torsion feature



Captive Nut M5

St
 Cage and square nut
 m = 5.0 g

bright zinc-plated, 1 pce.

0.0.411.62

Captive Nut M6

St
 Cage and square nut
 m = 5.0 g

bright zinc-plated, 1 pce.

0.0.411.63



Panel Clamp

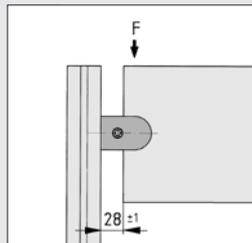
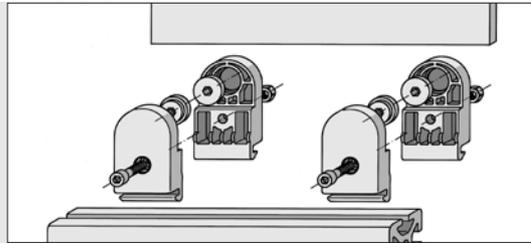
- Fasten panel elements without needing to machine them
- Clamping screw fastens the panel and Panel Clamp to a profile



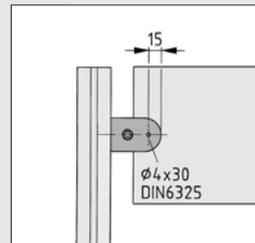
5

For securing panel elements to Profiles 8 without the need for additional machining. Tightening the clamping screw fixes the Panel Clamp to both the panel element and the profile.

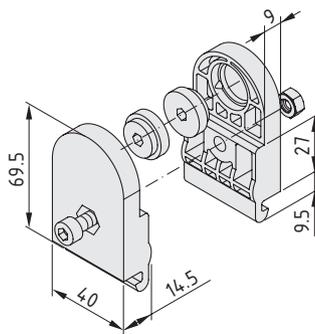
Particularly suitable for attachment of unframed panels etc. Not suitable for mesh and corrugated mesh. The panel elements of thickness 4 - 10 mm can be clamped in position by the asymmetrical spacer washers. Depending on the particular application, it may be necessary to invert the spacer washers in the housing.



Max. loading for each Panel Clamp without pinning.
 $F_{max} = 100 \text{ N}$



Possible pinning position for securing the panel element against movement.



Panel Clamp 8



- 2 housing halves, PA-GF, black
- Hexagon Socket Head Cap Screw DIN 912-M6x20, St, bright zinc-plated
- Hexagon Nut DIN 934-M6, St, bright zinc-plated
- 2 spacer washers, NBR, black
- $m = 56.0 \text{ g}$

1 set

0.0.388.91

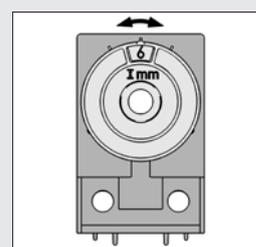
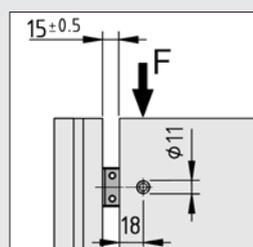
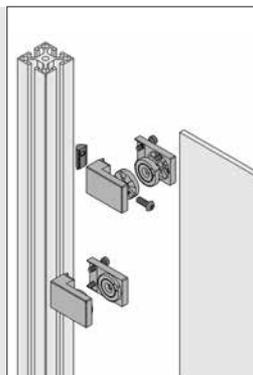
Panel Clamp X 6-8

- Elegant support that holds panels without the need for machining work
- Elastic inserts dampen vibrations
- Rigid fastening thanks to internal bolts



Panel Clamp X 6-8 is a fastener for unframed panels (4 - 8 mm thick) that does not require any further machining of the panel element. The panel element is held securely by elastic inserts.

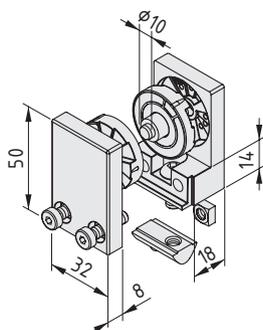
Fitting the panel element securely using internal bolts is also an option.



The Panel Clamp is fastened in the groove in Profiles 8 using a screw connection with T-Slot Nut 8. When using the Panel Clamp with Line 6 profiles, a T-Slot Nut 6 St M6 with a Button-Head Screw M6x14 is required. The anti-torsion elements are also to be removed as appropriate for this purpose.

A clearance of 15 mm is to be ensured when cutting the panel element. When using fastening bolts, through bores with a diameter of 11 mm also need to be cut. Max. load for each Panel Clamp without a fastening bolt $F_{max} = 100$ N.

The Panel Clamp can be adapted to panel elements between 4 and 8 mm thick by turning the elastomer inserts. A window in the insert shows the selected panel thickness.



Panel Clamp X 6-8



- 2 housing components, die-cast zinc, white aluminium
- 2 inserts, PUR, transparent
- Bolt D6x21.5, St, bright zinc-plated
- Collar D6/D10, PUR, grey
- T-Slot Nut V 8 St M6, bright zinc-plated
- Button-Head Screw ISO 7380-M6x16, St, bright zinc-plated
- 2 Hexagon Socket Head Cap Screws DIN 7984-M5x20, St, bright zinc-plated
- 2 square nuts similar to DIN 557-M5, St, bright zinc-plated
- m = 175.0 g

1 set

0.0.605.41



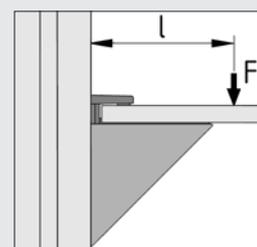
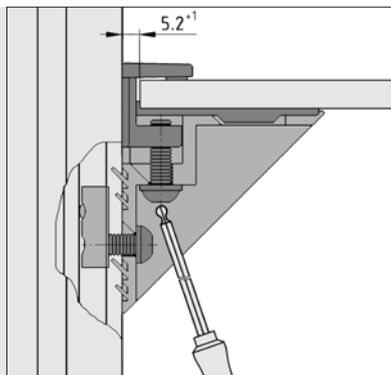
Support Arm X 6-8

- Aesthetically appealing support for shelving
- Concealed clamping system provides a secure fixing



Support Arm X 6-8 is a support for glass shelves or other inherently stable panel elements. Rear clamping of the panel element allows cantilever fastening to a Line 6 or Line 8 profile structure. The form of Support Arm X 6-8 corresponds to the clean contour of profile form X.

The load-carrying capacity of the shelf and the holding force indicated for the Support Arms must not be exceeded. The total load applies to the indicated distances between supports with an even distribution of weight!



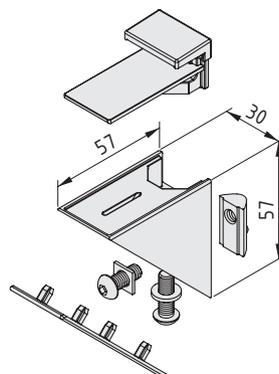
Support Arms X 6-8 are suitable for clamping panel elements 4 to 10 mm thick.

The tightening torque for the tensioning screw must not exceed 3 Nm.

Support Arm X 6-8 is fastened in the groove in Profiles 8 using a screw connection with T-Slot Nut 8. When using Support Arm X 6-8 with Line 6 profiles, a T-Slot Nut 6 St M6 with a Button-Head Screw M6x14 is required.

The permissible depth of the shelf is $l_{max.} = 200$ mm with a load $F_{max.} = 80$ N.

The distance between two Support Arms should not exceed 500 mm.



Support Arm X 6-8



- Angle Bracket, die-cast zinc, white aluminium
- Cap, PA-GF, grey
- T-Slot Nut V 8 St M6, bright zinc-plated
- Button-Head Screw ISO 7380-M6x20, St, bright zinc-plated
- Washer DIN 125-6.4, St, bright zinc-plated
- Button-Head Screw ISO 7380-M6x16, St, bright zinc-plated
- Washer 10.5x10.5x1.3, St, bright zinc-plated
- Clamping element, die-cast zinc, white aluminium
- Support, PUR, grey
- m = 198.0 g

1 set

0.0.496.01



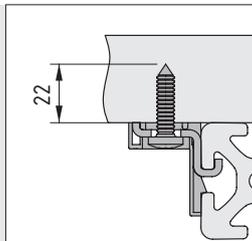
Table-Top Fastening Set

- Secure table tops to profile frames
- Self-tapping screws for wooden panels included



5

Table-Top Fastening Set 8 is a robust fastening element for table tops made of solid wood or chipboard on profile frame constructions. Clamping in the profile groove is achieved by tightening the self-tapping screw.



The table top does not need to be processed. The self-tapping screw can be screwed directly into the table top using a screwdriver (TX30 bit). The tolerance is adjusted by means of a slot in Table-Top Fastening Set 8.

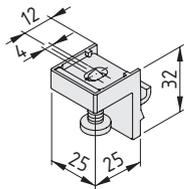


Table-Top Fastening Set 8



Clamping device, St, bright zinc-plated
 Cap, PA-GF, black
 Screw 6x25-TX30, self-tapping, St, bright zinc-plated
 m = 24.0 g

1 set

0.0.617.63



Flange

- Mounting plate for table columns
- Stable fastening, particularly for Column Profile D110

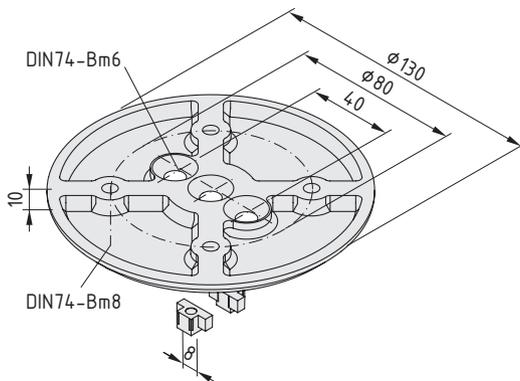


5



Flange 8 D130 can be used as a mounting plate for table columns with Column Profile D110. It can be screwed to a table top, a base plate or directly to the floor.

Flange 8 D130 is screwed to Column Profile D110 by means of 2 Countersunk Screws DIN 7981-M8x25. To do this, M8 threads must be tapped into the core bores (Ø 6.8 mm) in the Column Profile.



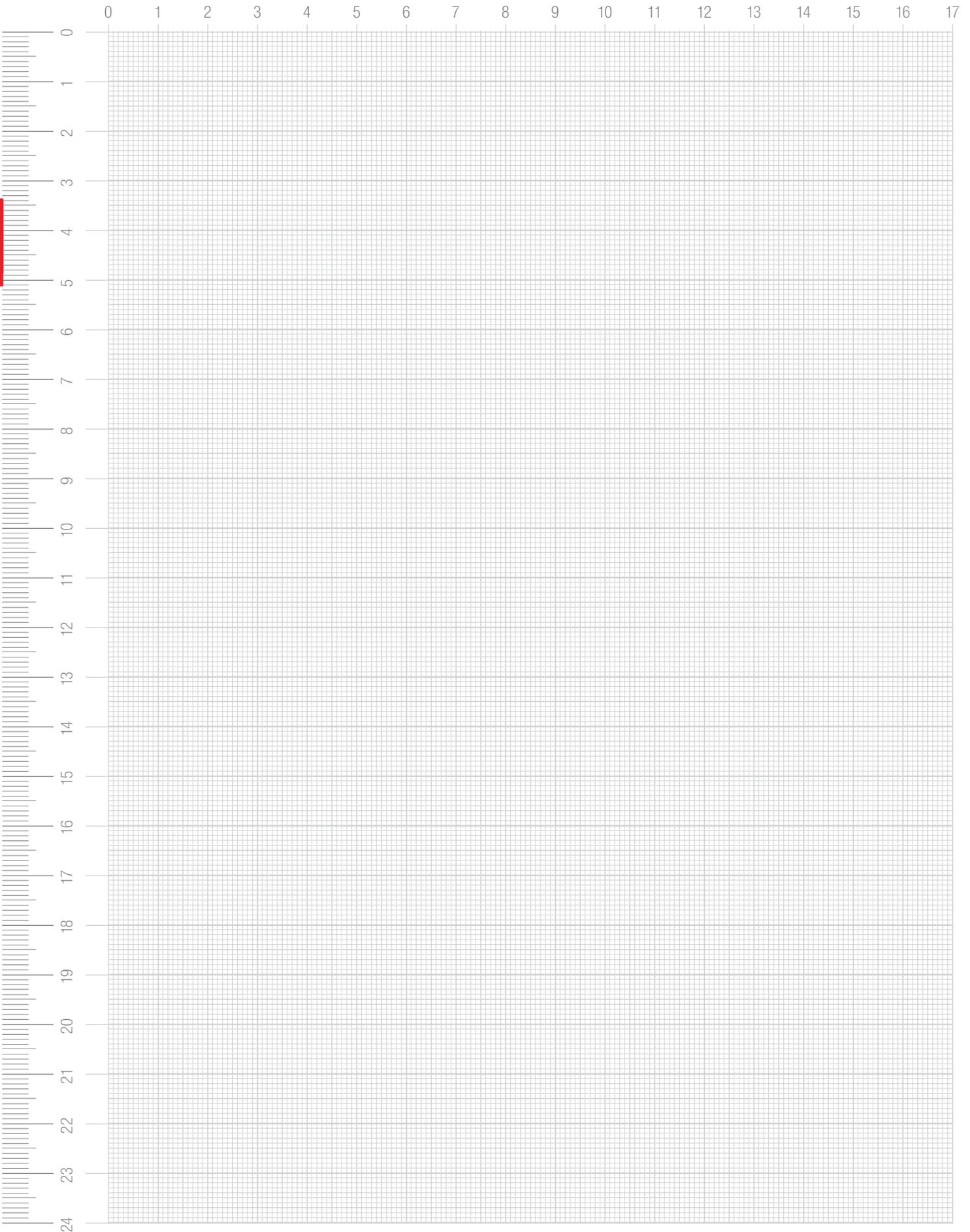
Flange 8 D130



Die-cast zinc
2 anti-torsion lugs, die-cast zinc, galvanized
m = 399.0 g

white aluminium, similar to RAL 9006, 1 set

0.0.474.82



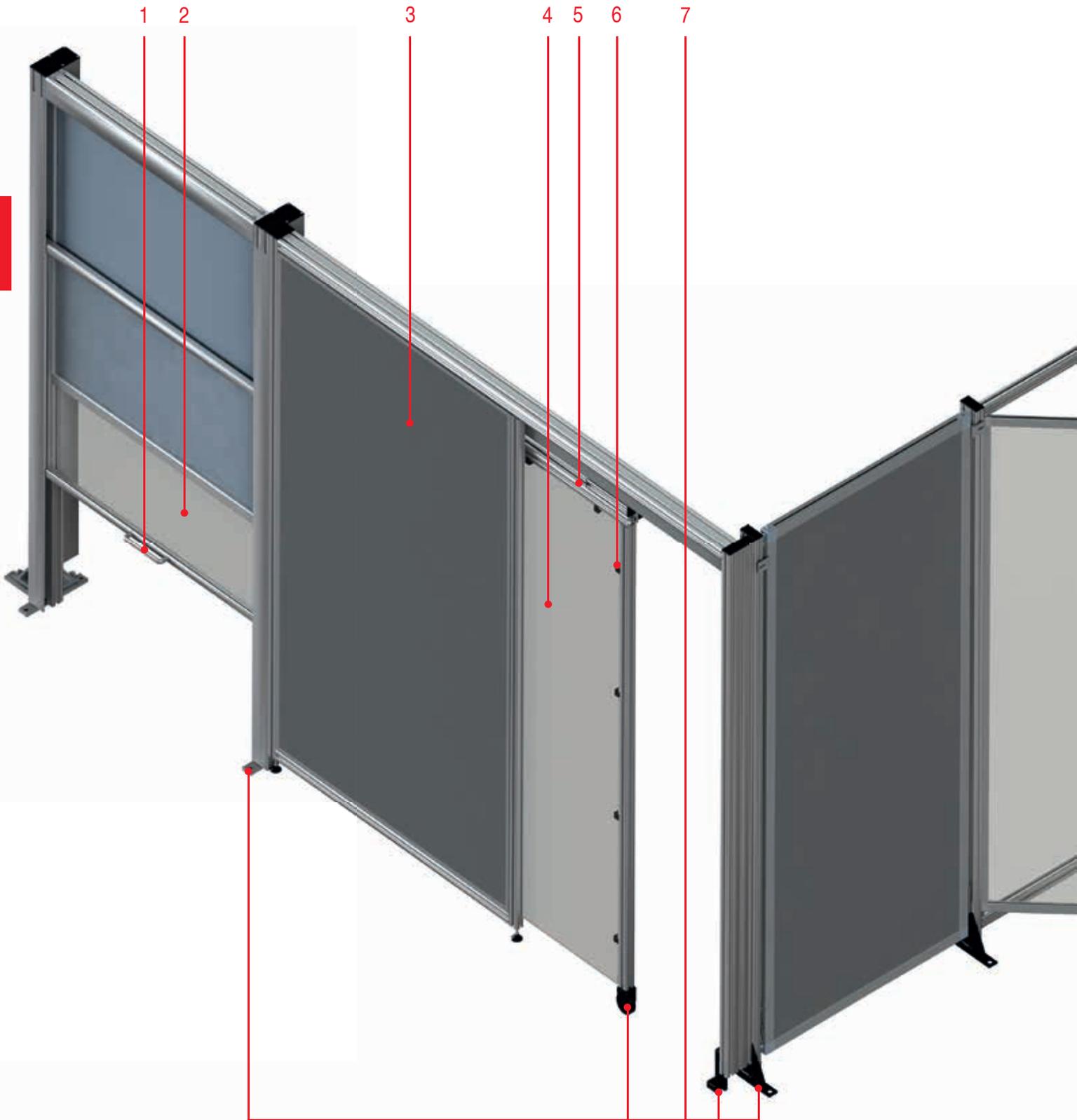


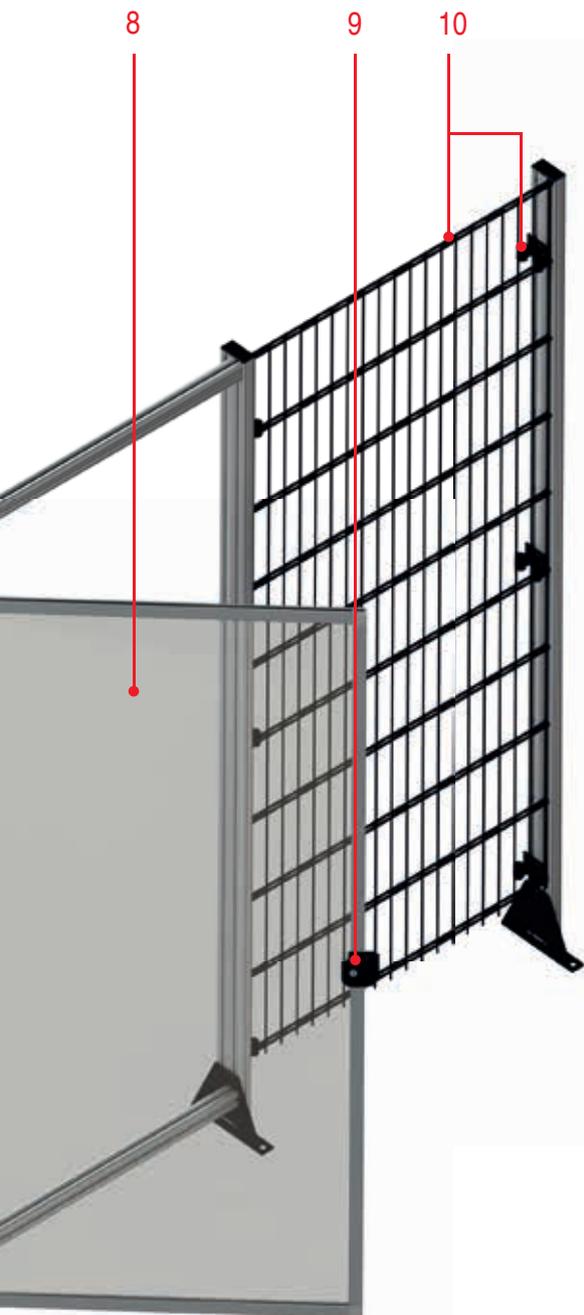
ENCLOSURES, GUARDS AND PARTITIONS

6

- Clamp Profiles
- Hangers
- Dual-Rod Mesh Hanger
- Lifting-Door System
- Door Security

Application example – system solutions for enclosures and guards
Components for building enclosures and guards





1 Handles and grips

- Safe opening and closing suited to the working environment
- Handles in any sizes thanks to flexible profiles

275

Section 8

2 Lifting doors

- Complete solution in widths of up to 2 m
- Manual and automatic operation

223

Section 6

3 Panel elements

- Made from metal, plastic, composite material
- Numerous special applications such as noise reduction, impact protection and access prevention

309

Section 10

4 Sliding doors

- On easy-running castors, up to 6000 mm wide
- Also available in customised dimensions as a corner entrance or folding door

253

Section 7

5 Clamp Profiles

- Hold panel elements securely in the profile without the need for machining
- Models designed specifically for various applications

205

Section 6

6 Panel fasteners

- Wide range of fixings to suit different panel elements
- Safety functions compliant with Machinery Directive

169

Section 5

7 Floor elements

- Knuckle Feet, castors and floor fasteners to size
- A secure hold for all applications

333

Section 11

8 Swing doors

- With profiles and hinges from item
- Can be planned to suit individual needs
- Door panel can be chosen to suit requirements

235

Section 7

9 Locks

- Mechanisms for controlling access
- Various lock systems available

289

Section 9

10 Safety Hangers

- Hangers and fasteners from item ensure rapid and safe construction
- Easily reused and adapted to suit special applications
- Compliant with the EC Machinery Directive

217

Section 6

Key:  See page

0 Products in this section

0 Products in other sections

Enclosures, guards and partitions
Products in this section

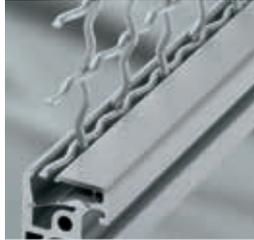
6



Clamp Profile 8 32x18

- Slim frame profile
- For building guards, enclosures and sliding doors

📄206



Clamp Profiles E

- For building frame elements
- Rapid to fit and secured against movement

📄210



Clamp Profiles light

- For building gap-free protective enclosures

📄211



Clamp Profiles

- For building particularly stable frame elements
- Suitable for large-area guards and enclosures

📄212



Clamp-Profile Fasteners E

- For suspending panels within frame structures
- Ensures easy access thanks to rapid installation and removal

📄214



Clamp-Profile Cross Connector

- For inside corners, cut-outs and openings in panels
- Connect up to four Clamp Profiles

📄215



Profiles 8 F14 light

- Groove in special width accommodates panel elements up to 14 mm thick
- For particularly robust enclosures and guards

📄216



Safety Hanger 8/8 and 8/6

- Intelligent hanging system allows one-man assembly
- Tamper-proof in line with EC Machinery Directive

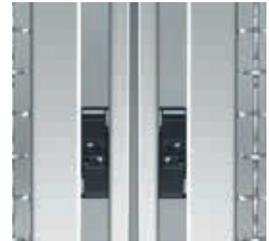
📄217



Hanger 6-8

- The slim Hanger for frame elements
- Combine Line 6 and 8 Profiles

📄219



Hanger 8

- Robust connection between frame elements and Stand Profiles 8
- Secured against removal by screw attachment

📄220



Dual-Rod Mesh Hanger

- Stable hold for Dual-Rod Mesh panels
- Fasten rod meshes at any angle

📄221



Lifting-Door System

- Complete solution for automatic or manual operation
- Easy-running door, balanced by counterweights

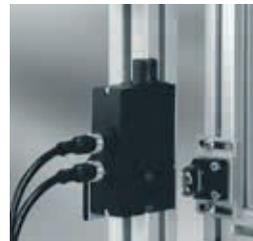
📄223



Lifting-Door Guide Set

- Guide runs along the Line 8 groove
- Can also be connected to a drive

📄226



Security Limit Switch/Lock

- Compact, secure latching function, detects when doors have been opened
- For swing, lifting and sliding doors

📄227



Safety Switch 8, 24V DC

- Tamper-proof thanks to RFID technology
- Sensor works on contactless basis

📄231



Special profiles for fastening panel elements

- Exceptionally secure hold for panel elements
- Design guard panels to suit specific requirements
- Fully compatible with Hangers and Hinges

6

Special Clamp Profiles are available for the construction of inherently stable enclosures and guards. They provide an exceptionally secure hold for panel elements including Acrylic Glass, Steel Mesh and Sound-Insulating Material. As a result, it couldn't be easier to build partitions, guards and enclosures to precise specifications.

Alternatively, when assembling lightweight panels or table tops, fastenings can be used that sit in or on the groove of standard profiles.

Clamp Profiles can also be used to erect flexible protective panels. This involves fastening individual panels to load-carrying stands made from standard profiles. The range of Hangers can then be used to install the panels in the guard as fixed, removable or mobile (e.g. door) elements.

This catalogue contains a wide range of panel elements and the ideal Clamp Profiles for each type of material.

Frame Profile	Panel Element							
	Acrylic Glass / Polycarbonate	Sheet Metal Al	Compound Material	Plastic	Corrug. Mesh Al	Corrug. Mesh St	Steel Mesh	Perforated Sheet
Clamp Profile	+	+	+	+	0	+	+	+
Clamp Profile E	+	+	+	+	+	0	+	+
Clamp Profile 8 32x18	+	+	+	+	-	-	-	0
Profiles (Line 8)	0	0	0	0	-	-	-	0

+ well suited

0 assembly possible

- not recommended

The strength of a protective enclosure is also determined by the strength of the connection between panel element and profile. Thanks to their deep slot, the special Clamp Profiles offer clear advantages over standard profiles, particularly with regard to panels such as Corrugated Mesh or thin Sheet Material, which are not inherently stable.

Large, free-standing machine guards in production plants and room dividers in offices, warehouses or sales areas also benefit from the use of special profiles. Clamping the panel element in the profile frame improves rigidity while keeping the material weight low. This makes it easier to build, reconfigure and dis-

assemble the walls. Alternatively, guards and enclosures can also be erected using inherently stable panel elements such as Dual-Rod Meshes, which can be mounted directly on stands without the need for special Clamp Profiles. Special Hangers are available for this application, too.

The Hangers item supplies for frame elements balance out assembly tolerances and make it easy to remove panels as well as secure them firmly in place.

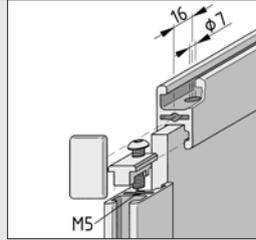


Clamp Profile 8 32x18

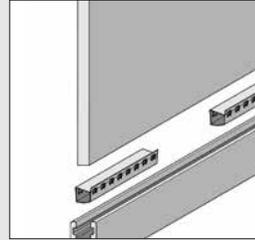
- Holds panel elements with the appropriate Clamping Spring
- For building lightweight guards, enclosures and sliding doors



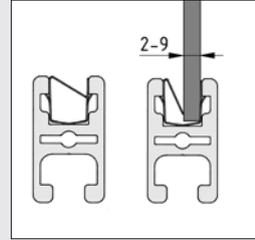
6



Clamp-Profile Fastening Set 8 32x18 ensures a correctly positioned corner connection for the profiles.



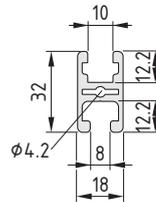
The number of Clamping Springs required depends on the load, the inherent stability and the size of the panel element.



10 mm thick panel elements can be fitted into the groove without using Clamping Springs.



Instead of Clamping Spring 8, a Lip Seal 8 can also be used for securing inherently stable panel elements.

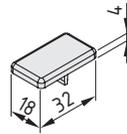


Clamp Profile 8 32x18



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _z [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
2.49	0.67	1.88	1.10	0.23	1.16	1.23	
natural, cut-off max. 6000 mm							0.0.373.67
natural, 1 pce., length 6000 mm							0.0.631.05
natural, 1 pce., length 3000 mm							0.0.452.24



Cap 8 32x18

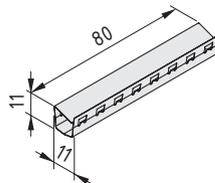


PA-GF

m = 2.2 g

black, 1 pce. 0.0.388.87

grey similar to RAL 7042, 1 pce. 0.0.627.23



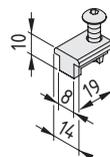
Clamping Spring 8



St

m = 5.0 g

stainless, 1 pce. 0.0.406.21



Clamp-Profile Fastening Set 8 32x18



Fastener, die-cast zinc, bright zinc-plated

Button-Head Screw ISO 7380-M5x20, St, bright zinc-plated

M_{bz,p} = 4.5 Nm m = 11.0 g

1 set 0.0.404.09



Corner-Fastening Set Clamp-Profile 8 32x18

- Simple assembly of a frame using Clamp Profiles 8
- Additional components can be added to produce hinges or castors for sliding doors



Corner-Fastening Set Clamp-Profile 8 32x18 is used for stable profile connections. The rigid screw fastening to the end faces of the profiles being connected produces a frame that is ideal for use within lightweight enclosures and for door frames.

Corner-Fastening Set Clamp-Profile 8 32x18 contains all components required for a profile connection. An M5 thread must be tapped into the core bore of each Clamp Profile 8 32x18.

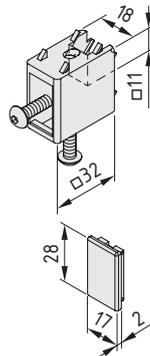
The Corner-Fastening Sets are multifunctional. They can be used in a variety of ways when used with special add-on elements:

- Roller Set 32x18 can be fitted directly into the corner fastener. This turns the frame into a smooth-running sliding door element that can be employed e.g. in the Sliding-Door Guide Profile 8 40x10.

- Hinge Sets 32x18 come with an insert for the corner fastener which forms a door hinge in conjunction with a hinge bearing in the frame of the surrounding construction. This provides an easy means of constructing a stylish, lightweight swing door with a particularly low door gap and without needing to fit additional hinges.

The maximum permissible weight of a door is 10 kg.

6



Corner-Fastening Set Clamp-Profile 8 32x18

Die-cast zinc, white aluminium similar to RAL 9006
2 Button-Head Screws ISO 7380-M5x16, St, bright zinc-plated
m = 54.5 g

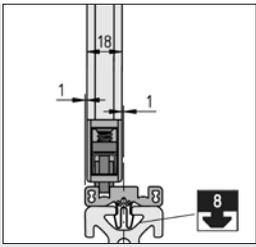
1 set

0.0.494.73

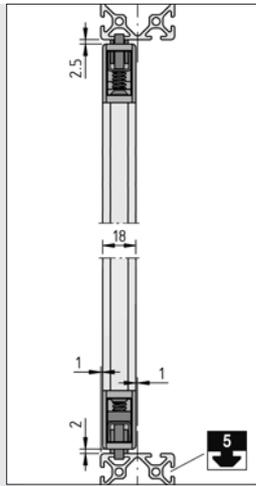
Cap for Corner-Fastener 8 32x18

PP
m = 1.3 g
grey similar to RAL 7042, 1 pce.

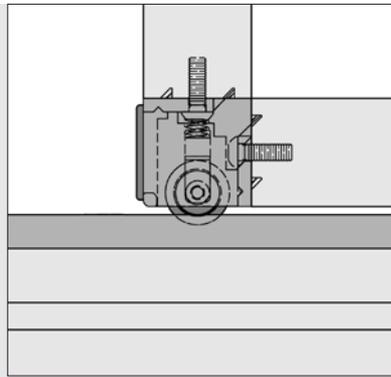
0.0.494.71



Sliding-Door Guide Profile 8 40x10 is fitted with Clip 8 St at the top and bottom of the surrounding profile frame. It forms the guide for two door leaves of Clamp Profile 8 32x18.



The sliding doors can also be run directly in the grooves of a Line 5 profile. This produces a particularly compact frame construction.

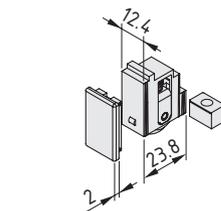


Spring-loaded Roller Set 32x18 is fitted into the corner fasteners of the previously constructed clamp profile frames. A Roller Set must be installed in each fastener so as to guide the sliding door leaf.

A limit stop can be installed to prevent the roller insert from springing. The corner fasteners at the bottom of a sliding door frame are always installed with rigid rollers. Spring-loaded rollers in the corner fasteners at the top enable the door leaves to be fitted into a profile frame which has already been built.

If required, all four roller inserts may be blocked by limit stop inserts and the outer profile frame finished after the sliding door leaves have been fitted. This effectively prevents the doors from being removed without dismantling the frame.

After the rollers have been fitted, a plastic end cap closes the fastener at the side and serves as a door stop in the terminal positions.

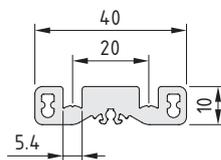


Roller for Corner-Fastener 8 32x18



- Roller insert
- Compression spring
- Llimit stop
- Cap, PP grey
- Notes on Use and Installation
- m = 10.5 g

1 set 0.0.494.74



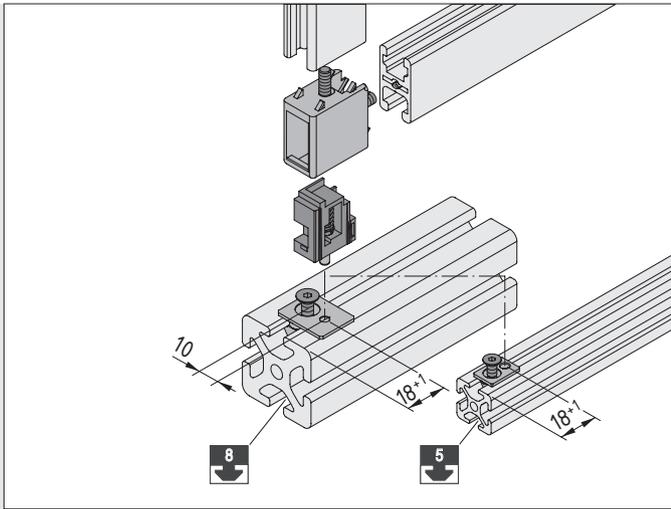
Sliding-Door Guide Profile 8 40x10



Al, anodized	
A [cm ²]	m [kg/m]
2.48	0.67

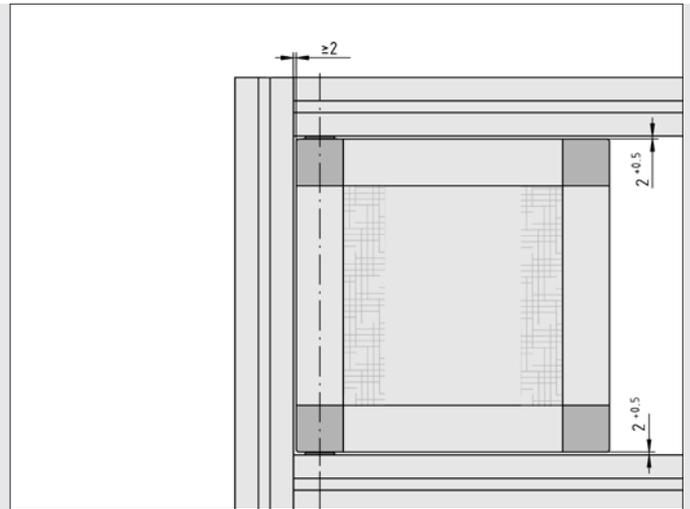
natural, cut-off max. 3000 mm 0.0.495.13

natural, 1 pce., length 3000 mm 0.0.495.12



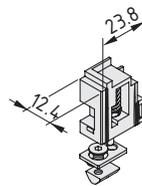
The hinge inserts are also fitted into the corner fasteners after the clamp profile frame has been closed.

A hinge bearing is attached to both the upper and the lower frame profile and functions as a rotary bearing for a door. During installation, the spring-loaded Hinge Pin engages in the bearing plate, whose position in the groove can be adjusted when the swing door is open. This provides an effective means of preventing a closed door from being dismantled.



The Hinge Sets for installing swing doors in frame constructions of Line 5 or 8 contain all the parts required for one hinge.

6



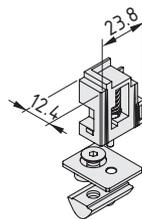
Hinge 5 for Corner-Fastener 8 32x18

5

Hinge insert
 Bearing plate 5
 T-Slot Nut 5 St M4, bright zinc-plated
 Countersunk Screw DIN 7991-M4x6, St, bright zinc-plated
 Notes on Use and Installation
 m = 11.5 g

1 set

0.0.495.33



Hinge 8 for Corner-Fastener 8 32x18

8

Hinge insert
 Bearing plate 8
 T-Slot Nut V 8 St M5, bright zinc-plated
 Countersunk Screw DIN 7991-M5x12, St, bright zinc-plated
 Notes on Use and Installation
 m = 23.0 g

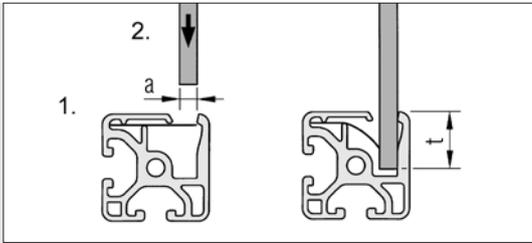
1 set

0.0.494.76



Clamp Profiles E

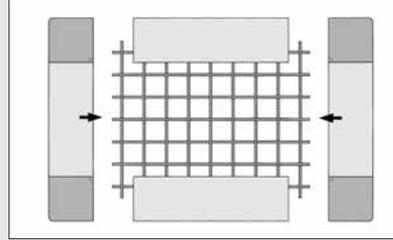
- For building frame elements
- Flexible steel strip holds even Corrugated Mesh AI in place
- Rapid to fit and secured against movement



Installation sequence:

1. Insert the Clamp-Profile Strip into the spring cavity in the Clamp Profile.
2. Press in the panel element.

Clamp Profile	a (mm)	t (mm)
6 30x30 E	2 - 6	17
8 40x40 E	2 - 8.5	23

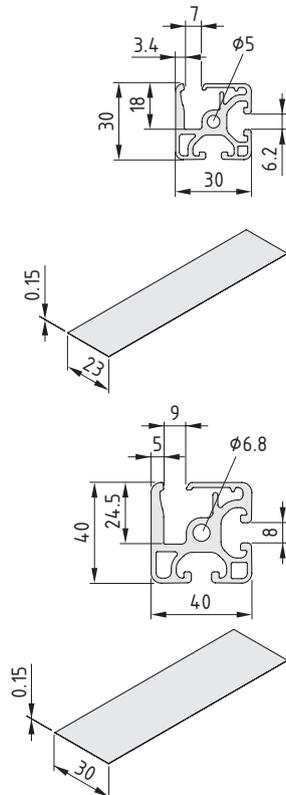


Producing frames:

1. Cut-off of panel element = inside frame dimension + 2 x insertion depth (t).
2. Fit the Clamp-Profile Fastener loosely onto the upright frame profiles.
3. Place the horizontal frame profiles centrally onto the panel element so as to ensure initial gentle clamping by the steel strip. The panel element must not yet be pressed all the way into the groove.
4. Assemble the frame and tighten the bolts. The panel element will be pressed into the groove by varying amounts (depending on the tolerance position) when the bolts are tightened.

Clamp-Profile Fasteners

214



Clamp Profile 6 30x30 E

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.58	0.97	2.75	3.25	0.29	1.78	2.15
natural, cut-off max. 6000 mm						0.0.439.42
natural, 1 pce., length 6000 mm						0.0.451.49

Clamp-Profile Strip 6 23x0.15 E

St
m = 27 g/m

stainless, 1 roll length 20 m	0.0.441.52
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Clamp Profile 8 40x40 E

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.50	1.76	8.79	10.67	1.07	4.29	5.25
natural, cut-off max. 6000 mm						0.0.436.92
natural, 1 pce., length 6000 mm						0.0.452.21

Clamp-Profile Strip 8 30x0.15 E

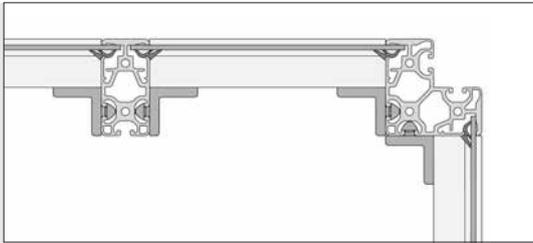
St
m = 35 g/m

stainless, 1 roll length 20 m	0.0.440.48
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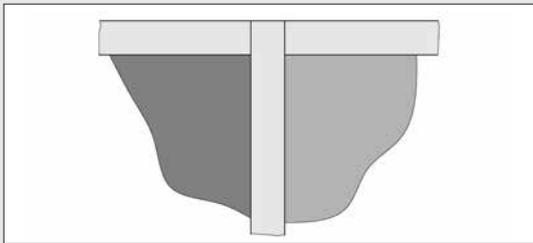
Clamp Profiles light

- The cost-effective solution for building gap-free protective enclosures
- Stand profile and clamp profile in one

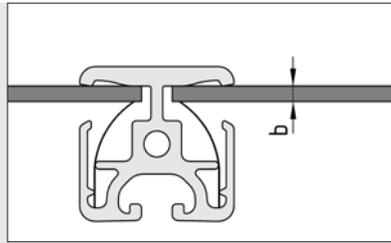


The Clamp Profiles light are connected using Angle Bracket V 8 40 Zn.

Angle Bracket V 8
40 Zn 

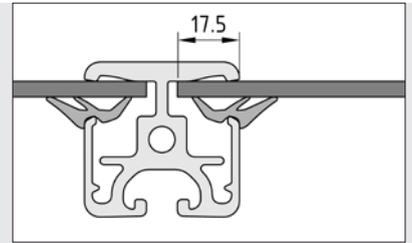


Using a Clamp Profile as a stand allows you to construct protective enclosures without gaps.



A special clamping effect is achieved using Clamp-Profile Strip 8 30x0.15 E (0.0.440.48). In such cases, the Clamp Profiles first have to be pushed onto the panel element. The frame is then connected together using Angle Brackets V 8 40 Zn.

b = max. 6 mm

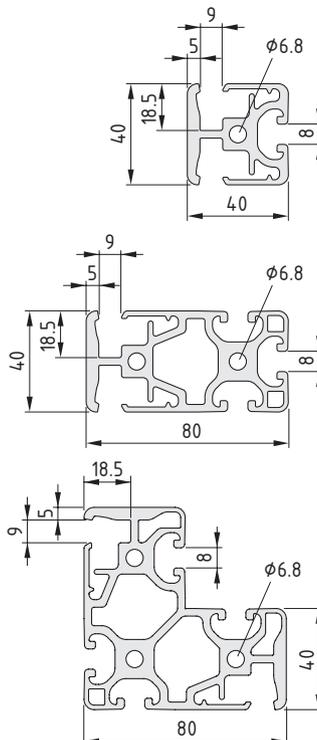


Lip Seals 8 ensure inherently stable panel elements are secured firmly without rattling.

b = max. 6 mm

Lip Seal 8 2-4mm 

6



Clamp Profile 8 40x40-180° light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.51	1.77	8.57	11.20	0.67	4.29	5.51
natural, cut-off max. 6000 mm						0.0.483.36
natural, 1 pce., length 6000 mm						0.0.454.45

Clamp Profile 8 80x40-180° light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.77	3.18	17.37	70.29	9.71	8.69	17.41
natural, cut-off max. 4800 mm						0.0.480.44
natural, 1 pce., length 4800 mm						0.0.454.38

Clamp Profile 8 W80x80x40 light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
17.51	4.73	97.40	97.40	26.23	21.18	21.18
natural, cut-off max. 4800 mm						0.0.483.57
natural, 1 pce., length 4800 mm						0.0.483.56



Clamp Profiles

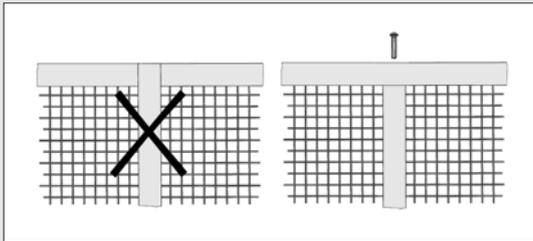
- For building particularly stable frame elements
- Suitable for large-area guards and enclosures



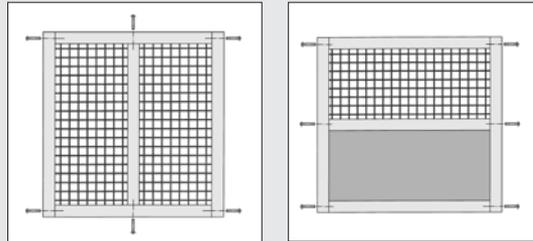
6



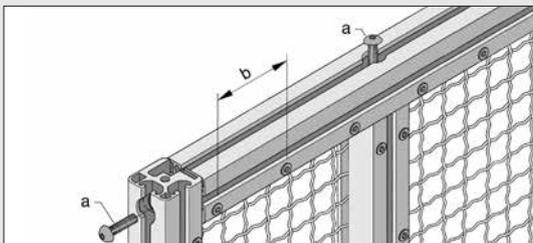
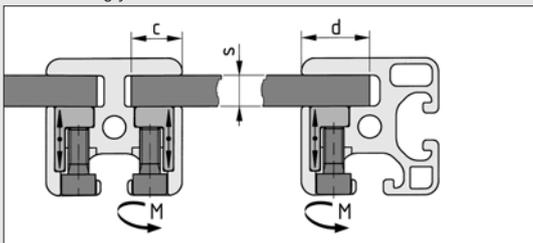
Clamp Profiles can be connected together to form frames using Clamp-Profile Fasteners E or by screwing the Clamp Profiles directly to each other.



Where the panels are to be divided by a central strut (Clamp Profile 180°), this should always be tapped at the ends and bolted between the outer frame profiles. The Profile Edging (i.e. clamping strip) will need to be interrupted accordingly.

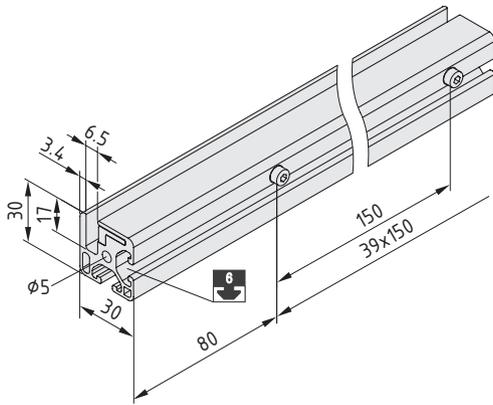


When designing a frame, it is important to ensure that horizontal Clamp Profiles are always connected via their end faces. An appropriate bore should be drilled through the vertical profiles.



	Clamp Profile 6		Clamp Profile 8	
	30x30	30x30-180°	40x40	40x40-180°
c	-	12 mm	-	16 mm
d	16 mm	-	22 mm	-
M _{max.}	2 Nm		8 Nm	
a	Button-Head Screw ISO 7380 M6x30		Button-Head Screw ISO 7380 M8x40	
b	150 mm		200 mm	
s	2-6 mm		2-8.5 mm	

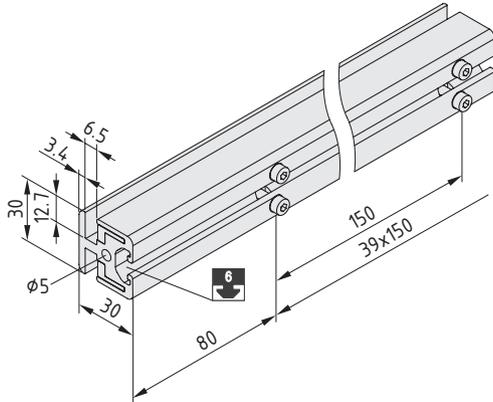
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**Clamp Profile 6 30x30**

Al, anodized

Cap Screws DIN 912-M4x12, St, bright zinc-plated

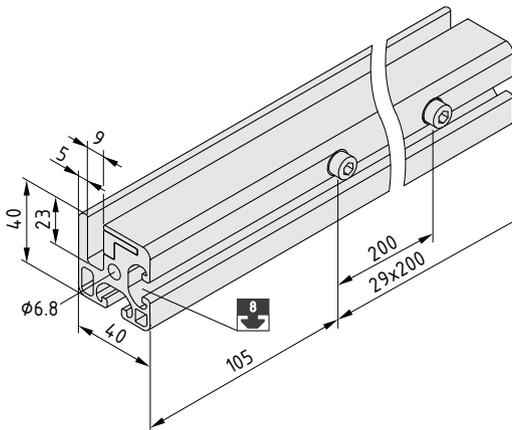
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.14	1.27	3.20	3.54	0.45	2.04	2.34
natural, cut-off max. 6000 mm						0.0.431.11
natural, 1 pce., length 6000 mm						0.0.451.01

**Clamp Profile 6 30x30-180°**

Al, anodized

Cap Screws DIN 912-M4x12, St, bright zinc-plated

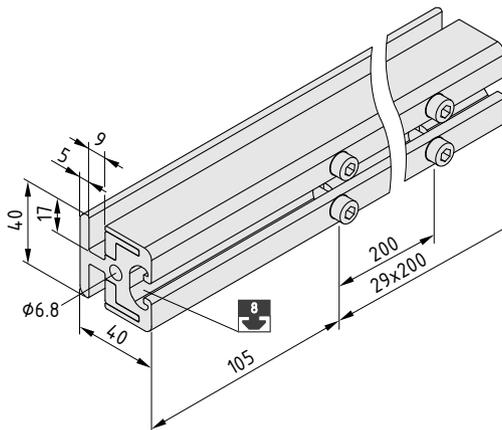
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.64	1.55	3.53	3.88	0.47	2.35	2.54
natural, cut-off max. 6000 mm						0.0.431.14
natural, 1 pce., length 6000 mm						0.0.451.02

**Clamp Profile 8 40x40**

Al, anodized

Cap Screws DIN 912-M6x16, St, bright zinc-plated

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
7.49	2.30	9.58	11.96	1.54	4.55	5.93
natural, cut-off max. 6000 mm						0.0.196.50
natural, 1 pce., length 6000 mm						0.0.452.25

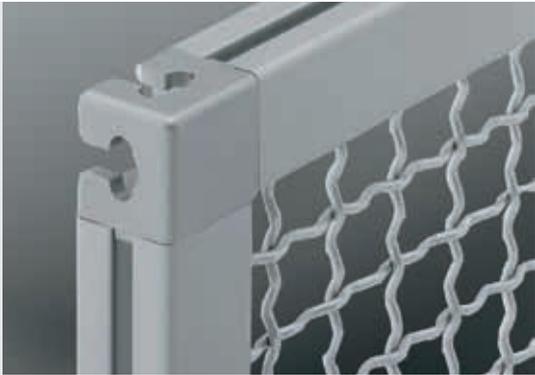
**Clamp Profile 8 40x40-180°**

Al, anodized

Cap Screws DIN 912-M6x16, St, bright zinc-plated

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
8.38	2.56	11.40	13.00	1.44	5.70	6.20
natural, cut-off max. 6000 mm						0.0.429.95
natural, 1 pce., length 6000 mm						0.0.452.26

6



Clamp-Profile Fastener E

- For suspending panels within frame structures
- Ensures easy access thanks to rapid installation and removal



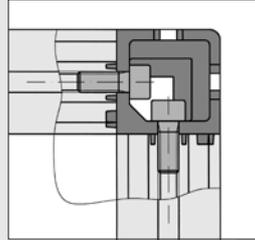
6



Suspended frame elements can also be locked if required by subsequently moving the lower Clamp-Profile Hanger.



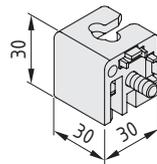
The Clamp-Profile Fastener can be combined with any desired Profiles 6 30x30 or 8 40x40 and also with the existing Clamp Profiles 6 30x30 or 8 40x40. The fact that the Clamp-Profile Fastener has a special cavity means that the panels to be fitted in the profile grooves do not need to be notched.



Connection of Clamp-Profiles E with Clamp-Profile Fasteners E.

Clamp-Profile Hangers E  218

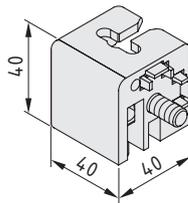
Clamp-Profile Hangers E



Clamp-Profile Fastener 6 30x30 E

Die-cast zinc, white aluminium similar to RAL 9006
2 Cap Screws DIN 912-M6x16, St, bright zinc-plated
m = 78.0 g

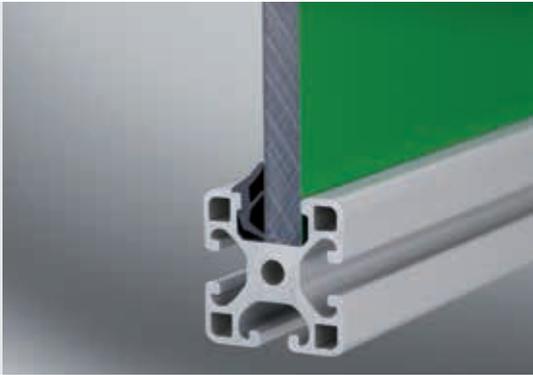
1 set 0.0.441.80



Clamp-Profile Fastener 8 40x40 E

Die-cast zinc, white aluminium similar to RAL 9006
2 Cap Screws DIN 912-M8x20, St, bright zinc-plated
m = 187.0 g

1 set 0.0.444.76

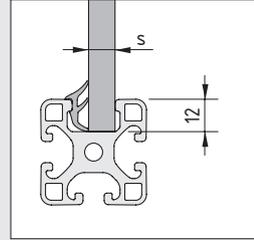
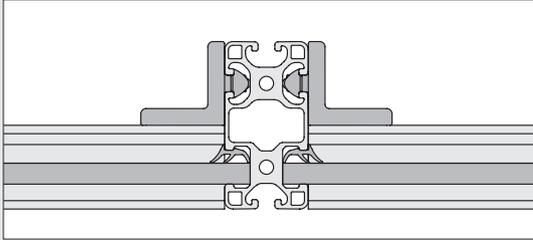


Profiles 8 F14 light

- Groove in special width
- Secure panel elements up to 14 mm thick
- For particularly robust enclosures and guards



6

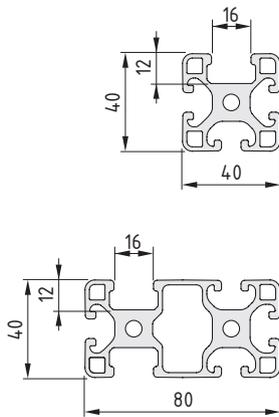


Profiles 8 F14 can be fastened together without any profile machining by using Angle Brackets V 8 40 Zn (0.0.486.28). These Angle Brackets have an anti-torsion feature on one side which locates them in the correct position in the profile groove.

Depending on the thickness of the panel element used, it is advisable to use the following Lip Seals:

- s = 10 - 12 mm => Lip Seal 8 2-4 mm
- s = 12 - 14 mm => Lip Seal 8 4-6 mm

Lip Seals 173



Profile 8 40x40 F14 light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.39	1.73	8.25	9.24	1.42	2.85	4.62
natural, cut-off max. 6000 mm						0.0.617.97
natural, 1 pce., length 6000 mm						0.0.617.96

Profile 8 80x40 F14-180° light

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
10.90	2.93	15.10	68.05	9.28	7.54	13.89
natural, cut-off max. 6000 mm						0.0.617.99
natural, 1 pce., length 6000 mm						0.0.617.98



Safety Hanger 8/8 and 8/6

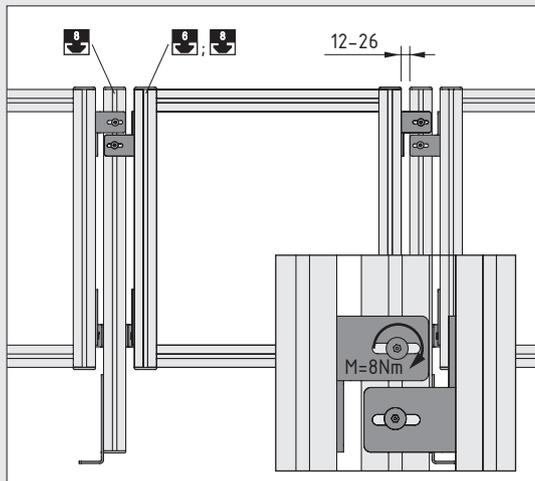
Safety made convenient

- Practically unbreakable and tamper-evident design
- Intelligent hanging system allows one-man assembly
- Can be adjusted and evens out tolerances



Complies with Machinery Directive and is also convenient: the Safety Hanger for protective fence panels.

Panels consisting of Profile 6 (Safety Hanger 8/6) or Profile 8 (Safety Hanger 8/8) frames can be fitted to Stand Profiles 8 by a single fitter working alone: slot in at the bottom, tilt into place at the top and then fasten with the security bolt. Simple and efficient!

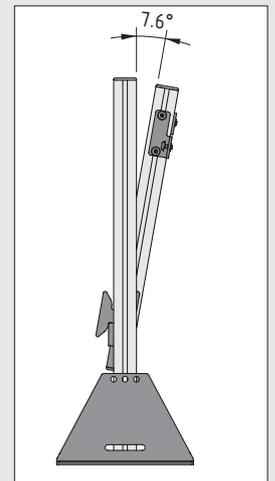
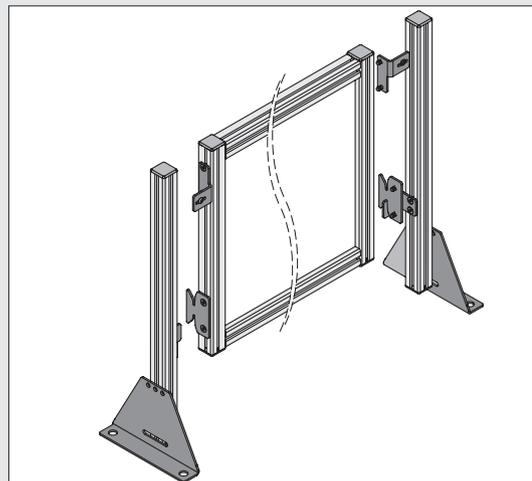


The captive security bolt: simply insert into the profile groove and tighten.

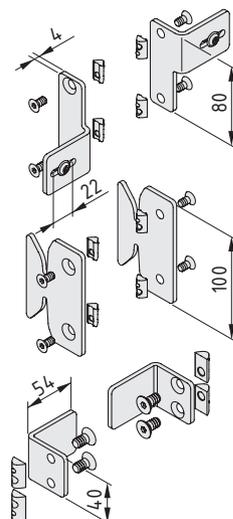
One Safety Hanger set is required for each profile frame that is being hung.

The tamper-proof pin hex button head screws surpass Machinery Directive requirements: a special Key (0.0.627.48) is used to fit the Hangers, which prevents unauthorised access to hazard areas.

The major advantage of the Safety Hangers is their steel design, which is break-proof even in crash scenarios. Just one reason why item can be trusted when it comes to safety.



Security L-Key Set 675



Safety Hanger 8/6

- 2 Safety Hangers with bolts St, bright zinc-plated
- 2 support hooks, St, bright zinc-plated
- 2 support angle brackets, St, bright zinc-plated
- 8 T-Slot Nuts 6 St M6
- 4 T-Slot Nuts V 8 St M8
- 8 security bolts M6x12, St. stainless
- 4 security bolts M8x16, St, stainless
- Notes on Use and Installation
- m = 912.0 g

1 set

0.0.627.78

Safety Hanger 8/8

- 2 Safety Hangers with bolts St, bright zinc-plated
- 2 support hooks, St, bright zinc-plated
- 2 support angle brackets, St, bright zinc-plated
- 12 T-Slot Nuts V 8 St M8
- 12 security bolts M8x16, St. stainless
- Notes on Use and Installation
- m = 992.0 g

1 set

0.0.626.00



Clamp-Profile Hangers E

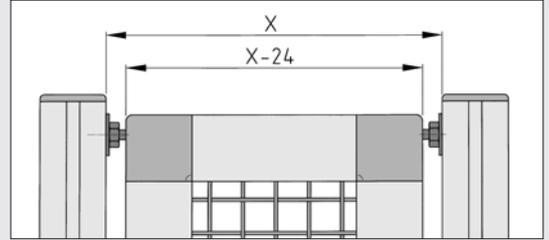
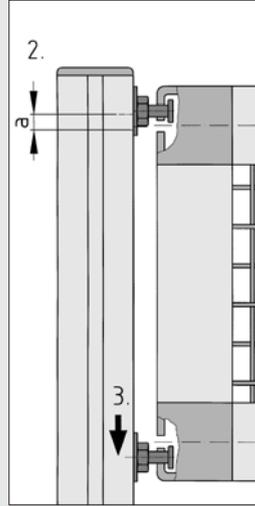
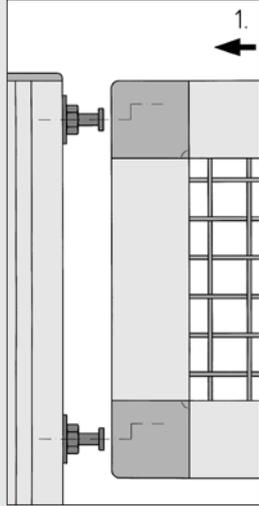
■ For suspending frame elements assembled with Clamp-Profile Fasteners E



6



To match Clamp-Profile Hangers E, item supplies Clamp-Profile Fasteners E, which also hold together the frame elements. This means that a smaller gap (12 mm) can be achieved between the frame and the stands.

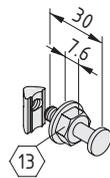


The clearance dimension between frame and Stand Profile is 12 mm. Dimensional tolerances of ± 3 mm can be accommodated by the Clamp-Profile Hanger E.

Clamp-Profile Hangers E	6	8
a	4.75 mm	8.25 mm

Installation sequence:

1. Hook the frame element into the existing construction.
2. Fix the height of the frame element using the upper hangers (a).
3. Move the lower Clamp-Profile Hangers to lock the frame element in position (if required).



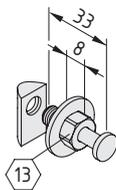
Clamp-Profile Hanger 6 E



4 bolts, St, bright zinc-plated
4 washers DIN 9021-6.4, St, bright zinc-plated
4 T-Slot Nuts 6 St M6, bright zinc-plated
m = 76.0 g

1 set

0.0.441.11



Clamp-Profile Hanger 8 E



4 bolts, St, bright zinc-plated
4 washers DIN EN ISO 7093-8.4, St, bright zinc-plated
4 T-Slot Nuts 8 St M8, bright zinc-plated
m = 112.0 g

1 set

0.0.440.05



Hanger 6-8

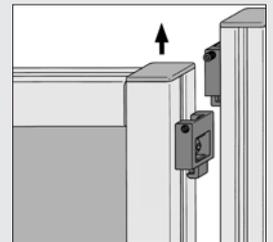
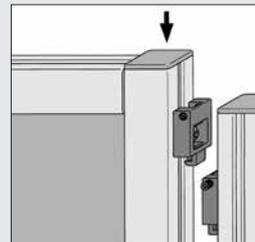
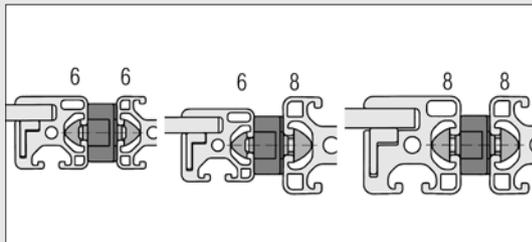
- Connect lightweight frame elements and stand profiles
- Combine Line 6 and 8 Profiles



Compact hanger for especially rigid fastening of frame elements to Stand Profiles. Profiles from Lines 6 and 8 can be connected together as required.

If required, the Hangers can be screwed together front and rear using the supplied grub screw in order to prevent lifting.

6



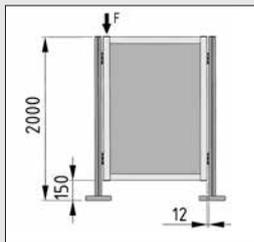
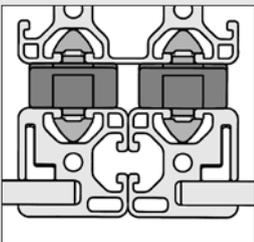
The two-sided anti-torsion blocks can be configured to suit various combinations of Profiles 6 and 8.

Fastening to Profile 6 using Button-Head Screw ISO 7380-M6x14 and T-Slot Nut 6 St M6.

Fastening to Profile 8 using Button-Head Screw ISO 7380-M6x16 and T-Slot Nut 8 St M6.

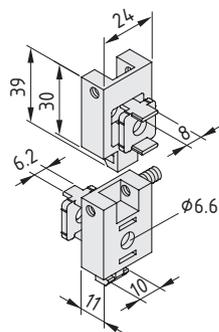
Hanger 6-8 allows two variations of frame assembly:

1. Very easy 1-man assembly: the frame element is lowered from above onto the hangers on the Stand Profiles, lugs on the hangers engaging to ensure stability. They are then secured by the grub screws provided.
2. The frame element is slid into the hanger on the Stand Profile from below and secured with the grub screw. Removal of the grub screws results in the frame element dropping down.



Attaching the Hanger from the front ensures that the frame and panel elements can be fitted without gaps.

Hanger 6-8 can be used to maintain very small gaps (12 mm) between the frame and the Stand Profile.
F = approx. 400 N



Hanger 6-8

2 hangers, die-cast zinc, black
2 anti-torsion blocks, die-cast zinc, black
Grub screw DIN 913-M5x10, black
m = 70.0 g

1 set

0.0.441.33

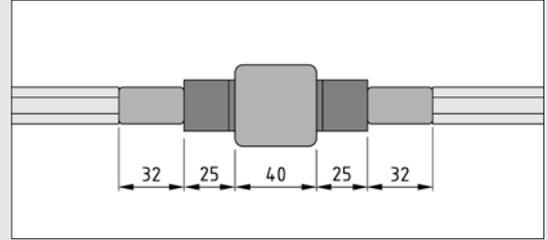
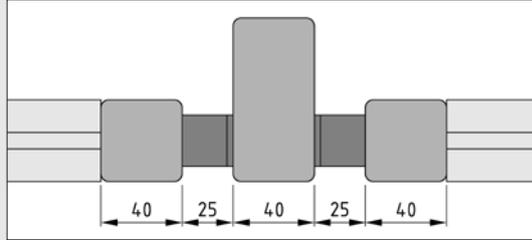
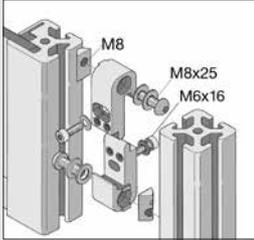


Hanger 8

- Particularly robust connection between frame elements and Stand Profiles 8
- Secured against removal by screw attachment



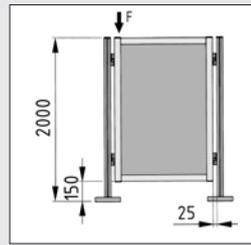
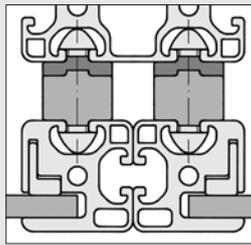
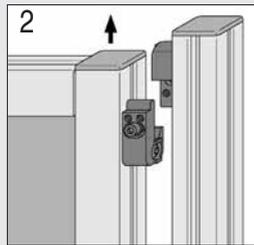
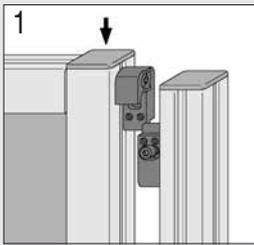
6



If the upper Hanger 8 is fitted to the Stand Profile and the lower Hanger 8 to the frame element, removal of Hexagon Socket Head Cap Screw M6 will result in the frame element being released.

Hanger 8 in conjunction with Clamp Profile 8 40x40.

Hanger 8 in conjunction with Clamp Profile 8 32x18.



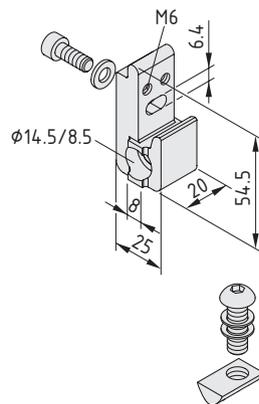
Hanger 8 allows two variations of frame assembly:

1. Very easy 1-man assembly: the frame element is lowered from above onto the hangers on the Stand Profiles, lugs on the hangers engaging to ensure stability. They are then secured by the Cap Screws provided.
2. The frame element is slid into the hanger on the Stand Profile from below and secured with the Cap Screw. Removal of the screw results in the frame element dropping down.

Attaching the Hanger from the front ensures that the frame and panel elements can be fitted without gaps.

F = approx. 750 N

The clearance dimension between frame and Stand Profile is 25 mm. Dimensional tolerances of ± 5 mm can be adjusted through Hanger 8.



Hanger 8

Hanger, die-cast zinc, black
Hexagon Socket Head Cap Screw DIN 912-M6x16, St, bright zinc-plated
Washer DIN 125-6.4 St, bright zinc-plated
m = 87.0 g

1 set

0.0.196.44

Fastening Set 8 for Hanger 8

Button-Head Screw ISO 7380-M8x25, St, bright zinc-pl.
2 spring washers, St, bright zinc-plated
T-Slot Nut 8 St M8, bright zinc-plated
m = 21.0 g

1 set

0.0.265.05



Dual-Rod Mesh Hanger

- Stable hold for Dual-Rod Mesh
- Fasten rod meshes at any angle
- Integrated hinge function for swing doors

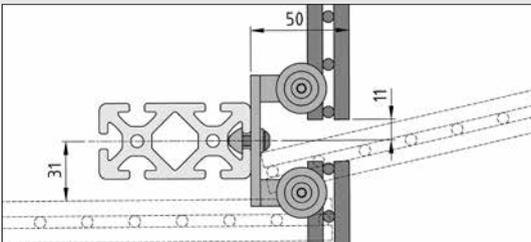


The Dual-Rod Mesh Hanger accommodates the Dual-Rod Mesh elements on the cross-rods (Ø 8 mm) at any angle between 0° - 270° to the Stand Profile.

Even after the fastening screws have been tightened, the fastening can still be rotated. This also forms a hinge for a swing door.

Dual-Rod Mesh Lock System 306

Dual-Rod Mesh 326



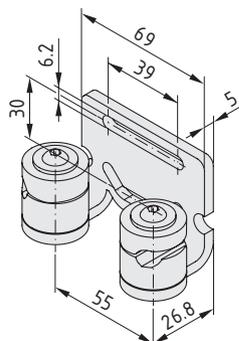
Average dimensions for connecting the Dual-Rod Mesh to the Stand Profile.

Thanks to the swivel action of the Dual-Rod Mesh Hanger, corner zones can be constructed with an extremely wide angular range.



The Dual-Rod Mesh is first hung from a preassembled Dual-Rod Mesh Hanger, and then screwed into position with further Hangers. Recommended spacing of Hangers: 3 section heights, corresponding to 600 mm.

The slotted hole fastening on the Stand Profile enables adjustment of the position and angle. The ability to move the mesh horizontally (depending on the mesh width) in the Dual-Rod Mesh Hanger helps compensate for minor assembly errors.



Dual-Rod Mesh Hanger

Body, St, black
 Clamping elements, die-cast zinc, black
 2 Button-Hd. Screws ISO 7380-M6x10, St, bright zinc-pl.
 2 Button-Hd. Screws ISO 7380-M6x22, St, bright zinc-pl.
 4 Washers DIN 9021-6.4, St, bright zinc-plated
 m = 279.0 g

1 set

0.0.446.04



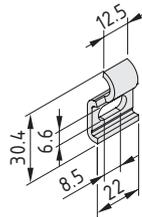
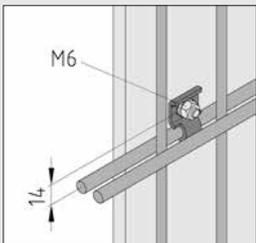
Dual-Rod Mesh Clamping Element

- Simple and practical fixing

6

Dual-Rod Mesh Clamping Elements for universal fastening of any components to Dual-Rod Mesh elements.

Also suitable for fastening cylindrical components (\varnothing 8 mm) to profiles or panel elements.



Dual-Rod Mesh Clamping Element

St
m = 11.0 g

black, 1 pce.

0.0.446.10



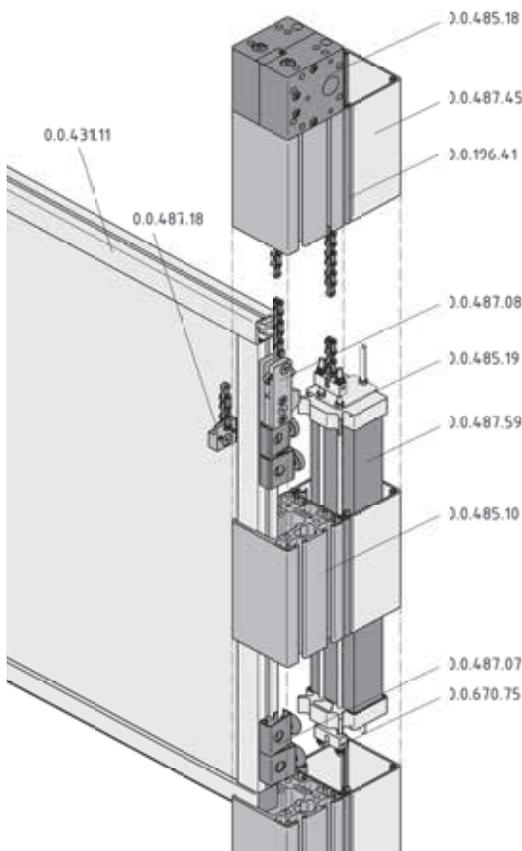
Lifting-Door System

Easy running and pre-configured to suit customised requirements

- Turnkey solution with coordinated components
- Easy-running door, balanced by chain with counterweights
- Configured and produced to suit customer requirements
- Manual or automatic operation as required
- Arrester mechanism for complete safety



6



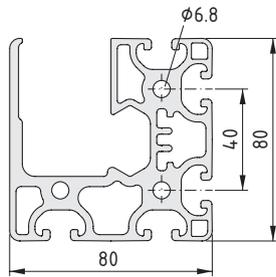
The lifting-door system from item is a modular solution that adapts to suit the specific requirements for a system. Your sales partner will design a customised configuration that meets your needs, which can be delivered to you either as complete, ready-to-install lifting doors or construction kits.

The lifting-door system comprises vertical lifting guides, door hanging system, counterweight, drive and arrester mechanism. The lifting door is constructed to suit the user's needs from a frame made using Line 6 Profiles which encloses any chosen panel element. Lifting doors should be a maximum of 2 m wide and not weigh more than 35 kg in total.

To ensure smooth operation, the lifting door uses a chain and counterweight. This runs entirely within the stand profile, thus ensuring there is no risk of injury from moving parts. An arrester mechanism halts the lifting door if it inadvertently falls. The Chain Reverse Units are designed to permit the lifting door to be driven automatically.

The Chain Fastening Set can be used with Lifting-Door Counter-Weight Guide Set (0.0.485.19) to create a lifting-door system with an all-round chain.

0.0.196.41	Support Profile 80
0.0.431.11	Clamp Profile 6 30x30
0.0.485.10	Lifting-Door Guide Profile 8 80x80
0.0.485.18	Lifting-Door Chain Reverse Unit VK14
0.0.485.19	Lifting-Door Counterweight Guide Set
0.0.487.07	Lifting-Door Bearing Set
0.0.487.08	Lifting-Door Arrester Set
0.0.487.18	Lifting-Door Chain Connector
0.0.487.45	Conduit Profile U 80x80 SE
0.0.487.59	Lifting-Door Counterweight 60x40 St
0.0.670.75	Chain Fastening Set



Lifting-Door Guide Profile 8 80x80



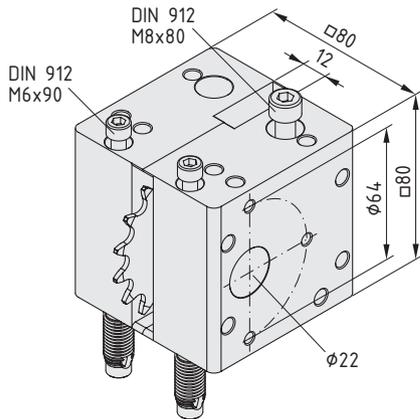
Al, anodized
m = 5.51 kg/m

natural, cut-off max. 6000 mm

0.0.485.10

natural, 1 pce., length 6000 mm

0.0.474.99



Lifting-Door Chain Reverse Unit VK14



Chain Reverse Unit, Al, coated, white aluminium (RAL9006)

Ball-bearing sprocket wheel, z = 16 (z = number of teeth)

One revolution corresponds to 203.2 mm

Hub with multi-spline DIN ISO 14-6x11x14,

hub length 30 mm, Max. load $M_D = 20$ Nm

Chain length in Reverse Unit 182.3 mm

Cap Screw DIN 912-M8x80, St, bright zinc-plated

2 Cap Screws DIN 912-M6x90, St, bright zinc-plated

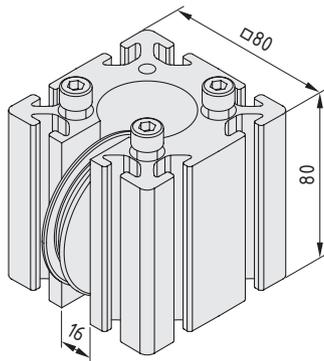
2 Automatic Fasteners 8, threaded bore, St, bright zinc-pl.

Notes on Use and Installation

m = 1.3 kg

1 set

0.0.485.18



Lifting-Door Chain Reverse Unit E



Chain Reverse Unit, Al, anodized

Reversing wheel, slide bearing, PA

Chain length in Reverse Unit 182.3 mm

3 Hexagon Socket Head Cap Screws DIN 912-M8x80,

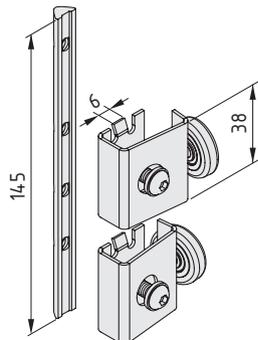
St, bright zinc-plated

Notes on Use and Installation

m = 1.0 kg

1 set

0.0.487.14



Lifting-Door Bearing Set



2 castor units, with ball bearing

Special T-slot nut 6 St

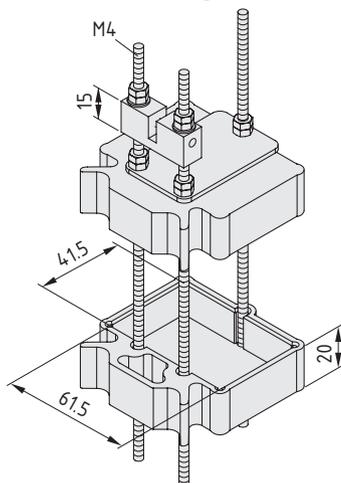
2 washers DIN 125-6.4, St, bright zinc-plated

2 Button-Head Screws ISO 7380-M6x12, St, bright zinc-plated

m = 129.0 g

1 set

0.0.487.07



Lifting-Door Counterweight Guide Set



2 Slide Guides, POM, black

3 threaded rods DIN 975-M4x1000, St

Chain fastener, St, bright zinc-plated

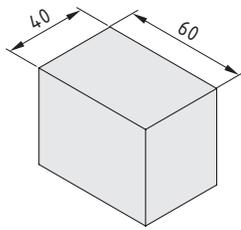
2 retaining plates, St, bright zinc-plated

Nuts and washers, St, bright zinc-plated

m = 442.0 g

1 set

0.0.485.19

**Lifting-Door Counterweight 60x40 St**

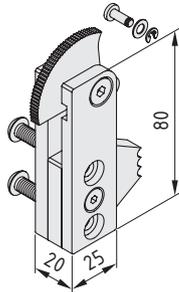
Bar steel DIN 1017-60x40, cold-rolled
 $m = 18.84 \text{ kg/m}$

cut-off max. 3000 mm

0.0.487.59

1 pce., length 3000 mm

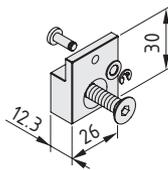
0.0.487.57

**Lifting-Door Arrester Set**

Housing and brake lever, St, bright zinc-plated
 Chain pin with lock washer, St, bright zinc-plated
 Washers, St, bright zinc-plated
 Button-Head Screw ISO 7380-M6x25, St, bright zinc-plated
 Button-Head Screw ISO 7380-M6x35, St, bright zinc-plated
 $m = 307.0 \text{ g}$

1 set

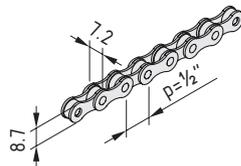
0.0.487.08

**Lifting-Door Chain Connector**

Chain fastening, St, bright zinc-plated
 Washers, St, bright zinc-plated
 Chain pin with lock washer, St, bright zinc-plated
 Countersunk Screw DIN 7991-M6x30, bright zinc-plated
 $m = 65.0 \text{ g}$

1 set

0.0.487.18

**Chain 1/2"**

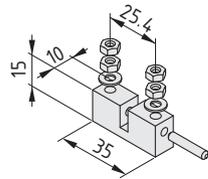
St, nickel-plated
 Pitch $p = 12.7 \text{ mm}$ corresponding to $\frac{1}{2}$ "
 Operating load = max. 1,400 N
 Elongation at 1,400 N = 2.5 - 3 ‰
 $m = 215 \text{ g/m}$

cut-off max. 25 m in 1" intervals

0.0.465.17

1 roll length 25 m

0.0.602.31

**Chain Fastening Set**

Chain fixing, St, bright zinc-plated
 Fastening bolt, St
 Washers and nuts, St, bright zinc-plated
 $m = 37.0 \text{ g}$

1 set

0.0.670.75

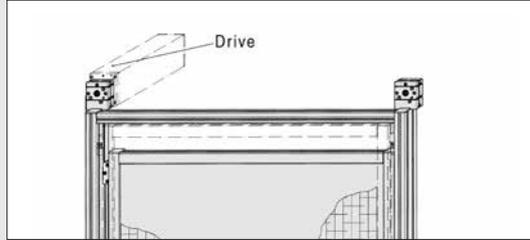
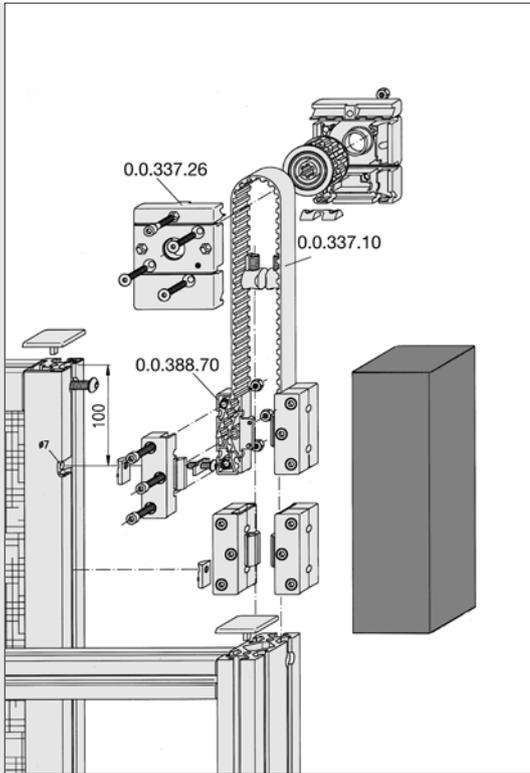


Lifting-Door Guide Set

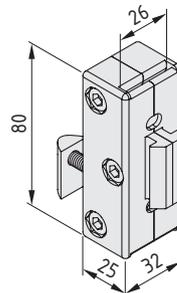
- Guide runs along the Line 8 groove
- For connecting door panel and counterweights
- Manual drive or Timing-Belt Reverse Unit drive possible



6



The use of Timing-Belt Reverse Units is a basic requirement for using drive units. The process of opening and closing lifting doors can thus be automated and integrated into manufacturing systems or transport sequences.



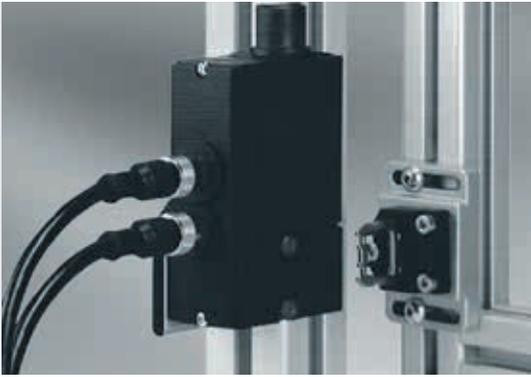
Lifting-Door Guide Set 8



- Housing halves, POM, black
- Steel insert, St, bright zinc-plated
- Button-Head Screw ISO 7380-M6x25, St, bright zinc-plated
- T-Slot Nut 8 St M6, bright zinc-plated
- 3 Cap Screws DIN 912-M6x25, St, bright zinc-plated
- 3 Hexagon Nuts DIN 934-M6, St, bright zinc-plated
- m = 94.0 g

1 set

0.0.388.70



Security Limit Switch / Lock compact

- For swing, lifting and sliding doors
- Know when doors are being opened
- Ensure doors latch securely when in use
- Failsafe locking system



6

The actuator is available in two models – the fixed design is suitable for medium-sized sliding and swing doors (door width greater than 500 mm and smaller than 1000 mm), while the movable actuator is recommended for swing doors of width < 500 mm (angle compensation) and for particularly large doors.

Design complies with EN ISO 13849-1

$$MTTF_d = \frac{B_{10d}}{0,1 \cdot n_{op}}$$

$$n_{op} = \frac{d_{op} \cdot h_{op} \cdot 3600 \text{ s/h}}{t_{cycle}}$$

Both switching units are equipped with screw-secured plug connectors, which make the electrical connection particularly easy. In the case of Security Limit Switch compact, this is done using Proximity Switch Connecting Cable Code A, 0.0.473.25. In the case of Security Lock compact, the Proximity Switch Connecting Cable Code B, 0.0.473.93 is also required.

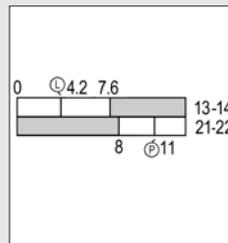
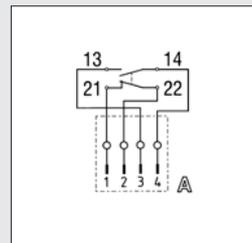
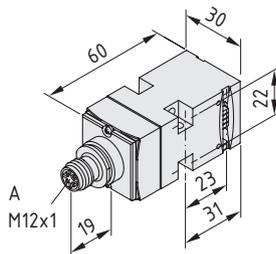


Illustration of circuits:
Security Limit Switch
compact



Wiring diagram:
Security Limit Switch
compact



Security Limit Switch compact

Casing, PA-GF, black
Positive break
Rated voltage: 24 V AC/DC / 230 V AC, 4A
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-15
Washers
B_{10d} switch (NC) 2,000,000
B_{10d} switch (NO) 1,000,000
Note: at 10% and with ohmic load
Service life: 20 years
m = 80.0 g

1 pce.

0.0.473.90

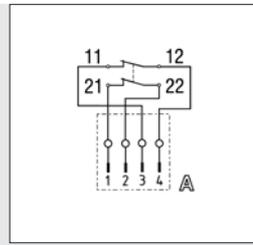
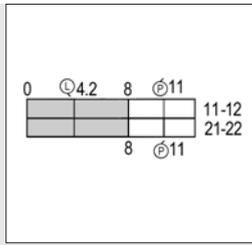
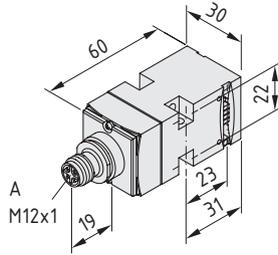


Illustration of circuits:
Security Limit Switch compact 2NC

Wiring diagram:
Security Limit Switch compact 2NC



Security Limit Switch compact 2NC

Casing, PA-GF, black
Positive break
Rated voltage: 24 V AC/DC / 230 V AC, 4A
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-15
Washers
B₁₀₀ switch (NC) 2,000,000
Service life: 20 years
m = 80.0 g

1 pce.

0.0.489.85

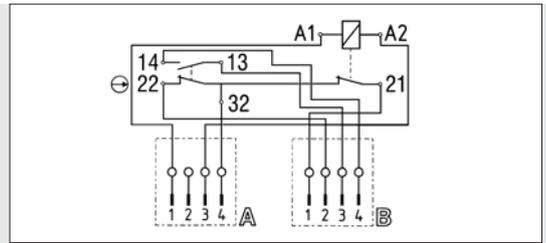
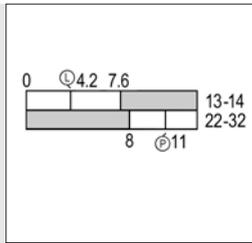
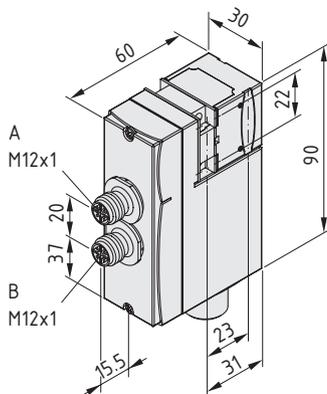


Illustration of circuits:
Security Lock compact

Wiring diagram:
Security Lock compact



Security Lock compact, 230 V AC

Casing, PA-GF, black
Positive break
Rated control supply voltage: 230 V AC
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-19
Triangular socket wrench DIN 22417 M5
B₁₀₀ switch (NC) 2,000,000
Service life: 20 years
m = 305.0 g

1 set

0.0.473.27

Security Lock compact, 24 V AC/DC

Casing, PA-GF, black
Positive break
Rated control supply voltage: 24 V AC/DC
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-19
Triangular socket wrench DIN 22417 M5
B₁₀₀ switch (NC) 2,000,000
Service life: 20 years
m = 305.0 g

1 set

0.0.473.26

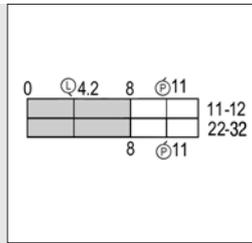
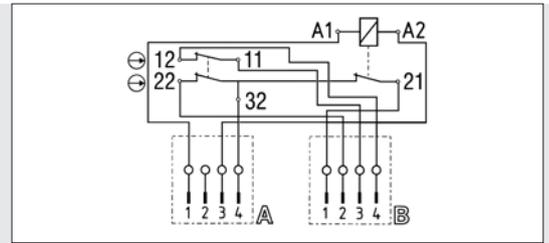
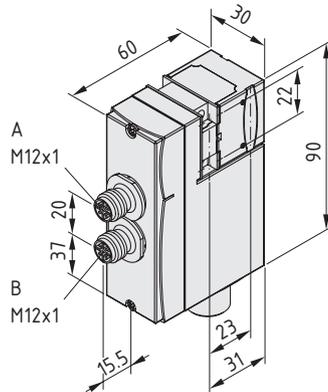


Illustration of circuits:
Security Lock compact 2NC



Wiring diagram:
Security Lock compact 2NC



Security Lock compact 2NC, 230 V AC

Casing, PA-GF, black
Positive break
Rated control supply voltage: 230 V AC
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-19
Triangular socket wrench DIN 22417 M5
 B_{10d} switch (NC) 2,000,000
Service life: 20 years
 $m = 305.0$ g

1 set

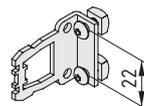
0.0.489.83

Security Lock compact 2NC, 24 V AC/DC

Casing, PA-GF, black
Positive break
Rated control supply voltage: 24 V AC/DC
Protection: IP 67, EN 60529
Test certification to BG-GS-ET-19
Triangular socket wrench DIN 22417 M5
 B_{10d} switch (NC) 2,000,000
Service life: 20 years
 $m = 305.0$ g

1 set

0.0.489.82

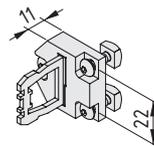


Fixed Actuator for Security Limit Switch / Lock compact

St, corrosion-resistant
2 security button-head screws M4x10, St, bright zinc-plated
2 square nuts similar to DIN 557-M4-5, St, bright zinc-plated
 $m = 16.0$ g

1 set

0.0.473.23

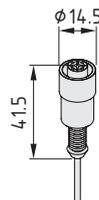


Movable Actuator for Security Limit Switch / Lock compact

PA-GF / St, corrosion-resistant
3 security button-head screws M4x14, St, bright zinc-plated
3 square nuts similar to DIN 557-M4-5, St, bright zinc-plated
 $m = 22.0$ g

1 set

0.0.473.24



Security Switch Connecting Cable M12x1 Code A

Connecting cable 4×0.75 mm² $l = 5$ m $d = 6$ mm
 $m = 317.0$ g

1 pce.

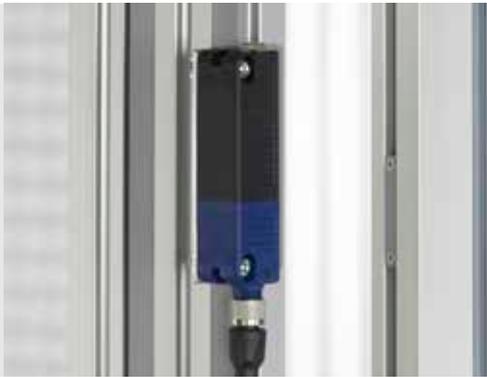
0.0.473.25

Security Switch Connecting Cable M12x1 Code B

Connecting cable 4×0.75 mm² $l = 5$ m $d = 6$ mm
 $m = 317.0$ g

1 pce.

0.0.473.93



Safety Switch 8, 24V DC

- Contactless switch with RFID technology
- Integrated safety functions
- Actuator sits entirely in the profile groove



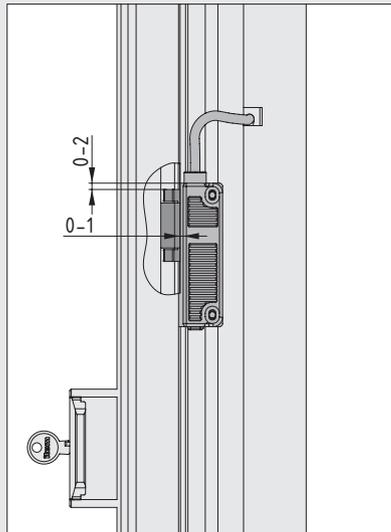
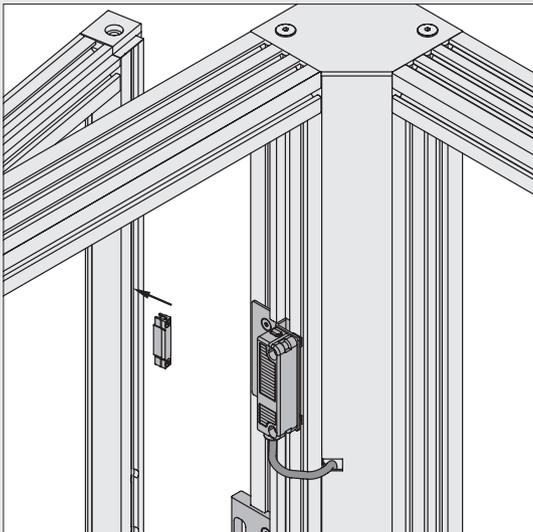
A new dimension in safety. Safety Switch 8, 24V DC uses contactless switching and therefore offers a long and reliable service life free from mechanical wear. This is made possible by an encoded electronic system that uses RFID technology. Each actuator features a coded chip and is completely concealed in the Line 8 groove. The switch registers whether the chip is within the sensor range with outstanding precision. In contrast to mechanical systems, the encoded chip is extremely tamper-proof.

The system ensures repeat accuracy for switching points and an exceptional safety standard. Two short-circuit-proof safety outputs forward signals to the switchbox. The safety lines feature integrated monitoring for cross circuits, wire breakages and interference-voltage. Up to 31 switches can be connected in series to combine various measurement points. A three-colour LED on each switch enables users to check its operating status at a glance. Thanks to IP67 protection, Safety Switch 8 can be used in most environments.

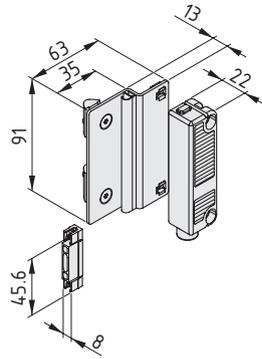
When used in the XMS profile system, a self-adhesive section of Door Lip Seal ensures a continuous all-round seal.



6



The actuator must be positioned at the pre-set distance from the switch in order to trigger the switch signal.



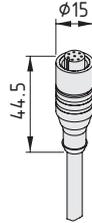
Safety Switch 8, 24V DC



Safety Switch 24V DC, preassembled
 24V DC actuator
 Protection type: IP67 to EN 60529
 Standards: PL-E to EN ISO 13849-1, SIL 3 to IEC 61508, IEC 60947-5-3
 Service life: 20 years
 Fastening plate, St, stainless
 Door Lip Seal, self-adhesive, grey similar to RAL 7042
 2 security countersunk screws M5x12, St, stainless
 2 T-Slot Nuts V 8 St M5, bright zinc-plated
 m = 186.0 g

1 set 0.0.658.28

Connecting Cable, Safety Switch 8, 24V DC



5 m
 m = 247.0 g

1 pce. 0.0.659.29



HINGES AND FITTINGS

7

- Hinges
- Door Rabbets and Seals
- Sliding door guides
- T-Slot Sliders/T-Slot Rollers
- Slide Guides
- Roller elements
- Roller Shutter System
- Hangers

Hinges and fittings
Products in this section



Hinges PA

- Made from durable plastic
- For lightweight doors and lids

📄235



Hinges Al light

- Made from aluminium, also suitable for heavyweight doors
- Can be installed to produce a very small door gap

📄238



Hinge Leaf Profiles

- For assembling Hinges Al light in any size
- Suitable for continuous hinge strips

📄242



Modular Hinge System 8

- For particularly strong doors and lids
- Carefully designed hinge leaves that can be combined as required

📄244



Hinges St

- Slim and made from steel
- For doors and lids subjected to standard loads

📄247



Hinges Zn

- Secure fixing for heavily loaded doors and lids
- Durable metal design

📄248



Door Rabbet 8

- The secure stop for swing doors
- Safety thanks to robust design

📄251



Door Stop Seal

- Elastic lip seal has cushioning effect
- Protects against dust and dampness

📄252



Sliding-Door Guide Set 8

- Easy-running sliders on the panel element
- Guidance along the profile groove

📄253



Sliding-Door Guide Profile

- For retrofitting sliding doors to profile constructions
- For frameless panel elements made from plastic

📄255



T-Slot Slider

- Glides in the groove and enables free rotation
- Guide for folding, lifting and sliding doors

📄257



Slide Guide Strip

- For the Slide Guides of doors and fixtures
- Plastic strips for guidance in the profile groove

📄259



T-Slot Slider

- Strong metal slide
- Plastic inserts for low-wear and low-friction movement

📄261



Runway Profiles

- System solutions comprising Castor Units and Runway Profiles
- For use with high-load-carrying customised slides

📄265



Roller Shutter System

- Space-saving protection provided by a flexible door as a turnkey solution
- Aluminium or plastic roller shutters

📄269



Hinges PA

- Made from durable plastic
- For lightweight doors and lids
- Products from Line X also available

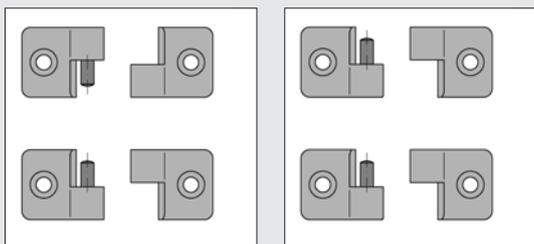
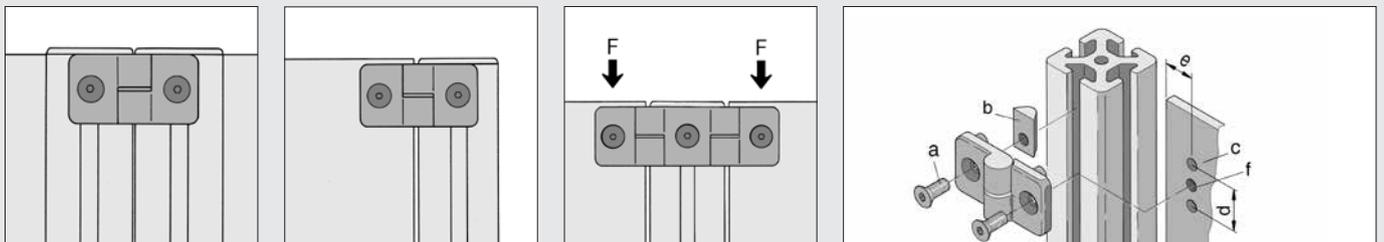


7

Hinges PA have an anti-torsion feature that engages with the profile grooves. Before the Hinges can be fastened to a panel element, through-holes need to be drilled into the panel.

The shape and colour of Hinges X 8 PA match Profiles X 8.

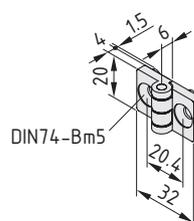
Double Hinges PA can only be used on 20 mm wide profiles in Line 5, on 30 mm wide profiles in Line 6 and on 40 mm wide profiles in Line 8.



Line 6, 8 and 10 door elements can be attached either permanently or in such a way that they can be lifted off subsequently.

For the lift-off version, the doors must be equipped only with right-hand or left-hand Hinges.
For the permanently fixed version, right-hand and left-hand Hinges must be combined.

	Hinge / Double Hinge				
	5	6	8	X 8	10
a Screw DIN 7991	M5x8	M5x14	M6x16	M6x16	M6x20
b T-Slot Nut	5 St M5	6 St M5	8 St M6	8 St M6	V8 St M6
c [mm]	∅ 5	∅ 6.3	∅ 8.2	∅ 8.2	∅ 8.2
d [mm]	15	22	23.8	30	24
e [mm]	9	14	18	18	18
f	M5	M5	M6	M6	M6
F [N]	50	75	100	100	100

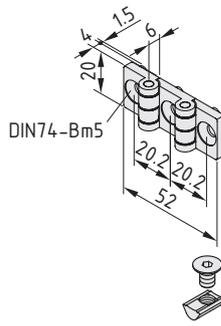


Hinge 5 PA



PA-GF
cannot be lifted out
m = 6.0 g

black, 1 pce.	0.0.370.18
grey similar to RAL 7042, 1 pce.	0.0.641.54



Double Hinge 5 PA



PA-GF
cannot be lifted out
m = 10.0 g

black, 1 pce.

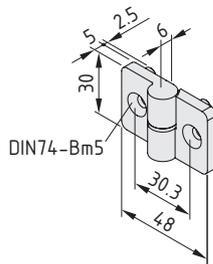
0.0.437.33

Fastening Set 5 2-4mm with Countersunk Screw M5

1 Countersunk Screw DIN 7991-M5x8, St, bright zinc-plated
1 T-Slot Nut 5 St M5, bright zinc-plated
m = 3.0 g

1 set

0.0.680.92



Hinge 6 PA, right



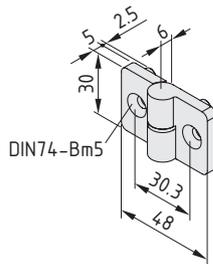
Hinge halves, PA-GF
Pin, St, bright zinc-plated
Washer, PA
m = 14.0 g

black, 1 pce.

0.0.431.23

grey similar to RAL 7042, 1 pce.

0.0.641.53



Hinge 6 PA, left



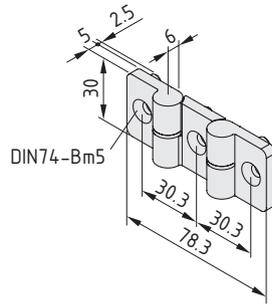
Hinge halves, PA-GF
Pin, St, bright zinc-plated
Washer, PA
m = 14.0 g

black, 1 pce.

0.0.431.25

grey similar to RAL 7042, 1 pce.

0.0.641.52



Double Hinge 6 PA



Hinge halves, PA-GF
Pin, St, bright zinc-plated
Washer, PA
m = 25.0 g

black, 1 pce.

0.0.431.27

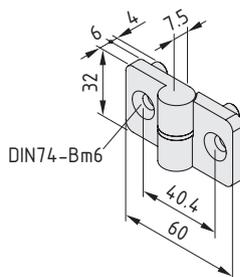
Fastening Set 6 3-5mm with Countersunk Screw M5



1 Countersunk Screw DIN 7991-M5x14, St, bright zinc-plated
1 T-Slot Nut 6 St M5, bright zinc-plated
m = 7.0 g

1 set

0.0.680.93



Hinge 8 PA, right



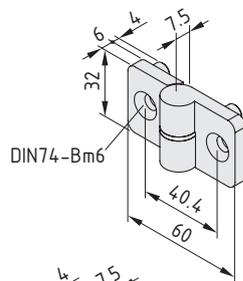
Hinge halves, PA-GF
Pin, St, bright zinc-plated
Washer, PA
m = 21.0 g

black, 1 pce.

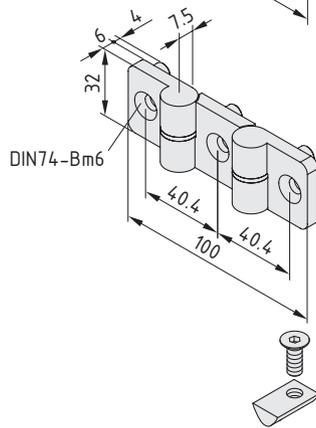
0.0.026.12

grey similar to RAL 7042, 1 pce.

0.0.630.89

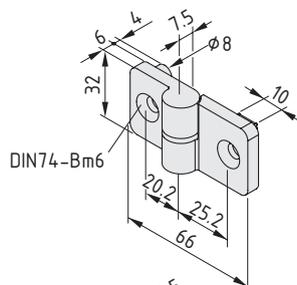


Hinge 8 PA, left 	
Hinge halves, PA-GF Pin, St, bright zinc-plated Washer, PA m = 21.0 g	
black, 1 pce.	0.0.026.10
grey similar to RAL 7042, 1 pce.	0.0.630.45

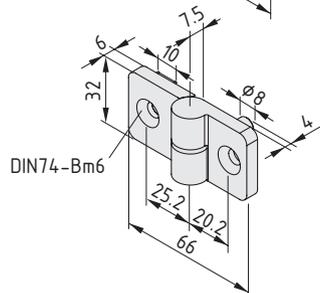


Double Hinge 8 PA 	
Hinge halves, PA-GF Pin, St, bright zinc-plated Washer, PA m = 40.0 g	
black, 1 pce.	0.0.373.42

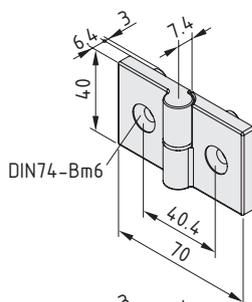
Fastening Set 8 5-7mm with Countersunk Screw M6 	
1 Countersunk Screw DIN 7991-M6x16, St, bright zinc-plated 1 T-Slot Nut 8 St M6, bright zinc-plated m = 15.0 g	
1 set	0.0.680.95



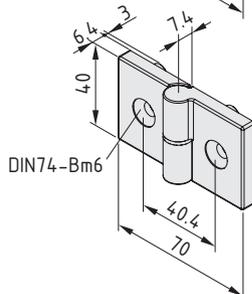
Hinge 10 PA 10/8, right  	
Hinge halves, PA-GF Pin, St, bright zinc-plated Washer, PA m = 34.0 g	
grey similar to RAL 7042, 1 pce.	0.0.641.96



Hinge 10 PA 10/8, left  	
Hinge halves, PA-GF Pin, St, bright zinc-plated Washer, PA m = 34.0 g	
grey similar to RAL 7042, 1 pce.	0.0.641.94



Hinge X 8 PA, right 	
2 Hinge Leaves, PA Washer, St, bright zinc-plated Grooved pin, St, bright zinc-plated m = 28.0 g	
grey similar to RAL 7042, 1 pce.	0.0.601.52



Hinge X 8 PA, left 	
2 Hinge Leaves, PA Washer, St, bright zinc-plated Grooved pin, St, bright zinc-plated m = 28.0 g	
grey similar to RAL 7042, 1 pce.	0.0.601.97

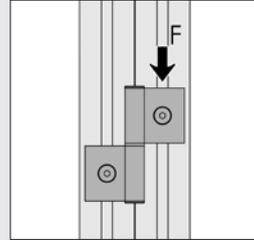
7



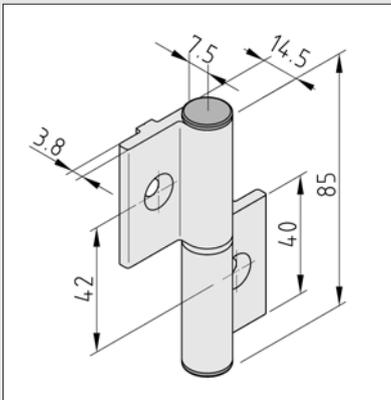
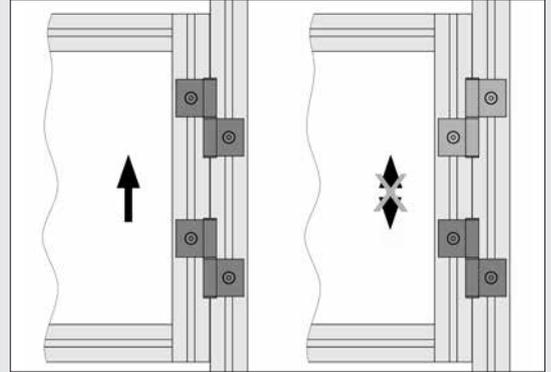
Hinges AI

Strong, adjustable and elegant

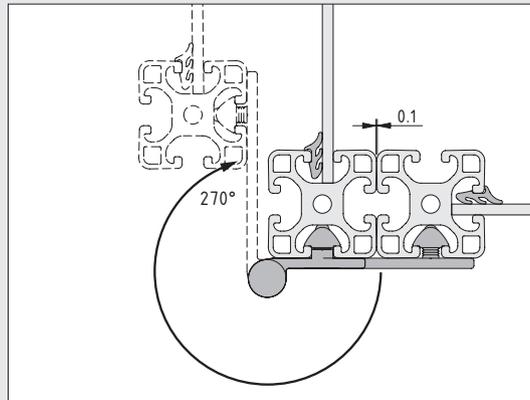
- Made from aluminium, also suitable for heavyweight doors
- Can be installed to produce a very small door gap
- Versions with a 270° opening angle are available



F = 500 N



Irrespective of line or version, all Hinges AI light duty, have the connection dimensions shown here.



Hinges AI FPO-270° feature hinge leaves in different lengths. This enables an opening angle of 270°. The surface-mounted hinges secure both frameless panels and profile frames containing panel elements. Thanks to precision guidance that prevents the door leaf from sinking down, doors can be easily installed with virtually no gap between door and frame.



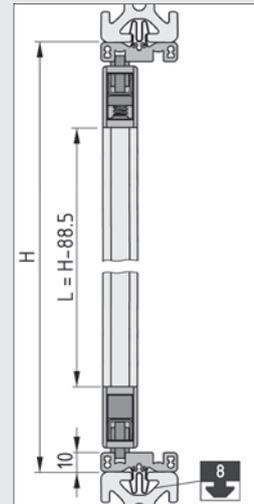
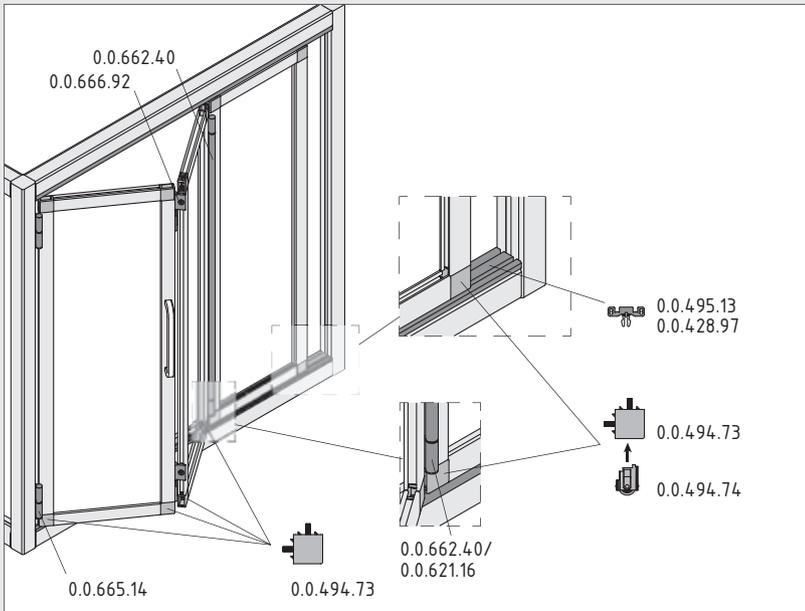
Hinges AI light duty are supplied in sets with screws and T-Slot Nuts for securing to profiles of the relevant line.



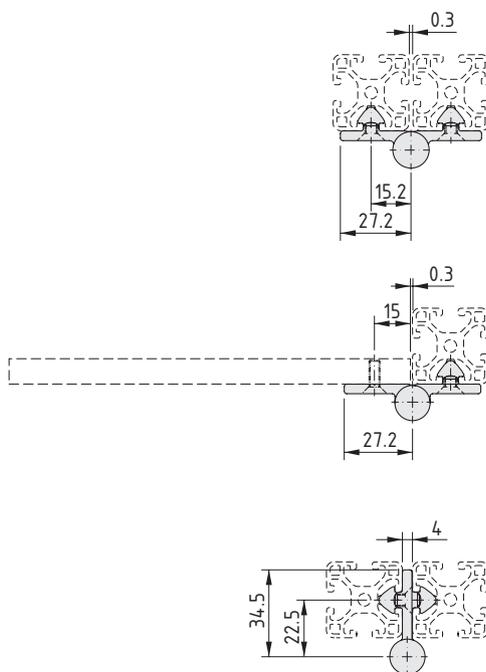
Hinge 8 AI for Clamp Profile 8 32x18 connects a frame made from Clamp Profiles 8 32x18 to a Line 8 profile. The strong door hinge is an ideal anchor for windows and folding doors.



Folding-Door Hinge AI for Clamp Profile 8 32x18 is used to link together separate segments to create space-saving folding doors. Thanks to the Hinges, the moving elements fold up in a concertina formation.



The sections of a folding door can be fitted with Rollers for Corner-Fastener 8 32x18 (0.0.494.74), as shown above. They run in Sliding-Door Guide Profile 8 40x10 (0.0.495.13), which must be taken into account when calculating the height of the door frame.



Hinge 6 AI PP0, light duty



- 2 hinge leaves, Al, anodized, natural
- 2 T-Slot Nuts 6 St M5, bright zinc-plated
- 2 Countersunk Screws DIN 7991-M5x12, bright zinc-plated
- Hinge AI light, Pin Set D6
- Notes on Use and Installation
- m = 84.0 g

1 set

0.0.488.98

Hinge 6 AI FP0, light duty



- 2 hinge leaves, Al, anodized, natural
- T-Slot Nut 6 St M5, bright zinc-plated
- Countersunk Screw DIN 7991-M5x12, bright zinc-plated
- Hinge AI light, Pin Set D6
- Notes on Use and Installation
- m = 78.0 g

1 set

0.0.489.01

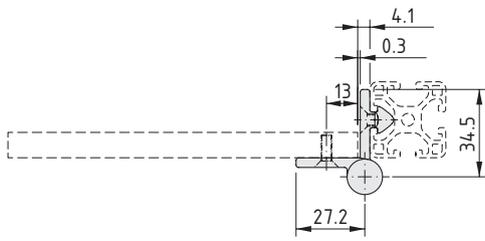
Hinge 6 AI PP4, light duty



- 2 hinge leaves, Al, anodized, natural
- 2 T-Slot Nuts 6 St M5, bright zinc-plated
- 2 Countersunk Screws DIN 7991-M5x12, bright zinc-plated
- Hinge AI light, Pin Set D6
- Notes on Use and Installation
- m = 86.0 g

1 set

0.0.489.03



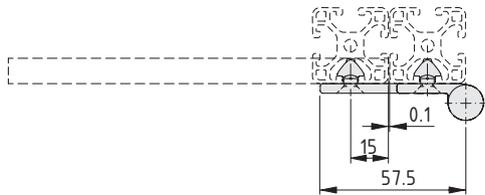
Hinge 6 AI FP4, light duty



2 hinge leaves, Al, anodized, natural
 T-Slot Nut 6 St M5, bright zinc-plated
 Countersunk Screw DIN 7991-M5x12, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 79.0 g

1 set

0.0.489.05



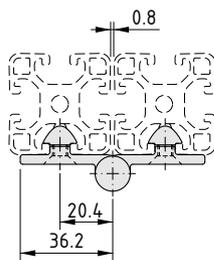
Hinge 6 AI FP0-270° light



2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts 6 St M5, bright zinc-plated
 2 Countersunk Screws DIN 7991-M5x12, St, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 101.0 g

1 set

0.0.615.43



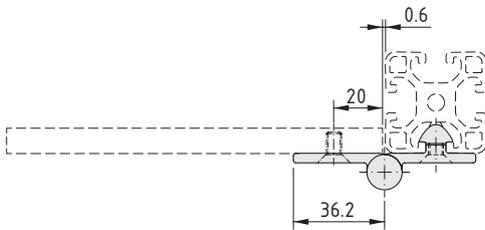
Hinge 8 AI PP0, light duty



2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x14, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 110.0 g

1 set

0.0.488.90



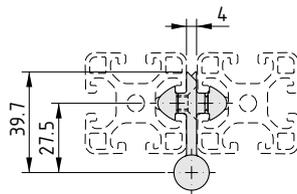
Hinge 8 AI FP0, light duty



2 hinge leaves, Al, anodized, natural
 T-Slot Nut V 8 St M6, bright zinc-plated
 Countersunk Screw DIN 7991-M6x14, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 94.0 g

1 set

0.0.488.92



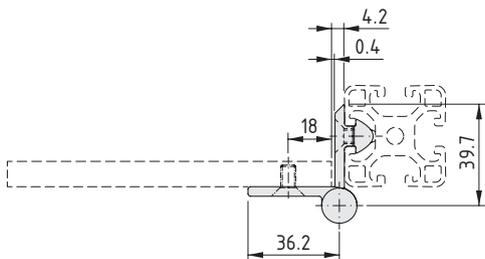
Hinge 8 AI PP4, light duty



2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x14, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 113.0 g

1 set

0.0.488.94



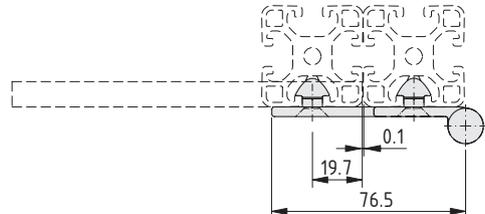
Hinge 8 AI FP4, light duty



2 hinge leaves, Al, anodized, natural
 T-Slot Nut V 8 St M6, bright zinc-plated
 Countersunk Screw DIN 7991-M6x14, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 96.0 g

1 set

0.0.488.96



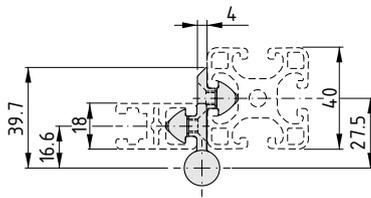
Hinge 8 AI FP0-270° light



2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x14, St, bright zinc-plated
 Hinge Al light, Pin Set D6
 Notes on Use and Installation
 m = 128.0 g

1 set

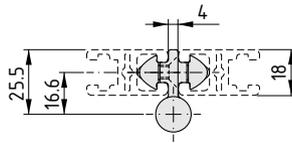
0.0.615.45

**Hinge 8 AI for Clamp Profile 8 32x18**

2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x14, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 103.0 g

1 set

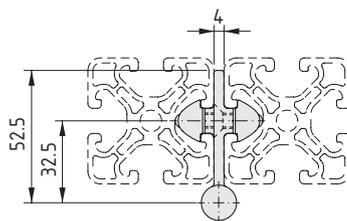
0.0.665.14

**Folding-Door Hinge 8 AI for Clamp Profile 8 32x18**

2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x14, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 96.0 g

1 set

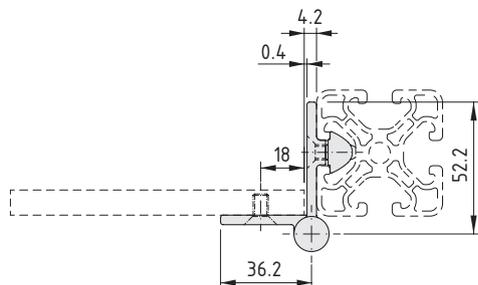
0.0.666.92

**Hinge 10 AI PP4 light**

2 hinge leaves, Al, anodized, natural
 2 T-Slot Nuts 10 St M6, bright zinc-plated
 2 Countersunk Screws DIN 7991-M6x18, St, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 144.0 g

1 set

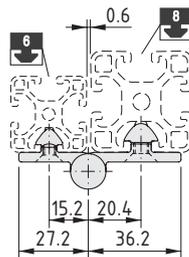
0.0.632.86

**Hinge 10 AI FP4 light**

2 hinge leaves, Al, anodized, natural
 T-Slot Nut 10 St M6, bright zinc-plated
 Countersunk Screw DIN 7991-M6x18, St, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 134.0 g

1 set

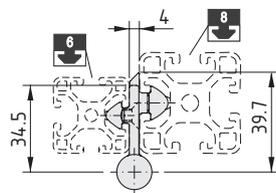
0.0.632.87

**Hinge 6/8 AI PP0, light duty**

2 hinge leaves, Al, anodized, natural
 T-Slot Nut 6 St M5, bright zinc-plated
 Countersunk Screw DIN 7991-M5x12, bright zinc-plated
 T-Slot Nut V 8 St M6, bright zinc-plated
 Countersunk Screw DIN 7991-M6x14, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 98.0 g

1 set

0.0.489.07

**Hinge 6/8 AI PP4, light duty**

2 hinge leaves, Al, anodized, natural
 T-Slot Nut 6 St M5, bright zinc-plated
 Countersunk Screw DIN 7991-M5x12, bright zinc-plated
 T-Slot Nut V 8 St M6, bright zinc-plated
 Countersunk Screw DIN 7991-M6x14, bright zinc-plated
 Hinge AI light, Pin Set D6
 Notes on Use and Installation
 m = 101.0 g

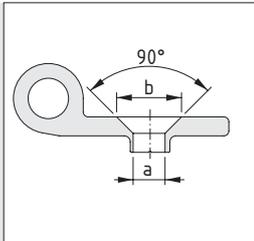
1 set

0.0.489.09

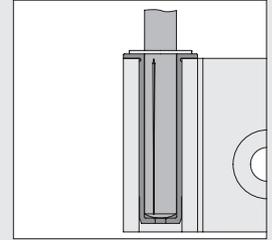


Hinge Leaf Profiles

- Individual hinge leaves in various designs
- Continuous hinge strips possible
- Suitable pins for customised hinges



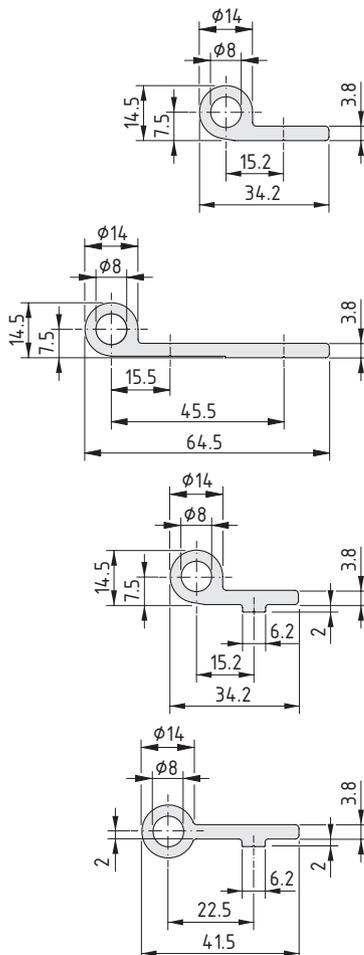
	a [mm]	b ^{±0.2} [mm]
	∅ 5.4	∅ 11
	∅ 6.4	∅ 13
	∅ 6.4	∅ 13



7

The Hinge Leaf Profiles must be provided with a countersink for screw fastening. The correct position of the hole is marked by a guide notch on the back of the hinge.

Pin Set D6 makes the fitting of all Hinges Al light child's play!



Hinge Leaf Profile 6 e light

Al, anodized
m = 0.54 kg/m

natural, cut-off max. 3000 mm	0.0.478.96
natural, 1 pce., length 3000 mm	0.0.451.80

Hinge Leaf Profile 6 e 60 light

Al, anodized
m = 0.83 kg/m

natural, cut-off max. 3000 mm	0.0.615.38
natural, 1 pce., length 3000 mm	0.0.615.37

Hinge Leaf Profile V 6 e light

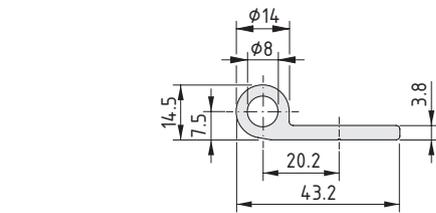
Al, anodized
m = 0.57 kg/m

natural, cut-off max. 3000 mm	0.0.478.95
natural, 1 pce., length 3000 mm	0.0.451.78

Hinge Leaf Profile V 6 z light

Al, anodized
m = 0.60 kg/m

natural, cut-off max. 3000 mm	0.0.478.94
natural, 1 pce., length 3000 mm	0.0.451.76

**Hinge Leaf Profile 8 e light**

8

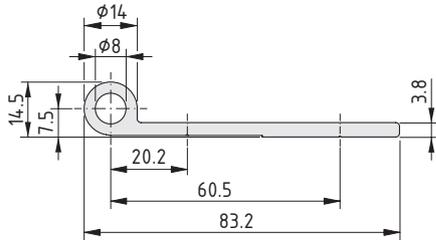
Al, anodized
m = 0.64 kg/m

natural, cut-off max. 3000 mm

0.0.488.36

natural, 1 pce., length 3000 mm

0.0.454.58

**Hinge Leaf Profile 8 e 80 light**

8

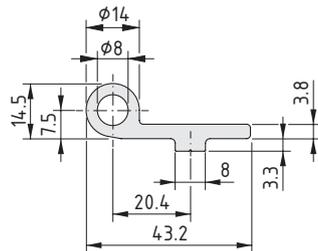
Al, anodized
m = 1.03 kg/m

natural, cut-off max. 3000 mm

0.0.615.40

natural, 1 pce., length 3000 mm

0.0.615.39

**Hinge Leaf Profile V 8 e light**

8

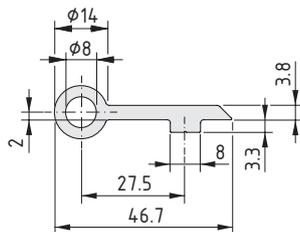
Al, anodized
m = 0.71 kg/m

natural, cut-off max. 3000 mm

0.0.488.35

natural, 1 pce., length 3000 mm

0.0.454.56

**Hinge Leaf Profile V 8 z light**

8

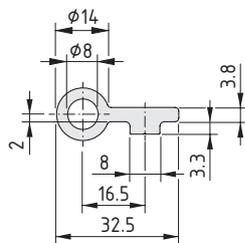
Al, anodized
m = 0.73 kg/m

natural, cut-off max. 3000 mm

0.0.488.34

natural, 1 pce., length 3000 mm

0.0.454.54

**Hinge Leaf Profile V 8 z 18 light**

8

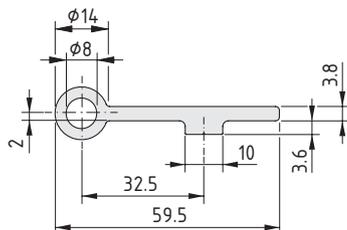
Al, anodized
m = 0.54 kg/m

natural, cut-off max. 3000 mm

0.0.662.40

natural, 1 pce., length 3000 mm

0.0.662.42

**Hinge Leaf Profile V 10 z light**

10

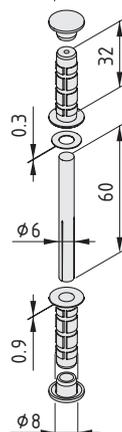
Al, anodized
m = 0.84 kg/m

natural, cut-off max. 3000 mm

0.0.632.92

natural, 1 pce., length 3000 mm

0.0.632.84

**Hinge Al light, Pin Set D6**

ESD

Grooved pin, St, bright zinc-plated
2 bearing sleeves, PA, black
Washer, St, stainless
2 caps, PA, grey
Notes on Use and Installation
m = 25.0 g

1 set

0.0.621.16



Modular Hinge System 8

- For particularly strong doors and lids
- Carefully designed hinge leaves that can be combined as required
- Suitable pins for hinge combinations



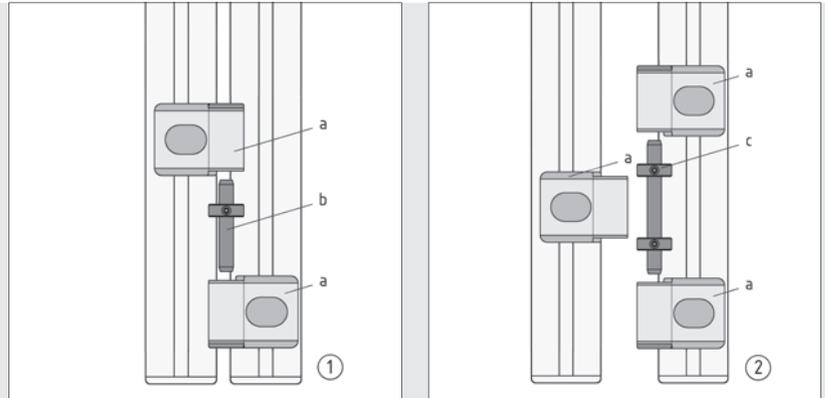
Modular Hinge System for high-strength aluminium hinges. Suitable for heavy doors, lids and swivel-type devices. Hinge Leaves of various heights and widths support heavy-duty hinges of virtually any length which the user can adapt to the specific situation. Hinges with an opening angle of up to 270° can be achieved using a suitable combination of sets.

A hinge consists of at least two Hinge Leaves and a suitable Hinge Pin. The Hinge Leaves and Pin are available in different lengths. When selecting these components, the minimum depth which the pin is inserted into the eye of the Hinge Leaf must always be taken into account.

Defined sets always contain all components necessary for a complete Hinge Leaf or Hinge Pin.

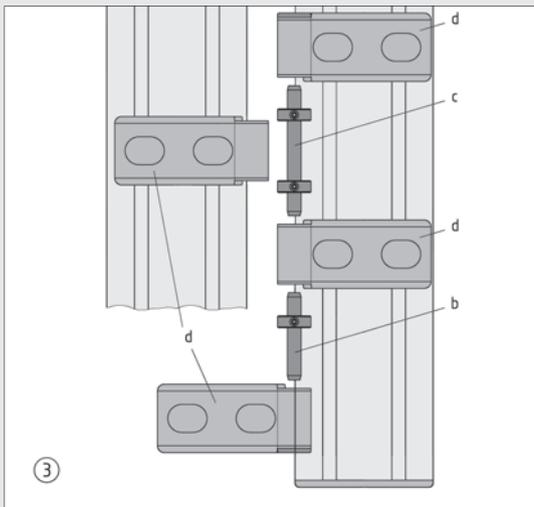
The use of slots and stepped locating lugs for screwing the Hinge Leaves facilitates the process of aligning the doors in the surrounding door frame. The locating lugs also serve as an anti-torsion device in the groove, thus preventing the hinges from becoming displaced under load.

Fastening is also possible to the end face of the profile. The slots are sealed with the enclosed Caps after installation has been completed, as are the drill holes of the hinge eyes.



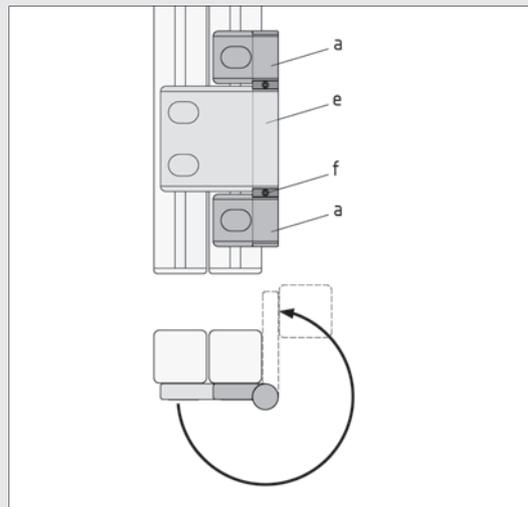
The required hinge can be assembled easily from the following sets:

- a = Hinge Leaf 8 40x40
- b = Hinge Pin D8x51
- c = Hinge Pin D8x76
- d = Hinge Leaf 8 80x40
- e = Hinge Leaf 80x80
- f = Hinge Pin D8x116



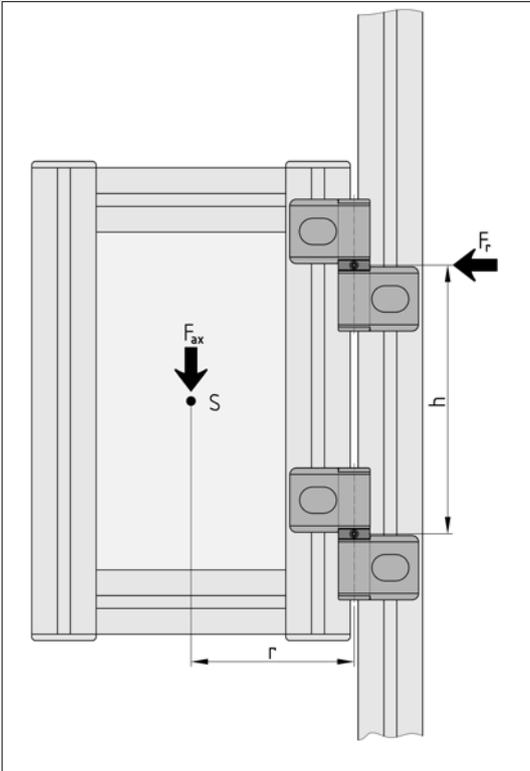
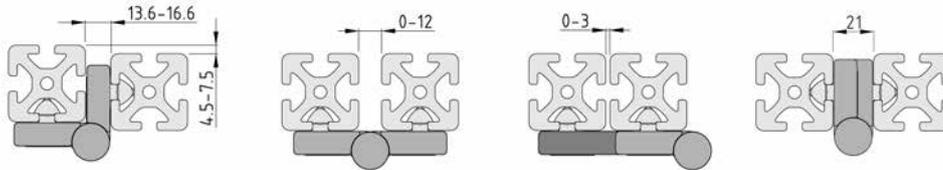
Various Hinge Leaves and Hinge Pins can be combined to construct hinge strips.

For example: Constructing a hinge strip with Hinge Leaves 8 80x40.



Example of a hinge opening around 270°.

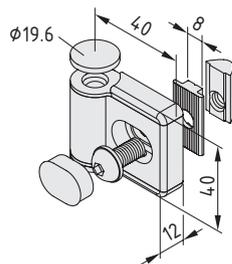
The combination of Hinge Leaf 8 80x80 and two Hinge Leaves 8 40x40 (using a Hinge Pin D8x116) can be used to construct a hinge with a 270° angle of swing. This may be required, first and foremost, when constructing wide-opening doors in machine panelling.



Application	$F_{r\text{ perm.}}$	$F_{ax\text{ perm.}}$
1		150 N
2	350 N	750 N
3	350 N	450 N

$$F_{ax} \times r = F_r \times h$$

The data apply for at least two hinges per door - one hinge assumed to be supporting.

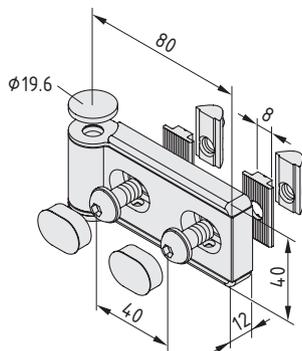


Hinge Leaf 8 40x40



- Hinge Leaf, Al, anodized, natural
- Locating lug, Al, anodized, natural
- Button-Head Screw ISO 7380-M8x18, St, bright zinc-pl.
- Washer DIN 433-8.4, St, bright zinc-plated
- T-Slot Nut V 8 St M8, St, bright zinc-plated
- Caps, PA-GF, grey
- m = 68.0 g

1 set 0.0.483.60

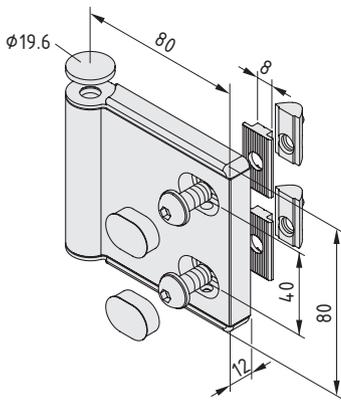


Hinge Leaf 8 80x40



- Hinge Leaf, Al, anodized, natural
- 2 Locating lugs, Al, anodized, natural
- 2 Button-Head Screws ISO 7380-M8x18, St, bright zinc-pl.
- 2 washers DIN 433-8.4, St, bright zinc-plated
- 2 T-Slot Nuts V 8 St M8, St, bright zinc-plated
- Caps, PA-GF, grey
- m = 125.0 g

1 set 0.0.483.59



Hinge Leaf 8 80x80



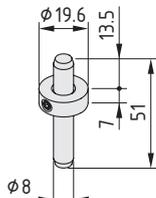
Hinge Leaf, Al, anodized, natural
 2 Locating lugs, Al, anodized, natural
 2 Button-Head Screws ISO 7380-M8x18, St, bright zinc-pl.
 2 Washers DIN 433-8.4, St, bright zinc-plated
 2 T-Slot Nuts V 8 St M8, St, bright zinc-plated
 Caps, PA-GF, grey
 m = 225.0 g

1 set 0.0.485.22

Hinge Pin D8x51

Pin, St, stainless
 Locking ring, St, bright zinc-plated
 Grub screw DIN 916-M4x4, St, bright zinc-plated
 m = 32.0 g

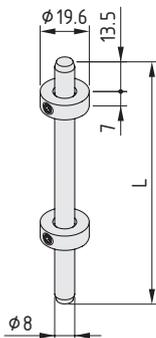
1 set 0.0.483.62



Hinge Pin D8x76

Pin, St, stainless
 2 locking rings, St, bright zinc-plated
 2 grub screws DIN 916-M4x4, St, bright zinc-plated
 L = 76 mm
 m = 55.0 g

1 set 0.0.483.61



Hinge Pin D8x116

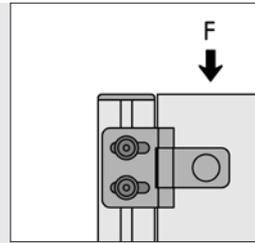
Pin, St, stainless
 2 locking rings, St, bright zinc-plated
 2 grub screws DIN 916-M4x4, St, bright zinc-plated
 L = 116 mm
 m = 70.0 g

1 set 0.0.486.16

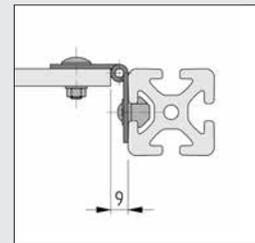
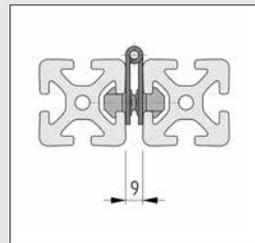
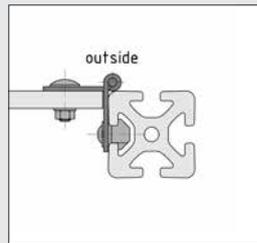
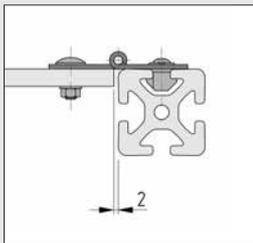


Hinge St

- For lightweight doors and lids
- Can be installed to prevent disassembly from outside



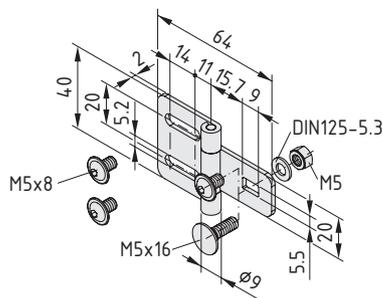
F = 250 N



Note: T-Slot Nuts 8 Zn M5 are recommended for screwing Hinge St to the Line 8 Profile.

These attachment versions of Hinge St cannot be unscrewed from the outside.

T-Slot Nuts Zn 143



Hinge St

- Hinge halves, St, black
- 3 dome-head screws M5x8, St, black
- Hexagon Nut DIN 934-M5, St, black
- Washer DIN 125-5.3, St, black
- Cup square bolt DIN 603-M5x16, St, black
- m = 51.0 g

1 set 0.0.373.82

Hinge St

- Hinge halves, St, powder-coated RAL 9006 white aluminium
- 3 dome-head screws M5x8, St, bright zinc-plated
- Hexagon nut DIN 934-M5, St, bright zinc-plated
- Washer DIN 125-5.3, St, bright zinc-plated
- Flat head screw DIN 603-M5x16, St, bright zinc-plated
- m = 51.0 g

1 set 0.0.649.47

7

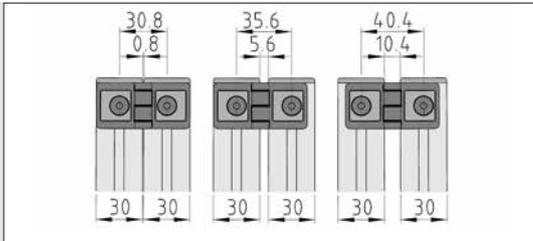


Hinges 6 Zn

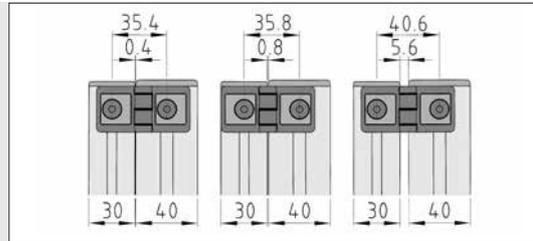
- For medium-weight doors and lids
- Durable metal design



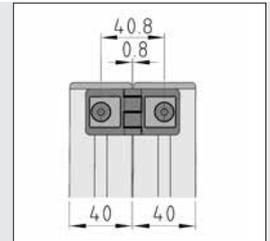
7



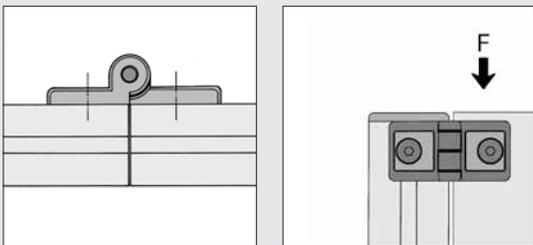
Hinge 6 30 Zn 6/6
Possibilities for mounting the anti-torsion block with profiles line 6.



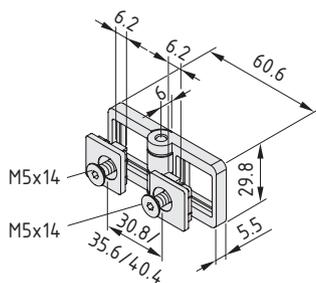
Hinge 6 30 Zn 6/8
Possibilities for mounting the anti-torsion block with profiles line 6 and 8.



Hinge 6 30 Zn 8/8
Possibilities for mounting the anti-torsion block with profiles line 8.



F = 300 N



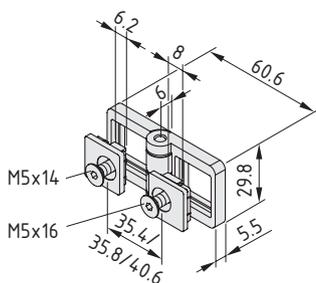
Hinge 6 30 Zn 6/6



Hinge, die-cast zinc, black
2 anti-torsion blocks 6, die-cast zinc, black
2 Countersunk Screws DIN 7991-M5x14, St, black
m = 62.0 g

1 set

0.0.441.58



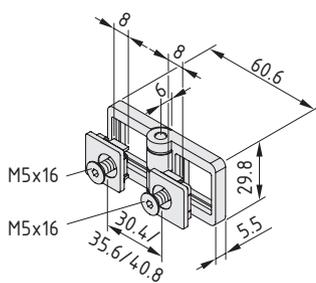
Hinge 6 30 Zn 6/8



Hinge, die-cast zinc, black
Anti-torsion block 6, die-cast zinc, black
Anti-torsion block 8, die-cast zinc, black
Countersunk Screw DIN 7991-M5x14, St, black
Countersunk Screw DIN 7991-M5x16, St, black
m = 63.0 g

1 set

0.0.441.61



Hinge 6 30 Zn 8/8



Hinge, die-cast zinc, black
2 anti-torsion blocks 8, die-cast zinc, black
2 Countersunk Screws DIN 7991-M5x16, St, black
m = 63.0 g

1 set

0.0.441.81

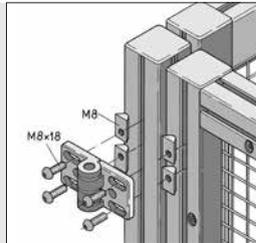


Hinges 8 Zn

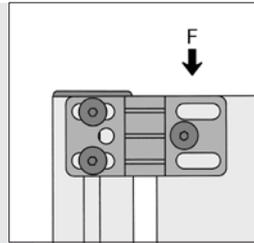
- For heavily loaded doors and lids
- Durable metal design
- Products from Line X also available



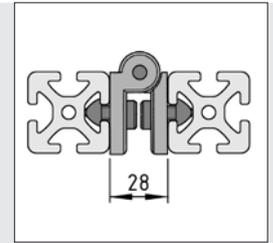
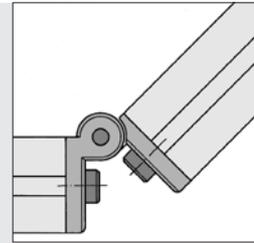
If required, e.g. when fitting to a panel element, the anti-torsion pin should be removed with a screwdriver.



Attaching Hinge 8 40 Zn to the profile grooves of Line 8.



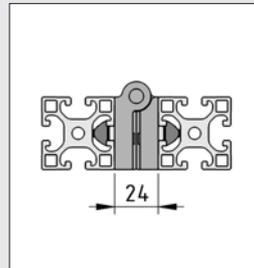
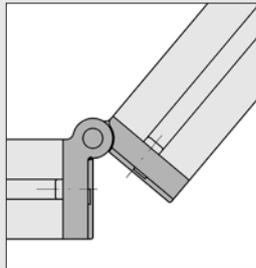
$F = 750 \text{ N}$



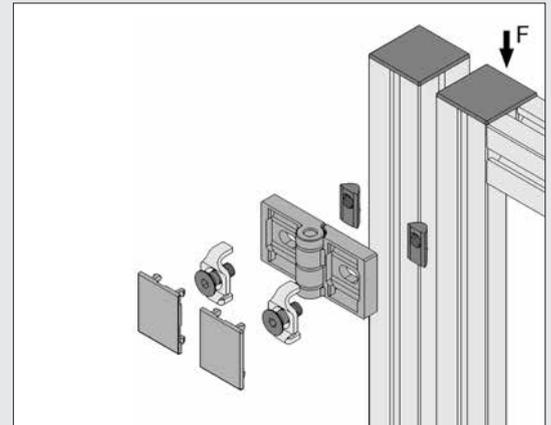
Hinge 8 40 Zn can be screw-connected to the end face or to the profile groove.



Hinges X 8 are used on Profiles X 8 when high loads come into play (large lids, doors, etc.). Hinges X 8 Zn can be used on the right or left and can be attached to the outer surfaces or end faces of Profiles. The integrated anti-torsion feature for additional fixing in the groove can be left out when screwing Hinge X 8 Zn to level surfaces.



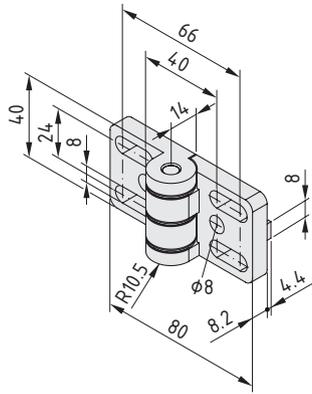
Hinge X 8 Zn can be screwed onto the end face or profile groove.



Fastening Hinge X 8 Zn to Line X 8 Profiles. For Profiles with closed grooves, the groove cover is to be removed to insert the T-Slot Nuts and positioning guides.

$F_{\text{max}} = 500 \text{ N}$

7



Hinge 8 40 Zn



Hinge halves, die-cast zinc, black
m = 180.0 g

black, 1 pce.

0.0.196.36



Hinge X 8 Zn



Hinge, die-cast zinc, white aluminium

2 Caps, PA-GF, grey

2 positioning guides, St, bright zinc-plated

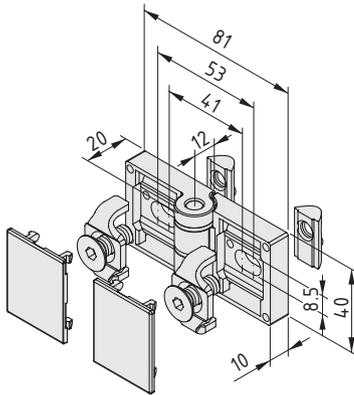
2 T-Slot Nuts V 8 St M8, bright zinc-plated

2 Countersunk Screws DIN 7991-M8x22, St, bright zinc-plated

m = 212.0 g

1 set

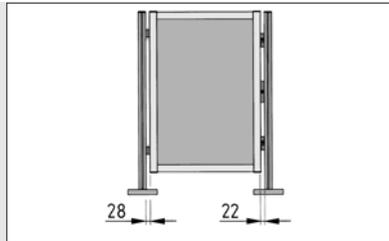
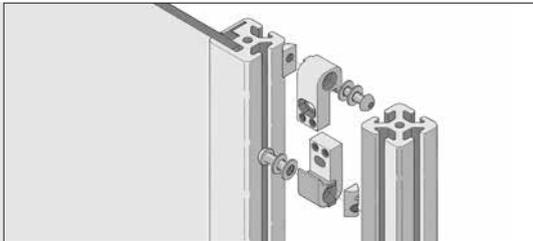
0.0.603.59





Door Rabet 8

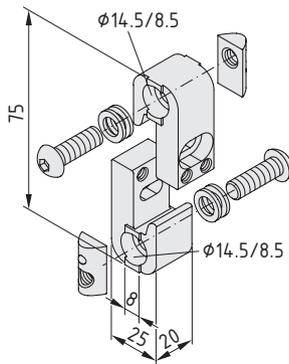
- For partitions with swing doors
- Safety thanks to robust design



Application example for door construction:
Clearance on left 28 mm with Hinges 8 40 Zn
and on right 22 mm with Door Rabbets 8, in
combination with Door Lock 8.

Door Locks 8 301

7



Door Rabet 8



- 2 Door Rabbets, die-cast zinc, black
- 2 Button-Head Screws ISO 7380-M8x25, St, bright zinc-plated
- 4 spring washers, St, bright zinc-plated
- 2 T-Slot Nuts 8 St M8, bright zinc-plated
- m = 190.0 g

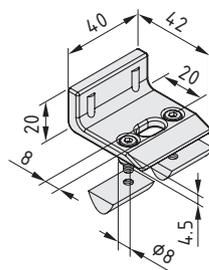
1 set

0.0.265.15



Door Stop 8

- Flexible plastic Door Rabet
- No scratching of doors and frames
- Can be combined with Integrated Lock System 8



Door Stop 8



- 2 Door Stops, PA-GF, black
- 4 Hex. Socket Head Cap Screw DIN 6912-M4x12, St, bright zinc-plated
- 4 T-Slot Nuts 8 St M4, bright zinc-plated
- m = 76.0 g

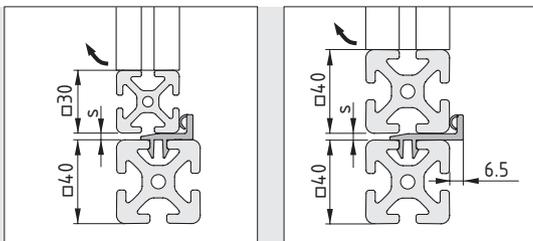
1 set

0.0.486.72



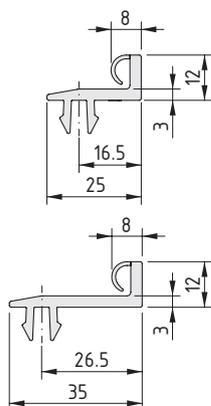
Door Stop Seals

- Elastic lip seal has cushioning effect
- Protects against dust and dampness



7

The Door Stop Seals are used in Line 8 frame structures. They are suitable for doors made of Profiles 6 (modular dimension 30 mm) or Profiles 8 (modular dimension 40 mm) with a door gap all-round (recommended: $s > 4$ to 8 mm).



Door Stop Seal 8 30



PP/TPE
m = 127 g/m

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.616.57

Door Stop Seal 8 40



PP/TPE
m = 154 g/m

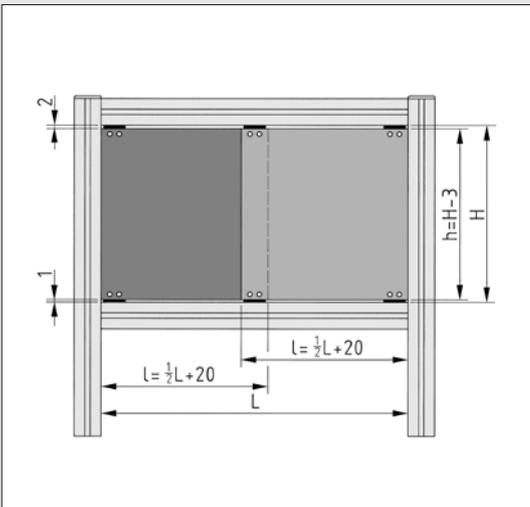
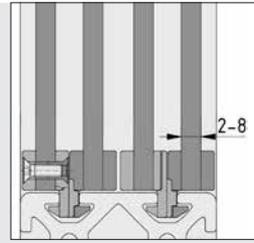
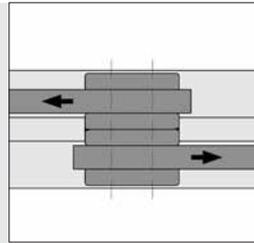
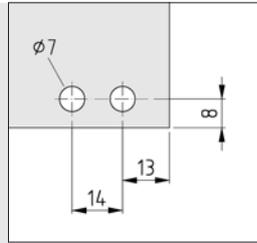
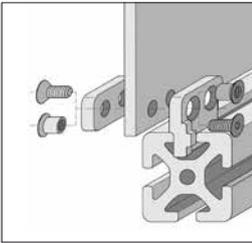
grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.617.31



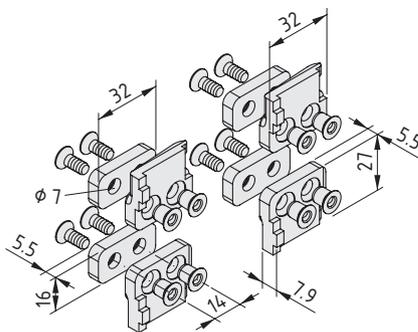
Sliding-Door Guide Set 8

- Easy-running sliders on the panel element
- Guidance in Line 8 groove
- Two sliding doors can be installed in one groove



There can be either 1 or 2 sliding doors in a single Profile 8 groove.
The slide pieces function as stops or catches for the second door at the terminal position.

The maximum permissible weight of one door is 10 kg.



Sliding-Door Guide Set 8



- 4 slide pieces (2xright, 2xleft), POM, black
- 4 spacer pieces, POM, black
- 8 Countersunk Screws DIN 7991-M5x12, St, bright zinc-plated
- 8 threaded bushings, St, bright zinc-plated
- m = 58.0 g

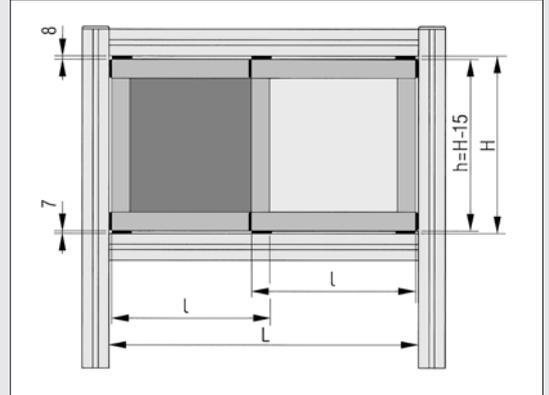
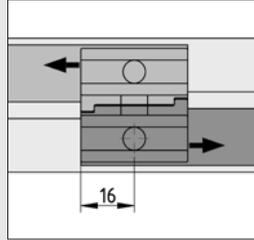
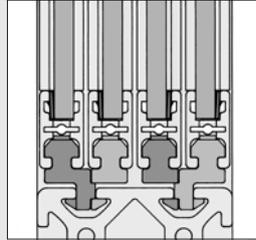
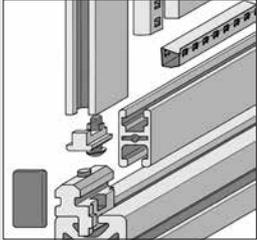
1 set

0.0.406.66



Sliding-Door Guide Set 8/8

- Plastic slide pieces
- Designed for use with Clamp Profile 8 32x18
- Two sliding doors can be installed in one Line 8 groove



7

Sliding-Door Guide Set 8/8 is held securely in the profile groove by a spring bolt. For example, it locks into the mounting bore of Clamp Profile 8 32x18, which is ideal for use with Sliding-Door Guide Set 8/8. However, a separate hole with a diameter of 7 mm can also be created.

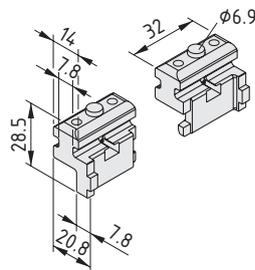
There can be either 1 or 2 sliding doors in a single Profile 8 groove. The slide pieces function as stops or catches for the second door at the terminal position.

For sliding door constructions with n door elements of the same size, the following equation can be used to calculate the profile length l:

$$l = \frac{L + 32(n-1) - 8}{n}$$

A side overlap of Caps 8 32x18 of 4 mm is taken into account.

The maximum permissible weight of one door is 10 kg.



Sliding-Door Guide Set 8/8

4 slide pieces (2x right, 2x left), POM, black
 Spring bolt, St, bright zinc-plated
 Spring, St, stainless
 m = 49.0 g

1 set

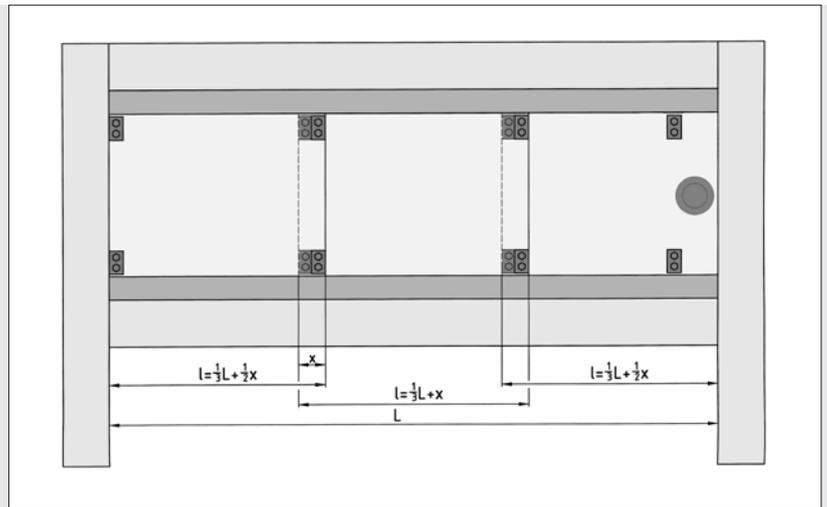
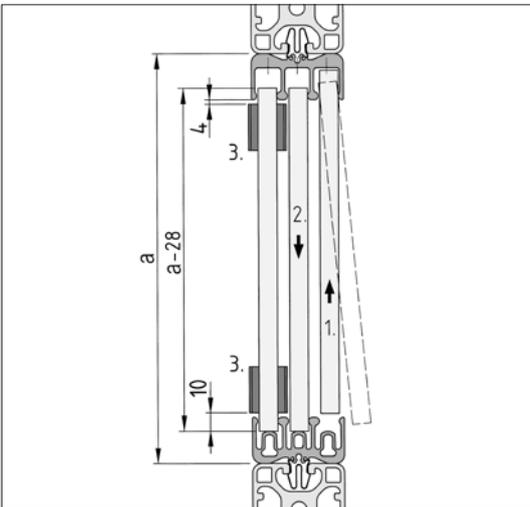
0.0.404.87





Sliding-Door Guide Profile

- For retrofitting sliding doors to profile constructions
- For frameless panel elements made from plastic
- Three guide tracks for door combinations



7

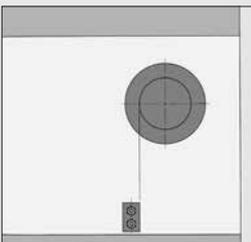
Use Clip 8 St to fasten the Sliding-Door Guide Profile to the frame profiles at the top and bottom. Next, insert the sliding doors as set out below:

1. Insert the panel element up into the desired top guide track of the Sliding-Door Guide Profile.
2. Lower the panel element into the corresponding bottom guide track.
3. Position the catch at the top to prevent the doors from being inadvertently knocked out.

Typical arrangement of a 3-part sliding door with equal-sized door segments.

The sliding-door catches are attached directly to the panel element if two or three sliding-door panels are to be moved together. Their position can be selected individually, in order to determine the required opening path of the accompanying door panels and the overlap of the doors x ($x_{\min.} = 25 \text{ mm}$).

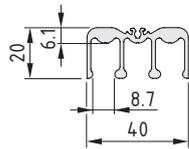
Clip 8 St



The sliding-door catches must be fitted correctly, so as to ensure that hands cannot become trapped in Handles or Recessed Grips.



Rubber rings are mounted on the catches as shock absorbers.



Sliding-Door Guide Profile 8 40x20, Top



Al, anodized

A [cm ²]	m [kg/m]
2.76	0.75
natural, cut-off max. 6000 mm	0.0.473.75
natural, 1 pce., length 6000 mm	0.0.650.43
natural, 1 pce., length 3000 mm	0.0.473.42

2.76 0.75

natural, cut-off max. 6000 mm

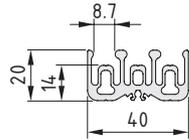
0.0.473.75

natural, 1 pce., length 6000 mm

0.0.650.43

natural, 1 pce., length 3000 mm

0.0.473.42



Sliding-Door Guide Profile 8 40x20, Bottom



Al, anodized

A [cm ²]	m [kg/m]
3.43	0.93
natural, cut-off max. 6000 mm	0.0.473.74
natural, 1 pce., length 6000 mm	0.0.650.44
natural, 1 pce., length 3000 mm	0.0.473.41

3.43 0.93

natural, cut-off max. 6000 mm

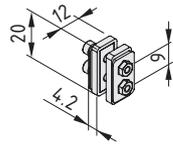
0.0.473.74

natural, 1 pce., length 6000 mm

0.0.650.44

natural, 1 pce., length 3000 mm

0.0.473.41



Sliding-Door Catch Set



2 Cap Screws DIN 912-M3x12, St, bright zinc-plated

2 nuts DIN 934-M3, St, bright zinc-plated

2 damping rings, IIR, black

m = 4.0 g

1 set

0.0.473.81

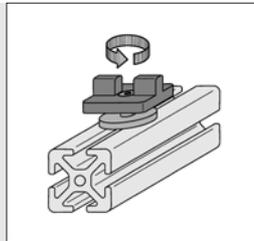


T-Slot Slider

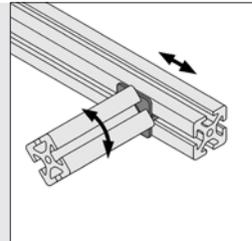
- Glides in the groove and enables free rotation
- Guide for folding, lifting and sliding doors
- Low-friction plastic



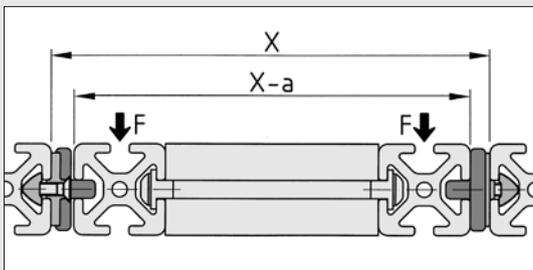
Construction of a folding door with T-Slot Sliders



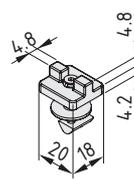
Unrestricted rotation of the T-Slot Slider around the hub also compensates for possible alignment errors.



T-Slot Slider 8 can also be fitted to the end faces of Profiles 8 40x40.



	a	F
5	11 mm	30 N
6	13 mm	40 N
8	10 mm	60 N

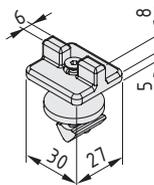


T-Slot Slider 5



- T-Slot Slider, POM, black
- T-Slot Slider hub, St, bright zinc-plated
- T-Slot Nut 5 St M3
- Countersunk Screw DIN 7991-M3x10, St, bright zinc-plated
- m = 6.0 g

1 set 0.0.437.98

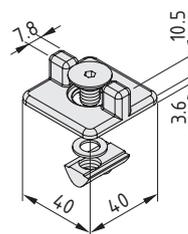


T-Slot Slider 6



- T-Slot Slider, POM, black
- T-Slot Slider hub, St, bright zinc-plated
- T-Slot Nut 6 St M4
- Countersunk Screw DIN 7991-M4x14, St, bright zinc-plated
- m = 21.0 g

1 set 0.0.459.07



T-Slot Slider 8



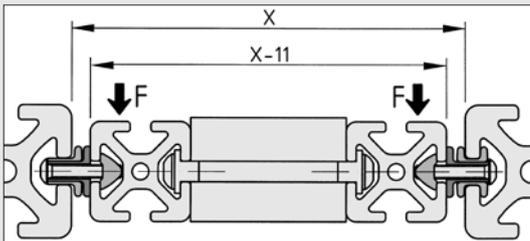
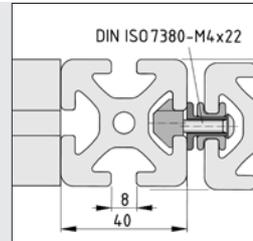
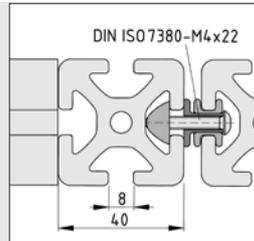
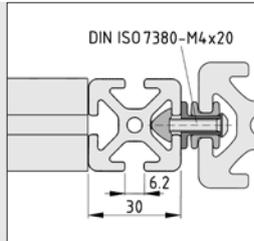
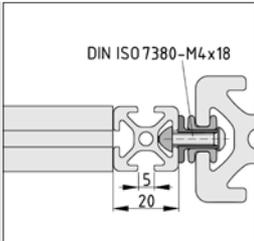
- T-Slot Slider, POM, black
- Adapter washer DIN 988-8x14x1, St, stainless
- T-Slot Nut V 8 St M8, bright zinc-plated
- Countersunk Screw DIN 7991-M8x13, St, bright zinc-plated
- m = 24.0 g

1 set 0.0.601.23



T-Slot Roller

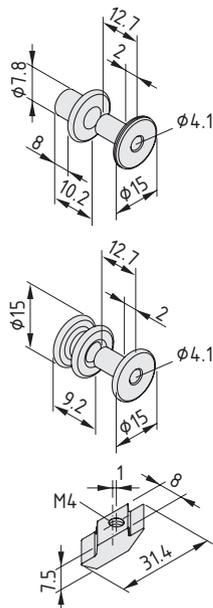
- For pull-outs of all types
- Roller uses Line 8 groove as guide
- Fixed and floating bearing rollers prevent binding in the guide



The T-Slot Rollers connect Profile 8 with the moving component without any central offset.

Special T-Slot Nut 8 Zn M4e with a central offset of 1 mm is available for moving elements made of Line 8 components. This ensures no collisions can occur during movement.

	F
T-Slot Roller 8L	50 N
T-Slot Roller 8F	50 N



T-Slot Roller 8 L

Floating bearing roller, POM, black
Bearing hub, St, bright zinc-plated
m = 4.0 g

1 set

0.0.457.60

T-Slot Roller 8 F

Fixed bearing roller, POM, black
Bearing hub, St, bright zinc-plated
m = 5.0 g

1 set

0.0.457.51

T-Slot Nut 8 Zn M4e

Die-cast zinc
M = 1.5 Nm m = 5.0 g

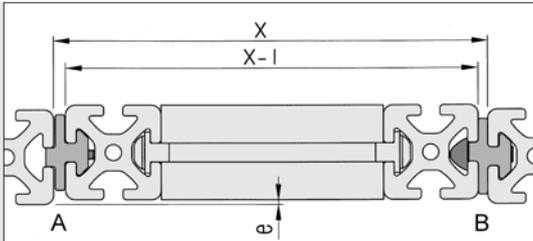
black, 1 pce.

0.0.457.47

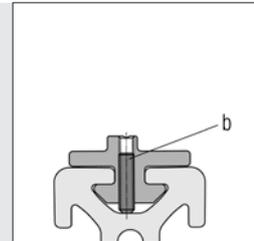
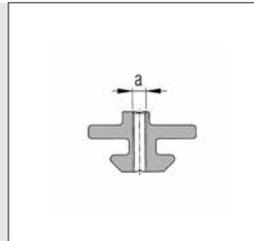


Slide Guide Strips

- For the Slide Guides of doors and fixtures
- Plastic strips for guidance in the profile groove
- Fasten to a frame or sliding element

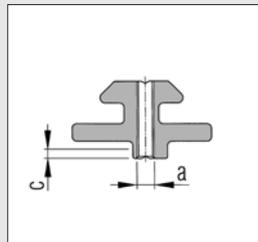
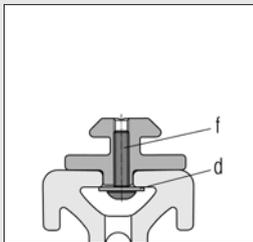


Slide Guide L (A = floating bearing) and Slide Guide F (B = fixed bearing) as guide elements, secured to a moving component.



Required machining and fastening elements for fixing a Slide Guide Strip of any required length at the floating bearing end.

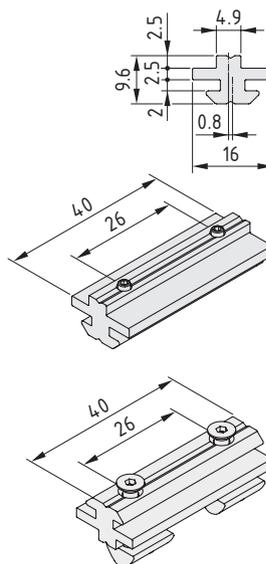
The distance between the fastening elements should be chosen to reflect the load.



Required machining and fastening elements for fixing the Slide Guide Strip at the fixed bearing end.

Slide Guide Strip 5/5e must be counterbored by $c = 2$ mm in the area of the screw head.

	Slide Guide Strip		
	5	6	8
a	M2.5	M3	M4
b	M2.5x8 DIN 916	M3x12 DIN 916	M4x16 DIN 916
c	2.0 mm	-	-
d	DIN 9021-2.7	DIN 9021-3.2	DIN 9021-4.3
e	0.8 mm	1.0 mm	2.0 mm
f	M2.5x8 DIN 912	M3x12 ISO 7380	M4x16 ISO 7380
l	$5.5^{+0.5}$ mm	$7.0^{+0.5}$ mm	$9.5^{+0.5}$ mm



Slide Guide Strip 5/5e



PE-UHMW

$m = 80$ g/m

black, 1 pce., length 2000 mm

0.0.464.24

Slide Guide 5/5e L



PE-UHMW

with threaded bores

2 grub screws DIN 916-M2.5x8, St, bright zinc-plated

$m = 5.0$ g

1 set

0.0.464.29

Slide Guide 5/5e F



PE-UHMW

with through bores

2 T-Slot Nuts 5 St M3, stainless

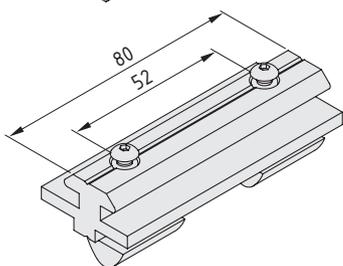
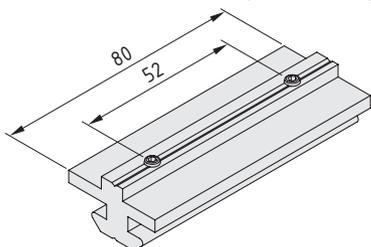
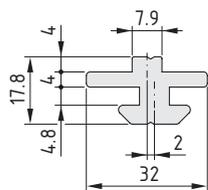
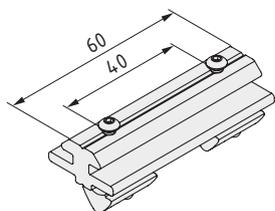
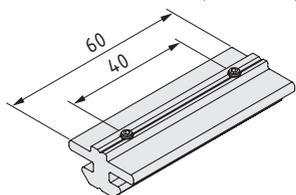
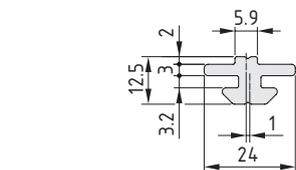
2 Countersunk Screws DIN 7991-M3x14, St, bright zinc-plated

2 O-rings 3x1

$m = 8.0$ g

1 set

0.0.464.27



Slide Guide Strip 6/6e



PE-UHMW
m = 150 g/m
black, 1 pce., length 2000 mm

0.0.459.27

Slide Guide 6/6e L



PE-UHMW
with threaded bores
2 grub screws DIN 916-M3x12, St, bright zinc-plated
m = 11.0 g

1 set

0.0.459.32

Slide Guide 6/6e F



PE-UHMW
with through bores
2 T-Slot Nuts 6 St M3, bright zinc-plated
2 Button-Head Screws M3x18, St, bright zinc-plated
2 O-rings 3x1
m = 19.0 g

1 set

0.0.459.30

Slide Guide Strip 8/8e



PE-UHMW
m = 260 g/m
black, 1 pce., length 2000 mm

0.0.458.58

Slide Guide 8/8e L



PE-UHMW
with threaded bores
2 grub screws DIN 916-M4x16, St, bright zinc-plated
m = 22.0 g

1 set

0.0.465.26

Slide Guide 8/8e F



PE-UHMW
with through bores
2 T-Slot Nuts 8 St M4, bright zinc-plated
2 Button-Head Screws M4x25, St, bright zinc-plated
2 O-rings 4x1.5
m = 44.0 g

1 set

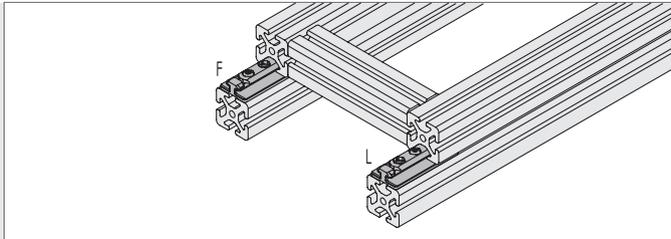
0.0.465.24



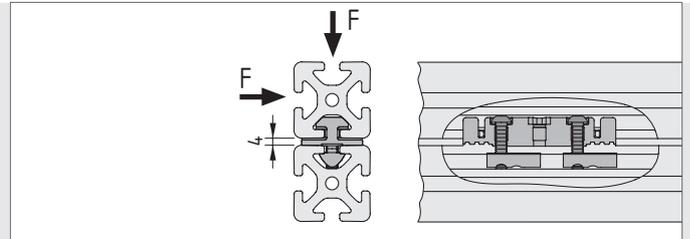
T-Slot Sliders

The solution for robust and easy-running slides

- Strong metal slide carrier
- Plastic slider for low-wear and low-friction movement
- For durable, reliable linear motion along a Line 8 groove
- Also available with clamp attachment

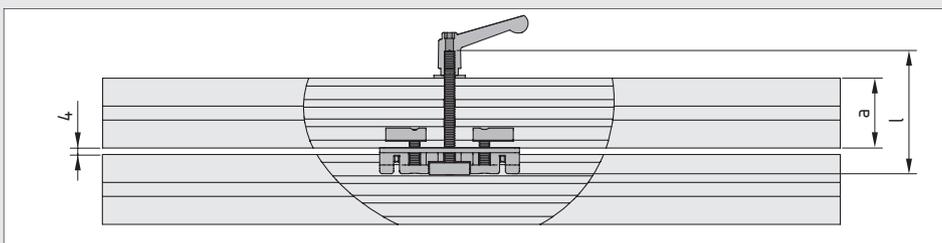
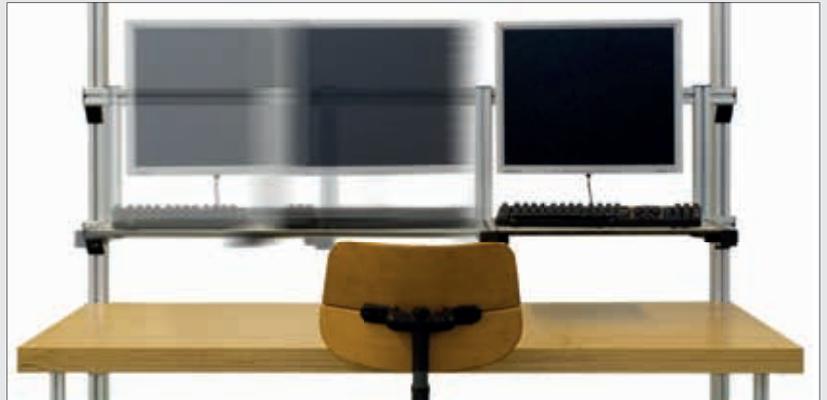


Slide guides with several slides must be designed as a combination of fixed bearing (F) and floating bearing (L). This compensates for tolerances and ensures ease of movement. The average coefficient of sliding friction of a T-Slot Slider is $\mu = 0.22$.

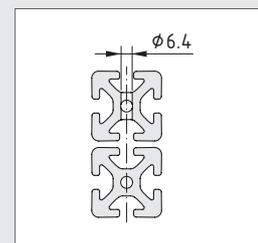


The slides must always be connected to the Profile 8 grooves using only the specially prepared Fastening Sets.

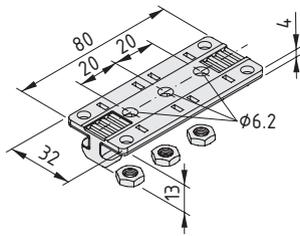
The maximum permissible load for a T-Slot Slider 8 80x40 is:
 $F_{max.} = 50 \text{ N}$



The slides must always be connected to the Profile 8 grooves using only the specially prepared Fastening Sets, part No 0.0.619.62.



Maximum length of threaded stud:
 $l = a + 26.5$



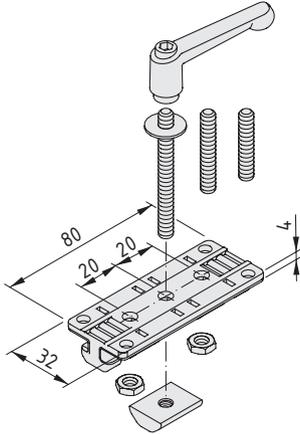
T-Slot Slider 8 80x40



Slide, die-cast zinc
Slide inserts, POM
3 nuts M6
m = 44.0 g

1 set

0.0.607.39



T-Slot Slider 8 80x40 with Slide Clamp



Slide, die-cast zinc, bright zinc-plated
2 slide elements, POM
2 nuts ISO 4035-M6, St, bright zinc-plated
Special T-Slot Nut 8 St M6 heavy duty, bright zinc-plated
Threaded stud DIN 913-M6x65, St, bright zinc-plated
Threaded stud DIN 913-M6x45, St, bright zinc-plated
Threaded stud DIN 913-M6x35, St, bright zinc-plated
Clamp Lever M6-45, black
Washer DIN 9021-6.4, St, bright zinc-plated
m = 145.0 g

1 set

0.0.626.68



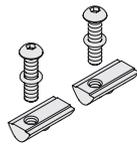
T-Slot Slider 8 80x40, Fastening Set Floating Bearing



Button-Head Screw M5x25, St, bright zinc-plated
T-Slot Nut V 8 St M5, bright zinc-plated
O-ring 5x1.2
m = 17.0 g

1 set

0.0.619.53



T-Slot Slider 8 80x40, Fastening Set Fixed Bearing



2 Button-Head Screws M6x25, St, bright zinc-plated
2 T-Slot Nuts V 8 St M6, bright zinc-plated
2 O-rings 6x2
m = 34.0 g

1 set

0.0.619.62

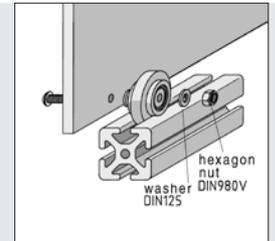
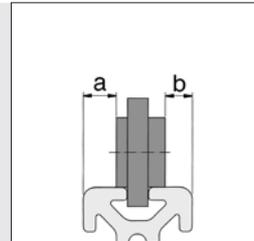
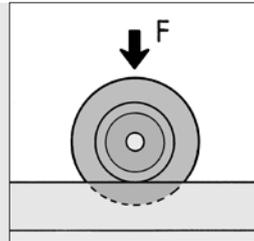


Castors

- Versatile and easy running
- Guidance along the profile groove

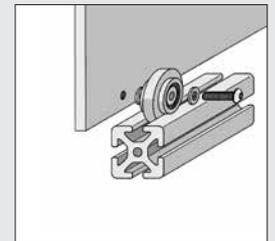


Versatile Castors which can be mounted in the profile grooves. Using screws M5 (Line 5) and M6 (Lines 6 and 8), the Castors can be secured to any chosen components in order to move these along the profile groove.

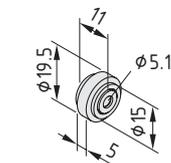


Castor	5	6	8
F	50 N	100 N	150 N
a	5.0 mm	8.5 mm	12.0 mm
b	4.0 mm	5.5 mm	10.0 mm

Light, intrinsically stable panel elements can be used as sliding doors in conjunction with the Castors.



7



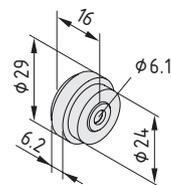
Castor 5



Castor, POM, black
 Bearing hub, St, bright zinc-plated
 Washer DIN 125-5.3, St, bright zinc-plated
 m = 4.0 g

1 pce.

0.0.370.97



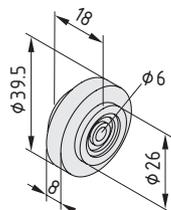
Castor 6



Castor, POM, black
 Bearing hub, St, bright zinc-plated
 Washer DIN 125-6.4, St, bright zinc-plated
 m = 16.0 g

1 pce.

0.0.419.79



Castor 8



Castor, PA-GF, black
 2 deep-groove ball bearings, sealed
 m = 32.0 g

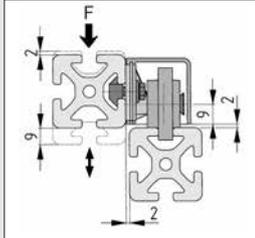
black, 1 pce.

0.0.026.83



Castor Unit 8 PA

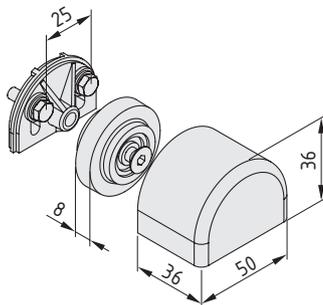
- Fully enclosed castor
- Door runs alongside the guide profile
- Ball-bearing, load-carrying castor



The mounting slots in the flange can be used to adjust the height of the Castor Unit. Castor 8 is asymmetrical. This means that the offset between the profiles can be altered (0 or 2 mm) depending on how it is installed.

F = max. 75 N

7



Castor Unit 8 PA



- Flange, PA-GF, black
- Cap, PA-GF, black
- Castor 8, PA-GF, black
- Countersunk Screw DIN 7991-M6x30, St, bright zinc-plated
- 2 hexagon screws DIN 933-M5x16, St, bright zinc-plated
- 2 washers, St, bright zinc-plated
- m = 66.0 g

1 set

0.0.458.85



Runway Profile 8 40x40

Easy-running turnkey solutions

- System solutions comprising Castor Units and Runway Profiles
- For use with high-load-carrying customised slides
- Runs smoothly, easily and reliably
- For automated and manual motion



Is building a sliding door really so involved? Perhaps it was in the past. The Runway Slide Set 8 40x40 easily turns a panel of a protective fence into a sliding door.

Simply insert the runway slides into the Runway Profile, attach the door and that's it.

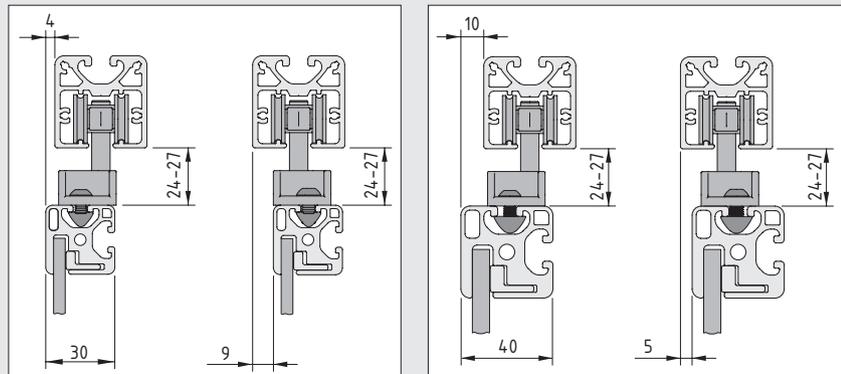
The 4 ball-bearing castors can accommodate tensile and compressive loads. The enclosed limit stops with locking function bring the sliding door to a stop and hold it in place.

Maximum door weight: 30 kg

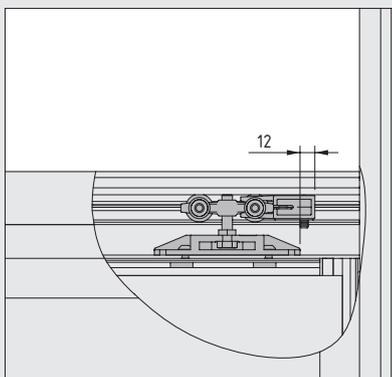
A sliding door must always be guided above and below.



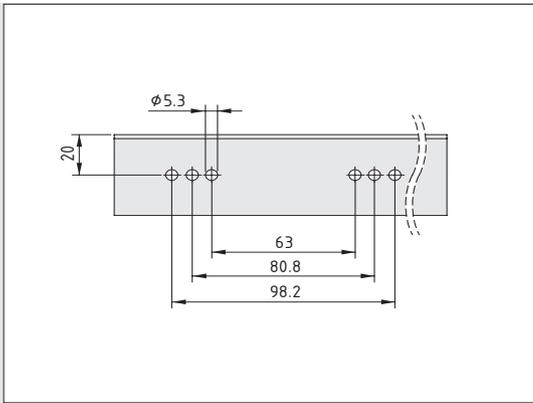
Runway Profile 8 40x40 with universal Profile 8 groove is easy to fasten and guides the sliding elements.



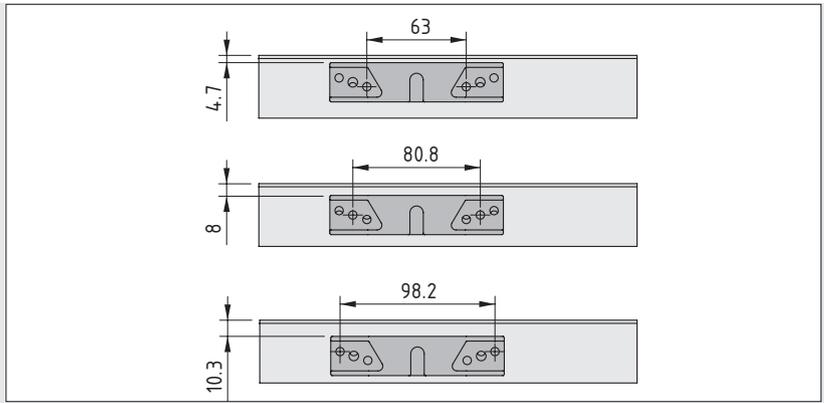
The hanger has broad adjustment ranges for door frames made from Profiles 8.



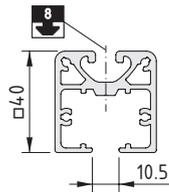
For covering the gap between a door and Runway Profile: Profile M W40x25x2 E blocks access to the door hanging system. This enhances security and ensures a seamless appearance.



Processing of Profile M W 40x25x2 E for maximum slide adjusting range



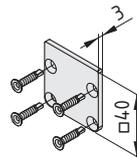
Tool Slide 40x40 440



Runway Profile 8 40x40

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
5.27	1.42	8.00	10.63	0.74	3.43	5.32
natural, cut-off max. 6000 mm						0.0.623.61
natural, 1 pce., length 6000 mm						0.0.623.58

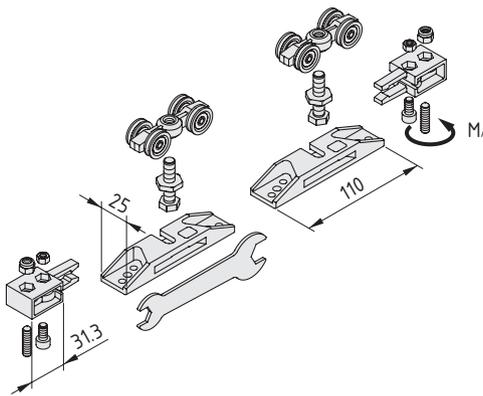


Castor Rail 8 Cap 40x40

St, bright zinc-plated, black

4 Countersunk Screws self-tapping 3.9x19 TX20, St, bright zinc-plated
m = 60.0 g

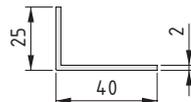
1 set	0.0.622.29
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Runway Slide Set 8 40x40

2 slides, St, bright zinc-plated
2 Hangers, St, bright zinc-plated
2 limit stops, PA, black
Fastening elements, St, bright zinc-plated
Spanner, St, bright zinc-plated
Notes on Use and Installation
Tightening torque = 2.5 Nm
m = 510.0 g

1 set	0.0.624.45
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Profile M W40x25x2 E

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
1.26	0.34	0.66	2.12	0.02	0.34	0.79
natural, cut-off max. 3000 mm						0.0.626.77
natural, 1 pce., length 3000 mm						0.0.626.76



Track Profile 8 80x40 Rollers D60 PU

The stable track for higher loads

- Ball-bearing castors with durable PU coating
- Complete Castor Units for easy installation

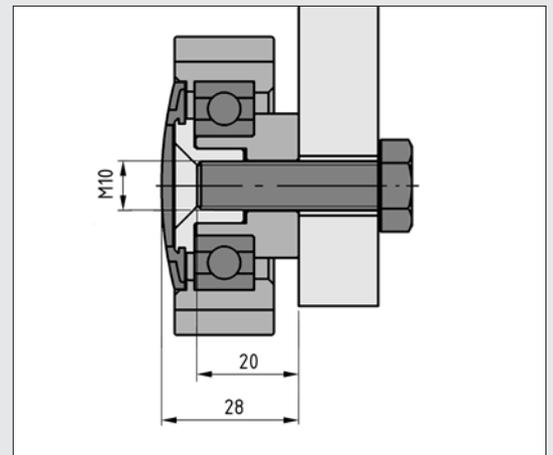
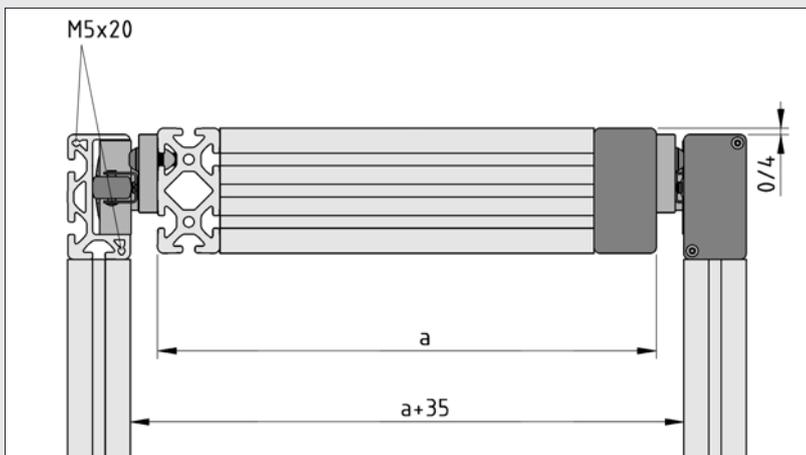


The system solution for constructing heavy-duty transport equipment consists of a special Track Profile and guided Rollers. Track Profile 8 80x40 is used as a guide rail for customised carriages equipped with Roller Units. Rollers D60 PU are ball-bearing mounted and are fitted with wear-resistant polyurethane tyres to ensure smooth and quiet running.

The pre-assembled Roller Units D60 PU can be fitted to workpiece carriers or frames constructed from profiles (preferably Line 8). The freely selectable support widths and axle

distances of the carriage construction enable the guide to be constructed for the given application. The result is a system for manual or automatic transportation of even heavy products that is particularly robust and insensitive to ambient factors (dust and knocks).

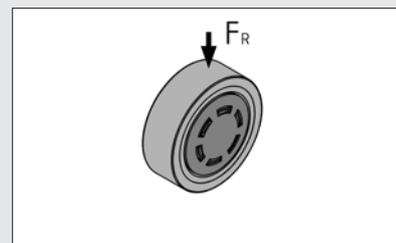
7



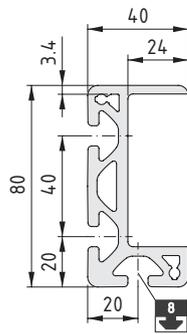
Track Profiles and Roller Units are also ideal for constructing overhead suspension units. An additional guide roller on the base plate guides Roller Unit D60 PU laterally in the Track Profile.

Rollers D60 PU can also be used as universal guide and support elements for pull-outs, as guide elements for sliding doors, and for all linear movements where flexibility and high load-bearing capacity are particularly important. They can be screwed from the outside (Countersunk Screw DIN 7981-M8) or inside (via the M10 internal thread) as required.

Roller D60 must always be fitted with the circlip facing outwards.



$$F_R = 800 \text{ N}$$

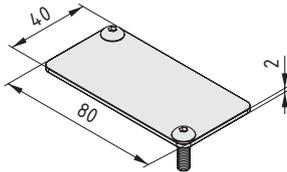


Track Profile 8 80x40



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
10.92	2.84	76.68	12.79	2.93	17.76	7.94
natural, cut-off max. 6000 mm						0.0.606.69
natural, 1 pce., length 6000 mm						0.0.494.77

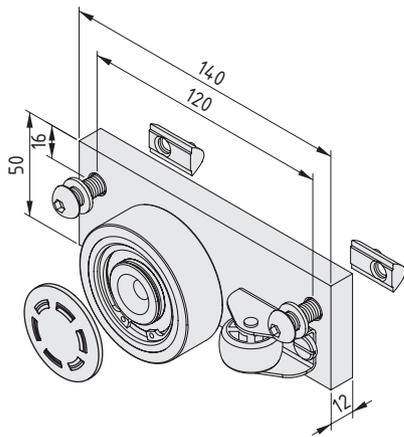


Cap Set, Track Profile 8 80x40



4 caps, St, black
8 Button-Head Screws M5x16, St, bright zinc-plated
m = 49.3 g

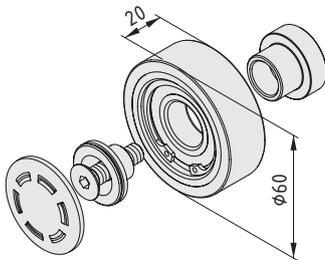
1 set	0.0.608.95
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Roller Unit D60 PU

Connecting Plate, Al, anodized
Roller D60 PU
Guide roller with compression spring and fastening material
2 Button-Head Screws ISO 7380-M8x25, St, bright zinc-pl.
2 washers DIN 433-8.4, St, bright zinc-plated
2 T-Slot Nuts V 8 St M8, bright zinc-plated
C = 9,360 N
C₀ = 5,000 N
m = 430.0 g

1 set	0.0.606.90
-------	------------



Roller D60 PU

Roller D60, St
Tyre PU, 92 Sh A, yellow
Bearing sleeve, St, bright zinc-plated
Axial securing device, St, bright zinc-plated
Cap, POM, black
Countersunk Screw DIN 7981 M8x35
C = 9,360 N
C₀ = 5,000 N
m = 270.0 g

1 set	0.0.608.94
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Roller Shutter System

- Turnkey solution with customised components
- Aluminium or lightweight composite roller shutters
- Space-saving protection provided by a flexible door

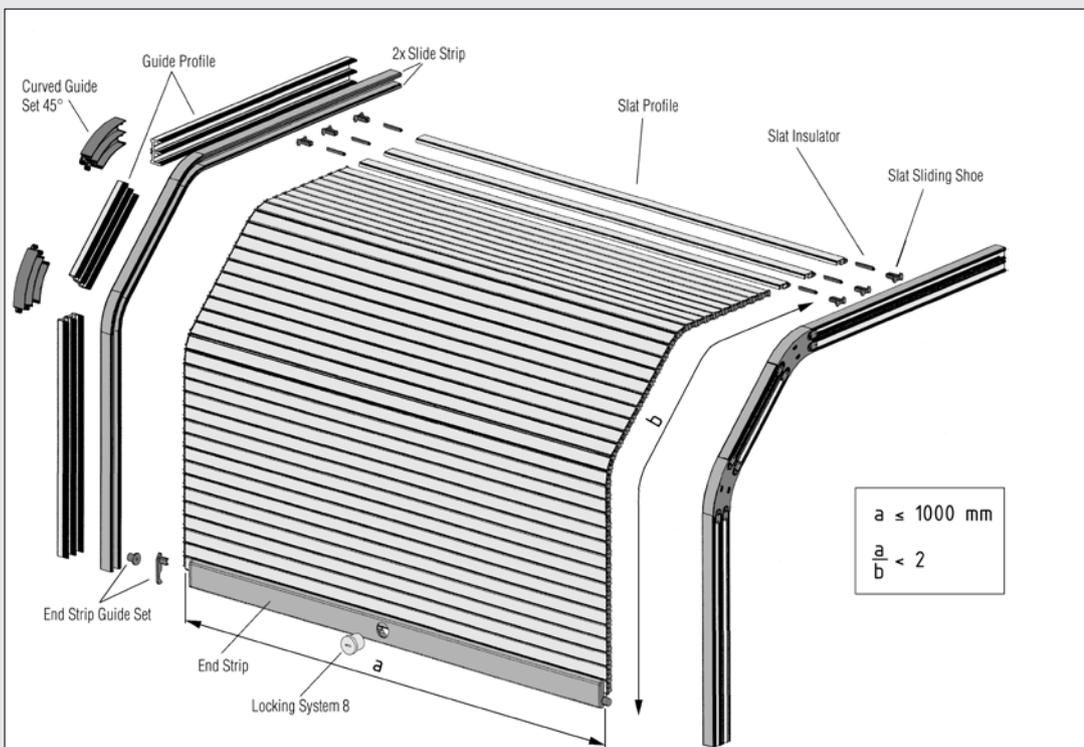


Roller Shutters can be used primarily as moving panel elements for locking cabinet systems, control panels and operating consoles etc. The major advantage of the system is its flexibility, allowing it to be housed within the cabinet, and requiring far less space than swing or sliding doors.

The Roller Shutter System is suitable for constructing manually-operated vertical and horizontal roller shutters on frames built from Profiles 8. The system consists of the Roller Shutter Guide and the Roller Shutter itself, both of which are of modular design. The Roller Shutter is available in aluminium or lightweight composite.

Detailed installation instructions are included with the Roller Shutter Curved Guide Set 45°.

7

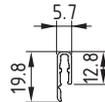
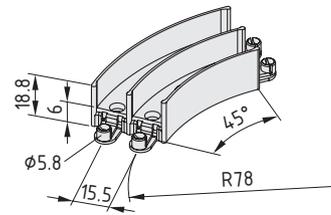
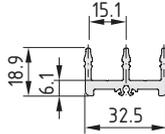


RS Guide

- The flexible and universal guide for the Roller Shutter System
- Suitable for lightweight composite and aluminium roller shutters
- Can be installed vertically and horizontally

Clip 8 St

71



RS Guide Profile 8



Al, anodized

A [cm²] m [kg/m]

2.28 0.61

natural, cut-off max. 3000 mm

0.0.465.63

natural, 1 pce., length 3000 mm

0.0.458.76

RS Curved Guide Set 45°



2 Curved Guides 45°, PA, black

4 Countersunk Screws DIN 965-M2.5x5, St, bright zinc-pl.

Notes on Use and Installation

m = 135.0 g

1 set

0.0.465.70

RS Slide Strip



PE-HD

A [cm²] m [g/m]

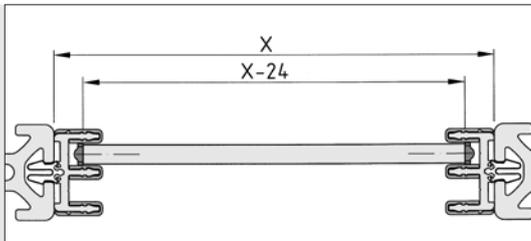
0.45 44.0

black, 1 roll length 20 m

0.0.458.64

Aluminium Roller Shutters

- Stable roller shutters made of aluminium
- Dividing insulators eliminate rattle

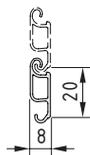


Aluminium Roller Shutters are constructed as Slat Profiles Al with Slat Insulators between them. Each slat must be provided with Slat Sliding Shoes at each end. Weight of aluminium Roller Shutter: 8 kg/m²

Length of aluminium Roller Shutter Slats:

$$l = X - 24 \text{ mm}$$

7



RS Slat Profile Al



Al, anodized

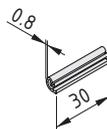
A [cm ²]	m [kg/m]
0.58	0.16

natural, cut-off max. 3000 mm

0.0.465.69

natural, 1 pce., length 3000 mm

0.0.458.75



RS Slat Insulator



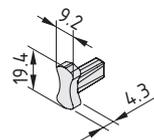
PA

Recommended usage: 4 per 1m

m = 40 g/100

transparent, 1 pce.

0.0.458.66



RS Slat Sliding Shoe



PA

m = 60 g/100

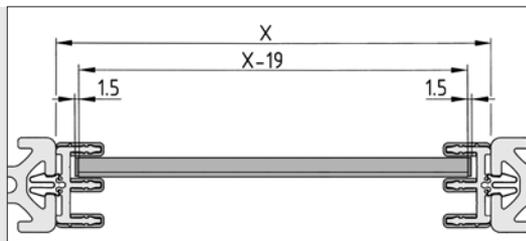
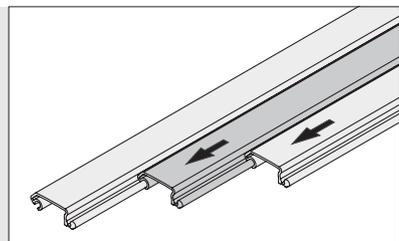
black, 1 pce.

0.0.458.77

Lightweight composite Roller Shutters



- Lightweight slats with integrated fastener
- For lightweight Roller Shutters



7

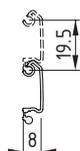
The lightweight composite roller shutter is assembled by slotting together the RS Slat Profiles K/Al.

An RS Slat Sliding Shoe K/Al is fitted to each end of every second RS Slat Profile K/Al.

Weight of the lightweight composite roller shutter: 3.5 kg/m²

Length of lightweight composite Roller Shutter Slats:

$$l = X - 19 \text{ mm}$$



RS Slat Profile K/Al

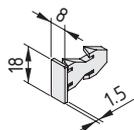
PP, transparent
Al, natural anodized
m = 68 g/m

cut-off max. 2500 mm

1 pce., length 2500 mm

0.0.653.92

0.0.653.91



RS Slat Sliding Shoe K/Al

PA
m = 120 g/100

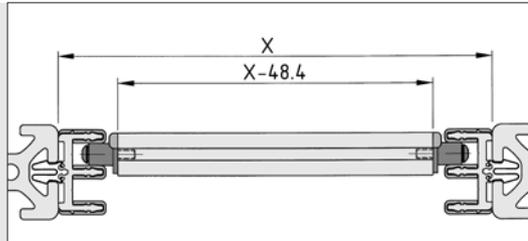
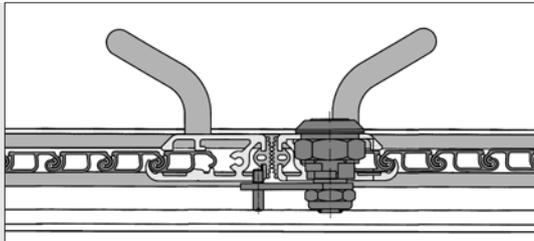
black, 1 pce.

0.0.653.93



Roller Shutter End Strip

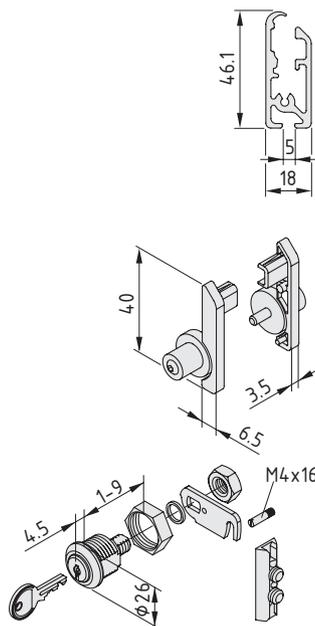
- Roller Shutter guidance and terminating mechanism
- Can be fitted with grip and lock as required



The Roller Shutter End Strip is used to terminate the Roller Shutter. Handles or a Grip System can be secured to it. Roller Shutter Locking System 8 is inserted into a drill hole in the Roller Shutter End Strip. Detailed installation instructions are included with the Roller Shutter Curved Guide Set 45°.

Length l of the Roller Shutter End Strip:

$$l = X - 48.4 \text{ mm}$$



RS End Strip		8
Al, anodized		
A [cm ²]	m [kg/m]	
2.95	0.79	
natural, cut-off max. 3000 mm		0.0.465.66
natural, 1 pce., length 3000 mm		0.0.458.78

RS End Strip Guide Set		8
End Strip cap, left, PA, black		
End Strip cap, right, PA, black		
2 End Strip rollers, POM/St, black		
m = 8.0 g		
1 set		0.0.465.58

RS Locking System 8		8
Cylinder Lock, all keys identical		
Key, locking bar, nab		
Headless screw		
m = 105.0 g		
1 set		0.0.465.57



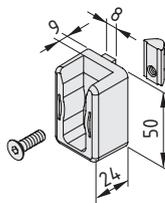
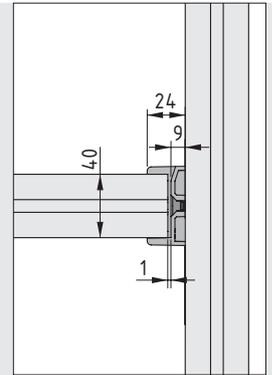
Retaining Bracket 8 40x16

- Replace partitioning in next to no time
- No profile machining required
- Secure hold thanks to snap-in fixing



Now you see it, now you don't! This secure Retaining Bracket can be used to turn Profiles 8 40x16 into dividers or barriers that keep containers and objects in place on shelves. Profiles are simply snapped in from above to stop the contents of a shelf sliding off.

The stable bracket holds the partition firmly in place. However, it handles more than just transverse forces – the integrated snap-in fixing prevents rattling and stops the Profile from coming out of the Bracket, even when subjected to the stresses and strains of a bumpy ride.



Retaining Bracket 8 40x16

PA
 1 Countersunk Screw DIN 7991-M6x20, St, bright zinc-plated
 1 T-Slot Nut V 8 St M6, bright zinc-plated
 m = 33.0 g

grey similar to RAL 7042, 1 set

0.0.654.51





8

HANDLES AND GRIPS

8

Handles
Grip Systems

Handles and grips Products in this section



Handles PA

- Universal handles made from robust plastic
- Wide range of fastening options

📄277



Handles AI

- Sturdy handles made from solid aluminium in standard sizes
- Angled version minimises risk of crushing

📄279



Handles AI

- Long design for moving heavy loads safely and securely
- With non-slip coating

📄281



Handle, light duty

- Slim aluminium grip
- Easy to attach

📄282



Recessed Grip D50

- For opening and closing sliding doors
- Closed rear wall protects fingers

📄283



Grip systems

- Customised length and design
- Ergonomic grips due to variable positioning

📄284



Grip Rail Profiles

- Long grip strips for easy opening and closing
- Angled cavity produces a comfortable feel

📄286



Grip Cover Profile

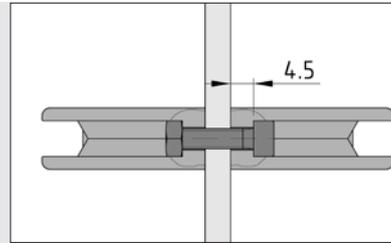
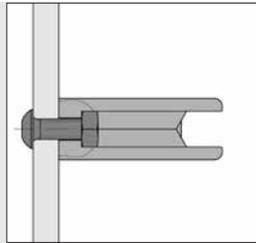
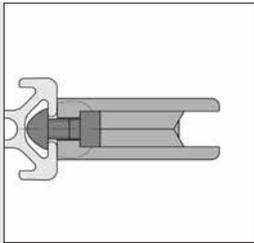
- Rubber covering for a secure grip
- Suitable for grips of any size made using standard profiles

📄287



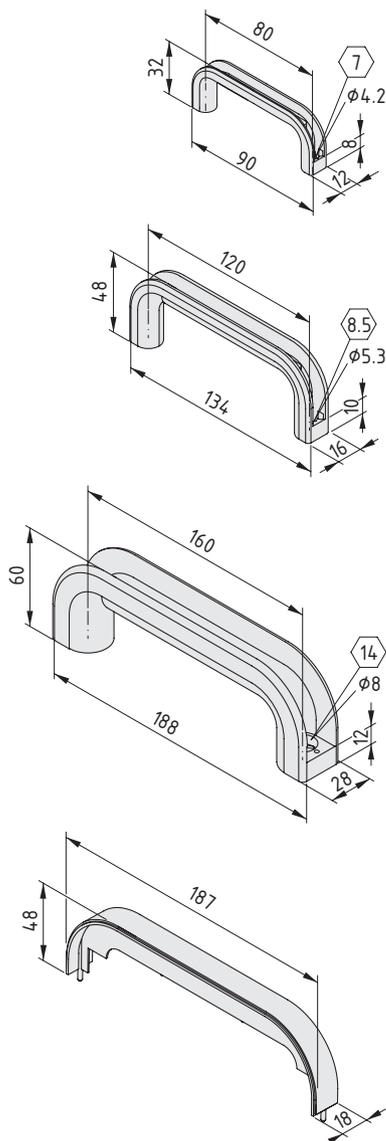
Handles PA

- Universal handles made from robust plastic
- Wide range of fastening options
- For sliding and swing doors
- Products from Line X also available



Handles PA for highly versatile application; they can be attached from the front or rear (concealed) and are particularly suitable for sliding and swing doors.

The Cap fills out the cavity in Handle PA 160 to ensure the Handle is comfortable in use. It is fitted after the Handle has been installed.



Handle PA 80

PA-GF
m = 9.0 g

black, 1 pce.

0.0.391.34

Handle PA 120

PA-GF
m = 30.0 g

black, 1 pce.

0.0.391.35

Handle PA 160

PA-GF
m = 93.0 g

black, 1 pce.

0.0.196.57

Cap for Handle PA 160

PA-GF
m = 20.0 g

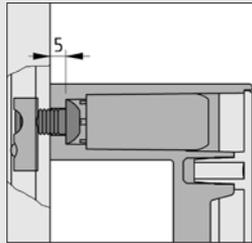
black, 1 pce.

0.0.475.38

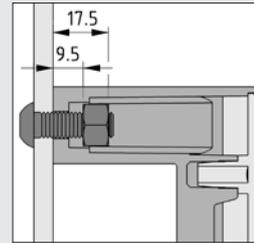


Handle X 160 PA can be fastened from the front or back (hidden) and is suitable for sliding and swing doors.

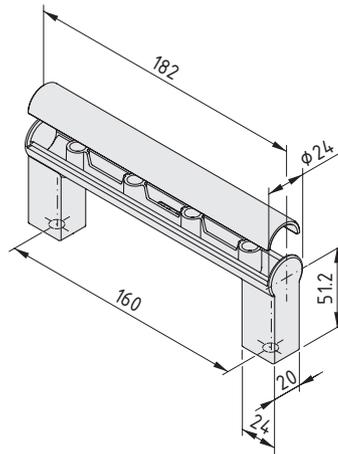
The top part of the grip of Handle X 160 PA is snapped on after the grip has been fitted.



Handle X 160 PA can be attached to profiles using a screw (max. M8) and T-Slot Nut.



An M8 nut can be inserted in the lower part of the grip for fastening from the back of the door.



Handle X 160 PA



PA-GF

m = 83.0 g

black, 1 pce.

0.0.495.37

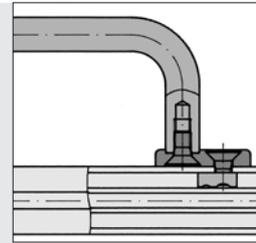
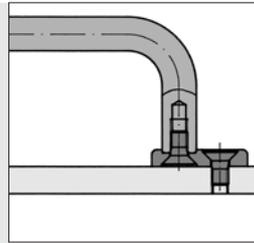
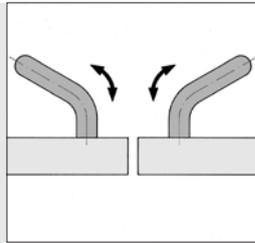
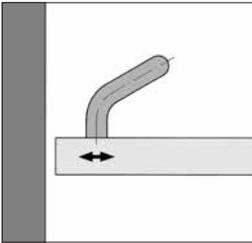
grey similar to RAL 7042, 1 pce.

0.0.494.86



Handles AI

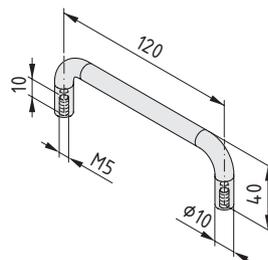
- Sturdy handles made from solid aluminium
- Angled version minimises risk of crushing
- For sliding and swing doors
- Large handles for machine doors and mobile factory equipment
- Non-slip coating



The cranked Handles are particularly suitable for sliding and swing doors to reduce the risk of fingers being crushed.

Handles AI can be secured from the rear (concealed). They can also be fitted from the front when used with the Fastening Sets.

8



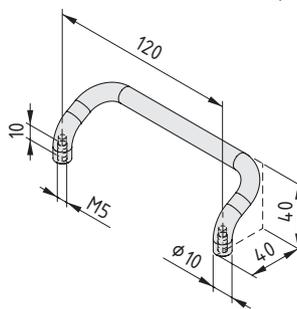
Handle AI 120

Al

m = 37.0 g

black, 1 pce.

0.0.416.85



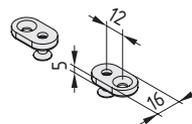
Handle AI 120 cranked

Al

m = 43.0 g

black, 1 pce.

0.0.416.87



Fastening Set for Handle AI 120

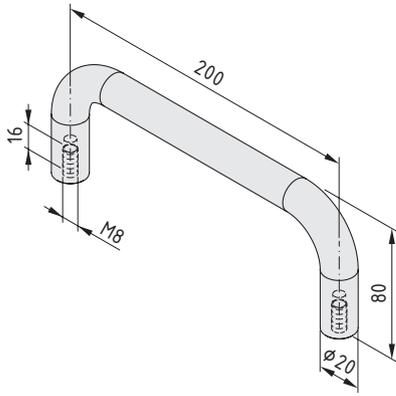
2 connection elements 120, die-cast zinc, black

2 Countersunk Screws DIN 7991-M5x10, St, black

m = 21.0 g

1 set

0.0.418.81



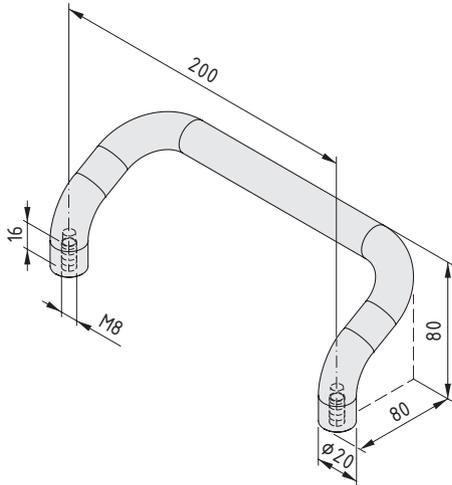
Handle AI 200

Al

m = 261.0 g

black, 1 pce.

0.0.416.81



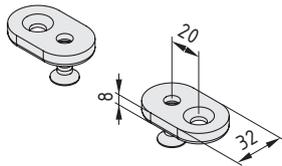
Handle AI 200 cranked

Al

m = 312.0 g

black, 1 pce.

0.0.416.83



Fastening Set for Handle AI 200

2 connection elements 200, die-cast zinc, black
2 Countersunk Screws DIN 7991-M8x18, St, black
m = 130.0 g

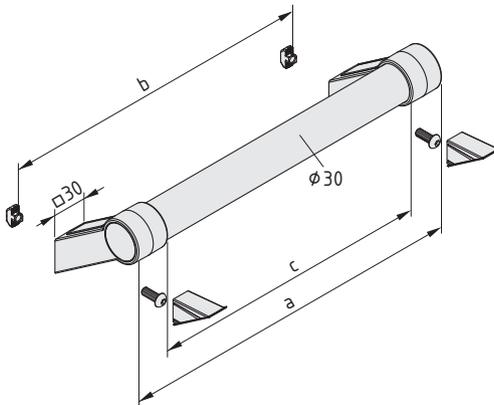
1 set

0.0.418.82



The Handles are available in various lengths. They make it easier to transport even heavy loads manually. Robust die-cast handle mounts ensure a secure connection with the mobile equipment. A special grip profile with a non-slip coating supports smooth pulling and pushing motions.

All the Handles AI are ESD-safe.



Handle AI 350



2 handle mounts, black
 Handle profile, Al, powder-coated, black
 2 handle caps, PA, black
 4 handle mount caps, PA, black
 2 Button-Head Screws M6x16, St, bright zinc-plated
 2 Hammerhead Nuts 8 M6, St, bright zinc-plated
 a = 380 mm b = 350 mm c = 320 mm m = 0.8 kg

1 set

0.0.644.01

Handle AI 550



2 handle mounts, die-cast zinc, black
 Handle profile, Al, powder-coated, black
 2 handle caps, PA, black
 4 handle mount caps, PA, black
 2 Button-Head Screws M6x16, St, bright zinc-plated
 2 Hammerhead Nuts 8 M6, St, bright zinc-plated
 a = 580 mm b = 550 mm c = 520 mm m = 0.9 kg

1 set

0.0.644.02

Handle AI 750



2 handle mounts, die-cast zinc, black
 Handle profile, Al, powder-coated, black
 2 handle caps, PA, black
 4 handle mount caps, PA, black
 2 Button-Head Screws M6x16, St, bright zinc-plated
 2 Hammerhead Nuts 8 M6, St, bright zinc-plated
 a = 780 mm b = 750 mm c = 720 mm m = 1.1 kg

1 set

0.0.644.03

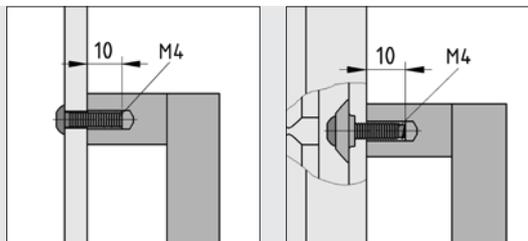


Handle X 160 Al

- Exceptionally stylish
- For constructions built with Profiles X



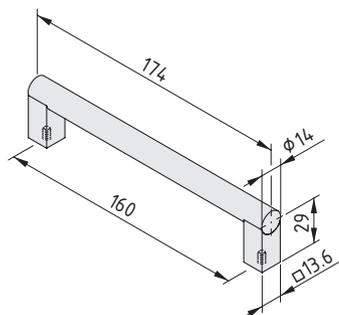
Handle X 160 Al is a light-duty handle with the same design as Line X Profiles. It can be fastened from behind (hidden).



When using screws to fasten the Handle on profile grooves, it is advisable to use the appropriate Locating Washers.

The M4 thread in Handle X 160 Al is used to fasten it in place.

8



Handle X 160 Al

Al
m = 94.0 g
natural, 1 pce.

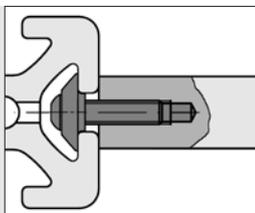


0.0.600.70

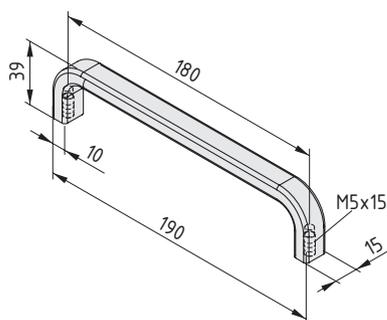


Handle, light duty

- Slim aluminium grip
- Suitable for universal use



The Handle can also be secured from the rear (concealed) with M5 screws. Suitable Locating Washers are used to adapt the Handle for profiles from a range of Lines.



Handle, light duty

Al, anodized
m = 87.0 g
natural, 1 pce.

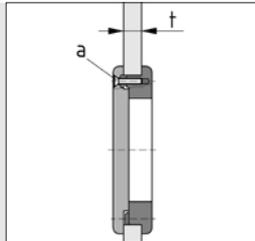
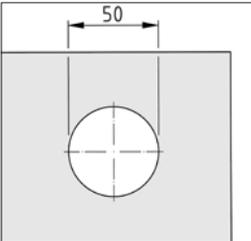
0.0.026.44



Recessed Grip D50

Safe, practical and space saving

- For opening and closing sliding doors
- Closed rear wall to protect fingers

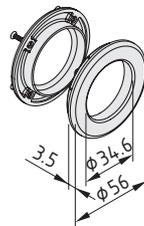


Self-Tapping
Screws DIN 7982 t [mm]

2.2x9.5	5-6
2.2x13	7-8

Required hole size in panel element to fit the Recessed Grip D50.

8



Recessed Grip D50

PA-GF

4 Self-Tapping Screws DIN 7982-2.2x9.5, St, black

4 Self-Tapping Screws DIN 7982-2.2x13, St, black

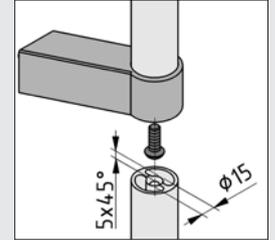
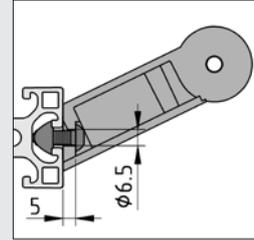
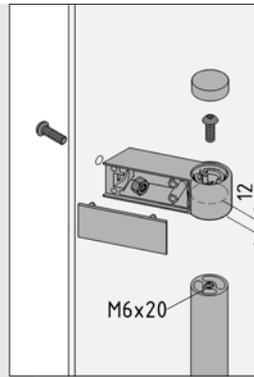
m = 16.0 g

1 set

0.0.479.59



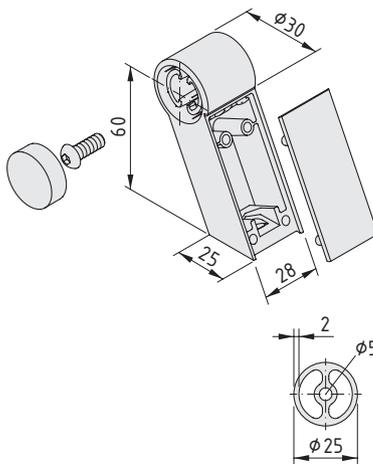
Grip System X D25 consists of Hand Grip Elements X D25 and cylindrical Profile D25. These components can be used to create handles of any length, but the distance between two Hand Grip Elements must not exceed 1000 mm.



Profile sections D25 are inserted in Hand Grip Element X D25 from one or both sides. Any hole not required is covered using the Cap provided.

M6x20 threads are provided in the core bore of the Profile D25 which is then press-fitted in the correct position in the Hand Grip Elements. All M6 screw connections of Hand Grip Element X D25 should be tightened with a torque of $M = 4 \text{ Nm}$.

For longer Grip Systems X D25, an additional Hand Grip Element should be used to provide central support. Before being inserted in this Hand Grip Element, the second Profile D25 must be countersunk around the core bore.



Hand Grip Element X D25



Hand grip, PA-GF, grey
 Cap for hand grip, PA-GF, grey
 Cap D25, PA-GF, grey
 Button-Head Screw ISO 7380-M6x16, St, bright zinc-plated
 $m = 44.0 \text{ g}$

1 set	0.0.601.65
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Profile D25



Al, anodized
 A [cm²] m [kg/m]
 2.32 0.57

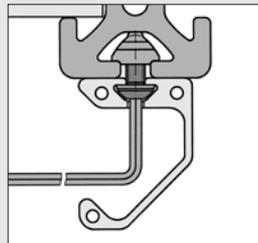
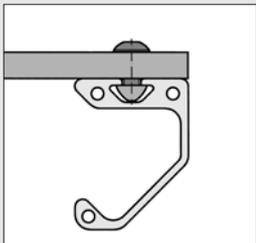
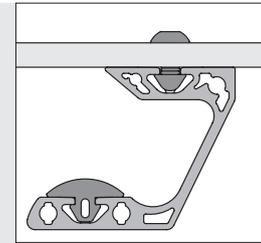
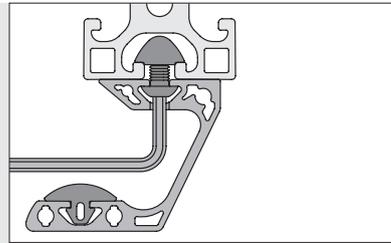
natural, cut-off max. 3000 mm	0.0.601.63
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natural, 1 pce., length 3000 mm	0.0.601.36
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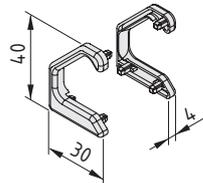
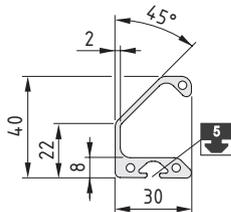
Grip Rail Profiles

- Long grip strips for easy opening and closing
- Angled cavity produces a comfortable feel
- Added stability for panel elements
- Products from Line X also available



Using Grip Cover Profile 5 20x4 (0.0.437.03) on the inside gives Grip Rail Profile X extremely good non-slip and tactile properties. The integrated Line 5 grooves are used for simple fastening to any given structure and for mounting the Grip Cover Profile.

Grip Rail Cap Set X is also designed for use with Grip Cover Profile.



Grip Rail Profile

Al, anodized

A [cm ²]	m [kg/m]
2.80	0.76

2.80 0.76

natural, cut-off max. 3000 mm

0.0.432.09

natural, 1 pce., length 3000 mm

0.0.452.17

Grip Rail Cap Set

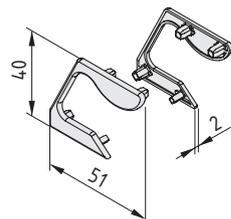
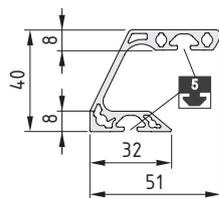
Grip Rail Cap, right, PA-GF, black

Grip Rail Cap, left, PA-GF, black

m = 3.5 g

1 set

0.0.432.28



Grip Rail Profile X

Al, anodized

A [cm ²]	m [kg/m]
3.43	1.01

3.43 1.01

natural, cut-off max. 3000 mm

0.0.494.59

natural, 1 pce., length 3000 mm

0.0.494.58

Grip Rail Cap Set X

Grip Rail Cap right, PA-GF

Grip Rail Cap left, PA-GF

m = 3.2 g

black, 1 set

0.0.613.12

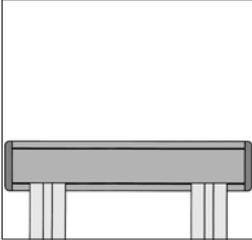
grey similar to RAL 7042, 1 set

0.0.495.09

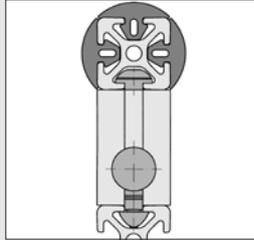


Grip Cover Profiles

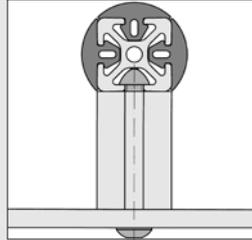
- Rubber covering for a secure grip
- Suitable for grips of any size made using standard profiles
- Ideal for heavy-duty doors



Discontinuation of the Grip Cover Profile for right-angled profile connections.

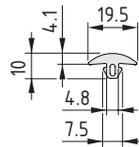


Can be connected using Standard or Universal Fastening Set.



Can be connected from the inside of the door using T-Slot Nut St and Button-Head Screw ISO 7380.

8



Grip Cover Profile 5 20x4

5

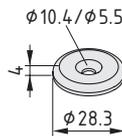
TPE
Hardness 73 Sh A
Oil, UV and water resistant
m = 78.2 g/m

black, cut-off max. 20 m

0.0.437.03

black, 1 roll length 20 m

0.0.437.05



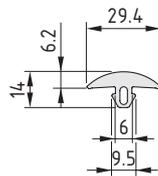
Grip End Cap 5 D28

5

PA-GF
m = 1.9 g

black, 1 pce.

0.0.437.06



Grip Cover Profile 6 30x6

6

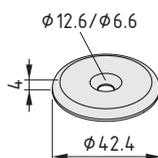
TPE
Hardness 65 Sh A
Oil, UV and water resistant
m = 170 g/m

black, cut-off max. 20 m

0.0.441.84

black, 1 roll length 20 m

0.0.441.86



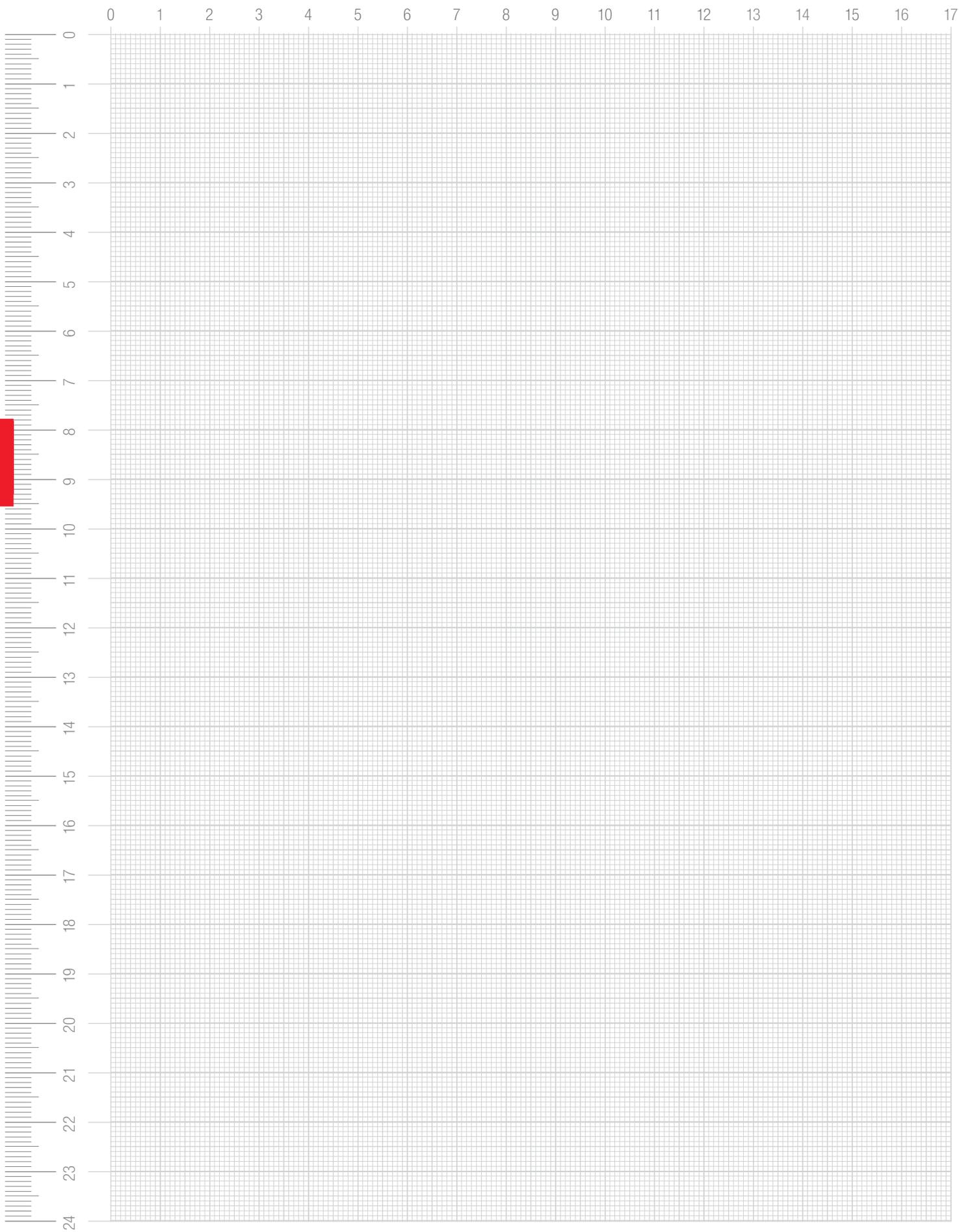
Grip End Cap 6 D42

6

PA-GF
m = 4.0 g

black, 1 pce.

0.0.441.87





LOCKS AND CATCHES

9

Door Catches
Locking Systems
Door Locks

Locks and Catches
Products in this section



Magnetic Catches

- Simple latch for sliding and swing doors
- Some catches with variable holding force

📄291



Magnetic Door Stops

- Combination of Door Stop and Magnetic Catch
- Lead-in wedge, Limit Stop and buffer in one

📄292



Ball Latch

- Low-wear door catch
- Holds firm with an audible click

📄293



Catch Mounting Bracket

- Universal fastening for Magnetic Latches and Ball Latches
- Suitable for all modular dimensions

📄294



Door Latch

- Construction height of just 12 mm for narrow door gap
- Simple and effective door closure

📄295



Locking Systems with escutcheons/grips

- Lock and grip can be combined in one unit
- For frameless panel elements

📄296



Door Lock 6-8 Zn

- Particularly stable Lock System
- Fitted on the outside, to the surround and door frames

📄299



Door Lock X 8 Zn

- Designed for Profiles X and Line XMS
- Stable and secure

📄300



Door Locks 8

- A simple means of securing sliding and swing doors
- No profile machining required

📄301



Integrated Lock System 8

- Can be converted from a pawl latch to a rod latch
- Locks at up to three points

📄302



Lock System 6-8

- Universal fastening system for right and left-handed doors
- Uses conventional mortise locks in line with DIN 18251

📄304



Dual-Rod Mesh Lock System

- Special mechanism to enable secure fitting to dual rod meshes
- Uses conventional mortise locks in line with DIN 18251

📄306



Sliding-Door Pin Lock

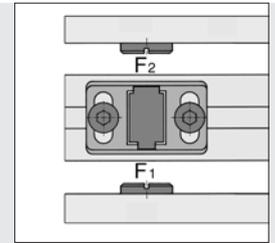
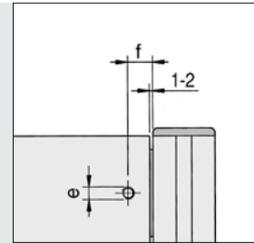
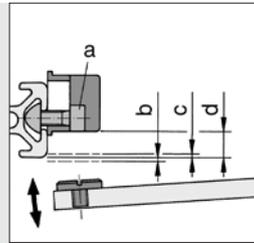
- Pin locks sliding doors together
- Installed directly into the panel element

📄307



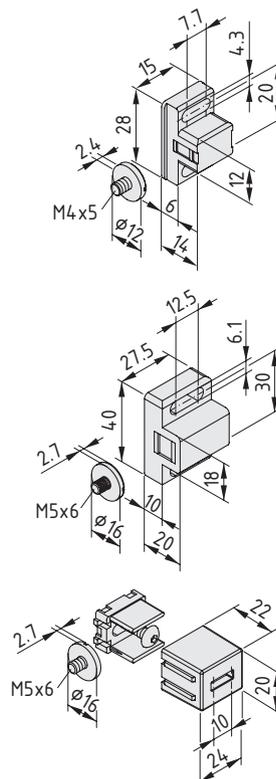
Magnetic Catches Magnetic Catch X

- Simple latch for sliding and swing doors
- Some catches with variable holding force
- Products from Line X also available



Magnetic Catches are particularly suitable for latching swing and sliding doors. Turning the Magnetic Catch through 180° enables users to choose between two different holding forces (this does not apply to Magnetic Catch X). The Magnetic Catches can be adjusted to the thickness of the panel element using the mounting slots. In conjunction with Catch Mounting Brackets, they can also be used on doors with profile frames.

	5	8	Line X
a Screw DIN 912	M4x12 DIN 912	M6x20 DIN 912	M5x16 ISO 7380
b [mm]	1	-	-
c [mm]	-	1	6
d [mm]	7	14	8
e	M4	M5	M5
f [mm]	8	10	9
F1 [N]	3	10	20
F2 [N]	5	20	20



Magnetic Catch 5



PA-GF
Flat head screw DIN 921-M4x5, St, bright zinc-plated as holding plate
m = 9.0 g

black, 1 pce.	0.0.391.32
grey, 1 pce.	0.0.642.28

Magnetic Catch 8



PA-GF
Flat head screw DIN 921-M5x6, St, bright zinc-plated as holding plate
m = 34.0 g

black, 1 pce.	0.0.196.48
---------------	------------



Magnetic Catch X



Housing base, die-cast zinc
Housing cap, PA-GF, grey
Flat head screw DIN 921-M5x6, St, bright zinc-plated as a holding plate
Button-Head Screw ISO 7380-M5x16, St, stainless
m = 38.0 g

1 set	0.0.601.70
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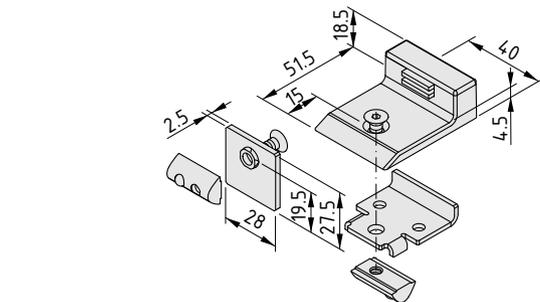
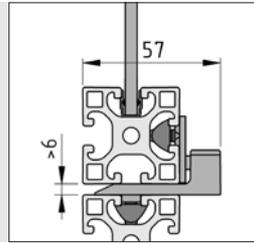
Magnetic Door Stops 8

- Combination of Door Stop and Magnetic Catch
- Lead-in wedge, Limit Stop and buffer in one
- Protects profile edges



The Door Stop is fastened to a Line 8 groove in the outer frame and forms a lead-in wedge, a buffer and the limit stop (limiting the penetration depth for the modular dimension 40 mm).

Closing force $F = 40 \text{ N}$

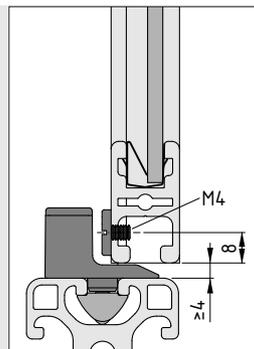


Magnetic Door Stop 8



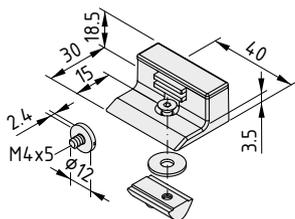
- Housing, PA-GF
- Insert plate, St, bright zinc-plated
- Stop plate, St, bright zinc-plated
- 2 T-Slot Nuts V 8 St M5, bright zinc-plated
- Countersunk Screw DIN 7991-M5x12, St, bright-zinc-plated
- Countersunk Screw DIN 7991-M5x14, St, bright zinc-plated
- $m = 76.0 \text{ g}$

black, 1 set	0.0.601.30
grey, 1 set	0.0.600.73



Making sure doors keep themselves shut: The Magnetic Door Stop for Clamp Profile 8 32x18 is the ideal complement to Clamp Profile 8 32x18 (0.0.373.67), which can be used to build windows and doors with especially narrow frames. Clamping springs in a special groove on the Clamp Profile hold the panel elements steady and firmly in place.

The Magnetic Door Stop fits harmoniously into the frame and holds doors closed. The closing force is 40 N.



Magnetic Door Stop for Clamp Profile 8 32x18



- Casing, PA-GF, grey
- Countersunk Screw DIN 7991-M4x12, St, bright zinc-plated
- Washer DIN 9021-5.3, St, bright zinc-plated
- T-Slot Nut V 8 St M4, bright zinc-plated
- Flat head screw DIN 921-M4x5, St, bright zinc-plated as holding plate
- $m = 31.0 \text{ g}$

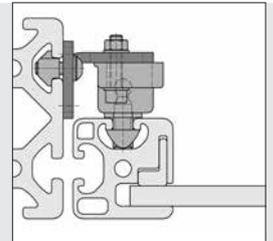
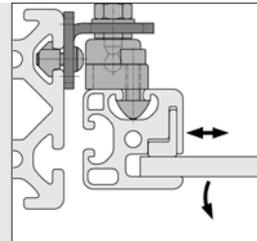
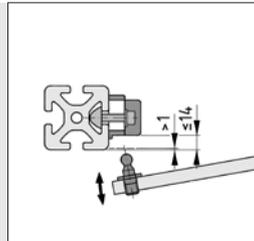
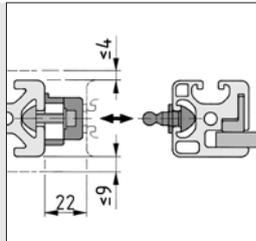
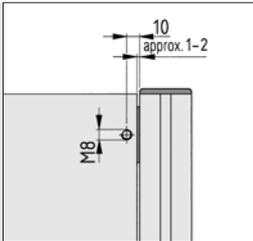
1 set	0.0.669.30
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Ball Latch

The powerful solution for virtually any type of door

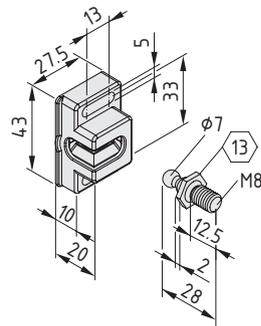
- Low-wear door catch
- Holds firm with an audible click



The mounting slots in the Ball Latch casing mean that the sliding door and Stand Profile can be offset. Recommended fastening to the profile: Hexagon Socket Head Cap Screw DIN 912-M5 and washer DIN 125-5.3.

Use of Catch Mounting Bracket permits narrow door gap.

9



Ball Latch 8 PA



PA-GF, black
 Ball pin St, bright zinc-plated
 Holding force_{max} = 75 N
 m = 25.0 g

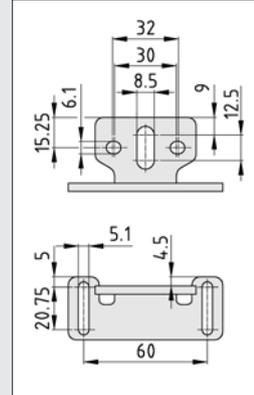
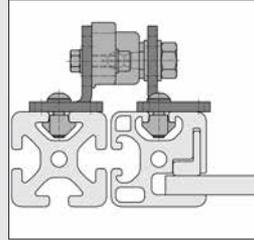
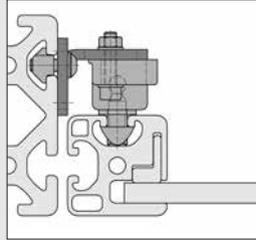
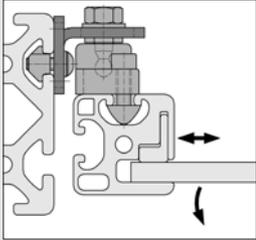
1 pce.

0.0.388.20



Catch Mounting Bracket

- For easy fastening of Magnetic Latches and Ball Latches
- Suitable for all modular dimensions



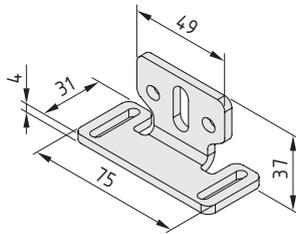
Application examples of a Catch Mounting Bracket with Ball Latch 8 for swing and sliding doors.

Depending on the particular application, either the ball pin (Ball Latch 8 PA), the holding plate (magnetic catch) or the housings of the relevant latches can be secured to the Catch Mounting Bracket.

By combining two Catch Mounting Brackets it is also possible to use latches to lock together profiles of the same size, minimising the gap between them.

If the Catch Mounting Bracket is adjusted to the extreme of the slots, it may be necessary to use an appropriate washer between it and the profile to prevent tilting.

The connection is made on the profile side using M5 screws fitted into slots. DIN 125 washers must be used.



Catch Mounting Bracket

St
m = 88.0 g

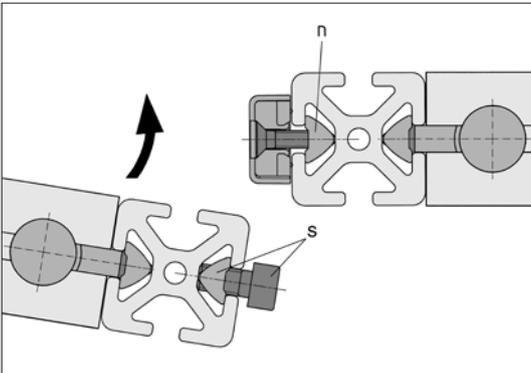
black, 1 pce.

0.0.475.06



Door Latch

- Construction height of just 12 mm for narrow door gap
- Holding force 40 N



Profile	n	s
6	T-Slot Nut 6 St M4	Screw DIN 912-M6x12 T-Slot Nut 6 St M6
8	T-Slot Nut 8 Zn M4	Screw DIN 912-M6x14 T-Slot Nut 8 St M6

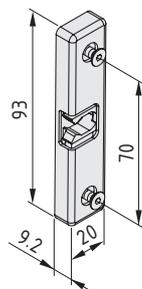
- Hexagon Socket Head Cap Screws [158](#)
- T-Slot Nuts St [138](#)
- T-Slot Nuts Zn [143](#)

The Door Latch Zn can be attached to any combination of Line 6 and 8 Profiles.

The length of the Hexagon Socket Head Cap Screw (s) depends on the profile line used.

The T-Slot Nuts (n) with thread M4 for fastening the Door Latch Zn should be selected according to the profile line used.

9



Door Latch Zn

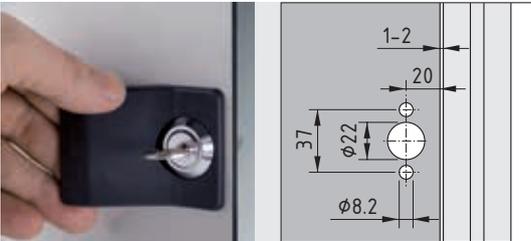
Die-cast zinc, bright zinc-plated
 Cap PA-GF, black
 2 Countersunk Screws DIN 7991-M4x16, bright zinc-plated
 m = 66.0 g

1 set 0.0.473.62



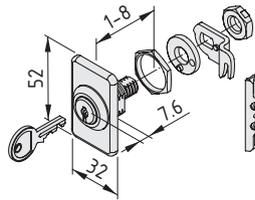
Locking Systems with Escutcheons/Grips

- Lock and grip can be combined in one unit
- For frameless panel elements
- With Cylinder or Double-Beard Lock



The panel element is processed for fitting the Lock System with escutcheon/grip.

9



Locking System 5, Cylinder Lock with escutcheon



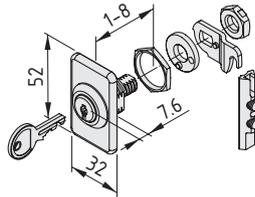
Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 96.0 g

right-hand application, 1 set

0.0.619.42

left-hand application, 1 set

0.0.619.43



Locking System 6, Cylinder Lock with escutcheon



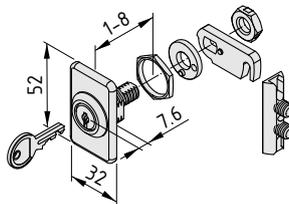
Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 100.0 g

right-hand application, 1 set

0.0.619.33

left-hand application, 1 set

0.0.619.35



Locking System 8, Cylinder Lock with escutcheon



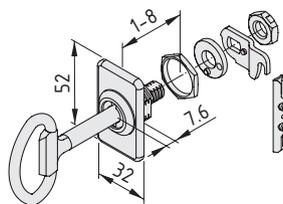
Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 118.0 g

right-hand application, 1 set

0.0.619.26

left-hand application, 1 set

0.0.619.63



Locking System 5, Double-Beard Lock with escutcheon



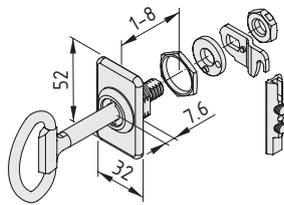
Double-beard insert
Key, locking bar, nab
Notes on Use and Installation
m = 126.0 g

right-hand application, 1 set

0.0.619.50

left-hand application, 1 set

0.0.619.52

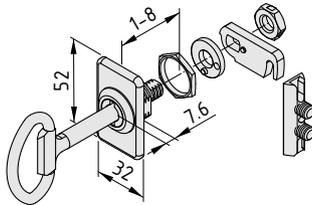


Locking System 6, Double-Beard Lock with escutcheon



Double-beard insert
Key, locking bar, nab
Notes on Use and Installation
m = 130.0 g

right-hand application, 1 set	0.0.619.38
left-hand application, 1 set	0.0.619.39

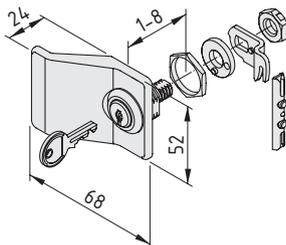


Locking System 8, Double-Beard Lock with escutcheon



Double-beard insert
Key, locking bar, nab
Notes on Use and Installation
m = 148.0 g

right-hand application, 1 set	0.0.619.27
left-hand application, 1 set	0.0.619.64

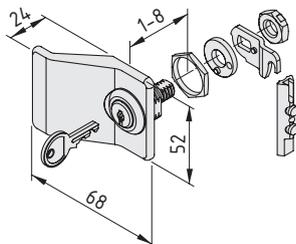


Locking System 5, Cylinder Lock with grip



Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 108.0 g

right-hand application, 1 set	0.0.619.44
left-hand application, 1 set	0.0.619.45

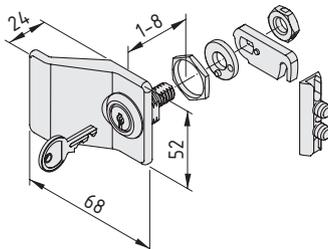


Locking System 6, Cylinder Lock with grip



Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 112.0 g

right-hand application, 1 set	0.0.619.36
left-hand application, 1 set	0.0.619.37

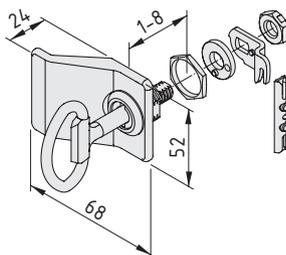


Locking System 8, Cylinder Lock with grip



Cylinder Lock, keys identical
Key, locking bar, nab
Notes on Use and Installation
m = 130.0 g

right-hand application, 1 set	0.0.619.28
left-hand application, 1 set	0.0.619.65

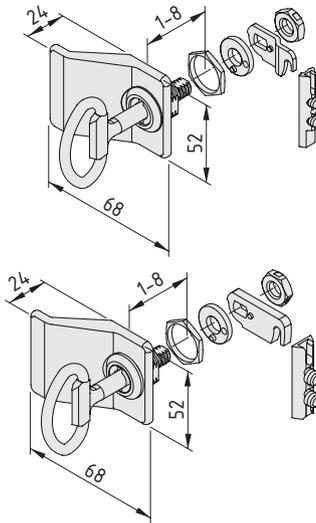


Locking System 5, Double-Beard Lock with grip



Double-beard insert
Key, locking bar, nab
Notes on Use and Installation
m = 138.0 g

right-hand application, 1 set	0.0.619.55
left-hand application, 1 set	0.0.619.57



Locking System 6, Double-Beard Lock with grip



Double-beard insert
 Key, locking bar, nab
 Notes on Use and Installation
 m = 142.0 g

right-hand application, 1 set	0.0.619.40
left-hand application, 1 set	0.0.619.41

Locking System 8, Double-Beard Lock with grip



Double-beard insert
 Key, locking bar, nab
 Notes on Use and Installation
 m = 160.0 g

right-hand application, 1 set	0.0.619.29
left-hand application, 1 set	0.0.619.66



Door Lock 6-8 Zn

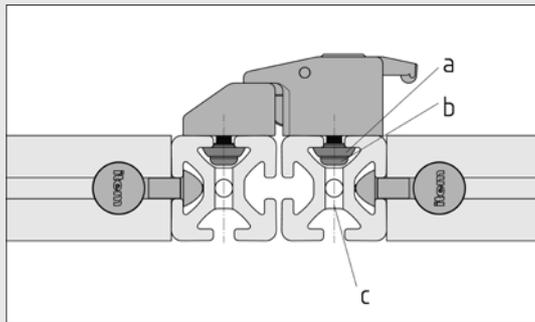
- Particularly stable Lock System
- Fitted on the outside, to the surround and door frames



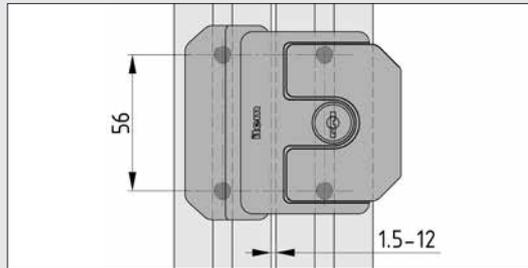
Door Lock 6-8 Zn is a lock system for swing doors that can be screwed onto door frames and fixed door frames constructed from Line 6 or 8 Profiles.

Fitted with an ergonomic swivel handle, Door Lock 6-8 Zn is the perfect solution for doors that are opened and closed frequently. The spring-loaded latch engages in the lock case secured to the outer frame.

An integrated cylinder lock can be used to lock the latch in position.

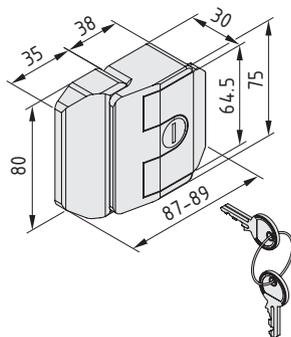


Door Lock 6-8 Zn screwed to profile door frame and fixed outer frame



Profile bore grids for attaching Door Lock 6-8 Zn

	6	8
a	Washer DIN 125-6.4	Locating Washer 8 D6 (0.0.444.41)
b	Button Head Screw M6x10 (8.0.002.37)	Button Head Screw M6x16 (8.0.000.63)
c	∅ 6	∅ 7



Door Lock 6-8 Zn



Cylinder lock (all keys identical)
 Lock housing, die-cast zinc, black
 Lock case, die-cast zinc, black
 4 Square nut inserts M6, St, bright zinc-plated
 m = 560.0 g

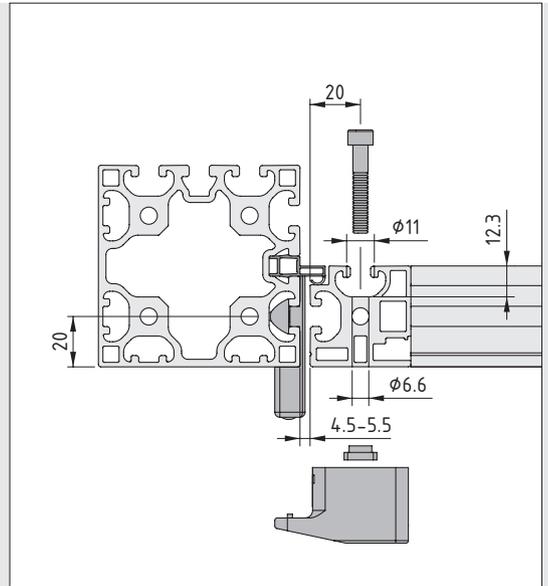
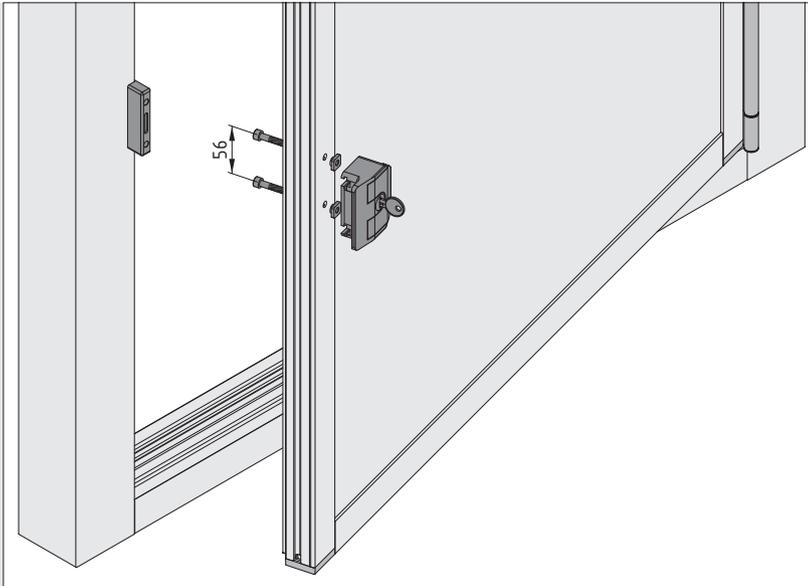
1 pce.

0.0.488.45

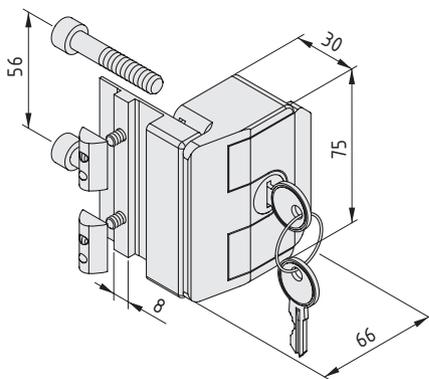


Door Lock X 8 Zn

- Stable and secure thanks to concealed screws
- Designed for Profiles X and Line XMS
- Fitted on the outside, to the surround and door frames



Door Lock X 8 Zn uses the profile groove in the door gap as a concealed fastening option. It can be installed at the ideal ergonomic height. All fastening screws are safely concealed when the door is closed.



Door Lock X 8 Zn



- Cylinder Lock, (all) keys identical
- Lock housing, die-cast zinc, white aluminium
- Lock case X 8, die-cast zinc, white aluminium
- 2 Hexagon Socket Head Cap Screws DIN 912-M6x35, St, bright zinc-plated
- 2 Countersunk Screws DIN 7991-M5x12, St, bright zinc-plated
- 2 T-Slot Nuts 8 St M5, St, bright zinc-plated
- 2 square nut inserts M6, St, bright zinc-plated
- m = 540.0 g

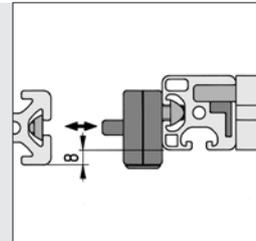
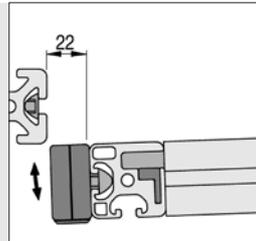
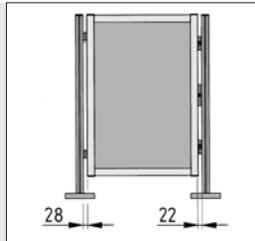
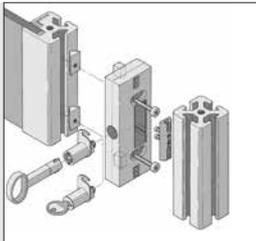
1 set

0.0.652.66



Door Locks 8

- A simple means of securing sliding and swing doors
- No profile machining required
- With Cylinder or Double-Beard Lock



Application example for door construction:
 Clearance on left 28 mm with Hinges 8 40 Zn and on right
 22 mm with Door Rabbets 8, in combination with Door Lock 8.

Depending on the application, the anti-torsion blocks in the housing can be repositioned.
 The nabs have two different mounting positions for sliding and swing doors.

9

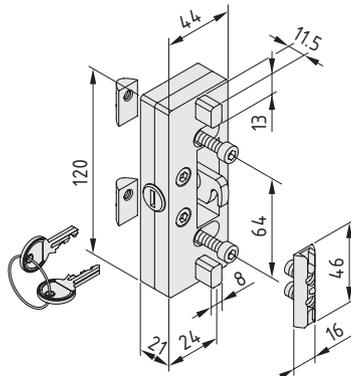
Door Lock 8 with Cylinder Lock



Cylinder lock (all keys identical)
 Housing and anti-torsion blocks, PA-GF, black
 2 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
 2 T-Slot Nuts 8 St M6, bright zinc-plated
 Key, locking bar, nab
 m = 204.0 g

1 set

0.0.265.08



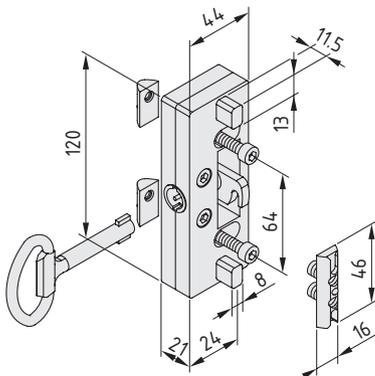
Door Lock 8 with Double-Beard Insert



Double-beard insert
 Housing and anti-torsion blocks, PA-GF, black
 2 Hexagon Socket Head Cap Screws DIN 912-M6x25, St, bright zinc-plated
 2 T-Slot Nuts 8 St M6, bright zinc-plated
 Key, locking bar, nab
 m = 237.0 g

1 set

0.0.265.09

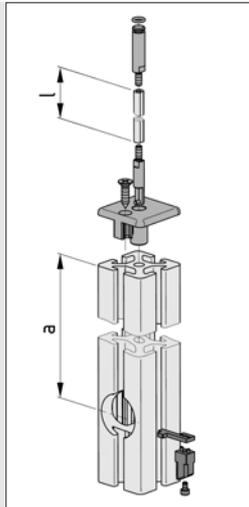
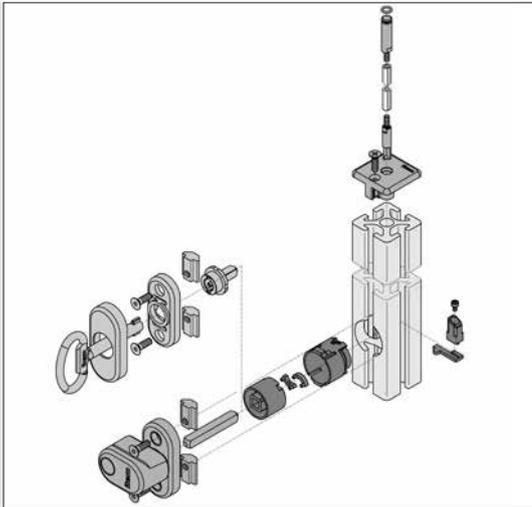




Integrated Lock System 8

From a pawl latch to a rod latch

- Locking system in a Line 8 groove
- Locks at up to three points
- Installed directly in the door profile
- Can be operated from both sides



$l = a - 60 \text{ mm}$

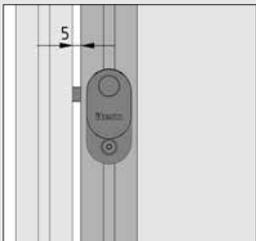


The basic version of the door lock with Integrated Lock System 8 consists of Rotating Pawl Latch 8 and at least one Door Knob.

A Rod Latch 8 is required for the rod for both the upper and lower ends of the door.

A counterbore with a diameter of 30 mm must be drilled into the door profile for holding the Integrated Lock System. A commercially available counterbore drill (3-cutter with $\varnothing 11 \text{ mm}$ guide pin or larger) or Step Drill, Universal Connection 12 is required for this purpose. The $\varnothing 30 \text{ mm}$ counterbore must be 25 mm deep.

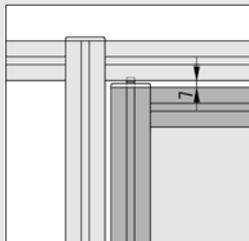
The pawl latch engages into the Profile 8 groove of the door frame adjacent.



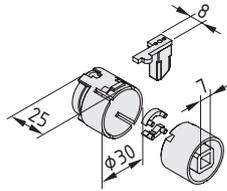
The gap between the door profile and the lateral door frame must not exceed 5 mm.



The rods of the Rod Latches move out of the core bore in the door profile and engage in the Profile 8 groove of the door frame profile adjacent.



The gap between the door profile and the upper door frame must not exceed 7 mm.

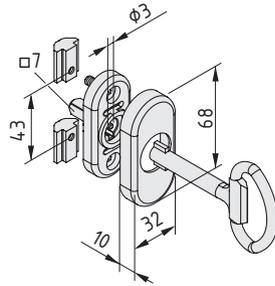


Rotating Pawl Latch 8



Pawl, die-cast zinc, bright zinc-plated
 2 alternating stops, die-cast zinc, bright zinc-plated
 Crank, die-cast zinc, bright zinc-plated
 Connecting plate, St
 Glide bush, POM, black
 Cap Screw DIN 912-M3x5, St, bright zinc-plated
 Notes on Use and Installation
 m = 50.0 g

1 set 0.0.476.96

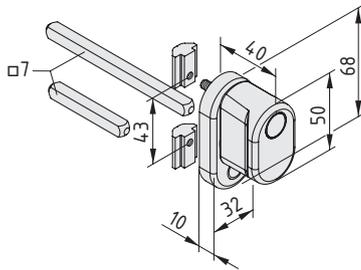


Double-Beard Insert



Double-beard key insert, PA-GF, black
 Double-beard key, GD-Zn, bright zinc-plated
 2 T-Slot Nuts 8 Al M5
 2 Countersunk Screws DIN 7991-M5x16, St, bright zinc-plated
 Lock body, POM, black
 Lock body cover, PA, black
 m = 80.0 g

1 set 0.0.486.48

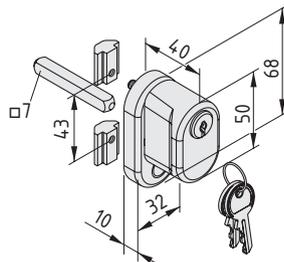


Door Knob



Door Knob, PA, black
 Square pin 56 mm long, St, bright zinc-plated
 Square pin 112 mm long, St, bright zinc-plated
 2 T-Slot Nuts 8 Al M5
 2 Countersunk Screws DIN 7991-M5x16, St, bright zinc-plated
 m = 128.0 g

1 set 0.0.486.79

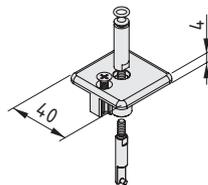


Door Knob, Lockable



Door Knob, PA, black, with lock insert
 2 keys
 Square pin 56 mm long, St, bright zinc-plated
 2 T-Slot Nuts 8 Al M5
 2 Countersunk Screws DIN 7991-M5x16, St, bright zinc-plated
 m = 131.0 g

1 set 0.0.486.80

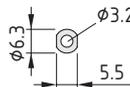


Rod Latch 8



Cap, PA-GF, black
 Locking pin, St, stainless
 Rod actuator pin, St
 O-ring DIN 3771 5.5x1.5, NBR, black
 Self-tapping screw DIN 7982-4.2x16, St, black
 m = 30.0 g

1 set 0.0.476.98



Tube D6.3x1.6 5.5 A/F



Al, anodized
 m = 58 g/m
 natural, cut-off max. 2000 mm
 natural, 1 pce., length 2000 mm

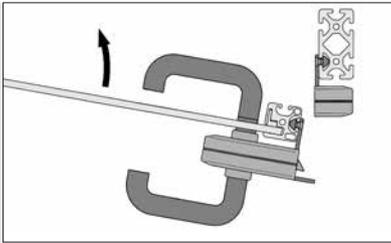
0.0.476.72

0.0.454.36

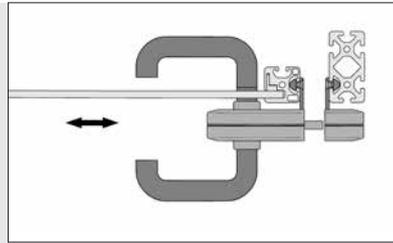


Lock System 6-8

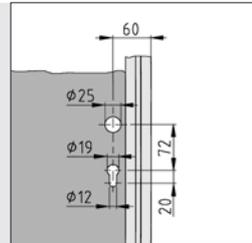
- Universal fastening system for right and left-handed doors
- Uses conventional mortise locks in line with DIN 18251
- Concealed screws prevent unauthorised disassembly



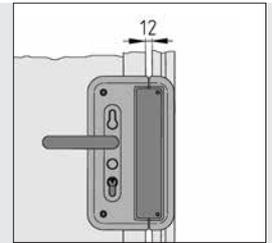
Swing door with inner-mounted lock, stop provided by the lock housing rabbet.



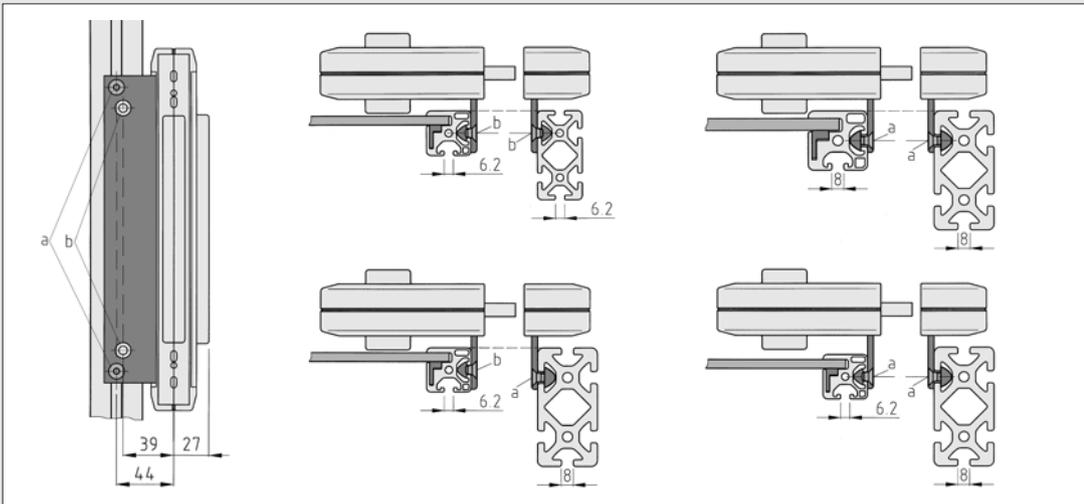
Lock System 6-8 fitted to a sliding door.



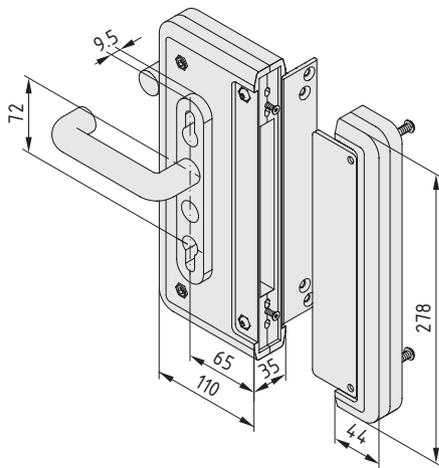
The panel element may need to be drilled for fitting door handles and standard cylinder locks. The lock housing contains the preformed openings for the holes. The distance to the edge of the door determines the position of the through holes in the panel element which are required for the door handle and profile cylinder.



The door gap does not depend on the profile line used.



Depending on the thickness of the panel element and frame profile used, it may be necessary to select a longer standard profile cylinder than the one in this catalogue (0.0.458.42).

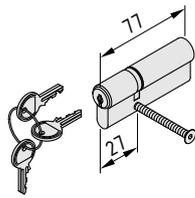


Lock System 6-8



Lock housing, PA-GF, black
 Lock case, PA-GF, black with nab, St
 Lock housing rabbet, St, black
 2 angle brackets, Al, anodized
 2 door handles, PA, black
 Spacer sleeve, PA, black
 2 flange nuts M4, St, black
 2 Countersunk Screws DIN 7991-M4x12, St, bright zinc-pl.
 4 sleeves, St, bright zinc-plated
 Notes on Use and Installation
 m = 1.3 kg

1 set 0.0.458.33

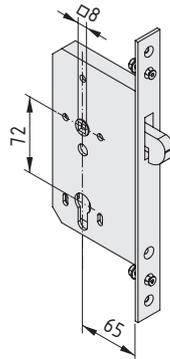


Profile Cylinder



Cylinder matt nickel-plated, all keys identical
 Countersunk Screw M5x80, St
 3 keys
 m = 250.0 g

1 pce. 0.0.458.42

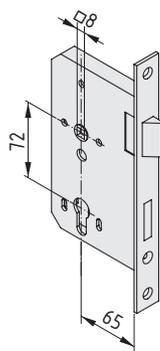


Sliding-Door Lock



Lock insert, St, suitable for standard cylinder locks
 2 drive nuts M4, St, black
 2 Countersunk Screws DIN 7991-M4x12, St, bright zinc-plated
 m = 812.0 g

1 set 0.0.458.34



Swing-Door Lock



Lock insert with movable latch, St, suitable for standard cylinder locks
 m = 850.0 g

1 pce. 0.0.458.35

Fastening Set 6 for Lock System 6-8



2 T-Slot Nuts 6 St M6, bright zinc-plated
 2 Counters. Screws DIN 7991-M6x12, St, bright zinc-plated
 m = 15.0 g

1 set 0.0.459.05

Fastening Set 8 for Lock System 6-8



2 T-Slot Nuts 8 St M6, bright zinc-plated
 2 Counters. Screws DIN 7991-M6x14, St, bright zinc-plated
 m = 27.0 g

1 set 0.0.458.36

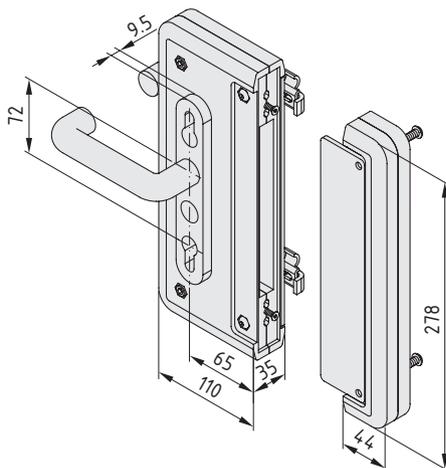
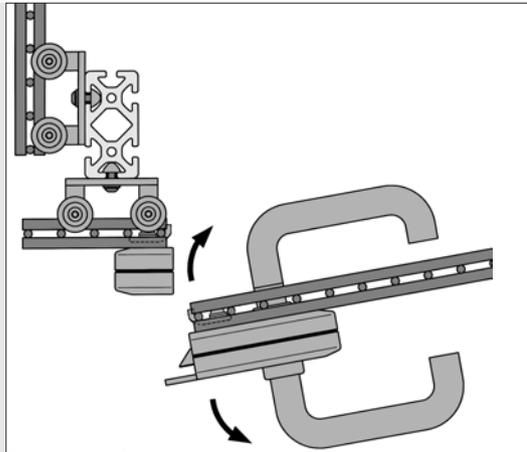


Dual-Rod Mesh Lock System

- Universal fastening system for right and left-handed doors
- Uses conventional mortise locks in line with DIN 18251
- Special mechanism to enable secure fitting to dual rod meshes



Thanks to its universal fastening options, the Dual-Rod Mesh Lock System allows left-handed or right-handed fitting. A hole may need to be made in the Dual-Rod Mesh to allow the door handle to be fed through. The Dual-Rod Mesh Lock System includes all required fixing elements. Clamping Elements and pressed steel plates enable secure mounting on all types of dual rod mesh.



Dual-Rod Mesh Lock System

- Lock housing, PA-GF, black
- Lock case, PA-GF, black with nab, St
- Lock housing rabbet, St, black
- 2 door handles, PA, black
- 4 Dual-Rod Mesh Clamping Elements, St, black
- 4 Dual-Rod pressed steel plates, St, black
- 4 sleeves, St, bright zinc-plated
- Fastening elements
- Notes on Use and Installation
- m = 1.7 kg

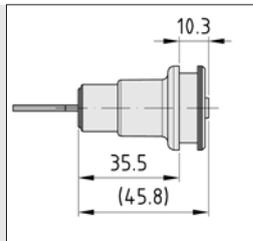
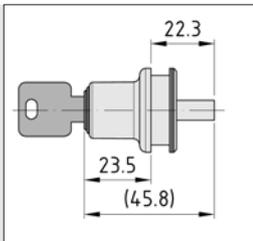
1 set

0.0.446.09

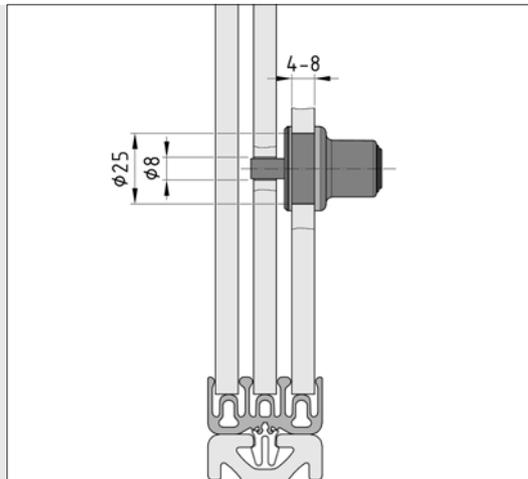


Sliding-Door Pin Lock

- Pin locks sliding doors together
- Installed directly into the panel element



Mounting dimensions, locked and unlocked.



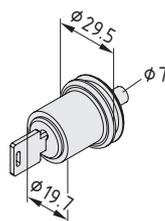
Processing the panel elements for accommodating the Sliding-Door Pin Lock and pin.

To lock a sliding-door system with n door elements, n-1 Sliding-Door Pin Locks will be required.

The Sliding-Door Pin Lock should be installed in close proximity to the guide profiles in order to offer maximum protection against the door being opened by force.

The different thicknesses of panel element (from 4 to 8 mm) can be compensated by using Spacers (2 and 0.7 mm thick).

9

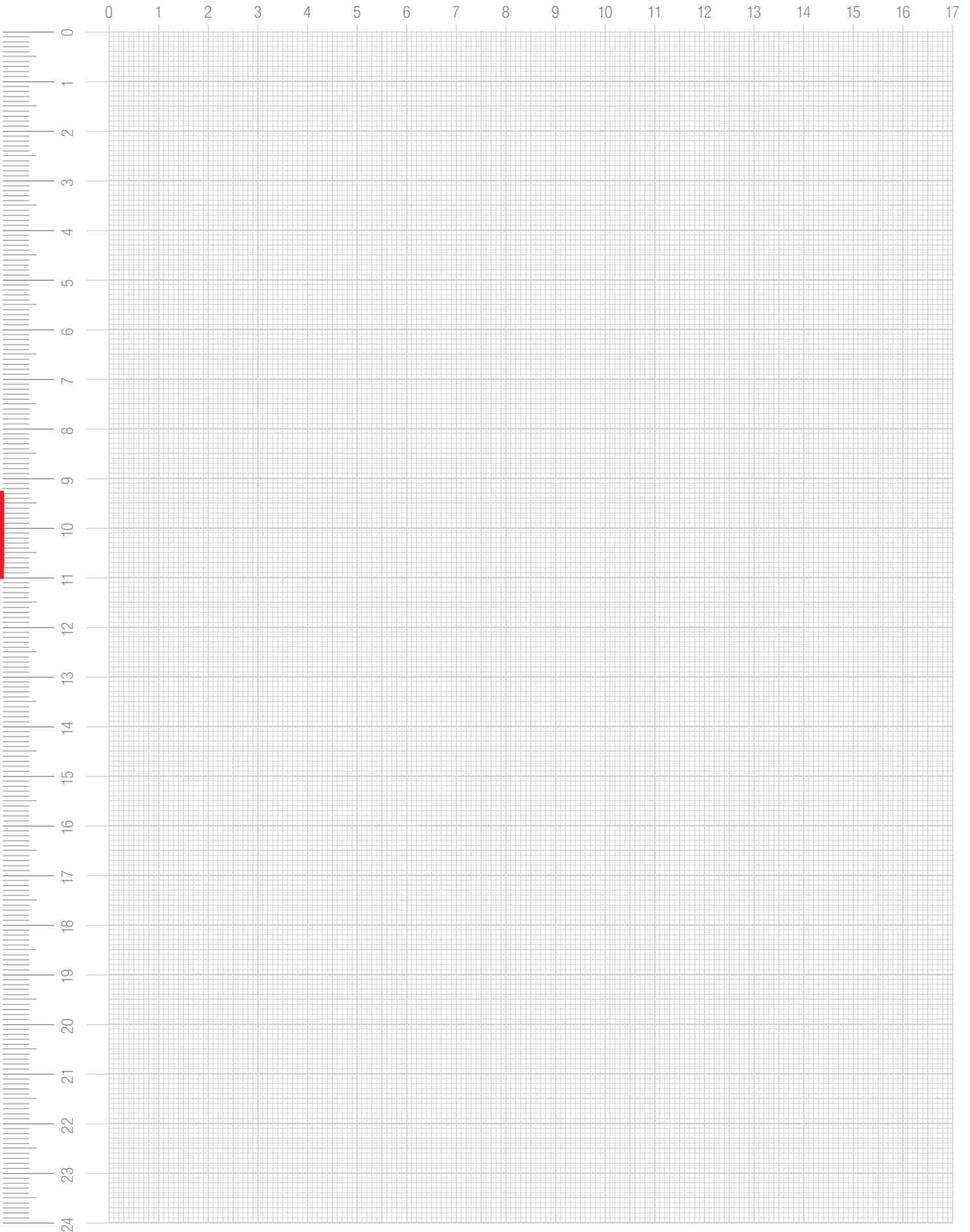


Sliding-Door Pin Lock

Die-cast zinc/St, black
 Washer, PA, black
 2 keys, identical
 Notes on Use and Installation
 m = 86.0 g

1 set

0.0.474.59





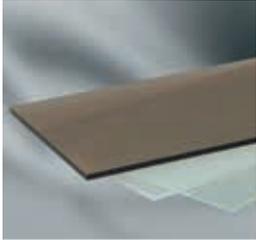
10

PANEL ELEMENTS

10

- Closed Panels
- Transparent Panels
- Non-Transparent Panels
- Mesh Panels
- Accessories for Panel Elements

Panel elements
Products in this section



Acrylic Glass

- Available in transparent, tinted and frosted versions
- Excellent dimensional stability

311



Polycarbonate

- Maximum protection for man and machine
- Impact-proof and available in clear and tinted versions

313



PET-G

- Transparent and deformation-free
- Impact-proof and the best optical properties

315



Sheet Material Al

- Stable and durable
- Available in two surface finishes

316



Compound Material Al

- Lightweight and insulating
- Anodized sheets with a PE core

316



Compound Material St

- Steel with a white plastic coating, suitable for use with magnets

317



Plastics

- For surfaces and panelling that have to take a lot of punishment
- Wear resistant and resistant to impacts
- Also available in ESD-safe version

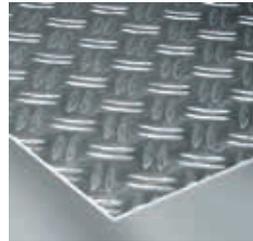
318



Multi-wall and Honeycomb Sheets

- For lightweight panels
- Simple to machine and install

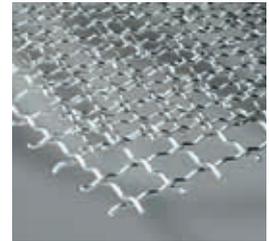
321



Chequer Sheet

- Stable and non-slip
- For steps and platforms

323



Corrugated Mesh

- Various mesh widths
- Easy to work with in aluminium
- Extra strong in steel

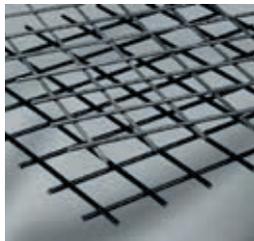
324



Dual-Rod Mesh

- Stable even without a frame
- Two mesh widths available

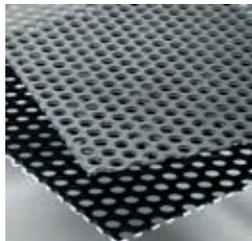
326



Steel Mesh

- Welded wires ensure exceptional stability
- Can be inserted directly into the profile groove

328



Perforated Sheet

- Stylish and air-permeable
- Suitable as screening and ventilation covering

329



Sound-Insulating Material

- Create a peaceful environment in offices and production halls
- For partitions in open-plan offices or as a panel element in hoods and enclosures

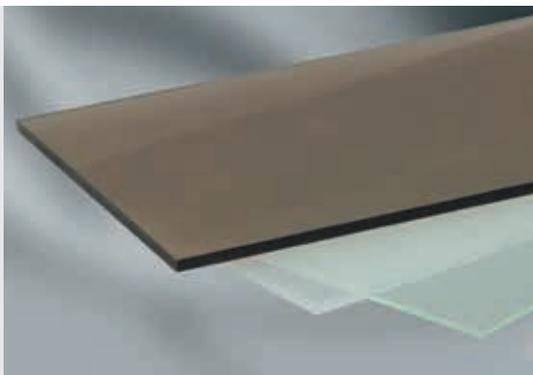
330



Edge Profile S3 Al

- Attractive finish
- Covering for sharp cut edges

331



Acrylic Glass

- Available in transparent, tinted and frosted versions
- Excellent dimensional stability

Cast acrylic glass with scratch-resistant surface is suitable for doors and casings. The panels can be polished to a high gloss.

Acrylic Glass XT in extruded quality has slightly lower mechanical and thermal load bearing capabilities and optical characteristics than cast panels. But in many applications, it can represent a cost-effective alternative.

Whether double-frosted, tinted, opal-white or glass-look, Acrylic Glass is ideal for use as translucent partitions designed to restrict visibility and for the stylish design of wall and ceiling elements. It exhibits excellent dimensional stability at higher temperatures coupled with good light diffusion and transmission characteristics, which also make it ideal for light boxes and backlit advertising areas.

Property	Value	Test Standard
Density	1.19 g/cm ³	ISO 1183
Water absorption	30 mg	ISO 62
Tensile strength	82 N/mm ²	ISO 527
Elongation at tear	5.6 %	ISO 527
Modulus of elasticity in tension	3300 N/mm ²	ISO 527
Impact resistance (without notch)	2 kJ/m ²	ISO 179
Vicat softening temperature	110 °C	ISO 306
Coefficient of thermal expansion	70 x10 ⁻⁶ K ⁻¹	DIN 52612
Construction material class	B 2	DIN 4102
Refractive index	1.49 n _D 20	ISO 489
Luminous transmission index clear / tinted	93.7% / 41%	DIN 5036-T3
Surface resistance	10 ¹⁴ Ohm	DIN 53482

Materials used in all the following products:

PMMA

Acrylic Glass 4mm XT

Thickness tolerance ± 5%

m = 4.60 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.492.09

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.492.05

Acrylic Glass 5mm XT

Thickness tolerance ± 5%

m = 5.75 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.492.16

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.492.15

Acrylic Glass 2mm

Thickness tolerance ± 10%

m = 2.30 kg/m²

clear, cut-off max. 3020x2000 mm 0.0.476.21

clear, 1 pce. panel dimensions. approx. 3050x2030 mm 0.0.476.13

Acrylic Glass 5mm

 Thickness tolerance $\pm 10\%$
 $m = 5.90 \text{ kg/m}^2$

clear, cut-off max. 3020x2000 mm	0.0.428.21
clear, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.457.06
tinted, cut-off max. 3020x2000 mm	0.0.388.97
tinted, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.404.79

Acrylic Glass 8mm

 Thickness tolerance $\pm 10\%$
 $m = 9.44 \text{ kg/m}^2$

clear, cut-off max. 2970x1970 mm	0.0.428.22
clear, 1 pce. panel dimensions. approx. 3000x2000 mm	0.0.457.07
tinted, cut-off max. 2970x1970 mm	0.0.026.46
tinted, 1 pce. panel dimensions. approx. 3000x2000 mm	0.0.404.74

Acrylic Glass 4mm double-frosted

 Thickness tolerance $\pm 10\%$
 $m = 4.60 \text{ kg/m}^2$

opal-white, cut-off max. 3020x2000 mm	0.0.492.36
opal-white, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.492.35
tinted, cut-off max. 3020x2000 mm	0.0.492.40
tinted, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.492.39
glass-look, cut-off max. 3020x2000 mm	0.0.492.38
glass-look, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.492.37



Polycarbonate

Maximum protection for man and machine

- Impact-proof and exceptionally safe
- Available in clear and tinted versions

Polycarbonate is impact resistant and is therefore ideal for use as a panel element for cost-effective enclosures, even in relatively small thicknesses. Its high strength and transparency mean that the material is particularly suitable for applications where it is important both to be able to monitor processes and yet provide adequate protection for personnel.

Property	Value	Test Standard
Density	1.2 g/cm ³	ISO 1183
Water absorption	8 mg	ISO 62
Tensile strength	60 N/mm ²	ISO 527
Elongation at tear	80 %	ISO 527
Modulus of elasticity in tension	2200 N/mm ²	ISO 527
Impact resistance (without notch)	doesn't break	ISO 179
Vicat softening temperature	145 °C	ISO 306
Coefficient of thermal expansion	65 x 10 ⁻⁶ K ⁻¹	DIN 52612
Construction material class	B 2	DIN 4102
Refractive index	1.585 n _D 20	ISO 489
Luminous transmission index clear / tinted	86% / 51%	DIN 5036-T3
Surface resistance	10 ¹⁴ Ohm	DIN 53482

Materials used in all the following products:

PC

Polycarbonate 2mm

Thickness tolerance ± 5%

m = 2.40 kg/m²

clear, cut-off max. 3020x2000 mm	0.0.479.61
clear, 1 pce. panel dimensions. approx. 3050x2030 mm	0.0.477.69

Polycarbonate 4mm

Thickness tolerance ± 5 %

m = 4.80 kg/m²

clear, cut-off max. 3020x2020 mm	0.0.483.50
clear, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.483.49

Polycarbonate 5mm

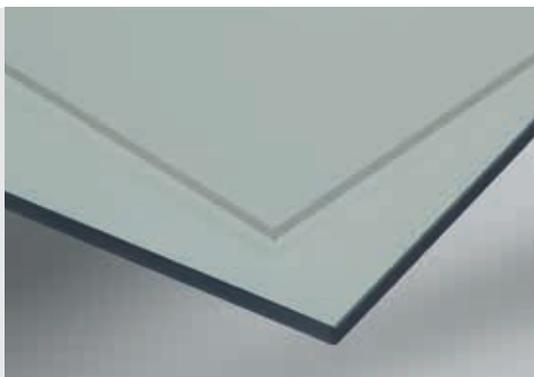
Thickness tolerance ± 5%

m = 6.00 kg/m²

clear, cut-off max. 3020x2020 mm	0.0.428.23
clear, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.457.14
tinted, cut-off max. 3020x2020 mm	0.0.428.24
tinted, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.457.15

Polycarbonate 8mmThickness tolerance $\pm 5\%$ m = 9.60 kg/m²

clear, cut-off max. 3020x2020 mm	0.0.428.25
clear, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.457.16
tinted, cut-off max. 3020x2020 mm	0.0.428.26
tinted, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.457.17



PET-G

Transparent and free from distortion

- Best optical properties
- Impact-proof
- Resistant to chemicals

PET-G (glycol-modified polyethylene terephthalate) is an impact-resistant, clear plastic used for constructing machine casings, protective housings and partitions, and is suitable for both indoor and outdoor use.

This highly transparent material exhibits a far higher resistance to impact than acrylic glass and is also easier to work with. It displays better optical characteristics than polycarbonates and is more resistant to chemicals.

Property	Value	Test standard
Density	1.27 g/cm ³	D 1505
Tensile strength	50 N/mm ²	DIN 53455
Elongation at tear	54 %	DIN 53455
Modulus of elasticity in tension	2200 N/mm ²	DIN 53455
Impact resistance (without notch)	doesn't break	DIN 53453
Vicat softening temperature	82 °C	DIN 53460
Coefficient of thermal expansion	6.8 x10 ⁻⁵ K ⁻¹	DIN 53752
Construction material class	B 1	DIN 4102
Refractive index	1.57 n _D 20	DIN 53491
Luminous transmission index clear / tinted	88%	DIN 5036
Surface resistance	≥10 ¹⁶ Ohm	D 257

Materials used in all the following products:

PET

PET-G 4mm

Thickness tolerance ± 4%

m = 5.13 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.492.07

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.492.03

PET-G 5mm

Thickness tolerance ± 4%

m = 6.40 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.493.77

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.493.76

PET-G 6mm

Thickness tolerance ± 4%

m = 7.70 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.492.81

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.492.80

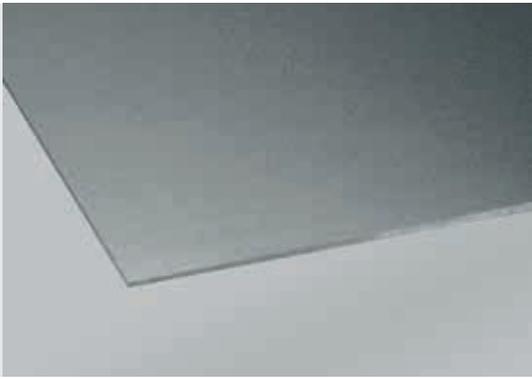
PET-G 7mm

Thickness tolerance ± 4%

m = 8.98 kg/m²

clear, cut-off max. 3020x2020 mm 0.0.492.08

clear, 1 pce. panel dimensions. approx. 3050x2050 mm 0.0.492.04



Sheet Material Al

- Stable and durable
- Available in two surface finishes

Sheet Material Al is suitable for machine casings of all types.

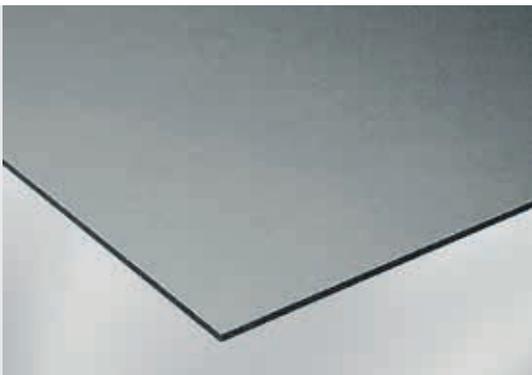
Property	Value
Density	2.7 g/cm ³
Modulus of elasticity	70,000 N/mm ²
Tensile strength	120 N/mm ²
Ductile yield A5	5 %
Anodized natural	E6/EV1
Min. layer thickness	10 µm
Layer hardness	250 - 350HV

Sheet Material Al 2mm

AlMg1
m = 5.40 kg/m²

cold rolled (not degreased), cut-off max. 2970x1470 mm	0.0.428.27
cold rolled (not degreased), 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.457.09
natural anodized, cut-off max. 2970x1470 mm	0.0.473.08
natural anodized, 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.473.09

10



Compound Material Al

- Lightweight and insulating

Compound Material Al consists of two anodized aluminium outer layers which are permanently bonded together by a PE core. It is ideal for lightweight doors and panelling.

Property	Value
Tensile strength R_m	> 130 N/mm ²
0.2 limit $R_{p0.2}$	> 90 N/mm ²
Ductile yield	> 8 %
Modulus of elasticity E	70,000 N/mm ²
Flexural strength	53 N/mm ²
Temperature resistance	- 50°C to + 80°C
Coefficient of thermal expansion	23x10 ⁻⁶ K ⁻¹
Construction material class in accordance with DIN 4102	B2

Compound Material Al 4mm

Al-PE compound
 m = 5.80 kg/m²

natural anodized, cut-off max. 2960x1470 mm	0.0.026.73
natural anodized, 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.457.21



Compound Material St

- With white plastic coating
- With easy-clean surface that can be written on
- Suitable for use with magnets

Simply ingenious – the composite panel that is suitable for use with magnets.
 The Compound Material comprises 5 layers (plastic film/steel/plastic/steel/plastic film).
 It can be used as a base for the magnetic Notice Holders or for “pinning up” notices with magnets.
 Available as a panel or a cut-off in the dimensions of your choice.

Property	Value
Tensile strength R _m	> 800 N/mm ²
Ductile yield	> 30 %
Modulus of elasticity E	400,000 N/mm ²
Temperature resistance	100°C



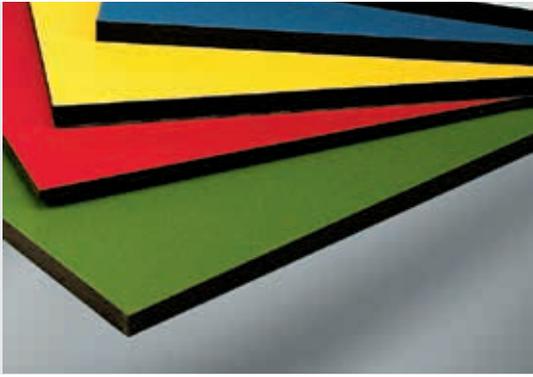
Note:

item also supplies compatible Whiteboard Markers for writing on Compound Material. These can be found in our special “Work Bench System” catalogue and online at: item24.de/en

Compound Material St 2 mm

St-PE compound
 m = 6.87 kg/m²

white similar to RAL 9016, cut-off max. 3020x1190 mm	0.0.636.04
white similar to RAL 9016, 1 pce. panel dimensions. approx. 3050x1220 mm	0.0.633.97



Plastics

- For surfaces and panelling that have to take a lot of punishment
- Wear resistant and resistant to impacts
- Antistatic surface
- Available in several colours

Plastic is a thermosetting material which is permanently laminated at high pressure and temperature. This gives it exceptional abrasion and impact resistance, making it suitable for panelling, table surfaces and partitions subject to high stresses.

It has antistatic surfaces.

Thanks to their hygienic melamine resin surface, Plastic panels have exceptional mechanical properties and high temperature resistance and are also particularly resistant to a large number of chemicals. Consequently, they can be used where substances such as

- laboratory and industrial chemicals
- solvents
- disinfectants
- colouring agents
- bleaching agents
- industrial oils and emulsions

act on the surface.

Some chemicals may, however, corrode the surface. This depends on the

- concentration
- exposure time
- temperature

of the agents used.

Changes to the dimensions of Plastic panels due to the absorption of moisture and thermal expansion should be taken into account when installing them in frame structures. These panels may warp if exposed to moisture on one side only.

Note:

RAL numbers of colours apply to varnishes.

Due to the different manufacturing processes, the brilliance and colouring of laminated Plastic panels can vary greatly. Consequently, if there is any doubt a comparison should always be made with original samples provided by your item sales partner.

Property	Value	Test standard
Density	1.4 g/cm ³	
Wearing resistance	450 min ⁻¹	EN 438 T2
Scratch resistance	3.0 N	EN 438
Flexural strength	110 N/mm ²	EN 438 T2
Modulus of elasticity	12,000 N/mm ²	EN 438 T2
Tensile strength	80 N/mm ²	EN 438 T2
Coefficient of thermal expansion	20 x10 ⁻⁶ K ⁻¹	DIN 52612
Construction material class	B 2	DIN 4102
Surface resistance	<10 ¹¹ Ohm	DIN 53482

The following applies to all the products below:

Resin-bonded cellulose laminate

similar to RAL colour code

Thickness tolerance $\pm 8\%$

Plastic 4mm

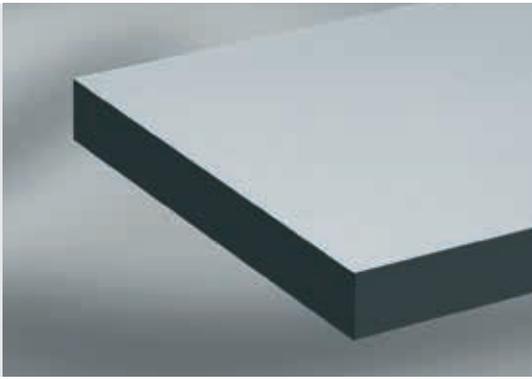
$m = 5.72 \text{ kg/m}^2$

white similar to RAL 9016, cut-off max. 2770x1820 mm	0.0.473.04
white similar to RAL 9016, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.473.05
green, similar to RAL 6000, cut-off max. 2770x1820 mm	0.0.619.16
green, similar to RAL 6000, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.619.17
red, similar to RAL 3000, cut-off max. 2770x1820 mm	0.0.428.43
red, similar to RAL 3000, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.33
yellow, similar to RAL 1034, cut-off max. 2770x1820 mm	0.0.428.44
yellow, similar to RAL 1034, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.28
blue, similar to RAL 5024, cut-off max. 2770x1820 mm	0.0.428.45
blue, similar to RAL 5024, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.27
grey, similar to RAL 7030, cut-off max. 2770x1820 mm	0.0.428.47
grey, similar to RAL 7030, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.30
grey, similar to RAL 7035, cut-off max. 2770x1820 mm	0.0.428.46
grey, similar to RAL 7035, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.29
black, similar to RAL 9017, cut-off max. 2770x1820 mm	0.0.474.37
black, similar to RAL 9017, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.473.12

Plastic 10mm

$m = 14.60 \text{ kg/m}^2$

white similar to RAL 9016, cut-off max. 2770x1820 mm	0.0.473.06
white similar to RAL 9016, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.473.07
green, similar to RAL 6000, cut-off max. 2770x1820 mm	0.0.619.14
green, similar to RAL 6000, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.619.15
red, similar to RAL 3000, cut-off max. 2770x1820 mm	0.0.428.89
red, similar to RAL 3000, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.26
yellow, similar to RAL 1034, cut-off max. 2770x1820 mm	0.0.428.90
yellow, similar to RAL 1034, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.23
blue, similar to RAL 5024, cut-off max. 2770x1820 mm	0.0.428.91
blue, similar to RAL 5024, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.22
grey, similar to RAL 7030, cut-off max. 2770x1820 mm	0.0.428.93
grey, similar to RAL 7030, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.24
grey, similar to RAL 7035, cut-off max. 2770x1820 mm	0.0.428.92
grey, similar to RAL 7035, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.457.25
black, similar to RAL 9017, cut-off max. 2770x1820 mm	0.0.474.36
black, similar to RAL 9017, 1 pce. panel dimensions. approx. 2800x1850 mm	0.0.473.16



Plastic ESD

For the protection of electronic components

- For maximum conductivity requirements
- Meets EPA requirements



The Plastic ESD panel is specifically designed for use in EPA workplaces where the handling of electronic components makes special safety precautions necessary (EPA = Electrostatic Protected Area).

The low discharge resistance ($7.5 \times 10^5 \Omega < R < 10^9 \Omega$) on the surface of the panel and in the core of the material allows it to be used as a table top without need for an additional conductive edge strip, or to be used in workpiece carriers with milling or drilled holes whose cut edges have the same discharge properties as the surface.

It has the same resistance to mechanical, thermal and chemical loading as the standard antistatic design. The presence of additives to facilitate electrostatic discharge can result in slight deviations in colour in the surface layer and core material.

Property	Value	Test Standard
Density	1.4 g/cm ³	
Wearing resistance	450 min ⁻¹	EN 438 T2
Scratch resistance	3.0 N	EN 438
Flexural strength	110 N/mm ²	EN 438 T2
Modulus of elasticity	12,000 N/mm ²	EN 438 T2
Tensile strength	80 N/mm ²	EN 438 T2
Coefficient of thermal expansion	$20 \times 10^{-6} \text{ K}^{-1}$	DIN 52612
Construction material class	B 2	DIN 4102
Surface resistance	$7.5 \times 10^5 \Omega < R < 10^9 \Omega$	DIN 53482

The following applies to all the products below:

Resin-bonded cellulose laminate

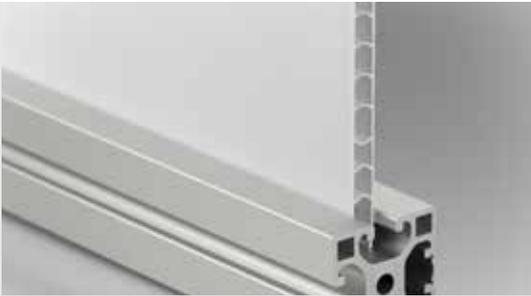
Thickness tolerance $\pm 8\%$

Plastic 4mm, ESD	
m = 5.70 kg/m ²	
grey, similar to RAL 7035, cut-off max. 2410x1190 mm	0.0.614.85
grey, similar to RAL 7035, 1 pce. panel dimensions. approx. 2440x1220 mm	0.0.614.86
Plastic 10mm, ESD	
m = 14.60 kg/m ²	
grey, similar to RAL 7035, cut-off max. 2410x1190 mm	0.0.614.87
grey, similar to RAL 7035, 1 pce. panel dimensions. approx. 2440x1220 mm	0.0.614.88
Plastic 16mm, ESD	
m = 24.25 kg/m ²	
grey, similar to RAL 7035, cut-off max. 2410x1190 mm	0.0.487.65
grey, similar to RAL 7035, 1 pce. panel dimensions. approx. 2440x1220 mm	0.0.487.64



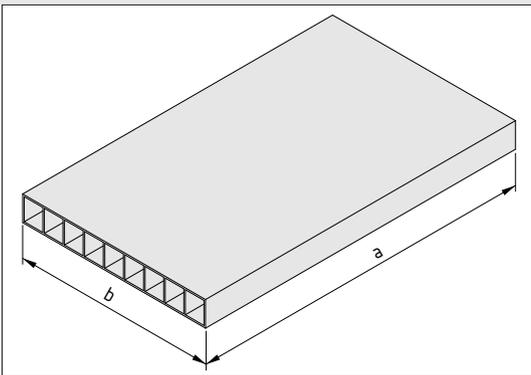
Multi-wall Sheet panels Honeycomb Sheet panels

- Easy to machine
- Quick to install
- Panel elements for all scenarios



When work has to move fast or a partition doesn't need to satisfy stringent safety requirements, Multi-wall Sheet panels are the answer. These lightweight panel elements made of easy-to-clean polypropylene can be cut to size with a knife and secured in place in a few easy steps. As a result, users can install a floor under a roller conveyor or splash protection between profiles in a matter of moments, for example.

The panels can be easily folded and bent along the direction of the internal walls. It offers a wide selection of additional panel elements for applications with more stringent requirements for load-carrying capacity.



Please note that the first dimension (a = length) relates to the side that runs parallel to the ribs.

10

Materials used in all the following products:

PP

Multi-wall Sheet 4.5 mm PP

Thickness tolerance $\pm 5\%$

Please note that the first dimension (length) relates to the side that runs parallel to the ribs.

$m = 0.90 \text{ kg/m}^2$

white, cut-off max. 3020x2020 mm	0.0.658.36
white, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.35
grey, cut-off max. 3020x2020 mm	0.0.658.39
grey, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.38

Multi-wall Sheet 8 mm PP

Thickness tolerance $\pm 5\%$

Please note that the first dimension (length) relates to the side that runs parallel to the ribs.

$m = 1.50 \text{ kg/m}^2$

white, cut-off max. 3020x2020 mm	0.0.658.41
white, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.40
grey, cut-off max. 3020x2020 mm	0.0.658.43
grey, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.42



Honeycomb Sheet panels are ideal for simple protective enclosures around machines. They prevent direct access, fend off minor impacts and are easy to clean.

Honeycomb Sheet is made from two smooth and even layers joined together by a honeycomb-shaped structure. Unlike Multi-wall Sheet panels, it is therefore rigid in all directions. Nevertheless, it can still be cut to size and fixed in place just as quickly.

item offers a wide selection of additional panel elements for applications with more stringent requirements for load-carrying capacity.

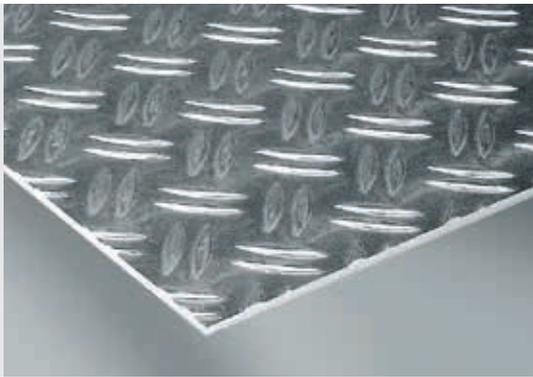
Honeycomb Sheet 4 mm PP

PP

Thickness tolerance $\pm 5\%$

$m = 1.30 \text{ kg/m}^2$

white, cut-off max. 3020x2020 mm	0.0.658.45
white, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.44
grey, cut-off max. 3020x2020 mm	0.0.658.47
grey, 1 pce. panel dimensions. approx. 3050x2050 mm	0.0.658.46



Chequer Sheet

- Stable and non-slip

Aluminium chequer sheet is used for walk-on surfaces or steps.

Property	Value
Density	2.7 g/cm ³
Modulus of elasticity	70,000 N/mm ²
Tensile strength	200 N/mm ²
Ductile yield A5	5%

Chequer Sheet Al 5mm

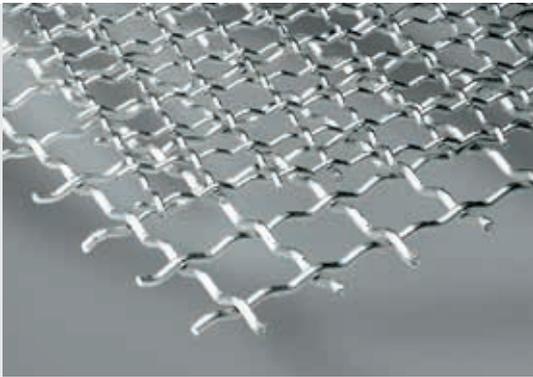
AlMg3

"Duett" chequering DIN EN 1386

Sheet Thickness 3.5 mm

m = 9.90 kg/m²

cold rolled (not degreased), cut-off max. 2970x1470 mm	0.0.428.53
cold rolled (not degreased), 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.457.18



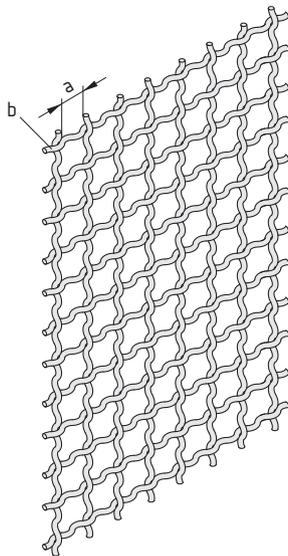
Corrugated Mesh Al

- For lightweight guards and enclosures
- Particularly easy to machine

Corrugated Meshes are suitable for guards, enclosures and partitions, in particular when combined with Clamp Profiles. The use of anodized aluminium wires enables them to be used both indoors and outdoors on a permanent basis.

Note on cutting Corrugated Mesh Al to size:
Because of the way the material behaves when cut, the cut-off tolerances are in DIN ISO 2768 tolerance class c.

Property	Value
Density	2.7 g/cm ³
Modulus of elasticity	70,000 N/mm ²
Tensile strength	120 N/mm ²
Ductile yield A5	5 %
Anodized natural	E6/EV1
Min. layer thickness	10 µm
Layer hardness	250 - 350HV



Corrugated Mesh Al 3mm 20x20

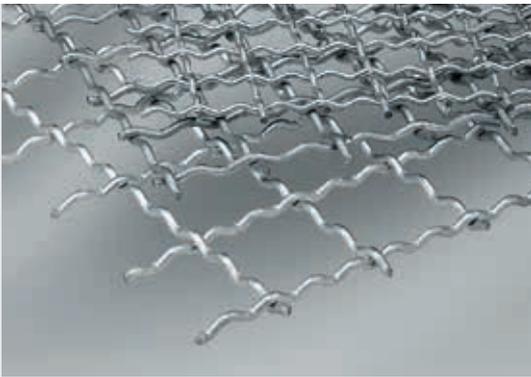
Al, anodized
Minimum cut-off width 150 mm
Mesh: 20x20 mm
Wire thickness: Ø 3 mm
m = 1.80 kg/m²

natural anodized, cut-off max. 2970x1780 mm	0.0.196.66
natural anodized, 1 pce. approx. 3000x1810 mm	0.0.436.93

Corrugated Mesh Al 4mm 30x30

Al, anodized
Minimum cut-off width 150 mm
Mesh: 30x30 mm
Wire thickness: Ø 4 mm
m = 2.10 kg/m²

natural anodized, cut-off max. 2970x1780 mm	0.0.265.13
natural anodized, 1 pce. approx. 3000x1810 mm	0.0.436.94



Corrugated Mesh St

- For high-strength fixtures
- Available in three mesh sizes

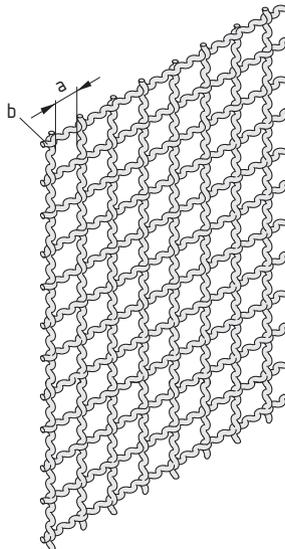
Corrugated Meshes St are ideal for safety equipment which is subject to high stresses because of the very rigid steel wire they employ. They are fixed in special Clamp Profiles. Corrugated Meshes St are made from electrogalvanized wires.

Note on cutting Corrugated Mesh St to size:
Because of the way the material behaves when cut, the cut-off tolerances are in DIN ISO 2768 tolerance class c.

Property	Value
Density	7.85 g/cm ³
Modulus of elasticity	210,000 N/mm ²
Tensile strength	350 N/mm ²
Galvanizing	DIN 50960 - Fe/Zn 12A

Materials used in all the following products:

St



Corrugated Mesh St 3mm 20x20

Minimum cut-off width 150 mm
Mesh: 20x20 mm
Wire thickness: \varnothing 3 mm
 $m = 5.00 \text{ kg/m}^2$

bright zinc-plated, cut-off max. 2970x1780 mm	0.0.428.32
bright zinc-plated, 1 pce. approx. 3000x1810 mm	0.0.457.36

Corrugated Mesh St 4mm 30x30

Minimum cut-off width 150 mm
Mesh: 30x30 mm
Wire thickness: \varnothing 4 mm
 $m = 6.20 \text{ kg/m}^2$

bright zinc-plated, cut-off max. 2970x1780 mm	0.0.428.34
bright zinc-plated, 1 pce. approx. 3000x1810 mm	0.0.457.37

Corrugated Mesh St 4mm 40x40

Minimum cut-off width 150 mm
Mesh: 40x40 mm
Wire thickness: \varnothing 4 mm
 $m = 4.50 \text{ kg/m}^2$

bright zinc-plated, cut-off max. 2970x1780 mm	0.0.428.36
bright zinc-plated, 1 pce. approx. 3000x1810 mm	0.0.457.38

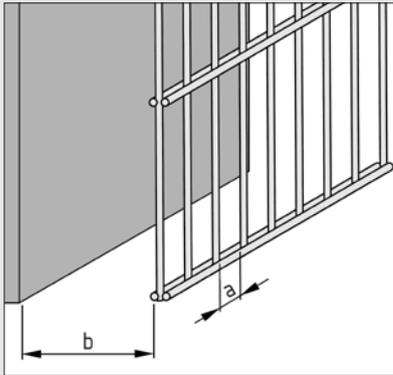


Dual-Rod Mesh

- Stable even without a frame
- Two mesh widths available

Inherently stable panel element for constructing free-standing protective fence structures. Available in two different mesh widths (25 and 50 mm).

The Dual-Rod Meshes are hot-dip galvanized to protect against corrosion. They can also be painted to suit customers' individual needs. Black Dual-Rod Meshes are supplied powder coated from the factory.



Property	Value
Density	7.85 g/cm ³
Modulus of elasticity	210,000 N/mm ²
Tensile strength	350 N/mm ²
Hot-dip galvanizing	Min. layer thickness 70 µm
Powder coating	Black RAL9005 Min. layer thickness 70 µm

The narrow openings of the mesh prevent people from reaching through (as required by EN 294).

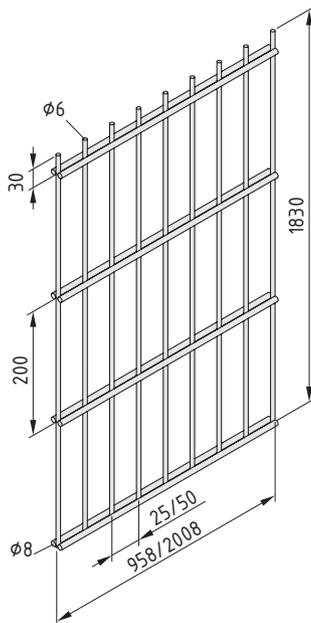
Property	Value	
Mesh width [mm]	25	50
Opening dimension a [mm]	19	44
Distance to danger zone b [mm]	> 120	> 850

10

Dual-Rod Mesh Hanger 

Materials used in all the following products:

St



Dual-Rod Mesh 25x200, 1830x958

Wire diameter: 6/8 mm
Mesh width: 25x200 mm
Height: 1830 mm
Width: 958 mm
m = 20.5 kg

bright zinc-plated, 1 pce.

0.0.476.47

Dual-Rod Mesh 25x200, 1830x958

Wire diameter: 6/8 mm
Mesh width: 25x200 mm
Height: 1830 mm
Width: 958 mm
m = 22.0 kg

black, 1 pce.

0.0.446.08

Dual-Rod Mesh 25x200, 1830x2008

Wire diameter: 6/8 mm
Mesh width: 25x200 mm
Height: 1830 mm
Width: 2008 mm
m = 42.3 kg

bright zinc-plated, 1 pce.

0.0.476.46

Dual-Rod Mesh 25x200, 1830x2008

Wire diameter: 6/8 mm
 Mesh width: 25x200 mm
 Height: 1830 mm
 Width: 2008 mm
 m = 45.0 kg

black, 1 pce.

0.0.446.07

Dual-Rod Mesh 50x200, 1830x958

Wire diameter: 6/8 mm
 Mesh width: 50x200 mm
 Height: 1830 mm
 Width: 958 mm
 m = 13.8 kg

bright zinc-plated, 1 pce.

0.0.476.49

Dual-Rod Mesh 50x200, 1830x958

Wire diameter: 6/8 mm
 Mesh width: 50x200 mm
 Height: 1830 mm
 Width: 958 mm
 m = 14.5 kg

black, 1 pce.

0.0.446.06

Dual-Rod Mesh 50x200, 1830x2008

Wire diameter: 6/8 mm
 Mesh width: 50x200 mm
 Height: 1830 mm
 Width: 2008 mm
 m = 28.6 kg

bright zinc-plated, 1 pce.

0.0.476.48

Dual-Rod Mesh 50x200, 1830x2008

Wire diameter: 6/8 mm
 Mesh width: 50x200 mm
 Height: 1830 mm
 Width: 2008 mm
 m = 30.0 kg

black, 1 pce.

0.0.446.05



Steel Mesh

- Stable and strong
- Light objects can be hung on it

Due to the high inherent stability of the Steel Mesh (straight wires, welded), it is also highly suitable for direct use in the profile groove.

Property	Value
Density	7.85 g/cm ³
Modulus of elasticity	210,000 N/mm ²
Tensile strength	350 N/mm ²
Galvanizing	60 g/m ²
Powder coating	Black RAL 9005, min. layer thickness 70 µm

Steel Mesh 3.8mm 40x40

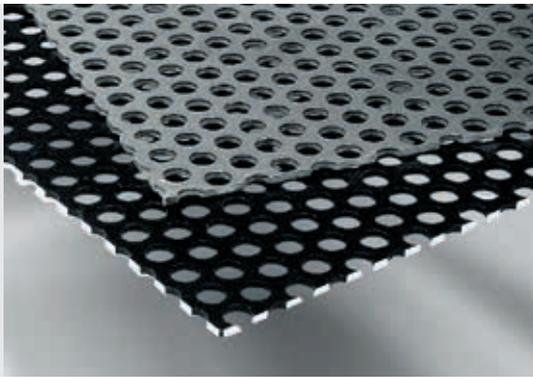
Steel wire (straight wires)
Welded, electrogalvanized
Wire thickness: 3.8 mm
Mesh: 40 mm
m = 5.10 kg/m²

bright zinc-plated, cut-off max. 2470x970 mm	0.0.428.38
bright zinc-plated, 1 pce. approx. 2500x1000 mm	0.0.483.64
bright zinc-plated, 1 pce. approx. 2000x1000 mm	0.0.457.20

Steel Mesh 3.8mm 40x40

Steel wire (straight wires)
Welded, hot-dip galvanized and powder coated
Wire thickness: 3.8 mm
Mesh: 40 mm
m = 5.30 kg/m²

black, cut-off max. 1970x970 mm	0.0.428.39
black, 1 pce. approx. 2000x1000 mm	0.0.457.19



Perforated Sheet

- Stylish and air-permeable
- For use as screening or ventilation openings

Aluminium Perforated Sheet has a wide range of applications. It can be used to provide screening, for floors and ceilings that permit the passage of air or dust, for storage surfaces or for decorative wall panelling. The powder-coated version is weather-proof.

Property	Value
Density	2.7 g/cm ³
Modulus of elasticity	70,000 N/mm ²
Tensile strength	200 N/mm ²
Galvanizing	60 g/m ²
Powder coating	Black RAL9005 Min. layer thickness 70 µm

Perforated Sheet Al 3mm

AlMg3

Cold rolled (not degreased) or coated

Hole diameter = 10 mm in offset rows

DIN 24041; residual area approx. 60%

m = 4.80 kg/m²

cold rolled (not degreased), cut-off max. 2970x1470 mm	0.0.428.29
cold rolled (not degreased), 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.457.12
black, cut-off max. 2970x1470 mm	0.0.428.30
black, 1 pce. panel dimensions. approx. 3000x1500 mm	0.0.457.13

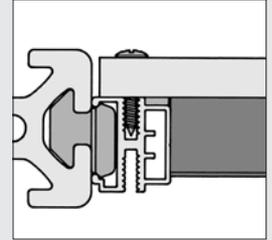
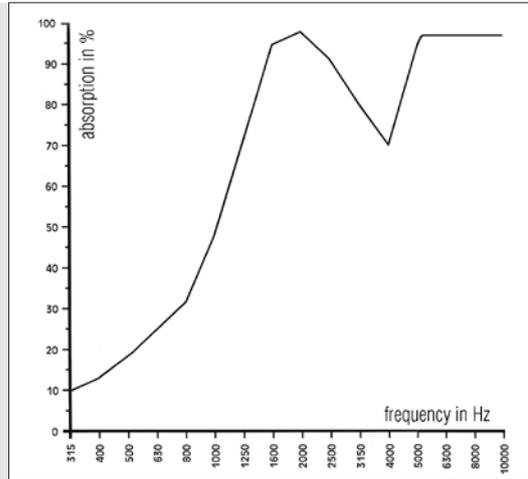


Sound-Insulating Material

Create a peaceful environment in offices and production halls

- Absorbs noise in medium and high frequencies
- Suitable as a panel element in hoods and enclosures
- For functional partitions in open-plan offices

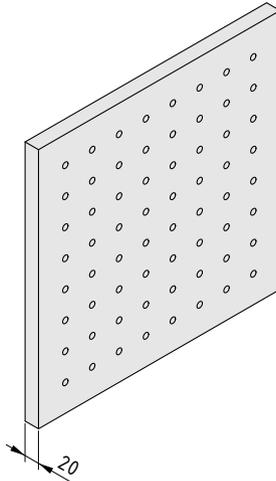
Sound-Insulating Material for reducing the effect of sound emission to the environment can be used for both complete encapsulation and individual partitions. It is self-adhesive on one side (rubber-based adhesive).



The Sound-Insulating Material is glued to a panel element. The panel element should be fastened in the profile frame in such a way that as little vibration or sound is transmitted as possible.

The sound-insulating effect depends on the excitation frequency.

10



Sound-Insulating Material 20mm

PUR-ester special foam
 Coated with PVC film perforated, easy to wash down,
 Sound absorption as per DIN 52215-63
 Temperature resistance: -40°C to +100°C
 Thermal conductivity: 0.033 W/mK, DIN 52612
 Fire characteristics: self-extinguishing to FMVSS 302, DIN 75200
 Panel dimensions 480x480 mm
 m = 253.0 g

anthracite, 1 pce.

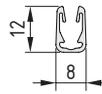
0.0.440.75



Edge Profile S3 Al

- Attractive finish
- Covering for sharp cut edges

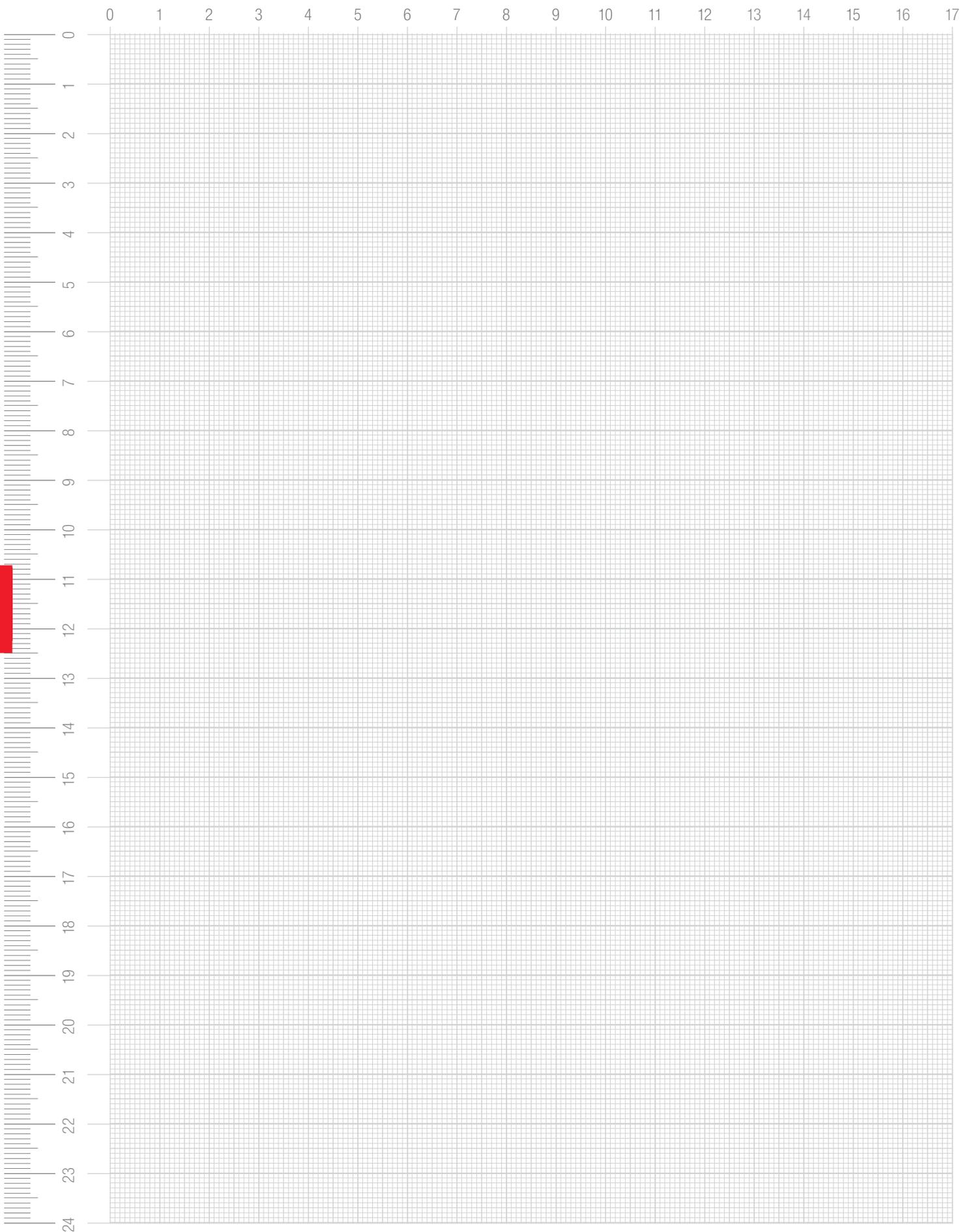
Edge Profile as edging for 3 mm thick panel elements whose cut edges require covering, e.g. Perforated Sheet Al etc. The Edge Profile can be cut at a 90° angle or with a mitre cut.



Edge Profile S3 Al

Al, anodized

A [cm ²]	m [g/m]
0.33	89
natural, 1 pce., length 2000 mm	
black, 1 pce., length 2000 mm	





FLOOR ELEMENTS

11

Adjustable Feet

Floor fasteners

Castors

Accessories for floor elements

Floor elements
Products in this section



Levelling Knuckle Feet

- Threaded spindles for infinite height adjustment
- Metal or plastic foot plate

336



Knuckle Feet X

- Compatible with Profiles X
- Slope compensation via ball joint

339



Rubber Inserts

- Protect floors from damage
- Increase friction and prevent inadvertent movement

340



Anti-Vibration Insert D80

- Reduces vibration and absorbs impacts
- Ageing and corrosion-resistant

341



Foot Clamps

- Additional fixing for Knuckle Feet
- For fastening to floors and walls

343



Foot Mounting Bracket

- Height adjustable fixing for Knuckle Feet
- Enables fitting to the sides of profile frames

344



Adjustable Feet PA

- For tables and lightweight equipment
- Tool-free adjustment

345



Adjustable Foot D47, M10x30

- Height compensation easily adjusted from above
- Ideal for base plates

346



L-Based Feet

- For heavy-duty and non-movable equipment
- For fastening to walls and floors

347



Floor Bracket Sets 8 160x60 St

- A secure hold on vertical struts
- Supports precise height compensation

351



Stand Foot 8 240x160

- Stable hold for free-standing enclosures and guards
- Can be screwed to the floor

352



Partition Base Plates

- Fastening for up to two partition elements
- Stable and easy to fit

354



Base Plates

- Stable termination for Stand Profiles
- Levelling via set screws

357



Castors

- Wide range of sizes and materials
- Extremely strong and durable

359



Castors with a connecting plate

- Direct, load-bearing in-groove fastening
- Full range of Castors for various transport loads

367



Swivel Locks for the Swivel Castor

- Can be retrofitted to Swivel Castors with connecting plates
- Locks the direction of travel at the touch of a foot

380



Jacking Castors D62

- Robust Castor ensures mobility
- Integrated foot for secure stability with height adjustment option

382



Castor Support 8 80x40

- Low centre of gravity produces stable wheeled constructions
- With flexible impact and scratch protection

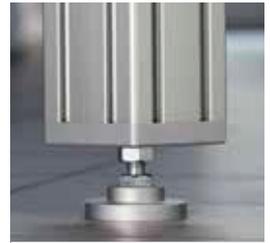
385



Floor-Fastening Sets

- For anchoring in floors and walls
- Particularly suitable for use in concrete

386



Base Plates/Transport Plates

- Stable termination for the end faces of profiles
- For securely fastening castors and Knuckle Feet

388



Collision Guard L With Hazard Markings

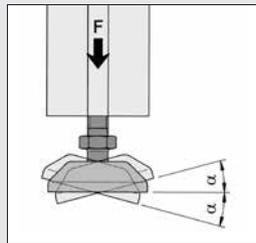
- Robust protection for free-standing racks, etc.
- Prevents damage caused by trolleys and vehicles

392



Knuckle Feet

- Threaded spindles ensure stepless height adjustment
- Slope compensation via ball joint
- Metal or plastic foot plate
- Stainless, ESD-safe versions available



Adjustable Foot	Load F (vertical)	Slope α
D20, M5x45	750 N	15°
D20, M5x45 stainless	1,500 N	7°
D30, M6x45	900 N	15°
D30, M6x45 stainless	1,500 N	7°
D30, M6x60	900 N	15°
D40, M8x60	1,500 N	15°
D40, M8x60 stainless	10,000 N	7°
D40, M8x80	1,500 N	15°
D40, M10x80	1,500 N	15°
D60, M10x75	5,000 N	7°
D60, M12x75	5,000 N	7°
D60, M12x75 stainless	15,000 N	7°
D60, M10x120	5,000 N	7°
D60, M12x120	5,000 N	7°
D80, M10x80	10,000 N	7°
D80, M12x100	10,000 N	7°
D80, M16x100	10,000 N	7°
D80, M16x100 stainless	20,000 N	7°
D80, M12x160	10,000 N	7°
D80, M16x160	10,000 N	7°

The steplessly adjustable feet are suitable for structures of all kinds.

Depending on the particular application, the adjustable feet can be fitted in the core bores of profiles or used in combination with Base Plates / Transport Plates. The range of applications can be extended by appropriate inserts and foot clamps.

A ball and socket joint compensates for slopes.

11

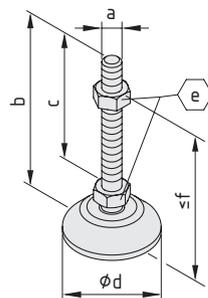
Knuckle Feet with plastic foot plate

The following applies to all the products below:

Spindle, St, bright zinc-plated

Foot plate, PA

Hexagon nut DIN 934, St, bright zinc-plated



Knuckle Foot D20, M5x45

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M5	44	32	19.5	8	33	7.0
black, 1 pce.						0.0.464.75

Knuckle Foot D30, M6x45

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M6	48	32	29.5	10	35	16.0
black, 1 pce.						0.0.434.52

Knuckle Foot D30, M6x60

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M6	63	47	29.5	10	50	17.0
black, 1 pce.						0.0.434.51

Knuckle Foot D40, M8x60

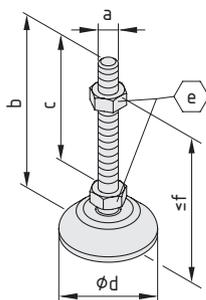
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M8	63	41	39	13	50	37.0
black, 1 pce.						0.0.364.68
grey similar to RAL 7042, 1 pce.						0.0.636.97

Knuckle Foot D40, M8x80

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M8	83	60	39	13	70	43.0
black, 1 pce.						0.0.265.69
grey similar to RAL 7042, 1 pce.						0.0.636.99

Knuckle Foot D40, M10x80

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M10	83	60	39	17	65	65.0
black, 1 pce.						0.0.265.74
grey similar to RAL 7042, 1 pce.						0.0.637.01

Knuckle Feet with metal foot plate

The following applies to all the products below:

Spindle, St, bright zinc-plated

foot plate, die-cast zinc

Hexagon nut DIN 934, St, bright zinc-plated

Knuckle Foot D60, M10x75

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M10	75	52	57	17	55	140.0
black, 1 pce.						0.0.439.29
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.49

Knuckle Foot D60, M10x120

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M10	120	97	57	17	100	163.0
black, 1 pce.						0.0.439.30
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.51

Knuckle Foot D60, M12x75

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M12	75	52	57	19	55	162.0
black, 1 pce.						0.0.439.22
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.43

Knuckle Foot D60, M12x120

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M12	120	97	57	19	100	193.0
black, 1 pce.						0.0.439.23

Knuckle Foot D80, M10x80

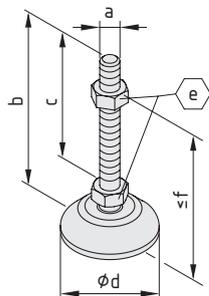
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M10	80	53	76	17	60	263.0
black, 1 pce.						0.0.432.84
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.24

Knuckle Foot D80, M12x100

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M12	100	72	76	19	80	300.0
black, 1 pce.						0.0.265.67

ESD-safe and stainless

11



Knuckle Foot D80, M12x160

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M12	160	132	76	19	140	340.0
black, 1 pce.						0.0.265.68
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.17

Knuckle Foot D80, M16x100

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M16	100	72	76	24	80	366.0
black, 1 pce.						0.0.265.29
white aluminium, similar to RAL 9006, 1 pce.						0.0.635.20

Knuckle Foot D80, M16x160

a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M16	160	132	76	24	140	450.0
black, 1 pce.						0.0.265.66
white aluminium, similar to RAL 9006, 1 pce.						0.0.636.95

The following applies to all the products below:

- Spindle, St
- Foot plate, St
- Hexagon nut DIN 934, St



Knuckle Foot D20, M5x45



a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M5	44	32	19.5	8	33	19.0
stainless, 1 pce.						0.0.464.81

Knuckle Foot D30, M6x45



a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M6	48	32	29.5	10	35	47.0
stainless, 1 pce.						0.0.478.22

Knuckle Foot D40, M8x60



a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M8	63	41	39	13	50	107.0
stainless, 1 pce.						0.0.475.41

Knuckle Foot D40, M10x80



a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M10	83	60	39	17	65	143.0
stainless, 1 pce.						0.0.640.57

Knuckle Foot D60, M12x75



a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M12	75	52	57	19	55	185.0
stainless, 1 pce.						0.0.478.13

Knuckle Foot D80, M16x100

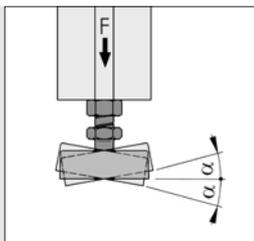


a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]
M16	100	72	76	24	80	435.0
stainless, 1 pce.						0.0.476.39



Knuckle Foot X

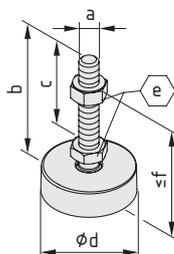
- Compatible with Profiles X
- Slope compensation via ball joint
- Metal or plastic foot plate



Knuckle Foot	Load F (vertical)	Slope α
X D40, M8x60	1,500 N	15°
X D40, M8x80	1,500 N	15°
X D40, M10x80	1,500 N	15°
X D80, M16x100	10,000 N	7°

The following applies to all the products below:

- Spindle, St, bright zinc-plated
- Foot plate, PA
- Hexagon nut DIN 934, St, bright zinc-plated



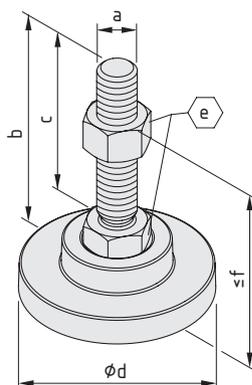
Knuckle Foot X D40, M8x60							Line
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
M8	63	41	38	13	50	38.0	
grey similar to RAL 7042, 1 pce.							0.0.602.44

Knuckle Foot X D40, M8x80							Line
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
M8	83	60	38	13	70	45.0	
grey similar to RAL 7042, 1 pce.							0.0.602.46

Knuckle Foot X D40, M10x80							Line
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
M10	83	60	38	17	65	64.0	
grey similar to RAL 7042, 1 pce.							0.0.496.02

The following applies to all the products below:

- Spindle, St, bright zinc-plated
- foot plate, die-cast zinc
- Hexagon nut DIN 934, St, bright zinc-plated



Knuckle Foot X D80, M16x100							Line
a	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	m [g]	
M16	105.5	73.5	78	24	73	457.0	
white aluminium, similar to RAL 9006, 1 pce.							0.0.496.03





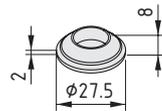
Rubber Inserts

- Protect floors from damage
- Increase friction and prevent inadvertent movement
- Compatible with Knuckle Feet D30, D40, D60 and D80
- Products from Line X also available



Rubber Insert D80 can also be used in combination with Adjustable Foot 8 PA. This increases the overall height of the Adjustable Foot by 12 mm.

The Rubber Inserts are suitable for use as anti-slip devices and floor protectors. They can be retrofitted to Knuckle Feet D30 and D40 (not the stainless models) and D60 and D80.

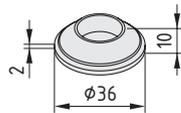


Rubber Insert D30

NBR
Hardness 80 Sh A, oil and water resisting
m = 3.0 g

black, 1 pce.

0.0.434.50

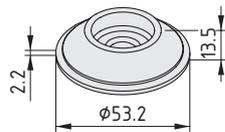


Rubber Insert D40

NBR
Hardness 80 Sh A, oil and water resisting
m = 6.0 g

black, 1 pce.

0.0.265.70

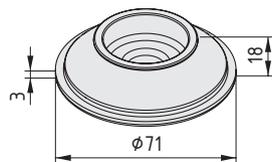


Rubber Insert D60

NBR
Hardness 80 Sh A, oil and water resisting
m = 18.0 g

black, 1 pce.

0.0.439.33

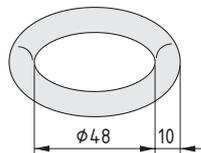


Rubber Insert D80

NBR
Hardness 80 Sh A, oil and water resisting
m = 42.0 g

black, 1 pce.

0.0.265.61



Rubber Insert X D80

NBR
Hardness 70 Sh A, oil/water-resistant
m = 18.0 g

black, 1 pce.

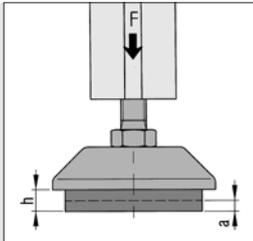


0.0.606.51

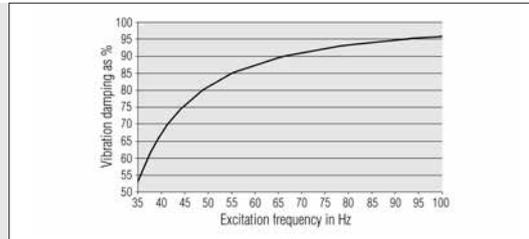


Anti-Vibration Insert D80

- Reduces vibration and absorbs impacts
- Ageing and corrosion-resistant
- Resistant to oils, greases, acids and solvents
- Stainless steel Knuckle Feet retain their ESD functionality

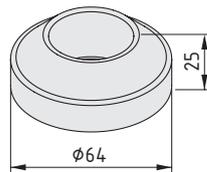


F	a
2,000 N	4 mm
10,000 N	6 mm



The effective height (h) when not under load is 9 mm.
The value of h decreases by the spring distance a as a function of the force F.

The degree of vibration damping depends on the excitation frequency. Shocks (excitation below the natural frequency) will be reduced by the self-damping.

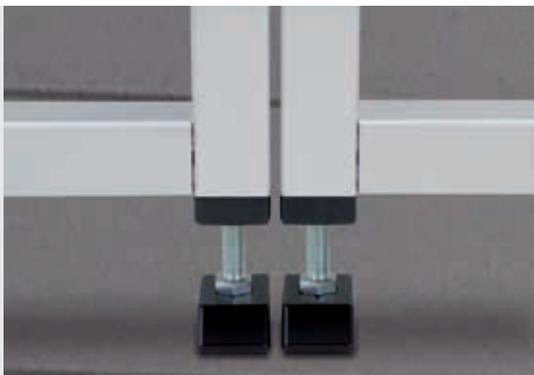


Anti-Vibration Insert D80

St
 Self-damping: Approx. 15%
 Natural frequency: 20-25 Hz
 Resonance ratio: Approx. 3.3
 Static load F_{stat} : 2,000 N
 Max. dynamic pressure loading F_{dyn} : 10,000 N
 $m = 115.0$ g

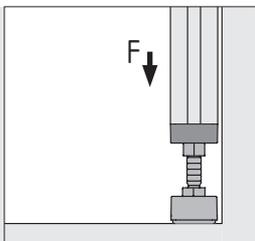
stainless, 1 pce.

0.0.458.93



Adjustable Foot 80x40, M12x120

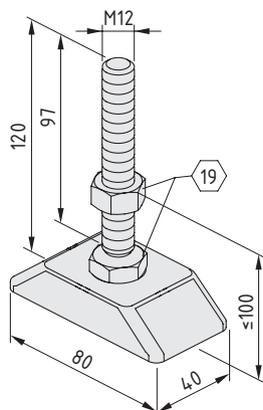
- Rectangular foot for flush mounting against walls
- Infinitely variable height adjustment



$F_{max} = 5000 \text{ N}$



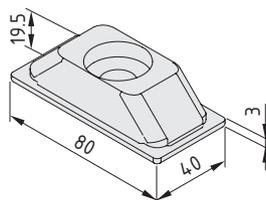
Use of the Rubber Insert is recommended to prevent movement and to protect the floor from damage.



Adjustable Foot 80x40, M12x120

Spindle, St, bright zinc-plated
 Base Plate, die-cast zinc, black
 Hexagon Nut DIN 934-M12, St, bright zinc-plated
 $m = 280.0 \text{ g}$

1 pce. 0.0.608.93



Rubber Insert 80x40

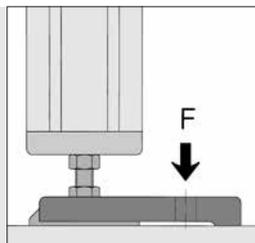
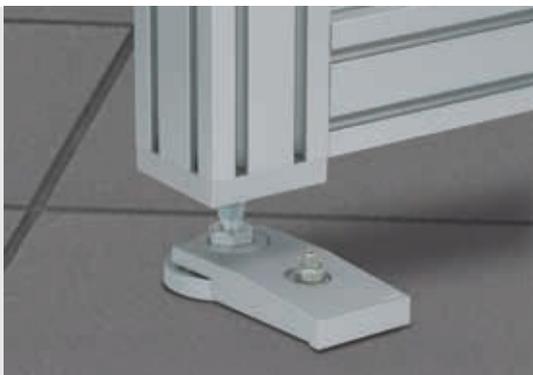
NBR
 Hardness 80 Sh A, oil and water resisting
 $m = 43.1 \text{ g}$

black, 1 pce. 0.0.609.05



Foot Clamps

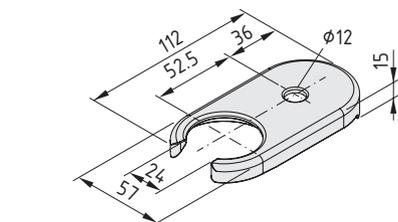
- For fixing Knuckle Feet in place
- For fastening to floors and walls
- Products from Line X also available



The permissible load for the Foot Clamps at the fastening point is $F_{perm.} = 5,000 \text{ N}$.

Special Foot Clamps are available for securing Knuckle Feet X D80.

Foot Clamps X D80 can be combined with Knuckle Feet X D80. They are used to secure structures made from Profiles X 8 to the floor and wall.

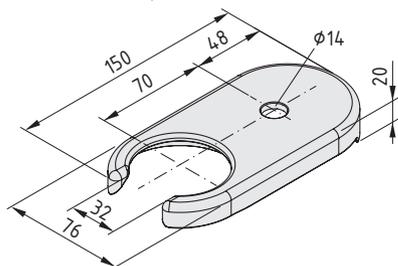


Foot Clamp D60

Die-cast zinc
m = 223.0 g

black, 1 pce.

0.0.439.37

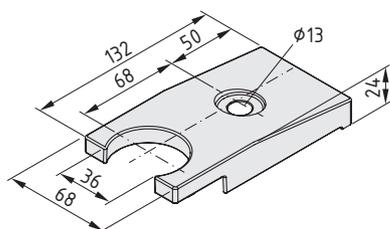


Foot Clamp D80

Die-cast zinc
m = 492.0 g

black, 1 pce.

0.0.265.30



Foot Clamp X D80

Die-cast zinc
m = 480.0 g

white aluminium, similar to RAL 9006, 1 pce.

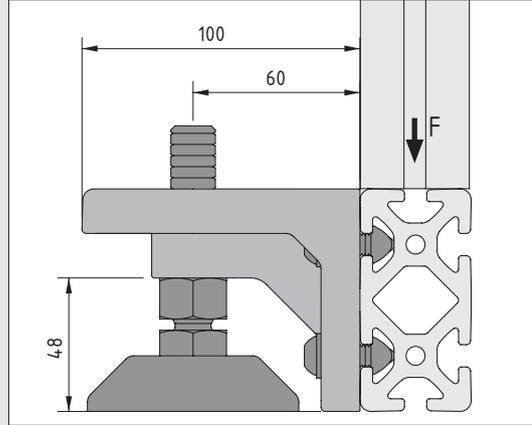


0.0.495.96



Foot Mounting Bracket

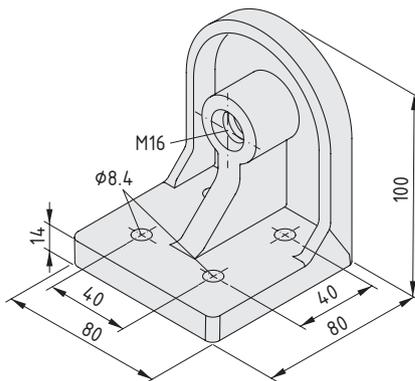
- Height adjustable fixing for Knuckle Feet
- Fitted to the sides of profiles



Foot Mounting Bracket 8 D80 allows height adjustable feet with M16 threaded spindle (primarily Knuckle Foot D80, M16) to be mounted on the side of a frame construction. Machines or systems can be installed with minimum distance to the floor but can still be adjusted in height.

The maximum permissible load on the Foot Mounting Bracket is $F = 4,000 \text{ N}$. The load-carrying capacity of the adjustable foot must not be exceeded.

11



Foot Mounting Bracket 8 D80



Die-cast Al
 $m = 363.0 \text{ g}$

white aluminium, similar to RAL 9006, 1 pce.

0.0.612.01

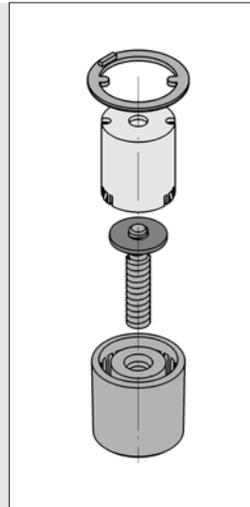
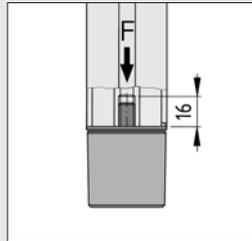
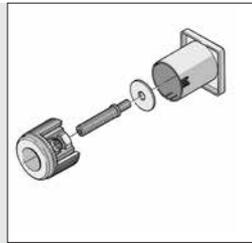


Adjustable Feet PA

- For tables and lightweight equipment
- Tool-free height adjustment mechanism
- Available for Profiles 8 40x40, D40 and Profiles X 8 40x40

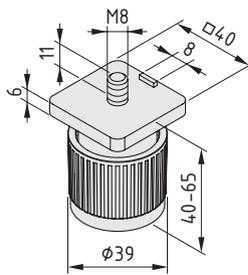


It can be installed either in the face end of a Line 8 profile (using the core bore) or in a profile groove (using a T-Slot Nut - 0.0.480.48).



The spindle is screwed into an M8 thread in the core bore of the profile. Tools are not required to make height adjustments – simply turn the lower part of the foot manually.

$F_{perm.} = 1,500\text{ N}$



Adjustable Foot 8 PA



Housing, PA-GF, black
Spindle, nut and washer, St, bright zinc-plated
 $m = 71.0\text{ g}$

1 pce.

0.0.196.64

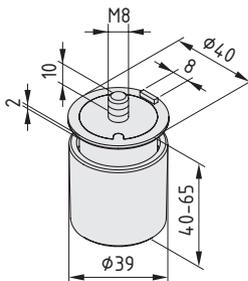
Adjustable Foot 8 PA



Housing, PA-GF, grey
Spindle, nut and washer, St, bright zinc-plated
 $m = 71.0\text{ g}$

1 pce.

0.0.627.80



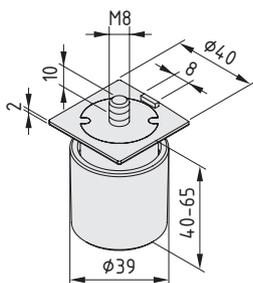
Adjustable Foot 8 D40 PA



Housing, inner part and end plate, PA-GF, black
Spindle and washer, St, bright zinc-plated
 $m = 69.0\text{ g}$

1 set

0.0.603.33



Adjustable Foot X 8 PA 40x40



Housing, inner part and end plate, PA-GF, grey
Spindle and washer, St, bright zinc-plated
m = 69.0 g

1 pce.

0.0.603.74



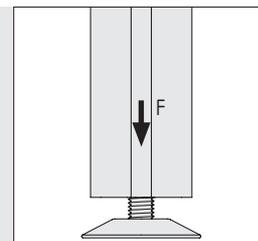
Adjustable Foot D47, M10x30

■ Adjustable from above

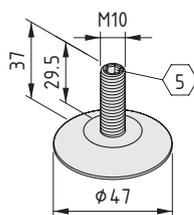
11

The stable foot that offers added convenience. Making height adjustments is very simple because the screw is accessed from above.

Adjustable Foot D47, M10x30 can be adjusted easily using a 5 A/F key, such as when used in a table base or machine baseplate.



F = 1500 N



Adjustable Foot D47, M10x30

St, bright zinc-plated
m = 77.0 g

black, 1 pce.

0.0.658.04



L-Based Feet

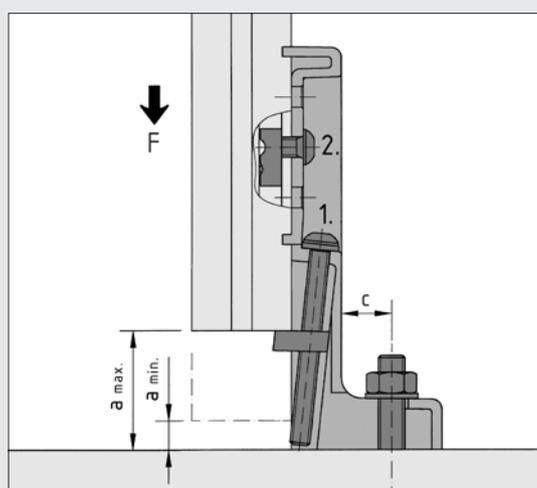
- For heavy-duty and non-movable equipment
- For fastening to walls and floors



L-Based Feet ensure a secure hold. Because they are screwed to the grooves of the profile, several of the feet can be used. Furthermore, L-Based Feet enable users to anchor profiles to

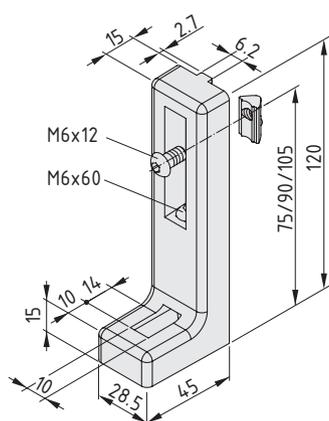
walls or floors. item supplies additional Floor-Fastening Sets for this purpose.

Floor-Fastening Sets 386



The height adjustment mechanism in the L-Based Foot enables users to compensate for unevenness in the floor. The foot is adjusted by turning the set screw (1.). The selected height is then fixed by tightening the fastening screw at the side (2.).

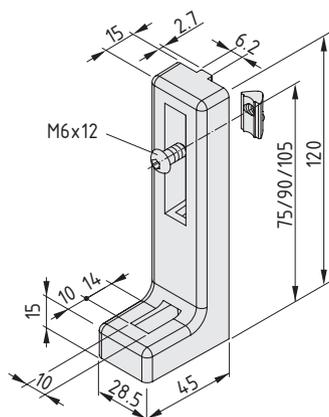
L-Based Feet	a [mm]		c [mm]	F _{max.}
	max.	min.		
	53.5	8.5	8 - 16	3,000 N
	75.0	10.0	13 - 25	6,000 N



L-Based Foot 6 adjustable

Housing, die-cast aluminium, black
 T-Slot Nut 6 St M6, bright zinc-plated
 Button-Head Screw ISO 7380-M6x12, St, bright zinc-plated
 Button-Head Screw ISO 7380-M6x60, St, bright zinc-plated and slide-coated
 Square nut M6, St, bright zinc-plated
 m = 111.0 g

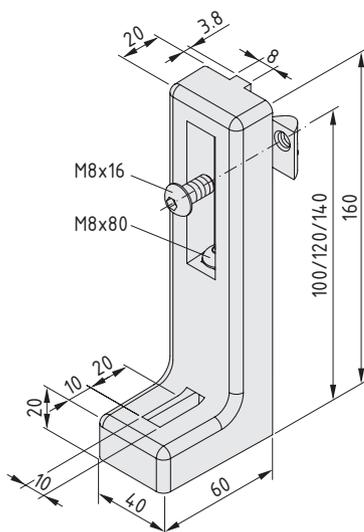
1 pce. 0.0.434.71



L-Based Foot 6 non-adjustable

Housing, die-cast aluminium, black
 T-Slot Nut 6 St M6, bright zinc-plated
 Button-Head Screw ISO 7380-M6x12, St, bright zinc-plated
 m = 91.0 g

1 pce. 0.0.434.70

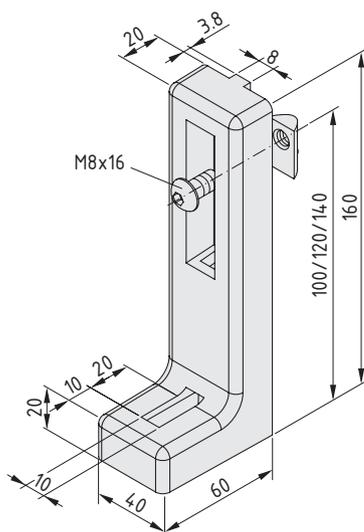


L-Based Foot 8 adjustable



Housing, die-cast aluminium, black
 T-Slot Nut 8 St M8, bright zinc-plated
 Button-Head Screw ISO 7380-M8x16, St, bright zinc-plated
 Button-Head Screw ISO 7380-M8x80, St, bright zinc-plated and slide-coated
 Washer DIN 433-8.4, St, bright zinc-plated
 Square nut M8, St, bright zinc-plated
 m = 287.0 g

1 pce. 0.0.196.45



L-Based Foot 8 non-adjustable



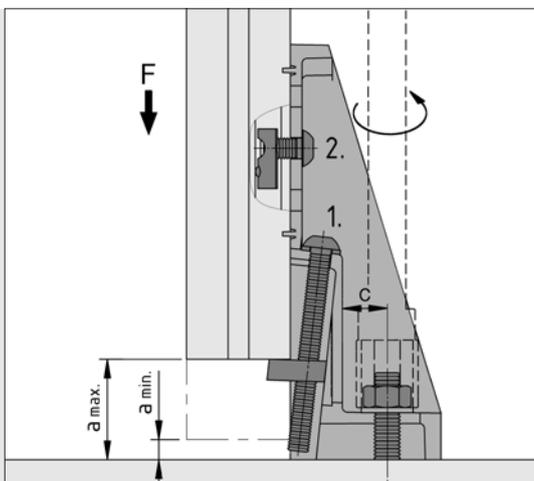
Housing, die-cast aluminium, black
 T-Slot Nut 8 St M8, bright zinc-plated
 Button-Head Screw ISO 7380-M8x16, St, bright zinc-plated
 m = 239.0 g

black, 1 pce. 0.0.265.44



L-Based Foot X 8 adjustable

- Compatible with Profiles X
- Easy to compensate for unevenness in the floor
- Easy-to-clean design



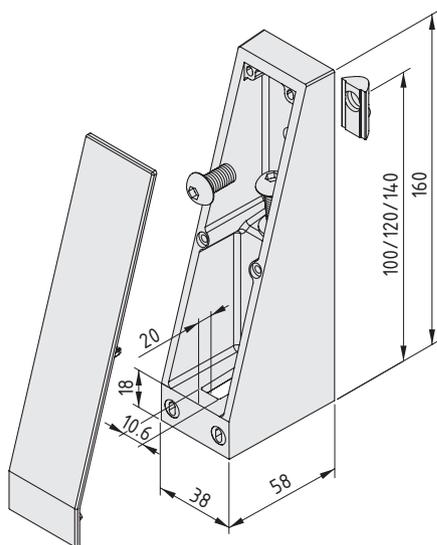
L-Based Feed	a [mm]		c [mm]	F _{max.}
	max.	min		
8	75.0	10.0	13 - 25	6,000 N

L-Based Foot X 8 adjustable provides a simple method of levelling equipment on uneven floors by means of height adjustment.

The adjustment is made by turning the adjusting screw (1). The selected height is then fixed by tightening the fastening screw at the side (2).

The Floor-Fastening Set can be screwed into L-Based Foot X 8 using a socket wrench.

Floor-Fastening Sets 386



L-Based Foot X 8 adjustable



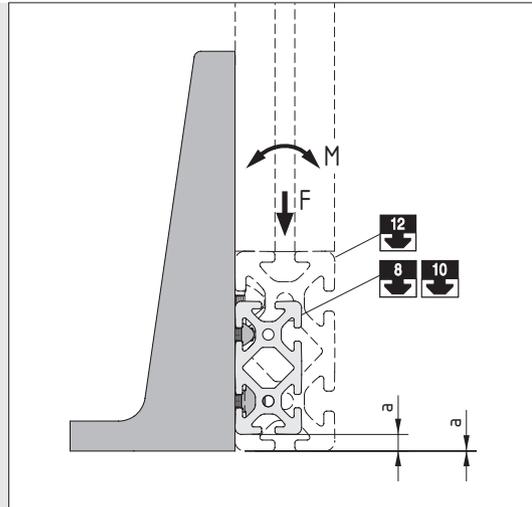
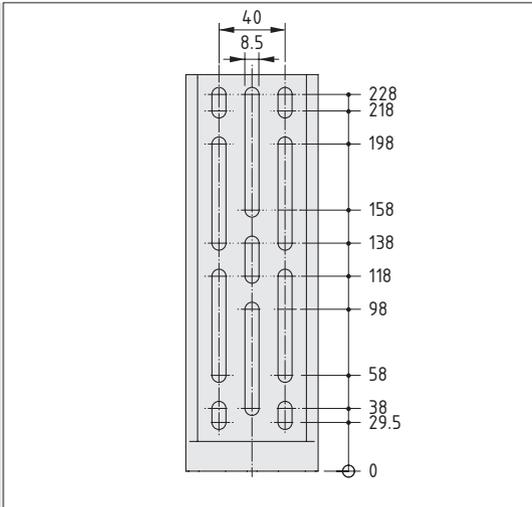
- Housing, die-cast aluminium, white aluminium
- Cap, PA-GF, grey
- T-Slot Nut V 8 St M8, bright zinc-plated
- Button-Head Screw ISO 7380-M8x80, St, bright zinc-plated
- Button-Head Screw ISO 7380-M8x16, St, bright zinc-plated
- Square nut, St, bright zinc-plated
- Washer DIN 433-8.4, St, bright zinc-plated
- m = 342.0 g

1 set 0.0.600.13



L-Based Foot 8-12

- Extremely stable and extremely flexible
- Secure floor anchoring of construction
- Ideal for fastening machinery that has already been installed and aligned



The slotted holes for fastening to the side face of a profile are compatible with the modular dimensions of Lines 8, 10 and 12.

The number of fastening screws can be increased to raise the stability. In this way, L-Based Foot 8-12 240x100 also stabilises machine frames against movement and vibration.

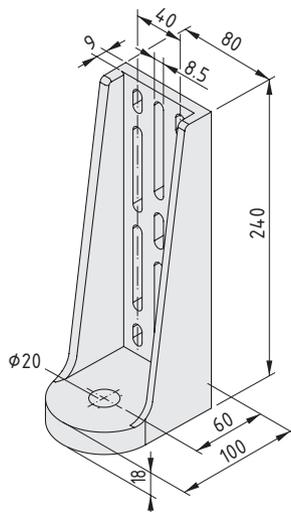
In the case of Line 8 profiles, the distance to the floor when using the lower groove for attaching the L-Based Foot is $a = 9.5$ mm. In the case of Line 10 profiles $a = 4.5$ mm. Line 12 profiles can be screwed to the L-Based Foot so that they are flush to the floor.

$M_{max.} = 150$ Nm

$F_{max.} = 4,000$ N

Floor-Fastening Sets 386

11



L-Based Foot 8-12 240x100

Die-cast Al
m = 750.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.610.89



Floor Bracket Sets 8 160x60 St

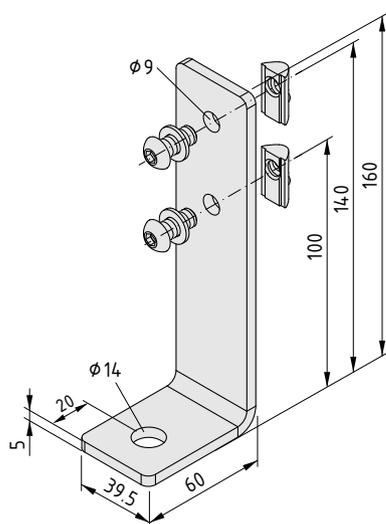
- Secure floor anchoring
- Simple levelling mechanism



Holding level – Floor Bracket Set 8 160x60x40 St and Floor Bracket Set 8 160x60x80 St are a stable addition to the item range of supporting feet. They anchor frames securely to the ground and allow precise levelling. The Floor Brackets are screwed to the Line 8 groove in a profile, which means they allow very straightforward height adjustment. An item adjustable foot can be used to fine-tune the level of a structure. This means that uneven floors need not present a problem.

Because it is fixed to the groove, it can also be retrofitted to existing machinery to anchor it to the ground. Depending on the profile size, weight and relevant forces, users can choose between the narrower Floor Bracket Set 8 160x60x40 St (which fastens to a single Line 8 groove) or the wider Floor Bracket Set 8 160x60x80 St.

Floor-Fastening Sets 386

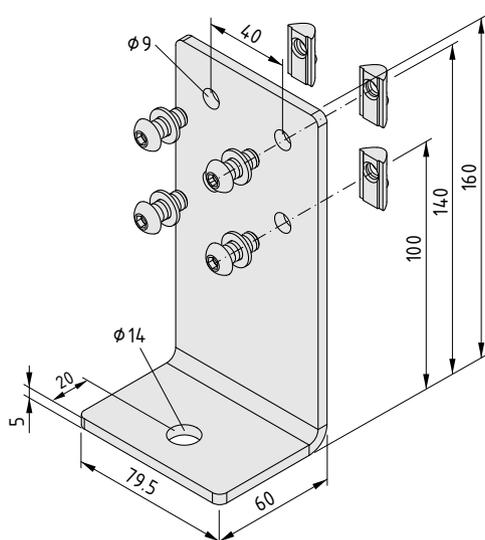


Floor Bracket Set 8 160x60x40 St



Floor Bracket 8 160x60x40 St, white aluminium similar to RAL 9006
 2 washers DIN433-8.4, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x18, St, bright zinc-plated
 2 T-Slot Nuts V 8 St M8
 m = 360.0 g

1 set	0.0.666.50
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Floor Bracket Set 8 160x60x80 St



Floor Bracket 8 160x60x80 St, white aluminium similar to RAL 9006
 4 washers DIN 433-8.4, St, bright zinc-plated
 4 Button-Head Screws ISO 7380-M8x18, St, bright zinc-plated
 4 T-Slot Nuts V 8 St M8
 m = 729.0 g

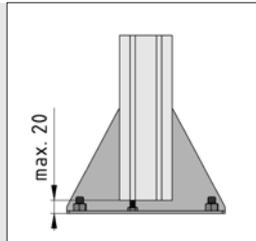
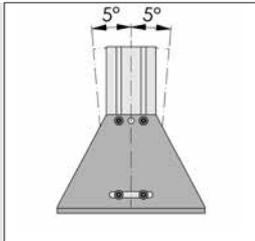
1 set	0.0.666.51
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Stand Foot 8 240x160

The cost-effective and robust floor fastener

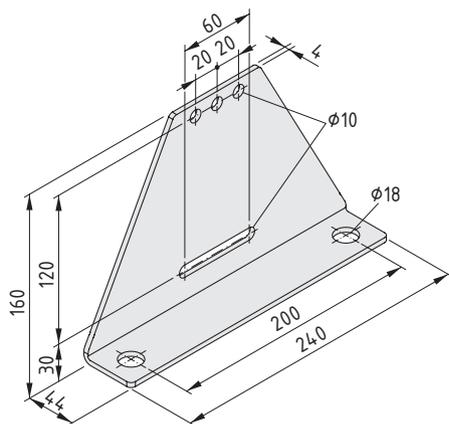
- Easy to align and stable
- Can be screwed to the floor
- For free-standing enclosures and guards



The slot fastening feature near the bottom of the Stand Foot can be used to adjust the angle in order to compensate for uneven floors ($\pm 5^\circ$).

The height can be adjusted by means of a screw inserted into a thread in the core bore in the end face of the stand profile.

Floor-Fastening Sets 386



Stand Foot 8 240x160



St
m = 1.0 kg

black, 1 pce.

0.0.492.47



Adjustable Stand Foot 8

The foot with unrivalled precision

- Several ways to compensate for unevenness
- Even greater stability due to additional support
- Securely anchored to the floor

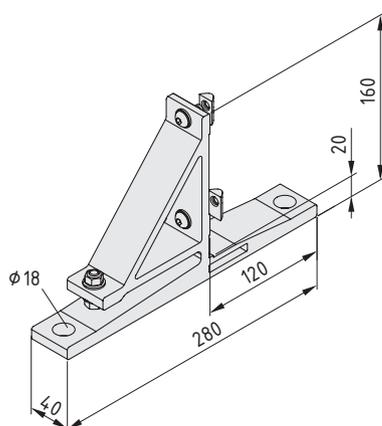


Adjustable Stand Foot 8 can be universally used to provide the Stand Profiles of partitions, tables and rack systems with a stable connection to the floor. Various adjustment options mean that the Adjustable Stand Foot can be adapted to the properties of the floor (height, flatness). The Stand Profile can be tilted as necessary using the hexagon nuts on a threaded bolt ($\pm 3^\circ$). The Stand Profile is adjusted up and down by moving

it along the profile groove. Lateral alignment on the floor is facilitated by the large diameters of the holes for the Floor Fastening Sets.

The through holes for securing to the floor can be accessed when the Adjustable Stand Foot has already been fitted, so that the anchoring holes can be drilled subsequently.

Floor-Fastening Sets 386



Adjustable Stand Foot 8



Adjustable Stand Foot, Al, anodized, natural
 2 T-Slot Nuts 8 St M8, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated
 2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated
 4 Washers DIN 125-8,4, St, bright zinc-plated
 Button-Head Screw ISO 7380-M8x45, St, bright zinc-plated
 m = 795.0 g

1 set

0.0.486.17

11



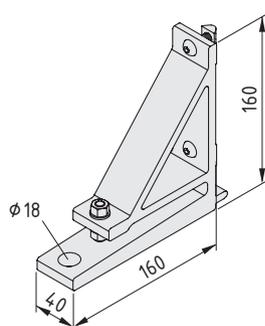
Adjustable Stand Foot Side Brace 8

- For supporting an Adjustable Stand Foot from the side
- Mechanism for adjusting angle of incline



Adjustable Stand Foot Side Brace 8 is used to provide lateral support to an enclosure erected using Adjustable Stand Foot 8. It is inserted into Adjustable Stand Foot 8 and is also screwed to the Stand Profile.

The inclination is set in the same way as the Adjustable Stand Foot, using a set screw. Used in conjunction with Adjustable Stand Foot 8, the Stand Profile can then be aligned in all planes.



Adjustable Stand Foot Side Brace 8



Adjustable Stand Foot Side Brace, Al, anodized, natural
 2 T-Slot Nuts 8 St M8, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated
 2 Hexagon Nuts DIN 934-M8, St, bright zinc-plated
 4 Washers DIN 125-8,4, St, bright zinc-plated
 Button-Head Screw ISO 7380-M8x45, St, bright zinc-plated
 m = 655.0 g

1 set

0.0.486.18



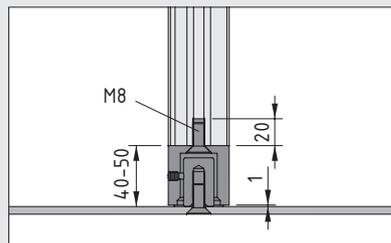
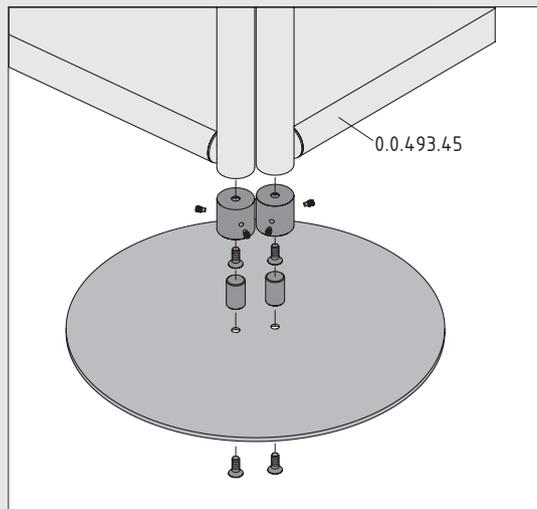
Partition Base Plates

- Stable fastening with outstanding stability
- For one or two partition elements
- The height of each wall segment can be adjusted separately

Create sound protection and screening using mobile partition walls and mark out designated routes and areas. The Partition Base Plates D400 are free-standing, lightweight elements that can be rapidly deployed.

A partition built with Profiles 8 D40 is an elegant solution. The circular cross-section of the Partition Base Plate is a perfect match to the design of the Adapters and Stand Profiles. Two profiles can be fitted close together on Partition Base Plate D400 2z - and Partition Adapter D40 allows them to be swivelled to any angle and secured in position.

All that is needed to attach the Partition Base Plate is a thread in the core bore of a Profile 8.



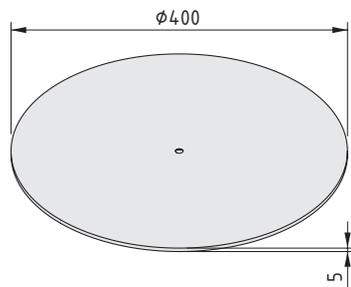
Partition Adapter D40 allows users to adjust the height and angle of each individual partition segment.

11



Tip:

Two Profiles D40 can be connected at the upper end of the partition using Flat Bracket 8 D40/D40 (0.0.628.63) - the Profiles are fixed in parallel and kept at a constant distance.

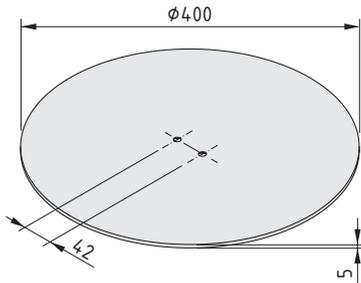


Partition Base Plate D400 z

St
m = 5.0 kg

white aluminium, similar to RAL 9006, 1 pce.

0.0.641.36

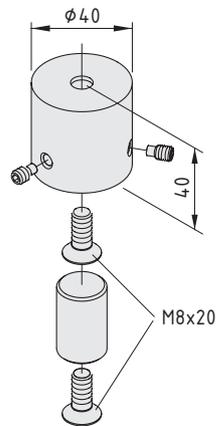


Partition Base Plate D400 2z

St
m = 5.0 kg

white aluminium, similar to RAL 9006, 1 pce.

0.0.641.41



Partition Adapter D40

Pin, St, bright zinc-plated
Sleeve, Al, white aluminium, similar to RAL 9006
2 Countersunk Screws DIN 7991 M8x20, St, bright zinc-plated
3 grub screws DIN 915 M6x10, St, bright zinc-plated
m = 185.0 g

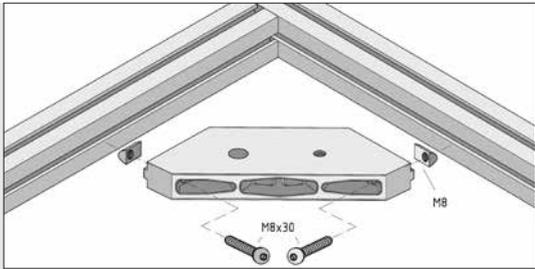
1 set

0.0.641.42

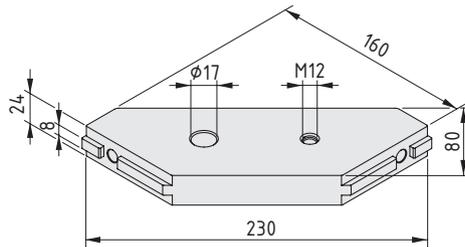


Floor-Fixing Plate

- For floor mounting machine frames
- Levelling via set screw
- Reinforce the rigidity of machine frames



Floor-Fastening Sets 386



Floor-Fixing Plate 8

Die-cast Al
 $F_{max} = 10,000 \text{ N}$
 $m = 610.0 \text{ g}$

black, 1 pce.

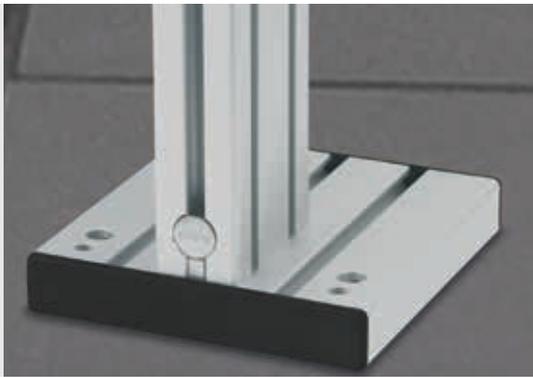
0.0.388.12

Fastening Set 8 on profile side for Floor-Fixing Plate 8

2 Button-Head Screws ISO 7380-M8x30, St, bright zinc-plated
 2 T-Slot Nuts 8 St M8, bright zinc-plated
 $m = 44.0 \text{ g}$

1 set

0.0.404.19

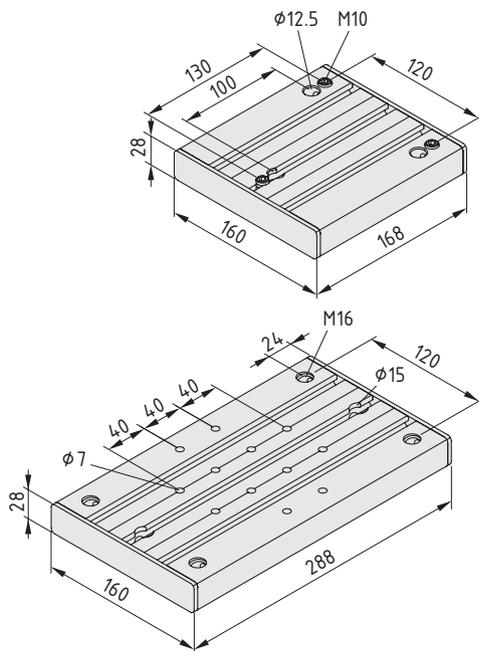


Base Plates

- Stable termination for Stand Profiles
- Levelling via set screws



Floor-Fastening Sets  386



Base Plate 8 160

Base plate, Al, anodized, natural
 2 Caps 8 160x28, PA, black
 3 grub screws DIN 915-M10x30, St, bright zinc-plated
 3 Floor-Fastening Sets M10x135
 m = 1.6 kg

1 set	0.0.026.17
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Base Plate 8 280

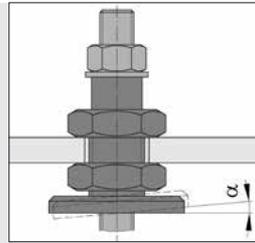
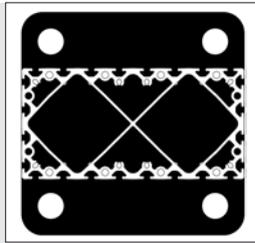
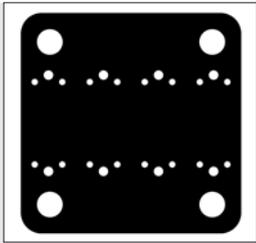
Base plate, Al, anodized, natural
 2 Caps 8 160x28, PA, black
 m = 2.3 kg

1 pce.	0.0.388.69
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Base Plate 8 320x320 St

- Extremely strong machine base
- For anchoring heavy-duty frames
- Alignment via Levelling Feet



Base Plate 8 320x320 St has been prepared for screwing into the core bores of the profiles (8 countersinks for Hexagon Socket Head Cap Screws DIN 7984-M12 in Profiles 8 320x160 and 8 160x160, and countersinks for Hexagon Socket Head Cap Screws DIN 912-M8 in Profiles 8 160x160 8EN or 8 240x160 8EN).

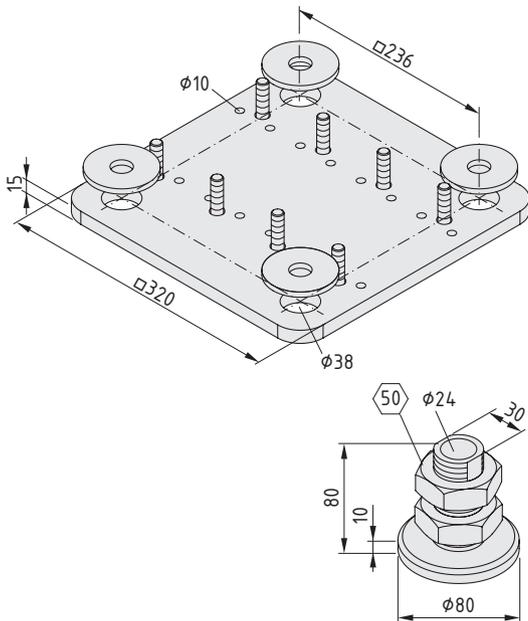
It is fastened to the floor using bores $\varnothing 38$ mm and washers DIN 440.

Floor-Fastening Sets 386

The lower hexagon nut (50 A/F) is adjusted to set the height of the Levelling Feet. The hollow stud must be prevented from twisting (30 A/F).

Any unevenness is compensated for by means of a ball socket in the base plate ($\alpha = \pm 2.5^\circ$).

11



Base Plate 8 320x320 St



St, painted
8 Cap Screws DIN 7984-M12x45, St, bright zinc-plated
4 washers DIN 440-R22, St, black
m = 11.7 kg

1 set

0.0.476.70

Levelling Feet D80, M33x80

4 base plates, St, bright zinc-plated
4 hollow studs, St, bright zinc-plated
8 hexagon nuts DIN 439-M33x2, St, bright zinc-plated
m = 3.5 kg

1 set

0.0.480.91



Castors

- Wide range of sizes and materials
- With integrated connecting plate or for custom installation
- ESD-safe versions also available



The item Castors make frames mobile. They ensure that custom transport trolleys and intralogistics solutions can be built with ease and are available in a wide range of models with different load limits and functions to suit various tasks.

Castors with an integrated connecting plate are easy to fit and can be connected directly to a construction and put to use immediately. Alternatively, Castors can be anchored into the end face of a profile via a threaded bore. There are also numerous Base Plate/Transport Plates that can be used to fit separate Castors to a groove.

Castors marked with the ESD symbol are at least antistatic to DIN EN 12530 (wheels and castors) and thus also satisfy the requirements of DIN EN 613 40 (electrostatics) with a discharge resistance of < 10⁷ Ohm.



Low loads: Double castors with a plastic housing offer a simple and manoeuvrable solution for applications that involve low loads.



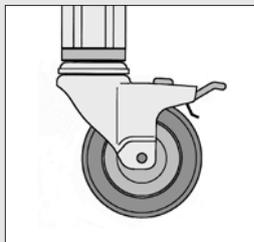
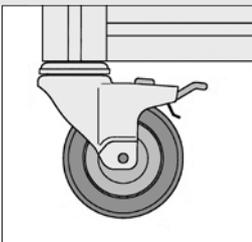
Normal loads: Castors with a metal housing are available as fixed and swivel Castors. Double-brakes can be added if required to ensure stability.



High loads: Special Castors with a high load-carrying capacity of up to 450 kg are available for heavy transported goods.



Convenient installation: Models with integrated connecting plates are especially easy to fasten to a frame.



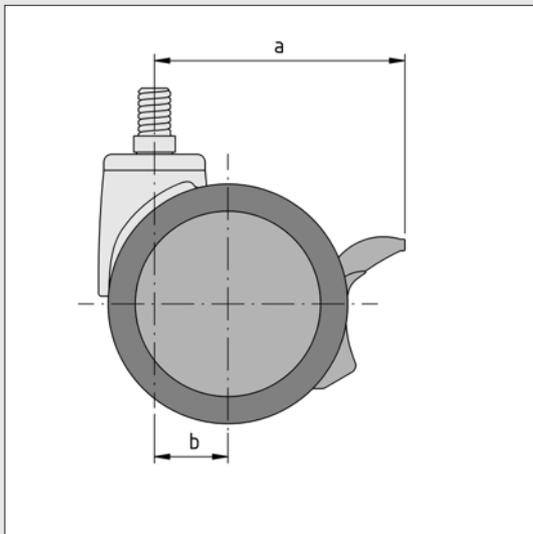
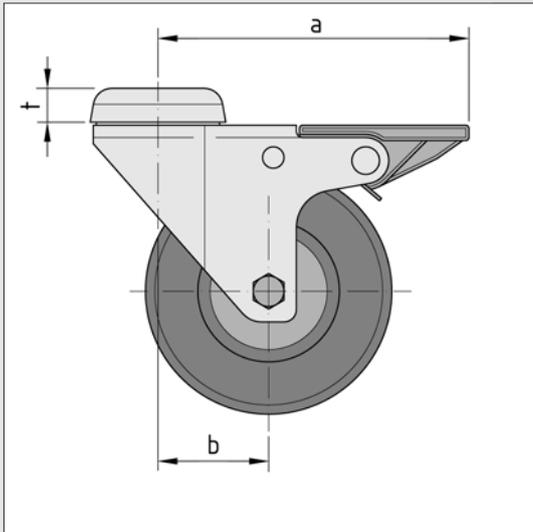
The castors can be secured in the end faces of all Profile Lines by means of a thread in the core bore (counter boring and tapping may be required) or by using Base Plates/Transport Plates (Section 2.3 Accessories for Floor Elements).

The castors can be fitted to the groove side of the profiles using appropriate Base Plates/Transport Plates (thread lengths may need to be compensated by washers DIN 125). A combination with Floor-Fastening Plate 8 is also possible for specific applications.

The specified carrying capacities are maximum values under ideal operating conditions, at walking speed (max. 4 km/h) and over smooth and flat surfaces. If the floor is uneven and weight badly distributed, the load on the castor should be calculated in accordance with the following formula:

$$F = \frac{\text{dead weight} + \text{load}}{3}$$

Castors, Swivel and Fixed



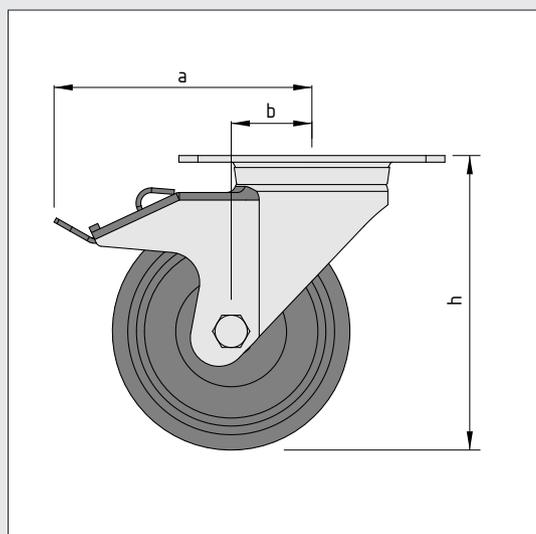
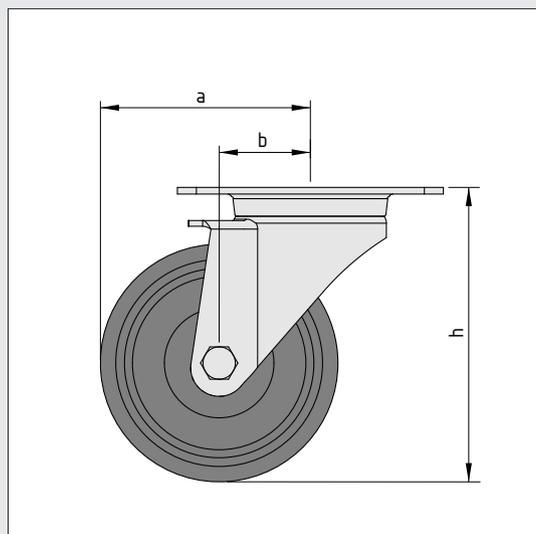
	Radius of swivel (a)	Offset (b)	Thickness (t)
Castor D65 swivel	57.0 mm	20.0 mm	-
Castor D65 swivel with brake	68.0 mm	20.0 mm	-
Castor D75 PA swivel	70.0 mm	23.0 mm	-
Castor D75 PA swivel with double-brake	80.0 mm	23.0 mm	-
Castor D75 swivel	70.0 mm	30.5 mm	5 mm
Castor D75 swivel with double-brake	85.0 mm	30.5 mm	5 mm
Castor D75 fixed	-	-	2 mm
Castor D80 swivel	70.0 mm	29.0 mm	12 mm
Castor D80 swivel with double-brake	95.5 mm	29.0 mm	12 mm
Castor D100 swivel	90.0 mm	40.0 mm	16 mm
Castor D100 swivel with double-brake	130.0 mm	40.0 mm	16 mm
Castor D100 fixed	-	-	5 mm
Castor D125 swivel	102.5 mm	40.0 mm	9 mm
Castor D125 swivel with double-brake	130.0 mm	40.0 mm	9 mm
Castor D125 fixed	-	-	14 mm
Castor D125 swivel, heavy-duty	108.0 mm	45.0 mm	6 mm
Castor D125 swivel with double-brake, heavy-duty	108.0 mm	45.0 mm	6 mm
Castor D125 swivel with double-brake N, heavy-duty	136.0 mm	45.0 mm	6 mm
Castor D125 fixed, heavy-duty	-	-	6 mm

Resistance of tyres	Castor Line D65/D75 PA		Castor Line D75		Castor Line D80		Castor Line D100		Castor Line D125		Castor Line D125 heavy-duty
(x = yes; - = no)	PU		TPE		TPE		TPE		TPE		PU
Water	x	x	x	x	x	x	x	x	x	x	x
Salt water	x	x	x	x	x	x	x	x	x	x	-
Road-salt solution	x	x	x	x	x	x	x	x	x	x	-
Oils	x	x	x	x	-	-	x	x	x	x	x
Animal and vegetable fats	x	x	-	-	-	-	-	-	-	-	x
Diesel oil	x	x	-	-	-	-	-	-	-	-	x
Petrol	x	x	-	-	-	-	-	-	-	-	x
Acidic cleaning agents	-	-	x	x	x	x	x	x	x	x	-
Soap solutions up to approx. 50°C	x	x	x	x	x	x	x	x	x	x	x

The Castors have good rolling properties and a high load-carrying capacity and are able to withstand most environmental influences.

Antistatic Castors can also be supplied specifically for use in the electronics sector. They have appropriate tyres and a continuously conductive wheel/casing. The discharge resistance of the antistatic model is $10^5 \Omega$.

Swivel and fixed Castors with integrated connecting plate



	Radius of swivel (a)	Offset (b)	Height (h)
Castor D100 swivel 120x40	90.0 mm	40.0 mm	132.0 mm
Castor D100 swivel 140x110	95.0 mm	45.0 mm	130.0 mm
Castor D100 swivel 140x110 with optional Swivel Lock	150.0 mm	45.0 mm	130.0 mm
Castor D100 swivel 120x40 with brake	130.0 mm	40.0 mm	132.0 mm
Castor D100 swivel 140x110 with brake	137.0 mm	45.0 mm	130.0 mm
Castor D100 fixed 140x110	-	-	130.0 mm
Castor D125 swivel 120x40	102.5 mm	40.0 mm	158.0 mm
Castor D125 swivel 140x110	110.0 mm	48.0 mm	155.0 mm
Castor D125 swivel 140x110 with optional Swivel Lock	150.0 mm	48.0 mm	155.0 mm
Castor D125 swivel 120x40 with brake	130.0 mm	40.0 mm	158.0 mm
Castor D125 swivel 140x110 with brake	137.0 mm	48.0 mm	155.0 mm
Castor D125 fixed 140x110	-	-	155.0 mm
Castor D160 swivel 140x110	140.0 mm	60.0 mm	195.0 mm
Castor D160 swivel 140x110 with optional Swivel Lock	170.0 mm	60.0 mm	195.0 mm
Castor D160 swivel 140x110 with brake	168.0 mm	60.0 mm	195.0 mm
Castor D160 fixed 140x110	-	-	195.0 mm
Castor D200 swivel 140x110	163.0 mm	65.0 mm	235.0 mm
Castor D200 swivel 140x110 with optional Swivel Lock	170.0 mm	65.0 mm	235.0 mm
Castor D200 swivel 140x110 with brake	184.0 mm	65.0 mm	235.0 mm
Castor D200 fixed 140x110	-	-	235.0 mm

Resistance of tyres (x = yes; - = no)	Castor lines D100 120x40 / D125 120x40		Castor lines D100/125/160/200	
	TPE		TPU	
Water	x	x	x	x
Salt water	x	x	x	x
Road-salt solution	x	x	-	-
Oils	x	x	x	x
Animal and vegetable fats	x	x	x	x
Diesel oil	-	-	x	x
Petrol	-	-	x	x
Acidic cleaning agents	-	-	-	-
Soap solutions up to approx. 50°C	x	x	x	x



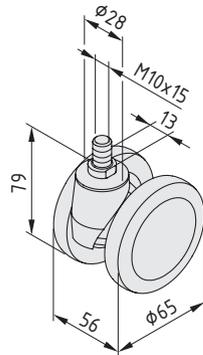
Castor Line D65

- Double castor with a carrying capacity of up to 50 kg
- Available in ESD-safe versions and with brake



The following applies to all the products below:

Housing PA, black
 Swivelling axis with ball bearing,
 Wheel axle with slide bearing,
 Threaded pin, adhesive coated,
 Dust shield,
 Carrying capacity 50 kg/castor
 Twin tyres PU, 80 Sh A, black



Castor D65 swivel

m = 167.0 g

1 pce.

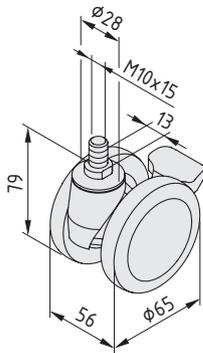
0.0.444.94

Castor D65 swivel antistatic

m = 172.0 g

1 pce.

0.0.444.92



Castor D65 swivel brake

m = 178.0 g

1 pce.

0.0.444.95

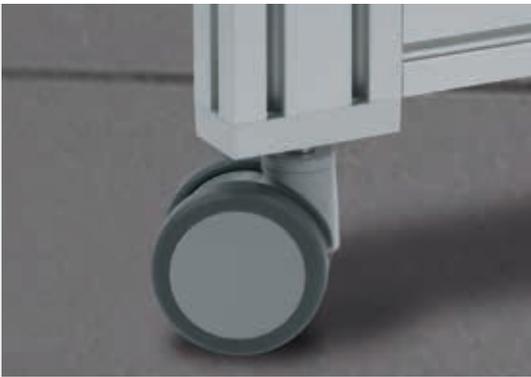
Castor D65 swivel brake antistatic

m = 183.0 g

1 pce.

0.0.444.93





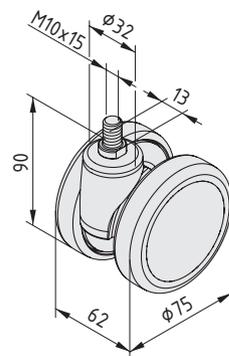
Castor Line D75 PA

- Double castor with a carrying capacity of up to 60 kg
- Available in ESD-safe versions and with brake



The following applies to all the products below:

- Casing PA, grey
- Swivelling axis with ball bearing
- Wheel axle with slide bearing
- Threaded pin protected against torsion
- Dust shield
- Carrying capacity 60 kg/castor
- Twin tyres PU, 80 Sh A, grey



Castor D75 PA swivel

m = 220.0 g

1 pce.

0.0.605.45

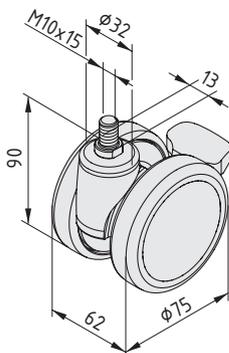
Castor D75 PA swivel antistatic



m = 230.0 g

1 pce.

0.0.605.47



Castor D75 PA swivel double-brake

m = 235.0 g

1 pce.

0.0.605.46

Castor D75 PA swivel double-brake antistatic



m = 245.0 g

1 pce.

0.0.605.48



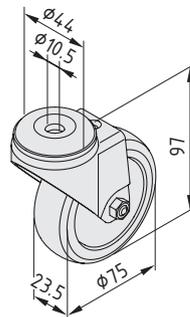
Castor Line D75

- Castor with a carrying capacity of up to 60 kg
- Available as swivel castors or fixed castors with anti-torsion feature
- Durable due to ball bearing
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Swivelling axis with sealed ball bearing,
 Wheel axle with sealed ball bearing,
 Dust shield,
 Carrying capacity 60 kg/castor
 Tyre TPE, track-free, 80 Sh A, grey



Castor D75 swivel

m = 306.0 g

1 pce.

0.0.420.14

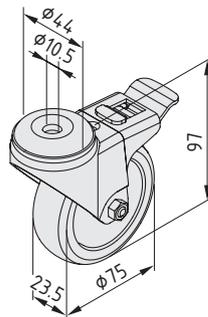
Castor D75 swivel antistatic



m = 285.0 g

1 pce.

0.0.420.15



Castor D75 swivel with double-brake

m = 340.0 g

1 pce.

0.0.420.16

Castor D75 swivel with double-brake antistatic



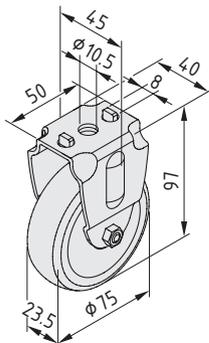
m = 317.0 g

1 pce.

0.0.420.17

Materials used in all the following products:

Sheet-metal housing, bright zinc-plated, black
 Wheel axle with ball bearing,
 Anti-torsion block,
 Dust shield, carrying capacity 60 kg/castor
 Tyres TPE, 80 Sh A, grey



Castor D75 fixed

m = 260.0 g

1 pce.

0.0.420.12

Castor D75 fixed antistatic



m = 240.0 g

1 pce.

0.0.420.13



Castor Line D80

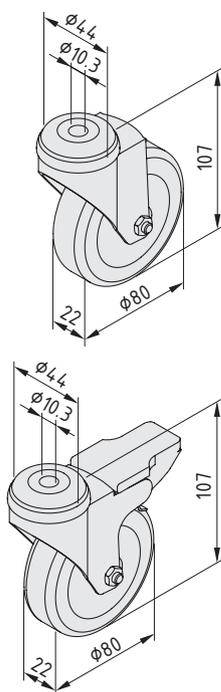
Stainless steel casing

- Castor with a carrying capacity of up to 90 kg
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

- Sheet-metal housing, stainless
- Swivelling axis with ball bearing
- Wheel axle with plain bearing,
- Dust shield, carrying capacity 90 kg/castor
- Tyres TPE, 85 Sh A, grey



Castor D80 swivel

m = 330.0 g	
stainless, 1 pce.	1.0.001.08

Castor D80 swivel, antistatic

m = 310.0 g	
stainless, 1 pce.	1.0.001.97



Castor D80 swivel with double-brake

m = 375.0 g	
stainless, 1 pce.	1.0.001.09

Castor D80 swivel with double-brake, antistatic

m = 355.0 g	
stainless, 1 pce.	1.0.001.98





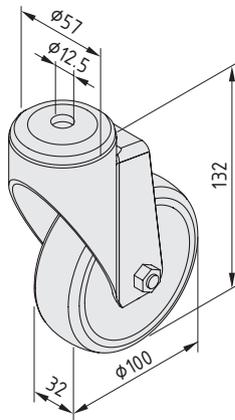
Castor Line D100

- Castor with a carrying capacity of up to 80 kg
- Available as swivel castors or fixed castors with anti-torsion feature
- Dual ball-bearing wheels
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Swivelling axis with sealed ball bearing,
 Wheel axle with sealed ball bearing,
 Carrying capacity 80 kg/castor
 Tyre TPE, track-free, 90 Sh A, grey

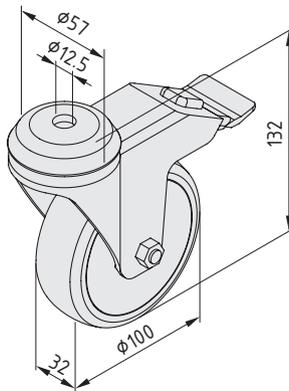


Castor D100 swivel

m = 660.0 g	
1 pce.	0.0.602.38

Castor D100 swivel antistatic

m = 660.0 g	ESD
1 pce.	0.0.602.39



Castor D100 swivel with double-brake

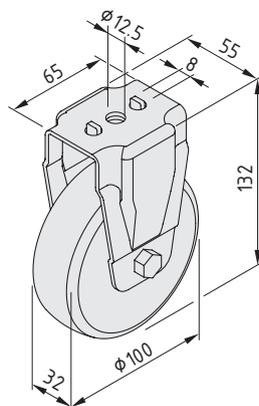
m = 780.0 g	
1 pce.	0.0.602.40

Castor D100 swivel with double-brake antistatic

m = 780.0 g	ESD
1 pce.	0.0.602.41

The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Wheel axle with sealed ball bearing,
 Anti-torsion element,
 Carrying capacity 80 kg/castor
 Tyre TPE, track-free, 90 Sh A, grey



Castor D100 fixed

m = 580.0 g	
1 pce.	0.0.603.26

Castor D100 fixed antistatic

m = 580.0 g	ESD
1 pce.	0.0.605.29



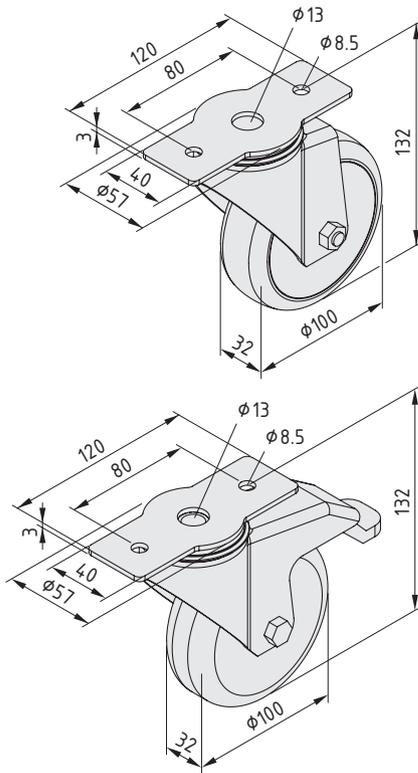
Castor Line D100 swivel with Connecting Plate 120x40

- Castor and connecting plate in one
- Carrying capacity up to 80 kg
- Narrow connecting plate with two holes
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Swivelling axis with sealed ball bearing,
 Wheel axle with sealed ball bearing,
 Dust shield, carrying capacity 80kg/castor
 Tyre TPE, track-free, 80 Sh A, grey



Castor D100 swivel 120x40

m = 641.0 g

1 pce.

0.0.633.43

Castor D100 swivel 120x40 antistatic



m = 654.0 g

1 pce.

0.0.633.44

Castor D100 swivel with double-brake 120x40

m = 761.0 g

1 pce.

0.0.639.13

Castor D100 swivel with double-brake 120x40 antistatic



m = 773.0 g

1 pce.

0.0.633.45



Castor Line D100 swivel with Connecting Plate 140x110

- Castor and connecting plate in one
- Carrying capacity up to 200 kg
- Wide connecting plate with four holes
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Fork St, bright zinc-plated
 Wheel axle with ball bearing
 Dust shield
 Wheel body PA
 Tyre TPU, 94 Sh A, grey
 Load-carrying capacity 200 kg/Castor

Castor D100 swivel 140x110

m = 1.1 kg	
1 pce.	0.0.667.16

Castor D100 swivel 140x110 antistatic

m = 1.1 kg	
1 pce.	0.0.667.17

Castor D100 swivel with double-brake 140x110

m = 1.4 kg	
1 pce.	0.0.667.18

Castor D100 swivel with double-brake 140x110 antistatic

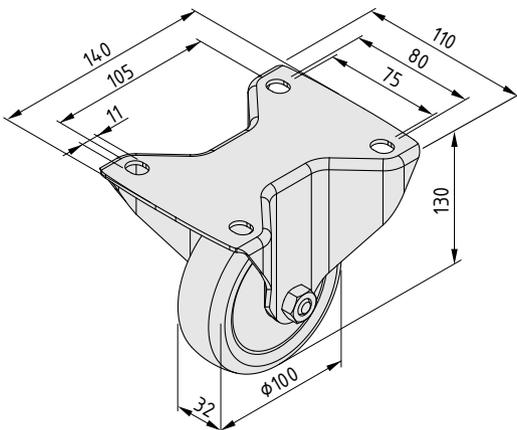
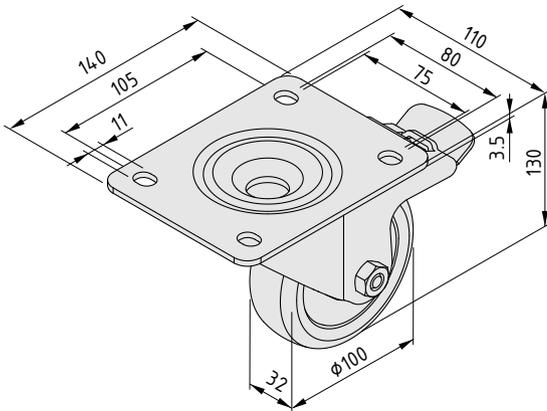
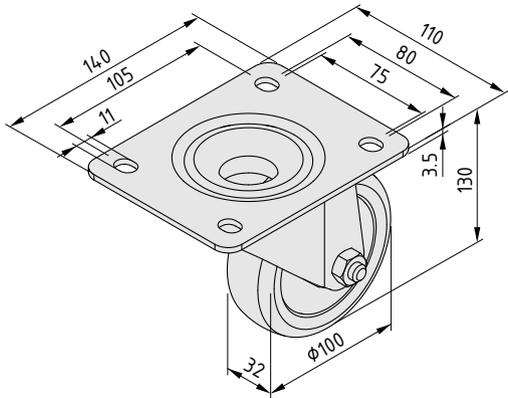
m = 1.4 kg	
1 pce.	0.0.667.19

Castor D100 fixed 140x110

m = 800.0 g	
1 pce.	0.0.667.20

Castor D100 fixed 140x110 antistatic

m = 800.0 g	
1 pce.	0.0.667.21





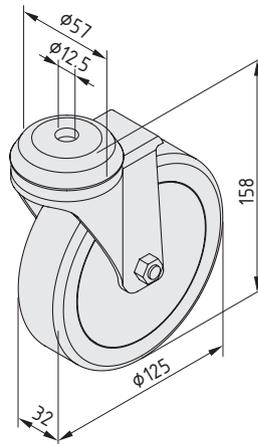
Castor Line D125

- Stable castors with up to 100 kg carrying capacity
- Available as swivel castors or fixed castors with anti-torsion feature
- Dual ball-bearing wheels
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Swivelling axis with sealed ball bearing,
 Wheel axle with sealed ball bearing,
 Dust shield,
 Carrying capacity 100 kg/castor
 Tyre TPE, track-free, 80 Sh A, grey

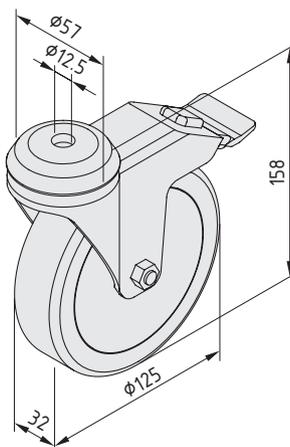


Castor D125 swivel

m = 710.0 g	
1 pce.	0.0.418.08

Castor D125 swivel antistatic

m = 960.0 g	
1 pce.	0.0.418.09



Castor D125 swivel with double-brake

m = 860.0 g	
1 pce.	0.0.418.10

Castor D125 swivel with double-brake antistatic

m = 1.1 kg	
1 pce.	0.0.418.11

The following applies to all the products below:

Steel sheet casing bright zinc-plated, black

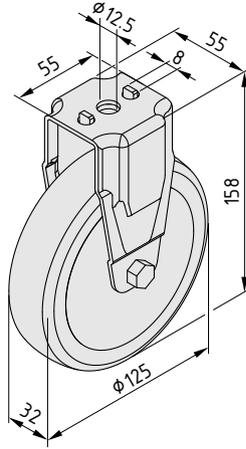
Wheel axle with sealed ball bearing,

Anti-torsion element,

Dust shield,

Carrying capacity 100 kg/castor

Tyre TPE, track-free, 80 Sh A, grey



Castor D125 fixed

m = 550.0 g

1 pce.

0.0.418.06

Castor D125 fixed antistatic



m = 780.0 g

1 pce.

0.0.418.07



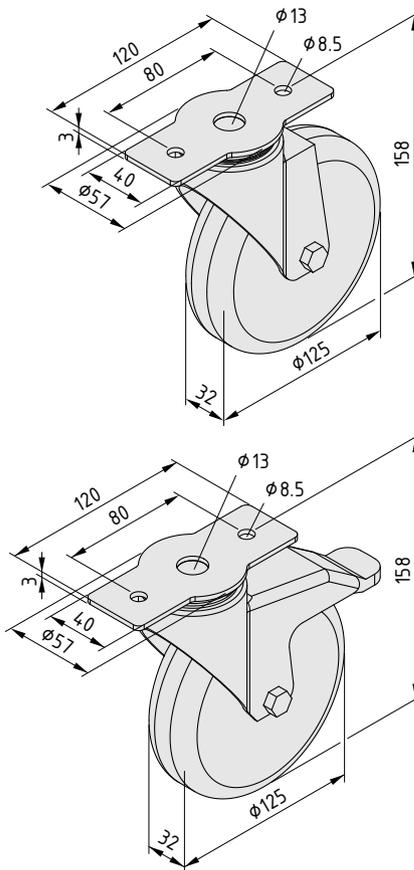
Castor Line D125 swivel with Connecting Plate 120x40

- Combined castor and connecting plate
- Carrying capacity up to 100 kg
- Narrow connecting plate with two holes
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Steel sheet casing bright zinc-plated, black
 Swivelling axis with sealed ball bearing,
 Wheel axis with sealed ball bearing,
 Dust shield, carrying capacity 100 kg/castor
 Tyre TPE, track-free, 80 Sh A, grey



Castor D125 swivel 120x40

m = 704.0 g

1 pce.

0.0.633.46

Castor D125 swivel 120x40 antistatic



m = 725.0 g

1 pce.

0.0.633.47

Castor D125 swivel with double-brake 120x40

m = 831.0 g

1 pce.

0.0.633.48

Castor D125 swivel with double-brake 120x40 antistatic



m = 851.0 g

1 pce.

0.0.633.49



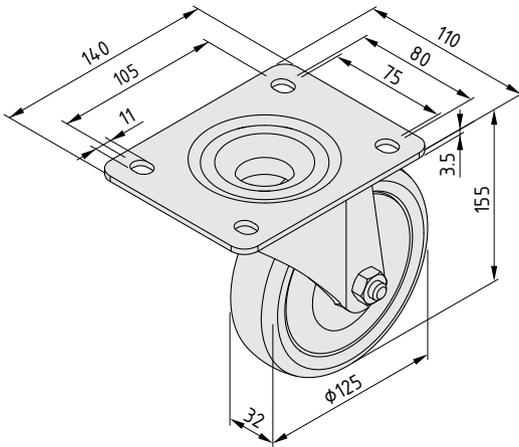
Castor Line D125 swivel with Connecting Plate 140x110

- Castor and connecting plate in one
- Carrying capacity up to 250 kg
- Wide connecting plate with four holes
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

Fork St, bright zinc-plated
 Wheel axle with ball bearing
 Dust shield
 Wheel body PA
 Tyre TPU, 94 Sh A, grey
 Load-carrying capacity 250 kg/Castor



Castor D125 swivel 140x110

m = 1.3 kg

1 pce.

0.0.667.22

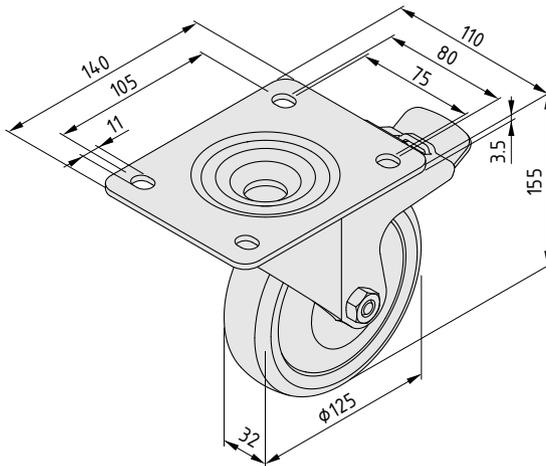
Castor D125 swivel 140x110 antistatic



m = 1.3 kg

1 pce.

0.0.667.23



Castor D125 swivel with double-brake 140x110

m = 1.5 kg

1 pce.

0.0.667.24

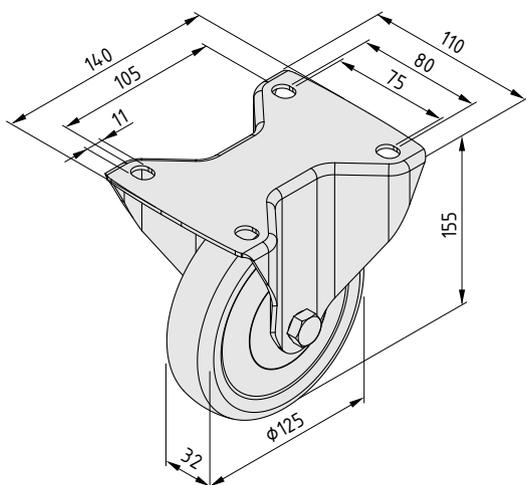
Castor D125 swivel with double-brake 140x110 antistatic



m = 1.5 kg

1 pce.

0.0.667.25


Castor D125 fixed 140x110

m = 1.0 kg

1 pce.

0.0.667.26

Castor D125 fixed 140x110 antistatic


m = 1.0 kg

1 pce.

0.0.667.27



Castor Line D125 heavy-duty

Move the heaviest of loads safely and securely

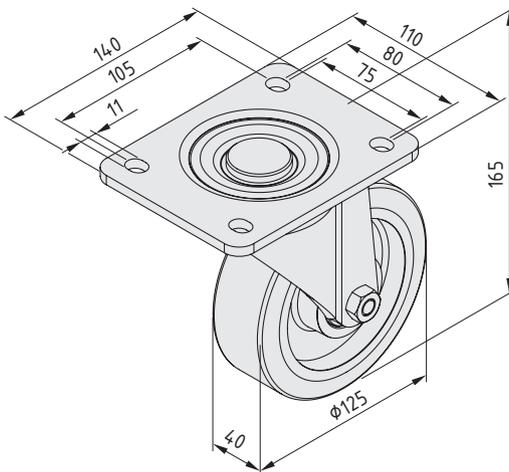
- Ultra heavy-duty castor with a carrying capacity of up to 450 kg
- Available as fixed or swivel castors and with double-brake
- Particularly durable due to heavy-duty ball bearings
- N version allows the brake to be actuated from the trailing side.



Unlike Castor D125 swivel with double-brake heavy duty, the N version allows the lock to be actuated from the trailing side. The combination of two Castors D125 swivel with double-brake and two Castors D125 swivel with double-brake N thus enables a heavy structure on swivel castors to be locked at all four castors, since the locks can always be reached easily. This prevents the structure from being moved or rolling away.

Note: Castor D125 swivel, heavy-duty can be screwed directly to a Line 10 groove. Castor Adapter Plates are available for connecting to constructions built using Lines 8 and 12.

Castor Adapter Plates 384

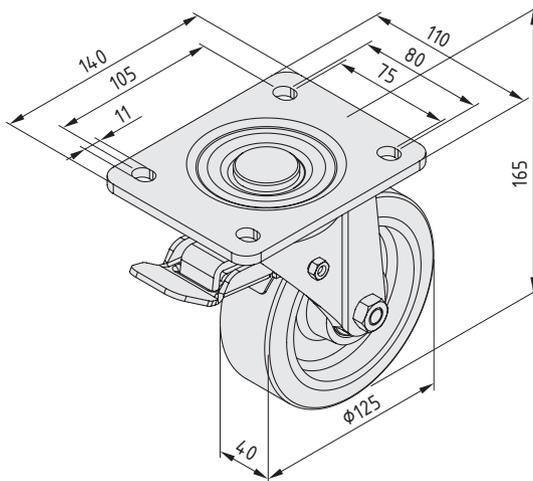


Castor D125 swivel, heavy-duty

Sheet-metal casing, bright zinc-plated, black
 Swivelling axis with ball bearing and rotating track seal
 Wheel axle with ball bearing
 Carrying capacity 450 kg/castor
 Tyres PU, 92 Sh A, yellow
 m = 3.2 kg

1 pce.

0.0.488.38

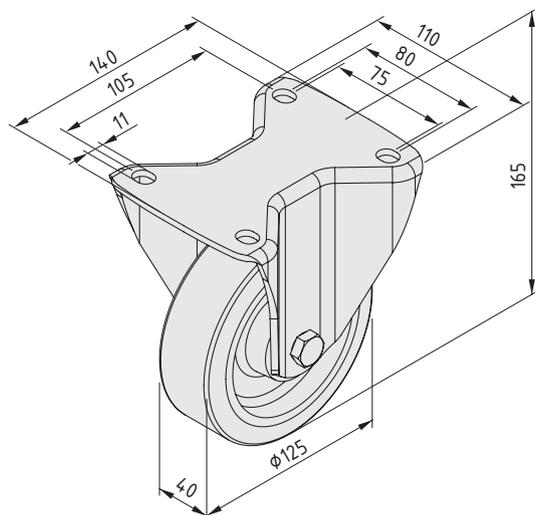


Castor D125 swivel with double-brake, heavy-duty

Sheet-metal casing, bright zinc-plated, black
 Swivelling axis with ball bearing and rotating track seal
 Wheel axle with ball bearing
 Carrying capacity 450 kg/castor
 Tyres PU, 92 Sh A, yellow
 m = 3.5 kg

1 pce.

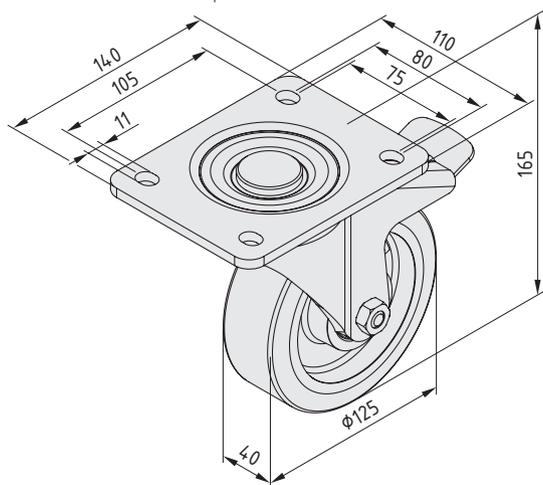
0.0.488.39

**Castor D125 fixed, heavy-duty**

Sheet-metal casing, bright zinc-plated, black
 Wheel axle with ball bearing
 Carrying capacity 450 kg/castor
 Tyres PU, 92 Sh A, yellow
 m = 2.3 kg

1 pce.

0.0.488.40

**Castor D125 swivel with double-brake N, heavy-duty**

Sheet-metal casing, bright zinc-plated, black
 Swivelling axis with ball bearing and rotating track seal
 Wheel axle with ball bearing
 Carrying capacity 450 kg/castor
 Tyres PU, 92 Sh A, yellow
 m = 3.5 kg

1 pce.

0.0.492.18



Castor Line D160 swivel with Connecting Plate 140x110

- Castor and connecting plate in one
- Carrying capacity up to 400 kg
- Wide connecting plate with four holes
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

- Fork St, bright zinc-plated
- Wheel axle with ball bearing
- Dust shield
- Wheel body PA
- Tyre TPU, 94 Sh A, grey
- Load-carrying capacity 400 kg/Castor

Castor D160 swivel 140x110

m = 2.1 kg

1 pce.

0.0.667.29

Castor D160 swivel 140x110 antistatic



m = 2.1 kg

1 pce.

0.0.667.30

Castor D160 swivel with double-brake 140x110

m = 2.6 kg

1 pce.

0.0.667.31

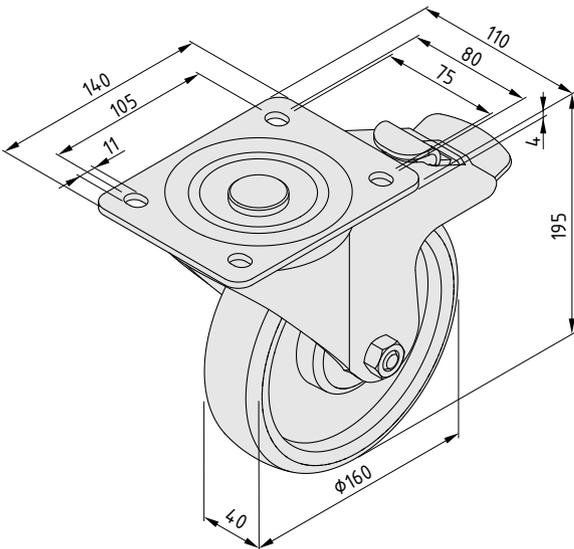
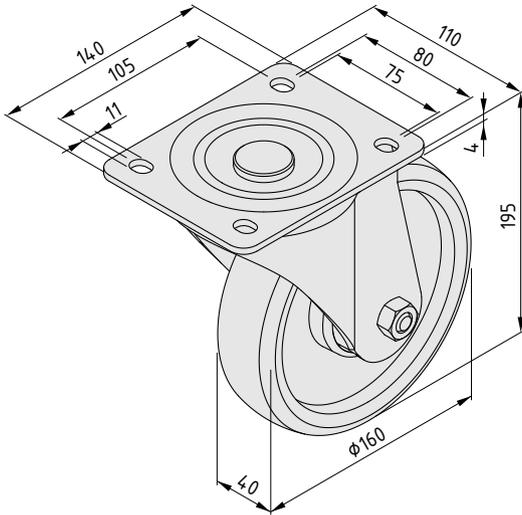
Castor D160 swivel with double-brake 140x110 antistatic

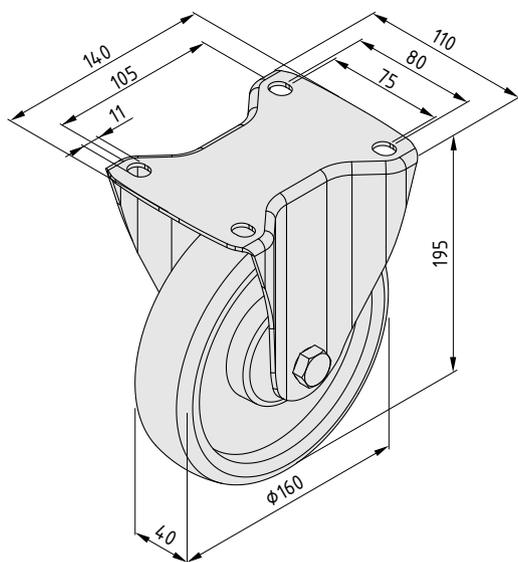


m = 2.6 kg

1 pce.

0.0.667.32




Castor D160 fixed 140x110

m = 1.4 kg

1 pce.

0.0.667.33

Castor D160 fixed 140x110 antistatic

ESD

m = 1.4 kg

1 pce.

0.0.667.34



Castor Line D200 swivel with Connecting Plate 140x110

- Castor and connecting plate in one
- Carrying capacity up to 400 kg
- Especially large Castor diameter
- Available in ESD-safe versions and with double brake



The following applies to all the products below:

- Fork St, bright zinc-plated
- Wheel axle with ball bearing
- Dust shield
- Wheel body PA
- Tyre TPU, 94 Sh A, grey
- Load-carrying capacity 400 kg/Castor

Castor D200 swivel 140x110

m = 2.4 kg

1 pce. 0.0.667.35

Castor D200 swivel 140x110 antistatic



m = 2.4 kg

1 pce. 0.0.667.36

Castor D200 swivel with double-brake 140x110

m = 2.9 kg

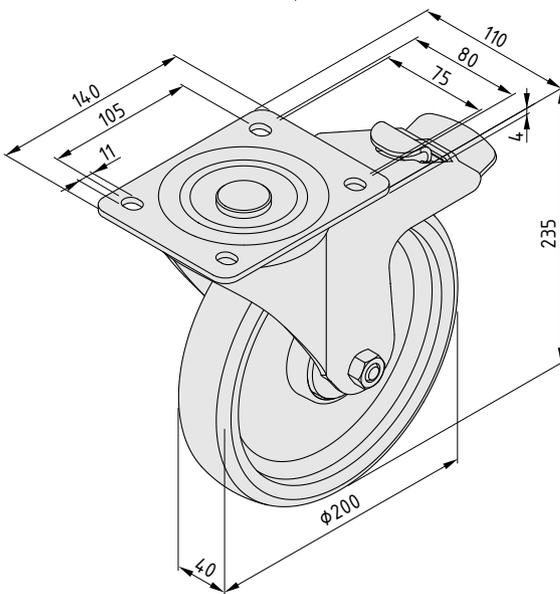
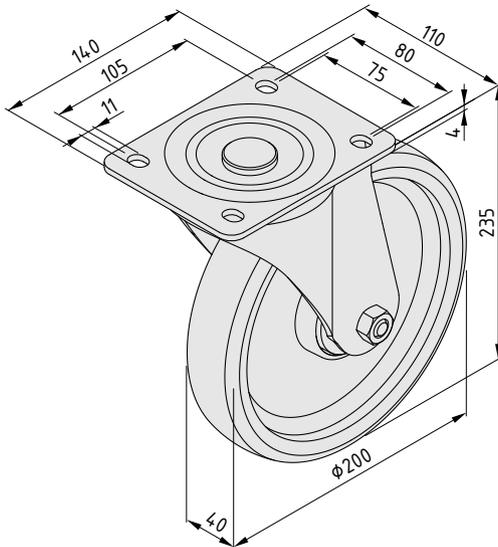
1 pce. 0.0.667.37

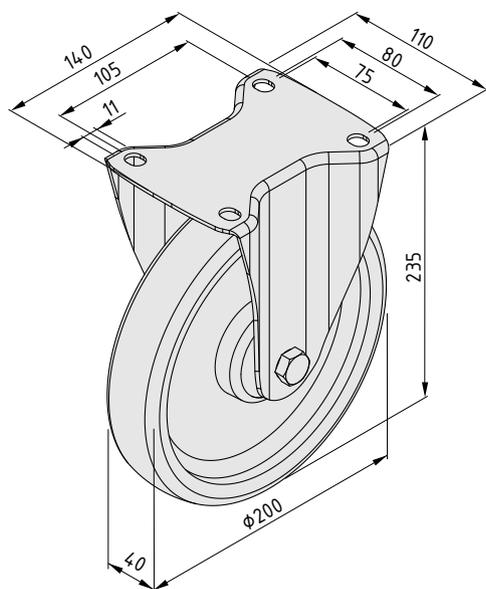
Castor D200 swivel with double-brake 140x110 antistatic



m = 2.9 kg

1 pce. 0.0.667.38




Castor D200 fixed 140x110

m = 1.6 kg

1 pce.

0.0.667.39

Castor D200 fixed 140x110 antistatic


m = 1.6 kg

1 pce.

0.0.667.40



Swivel Lock D100/D125 140x110 Swivel Lock D160/D200 140x110

- For Castors with an integrated connecting plate
- Fixes the direction of travel of a Swivel Castor
- Operated by foot

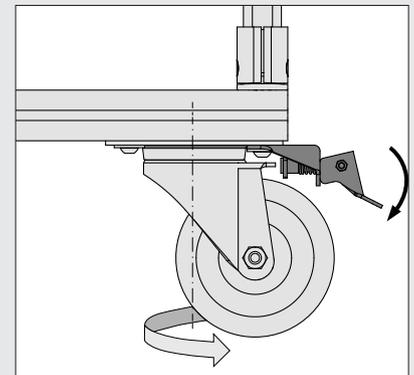
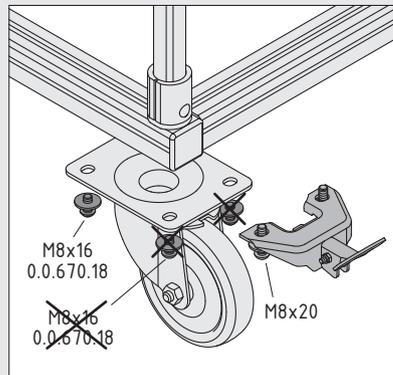
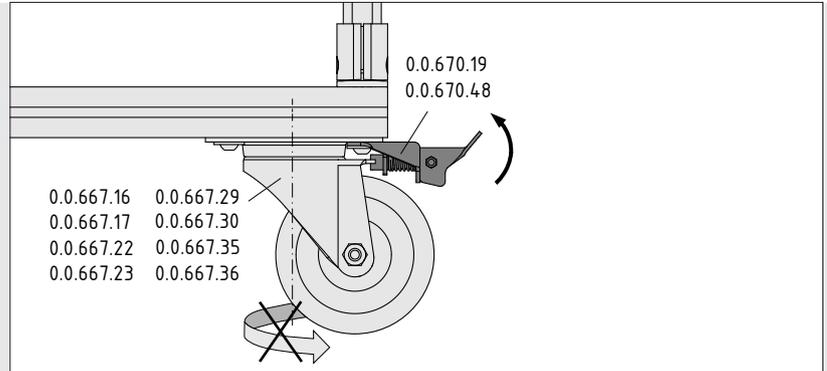


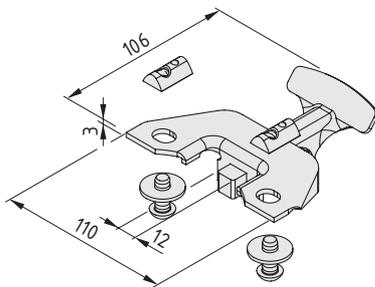
For keeping things on the straight and level: Transport trolleys with four Swivel Castors are easy to manoeuvre by hand, but are difficult to control when being towed in a train. To solve this problem, one pair of Castors has to be fixed to run straight ahead only. This can be achieved using the optional Swivel Lock for Swivel Castors D100, D125, D160 and D200 with a 140x110 connecting plate. It temporarily converts a Swivel Castor into a Fixed Castor. Consequently, users benefit from the advantages of both concepts.

The Swivel Locks are easy to operate by foot, with no need for bending over. The locking mechanism stops the Swivel Castor from rotating out of line. As a result, operators can use a Draw-bar to couple a transport trolley to a tugger train and move it around safely. When uncoupling the trolley, simply release the Swivel Lock and the trolley can once again be manoeuvred in all directions in the tightest of spaces.

item supplies Swivel Locks for Castors of various sizes. Swivel Lock D100/D125 and Swivel Lock D160/D200 are available.

Note: Swivel Locks cannot be fitted to a Swivel Castor with double-brake. They cannot be fitted to Castors with the narrow integrated 120x40 connecting plate either.

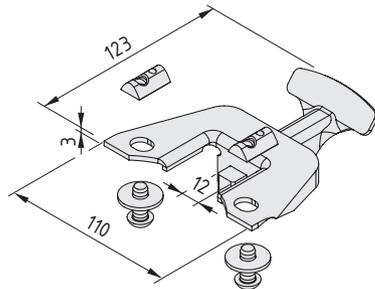


**Swivel Lock for Castor D100/D125 swivel 140x110**

Swivel Lock for Castor D100/D125 swivel 140x110, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated
 2 washers DIN EN ISO 7093-8.4, St, bright zinc-plated
 2 T-Slot Nuts 8 St M8, bright zinc-plated
 m = 301.0 g

1 set

0.0.670.19

**Swivel Lock for Castor D160/D200 swivel 140x110**

Swivel Lock for Castor D160/D200 swivel 140x110, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x20, St, bright zinc-plated
 2 washers DIN EN ISO 7093-8.4, St, bright zinc-plated
 2 T-Slot Nuts 8 St M8, bright zinc-plated
 m = 334.0 g

1 set

0.0.670.48

**Fastening Set 8 for Castor swivel/fixd 140x110**

Button-Head Screw ISO 7380-M8x16, St, bright zinc-plated
 Washer DIN EN ISO 7093-8.4, St, bright zinc-plated
 T-Slot Nut 8 St M8, bright zinc-plated
 m = 25.0 g

1 set

0.0.670.18



Jacking Castors D62

- A steady footing with height compensation
- Easy transport thanks to castor



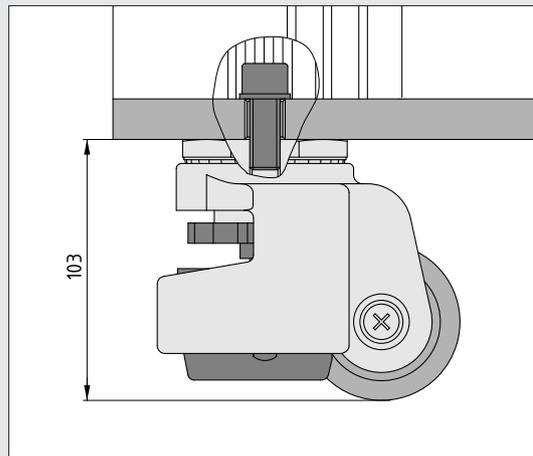
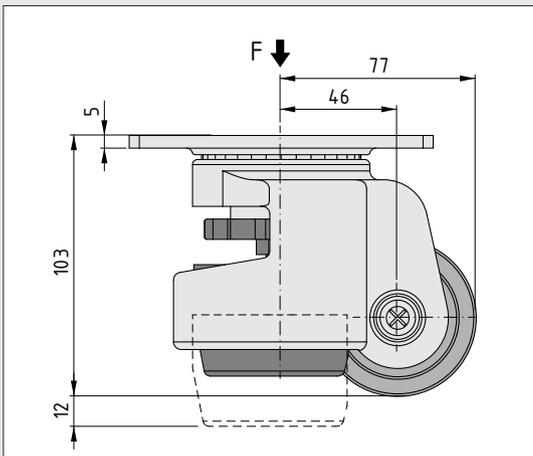
Can you have a footing that is rock solid, and yet movable? You can with the item Jacking Castor! This product combines a castor with a height-adjustable, non-slip knuckle foot. It enables personnel to move work benches, laboratory equipment and racks to precisely where they are needed. And when they get there, the integrated knuckle foot is simply lowered into position to ensure nothing shakes around or slips.

Jacking Castors D62 are designed to accommodate loads up to 3400 N. The height adjustment function can be operated via an integrated adjustment wheel or using a wrench (17 A/F). The knuckle foot can compensate for a difference in height of up to 12 mm.

Spanner 65A/F / 17A/F flat 



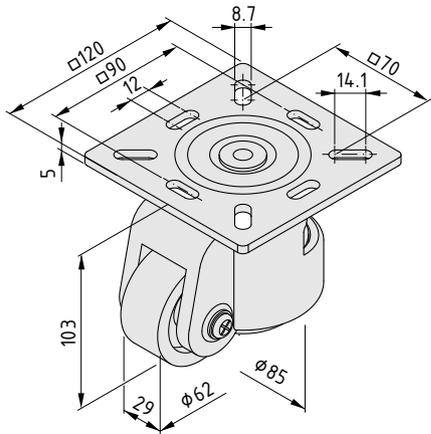
11



Carrying capacity 340 kg/castor

Jacking Castor D62 120x120 features a universal connecting plate that is compatible with frames made of Line 8 profiles. The screw attachment can be made using Button-Head Screw M8x16 (8.0.000.19) and T-Slot Nut 8 St M8 (0.0.026.18).

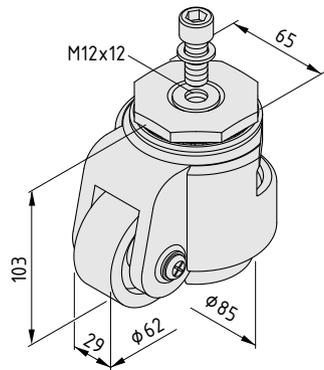
Jacking Castor D62 can be fitted directly to any Base Plate/Transport Plate with an M12 and M16 thread using the enclosed Hexagon Socket Head Cap Screw and washer.

**Jacking Castor D62 120x120**

Housing, die-cast Al, powder-coated RAL 9006 white aluminium
 Plate, St, bright zinc-plated
 Knuckle Foot, NBR, black
 Castor, PA, black
 m = 1.5 kg

1 pce.

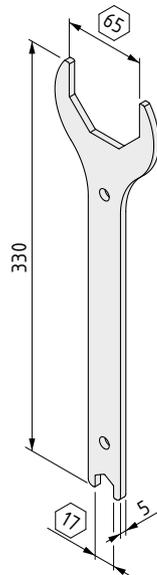
0.0.667.44

**Jacking Castor D62**

Housing, die-cast Al, powder-coated RAL 9006 white aluminium
 Plate, St, bright zinc-plated
 Knuckle Foot, NBR, black
 Castor, PA, black
 Hexagon Socket Head Cap Screw DIN 912-M12x30, St, bright zinc-plated
 Washer DIN 433-13, St, bright zinc-plated
 m = 1.1 kg

1 set

0.0.674.53

**Spanner 65A/F / 17A/F flat**

St, bright zinc-plated
 m = 416.0 g

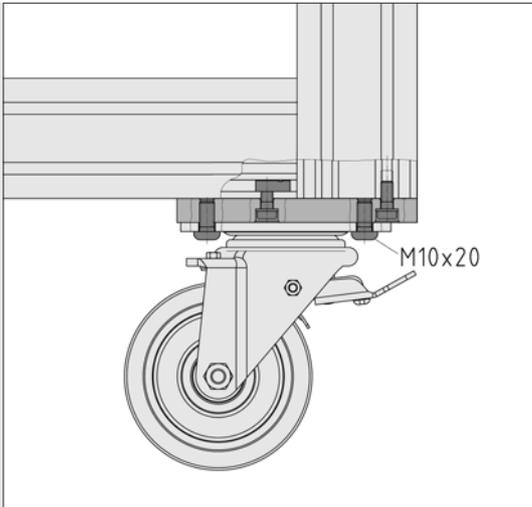
1 pce.

0.0.671.12



Castor Adapter Plates

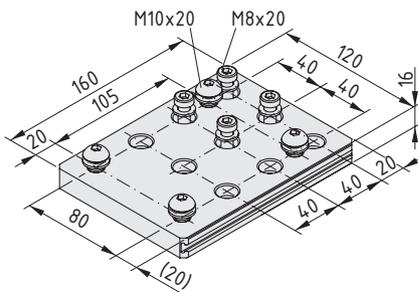
- For Castor Line D125 heavy-duty



The Castor Adapter Plates for the Castor Line D125 heavy duty have the necessary through-holes in the modular dimensions of Line 8 and 12 Profiles. They also have four fastening threads M10 for castor back-plates in bore dimensions standardised to DIN 8458 - size 3.

The stable back-plate with standard mounting bores provides a reliable means of securing the castors to profile frames using special Castor Adapter Plates. It is screwed in the prepared threads by means of four M10x20 screws per plate.

The Castor Adapter Plates are secured in the core bore using the enclosed Hexagon Socket Head Cap Screws or in the profile groove using T-Slot Nuts for the relevant profile line.



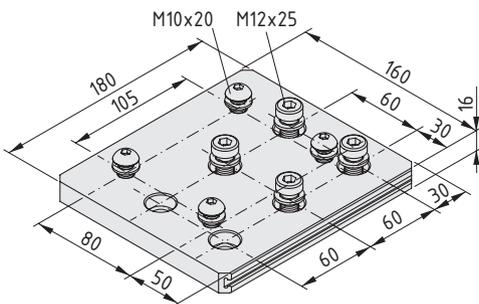
Castor Adapter Plate 8 M10-105x80



- Plate, Al, black
- 4 Cap Screws DIN 6912-M8x20, St, bright zinc-pl.
- 4 washers DIN 433-8.4, St, bright zinc-plated
- 4 button-hd. screws ISO 7380-M10x20, St, bright zinc-pl.
- 4 washers DIN 433-10.5, St, bright zinc-plated
- m = 0.8 kg

1 set

0.0.489.21



Castor Adapter Plate 12 M10-105x80



- Plate, Al, black
- 4 Cap Screws DIN 7984-M12x25, St, bright zinc-pl.
- 4 washers DIN 433-13, St, bright zinc-plated
- 4 button-hd. screws ISO 7380-M10x20, St, bright zinc-pl.
- 4 washers DIN 433-10.5, St, bright zinc-plated
- m = 1.3 kg

1 set

0.0.007.76



Castor Support 8 80x40

- For fastening Castors D100 and D125
- Ensures structures have a low centre of gravity for increased stability
- Flexible impact protection as standard

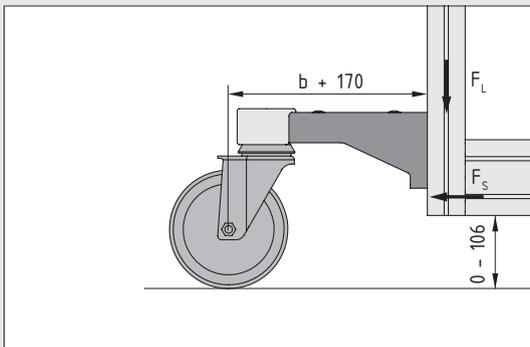


Reduced construction height = lower centre of gravity = increased stability!
The perfect equation for mobile applications thanks to Castor Support 8 80x40.

For fitting D100 or D125 swivel castors (with single central fixing holes), including versions with double-brakes. Castors are always able to rotate around the full 360°. Perfect for connection to the end faces of Profiles 8 80x40. Simply drive M8 threads into the core bores and the Castor Support can be connected in a matter of seconds. All the necessary fastening elements are included in the set – getting constructions on the go fast.



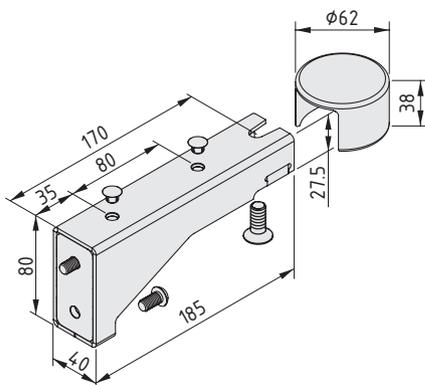
Safety built in – series-standard elastomer impact protection prevents damage and injuries if an accident happens.



Castor Support 8 80x40 ensures that your construction has a low centre of gravity.

$$F_L = \frac{60 \cdot F_s}{b + 170}$$

The permissible load F_L varies according to the permissible tensile load on the groove flanks F_s . Furthermore, F_L must not exceed the carrying capacity of the castor.



Castor Support 8 80x40



- Castor arm, St, white aluminium
- Impact Buffer, PUR, grey
- 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-plated
- Countersunk Screw DIN 7991-M10x25, St, bright zinc-plated
- 2 protective plugs, PE, grey
- m = 750.0 g

1 set

0.0.642.76

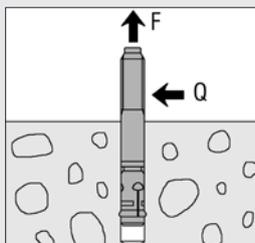


Floor-Fastening Sets

- Special bolts for anchoring in floors and walls
- Particularly suitable for use in concrete

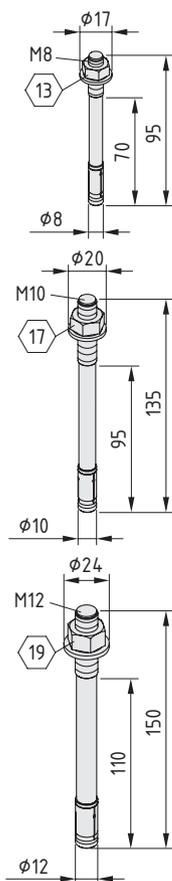
The Floor-Fastening Sets are used for floor and wall fastening of Adjustable Feet, Base Plates, Floor-Fixing Plates, Foot Clamps and other components.

They are very suitable for use in concrete and can also be used in natural stone (dense structure).



Floor-Fastening Set	F _{max.}	Q _{max.}
M8x95	1,650 N	4,250 N
M10x135	3,570 N	9,520 N
M12x150	4,760 N	14,290 N

11



Floor-Fastening Set M8x95

Floor anchor M8x95
Nut, similar to DIN 934-M8, St, bright zinc-plated
Washer, similar to ISO 7089-M8, St, bright zinc-plated
M = 20 Nm m = 38.0 g

bright zinc-plated, 1 pce. 0.0.432.97

Floor-Fastening Set M10x135

Floor anchor M10x135
Nut, similar to DIN 934-M10, St, bright zinc-plated
Washer, similar to ISO 7089-M10, St, bright zinc-plated
M = 45 Nm m = 82.0 g

bright zinc-plated, 1 pce. 0.0.485.82

Floor-Fastening Set M12x150

Floor anchor M12x150
Nut, similar to DIN 934-M12, St, bright zinc-plated
Washer, similar to ISO 7089-M12, St, bright zinc-plated
M = 60 Nm m = 128.0 g

bright zinc-plated, 1 pce. 0.0.485.83



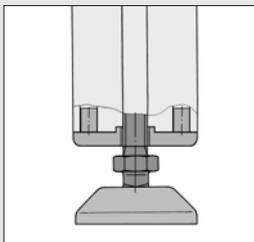
Foot Caps

- Profile covering above the Knuckle Foot
- Stops dirt getting into the profile and prevents injuries
- Products from Line X also available



A Foot Cap light is a plastic cap used to cover the end face of a Profile 8 40x40 light when a Knuckle Foot is screwed into the core bore of the profile.

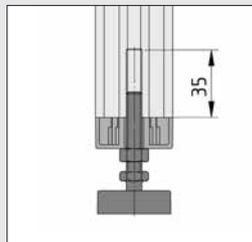
Note: To protect the Foot Cap, the counter nut of the Knuckle Foot can only be tightened with a reduced torque ($M = 10 \text{ Nm}$).



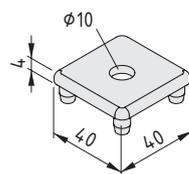
The Foot Cap is clamped in the outer profile cavities in the Profile 8 40x40 light.



Foot Cap X 8 40x40 light is used with Profiles X 8. Knuckle Foot X D40, M8x80 has an extended spindle which makes it ideal for combining with Foot Cap X 8 40x40 light.



11

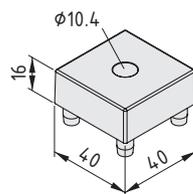


Foot Cap 8 40x40 light



PA-GF
m = 6.0 g
black, 1 pce.

0.0.473.03

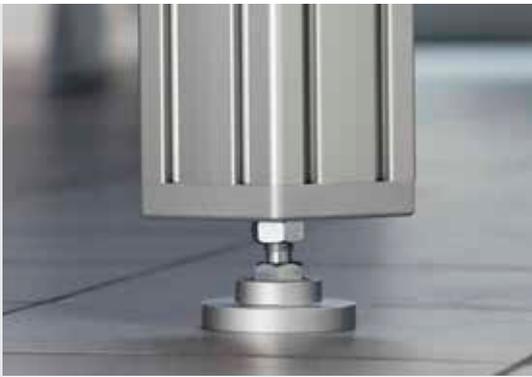


Foot Cap X 8 40x40 light



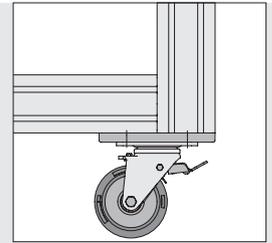
PA-GF
m = 15.0 g
grey similar to RAL 7042, 1 pce.

0.0.601.21



Base Plates/Transport Plates

- Stable termination for the end faces of profiles
- For securely fastening castors and Knuckle Feet
- Products from Line X also available

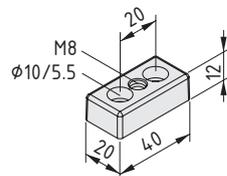


The Base Plates/Transport Plates, made from die-cast zinc, are powder-coated on all sides and can be screwed into the core bores of profile end faces or laterally into the grooves of the profiles. Threads of different diameters accommodate ring bolts, adjustable feet, castors and other elements.

Base Plate/Transport Plate 10 200x100 has 4 pre-drilled M10 threaded holes for fastening Swivel or Fixed Castor D125 heavy duty.

Materials used in all the following products:

Die-cast zinc



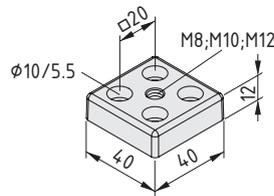
Base Plate/Transport Plate 5 40x20, M8



m = 56.0 g

black, 1 pce.

0.0.437.58



Base Plate/Transport Plate 5 40x40, M8



m = 112.0 g

black, 1 pce.

0.0.437.59

Base Plate/Transport Plate 5 40x40, M10



m = 109.0 g

black, 1 pce.

0.0.437.60

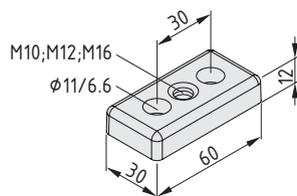
Base Plate/Transport Plate 5 40x40, M12



m = 107.0 g

black, 1 pce.

0.0.437.61



Base Plate/Transport Plate 6 60x30, M10



m = 102.0 g

black, 1 pce.

0.0.439.16

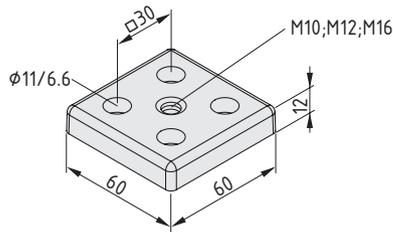
Base Plate/Transport Plate 6 60x30, M12



m = 101.0 g

black, 1 pce.

0.0.431.06

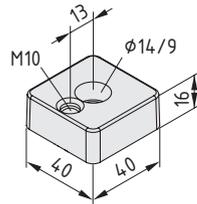


Base Plate/Transport Plate 6 60x30, M16	
m = 95.0 g	
black, 1 pce.	0.0.431.07

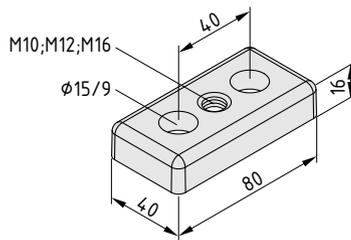
Base Plate/Transport Plate 6 60x60, M10	
m = 193.0 g	
black, 1 pce.	0.0.439.15

Base Plate/Transport Plate 6 60x60, M12	
m = 192.0 g	
black, 1 pce.	0.0.431.08

Base Plate/Transport Plate 6 60x60, M16	
m = 186.0 g	
black, 1 pce.	0.0.431.09



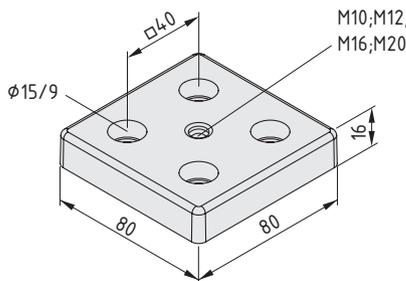
Base Plate 8 40x40, M10	
m = 119.0 g	
black, 1 pce.	0.0.608.85



Base Plate/Transport Plate 8 80x40, M10	
m = 253.0 g	
black, 1 pce.	0.0.440.71

Base Plate/Transport Plate 8 80x40, M12	
m = 251.0 g	
black, 1 pce.	0.0.406.32

Base Plate/Transport Plate 8 80x40, M16	
m = 241.0 g	
black, 1 pce.	0.0.406.33

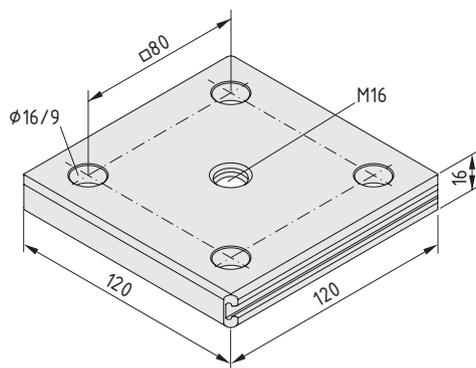


Base Plate/Transport Plate 8 80x80, M10	
m = 461.0 g	
black, 1 pce.	0.0.440.72

Base Plate/Transport Plate 8 80x80, M12	
m = 459.0 g	
black, 1 pce.	0.0.406.22

Base Plate/Transport Plate 8 80x80, M16	
m = 449.0 g	
black, 1 pce.	0.0.406.23

Base Plate/Transport Plate 8 80x80, M20	
m = 440.0 g	
black, 1 pce.	0.0.406.24



Base Plate/Transport Plate 8 120x120, M16

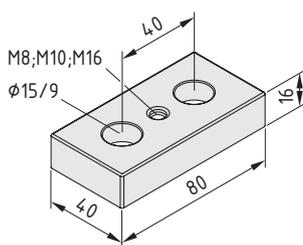


Al, anodized

m = 600.0 g

natural, 1 pce.

0.0.620.05



Base Plate/Transport Plate X 8 80x40, M8



m = 253.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.600.55

Base Plate/Transport Plate X 8 80x40, M10



m = 256.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.604.52

Base Plate/Transport Plate X 8 80x40, M16



m = 246.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.607.03

Base Plate/Transport Plate X 8 80x80, M10



m = 463.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.604.53

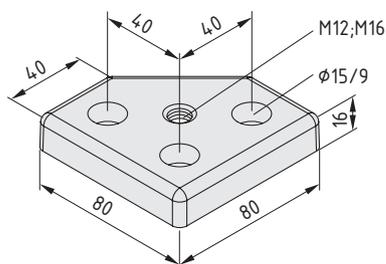
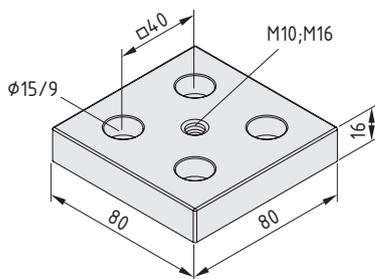
Base Plate/Transport Plate X 8 80x80, M16



m = 453.0 g

white aluminium, similar to RAL 9006, 1 pce.

0.0.600.56



Base Plate/Transport Plate 8 80x80-45°, M12



m = 427.0 g

black, 1 pce.

0.0.409.50

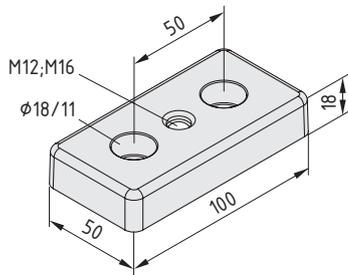
Base Plate/Transport Plate 8 80x80-45°, M16



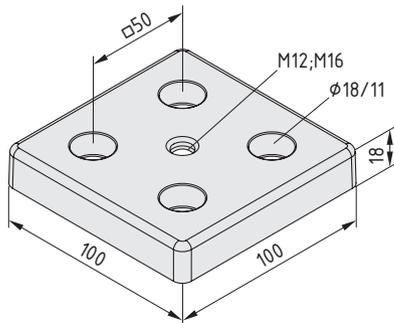
m = 412.0 g

black, 1 pce.

0.0.409.51



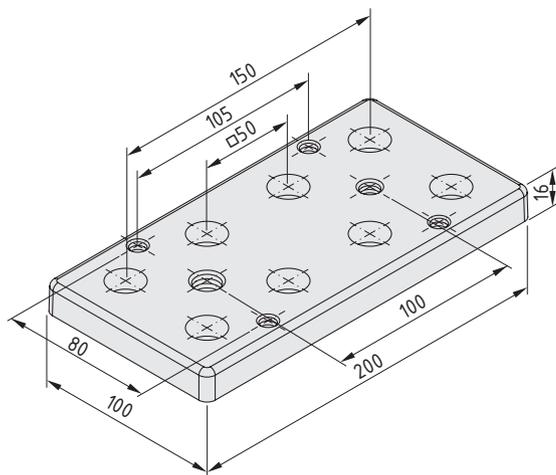
Base Plate/Transport Plate 10 100x50, M12	
m = 425.0 g	
white aluminium, similar to RAL 9006, 1 pce.	0.0.625.15



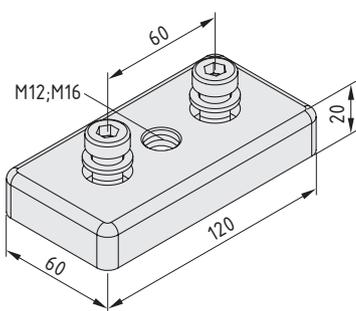
Base Plate/Transport Plate 10 100x50, M16	
m = 420.0 g	
white aluminium, similar to RAL 9006, 1 pce.	0.0.625.16

Base Plate/Transport Plate 10 100x100, M12	
m = 886.0 g	
white aluminium, similar to RAL 9006, 1 pce.	0.0.625.19

Base Plate/Transport Plate 10 100x100, M16	
m = 877.0 g	
white aluminium, similar to RAL 9006, 1 pce.	0.0.625.20

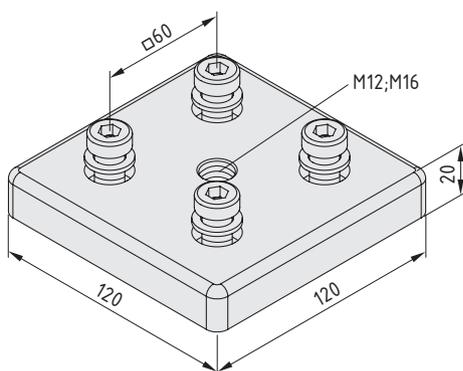


Base Plate/Transport Plate 10 200x100	
m = 1272.0 g	
white aluminium, similar to RAL 9006, 1 pce.	0.0.625.27



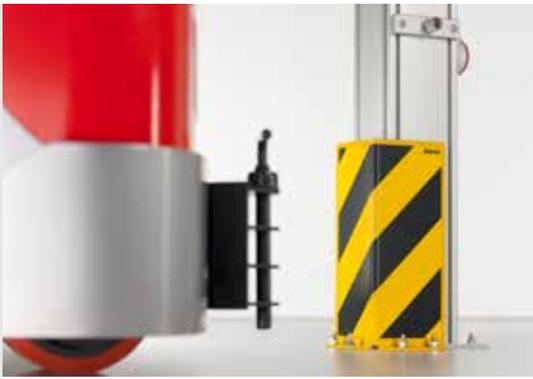
Base Plate/Transport Plate 12 120x60, M12	
2 Cap Screws DIN 7984-M12x30, St, bright zinc-plated 2 washers DIN 433-13, St, bright zinc-plated m = 800.0 g	
black, 1 set	0.0.007.34

Base Plate/Transport Plate 12 120x60, M16	
2 Cap Screws DIN 7984-M12x30, St, bright zinc-plated 2 washers DIN 433-13, St, bright zinc-plated m = 800.0 g	
black, 1 set	0.0.007.37



Base Plate/Transport Plate 12 120x120, M12	
4 Cap Screws DIN 7984-M12x30, St, bright zinc-plated 4 washers DIN 433-13, St, bright zinc-plated m = 1.5 kg	
black, 1 set	0.0.007.40

Base Plate/Transport Plate 12 120x120, M16	
4 Cap Screws DIN 7984-M12x30, St, bright zinc-plated 4 washers DIN 433-13, St, bright zinc-plated m = 1.5 kg	
black, 1 set	0.0.007.43



Collision Guard L

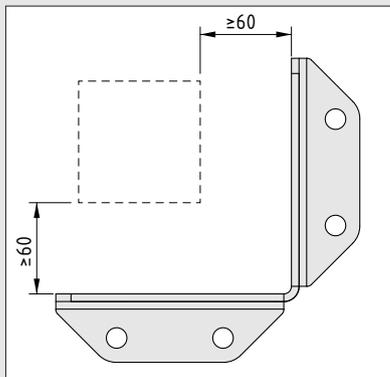
- Protects freestanding objects
- Complies with DGUV Regulation 108-007

According to DGUV Regulation 108-007 (previously BGR 234), when a rack is loaded from a forklift or other freely steerable machinery and/or is located on a route used by such machinery, its corner areas must be protected by a mechanical cover. The robust item Collision Guard L is anchored to the ground and acts as a fixed guard to stop vehicles colliding with the rack. The L-shaped Collision Guard is 405 mm high.

Collision Guard L is not joined to the rack. It provides added safety in areas where there is a high risk of collisions due to turning vehicles and trolleys. The black & yellow hazard markings draw attention to the guard unit in line with ASR A 1.3.

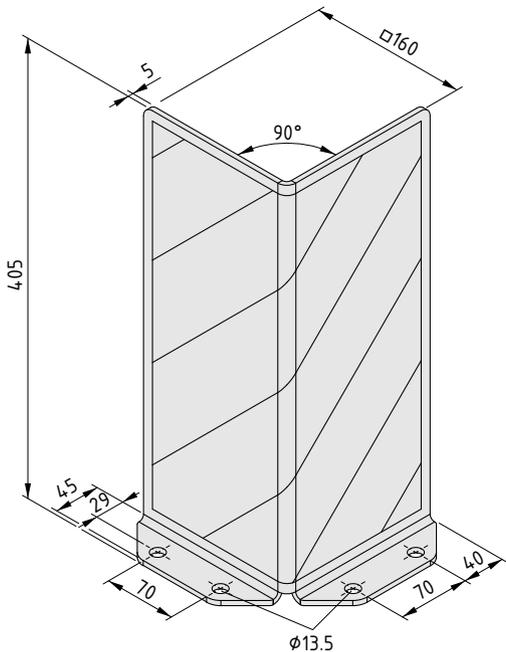
item supplies floor anchors for various surface qualities, such as Floor-Fastening Set M10x135 (0.0.485.82).

Floor-Fastening Sets 386



A clearance of at least 60 mm must be maintained to ensure compliance with the DGUV regulations.

11



Collision Guard L With Hazard Markings

Collision Guard L, St, signal yellow similar to RAL 1003
Hazard Markings 375x295 SA
m = 5.5 kg

1 pce.

0.0.665.48

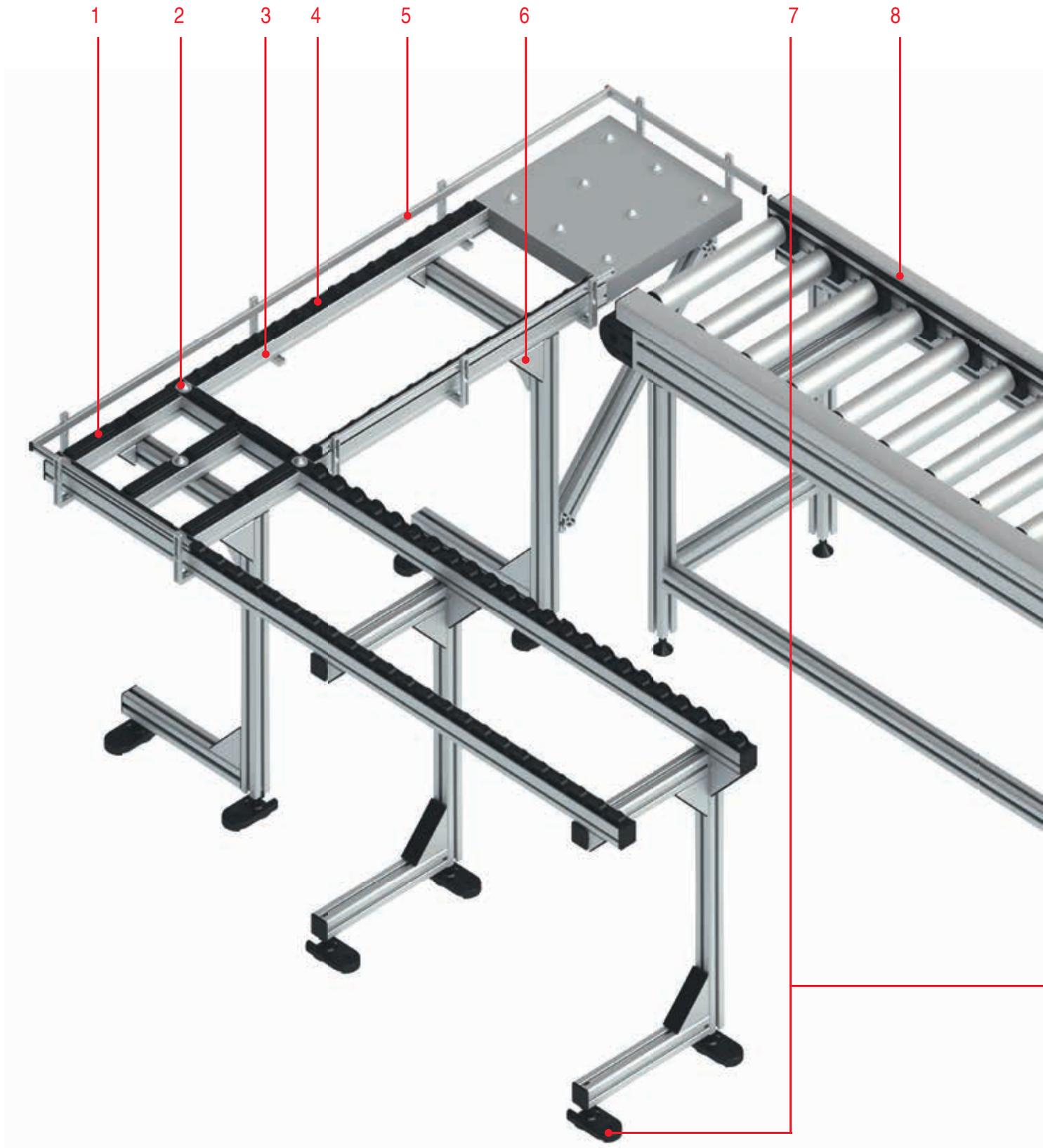


CONVEYORS

12

Slide Strips
Roller Conveyors
Roller Elements
Conveyor Rollers
Chain Transfer

Application example – conveyors
Transport solutions and goods provision



12



1 Slide Strips

- Low-wear plastic strips protect transported goods
- Antistatic properties prevent charges from building up
- Can also be installed at two different heights in the Castor Rail

📄397 Section **12**

6 Angle Bracket

- Additional hold for high-strength constructions
- Item fasteners create frames that are durable, secure and versatile

📄96 Section **2**

2 Castor Balls

- Lightweight goods transport in any direction
- Ideal for junctions and insertion/removal points
- Can be integrated into Castor Rails and panel elements

📄403 Section **12**

7 Floor elements

- For stability on all floor surfaces
- Compensate for unevenness in floors
- Secure anchoring to the floor when required

📄333 Section **11**

3 Castor Rails

- Universal carrier profile for various transport inserts
- Castors, Slide Strips, Brushes and Castor Balls
- Easy to combine

📄402 Section **12**

8 Conveyor Rollers

- Manual or motorised drive
- Aluminium or plastic rollers
- Easy running, even over long stretches

📄408 Section **12**

4 Castor Inserts

- Easy running castors, even for long stretches
- Available with or without flanged wheel
- Available in different colours for volume control

📄401 Section **12**

9 Chain drive

- Powerful and resistant to dirt
- Chain runs safely inside the profile groove
- Drive can be installed at any point

📄411 Section **12**

5 Railings

- Stable side guidance for transported goods
- Can be customised for conveyor lines

📄406 Section **12**

10 Frames

- Easily adjustable thanks to universal profiles
- Profile grooves enable attachment of all elements
- Construction of conveyor lines to fit any space

📄27 Section **1**

12

Key: 📄 See page **0** Products in this section **0** Products in other sections

Conveyors
Products in this section



Slide Strips

- Wear-resistant plastic strips with low friction
- Protect profile surfaces and transported goods

📄397



Brush Strips 8

- Adjustable covering for openings
- Scratch protection for profiles and goods

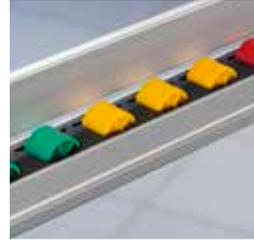
📄398



Castor Rail 8 40x40

- Universal carrier profile for various transport inserts
- Line 5 and 8 grooves ensure versatility

📄399



Castor Inserts D30

- Easy-running castors for universal use
- Available in flanged and ESD-safe versions

📄401



Castor Ball Insert

- Gentle goods transport in any direction
- Integrated into Castor Rails or panel elements

📄403



Brush Insert

- Exceptionally gentle due to bristle structure of contact surface
- Electrostatically dissipative version for safe transport

📄403



Slide Strip ESD

- Low-wear plastic strips compatible with Castor Rail 8
- Two-level installation possible

📄404



Railing Support 8/5 100x80

- Side guide for conveyor lines
- Customised railings made from Profiles 5

📄406



Conveyor Roller TR32

- For transporting light-weight workpieces
- Simple work bench interlinking

📄408



Conveyor Roller TR50

- Robust rollers for heavy loads
- Aluminium or plastic

📄409



Groove Profiles

- For fixing rollers at regular intervals
- In two modular dimensions for various axle spacings

📄410



Chain Guidance in the Profile Groove

- Inherently safe design
- Compact power transmission solution with no protruding parts

📄414



Chain Transfer

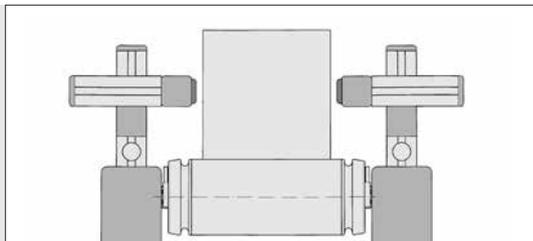
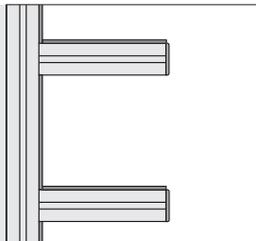
- For transporting workpiece carriers directly on the Chain
- Also suitable for breaking up bottlenecks

📄417



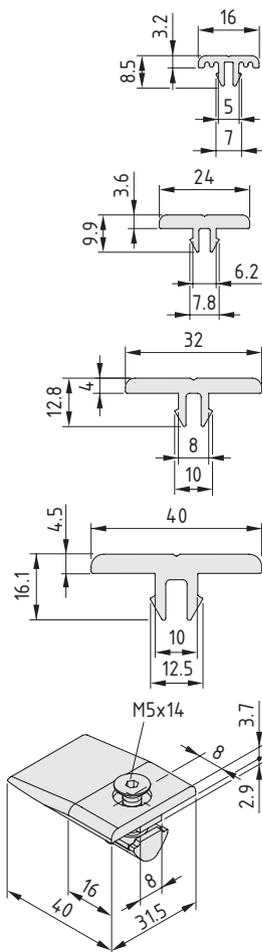
Slide Strips

- Wear-resistant plastic strips with low sliding friction
- For simple goods transportation
- Protect profile surfaces from abrasion
- Antistatic properties prevent charges from building up



Slide Strip 8 can be combined with Slide Strip Wedge 8 (this functions as an end and lead-in piece).

They can also be used as rebate strips and guide rails or can be employed as a support base, e.g. in shelves to protect sensitive products.



Slide Strip 5 antistatic



PE-UHMW
m = 49 g/m
black, 1 pce., length 2000 mm

0.0.437.27

Slide Strip 6 antistatic



PE-UHMW
m = 90 g/m
black, 1 pce., length 2000 mm

0.0.441.08

Slide Strip 8 antistatic



PE-UHMW
m = 150 g/m
black, 1 pce., length 2000 mm

0.0.457.99

Slide Strip 10 antistatic



PE-UHMW
m = 226 g/m
black, 1 pce., length 2000 mm

0.0.625.28

Slide Strip Wedge 8



PA
T-Slot Nut 8 St/PA M5
Countersunk Screw DIN 7991-M5x14, St, black
m = 9.0 g
black, 1 set

0.0.422.04



Brush Strips 8

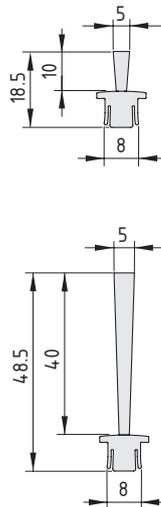
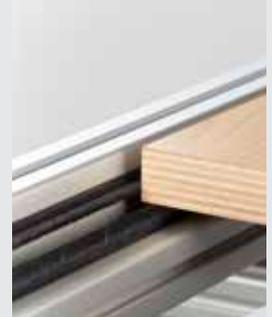
One product – two applications

- Protect profiles and goods
- Seal door gaps
- Simply clip into the groove



Brush Strips 8 are genuine all-rounders. They cover door gaps, keeping out air currents, dust and noise. These flexible but robust brushes protect goods and profiles alike from damage caused by friction and impacts. One less thing to worry about when it comes to moving goods. The plastic also reduces problematic vibrations, which makes the Brush Strips ideal for use as dampening features.

Another advantage is that they are very easy to use. The Brush Strips are simply clipped into the groove on a Line 8 profile. That's all there is to it! The Brush Strips are available in two bristle lengths – 10 or 40 mm – and should be selected according to use. While the short bristles are particularly suitable for transport applications and as door seals, the long bristles can be used to create a flexible barrier against air currents, through which cables can be fed. When used as a form of cold aisle containment, the long bristles help stop cold air escaping machine climate control systems at access points.



Brush Strip 8 H10



Brush mount, ABS
Bristles, PA
m = 79 g/m

black, 1 pce., length 1000 mm	0.0.655.32
black, cut-off max. 1000 mm	0.0.655.33

Brush Strip 8 H40



Brush mount, ABS
Bristles, PA
m = 131 g/m

black, 1 pce., length 1000 mm	0.0.655.35
black, cut-off max. 1000 mm	0.0.655.34



Castor Rail 8 40x40

The flexible system for manual workpiece transport

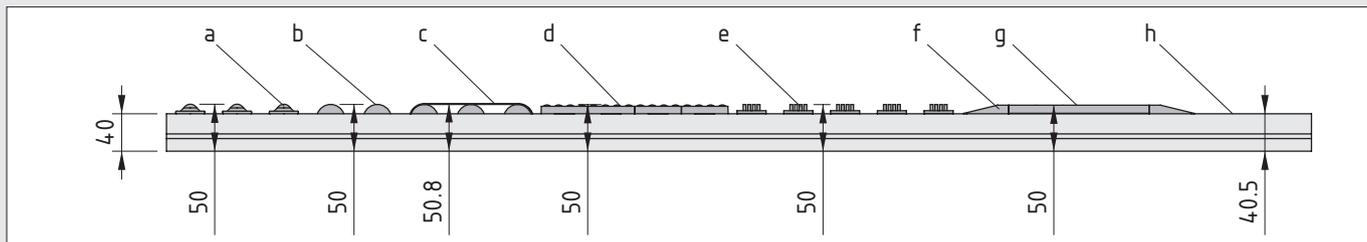
- Universal carrier profile for various transport inserts
- Line 5 and 8 grooves ensure versatility



The Castor Rail 8 40x40 is a true all-rounder for interlinking work benches. The universal profile can be fitted with any combination of Castor, Castor Ball, Brush and Slide Strip Inserts, with ESD-safety available as required.

The Castor Rail itself is inherently stable and, thanks to the use of Line 5 and 8 grooves, is easy to fasten, adjust and fit with a railing – ideal for keeping your workpieces on track. The maximum load capacity for each insert is 100 N.

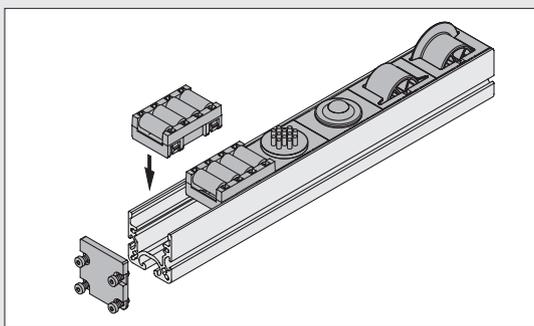
The added benefits for KanBan shelves: coloured castors mark fill levels, castor brakes make sure your workpieces reach the removal station at the right speed and Caps can be used to fit impact buffers or cushions to the Castor Rail. Castor Ball Sets and Brush Sets in the Castor Rails also allow movement across the direction of the Castor Rails and ensure low friction and gentle transport.



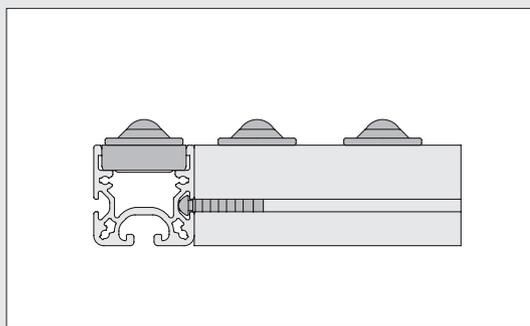
The wide range of inserts available for Castor Rail 8 40x40 make it a true all-rounder:

- a: Castor Ball Inserts ESD
- b: Castor Inserts D30/Castor Inserts D30 with Flanged Wheel, ESD-safety optional
- c: Castor Rail 8 40x40, Brake

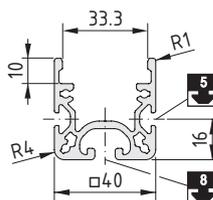
- d: Roller Inserts 4xD11
- e: Brush Inserts ESD
- f: Slide Strip Wedge Insert ESD
- g: Castor Rail 8 40x40, Slide Strip ESD – raised installation
- h: Castor Rail 8 40x40, Slide Strip ESD – low installation



Customising Castor Rail 8 40x40 couldn't be easier: Simply push the inserts into the rail to build your ideal roller conveyor. Caps secure the ends.



Interlinking two Castor Rails 8 40x40 using fastening elements and Profile 5 and 8 grooves.



Castor Rail 8 40x40

Al, anodized

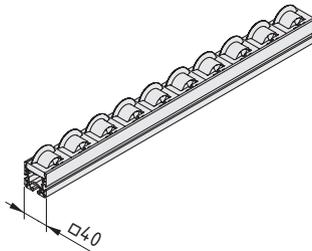
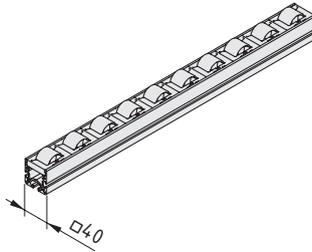
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.65	1.28	5.65	9.87	3.86	4.93
natural, cut-off max. 6000 mm					0.0.626.91
natural, 1 pce., length 6000 mm					0.0.618.28



Roller Conveyor 8 D30

The complete roller conveyor with Castor Rail 8

- Length up to 6,000 mm
- In modular dimension of 50 mm



Roller Conveyor 8 D30	  
Castor Rail 8 40x40, Al, natural anodized Castor Inserts, black m = 1.70 kg/m	
cut-off max. 6000 mm	0.0.628.40
Roller Conveyor 8 D30 ESD	 
Castor Rail 8 40x40, Al, natural anodized Castor Inserts, black m = 1.70 kg/m	
cut-off max. 6000 mm	0.0.628.42
Roller Conveyor 8 D30 with Flanged Wheel	
Castor Rail 8 40x40, Al, natural anodized Castor Inserts with Flanged Wheel, black m = 1.70 kg/m	
cut-off max. 6000 mm	0.0.628.41
Roller Conveyor 8 D30 ESD with Flanged Wheel	 
Castor Rail 8 40x40, Al, natural anodized Castor Inserts with Flanged Wheel, black m = 1.70 kg/m	
cut-off max. 6000 mm	0.0.628.43



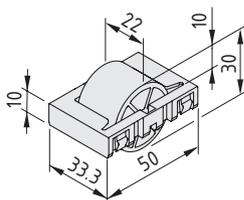
Castor Inserts D30

- Easy-running castors for universal use
- Various colours mark fill levels
- Available in ESD-safe version
- Compatible with Castor Rail 8



The following applies to all the products below:

Castor D30, PA
Housing, PA-GF, black
Axle, St, stainless



Castor Insert D30

m = 18.1 g	
black similar to RAL 9005, 1 set	0.0.620.16
signal green similar to RAL 6032, 1 set	0.0.627.08
signal yellow similar to RAL 1003, 1 set	0.0.627.07
signal red similar to RAL 3001, 1 set	0.0.627.06

Castor Insert D30 ESD



m = 19.2 g	
black similar to RAL 9005, 1 set	0.0.622.27



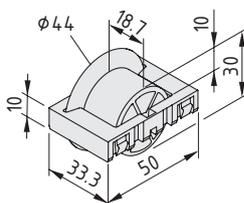
Castor Insert D30 with Flanged Wheel

- For guidance along the conveyor line
- Various colours mark fill levels
- Available in ESD-safe version
- Compatible with Castor Rail 8



The following applies to all the products below:

Castor D30 with flanged wheel, PA
Housing, PA-GF, black
Axles, St, stainless



Castor Insert D30 with Flanged Wheel

m = 19.6 g	
black similar to RAL 9005, 1 set	0.0.620.06
signal green similar to RAL 6032, 1 set	0.0.627.11
signal yellow similar to RAL 1003, 1 set	0.0.627.10
signal red similar to RAL 3001, 1 set	0.0.627.09

Castor Insert D30 with Flanged Wheel ESD

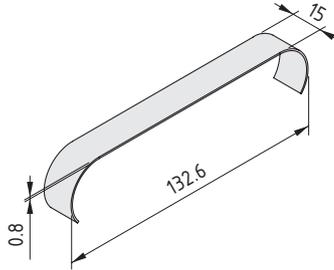


m = 21.0 g	
black similar to RAL 9005, 1 set	0.0.622.28



Castor Rail 8 40x40, Brake

- Bring workpieces to a halt at the desired point
- Simply pushed on to the Castor Inserts



Castor Rail 8 40x40, Brake

St, stainless
m = 2.0 g

1 pce.

0.0.619.34

12



Roller Insert 4xD11

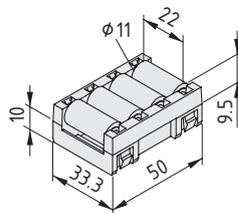
These rollers are tough. Roller Insert 4xD11 makes light work of moving even heavy loads. Each module comprises four solid rollers that distribute load more efficiently than a single castor. Their size means they can be used alongside all the other inserts designed for Castor Rail 8 40x40.

The rollers can even cope well with crates that have awkward or irregular bases, since low rolling resistance keeps everything running smoothly and provides a high load-carrying capacity. Permissible load per Roller Insert: $F_{max} = 250$ N.



The following applies to all the products below:

4 rollers D11, PA
Housing, PA-GF, black
4 axles, St, stainless



Roller Insert 4xD11

m = 31.0 g

black similar to RAL 9005, 1 set

0.0.644.55

Roller Insert 4xD11 ESD

m = 30.0 g

black similar to RAL 9005, 1 set

0.0.648.98



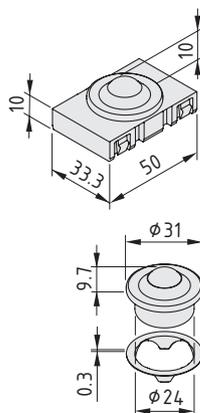
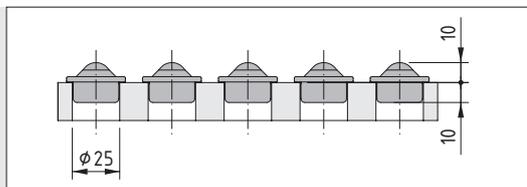


Castor Ball Set Castor Ball Insert ESD

- Goods can be moved in any direction over surfaces
- Low wear and low friction
- Ideal for versatile insertion and removal points that are gentle on goods
- Castor Ball Set can also be integrated into panel elements



Castor Ball Sets and Brush Sets are also suitable for use in the table tops that connect to your interlinked track – for insertion and removal or for the careful warehousing of your goods. And of course they are anti-static and thus prevent electrostatic build-up.



Castor Ball Insert ESD



Castor Ball D24, St
Housing, PA-GF, black
m = 50.0 g

1 set

0.0.620.26

Castor Ball Set

Castor Ball D24, St
Fastening clip, St, bright zinc-plated
m = 45.0 g

1 set

0.0.620.93

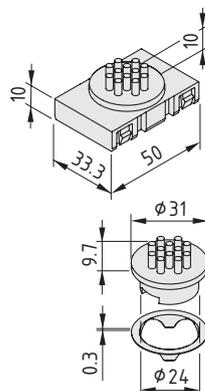


Brush Set ESD Brush Insert ESD

- Gentle transportation over elastic fibres
- Bristle structure of contact surface prevents scratching
- Brush Set ESD for use in panel elements

12

Gentle transportation over elastic fibres. Bristle structure of contact surface reduces friction. Brush Set ESD can be directly integrated into panel elements.



Brush Insert ESD



Brush unit ESD, PA, black
Housing, PA-GF, black
m = 18.0 g

1 set

0.0.622.22

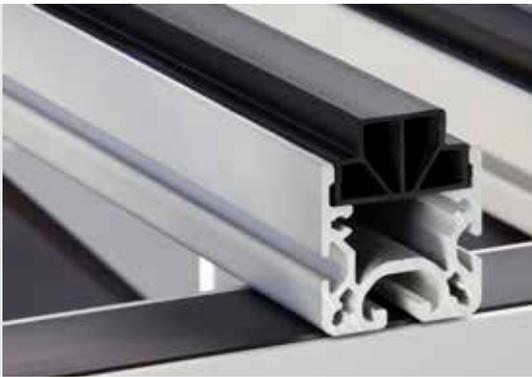
Brush Set ESD



Brush unit ESD, PA, black
Fastening clip, St
m = 8.0 g

1 set

0.0.622.24

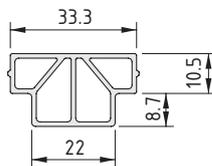
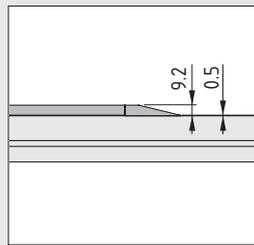


Castor Rail 8 40x40, Slide Strip ESD

- Low-wear plastic strips for simple goods transport
- Two-level installation possible
- Compatible with Castor Rail 8
- Made from ESD-safe plastic



Slide Strip for use with Castor Rail 8 40x40. A two-level installation can be implemented. ESD plastic prevents your products from accumulating an electrostatic charge while on the move.



Castor Rail 8 40x40, Slide Strip ESD



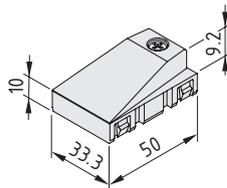
PE-HD m = 140 g/m	
black, cut-off max. 3000 mm	0.0.622.26
black, 1 pce., length 3000 mm	0.0.620.00

12



Slide Strip Wedge Insert

- For a smooth transition between the two levels of the Slide Strips



Slide Strip Wedge Insert ESD



Slide Strip Wedge, PA, ESD, black Housing, PA-GF, black Button-Head Screw Z3.5x15, St, bright zinc-plated m = 20.0 g	
1 set	0.0.620.84

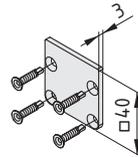
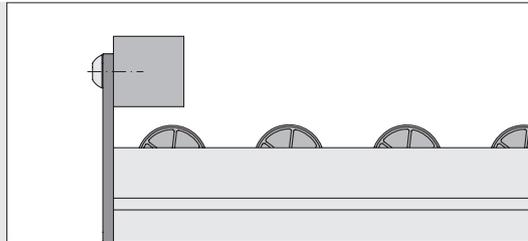


Castor Rail 8 Caps

- Secure transport inserts in Castor Rails
- Also suitable as fixing for Impact Buffer

The Cap is available in two lengths. The shorter version closes the end face of Castor Rail 8 and stops the transport inserts from slipping out. The longer version can also be fitted with an Impact Buffer.

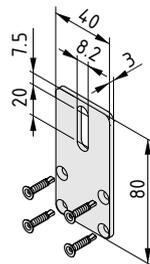
Impact Buffers  469



Castor Rail 8 Cap 40x40

St, bright zinc-plated, black
 4 Countersunk Screws self-tapping 3.9x19 TX20, St, bright zinc-plated
 m = 60.0 g

1 set 0.0.622.29



Castor Rail 8 Cap 80x40

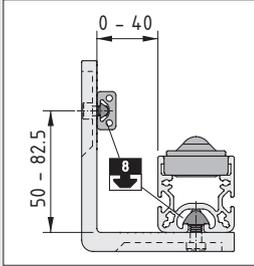
St, bright zinc-plated, black
 4 Countersunk Screws self-tapping 3.9x19 TX20, St, bright zinc-plated
 m = 102.0 g

1 set 0.0.622.30



Railing Support 8/5 100x80 Railing Fastening Set 5-135°

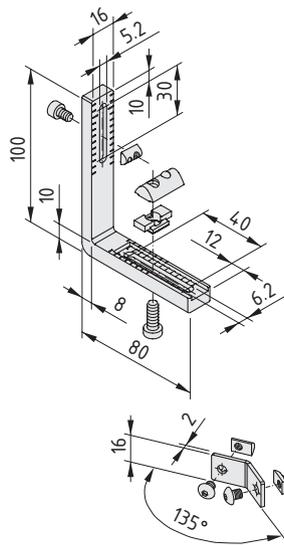
- Side guide for conveyor lines
- Customised railings made from Profiles 5



Fitted to the side of the Castor Rail, the railing made of Profiles 5 gives your products the support they need to stay on track. The railing also features broad lateral and vertical adjustment ranges.

Profiles 5 flat cross-sections 

Railing Fastening Set 5-135° can be easily adjusted to any angle from 90° to 180°.



Railing Support 8/5 100x80

Locating lug, die-cast zinc
T-Slot Nut V 8 St M6, bright zinc-plated
T-Slot Nut 5 St M5, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 7984-M6x16, St, bright zinc-plated
Hexagon Socket Head Cap Screw DIN 912-M5x8, St, bright zinc-plated
m = 135.0 g

1 set

0.0.622.20

Railing Fastening Set 5-135°

Angle bracket 5-135°, St, stainless
2 T-Slot Nuts 5 St M5, bright zinc-plated
2 Button-Head Screws M5x6, St, bright zinc-plated
m = 15.0 g

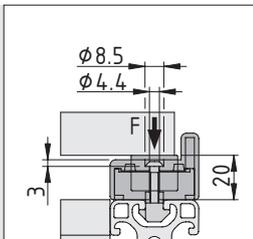
1 set

0.0.627.35



Roller Elements

- For conveyor lines that use Profiles 8 as support profiles
- Available with side guide

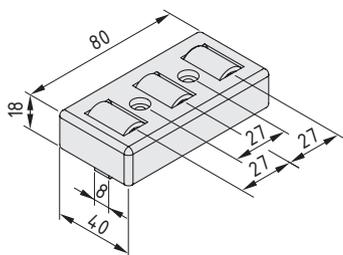


T-Slot Nuts 8 Zn M4 (0.0.373.58) and Button-Head Screws M4x25 (8.0.002.19) are suitable for fixing to Profiles 8.

The permissible load for the Roller Elements is:

F = 50 N and
F = 30 N (ESD)

T-Slot Nuts Zn 143
Button-Head Screws 153
ISO 7380



Roller Element 8 80

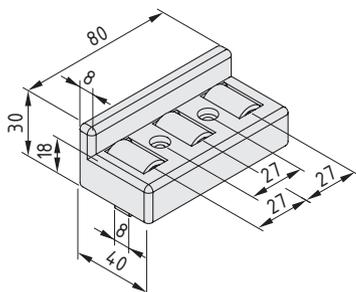
Lid element, PA-GF, black
Base element, PA-GF, black
3 rollers, POM, black
m = 45.0 g

1 pce. 0.0.436.58

Roller Element 8 80 ESD

Cover element, PA-GF, black
Base element, PA-GF, black
3 rollers, POM, black
m = 45.0 g

1 pce. 0.0.612.98



Roller Element 8 80 with side guide

Lid element with side guide, PA-GF, black
Base element, PA-GF, black
3 rollers, POM, black
m = 50.0 g

1 pce. 0.0.436.59

Roller Element 8 80 with side guide ESD

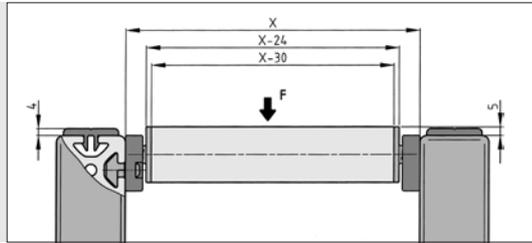
Cover element, PA-GF, black
Base element, PA-GF, black
3 rollers, POM, black
m = 50.0 g

1 pce. 0.0.612.99

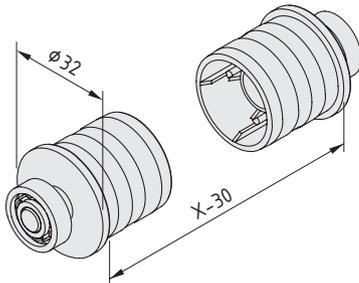


Conveyor Roller TR32

- For transporting lightweight workpieces
- Simple work bench interlinking
- Modular design makes installation easy



	F	X _{min.}	X _{max.}
Tube D32 Al	100 N	50 mm	600 mm
Tube D32 KU	50 N	50 mm	400 mm



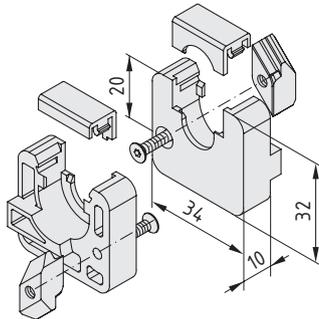
Conveyor Roller TR32, Bearing Set



2 bearing flanges, PA-GF, black
ball-bearing support, sealed
m = 16.0 g

1 set

0.0.472.08



Conveyor Roller TR32, Bearing Block Set 8



2 bearing blocks, PA, black
2 bearing clamps, PA, black
2 Countersunk Screws DIN 7991-M3x20, St, black
2 T-Slot Nuts 8 Zn M3, bright zinc-plated
m = 18.0 g

1 set

0.0.472.04

Tube D32 Al

Al, anodized

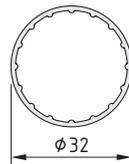
m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.34	1.50	1.50	2.84	0.94	0.94

natural, cut-off max. 3000 mm

0.0.472.22

natural, 1 pce., length 3000 mm

0.0.472.20



Tube D32 KU

PVC

Temperature range 0 - 60°C

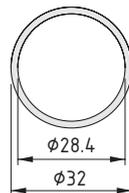
m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
0.27	2.13	2.13	4.16	1.33	1.33

black, cut-off max. 3000 mm

0.0.472.25

black, 1 pce., length 3000 mm

0.0.472.23





Conveyor Rollers TR50

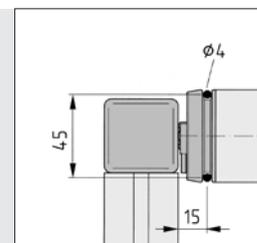
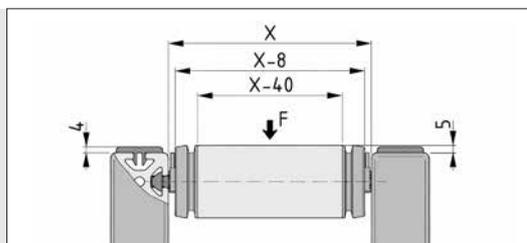
- Robust rollers for heavy loads
- Aluminium or plastic surface



Multi-functional Conveyor Roller for transport tasks of all kinds.

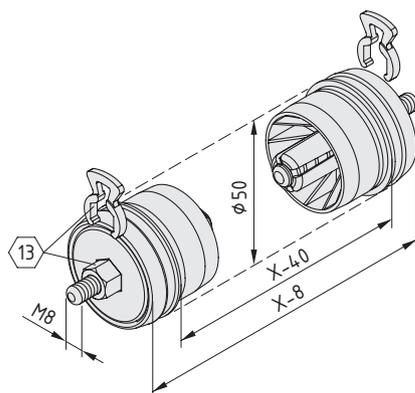
The ball-bearing Conveyor Rollers with aluminium or plastic Tube D50 can be removed from or retrofitted and screwed into existing structures by means of spring-loaded threaded axle pins. The axial position of the roller is maintained by two centring clips.

When fitting the Conveyor Rollers onto the frame profile, this is best done using the Groove Profile 8 Al M8-40, since this provides an easy means of ensuring consistent axle spacing.



	$F_{max.}$	$X_{min.}$	$X_{max.}$
Tube D50 Al	1000 N	160 mm	800 mm
Tube D50 KU	400 N	160 mm	500 mm

The circumferential groove in the bearing flanges also enable the Conveyor Rollers to be driven by a round belt \varnothing 4 mm, if desired.



Conveyor Roller TR50, Bearing Set



- 2 bearing flanges, PA-GF, black
- Ball-bearing support
- Bolt, St, bright zinc-plated
- 2 centring clips, PA-GF, black
- $m = 250.0$ g

1 set	0.0.422.63
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Tube D50 Al

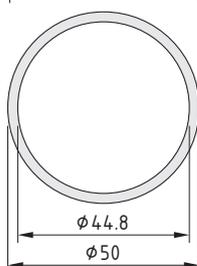
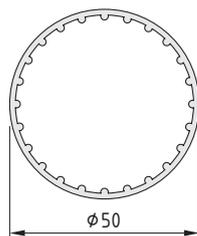
Al, anodized

m [kg/m]	I_x [cm ⁴]	I_y [cm ⁴]	I_t [cm ⁴]	W_x [cm ³]	W_y [cm ³]	
0.76	7.33	7.33	11.87	2.93	2.93	
natural, cut-off max. 6000 mm						0.0.416.03
natural, 1 pce., length 6000 mm						0.0.453.46

Tube D50 KU

PVC

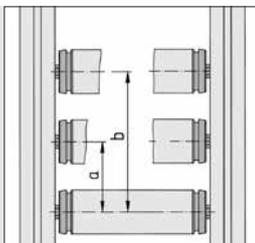
m [kg/m]	I_x [cm ⁴]	I_y [cm ⁴]	I_t [cm ⁴]	W_x [cm ³]	W_y [cm ³]	
0.62	10.90	10.90	21.26	4.36	4.36	
black, cut-off max. 3000 mm						0.0.427.63
black, 1 pce., length 3000 mm						0.0.453.85



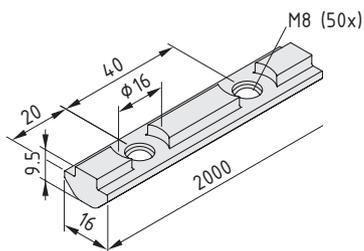


Groove Profile

- Pre-drilled threads at regular intervals
- Ensure conveyor lines exhibit a uniform design
- In two modular dimensions for various axle spacings



Groove Profile	a	b
8 Al M8-40	80 mm	120 mm
8 Al M8-60	60 mm	120 mm



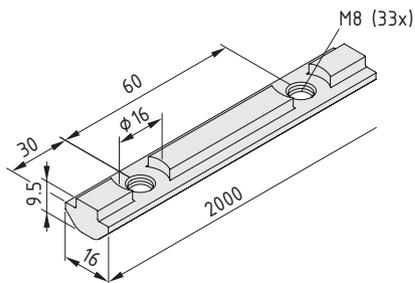
Groove Profile 8 Al M8-40



Al, anodized
Threaded bore M8 in modular dimension 40 mm
m = 500.0 g

natural, 1 pce., length 2000 mm

0.0.427.72



Groove Profile 8 Al M8-60



Al, anodized
Threaded bore M8 in modular dimension 60 mm
m = 510.0 g

natural, 1 pce., length 2000 mm

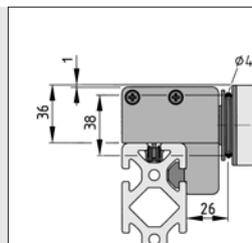
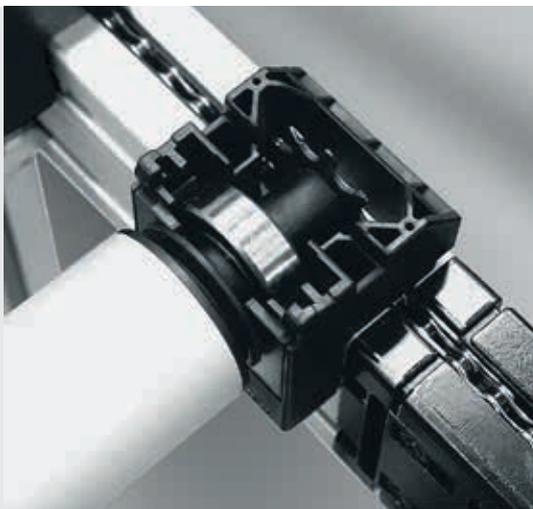
0.0.465.33



Chain-Driven Conveyor Rollers

The easy way to create automated transport solutions

- Complete package for specific requirements
- For roller conveyors up to 6,000 mm long
- Driven by concealed chain



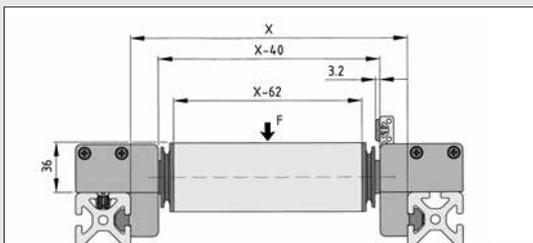
The housing of the Chain Reverse Unit is prepared for securing a Bearing Block. This Conveyor Roller is not driven via the chain. If required, the last Conveyor Roller can also be driven from the last driven roller by means of a $\varnothing 4$ mm round belt.

A simple ratchet mechanism is used to insert the Conveyor Rollers into the Bearing Blocks mounted on the frame profile.

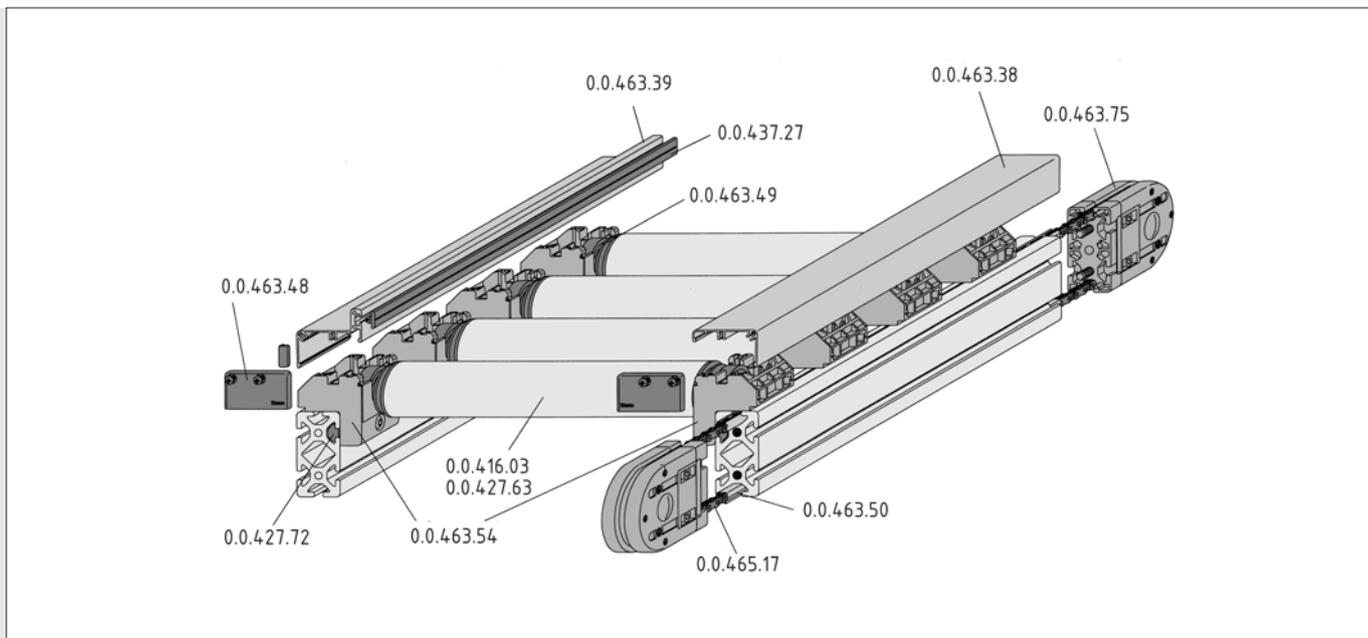
The Bearing Block Set comprises a fixed and a floating bearing. The fixed bearing must be positioned on the drive side of the Conveyor Roller.

When fitting the Bearing Blocks onto the frame profile, this is best done using a screw connection with Groove Profile 8 AI M8-40 (0.0.427.72), since this provides an easy means of ensuring consistent axle spacing.

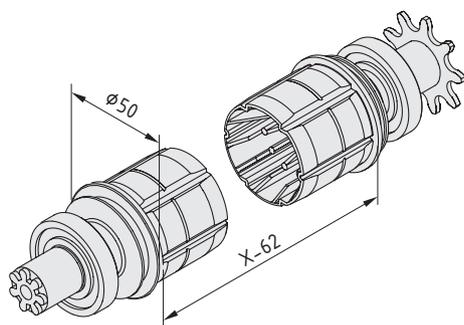
After fitting, the bearing blocks are covered by the Housing Profile, which stretches along the entire length of the roller conveyor. The design of the Housing Profile with Side Guide ensures that transported goods are kept on track and the side guide itself incorporates a Line 5 groove that enables users to attach a Slide Strip 5 or other guide element.



	F	X _{min.}	X _{max.}
Tube D50 AI	1000 N	150 mm	800 mm
Tube D50 KU	400 N	150 mm	500 mm



0.0.416.03	Tube D50 AI
0.0.427.63	Tube D50 KU
0.0.427.72	Groove Profile 8 AI M8-40
0.0.437.27	Slide Strip 5 antistatic
0.0.463.38	Conveyor Roller TRA50 (Chain-Driven), Housing Profile
0.0.463.39	Conveyor Roller TRA50 (Chain-Driven), Housing Profile with Side Guide
0.0.463.48	Conveyor Roller TRA50 (Chain-Driven), Housing End Cap Set
0.0.463.49	Conveyor Roller TRA50 (Chain-Driven), Bearing Set
0.0.463.50	Chain Guide Profile 8
0.0.463.54	Conveyor Roller TRA50 (Chain-Driven), Bearing Block Set
0.0.463.75	Chain Reverse Unit 8 80 with Bore
0.0.465.17	Chain 1/2"



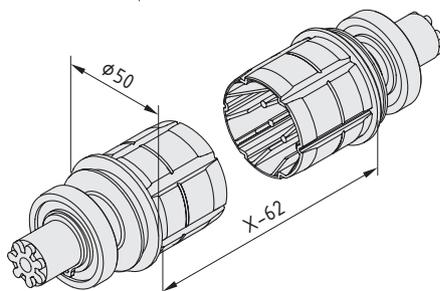
Conveyor Roller TRA50 (Chain-Driven), Driven Bearing Set



PA-GF
 Roller bearing, preassembled
 Bearing flange, driven, with sprocket wheel
 Bearing flange, not driven
 m = 285.0 g

black, 1 set

0.0.463.53



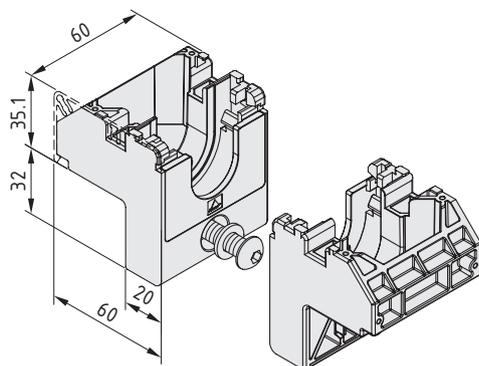
Conveyor Roller TRA50 (Chain-Driven), Bearing Set



PA-GF
 Roller bearing, preassembled
 2 bearing flanges, not driven
 m = 265.0 g

black, 1 set

0.0.463.49

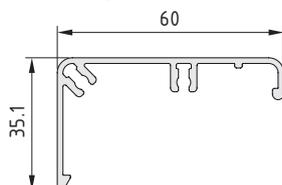


Conveyor Roller TRA50 (Chain-Driven), Bearing Block Set



2 Bearing Blocks, PA, black
 Fixed bearing cover, PA, black
 Floating bearing cover, PA, black
 2 Button-Head Screws ISO 7380-M8x25, St, bright zinc-pl.
 2 washers DIN 433-8.4, St, bright zinc-pl.
 m = 152.0 g

1 set	0.0.463.54
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Conveyor Roller TRA50 (Chain-Driven), Housing Profile

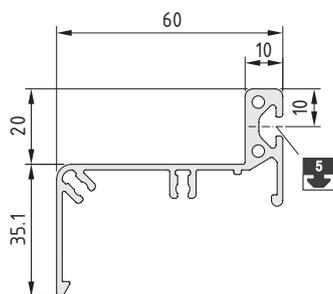


Al, anodized

A [cm ²]	m [kg/m]
2.17	0.59

natural, cut-off max. 3000 mm	0.0.463.38
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natural, 1 pce., length 3000 mm	0.0.463.81
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Conveyor Roller TRA50 (Chain-Driven), Housing Profile with Side Guide

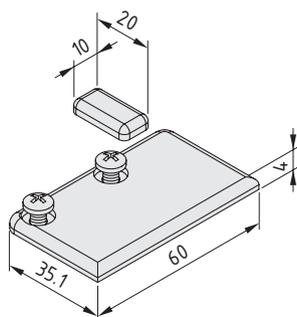


Al, anodized

A [cm ²]	m [kg/m]
3.36	0.91

natural, cut-off max. 3000 mm	0.0.463.39
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natural, 1 pce., length 3000 mm	0.0.463.83
---------------------------------	------------



Conveyor Roller TRA50 (Chain-Driven), Housing End Cap Set



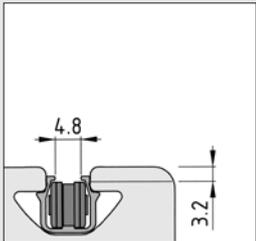
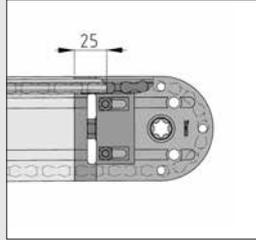
2 Caps 5 20x10
 TRA 50 housing cap, left
 TRA 50 housing cap, right
 4 Self-Tapp. Screws DIN 7981-St 4.2x9.5, St, bright zinc-pl.
 m = 22.0 g

1 set	0.0.463.48
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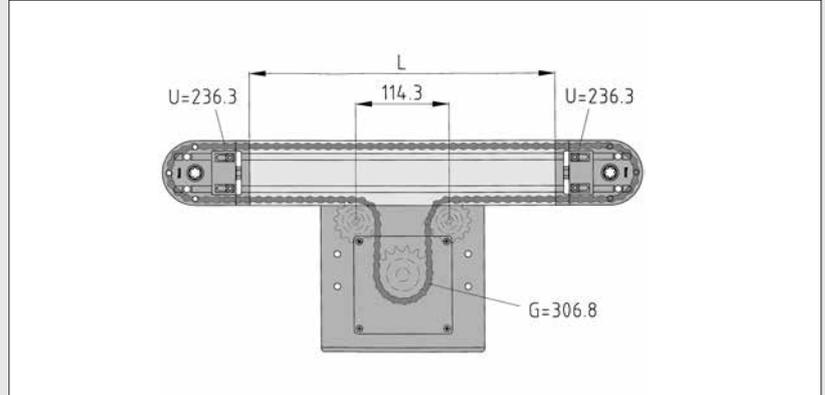
Chain Guidance in the Profile Groove

- Chain runs safely inside the profile groove
- Compact power transmission solution
- No protruding components



The Chain Reverse Units are screw-connected into the core bores in the end faces of the frame profiles. The Chain Guide Profile must be cut 50 mm longer than the aluminium profile, since it must project 25 mm into the Reverse Unit at each end.

Chain Guide Profile 8 encloses the Chain. The profile is inserted into the profile groove.



Calculating the chain length for a chain drive with two Chain Reverse Units 8 80 and one Chain Counter-Reverse Unit 8:

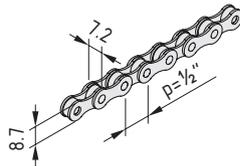
$$L_{\text{Chain}} = 2 \times L + 665.1 \text{ mm (+ 192.5 mm)}$$

To establish the exact length and precise number of chain links, divide the calculated chain length by 12.7 mm (= 1/2") and round up the result to a whole even number. Subtract one chain link from this total, to be replaced by the removable Chain Link.

Note: Because the Chain stretches when under operating load it may be necessary – depending on the length of the conveyor line – to install a Chain that is shorter than the calculated target length. This adjustment can be made during assembly. The play-free chain drive is adjusted at the Chain Reverse Units.

The stretching that occurs in a new Chain must also be compensated for by making adjustments to the Chain Reverse Units.

12



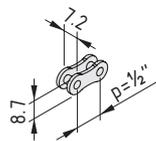
Chain 1/2"



St, nickel-plated
Pitch p = 12.7 mm corresponding to 1/2"
Operating load = max. 1,400 N
Elongation at 1,400 N = 2.5 - 3 ‰
m = 215 g/m

cut-off max. 25 m in 1" intervals 0.0.465.17

1 roll length 25 m 0.0.602.31



Chain Link 1/2" (removable)



St, nickel-plated
m = 2.0 g

1 set 0.0.465.39



Chain Guide Profile 8



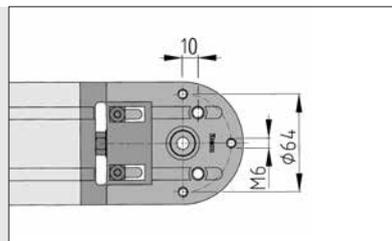
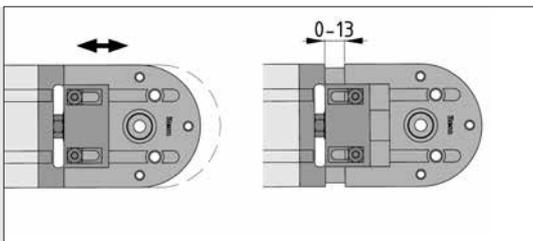
PA
m = 22 g/m

transparent, 1 pce., length 2000 mm 0.0.463.50



Chain Reverse Units 8 80

- Combination of Reverse Unit and Tensioning Block
- Can be connected directly to a motor
- Safe, concealed chain



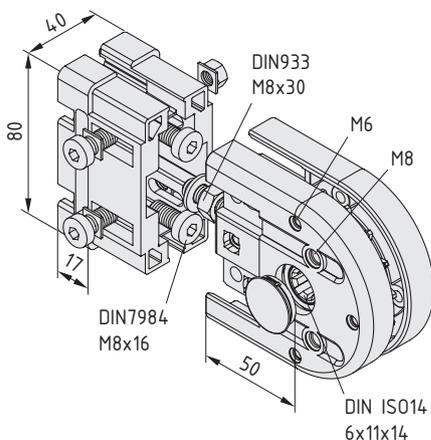
The Chain Reverse Unit incorporates integrated chain tensioning block and clamp.

The Chain tensioning distance is 2x13 mm in total. The Chain tension must be set so that the Chain can also be operated with the slack side of the Chain only slightly pre-tensioned.

It is possible to fit motors and couplings D55 directly to the Chain Reverse Unit.

The Chain can be driven directly using the Chain Reverse Units or the Chain Counter-Reverse Unit. The sprocket wheels of the Chain Reverse Units are available with multi-spline hub VK14 or with a bore that can be machined as required. Use of multi-spline hub VK14 enables the modular accessories (Synchroniser Shafts) to be used without any restrictions.

Couplings 623

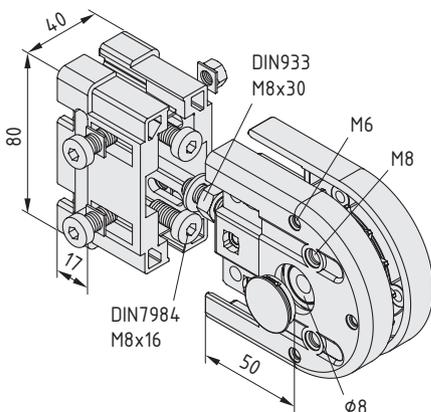


Chain Reverse Unit 8 80 VK14

Chain Reverse Unit, die-cast zinc, black, pre-assembled
 Ball-bearing sprocket wheel, $z = 16$ (z = number of teeth)
 One revolution corresponds to 203.2 mm
 effective radius $r_w = 32.3$ mm
 Hub with multi-spline DIN ISO 14-6x11x14
 Hub depth 30 mm, Max. load: $M_0 = 20$ Nm
 Tensioning Block, die-cast zinc, black, pre-assembled
 Fastening screws, St, black, 2 caps, PA, black
 Chain length in Reverse Unit 236.3 mm
 Notes on Use and Installation
 $m = 1.1$ kg

1 pce.

0.0.463.37



Chain Reverse Unit 8 80 with Bore

Chain Reverse Unit, die-cast zinc, black, pre-assembled
 Ball-bearing sprocket wheel, $z = 16$ (z = number of teeth)
 One revolution corresponds to 203.2 mm
 effective radius $r_w = 32.3$ mm
 Hub with bore D8, reborable up to max. $\varnothing 15$ mm
 Hub depth 30 mm, Max. load: $M_0 = 20$ Nm
 Tensioning Block, die-cast zinc, black, pre-assembled
 Fastening screws, St, black, 2 caps, PA, black
 Chain length in Reverse Unit 236.3 mm
 Notes on Use and Installation
 $m = 1.1$ kg

1 pce.

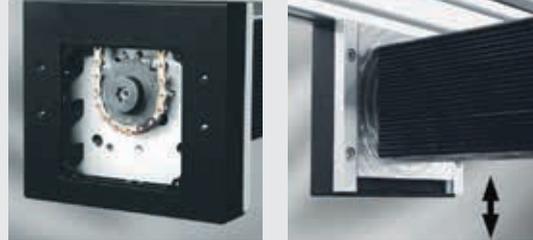
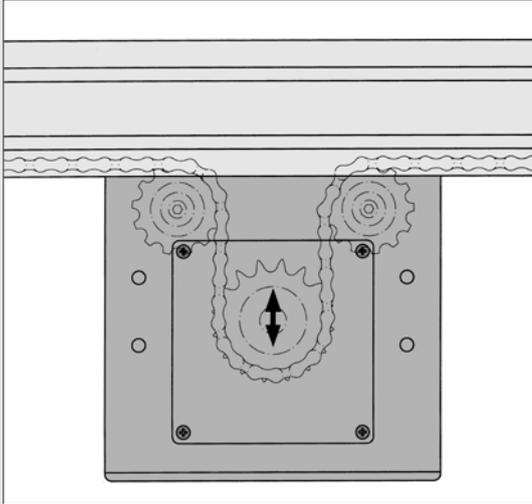
0.0.463.75

12



Chain Counter-Reverse Unit 8

- The versatile connection option for the motor of a chain drive
- Can be fitted at any point along the Chain return line
- Height-adjustable sprocket enables adjustment of Chain tension

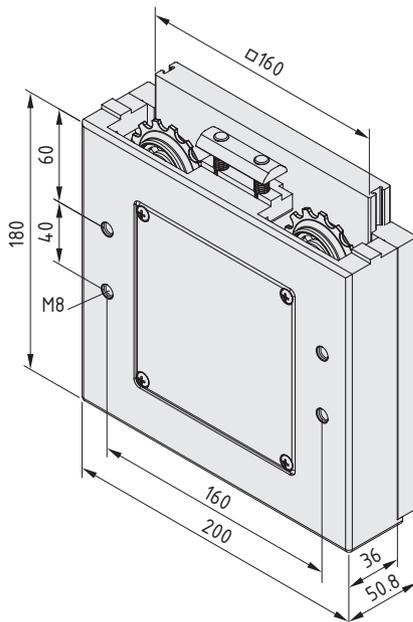


The Chain can be tensioned by moving the motor and sliding Adapter Plate Assembly within the Chain Counter-Reverse Unit if there is insufficient adjustment on the Chain Reverse Units.

The Chain Counter-Reverse Unit is screwed directly to the Support Profile. The Chain Guide Profile must be interrupted at this point in order to remove the chain from the profile groove.

Drive motors can be fitted using the Adapter Plate. The sprocket wheel hub and the Adapter Plate of the Chain Counter-Reverse Unit must be machined to suit requirements. The sprocket wheel is fitted directly onto the motor gearbox output shaft which also provides the necessary bearing arrangement.

12



Chain Counter-Reverse Unit 8



- Housing cast Aluminium, black, pre-assembled
- 2 reversing wheels, St, with ball bearings
- Drive wheel with centric bore, St, z = 16
- reborable up to \varnothing 24 mm or \varnothing 20 mm with parallel keyway to DIN 6885
- Adapter Plate with clamping elements, Al, natural
- Fastening screws, St, black
- T-Slot Nut 8 St 2xM8-50, St, bright zinc-plated
- 4 caps, PA, black
- Max. load: $M_D = 35$ Nm
- Chain length in Counter-Reverse Unit 306.8 mm
- Notes on Use and Installation
- m = 3.0 kg

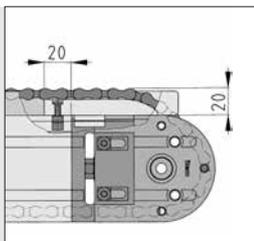
1 pce.

0.0.463.91

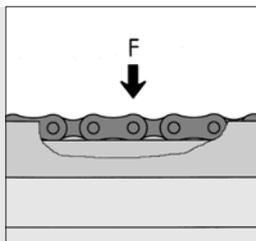


Chain Transfer

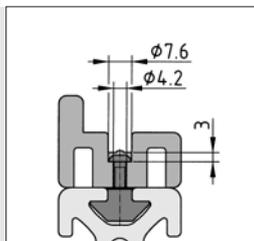
- For transporting workpiece carriers directly on the Chain
- Chain runs through a Slide Strip above the groove
- For parallel running chain drives with a Synchroniser Shaft
- ESD-safe Slide Strips prevent static charges



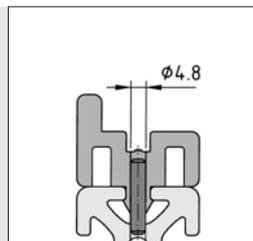
Start of chain transfer: the chain is guided over the End Ramp onto the Slide Strip.



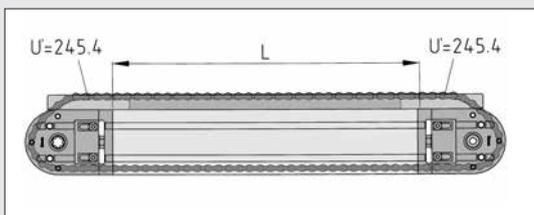
The maximum permissible load on a Chain Transfer Unit is calculated from the number of supporting links. For each chain link, $F_{max} = 6 \text{ N}$. Note the chain's operating load!



When working with high loads, it is advisable to fix the Slide Strips securely in place:
 - Screw fastening using Button-Head Screw T4x18 and T-Slot Nut 8 PA (the clip mechanism needs to be removed around the area where the screw connection is implemented)

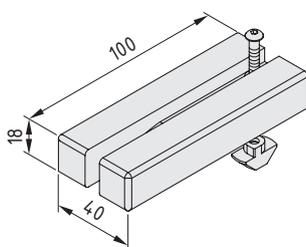


- Pinning with $\varnothing 4.8 \text{ mm}$ bore and insertion of a fixing pin.



Calculation of the chain length:
 The chain length is calculated in the same way as the length of a chain drive. However, the chain length L in the Reverse Unit (U') varies:

$$L_{chain} = 2 \times L + 490.8 \text{ mm}$$



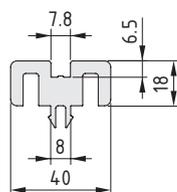
Chain Transfer End Ramp 8



PA
 Button-Head Screw T4x18, St, black
 T-Slot Nut 8 PA, black
 $m = 38.0 \text{ g}$

black, 1 set

0.0.472.01



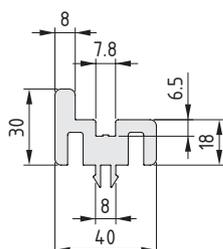
Chain Transfer Slide Strip 8



PE-UHMW
 antistatic
 $m = 510 \text{ g/m}$

black, 1 pce., length 2000 mm

0.0.463.95



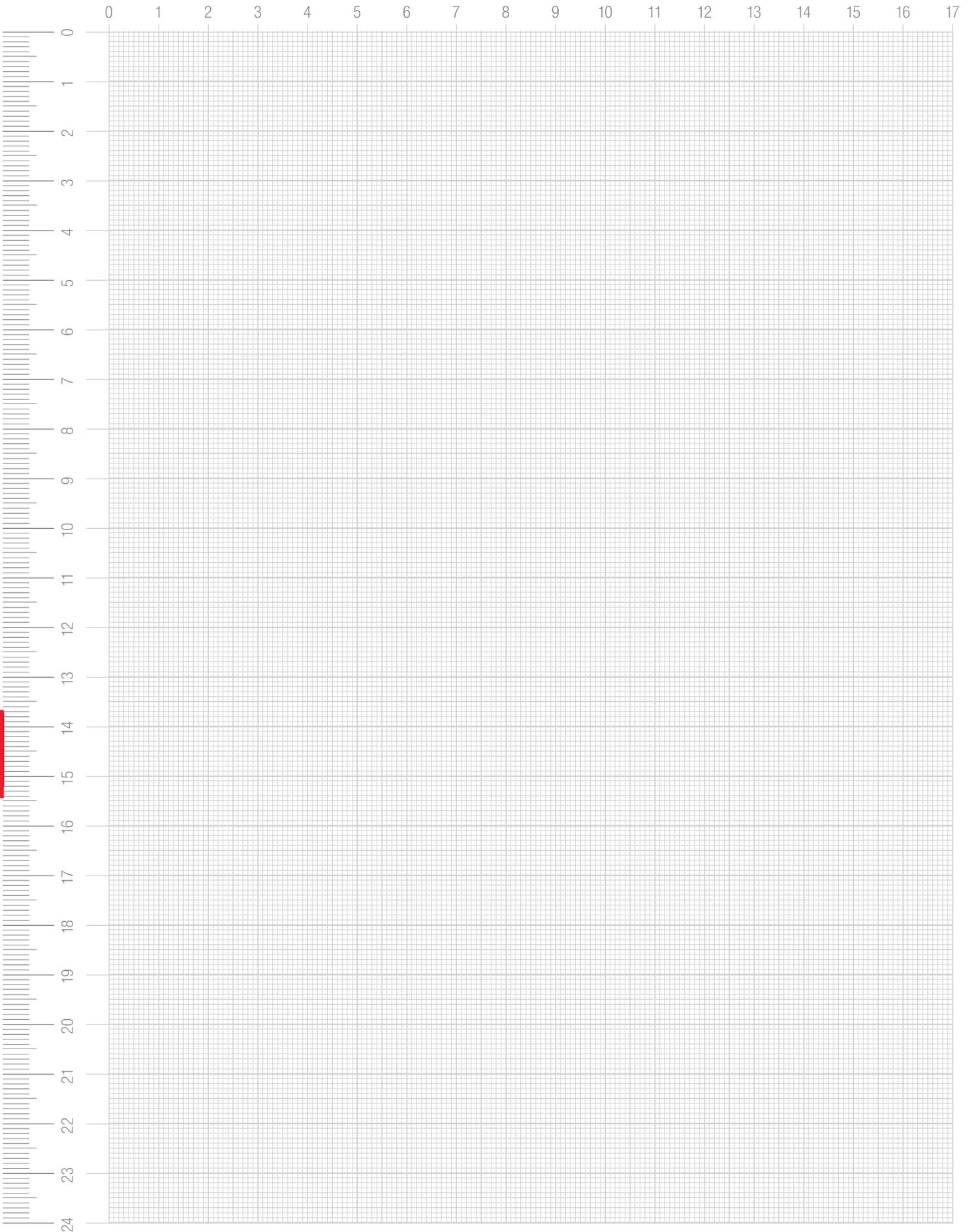
Chain Transfer Slide Strip 8 with Side Guide



PE-UHMW
 antistatic
 $m = 600 \text{ g/m}$

black, 1 pce., length 2000 mm

0.0.463.98





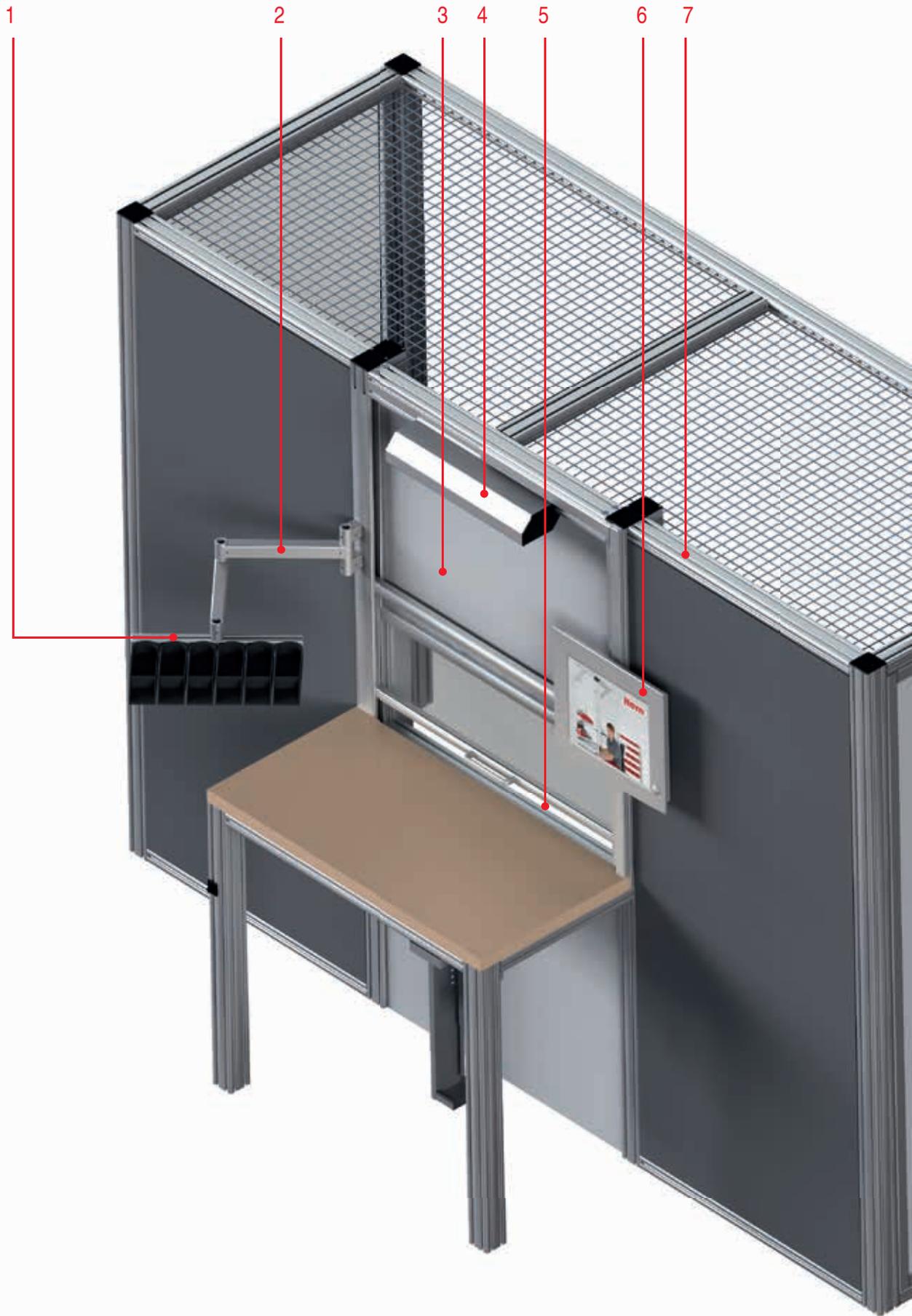
MACHINE ACCESSORIES

13

13

- Equipment accessories
- Information provision
- Lighting
- Power supply
- Pneumatic components
- Impact protection
- Table elements

Application example – machine accessories
Perfect support for personnel



8 9



1 Container Mounting

- Ergonomic storage of small parts
- Straightforward fastening for ease of replacement

438

Section **13**

6 Monitor Adapter

- Compatible with VESA standard for flatscreen monitors
- Separate mounting devices for PC and keyboard

447

Section **13**

2 Pivot Arms

- Ergonomic positioning of equipment
- Available in various versions for different loads
- Easy to adjust and fit in place

430

Section **13**

7 Pneumatic elements

- Profile core bores used as compressed-air conduits
- Special profile fasteners, seals and connections

461

Section **13**

3 Lifting doors

- Easy-running door with counterweight
- Manual and automatic operation
- Protection for personnel and processes

223

Section **6**

8 Clamp Profiles

- Secure mesh and other panel elements safely in place
- Range of models for various tasks

205

Section **6**

4 Light fittings

- Working light that meets the highest safety standards
- Hinge enables position adjustment
- Compact LED lamp as a machine light fitting

452

Section **13**

9 Corrugated Mesh

- For separating machinery and working areas
- Wide range of additional panel elements available

324

Section **10**

5 Cable conduits

- A safe home for cables
- Can be configured to suit requirements
- Switches and plug sockets can be installed

479

Section **14**

Key:



See page



Products in this section



Products in other sections

Machine Accessories
Products in this section



Telescope Profiles

- Enable stepless variation of profile length
- Clamp lever fixes easily in place

424



Positioning Set

- For measuring and positioning tasks
- All feed elements inside one profile groove

428



Pivot Arms

- For keeping frequently used equipment close to hand
- All joints can be rotated through 360°

430



Friction Joints 8

- Stable joints for customised pivot arms
- Integrated adjustable friction brake

433



Frame Profile 8 40x20

- Stable, continuous edging for panel elements
- For shelving, drawers and workpiece carriers

435



Shelf 8

- High load-carrying capacity
- Easy to fit to a profile groove

436



Container Mounting

- Straightforward connector for ease of installation
- Practical and universal

438



Runner

- Movable hanger for lightweight equipment
- For improved organisation and ergonomics

438



Tool Slide 40x40

- Easy-running hanger for a tool
- Complete with Impact Buffers

440



Magnetic Holder 8

- Magnetic forces hold accessories in place
- Simple storage solution for tools

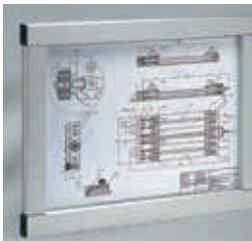
441



Circular Spirit Level

- Simple method to check horizontal level
- Perfect for mobile workstations

441



Document Holder

- For building customised frames and holders
- Clamp function makes changing documents easy

443



Notice Holders A4, magnetic

- Practical protection for documents with a magnetic frame
- Available in four colours

446



Monitor Adapter

- Load-bearing Adapter Plate
- VESA-compatible fixing for flatscreen monitors
- Electrostatically dissipative

447



Monitor Mounting Joint

- Two pivot axes
- Fixing to VESA standard

448



PC Mount

- Secure fixing for keyboard and computer
- Ball-bearing mounted pull-out

449



Label Holder

- Bring order to shelves and drawer units
- Simply clip into Profiles 8

451



LED Machine Light Fittings

- Energy-efficient LED system
- Enables custom lighting arrangements
- Available in five sizes

452



Light Fitting 55W

- Bright working light that meets the highest safety standards
- Extremely easy to position thanks to pivot function

454



Lamp 35W

- Precise lighting of the working area
- Housing provides protection from splashes and dust

456



Light Fitting 11W

- Energy-saving long-term lighting
- Low heat emissions and operating costs

458



Multi-Socket Power Strips

- Angled installation ensures easy access
- Practical, energy-saving ON/OFF switch

459



Pneumatic Universal-Fastening Sets

- Connect profiles at right angles or via their end faces
- Cavities in Profiles 8 can be used as compressed-air conduits

461



Compressed Air Manifold

- With three quick-release couplings
- Easy to fasten to a profile groove

465



Protective Profiles

- Safe impact protection thanks to hollow-chambered profiles
- Prevent damage and injuries

466



Buffer Strip

- For gentle closing of doors
- Also suitable as a door seal

468



Impact Buffers Parabolic Buffers

- Rubber/metal buffers deaden impacts effectively
- Also suitable for use as vibration-absorbing feet

469



Table Columns

- For ergonomic working practices, with electric height-adjustment system
- Sets for 2 or 4-leg constructions

471



Cantilever Foot Set

- Stable footing for work benches
- Also for building double-sided work benches

475



Fastening Set Profile 8 240x40

- Cross profiles boost rigidity to make strong benches
- Simple to install

477



Telescope 8 40x40

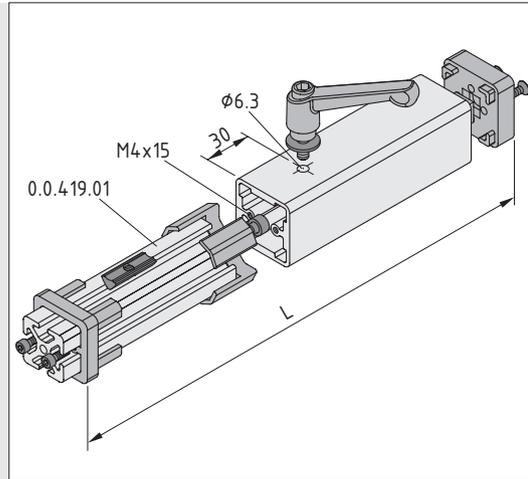
- Telescope function enables variable profile length
- Clamp lever fixes easily in place
- Maximum load up to 500 N



Outer profile for constructing telescope profiles of variable length for adjusting the height or inclination of fixtures and equipment.

A profile 6 30x30 must be used for the inner profile. The outer profile can be connected directly to a profile groove via its end face or using fastening elements (Hinges, heavy duty, etc.). Line 6 components are suitable for connecting the inside profile.

The inner profile, which is guided by a sliding bearing in the telescope, is secured with the Telescope Securing Set.



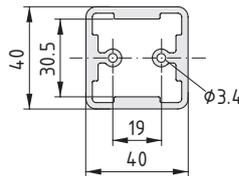
Overall length L of the telescope:

$$L \geq \text{stroke} + 74 \text{ mm}$$

Profile 6 30x30 must be 14 mm shorter than Telescope Profile 8 40x40 in order that it can be inserted completely in the assembled telescope, and the stroke thereby maximised.

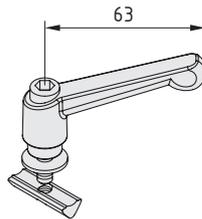
Max. load in telescope direction: 500 N

13



Telescope Profile 8 40x40

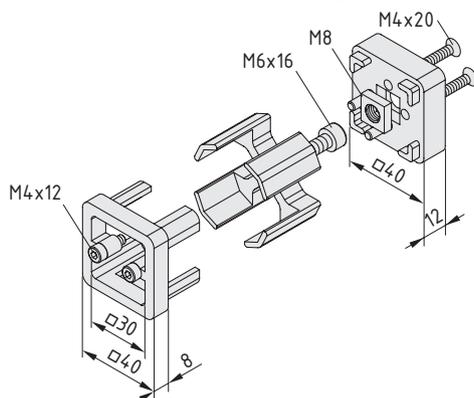
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.92	1.59	10.52	11.46	14.76	5.26	5.73	
natural, cut-off max. 3000 mm							0.0.440.50
natural, 1 pce., length 3000 mm							0.0.452.22



Telescope Securing Set 8 40x40

T-Slot Nut 6 St M6, bright zinc-plated
 Washer DIN 9021-6,4, St, bright zinc-plated
 Clamp lever, black
 m = 86.0 g

1 set	0.0.444.71
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Telescope Connection Set 8 40x40

Telescope cap 8 40x40, PA, black
 Telescope sliding cap 8 40x40, PA, black
 Telescope connecting plate 8 40x40, die-cast zinc, white aluminium
 Cap Screw DIN 912-M6x16, St, bright zinc-plated
 2 Cap Screws DIN 912-M4x12, St, black
 Square nut DIN 562-M8, St, bright zinc-plated
 2 Countersunk Screws DIN 7991-M4x20, St, bright zinc-pl.
 m = 138.0 g

1 set	0.0.440.54
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Telescope 8 80x40

This profile extends according to the task at hand

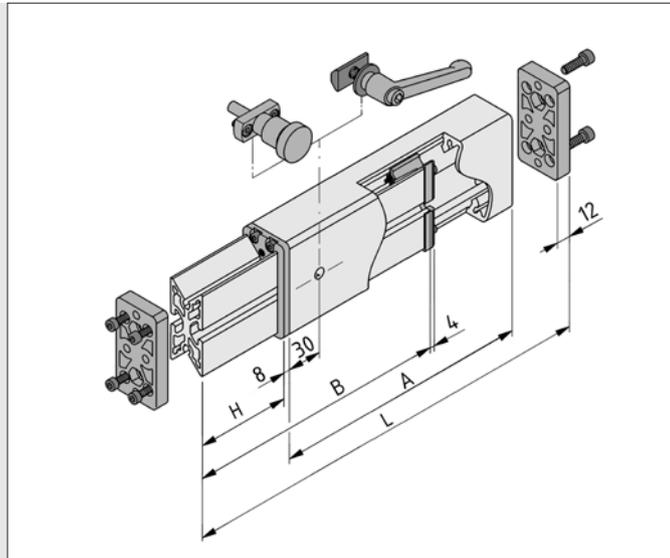
- Variable-length strut with large load-carrying capacity
- Simple height and incline adjustment for load-carrying profiles
- Maximum load up to 750 N
- Clamp lever or locking plunger as fixing mechanism



Telescope 8 80x40 is a heavy-duty strut of adjustable length. It is particularly suitable for adjusting the height or inclination of equipment. The adjustable plain bearings and extended support width also enable this telescope to be used for constructing length-adjustable table legs.

Telescope Profile 8 80x40 supports and guides the inside profile. The outer profile can be connected directly to a profile groove via its end face or using fastening elements (e.g. Hinge 8 80x40, heavy duty).

Telescope Inner Profile 8 80x40 mounted in a sliding bearing is either secured with Telescope Securing Set 8 80x40 at the desired height or is located via predrilled holes using Telescope Locking Plunger 8 80x40.



Telescope Inner Profile 8 80x40 (length B) must be 20 mm shorter than Telescope Profile 8 80x40 (length A) in order that it can be inserted completely in the assembled telescope, and stroke H thereby maximised.

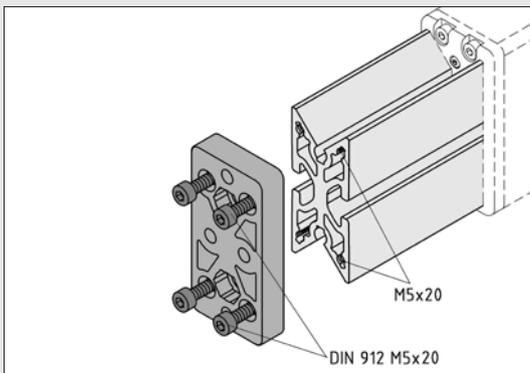
$$L_{\min.} = A + 20 \text{ mm}$$

$$L_{\max.} = L_{\min.} + H$$

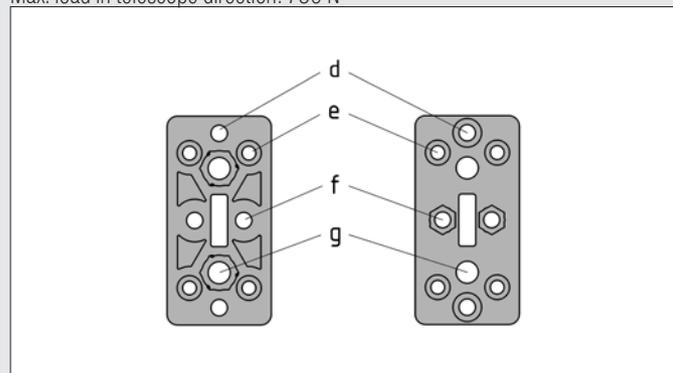
$$B \geq H \times 1.2 \wedge B \geq H + 60 \text{ mm}$$

$$B \leq A - 20 \text{ mm}$$

Max. load in telescope direction: 750 N



Telescope Connecting Plate 8 80x40 offers various possibilities for attaching the inside profile to a connecting structure. It is used for screw connection with Line 8 components or other parts. Suitable through holes and countersinks are provided in the Connecting Plate for this purpose.



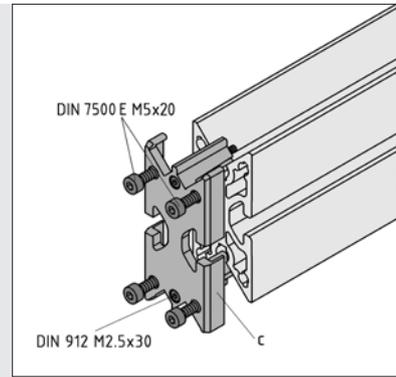
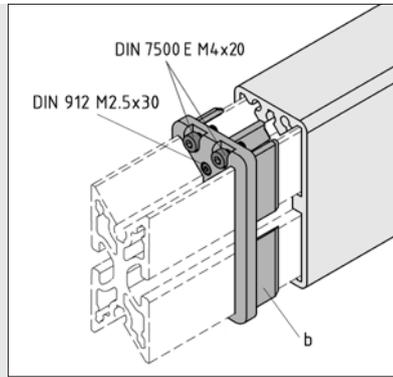
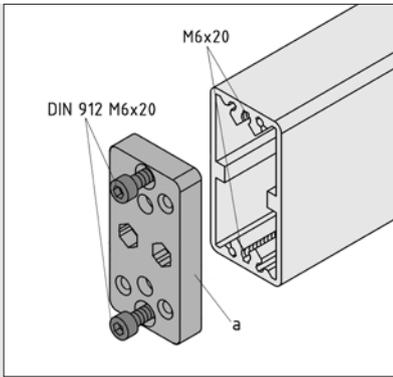
Function of the holes in the Telescope Connecting Plate:

d = Securing to Telescope Profile 8 80x40 using screws M6x22

e = Securing to Telescope Inner Profile 8 80x40 using screws DIN 7984-M5x20

f = Through hole \varnothing 6.3 for adapting other products to the Telescope Inner Profile 8 80x40

g = Through hole \varnothing 8.5 for adapting other products to the Telescope Profile 8 80x40 by press-fitting an M8 nut



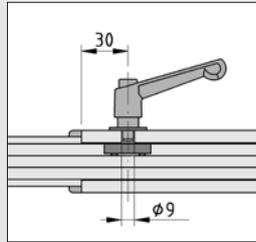
Telescope Connection Set 8 80x40 contains all components required for connecting Telescope Profile 8 80x40 and for constructing a telescope:

- a = Telescope Connecting Plate 8 80x40
- b = Telescope Cap 8 80x40
- c = Telescope Sliding Cap 8 80x40

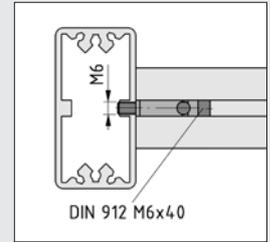
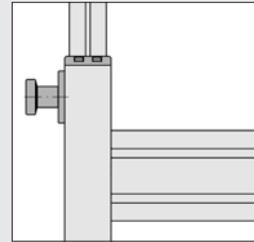
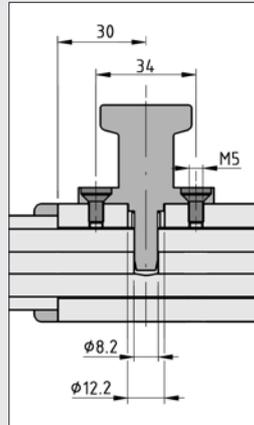
To secure the telescope cap (with Telescope Profile 8 80x40) and telescope sliding cap (with Telescope Inner Profile 8 80x40), the Telescope Connection Set is provided with self-tapping screws DIN 7500.

After assembly of the two telescope profiles, the plain bearings of the Telescope Sliding Cap and Telescope Cap are adjusted free of play using screws M2.5x30 (1.5 A/F).

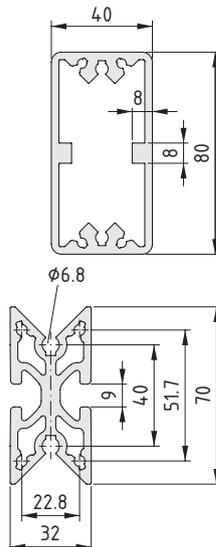
Telescope Connecting Plate 8 80x40 is screwed to the Telescope Profile and offers various possibilities for fastening to a connecting structure.



On request, your local item partner can provide the Telescope Profiles machined ready for use with the Telescope Securing Set or Telescope Locking Plunger.



For lateral connection of Telescope Profiles 8 80x40, it is advisable to tap M6 threads in the area of the central rib and to use Automatic-Fastening Sets 8.

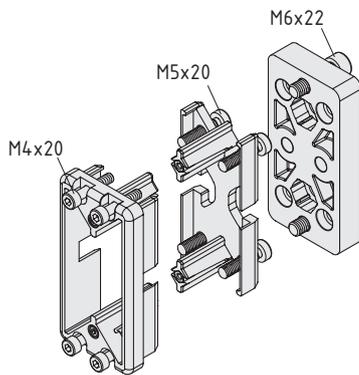


Telescope Profile 8 80x40

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
9.61	2.59	77.15	20.58	44.20	19.29	10.29
natural, cut-off max. 6000 mm						0.0.608.49
natural, 1 pce., length 6000 mm						0.0.604.56

Telescope Inner Profile 8 80x40

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
9.78	2.64	34.91	10.50	4.58	9.97	6.56
natural, cut-off max. 6000 mm						0.0.608.50
natural, 1 pce., length 6000 mm						0.0.604.57

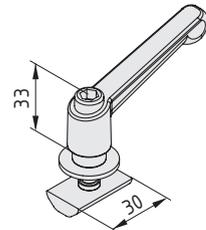
**Telescope Connection Set 8 80x40**

8

Telescope Conn. Plate 8 80x40, die-cast zinc, white alum.
 Telescope Sliding Cap 8 80x40, POM, black
 Telescope Cap 8 80x40, POM, black
 2 Cap Screws DIN 912-M6x22, St, bright zinc-plated
 4 Cap Screws DIN 7500 E-M5x20, St, bright zinc-plated
 4 Cap Screws DIN 7500 E-M4x20, St, bright zinc-plated
 m = 250.0 g

1 set

0.0.608.57

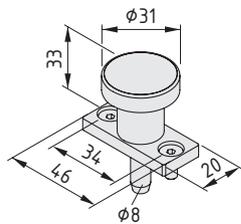
**Telescope Securing Set 8 80x40**

8

Special T-Slot Nut 8 St M8, bright zinc-plated
 Stepped threaded bolt M8
 Washer DIN 9021-8,4, St, bright zinc-plated
 Clamp lever M8, black
 m = 110.0 g

1 set

0.0.608.48

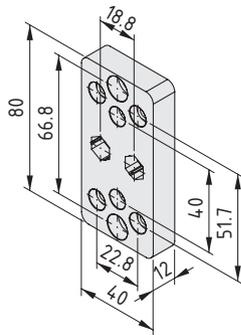
**Telescope Locking Plunger 8 80x40**

8

Locking plunger with base plate, black
 2 Countersunk Screws DIN 7991-M5x12
 m = 68.0 g

1 set

0.0.609.73

**Telescope Connecting Plate 8 80x40**

8

Die-cast zinc
 m = 190.0 g
 white aluminium, similar to RAL 9006, 1 pce.

0.0.604.60



Positioning Set

Precise positioning for monitoring material flows

- For measuring and positioning tasks
- All feed elements inside one profile groove



Adding a Positioning Set 8 40 contradirectional and a Feed Screw M6 (contradirectional) produces a positioning device that acts in both directions.

Turning the Handwheel in clockwise direction moves the positioning slide away from the user (the contradirectional additional slide moves towards the positioning slide).

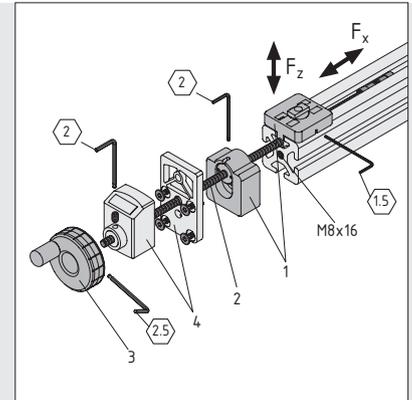


The optional Digital Position Indicators (4) (mechanical or electronic counter) enable precise positional adjustment of the Positioning Set.

The mechanical position indicator provides a digital indication of the positioning distance (one revolution of the handwheel corresponds to a distance of 1 mm, resolution 0.1 mm).

The electronic position indicator has a measuring accuracy of 0.01 mm. It can be calibrated by the user and provides a simple means of measuring the absolute value and incremental dimensions.

N.B.: The Positioning Set combined with the position indicator is not a measuring device! It is used instead for setting predefined positions for e.g. repeat assembly operations.

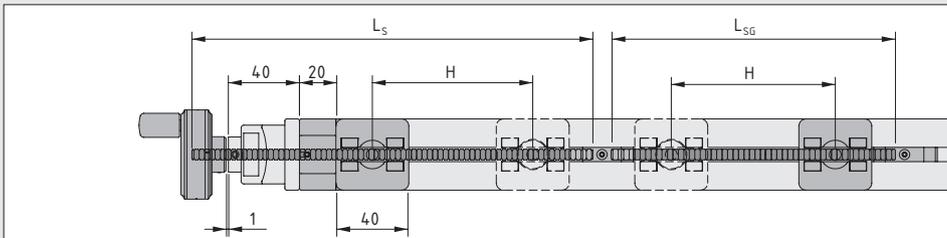


The basic components for an adjustment device include the Positioning Set 8 40 (1), the associated Feed Screw M6-LH (2) and the Handwheel D50 (3).

Attachments are secured to the positioning slide using either anti-torsion positive locking in a groove of Line 8 or a screw connection (M6).

Setscrews can be accessed from the side and are used to adjust the vertical play of the slide in the guide groove.

The maximum pressure loading F_x in the direction of movement is 200 N; perpendicular to the groove, a compressive force of 100 N and a tensile force of 50 N (F_z direction) may act on the slides.



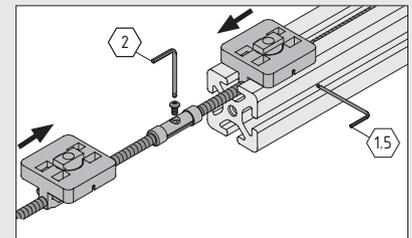
The length of Feed Screw L_s is determined as a function of the adjustment distance H and the accessory components:

$$L_s = H + 130 \text{ mm (with Digital Position Indicator)}$$

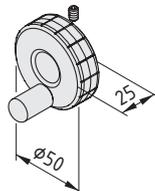
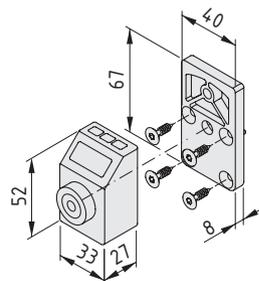
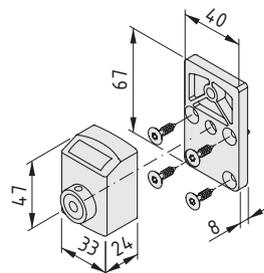
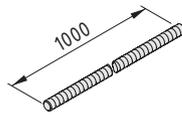
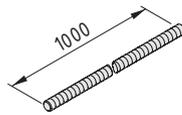
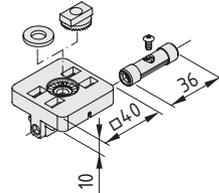
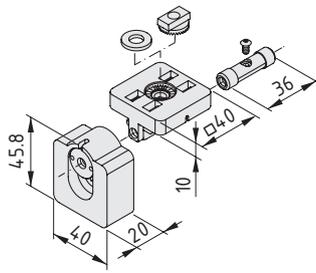
$$L_s = H + 90 \text{ mm (without Digital Position Indicator)}$$

The length of the contradirectional Feed Screw is:

$$L_{sg} = H + 67 \text{ mm}$$



Space-saving contradirectional adjustment systems can be built extremely rapidly thanks to the combination of a positioning set and contradirectional positioning set.



Positioning Set 8 40 	
Bearing Block, PA, black Slide with anti-torsion feature, PA, black Washer, St, bright zinc-plated Coupling M6, St, bright zinc-plated Notes on Use and Installation m = 85.0 g	
1 set	0.0.616.65

Positioning Set 8 40 contradirectional 	
Slide with anti-torsion feature, PA, black Washer St, bright zinc-plated Coupling M6, St, bright zinc-plated m = 35.0 g	
1 set	0.0.616.64

Positioning Set 8 40 Feed Screw M6-LH 	
St, stainless m = 180.0 g	
stainless, 1 pce., length 1000 mm	0.0.615.69

Positioning Set 8 40 Feed Screw M6 (contradirectional) 	
St, stainless m = 180.0 g	
stainless, 1 pce., length 1000 mm	0.0.616.63

Digital Position Indicator D6 mechanical 	
Counter, mechanical Adapter plate, PA, black Seal, self-adhesive 4 Countersunk Screws 4.2x16 St, bright zinc-plated m = 100.0 g	
1 set	0.0.619.72

Digital Position Indicator D6 electronic 	
Counter, electronic, with zeroing, chain-dimension and calibration function Adapter plate, PA, black Seal, self-adhesive 4 Countersunk Screws 4.2x16 St, bright zinc-plated m = 115.0 g	
1 set	0.0.619.71

Positioning Set 8 40 Handwheel D50 	
PA m = 46.0 g	
black, 1 pce.	0.0.616.69



Pivot Arms 8

The ergonomic enhancement for work benches

- For light and heavy loads
- For keeping frequently used equipment close to hand
- Double Pivot Arm for added reach



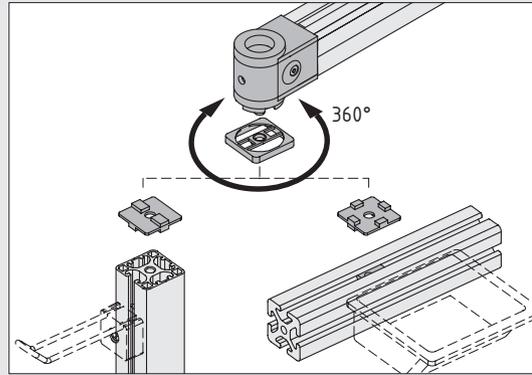
The specialists for perfect positioning, item Pivot Arms put tools and work materials within the easiest possible reach of users. They thus help to boost ergonomics and organisation. Everything has its place on the Pivot Arm and can be effortlessly placed in the perfect position within the working area.

Precise Friction Joints hold the item Pivot Arms in place during use, but ensure it takes only a little force to reconfigure their position. The braking torque can be individually adjusted at each joint, enabling you to tailor the manoeuvrability of the Pivot Arm to your needs.

Positioning the Double Pivot Arms is particularly easy. As a result, Parts Containers full of small parts don't have to be located over the working surface. Users can even customise angles to suit their needs. The Double Pivot Arms also have a wider working radius.

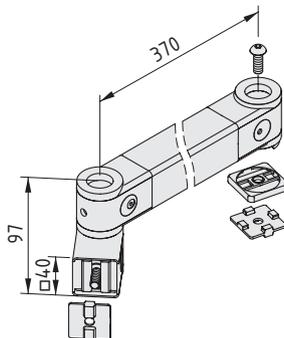
Pivot Arms with a higher load-carrying capacity of up to 400 N are available for working with heavy loads.

Note: The Friction Joints are also available as individual components for building Pivot Arms in custom lengths.



The connection can be made with either a horizontal or vertical profile groove. An end-face connection with Profiles is also possible. All the joints can be rotated through 360° and their frictional moment can be adjusted.

13



Pivot Arm 8 370 light

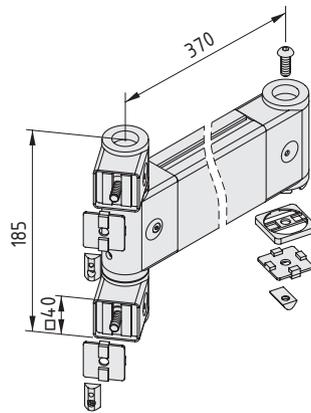
Profile 8 40x40 3N light
 End Swivel Joint
 Standard Swivel Joint
 Connecting cover, PA, grey
 2 Connecting Plates, Al, natural
 Button-Head Screw M8x22, St, bright zinc-plated
 Notes on Use and Installation

$F_{max.} = 120\text{ N}$
 $m = 1.4\text{ kg}$

1 pce.



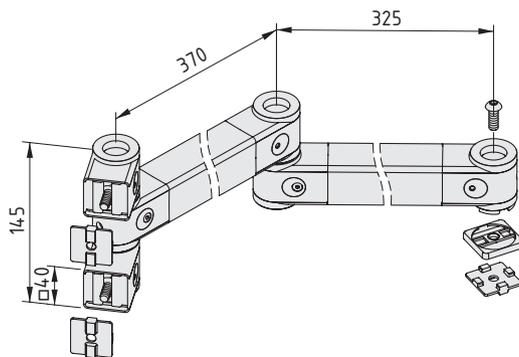
0.0.631.17

**Pivot Arm 8 80 370 heavy-duty**

Profile 8 80x40 4N 180 E
 End Swivel Joint 80
 Double Swivel Joint 80
 Connecting cover, PA, grey
 3 Connecting Plates, Al, natural
 3 Button-Head Screws M8x22, St, bright zinc-plated
 3 T-Slot Nuts 8 St M8, bright zinc-plated
 Notes on Use and Installation
 $F_{max} = 400 \text{ N}$
 $m = 2.2 \text{ kg}$

1 set

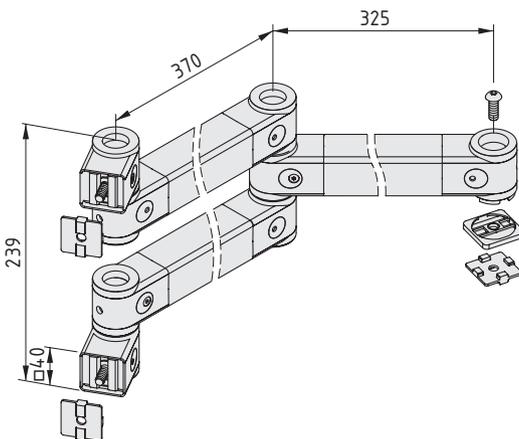
0.0.651.25

**Double Pivot Arm 8 695**

Profiles 8 40x40 3N light
 End Swivel Joint
 Standard Swivel Joint
 Double Swivel Joint
 Connecting cover, PA, grey
 3 Connecting Plates, Al, natural
 Button-Head Screw M8x22, St, bright zinc-plated
 Notes on Use and Installation
 $F_{max} = 80 \text{ N}$
 $m = 2.7 \text{ kg}$

1 pce.

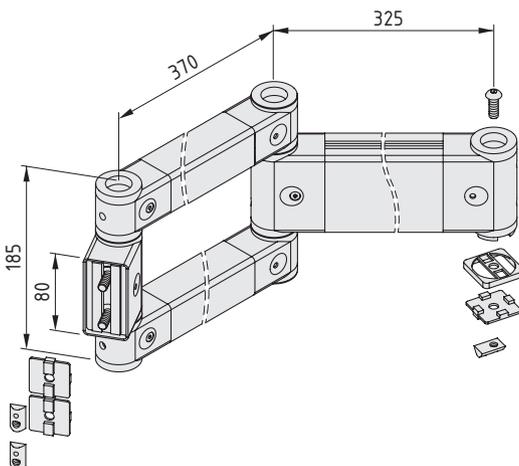
0.0.631.19

**Double Pivot Arm 8 695 heavy-duty**

Profiles 8 40x40 3N light
 End Swivel Joint
 2 Standard Swivel Joints
 Double Swivel Joint
 Connecting cover, PA, grey
 3 Connecting Plates, Al, natural
 Button-Head Screw M8x22, St, bright zinc-plated
 Notes on Use and Installation
 $F_{max} = 140 \text{ N}$
 $m = 3.7 \text{ kg}$

1 pce.

0.0.631.20

**Double Pivot Arm 8 80 695 heavy-duty**

Profile 8 80x40 4N 180 E
 2 Profiles 8 40x40 3N light
 End Swivel Joint 80
 2 Double Swivel Joints 80
 Connecting cover, PA, grey
 3 Connecting Plates, Al, natural
 3 Button-Head Screws M8x22, St, bright zinc-plated
 3 T-Slot Nuts 8 St M8, bright zinc-plated
 Notes on Use and Installation
 $F_{max} = 250 \text{ N}$
 $m = 4.2 \text{ kg}$

1 set

0.0.651.33

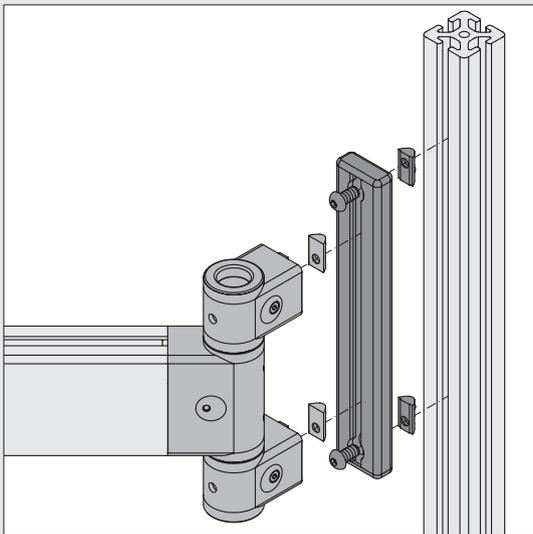


Pivot Arm Height Adjusters 8



Welcome to the third dimension. These Height Adjusters make the Pivot Arms from item even more versatile. Working height can be adjusted with ease, which is extremely useful when changing working positions or processing workpieces and

products of various sizes. The work bench can also be adapted to suit the size and reach of different personnel.



Height Adjusters are available to suit all the various connection dimensions of the Pivot Arms.

Pivot Arm Height Adjuster 8 150

Pivot Arm 8 370 light	0.0.631.17
Keyboard Arm	0.0.649.43
Monitor Arm	0.0.649.44

Pivot Arm Height Adjuster 8 240

Double Pivot Arm 8 695	0.0.631.19
Pivot Arm 8 80-370 heavy-duty	0.0.651.25
Double Pivot Arm 8 80-695 heavy-duty	0.0.651.33

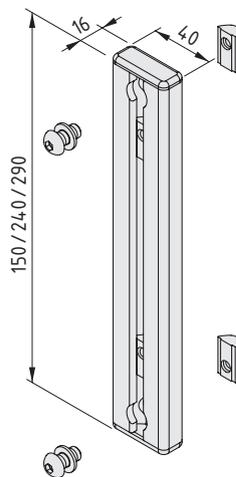
Pivot Arm Height Adjuster 8 290

Double Pivot Arm 8 695 heavy-duty	0.0.631.20
-----------------------------------	------------

13

The following applies to all the products below:

- Profile 8 40x16
- 2 Button-Head Screws M8x16, St, bright zinc-plated
- 2 Caps 8 40x16, PA-GF, grey
- 2 Washers DIN 433 8.4, St, bright zinc-plated
- 2 T-Slot Nuts V 8 St M8, bright zinc-plated



Pivot Arm Height Adjuster 8 150

m = 215.0 g	
1 set	0.0.631.51

Pivot Arm Height Adjuster 8 240

m = 293.0 g	
1 set	0.0.651.55

Pivot Arm Height Adjuster 8 290

m = 388.0 g	
1 set	0.0.651.54



Friction Joints 8

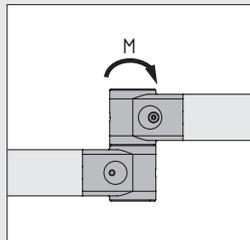
- For building customised pivot arms
- With adjustable friction brake



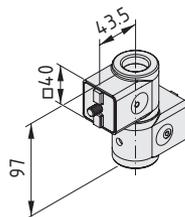
Friction Joints can be used to build rotating cantilever arms that will stay where they are needed but can also be moved with ease and positioned with accuracy. Single and Double Swivel Joints are available. Double Swivel Joints support a larger support span and higher load-carrying capacity. The dual screw connection provides additional strength. The frictional resistance of the friction joint can also be adjusted precisely.

To build custom solutions, the Joints are connected to Line 8 profiles, either via the end face (using the core bore) or via a groove at the side. When building such solutions, it is important to take note of the load limitations imposed by leverage.

The preassembled sets are supplied with screws and are ready to connect. Press-fit anti-torsion features grip into the profile grooves to ensure play-free connections.



The maximum moment load for a Standard Swivel Joint and End Swivel Joint is 45 Nm, while Double Swivel Joint 40 can carry loads of up to 60 Nm and the Double Swivel Joint 80 can accommodate 200 Nm.



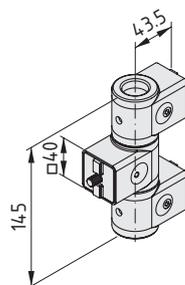
Friction Joint 8, Standard Swivel Joint



- 2 Friction Joints
- 2 mounting plates, Al, natural
- 2 Button-Head Screws M8x22, St, bright zinc-plated
- Notes on Use and Installation
- M = 45 Nm m = 503.0 g

1 pce.

0.0.623.88



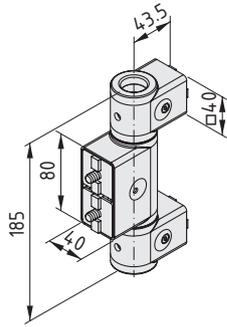
Friction Joint 8, Double Swivel Joint 40



- 3 Friction Joints
- 3 mounting plates, Al, natural
- 3 Button-Head Screws M8x22, St, bright zinc-plated
- Notes on Use and Installation
- M = 60 Nm m = 770.0 g

1 pce.

0.0.623.89

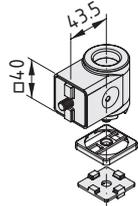


Friction Joint 8, Double Swivel Joint 80



3 Friction Joints
 4 mounting plates, Al, natural
 4 Button-Head Screws M8x22, St, bright zinc-plated
 Notes on Use and Installation
 M = 200 Nm m = 1005.0 g

1 pce. 0.0.651.16

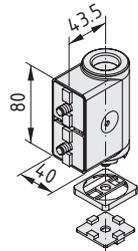


Friction Joint 8, End Swivel Joint



Friction Joint
 2 mounting plates, Al, natural
 2 Button-Head Screws M8x22, St, bright zinc-plated
 Connection seal, PA, grey
 Notes on Use and Installation
 M = 45 Nm m = 300.0 g

1 pce. 0.0.623.92

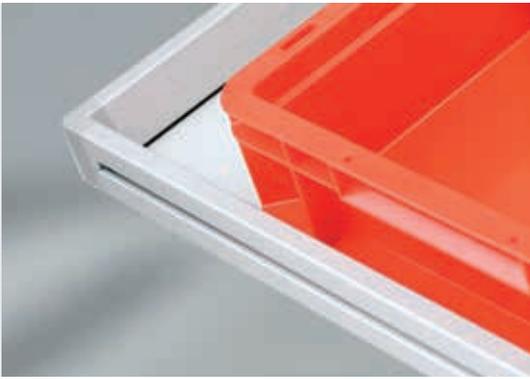


Friction Joint 8, End Swivel Joint 80



Friction Joint
 3 mounting plates, Al, natural
 3 Button-Head Screws M8x22, St, bright zinc-plated
 Connection seal, PA, grey
 Notes on Use and Installation
 M = 45 Nm m = 471.0 g

1 pce. 0.0.651.24



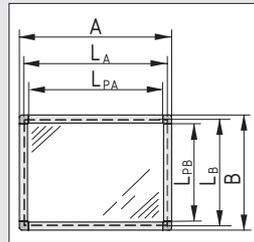
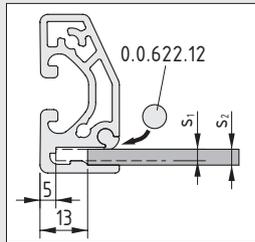
Frame Profile 8 40x20

- Stable, continuous edging for panel elements
- For drawers or workpiece carriers
- As edge protection for shelving



Shelving at the workplace and on the material trolley ensures parts are available to users when they need them. Workpiece carriers, enclosed in a frame, may be employed on transfer units to protect the goods being transported. Frame Profile 8 40x20 provides a stable means of holding and securing a plastic or metal panel element (up to 4 mm thick). The corner fasteners connect seamlessly with the frame

profiles and enable panels to be inserted easily across both without need for processing. After the frame has been closed, the panel is secured with a flexible Retaining Cord to prevent movement. Installation tip: It is best to moisten the Retaining Cord with soapy water to ensure it can be pressed in easily.



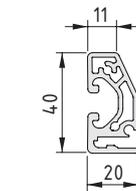
	$S_1 = 2 - 3.2 \text{ mm}$	$S_2 = 3.2 - 4 \text{ mm}$
L_A [mm]	A - 10	A - 26
L_B [mm]	B - 10	B - 26

The cut-off dimensions of panel elements (L_A , L_B) are dependent on the thickness s .

An external Profile 8 groove can be used to secure the frame profile to the basic frame of the table or material trolley, e.g. using Angle Locking Bracket 8 80x40.

The Corner-Fastening Set Frame is screwed into the screw channels in the frame profile using the self-tapping screws without any need for profile processing ($M = 2 \text{ Nm}$).

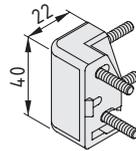
Calculating the profile cut-off length:
 $L_{PA} = A - 44 \text{ mm}$
 $L_{PB} = B - 44 \text{ mm}$



Frame Profile 8 40x20



Al, anodized	
$m = 880 \text{ g/m}$	
natural, cut-off max. 6000 mm	0.0.616.95
natural, 1 pce., length 6000 mm	0.0.616.93



Corner-Fastening Set Frame 8 40x20



Corner fastener, die-cast zinc, RAL 9006 white aluminium	
4 Hexagon Socket Head Cap Screws M4x20, self-tapping, St, bright zinc-plated	
Cap, PA-GF, grey	
$m = 54.0 \text{ g}$	
1 set	0.0.618.61



Retaining Cord D6

NBR	
$m = 10 \text{ g/m}$	
grey, cut-off max. 20 m	0.0.622.12
grey, 1 roll length 20 m	0.0.621.77



Shelf 8

- High load-carrying capacity
- Easy to fit to a profile groove

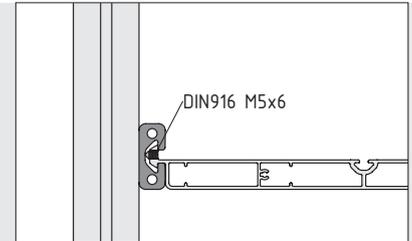
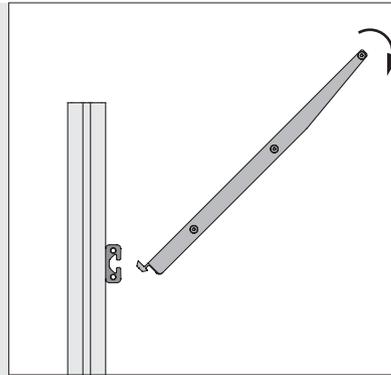


Do you need storage space at your work benches or production facilities? It doesn't get any easier than with shelves from item: simply slot into Profile 8 groove, secure in place with a flick of the wrist and that's it - done!

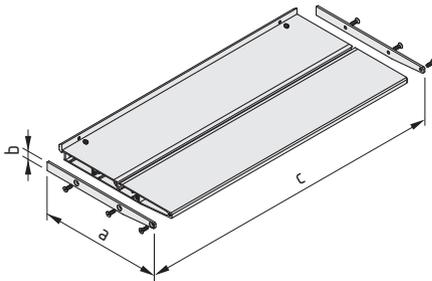
But what if a horizontal Profile 8 groove isn't available? All you need is Shelf Adapter Set 8. Fitted with just 2 screws, the system can carry a maximum load of 500 N per shelf.

Shelves 8 200 and 320 are prepared ready for use in a width of 600 mm, with fitted End Caps and grub screws to prevent removal. In the Shelf Profile: Profile 5 groove for end supports, partitions and side connection and fastening.

Shelf Profiles are also available to your specifications in any length (up to 6 m).



Shelf Adapter Set 8 is the universal fastening system for your shelves - even if you don't have a Profile 8 groove available.



Shelf 8 200-600

Shelf 8 200, Al, natural
 Shelf Cap Set 8 200, St, white aluminium
 2 grub screws DIN 916-M5x6, St, bright zinc-plated
 a = 200 mm b = 14 mm c = 600 mm m = 1.7 kg
 1 set 0.0.627.00

Shelf 8 320-600

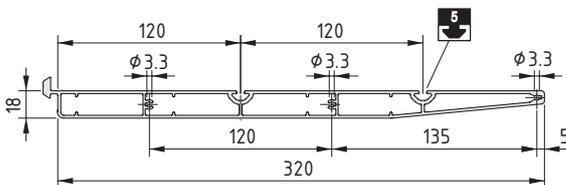
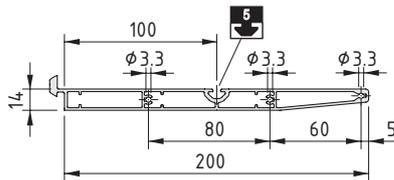
Shelf 8 320, Al, natural
 Shelf Cap Set 8 320, St, white aluminium
 2 grub screws DIN 916-M5x6, St, bright zinc-plated
 a = 320 mm b = 18 mm c = 600 mm m = 2.9 kg
 1 set 0.0.626.97

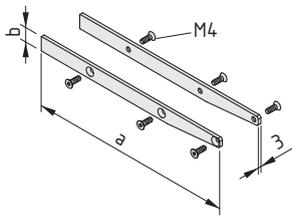
Shelf Profile 8 200

Al, anodized							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
9.28	2.51	2.96	361.60	7.90	1.99	33.45	
natural, cut-off max. 6000 mm							0.0.618.53
natural, 1 pce., length 6000 mm							0.0.618.56

Shelf Profile 8 320

Al, anodized							
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
15.13	4.10	7.83	1,420.95	22.70	4.69	84.04	
natural, cut-off max. 6000 mm							0.0.621.00
natural, 1 pce., length 6000 mm							0.0.620.94



**Shelf Cap Set 8 200**

2 shelf caps 8 200, St, white aluminium
 6 Countersunk Screws DIN 7991-M4x12, St, bright zinc-plated
 a = 200 mm b = 14 mm m = 120.0 g

1 set

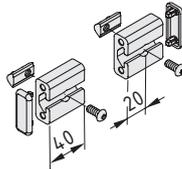
0.0.623.27

Shelf Cap Set 8 320

2 shelf caps 8 320, St, white aluminium
 6 Countersunk Screws DIN 7991-M4x12, St, bright zinc-plated
 a = 320 mm b = 18 mm m = 250.0 g

1 set

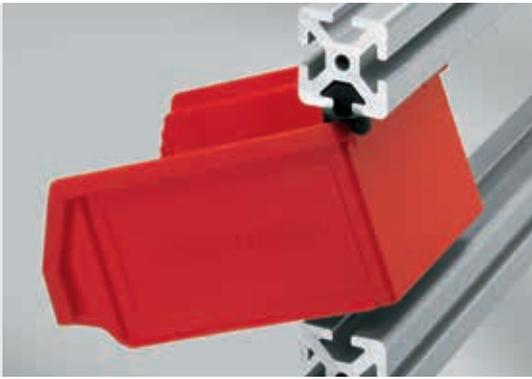
0.0.623.30

**Shelf Adapter Set 8**

Adapter Profile 8 40x16, Al, natural
 2 Button-Head Screws M6x14, St, bright zinc-plated
 2 Caps 8 40x16, PA-GF, black
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 m = 120.0 g

1 set

0.0.627.14

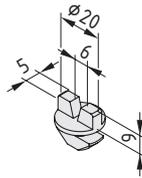
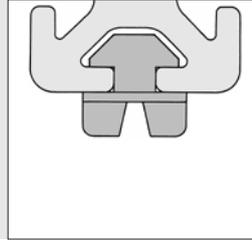
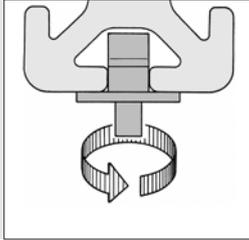


Container Mounting

- A quick-action fixing for connecting Parts Containers to a Line 8 groove
- Practical and universal



Any kind of containers with wall thicknesses of up to 5 mm can be mounted between two profiles.



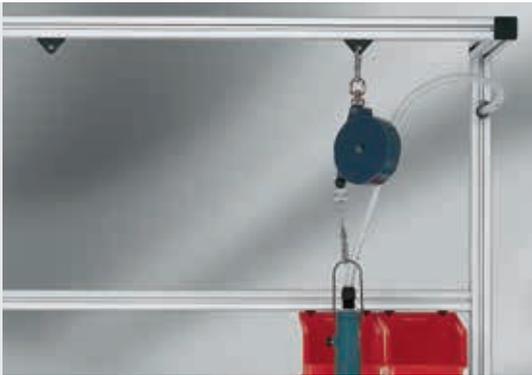
Container Mounting 8



PA-GF
m = 3.0 g

black, 1 pce.

0.0.026.87



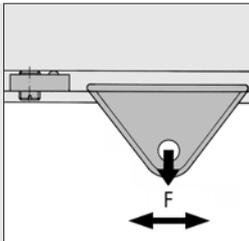
Runner

- Movable hanger for lightweight equipment
- Improved ergonomics for tools



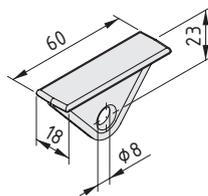
13

Hanger which can be moved along the profile groove and is used for suspending tools, balancers etc.



A T-Slot Nut is recommended as the end stop. It is secured in the groove by the grub screw.

$F_{max.} = 50 \text{ N}$



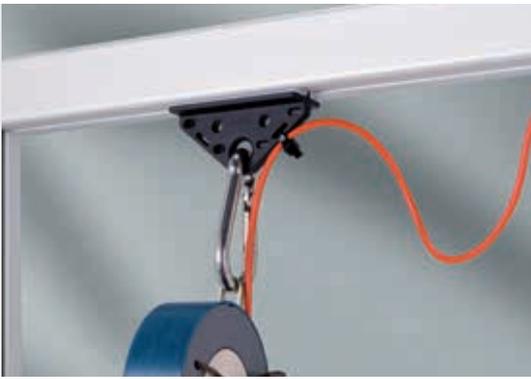
Runner 8



PA-GF
m = 8.0 g

black, 1 pce.

0.0.026.13



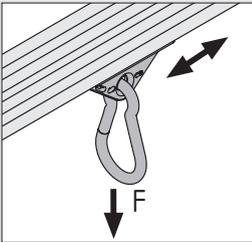
Runner 8

- Strong hanger
- Easy movement thanks to low-friction slide elements



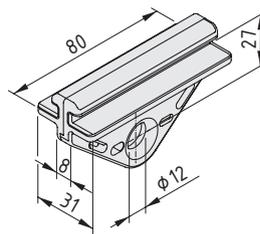
Runner 8 80x40 is a heavy-duty Runner for Profile 8 grooves designed for loads of up to 200 N. Integrated slide inserts made of special plastic ensure that tools, balancers etc. can be moved easily, with low wear. Runner 8 80x40 is of split design.

It can therefore be retrofitted into existing frames without the need for any dismantling. Additional holes enable feed cables to be secured with cable ties.



The corrosion-resistant Spring Hooks enable easy attachment to the Runner and rapid tool changes.

- Spring Hook 60 D6: Recommended max. tensile force $F = 100 \text{ N}$
- Spring Hook 80 D8: Recommended max. tensile force $F = 200 \text{ N}$

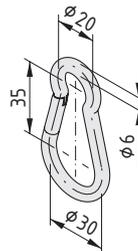


Runner 8 80x40

2 runner halves, PA-GF, black
2 slide elements, POM, natural
 $m = 39.0 \text{ g}$

1 set

0.0.618.97

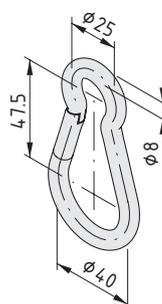


Spring Hook 60 D6

St
Spring hook similar to DIN 5299
 $m = 25.4 \text{ g}$

stainless, 1 pce.

0.0.619.68



Spring Hook 80 D8

St
Spring hook similar to DIN 5299
 $m = 67.0 \text{ g}$

stainless, 1 pce.

0.0.619.70

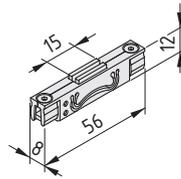


Magnetic Holder 8

- Holds tools and accessories against a Line 8 groove
- Practical and easy to use thanks to use of magnets



Its pull is irresistible – the item Magnetic Holder!
For securely stowing metallic objects such as spanners, etc. on the groove of the non-magnetic aluminium Profile.
Magnetic Holder 8 can be fitted into a Profile 8 groove in next to no time.
Holding force $F = 40\text{ N}$



Magnetic Holder 8



Magnet housing half 8, PA-GF, grey, similar to RAL 7042
2 magnets 20x5x2, St, nickel-plated
2 Magnetic Stops 8, terminal shoes, St, bright zinc-plated
2 Countersunk Screws DIN 7991-M3x10, St, bright zinc-plated
2 square nuts DIN 562-M3, St, bright zinc-plated
 $m = 18.0\text{ g}$

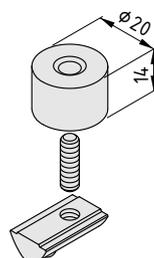
grey similar to RAL 7042, 1 pce.

0.0.627.86



Circular Spirit Level 8 D20

- Indicates correct alignment of mobile workstations
- Makes height compensation via knuckle feet easier
- No additional spirit level necessary



Circular Spirit Level 8 D20



Circular Spirit Level D20x14 M5, natural
T-Slot Nut V 8 St M5, bright zinc-plated
Grub screw DIN913 M5x16, St, bright zinc-plated
 $m = 22.3\text{ g}$

1 set

0.0.672.96



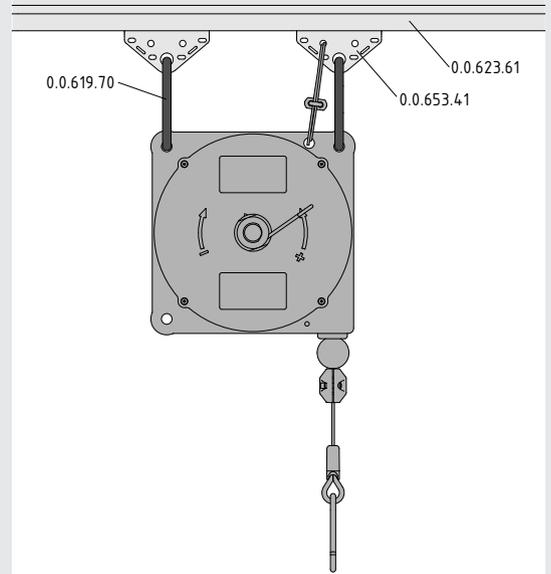
Tool Balancers

- Keep tools close by and at the right height
- For weights up to 14 kg
- Relieve strain on employees

Out of the way, but close to hand! Tool Balancers from item ensure tools are at the right height for employees to reach. When not required, the Tool Balancer automatically removes the tool from the immediate working area. Because the retraction force can be manually set, the Tool Balancer can be adjusted to perfectly match the weight of the tool. This takes a considerable amount of strain off employees who are working with heavy tools. An arrester mechanism is also included as standard.

Hangers are available as appropriate to the weight of tools. The four Tool Balancers can be selected for the following weight ranges: 4 to 6 kg, 6 to 8 kg, 8 to 10 kg and 10 to 14 kg.

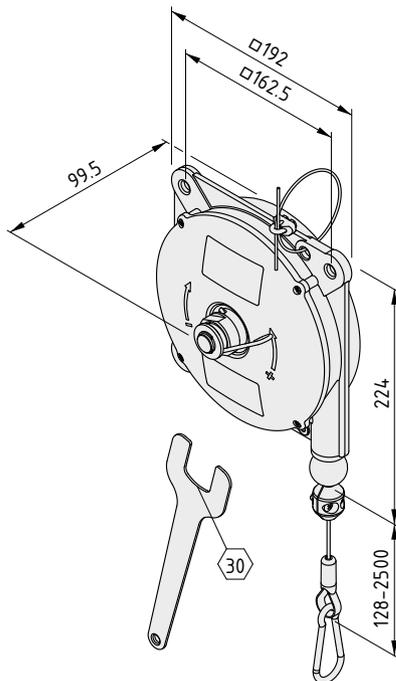
Employees can customise any of the Tool Balancers to their reaching height using a screw-adjusted stopper. Useful accessories include Runway Profile 8 40x40 (0.0.623.61), Tool Slide 40x40 (0.0.653.41) and Spring Hook 80 D8 (0.0.619.70).



The following applies to all the sets below:

- Casing
- Steel cable Ø 2.5 mm, St, stainless
- Arrester mechanism: Steel cable Ø 2 mm, St, stainless; steel cable clamp, St, bright zinc-plated
- Spring hook, St
- Wrench 30 A/F, St, bright zinc-plated
- Notes on Use and Installation

Tool Balancer 4-6 kg	
m = 3.3 kg	
1 set	0.0.674.95
Tool Balancer 6-8 kg	
m = 3.4 kg	
1 set	0.0.674.96
Tool Balancer 8-10 kg	
m = 3.5 kg	
1 set	0.0.674.97
Tool Balancer 10-14 kg	
m = 3.8 kg	
1 set	0.0.674.98





Document Holder

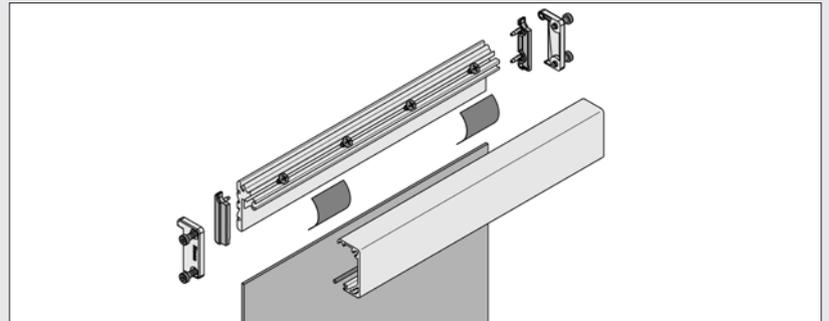
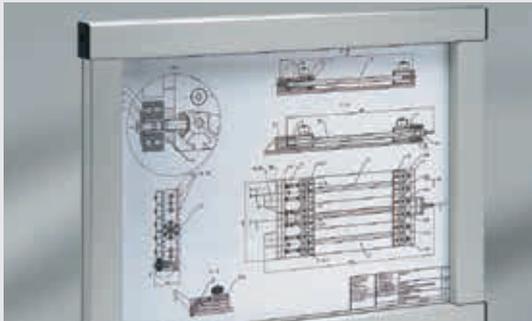
From clipboard to poster

- For working, workflow and design plans
- Frame and holder in various sizes
- Clamping function enables users to change documents rapidly
- Available with protective panel if required



The Document Holder system is used for constructing display and information panels of any size in the workplace or the training area. The panels can be attached directly to a frame construction made of aluminium profiles, e.g. to a work bench in the production area. The Document Holder can also be used to construct fixed or moveable panels on appropriate frame structures.

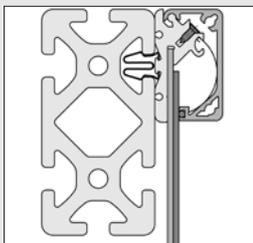
The system consists of two aluminium profiles that are interconnected using an integrated spring-loaded hinge. The Document Holder Support Profile forms the fixed frame which also secures the rear panel. This frame is fixed onto basic constructions made up of Line 8 Profiles using Clip 8 St. The spring-loaded Lid Profile firmly clamps documents and drawings and can securely hold an optional acrylic glass panel to protect documents.



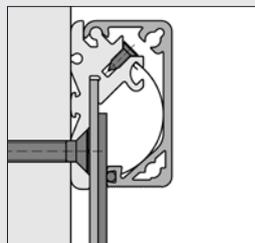
Document Holders can be constructed in any sizes as either clipboards or frames for documents. item's sales partners provide design assistance and supply either individual components, complete frames or building kits. The tables overleaf show the dimensions required for Document Holders together with the various sizes.

The rear panel (thickness 2 mm) is clamped to the Support Profile by driving the Countersunk Screws DIN 7982 St 3.9x9.5 into the screw channel.

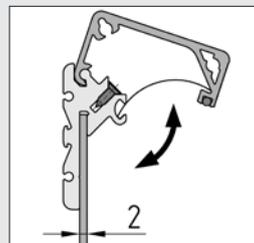
Retaining Cord D2.5 is inserted into the Lid Profile to prevent the document from moving. Greasing the contact surfaces of the leaf springs in the Profiles is recommended.



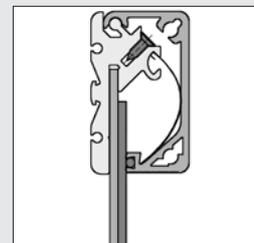
The Document Holder Support Profile is fixed onto basic constructions made up of Line 8 Profiles using Clip 8 St.



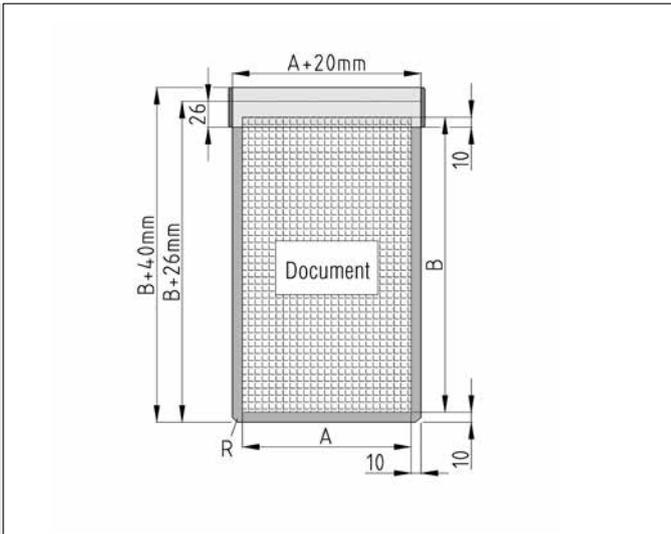
The Support Profile can also be secured to any surface using a Countersunk Screw.



The Lid Profile opens and closes to clamp the Document Holder. The leaf springs hold the lid in place at its two extreme positions. The document is held in place by simply closing the Lid Profile as illustrated.

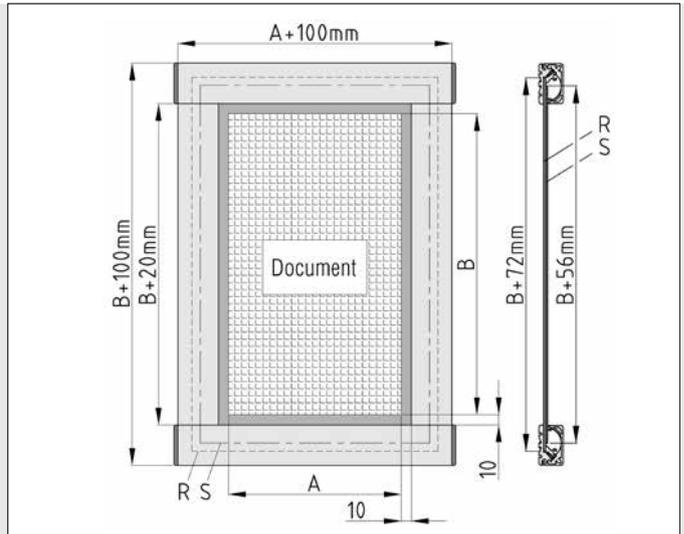


A protective panel can be used in Document Holder frames that are enclosed on all sides. This too is held in position by the Lid Profile.



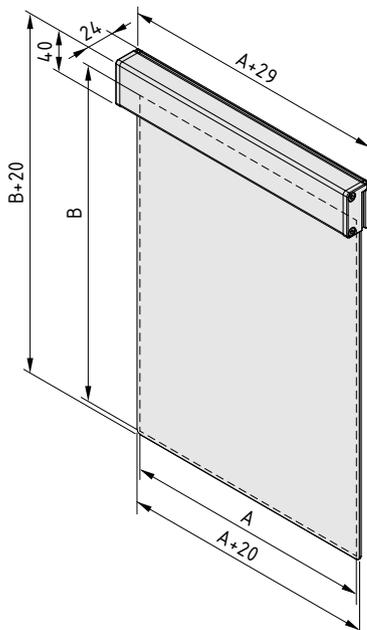
Calculating the number and lengths of the individual components for constructing Document Holders in the form of a clipboard.

	Qty.	Length [mm]	Length [mm]
Rear panel (R)	1	A+20	B+26
Support Profile	1	A+20	
Lid Profile	1	A+20	
Retaining Cord	1	A+20	
Leaf Springs	$\frac{A}{100}$		
Countersunk Screws 3,9x9,5	$\frac{A}{50}$		



Calculating the number and lengths of the individual components for constructing Document Holder Frames.

	Qty.	Length A [mm]	Length B [mm]
Rear panel (R)	1	A+72	B+72
Protective panel (S)	1	A+56	B+56
Support Profile, horiz.	2	A+100	
Support Profile, vert.	2		B+20
Lid Profile, horiz.	2	A+100	
Lid Profile, vert.	2		B+19.5
Leaf Springs	$\frac{A+B}{100}$		
Countersunk Screws 3,9x9,5	$\frac{A+B}{50}$		



Document Holder 8 A4

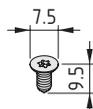
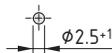
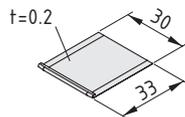
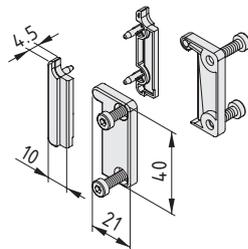
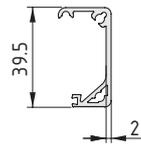
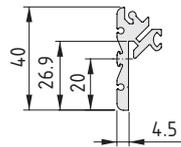
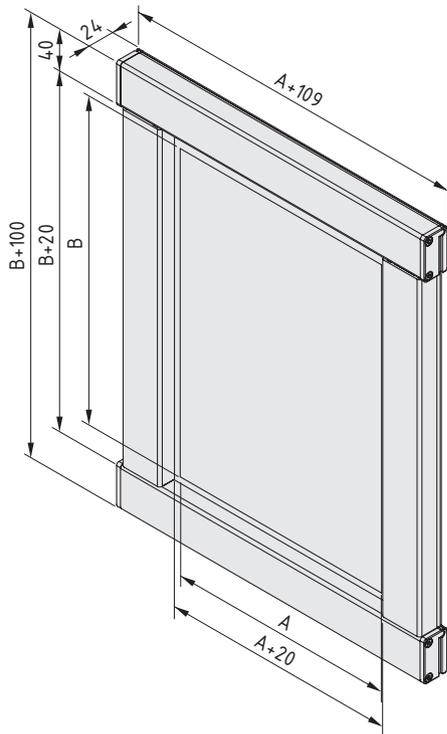
Fully assembled (excluding protective panel)
 Document dimension A = 210 mm
 Document dimension B = 300 mm
 m = 0.7 kg

1 set 0.0.476.22

Document Holder 8 A3

Fully assembled (excluding protective panel)
 Document dimension A = 420 mm
 Document dimension B = 300 mm
 m = 1.3 kg

1 set 0.0.476.23

**Document Holder 8 Frame A4**

Fully assembled (including protective panel PMMA)
Document dimension A = 210 mm
Document dimension B = 300 mm
m = 2.3 kg

1 set 0.0.476.24

Document Holder 8 Frame A3

Fully assembled (including protective panel PMMA)
Document dimension A = 420 mm
Document dimension B = 300 mm
m = 3.4 kg

1 set 0.0.476.25

Document Holder 8 Support Profile

Al, anodized
m = 0.68 kg/m

natural, cut-off max. 3000 mm 0.0.485.90

natural, 1 pce., length 3000 mm 0.0.454.47

Document Holder 8 Lid Profile

Al, anodized
m = 0.47 kg/m

natural, cut-off max. 3000 mm 0.0.485.92

natural, 1 pce., length 3000 mm 0.0.454.48

Document Holder 8 Cap Set

Cap Set right, PA-GF, black
Cap Set left, PA-GF, black
4 Hexagon Socket Head Cap Screws DIN 6912-M4x12, black
m = 12.0 g

1 set 0.0.485.76

Document Holder 8 Leaf Spring

St
m = 1.2 g

stainless, 1 pce. 0.0.486.76

Retaining Cord D2.5

Elastomer, resistant to oils, water and cleaning agents
m = 6 g/m

clear, cut-off max. 10 m 0.0.485.88

clear, 1 roll length 10 m 0.0.485.89

Countersunk Screw, self-threading DIN 7982 St 3.9x9.5, TX15

St
m = 0.8 g

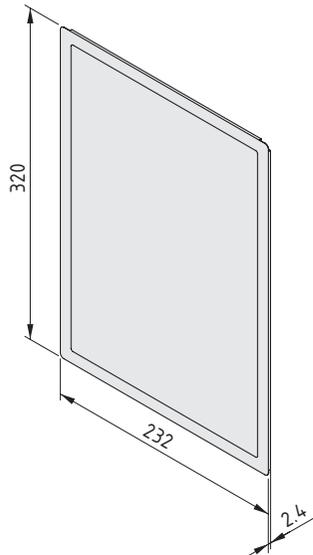
stainless, 1 pce. 8.0.008.09



Notice Holders A4, magnetic

- Protects documents from soiling
- Magnetic frame holds documents in place, even in draughts
- Available in four different colours

The magnetic Notice Holder - important information where you need it and when you need it!
 These Notice Holders protect your notices and allow you to display important information on any suitable ferrous surface, such as item Compound Material St.
 The Notice Holders are made from hard-wearing transparent film and have a magnetic frame. Size approx. 320x232 mm.
 Available in grey, yellow, green and red.



Notice Holder A4, magnetic

Rigid PVC film, 0.4 mm, non-reflective
 Magnetic strips
 m = 120.0 g

grey, 1 pce.	0.0.635.11
yellow, 1 pce.	0.0.636.61
green, 1 pce.	0.0.636.62
red, 1 pce.	0.0.636.63



Monitor Adapter

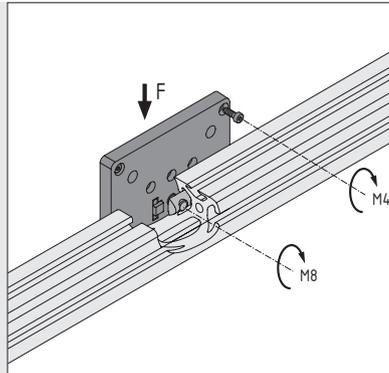
Universal fixing for flatscreen monitors

- Compatible with VESA standard
- Anti-torsion fastening to profile grooves



The Monitor Adapter enables flatscreens to be installed (with standard fastening VESA 75 or 100) on work bench systems or production control stations. The connection geometry employs the modular dimension of Line 8 profiles and thus enables use of typical fastening elements (Line 8 profiles, Hinge 8 40x40 heavy duty, etc.). Optional anti-torsion features secure the set position through positive locking.

Monitor Adapter 8 VESA 75-100 PA is manufactured from ESD plastic, which prevents electrostatic charges from building up and enables a slow rate of discharge to protect sensitive components.

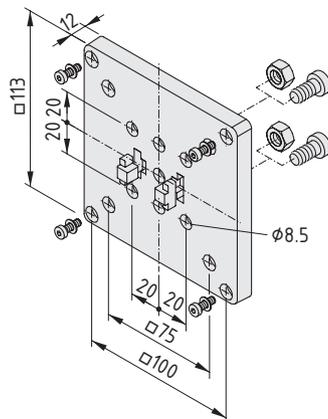


Maximum permissible load of Monitor Adapter 8 VESA 75-100 PA:

$F_{\max} = 120 \text{ N}$

Screws M8: $M_{\max} = 8 \text{ Nm}$

Screws M4: $M_{\max} = 3 \text{ Nm}$



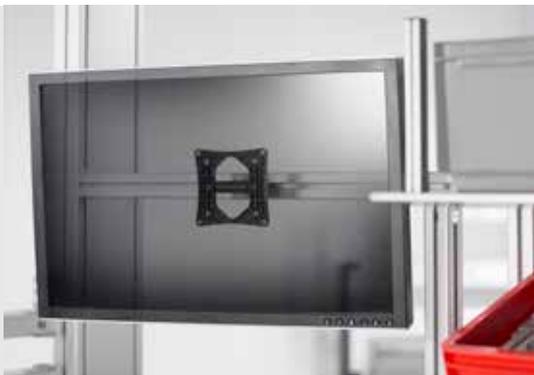
Monitor Adapter 8 VESA 75-100 PA



Adapter Plate, PA-GF, black
 2 anti-torsion lugs, die-cast zinc, bright zinc-plated
 4 screws M4x12, St, bright zinc-plated
 4 washers $\varnothing 4.3$, bright zinc-plated
 2 Hexagon Socket Head Cap Screws M8x16, St, bright zinc-plated
 2 hexagon nuts M8, St, bright zinc-plated
 $m = 150.0 \text{ g}$

1 set

0.0.615.48



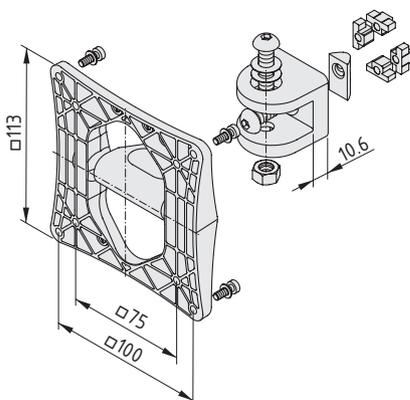
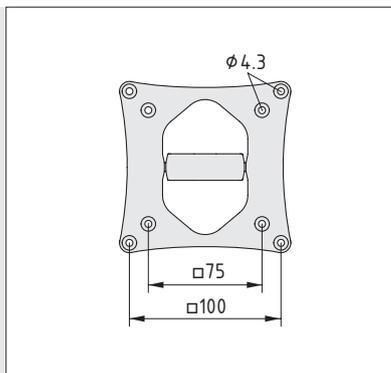
Monitor Mounting Joint 8 VESA 75-100

- Two high-precision pivot axes
- Adapter for VESA 75 and 100



Strong support for all: Monitor Mounting Joint 8 VESA 75-100 makes it incredibly easy to fix just about any flatscreen monitor to a profile construction. The adapter plate is compatible with displays that feature a VESA 75 or VESA 100 connection and have threaded bores spaced 75 x 75 mm on the rear (or 100 x 100 mm in the case of larger monitors).

The two friction pivot axes ensure users can adjust monitors weighing up to 11 kg horizontally and vertically to achieve the ideal viewing angle.



Monitor Mounting Joint 8 VESA 75-100



- Adapter Plate, PA-GF, black
- 4 Hinge 8 fixing elements
- Button-Head Screw M8x16, St, bright zinc-plated
- Button-Head Screw M8x30, St, bright zinc-plated
- Hexagon nut DIN 934-M8-8
- T-Slot Nut 8 St M8
- 2 disc springs DIN 2093-A16
- 4 Hexagon Socket Head Cap Screws DIN 7984-M4x12, St, bright zinc-plated
- 4 washers DIN 433-Ø4.3, bright zinc-plated
- m = 230.0 g

1 set

0.0.653.42



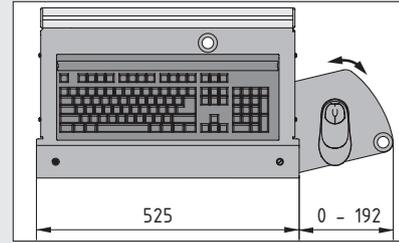
PC Mount and Keyboard Shelf

- Secure fixing for keyboard and computer
- Keyboard Shelf with fold-out mouse rest
- Pull-out rails for tidy fixtures

Both PC and keyboard can be safely and securely fastened with the optimum mounting devices from item.

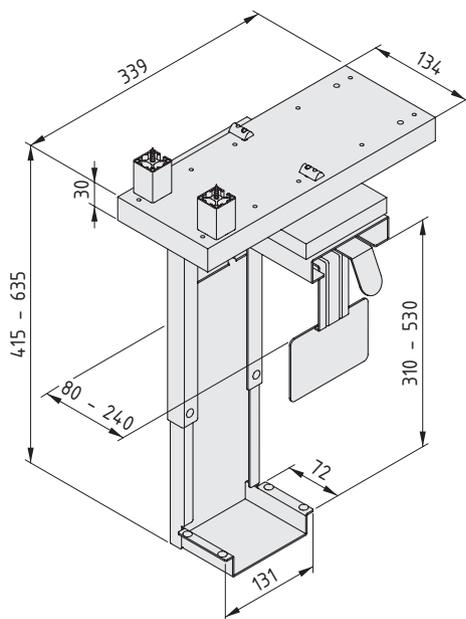
Fasten the PC Mount below the working surface and simply place your computer into the holder.

The PC Mount can be adjusted to accommodate various housing sizes and can be pulled out and rotated using additional pull-out rail under the table. This creates added legroom while ensuring all operating elements and connections can be accessed easily as and when necessary.



The Keyboard Shelf holds the computer keyboard and mouse. It can be fitted securely to Pivot Arms or an area in the work bench handling zone via its screw fastening. A special Fastening Set is also available to convert the Keyboard Shelf to a retractable version which fits neatly under the working surface.

The mouse rest can be fitted to the right or left of the Keyboard Shelf.



PC Mount

Mount with pull-out rail and rotating element, St, white aluminium

2 Countersunk Screws 5x60, St, bright zinc-plated

2 spacers, Al, natural

2 Button-Head Screws M6x14, St, bright zinc-plated

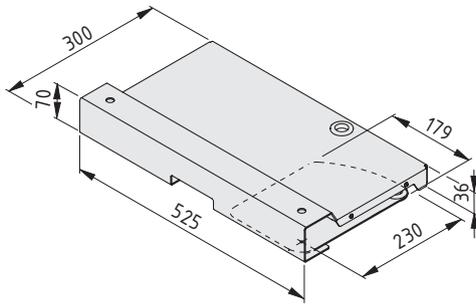
2 T-Slot Nuts 8 St M6, bright zinc-plated

Notes on Use and Installation

m = 5.8 kg

1 set

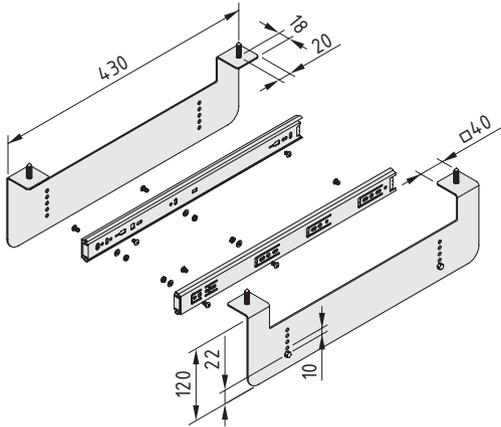
0.0.631.70



Keyboard Shelf

Keyboard Shelf 500x200, Al, powder-coated white aluminium
 Mouse rest suitable for R/L fitting, folds out
 2 cable holes 23x30x2 mm
 Washer 6x54x2 mm
 Book screw M4x5
 m = 1.8 kg

1 pce. 0.0.620.87



Fastening Set Keyboard Shelf

2 telescopic rails 400 TA, St, bright zinc-plated
 2 retaining plates, St, white aluminium, similar to RAL 9006
 Fastening materials
 Notes on Use and Installation
 m = 2.1 kg

1 set 0.0.637.05



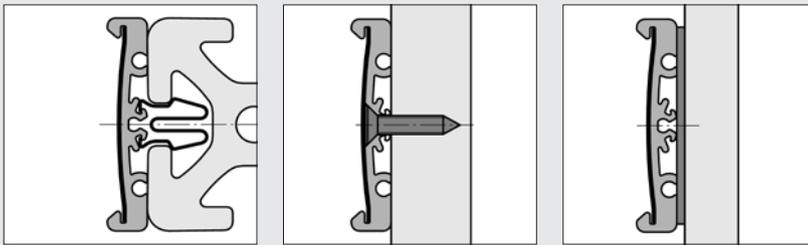
Label Holder

- Bring order to shelves and drawer units
- Simply clip into Profiles 8

Label Holder 8 160x40 is used for attaching labels to shelves, work benches and fixtures. It consists of the Label Profile, which has a protective strip and end caps, and two Clips 8 St.

The Label Holder takes paper labels 36 mm high that can be customised at will. The transparent strip protects the labels against soiling.

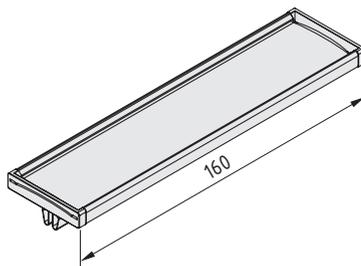
The Label Profile can also be cut to length and used for constructing Label Holders of any desired length. The Label Profile is then sealed by end caps.



Label Holder 8 can be secured to different structures:

- with Clip 8 St to Line 8 Profile grooves
- with a Countersunk Screw to walls and panels and to profile grooves of other Lines
- with double-sided adhesive tape (width 36 mm) to panel elements

Clip 8 St

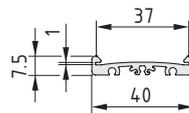


Label Holder 8 160x40

Label Profile 8 40, length 152 mm
2 Label Profile Caps 8 40
Label Protection Strip 8 40, length 152 mm
2 Clips 8 St
m = 66.0 g

1 set

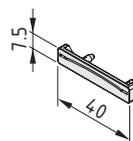
0.0.488.70



Label Profile 8 40

Al, anodized
m = 0.37 kg/m
natural, 1 pce., length 3000 mm

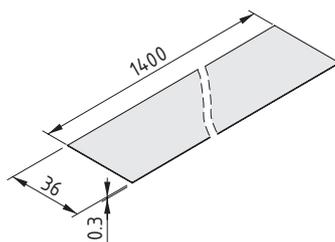
0.0.454.59



Label Profile Cap 8 40

PA-GF
m = 1.0 g
black, 1 pce.

0.0.488.56



Label Protection Strip 8 40

PVC
m = 14.3 g/m
transparent, 1 pce., length 1400 mm

0.0.488.63



LED Machine Light Fittings

The turnkey solution for custom, energy efficient LED lighting

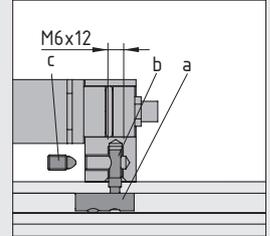
- Maximum energy efficiency
- Direct light to where it is needed
- Various sizes available



With Machine Light Fittings available in five sizes, there's a lighting solution for every machine. Everything from the most awkward corner to large cabins can be lit up. Thanks to IP 67 protection, the light fittings can also be used in harsh environments. They are fixed in place using a Line 8 groove, while an integrated hinge allows users to direct light where it is needed. When designing work benches, the Machine Light Fittings offer a space-saving solution for boosting lighting levels on the work surface.

Using the latest generation of LEDs, the fittings deliver clear energy savings and can also be combined with accessories including cables and electronic transformers. An ingenious system of power supply and control elements, cables and splitters makes it easy to configure customised lighting scenarios, even including dimmer functions.

All LED Machine Light Fittings from the 6W version upwards feature an integrated hinge.



Installing an LED Machine Light Fitting on a Profile 8 using the fastening elements supplied:

a = T-Slot Nut V 8 St M5 (0.0.480.54)

b = Fastening cylinder

c = Grub screw M6



The following applies to all the products below:

Aluminium casing IP67, rotatable

Fastening elements

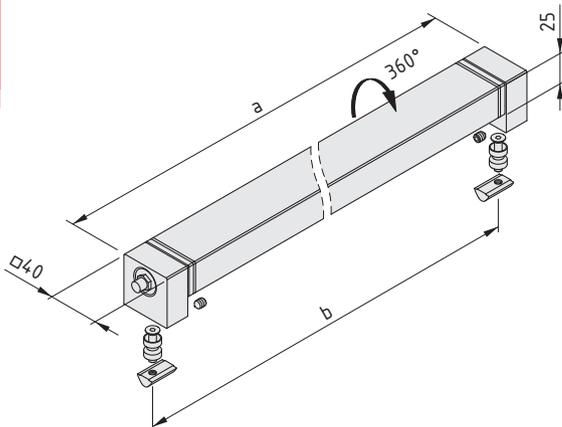
Rated voltage: 24V DC

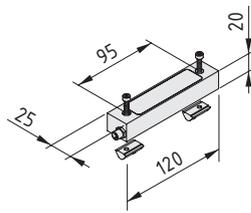
Protection class: III

M8 plug connector

LED Machine Light Fitting 6W 40x40x240	
a = 240 mm b = 225 mm m = 0.4 kg	
1 set	0.0.656.15
LED Machine Light Fitting 12W 40x40x415	
a = 415 mm b = 400 mm m = 0.6 kg	
1 set	0.0.656.16
LED Machine Light Fitting 18W 40x40x590	
a = 590 mm b = 575 mm m = 0.8 kg	
1 set	0.0.656.17
LED Machine Light Fitting 24W 40x40x765	
a = 765 mm b = 750 mm m = 1.0 kg	
1 set	0.0.656.18
LED Machine Light Fitting 30W 40x40x940	
a = 940 mm b = 925 mm m = 1.2 kg	
1 set	0.0.656.19

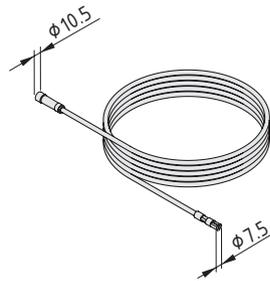
13



**LED Machine Light Fitting 5W 25x20x120**

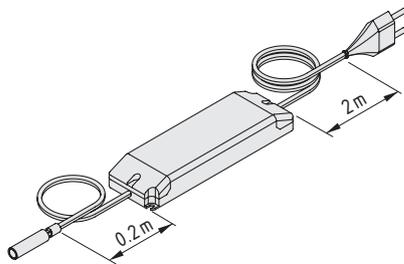
Aluminium casing IP67
Fastening elements
Rated voltage: 24V DC
Protection class: III
Output: 5W LED Light Fitting
M8 plug connector
m = 189.0 g

1 set 0.0.660.30

**Connecting Cable, LED Machine Light Fitting**

Cable length 5 m (0.34 mm²)
Cable diameter \varnothing 5 mm
Safety plug connector M8, system plug
m = 195.0 g

1 pce. 0.0.656.52

**Electronic Transformer LED 30W 24V**

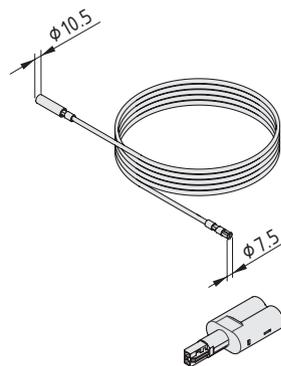
System socket connector, Euro plug connector 100 - 240 V AC, 50/60 Hz
m = 240.0 g

1 pce. 0.0.658.29

Electronic Transformer LED 75W 24V

System socket connector, Euro plug connector 100 - 240 V AC, 50/60 Hz
m = 410.0 g

1 pce. 0.0.660.52

**Extension Cable, LED Light Fitting**

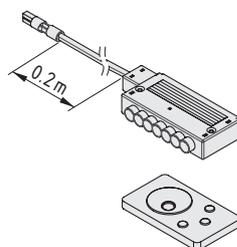
Cable length 2 m (0.75 mm²)
Flat cable 3.5x5.4 mm
System plug connector, system socket connector
m = 75.0 g

1 pce. 0.0.656.49

Two-way LED Splitter

1x system plug connector, 2x system socket connectors
m = 15.0 g

1 pce. 0.0.660.56

**Six-way LED Splitter**

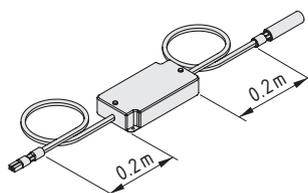
1x system plug connector, 6x system socket connectors
m = 35.0 g

1 pce. 0.0.660.55

Wireless LED Dimmer Remote

Lithium battery CR2032
Storage box
Fastening elements
m = 45.0 g

1 set 0.0.661.39

**Wireless LED Dimmer Receiver**

Connecting cable 72 W
System plug connector, system socket connector
m = 40.0 g

1 pce. 0.0.660.54



Light Fitting 55W

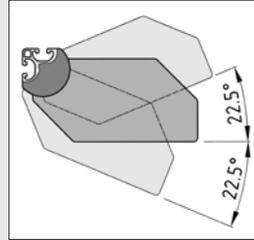
- Bright working light that meets the highest safety standards
- Extremely easy to position thanks to pivot function
- Flexible connection concept for power supply



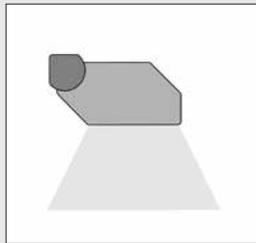
Sturdy Light Fitting for flicker-free illumination of workplaces and machines. The integrated swivel profile with Line 8 system groove supports 7 setting angles.

The Light Fitting can be powered from a 230 V AC source (120 V AC on request) and is VDE-ENEC safety-approved. When fitted with the impact-resistant Polycarbonate Protective Panel and sealing cap, the Light Fitting complies with IP 40-EN 60529.

All electrical connecting elements are approved for a rated voltage of 250 V AC with a rated current of 16 A.



To allow the Light Fitting to be adjusted to individual applications, it can be locked in various positions over a swivel range of $\pm 22.5^\circ$ from 0° .



Light distribution by the Light Fitting (side view)

Distance [mm]	Beam-width [mm]	E [Lux]
500	1000	3500
900	1800	1250
1300	2600	700
1700	3400	500

The Light Fitting can be sealed against dust (IP 40) by means of the Protective Panel. This panel also protects the Light Fitting against soiling and damage. The open socket must be sealed with a cap.

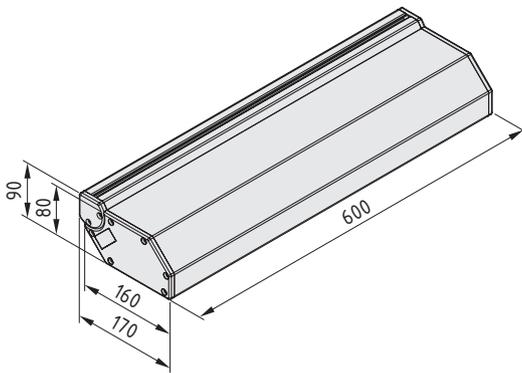
The Connecting Cable is used to connect the power supply to an earthed plug. The socket can be used to power the Light Fitting from any line network which is in place. The wires are held securely in the socket by means of a spring-force connection.

If several Light Fittings are connected end-to-end, the power is fed from one Light Fitting to another by means of the Adapter. The dowel which is inserted into a mounting hole in the cap provides a mechanical link between the Light Fittings.

If several Light Fittings positioned separately are connected in series and share a common power supply, the Light Fittings are interconnected using the Extension Cable which is available prefitted with appropriate connectors in a standard length of 2 m, or alternatively a customised version may be made using a plug and socket.

Light distribution by the Light Fitting (front view)

Distance [mm]	Beam-width [mm]	E [Lux]
500	750	3500
900	950	1250
1300	1150	700
1700	1350	500

**Light Fitting 55W, 230V**

On/off switch
 55W compact fluorescent lamp
 Electronic Lamp-Control Unit
 60° parabolic reflector grid
 Socket lock
 Notes on Use and Installation
 m = 3.7 kg

1 pce.

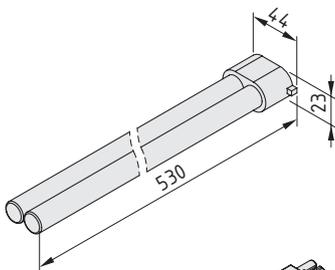
0.0.417.34

Light Fitting 55W, 120V

On/off switch
 55W compact fluorescent lamp
 Electronic Lamp-Control Unit
 60° parabolic reflector grid
 Socket lock
 Notes on Use and Installation
 m = 3.7 kg

1 pce.

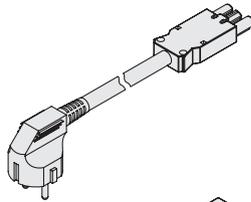
0.0.417.58

**Compact Lamp 55W**

Twin tube
 Tube diameter: 17 mm
 Power: 55 Watt
 Light colour: natural white, 4800 lm
 m = 150.0 g

1 pce.

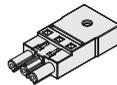
0.0.417.57

**Connecting Cable, Socket / Earthed Plug**

Cable length 3 m (1.5 mm²)
 m = 370.0 g

black, 1 pce.

0.0.417.42

**Socket, Spring-Force Connected**

PA
 m = 25.0 g

black, 1 pce.

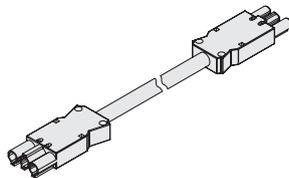
0.0.417.44

**Adapter, Socket / Plug**

PA
 incl. dowel
 m = 13.0 g

black, 1 set

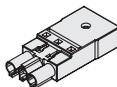
0.0.417.45

**Extension Cable, Socket / Plug**

Cable length 2 m (1.5 mm²)
 m = 234.0 g

black, 1 pce.

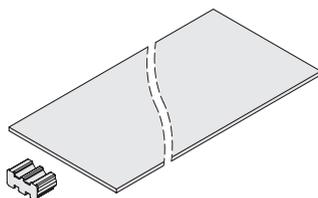
0.0.417.52

**Plug, Spring-Force Connected**

PA
 m = 25.0 g

black, 1 pce.

0.0.417.59

**Polycarbonate Protective Panel**

PC, transparent
 incl. socket sealing cap
 m = 195.0 g

1 set

0.0.417.43



Lamp 35W

- For targeted precision lighting
- Water and dust-resistant housing (IP67)



Dust-tight and water-tight industrial spotlight (IP 67) in a low-voltage (12 V) design.

The aluminium housing for the Light Fitting is equipped for fastening with Profile 8 grooves. A Hinge, heavy duty or other fastening elements can be used to integrate the Lamp 35W into machines, fixtures and equipment.

Lamp 35W comes with a 2 m connecting cable, which is linked to the electronic transformer using a coded system plug. Up to 3 Lamps can be attached to this power pack via the distributor block.

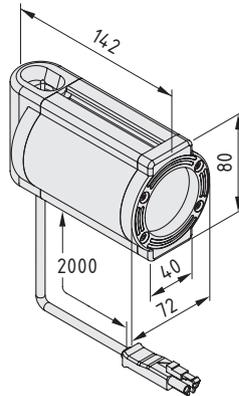
The voltage supply to the electronic transformer is provided via the Connecting Cable, Socket / Earthed Plug (0.0.417.42) to a 230 V safety contact socket.

The housing of Lamp 35W can be fitted with Handle PA 80.



Fixed Lamp 35W, adjustable with Hinge 8 40x40, heavy-duty with Clamp Lever.

13



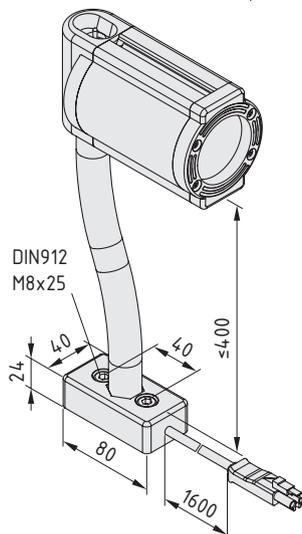
Lamp 35W



- ON/OFF switch
- Halogen reflector 35W
- Protective panel of hardened glass
- Protection: IP 67, EN 60529
- Protection class III
- 2 m connecting cable
- Notes on Use and Installation
- m = 0.6 kg

1 set

0.0.417.60



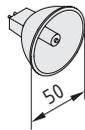
Lamp 35W with Flexible Tube



- ON/OFF switch
- Halogen reflector 35W
- Protective panel of hardened glass
- Protection: IP 67, EN 60529
- Protection class III
- m = 1.2 kg

1 set

0.0.417.71



Lamp 35W, Halogen Reflector



m = 25.0 g

1 pce.

0.0.417.77



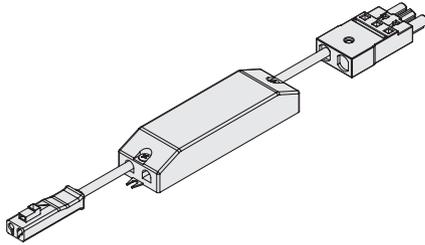
Lamp 35W, 3-Way Distributor Block



m = 20.0 g

1 pce.

0.0.417.74



Electronic Transformer 105W



Primary voltage: 230/240 V AC

Secondary voltage: 12 V AC

m = 167.0 g

1 pce.

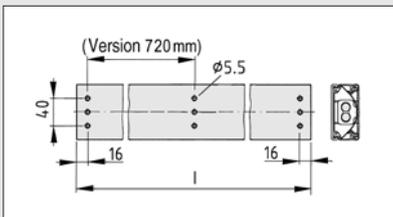
0.0.417.75



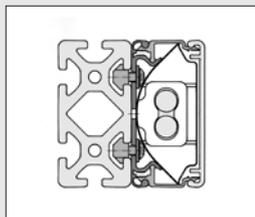
Light Fitting 11W

- Energy-saving long-term lighting
- Runs on safety low voltage
- Flicker-free light thanks to Lamp-Control Unit

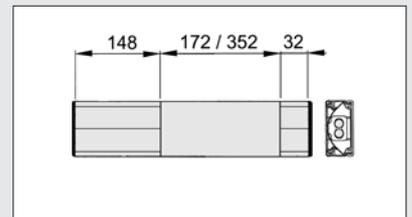
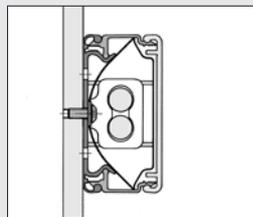
Compact industrial light for use with safety low voltage supply. Each segment (360 mm long) of the Light Fitting is equipped with an electronic Lamp-Control Unit for low voltage (24 V DC) and a Compact Lamp (power 11 W, corresponds to a conventional 75 W filament lamp).



The rear of the housing is prepared for fastening with Button-Head Screws M5x14. Fully compatible with Conduit Profiles.



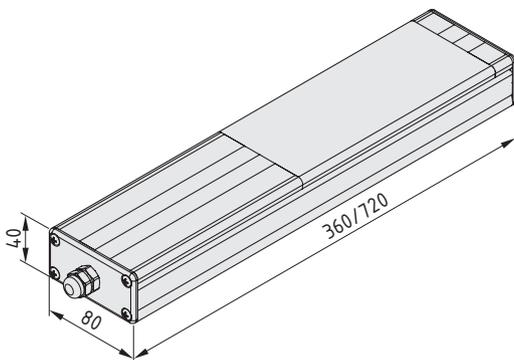
Fastening of Light Fitting 11W to any mounting surface or Profile 8 grooves.



Length of transparent cover

Conduit Profiles 486

13



Light Fitting 11W 80x40x360

Aluminium housing
 Transparent cover, PMMA
 Caps, PA-GF, black
 Lamp-Control Unit, Compact Lamp, reflectors, installation material, fastening screws M5x14
 Rated voltage: 24 V DC
 Protection: IP 50, EN 60529
 Power output: 11 W
 m = 0.7 kg

1 pce.

0.0.417.06

Light Fitting 11W 80x40x720

Aluminium housing
 Transparent cover, PMMA
 Caps, PA-GF, black
 Lamp-Control Unit, Compact Lamp, reflectors, installation material, fastening screws M5x14
 Rated voltage: 24 V DC
 Protection: IP 50, EN 60529
 Power output: 22 W
 m = 1.4 kg

1 pce.

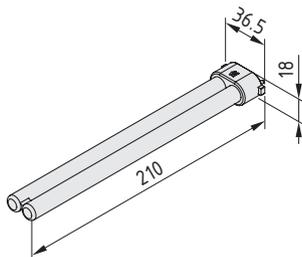
0.0.417.07

Compact Lamp 11W

Twin tube
 Tube diameter: 12 mm
 Power output: 11 W
 m = 70.0 g

1 pce.

0.0.417.17





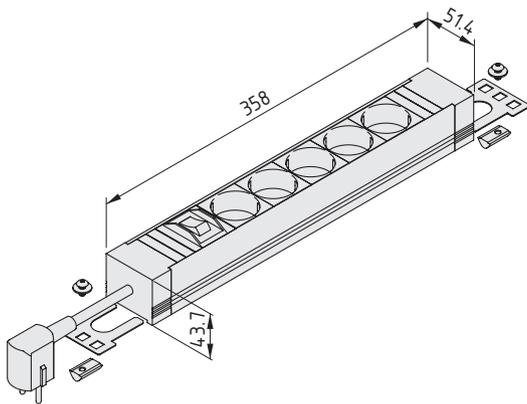
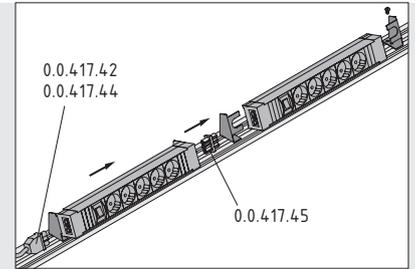
Multi-Socket Power Strips, 5 outlet

- Securely fixed to a profile groove
- Angled installation ensures easy access
- With practical central ON/OFF switch

Robust Multi-Socket Power Strip in industrial quality. An impact-proof aluminium housing accommodates 5 sockets (German domestic standard) and a 2-pole ON/OFF switch with indicator light.

Mains connection via a fixed conventional power cord or a system plug – can also be connected directly to the mains using Adapter, Socket/Plug (0.0.417.45, max. 16 A).

Can be fastened to profile grooves and all panels: fits flush with the fastening elements included. The Fastening Sets also enable you to fit the units at an angle of 90° or 70° (particularly ergonomic). These sets are then used instead of the fastening elements supplied with the Multi-Socket Power Strips.

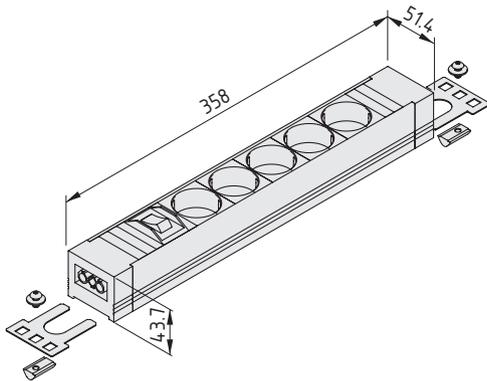


Multi-Socket Power Strip, 5 outlet, with conventional power cord

Housing, Al, anodized, natural
 5 power sockets (German domestic standard)
 ON/OFF switch, illuminated, 2-pole
 Feed cable 1.5 mm², l = 2 m
 2 fastening brackets
 2 T-Slot Nuts V 8 St M5, bright zinc-plated
 Fastening elements
 m = 670.0 g

1 set

0.0.627.43

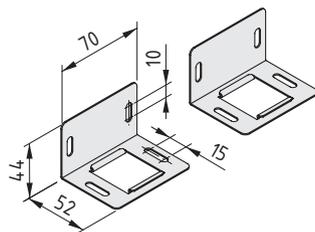


Multi-Socket Power Strip, 5 outlet, with system plug

Housing, Al, anodized, natural
 5 power sockets (German domestic standard)
 ON/OFF switch, illuminated, 2-pole
 System plug
 System socket
 2 fastening brackets
 2 T-Slot Nuts V 8 St M5, bright zinc-plated
 Fastening elements
 m = 450.0 g

1 set

0.0.627.44

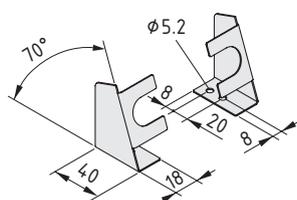


Multi-Socket Power Strip Angle Fastening Set

2 angle brackets 90°, St, bright zinc-plated
 m = 84.0 g

1 set

0.0.627.40



Multi-Socket Power Strip Angle Fastening Set 70°

2 angle brackets 70°, St, bright zinc-plated
 m = 65.0 g

1 set

0.0.627.42

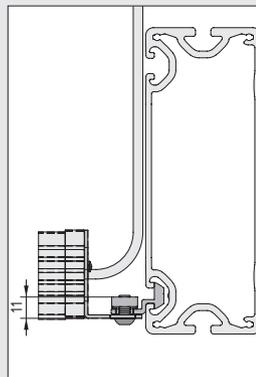
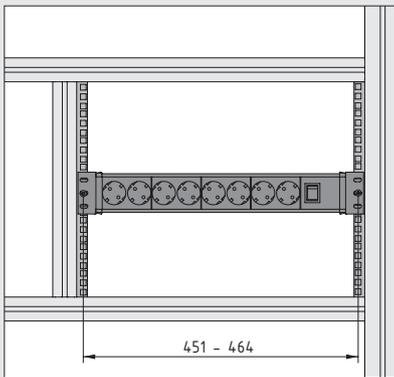


Multi-Socket Power Strip, 8 outlet, 19", with conventional power cord

- Robust and powerful
- Secure screw attachment to Rebate Profile 19"

The item Multi-Socket Power Strip, 8 outlet is the ideal extension for your power supply. Eight power sockets (German domestic standard) and a two-pole ON/OFF switch with indicator light – all in a plastic housing with fittings to accommodate Rebate Profile 19".

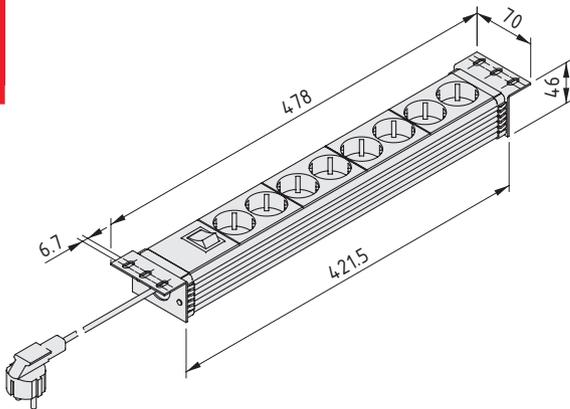
The Multi-Socket Power Strip, 8-outlet, can also be placed in Cable Duct E of a work bench.



Because this robust, industrial quality Multi-Socket Power Strip can be fitted to the profile grooves of a machine frame or structure, positioning your power supply precisely where it is needed couldn't be simpler. Mains connection via a fixed conventional power cord that is included in the scope of supply.

Multi-Socket Power Strip 19" is fitted to a Profile 8 groove using Rebate Profile 19".

13



Multi-Socket Power Strip, 8 outlet, 19", with conventional power cord

8 power sockets (German domestic standard)
 Feed cable 1.5 mm², max. 16 A, l = 3 m
 ON/OFF switch, illuminated
 m = 870.0 g

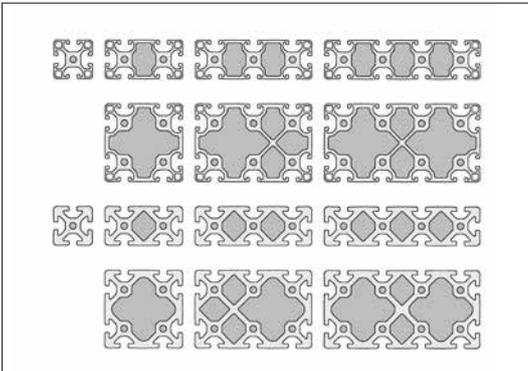
1 pce.

0.0.631.79



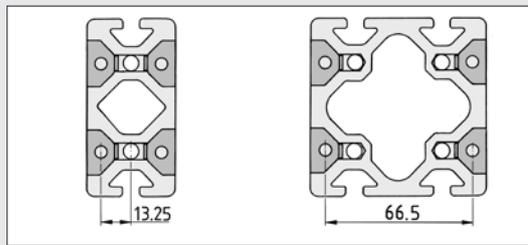
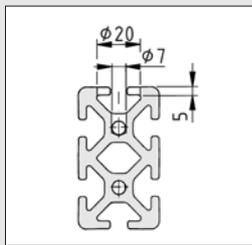
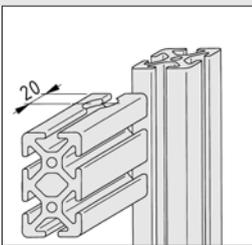
Pneumatic Universal-Fastening Sets

- Cavities in Profiles 8 can be used as compressed-air conduits
- Connect profiles at right angles or via their end faces
- Large profile cavities are not adversely affected by bore holes



Appropriate fastening elements such as Pneumatic Universal Fasteners are needed in order to use the profile cavities as pneumatic lines. The Automatic-Fastening Set is also suitable for connecting profiles used as pneumatic lines.

Automatic-Fastening Set 8 N 89

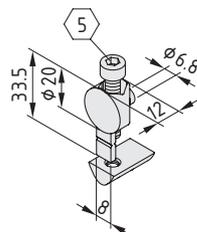


Depending on the profile size and load, several pairs of Fastening Sets may be required. When using the Pneumatic Universal-Fastening Sets ensure that the pilot drill does not penetrate the main chamber.

Pneumatic Universal-Butt-Fastening Sets 8 are used to connect the end faces of two profiles, e.g. where profile segments need to be extended.

Alternatively, Automatic Butt-Fastening Sets 8 can also be used.

13

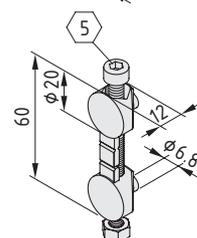


Pneumatic Universal-Fastening Set 8

Pneumatic Universal Fastener 8, die-cast zinc
Hexagon Socket Head Cap Screw DIN 912-M6x30, St
T-Slot Nut 8 St M6
 $M_{bzp} = 14 \text{ Nm}$ $m = 34.0 \text{ g}$

bright zinc-plated, 1 set

0.0.364.45



Pneumatic Universal-Butt-Fastening Set 8

2 Pneumatic Universal Fasteners 8, die-cast zinc
Hexagon Socket Head Cap Screw DIN 912-M6x50, St
Hexagon Nut DIN 934-M6, St
 $M_{bzp} = 14 \text{ Nm}$ $m = 45.0 \text{ g}$

bright zinc-plated, 1 set

0.0.364.46

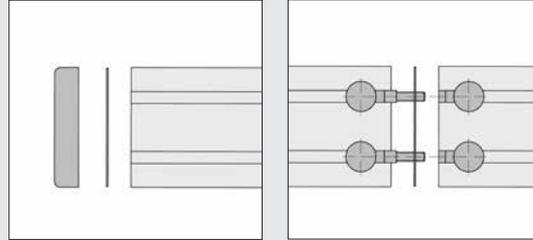


Seals PE

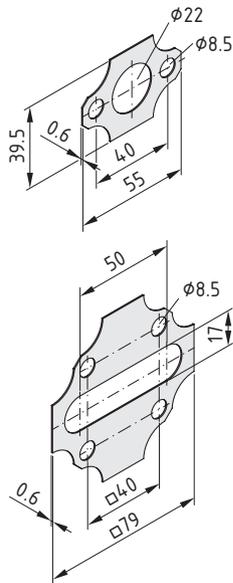
- Enables use of Profiles 8 as compressed-air conduits
- Sealing for profile connections
- Compensate for unevenness at the end face
- Self-adhesive for ease of installation



Seals PE must be located at every connection point between components functioning as pneumatic lines. The settlement of the Seal PE material can result in an initial reduction in the screw pretension. The screws must therefore be tightened after 24 hours. Self-adhesive versions facilitate assembly and eliminate pronounced unevenness (saw cuts, butt joints etc.).



Seals PE must be used between all joints.



Seal 8 80x40 PE



PE-LD
self-adhesive on one side
m = 1.0 g

natural, 1 pce.

0.0.420.80

Seal 8 80x80 PE



PE-LD
self-adhesive on one side
m = 2.0 g

natural, 1 pce.

0.0.420.79



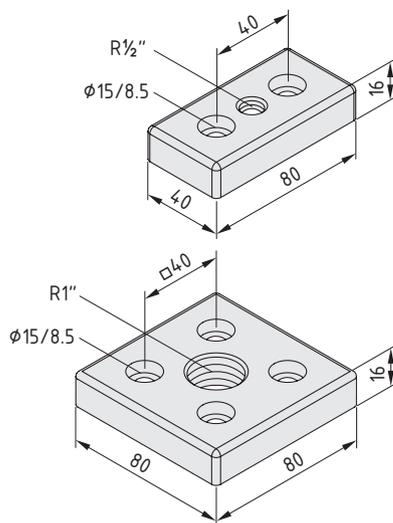
Pneumatic Connecting Plates

- For connecting supply lines and consumers
- Fitted to the end face of the profile



Pneumatic Connecting Plates are employed for connecting compressed-air supply systems or compressed-air consumers to Profiles 8 80x40 and 80x80. The Connecting Plate is attached by means of Button-Head Screws ISO 7380-M8x20 (M = 25 Nm) fitted into the core bores in the end faces of the profile.

Pneumatic Universal-Fastening Sets are employed for connecting profiles used as compressed-air conduits.



Pneumatic Connecting Plate 8 80x40 R1/2"



Die-cast zinc
m = 230.0 g

black, 1 pce.

0.0.406.34

Pneumatic Connecting Plate 8 80x80 R1"



Die-cast zinc
m = 390.0 g

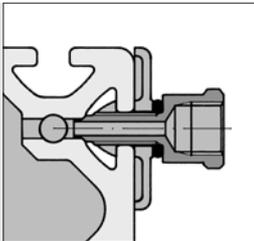
black, 1 pce.

0.0.406.25

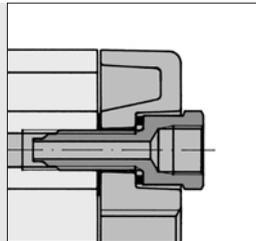


Pneumatic Connections

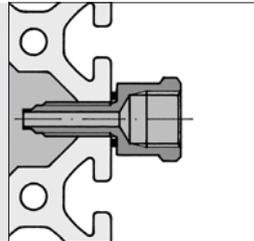
- For connecting compressed-air conduits to profile bores
- Can be fitted to the desired point on the profile
- For pneumatic connections G1/8 and G1/4.



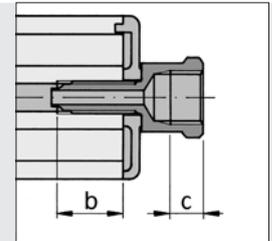
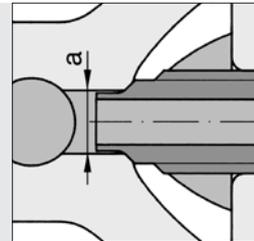
Supply of compressed air to the profile cavity by means of a central bore in the T-slot in conjunction with a Pneumatic Connecting Set. The seal is provided at the taper seat of the Pneumatic Connector.



Supply of compressed air to a central bore by means of a Pneumatic Connecting Plate with Pneumatic Connection fitted to the end face.

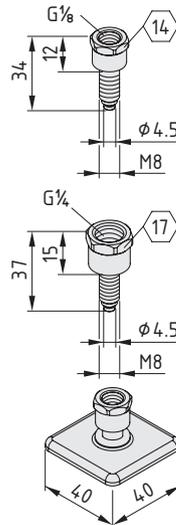


Depending on the type of application, the profile may need to be machined. When using a Pneumatic Connector outside the core bores, a standard O-ring seal must be used.



Pneumatic-Connector	a	b	c
8 G1/8	∅ 4.9 mm	M8x16	6 mm
8 G1/4	∅ 4.9 mm	M8x16	8 mm

When using the Pneumatic Connector (with inner thread c) in conjunction with the core bore, an appropriate thread of length (b) or, in the case of connections made at 90°, bores of diameter (a) must be provided, and a T-Slot Nut St to retain the fitting.



Pneumatic Connector 8 G1/8	
St M = 12 Nm m = 15.0 g	
bright zinc-plated, 1 pce.	0.0.411.69

Pneumatic Connector 8 G1/4	
St M = 12 Nm m = 18.0 g	
bright zinc-plated, 1 pce.	0.0.411.68

Pneumatic Connecting Set 8 G1/8	
St Pneumatic Connector, St Cap, PA-GF Seal, NBR m = 19.0 g	
black, 1 set	0.0.411.73

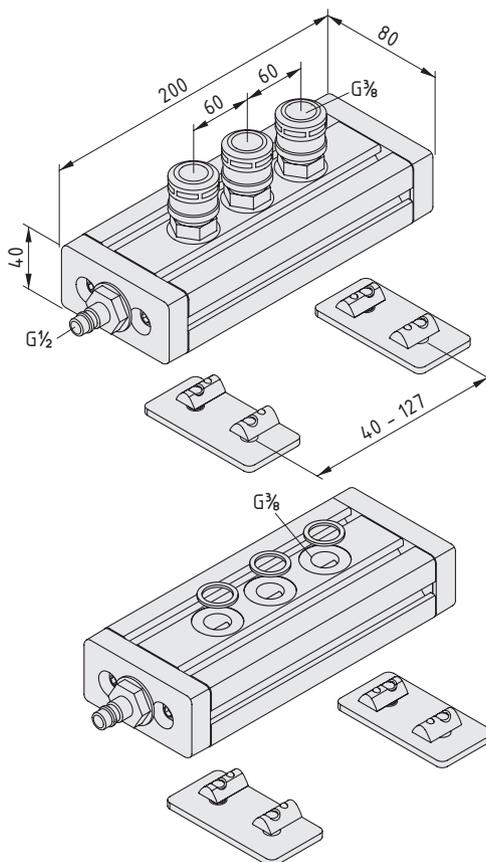
Pneumatic Connecting Set 8 G1/4	
St Pneumatic Connector, St Cap, PA-GF Seal, NBR m = 24.0 g	
black, 1 set	0.0.411.72



Compressed Air Manifold

- Easy to fasten to a profile groove
- With three quick-release couplings

Compressed air connections precisely where you need them – with the Compressed Air Manifold from item. Fit the Compressed Air Manifold to machine frame profiles and use the three quick-release couplings for your compressed air devices (operating pressure $P_{perm.} = 8 \text{ bar}$). Nominal diameter of couplings: 7.2 mm, thread G 3/8. Connection for the compressed air feed line: G 1/2.



Compressed Air Manifold



Compressed Air Manifold, Al, natural
 3 quick-release couplings G 3/8, St - ND 7.2 mm
 Male connector G 1/2, St - ND 7.2 mm
 2 Flat Brackets 8 40, St, white aluminium
 4 Fastening Sets, St, bright zinc-plated
 m = 1.9 kg

1 set

0.0.635.98

Compressed Air Manifold Without Quick-Action Couplings



Compressed Air Manifold, Al, natural
 3 seals G 3/8, Al
 Male connector G 1/2, St - ND 7.2 mm
 2 Flat Brackets 8 40, St, white aluminium
 4 Fastening Sets, St, bright zinc-plated
 m = 1.6 kg

1 set

0.0.645.40



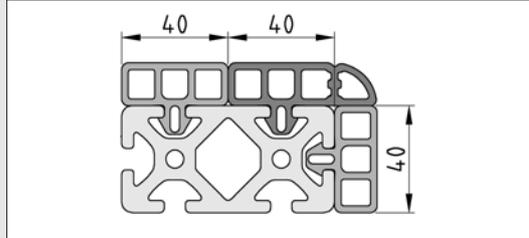
Protective Profiles

Prevent damage and injuries

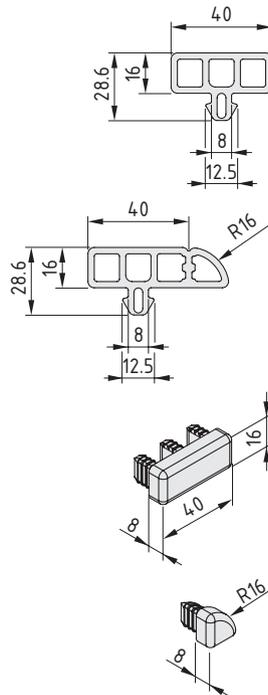
- Safe impact protection thanks to hollow-chambered profiles
- Protects edges and hidden struts



The elastic hollow-chambered plastic profiles are pushed into the grooves of Line 8 profile. Protective Profiles provide impact protection for the sides of profiles and cover profile edges. Elastic Caps cover the end faces of the Protective Profiles.



The Protective Profiles have a modular dimension of 40 mm. Large cross-sections of Line 8 Profiles can be protected effectively by combining several Protective Profiles.



Protective Profile 8 40x16



TPE
m = 334 g/m
black, 1 pce., length 2000 mm

0.0.474.72

Protective Profile 8 40x16 R16



TPE
m = 435 g/m
black, 1 pce., length 2000 mm

0.0.474.71

Cap for Protective Profile 8 40x16



m = 6.0 g
black, 1 pce.

0.0.474.74

Cap for Protective Profile 8 R16-90°



m = 2.0 g
black, 1 pce.

0.0.474.73

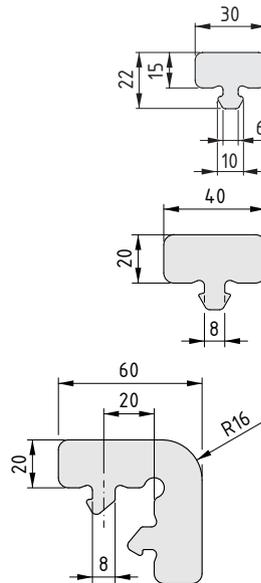


Protective Profiles E

- Easy-to-fit impact protection



Maximum safety for minimum effort. Protective Profiles E made from impact-absorbing PE foam can be fitted in next to no time, prevent scratches and give profile edges and sides robust protection against impacts. The flexible cushioning is anchored directly into the profile groove, which also makes Protective Profiles E ideal for use as temporary transport safety devices.



Protective Profile 6 30x15 E



PE, foamed
m = 27.0 g

grey, 1 pce., length 2000 mm

0.0.656.71

Protective Profile 8 40x20 E



PE, foamed
m = 22 g/m

grey, 1 pce., length 2000 mm

0.0.645.03

Protective Profile 8 40x20-90° E



PE, foamed
m = 57 g/m

grey, 1 pce., length 2000 mm

0.0.649.32

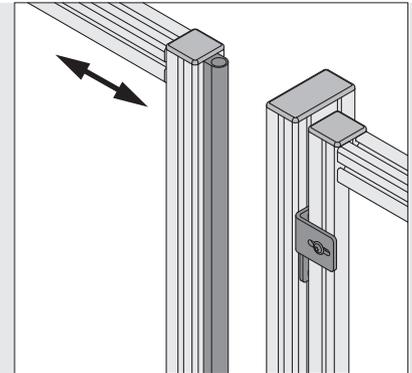
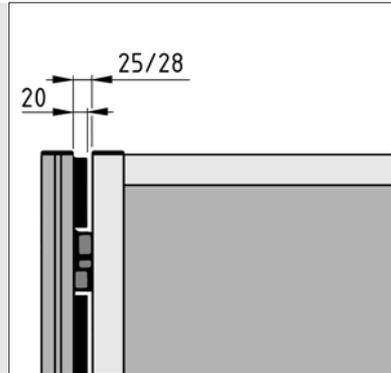


Buffer Strip

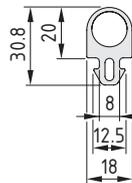
- For gentle closing of doors
- Also suitable as a door seal



Flexible plastic strip with fastening geometry for Profiles 8 and Clamp Profile 8 32x18. The strip can be used as a stop for swing, sliding and lifting doors, as a sealing profile or for similar applications.



In enclosure and guard applications using Hanger 8/Door Rabbet 8 (gap width 25/28 mm), Buffer Strip 8 20x18 can be used to reduce the gap width.



Buffer Strip 8 20x18



TPE
 Hardness 73 Sh A
 Oil, UV and water resisting
 m = 240 g/m

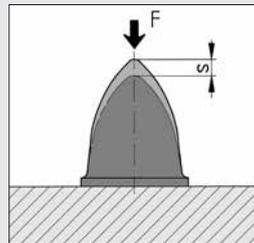
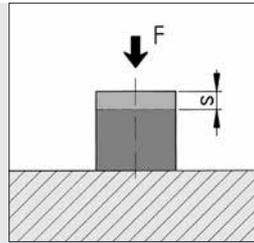
black, 1 pce., length 2000 mm

0.0.458.01



Impact Buffers Parabolic Buffers

- Rubber/metal elements deaden impacts effectively
- Resistant to oil, grease, salt water and soap suds
- Also suitable for use as damping feet



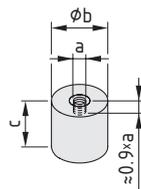
	max. F	s
Impact Buffer M4	90 N	1.4 mm
Impact Buffer M6	150 N	2.7 mm
Impact Buffer M8	350 N	3.0 mm

	max. F	s
Parabolic Buffer M8	370 N	20.0 mm
Parabolic Buffer M10	1057 N	35.0 mm
Parabolic Buffer M12	2360 N	50.0 mm

Parabolic Buffer with approximately exponential force profile.

Materials used in all the following products:

NBR
Hardness 55 Sh A
Steel insert, St



Impact Buffer M4 D15x15

a = M4 b = 15 mm c = 15 mm m = 5.0 g

black, 1 pce. 0.0.416.33

Impact Buffer M6 D20x15

a = M6 b = 20 mm c = 15 mm m = 12.0 g

black, 1 pce. 0.0.416.35

Impact Buffer M8 D30x30

a = M8 b = 30 mm c = 30 mm m = 38.0 g

black, 1 pce. 0.0.416.37

Parabolic Buffer M8 D30x36

a = M8 b = 30 mm c = 36 mm m = 26.0 g

black, 1 pce. 0.0.416.39

Parabolic Buffer M10 D50x58

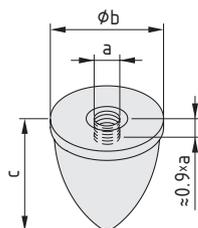
a = M10 b = 50 mm c = 58 mm m = 103.0 g

black, 1 pce. 0.0.416.41

Parabolic Buffer M12 D75x89

a = M12 b = 75 mm c = 89 mm m = 319.0 g

black, 1 pce. 0.0.416.43





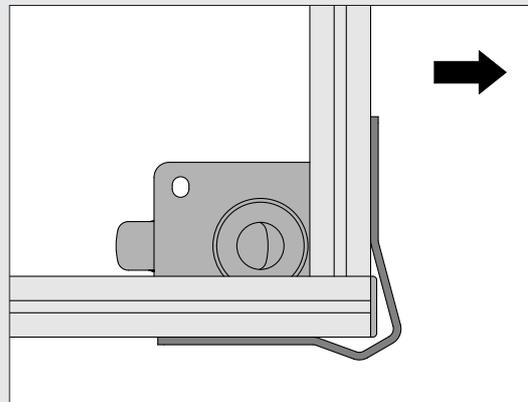
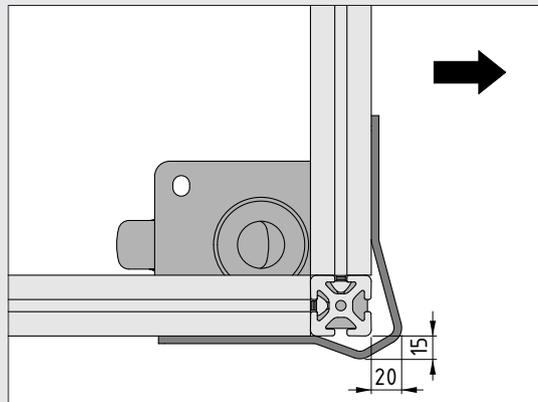
Corner Deflector Guard 8 St 160x160x80

- Absorbs collisions
- Reduces wear on factory equipment



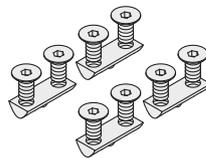
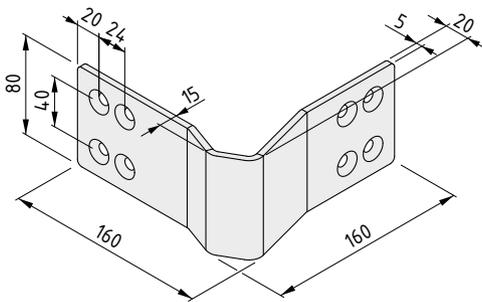
Is the curve too tight or the wall too wide? There's no way of completely avoiding minor knocks and scrapes in intralogistics. The item Corner Deflector Guard 8 St 160x160x80, which is made of steel, acts like an integral bumper. It absorbs the impact so that the frame of the transport trolley isn't damaged.

The collision protection covers the outer edges because these are the most likely to be damaged when a trolley is being manoeuvred around bends. Maintenance outlay and wear are greatly reduced when the load-bearing profiles are protected from damage.



Installation examples showing Corner Deflector Guard 8 St 160x160x80 on basic constructions made of Line 8 profiles:

13



Corner Deflector Guard 8 St 160x160x80



St, bright zinc-plated
m = 934.0 g

1 pce.

0.0.672.91

Fastening Set for Corner Deflector Guard 8 St 160x160x80



4 T-Slot Nuts 8 St 2xM8-36, bright zinc-plated
8 Countersunk Screws DIN 7991 M8x16, St, bright zinc-plated
m = 124.0 g

1 set

0.0.673.11



Table elements

Everything needed to build custom work benches



Table Columns

- Electrical height-adjustment system
- Two or four table legs
- Three working heights can be saved



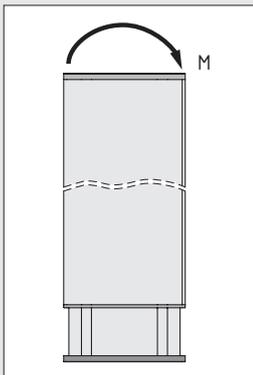
The item Table Column Sets are the basis for customised, electrically height-adjustable work benches. The stable lifting columns support a range of working positions with a maximum travel distance of 420 mm. The ability to swap easily between sitting and standing work takes a great deal of strain off the back.

Three different working heights can be saved to introduce ergonomics into everyday working life – whether different operators are using the same bench during different shifts, or users want to quickly change between typical working positions. The columns feature a lifting force of 2,000 N (Table Column Set 2 E) or 4,000 N (Table Column Set 4 E). They also exhibit a satisfying travelling speed of 25 mm/s across the entire load range.

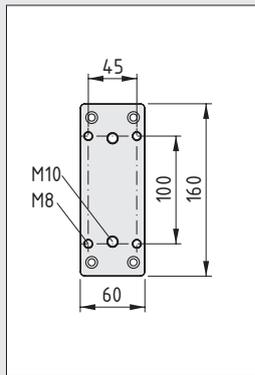
Fitted as standard for increased safety, a lock can be activated to prevent unintentional movement.

The base plates are pre-tapped with M10 threaded bores designed to accommodate Adjustable Feet. The Line 8 grooves on the outer Telescope Profile can be used to attach load-bearing and connecting structures.

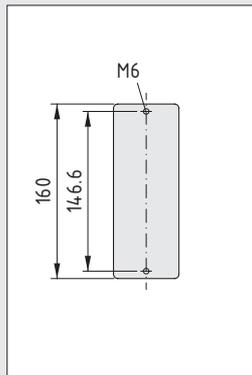
Note: The duty cycle must not exceed 10%. The columns are designed exclusively for the occasional adjustment of tables and fixtures and are not intended for use in automation processes.



Work bench designs must take into account the maximum permissible torque for the table columns of $M_{max} = 140 \text{ Nm}$.



The M10 threaded bores in the base plates can be used to connect any Adjustable Feet.



The M6 threaded bores in the mounting plates can be used in combination with Automatic-Fastening Sets 8 to connect the columns to Profiles 8 160x60 4N E.



Note

IEC connector on control unit => all region-specific power lines can be used.

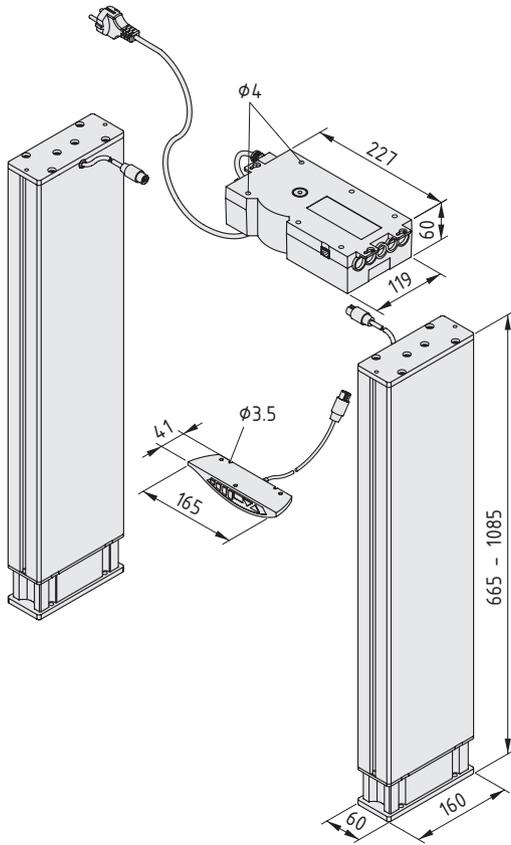


Table Column Set 2 E 230V



2 columns, Al, anodized, natural, with 2 m feed line
 Control unit with 5 m mains cable,
 Table switch panel, 3 positions storable, digital height gauge with 2 m feed line
 Rated voltage: 230V~ 50/60 Hz
 Total lifting force 2000 N
 Travelling speed: 25 mm/s
 Duty cycle 10%
 Temperature range -5°C to 40°C
 Protection IP 30
 Conformity: CE
 Notes on Use and Installation
 m = 18.7 kg

1 set	0.0.650.02
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Table Column Set 2 E 120V



2 columns, Al, anodized, natural, with 2 m feed line
 Control unit with IEC 60320-C18 connector
 Table switch panel, 3 positions storable, digital height gauge with 2 m feed line
 Rated voltage: 120V~ 50/60 Hz
 Total lifting force 2000 N
 Travelling speed: 25 mm/s
 Duty cycle 10%
 Temperature range -5°C to 40°C
 Protection IP 30
 Notes on Use and Installation
 m = 17.6 kg

1 set	0.0.650.03
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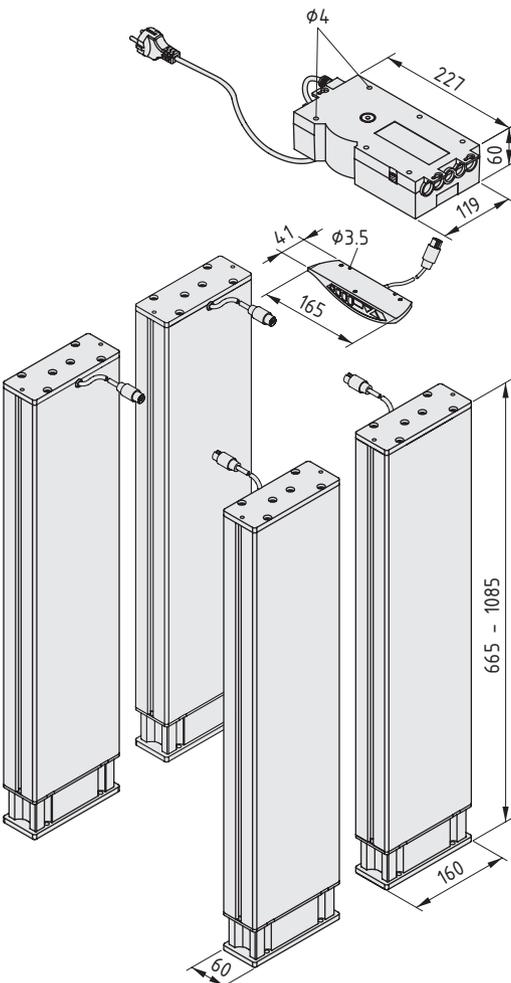


Table Column Set 4 E 230V



4 columns, Al, anodized, natural, with 2 m feed line
 Control unit with 5 m mains cable,
 Table switch panel, 3 positions storable, digital height gauge with 2 m feed line
 Rated voltage: 230V~ 50/60 Hz
 Total lifting force 4000 N
 Travelling speed: 25 mm/s
 Duty cycle 10%
 Temperature range -5°C to 40°C
 Protection IP 30
 Conformity: CE
 Notes on Use and Installation
 m = 35.5 kg

1 set	0.0.650.04
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Table Column Set 4 E 120V



4 columns, Al, anodized, natural, with 2 m feed line
 Control unit with IEC 60320-C18 connector
 Table switch panel, 3 positions storable, digital height gauge with 2 m feed line
 Rated voltage: 120V~ 50/60 Hz
 Total lifting force 4000 N
 Travelling speed: 25 mm/s
 Duty cycle 10%
 Temperature range -5°C to 40°C
 Protection IP 30
 Notes on Use and Installation
 m = 36.5 kg

1 set	0.0.650.05
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Profile 8 160x60 E

- Torsion resistant profiles for table uprights or legs
- Also with integrated cable conduit
- Light and strong



Profile 8 160x60 4N E can be used to build customised work bench solutions with the Table Column Sets.



Profile 8 160x60 6N E creates strong table legs thanks to a cross-section that provides maximum torsion resistance for minimal weight. Suitable for use with the Cantilever Feet and featuring Line 8 system grooves, it opens up countless opportunities to exploit its compatibility with the MB Building Kit System to build custom table solutions.



Profile 8 160x60 4N E



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
19.98	5.54	102.97	705.11	34.32	88.14	
natural, cut-off max. 6000 mm						0.0.644.15
natural, 1 pce., length 6000 mm						0.0.644.16

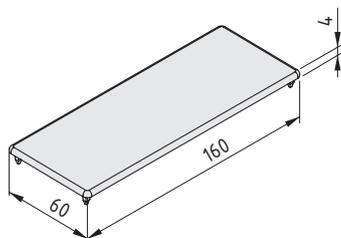


Profile 8 160x60 6N E



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
18.13	4.89	96.88	639.00	168.70	30.56	79.88	
natural, cut-off max. 6000 mm						0.0.629.83	
natural, 1 pce., length 6000 mm						0.0.629.81	



Cap 8 160x60



PA-GF

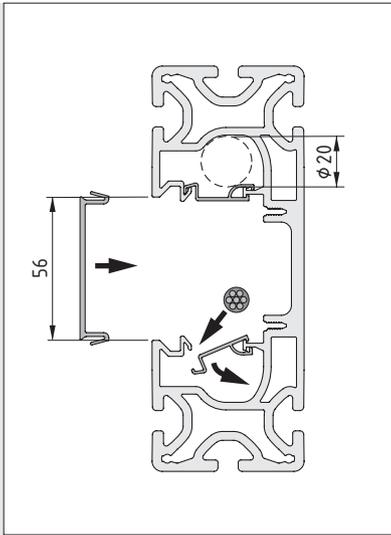
m = 28.0 g

grey similar to RAL 7042, 1 pce.	0.0.654.86
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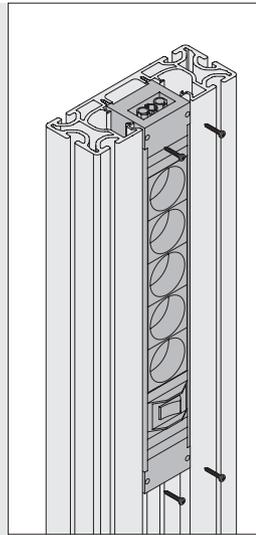


The profile for the customised delivery of power and data – power at the top, network connection at the bottom, telephone line in the middle? No problem! Profile 8 160x60 4N K56 allows users to locate their Multi-Socket Power Strips and Distribution Strips where they like. Power lines and data cables can also be routed through its integrated cable conduit to the perfect position. Securing clips keep everything neat and make it much easier to lay cables.

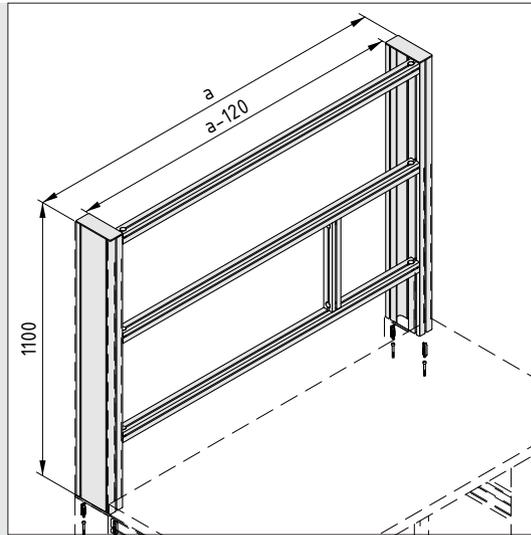
Profile 8 160x60 4N K56 also acts as an upright and can be used with work benches E, 4E, 2F and F2F.



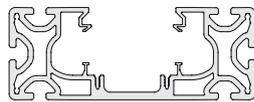
Cables measuring up to 20 mm in diameter can also be routed through Profile 8 160x60 4N K56 at any time after installation. Catch 40, Conduit Profile K retains cables in the internal conduits.



Distribution Strips and Multi-Socket Power Strips are fastened to the profile via screw connections.



Profile 8 160x60 4N K56 is ideal for use in uprights on work benches E, 2F, 4E and F2F.

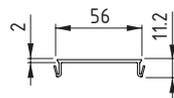


Profile 8 160x60 4N K56



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]
26.40	7.14	110.90	829.00	32.40	103.62
natural, cut-off max. 6000 mm					
					0.0.657.37
natural, 1 pce., length 6000 mm					
					0.0.657.24



Cover Profile 56 K

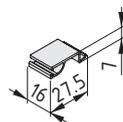


PVC

m = 214.0 g

grey similar to RAL 7042, 1 pce., length 2000 mm

0.0.643.80



Catch 40, Conduit Profile K



m = 1.0 g

grey similar to RAL 7042, 1 pce.

0.0.648.08



Cantilever Foot Sets 8 160x60

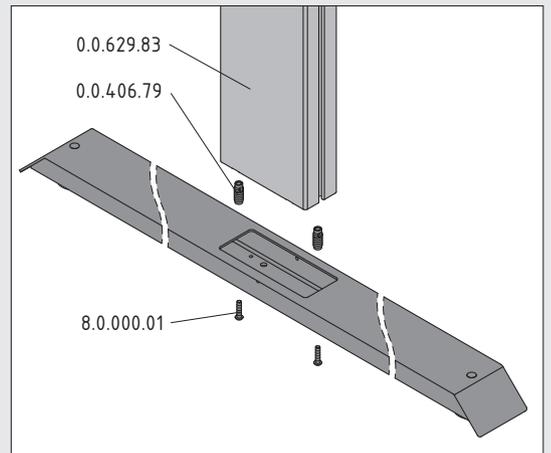
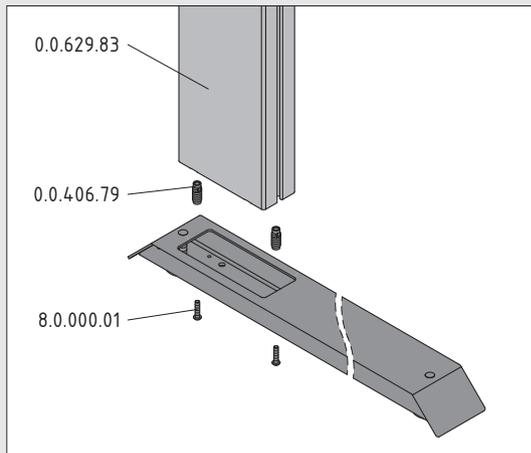
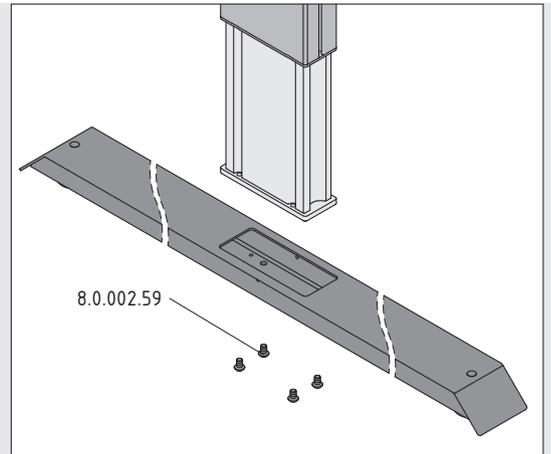
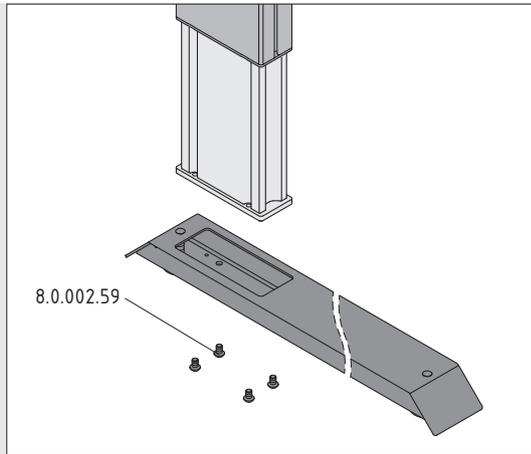
- Stable footing for work benches
- Also for building double-sided work benches
- Complete sets, including fastening materials

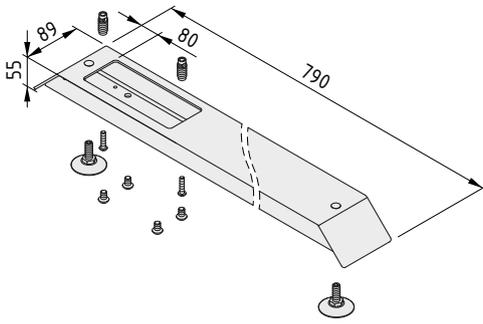


The item Cantilever Feet create a strong footing for work benches, their design ensuring stability even on benches with only two legs. As a result, users enjoy a great deal of legroom.

Cantilever Foot Set 8 160x60-790x90 is used to build individual benches. Double Cantilever Foot Set 8 160x60-1260x90 is used to support two back-to-back table tops mounted on just two central table legs.

Both Cantilever Feet can be combined with the electrically height-adjustable item Lifting Columns and the various Profiles 8 160x60. The necessary fixings for both applications are included in the scope of supply for the sets.

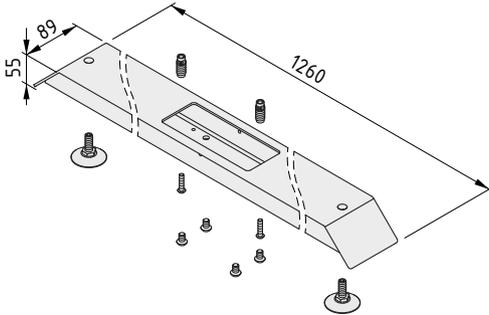




Cantilever Foot Set 8 160x60-790x90

2 table feet 160x60, St, powder-coated white aluminium similar to RAL 9006
 4 Adjustable Feet D47, M10x30
 Fastening elements
 m = 10.1 kg

1 set 0.0.676.18



Double Cantilever Foot Set 8 160x60-1260x90

2 double table feet 160x60, St, powder-coated white aluminium similar to RAL 9006
 4 Adjustable Feet D47, M10x30
 Fastening elements
 m = 15.8 kg

1 set 0.0.676.19



Table-Top Support Set 8 520x100

- Sturdy supports for table tops of choice
- Fasten to table columns or legs
- Supporting struts can be easily connected for large tables



13

Table-Top Support Set 8 520x100 is used to fasten table tops in place. It comprises two solid supports in compact dimensions that offer fastening options for the table legs, the table top and supporting struts on large work benches.

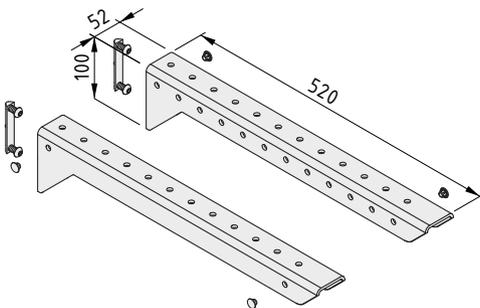


Table-Top Support Set 8 520x100

Table-Top Support right, St, powder-coated white aluminium similar to RAL 9006
 Table-Top Support left, St, powder-coated white aluminium similar to RAL 9006
 Fastening elements
 m = 4.4 kg

1 set 0.0.676.17

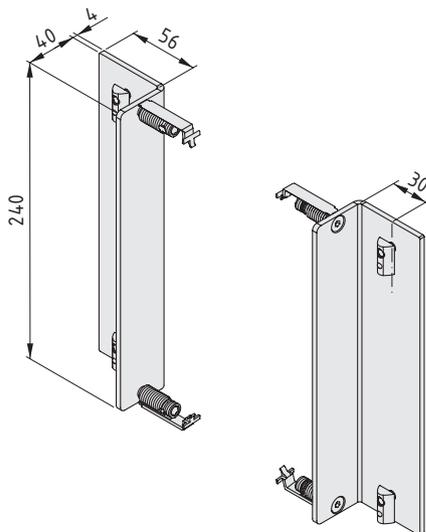


Fastening Set Profile 8 240x40

- For fastening reinforcing cross profiles to tables
- Optimised for Profile 8 240x40 8N light
- Installed between table legs or uprights



When it comes to building customised, stable table frames, item has a range of special components to offer, such as Profile 8 160x60 4N E (0.0.644.15). It helps users construct frames and structures that are lightweight but nonetheless exhibit good load-bearing capacity. Profile 8 240x40 8N light (0.0.629.44) is ideally suited for adding extra rigidity and providing screening. Thanks to Fastening Set Profile 8 240x40, these cross profiles can be fitted with ease and adjusted to the perfect height.



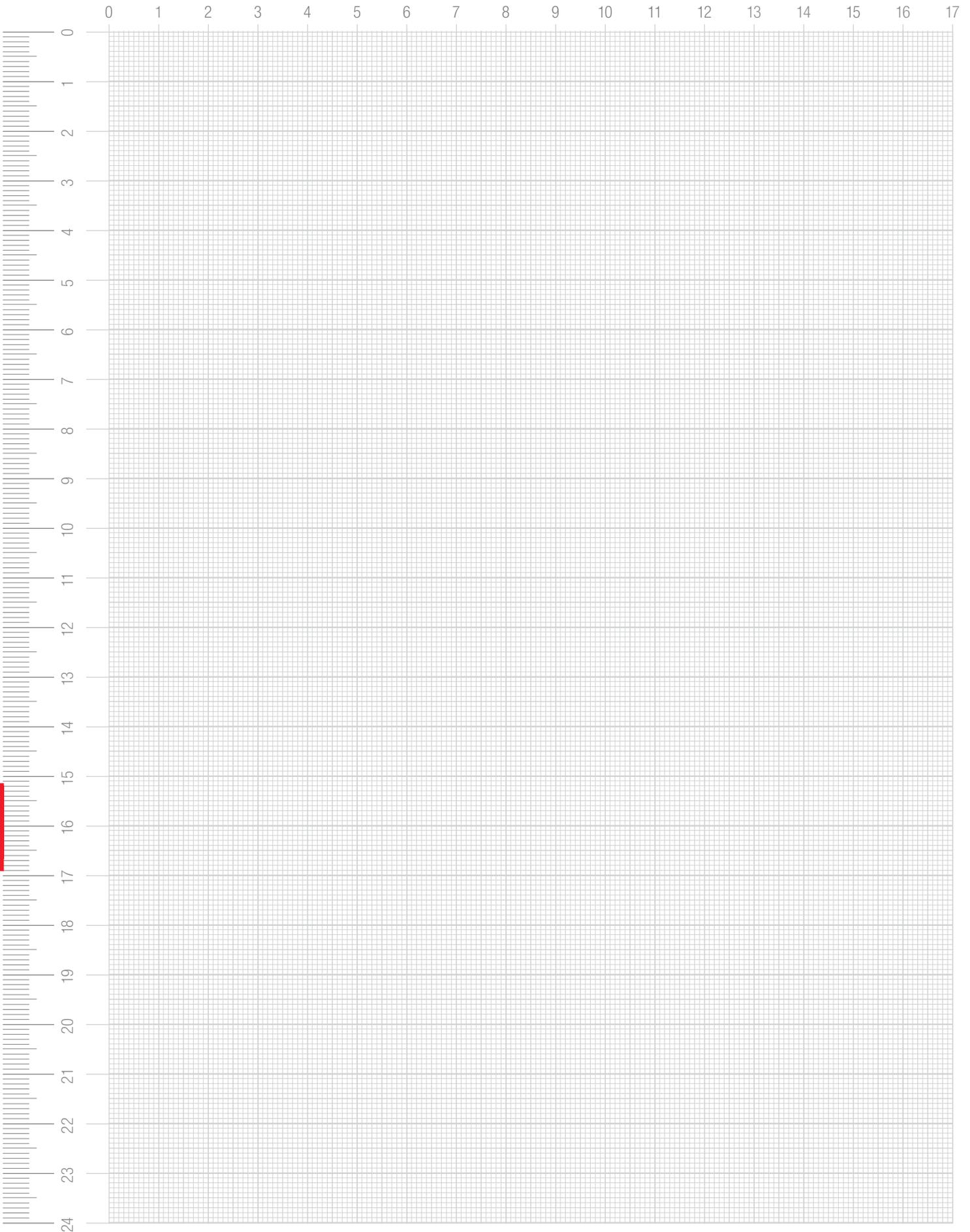
Fastening Set Profile 8 240x40

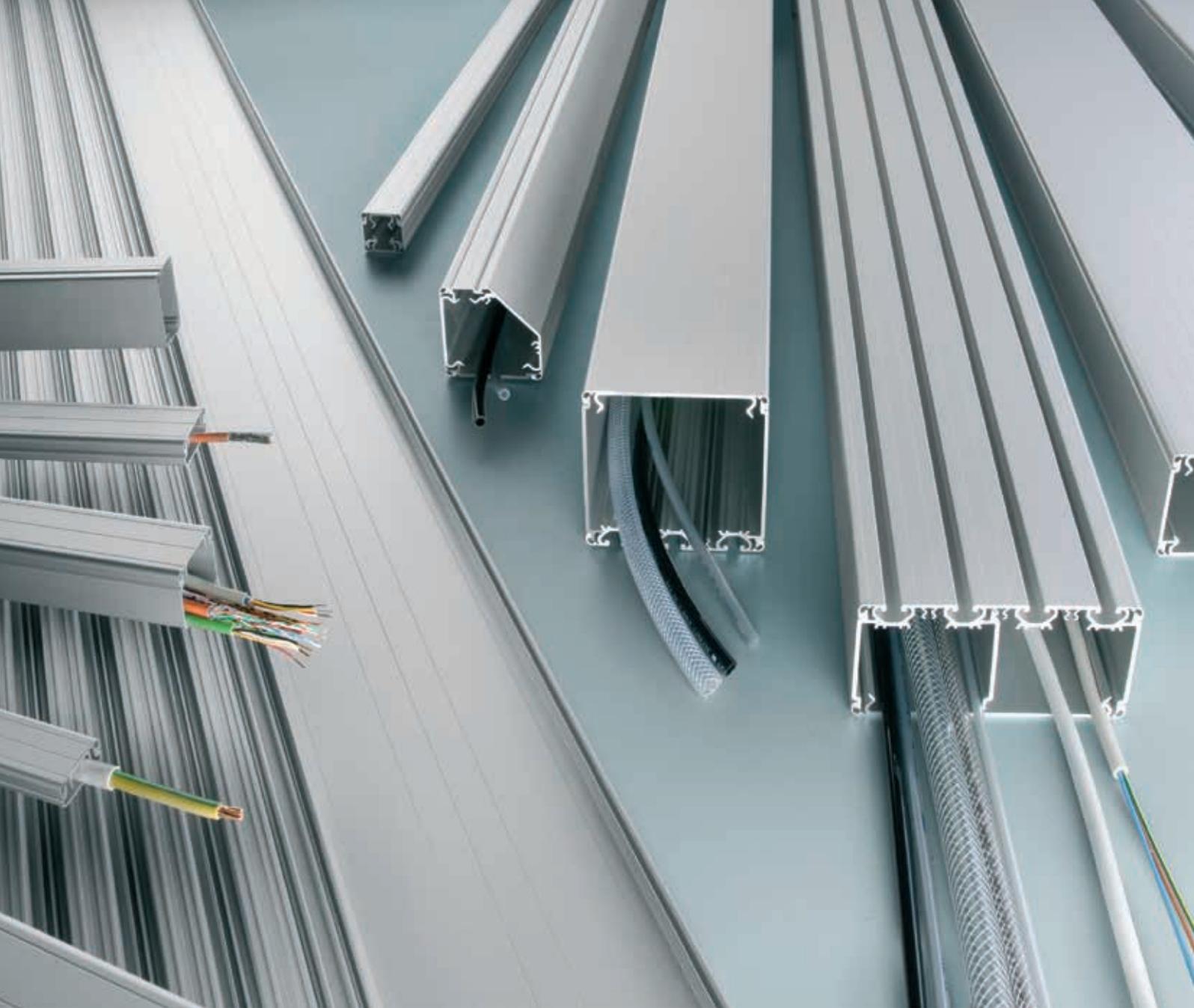


- 2 angle brackets 240, St, white aluminium similar to RAL 9006
 - 4 Automatic-Fastening Sets St, bright zinc-plated
 - 4 Automatic-Fastening Set caps, PA-GF, grey
 - 4 Countersunk Screws DIN 7991 M6x14, St, bright zinc-plated
 - 4 Countersunk Screws DIN 7991 M6x20, St, bright zinc-plated
 - 4 T-Slot Nuts 8 St M6, bright zinc-plated
- m = 1.5 kg

1 set

0.0.656.06





INSTALLATION ELEMENTS

14

Conduit Systems

Profiles with an Integrated Conduit

Fasteners for Cables, Hoses and Switches

Electronic Boxes

Electrical Discharge

Installation profiles

Installation elements
Products in this section



Conduit Profiles K

- Made of high-strength plastic
- Fix to Line 8 grooves, no screws required
- Complement Line X profiles and Line XMS

483



Conduit Profiles E

- U-shaped conduit for simple cable conduit installations
- Available in six heights and five widths

486



Lid Profiles

- Compatible with conduits E and the Modular Conduit System
- Flat lid for covering cable conduits

490



Support Profiles

- Lids and bases of the Modular Conduit System
- Available with or without Line 8 groove

491



Wall Profiles

- Side panels of the Modular Conduit System
- Available in four heights

493



Conduit Inside Corners

- Kink prevention for cables
- Covering for cut edges

495



Cable Entry Protectors, Lid and Wall

- Covering for cut edges in Lid and Wall Profiles
- For straightforward cable routing in and out of conduits

497



Conduit Caps

- Side covering for cable conduits and profiles
- Models to suit all sizes and variants
- Also available with through-hole for cables

499



Flush-Mounted Sockets

- For installation in the Wall and Support Profiles of cable conduits
- Also suitable for installation in any panel elements

503



Stand Profiles

- Wide profile with integrated cable conduit
- Easy-to-use system for building frames that incorporate cabling

504



Column D110

- Central table leg with cable routing
- Elegant support for all types of constructions

506



Cable Guide Profile

- Rapid installation, including retrofitting
- Three separate chambers for guiding cables

507



Universal Holders

- Simple device for securing cables to constructions
- Anchor point for cable ties

508



Limit-Switch Holders

- For fastening limit switches to profiles
- Rigid anti-torsion feature

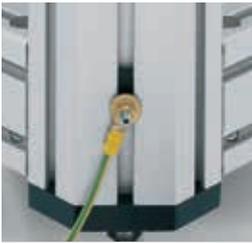
510



Electronic-Box Profiles

- For electronic boxes and other sealed containers
- With integrated cooling ribs

511



Earthing Terminals

- For connecting protective conductors to profile constructions
- Permanent screw attachment ensures sound contact

514



Contact Pins ESD

- For creating an electrostatically dissipative connection between profiles
- Integrated into the profile connection

516



Installation profiles

- Turnkey solution for routing power lines, cables and compressed air to where it is needed
- Standalone column or integrated profile

518



Base Plate and Ceiling Mount

- Secure hold for free-standing installation profiles
- Cable guidance possible through floor or ceiling

523



Mounting Boxes

- Sockets, switches, fuses
- Can be clipped directly into the cable conduit of the installation profiles

526



Pneumatics

- Accessories for the compressed air conduits of the installation profiles
- For outlets at any position

537

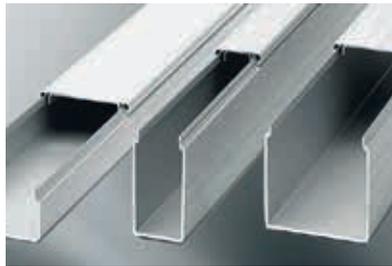
Overview – finding the right cable conduit fast

item supplies Conduit Systems in a range of design concepts to ensure cables can be laid securely. Besides cable conduits that are installed separately, there are also installation profiles that feature integral cable conduits. Cable Guide Profile 8 40x16 offers a simple solution that can be quickly clipped into place in a Line 8 groove. The various item Conduit Systems differ in terms of design, materials and fixing method.



Conduit System K

Conduit System K is especially easy to install. The U-shaped plastic profiles are anchored in a Line 8 groove using a special Clip. They are held in place without the need for any screws. Made from high-strength PVC, the conduits can be cut to size with ease and can also be subsequently extended. Conduit System K can also be fastened easily to panel elements. Swivel-in Catches ensure that cables are held in place even in vertical and overhead conduits. The design complements Profiles X best.



Conduit System E

Conduit System E comes in lots of sizes and features a robust aluminium casing. Its U-shaped aluminium profiles have strong side panels. The dimensions are based on the modular dimensions of Line 6 and 8 profiles. One stand-out feature is the flat Conduit measuring 30x15 mm. Conduit System E is screwed to profiles or panels. The SE Conduits feature additional screw channels so that users can fasten Conduit Caps securely to the Conduit Profile.



Modular Conduit System

The Modular Conduit System ensures maximum flexibility, allowing users to combine bases, lids and sides as required. These elements simply clip together to form a stable cable conduit. This results in custom solutions in a modular dimension of 40 mm that can be combined up to a size of 160x160 mm. Angled sides with integrated outlets and sockets are also possible. Support Profiles with grooves 8 also ensure an optimum hold. The Modular Conduit System can be further strengthened by screwing into place Conduit Caps.



The universal Lid Profiles from item can be used as covers for Conduits E and the Modular Conduit System.

	Conduit System K  483	Conduit system E  486	Modular Conduit System  491
Material	Plastic	Aluminium	Aluminium
Type of fixing	Plastic clip	Bolts and screws	Line 8 groove / screws
Solid side panel	+	+	Modular selection
Width (mm)	40 - 80	30 - 160	40 - 160
Height (mm)	40 - 80	15 - 80	40 - 160
Easily segmentable	+	-	+
Cable through hole without drilling	+	-	+
Attachment of plug sockets, switches, etc.	-	-	+
Angled side panels possible	-	-	+
Incorporation of conduit inside corners	-	+ (lid only)	+



Conduit Profile K

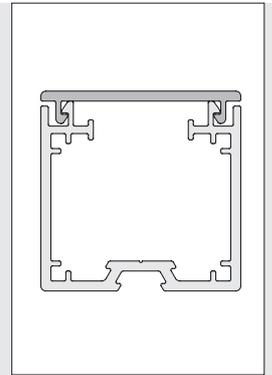
The quick-fit cable conduit made of plastic

- Screw-free installation in Line 8 groove
- Made from insulating, high-strength plastic

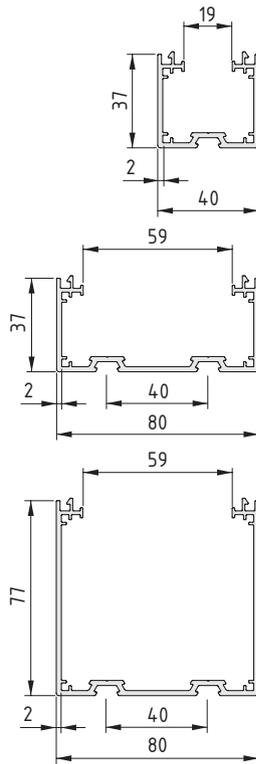


Simply clip Conduit Profile K, which is made of high-strength plastic, into any Line 8 groove and the cable conduit is ready for use – no machining, no screws. When fastening to any other surfaces, the conduit can be screwed directly into place. The shape of Conduit Profiles K matches the modular dimensions of Profiles X 8, making them the ideal complement to all Line 8 profiles and Profiles XMS with integrated cable conduits.

Another advantage is that they are incredibly easy to machine: Conduit Profiles K and Lid Profiles K can be sawed to size or, if necessary, simply cut to size using Multi-Purpose Pliers.



Materials used in all the following products:
PVC



Conduit Profile U 40x40 K



m = 411 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.647.84

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.643.86

Conduit Profile U 80x40 D80 K



m = 548 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.647.89

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.647.90

Conduit Profile U 80x80 K



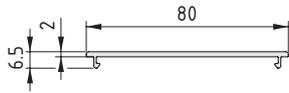
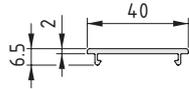
m = 770 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.648.06

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.648.05



Lid Profile D40 K



m = 129 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

0.0.647.85

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.643.87

Lid Profile D80 K



m = 241 g/m

grey similar to RAL 7042, cut-off max. 3000 mm

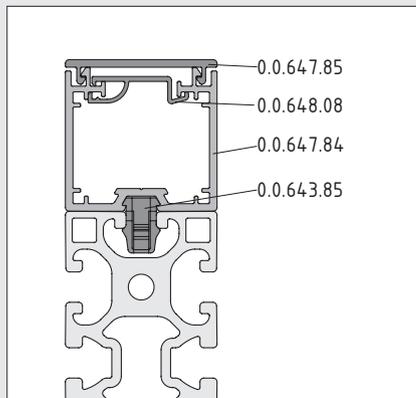
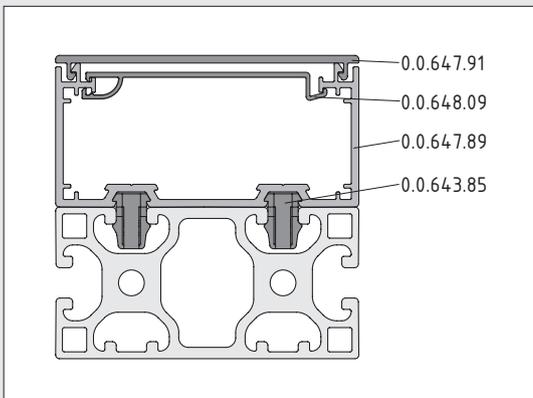
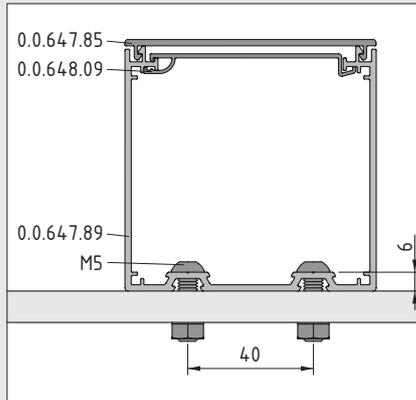
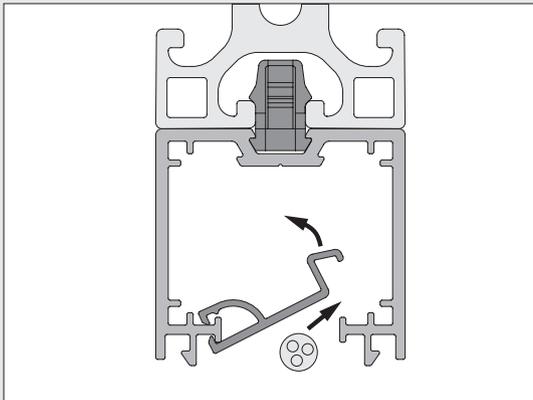
0.0.647.91

grey similar to RAL 7042, 1 pce., length 3000 mm

0.0.647.92

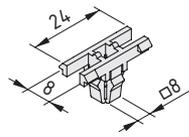


The swivel-in catches are also extremely useful, stopping cables and hoses falling out of Conduit Profiles K – even in upright and overhead installations. Additional cables and hoses can simply be pushed into the conduits.

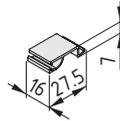


Materials used in all the following products:

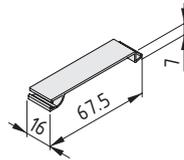
PA-GF



Clip 8, Conduit Profile K	
m = 1.0 g	
grey similar to RAL 7042, 1 pce.	0.0.643.85



Catch 40, Conduit Profile K	
m = 1.0 g	
grey similar to RAL 7042, 1 pce.	0.0.648.08

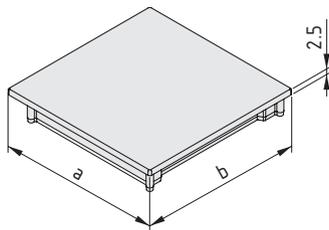


Catch 80, Conduit Profile K	
m = 2.0 g	
grey similar to RAL 7042, 1 pce.	0.0.648.09



Materials used in all the following products:

PA-GF



Conduit Cap 40x40 K	
a = 40 mm b = 40 mm m = 6.0 g	
grey similar to RAL 7042, 1 pce.	0.0.633.50

Conduit Cap 80x40 K	
a = 80 mm b = 40 mm m = 10.0 g	
grey similar to RAL 7042, 1 pce.	0.0.633.51

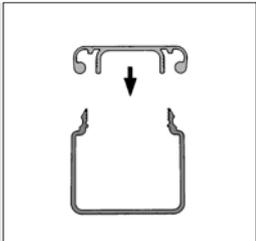
Conduit Cap 80x80 K	
a = 80 mm b = 80 mm m = 18.0 g	
grey similar to RAL 7042, 1 pce.	0.0.633.52



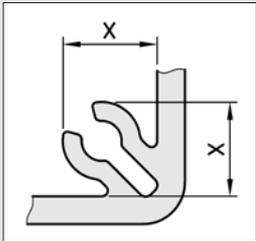
Conduit Profiles E

The aluminium cable conduit that is simply great

- Available in six heights and five widths
- For safely routing cables and hoses
- Matching Lid Profiles protect against dust and dirt

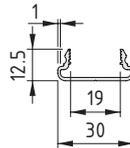


The SE versions of the installation conduits feature screw channels for fastening End Caps. This stops the lid being inadvertently opened. item offers matching Conduit Caps for the various profile variants and sizes.



Conduit Profile U	X
30x30 SE; 60x30 D30 SE; 60x30 D60 SE; 60x60 SE	6.8
40x40 SE; 80x40 D40 SE; 80x40 D80 SE; 80x80 SE	7.2

Conduit Caps 499



Conduit Profile U 30x15 E

Al, anodized

A [cm²] m [kg/m]

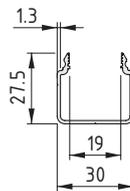
0.72 0.19

natural, cut-off max. 3000 mm

7.0.002.97

natural, 1 pce., length 3000 mm

0.0.451.21



Conduit Profile U 30x30 E

Al, anodized

A [cm²] m [kg/m]

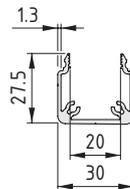
1.12 0.30

natural, cut-off max. 3000 mm

7.0.002.89

natural, 1 pce., length 3000 mm

0.0.451.44



Conduit Profile U 30x30 SE

Al, anodized

A [cm²] m [kg/m]

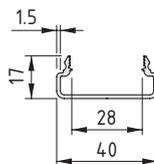
1.67 0.44

natural, cut-off max. 3000 mm

0.0.487.24

natural, 1 pce., length 3000 mm

0.0.487.25



Conduit Profile U 40x20 E

Al, anodized

A [cm²] m [kg/m]

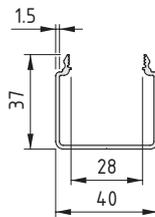
1.01 0.27

natural, cut-off max. 3000 mm

7.0.001.42

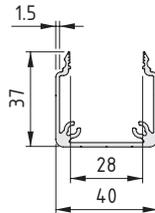
natural, 1 pce., length 3000 mm

0.0.452.19



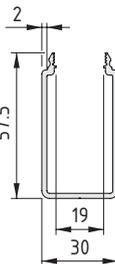
Conduit Profile U 40x40 E

Al, anodized	
A [cm ²]	m [kg/m]
1.70	0.45
natural, cut-off max. 3000 mm	7.0.001.44
natural, 1 pce., length 3000 mm	0.0.452.20



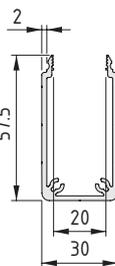
Conduit Profile U 40x40 SE

Al, anodized	
A [cm ²]	m [kg/m]
2.23	0.61
natural, cut-off max. 3000 mm	0.0.487.27
natural, 1 pce., length 3000 mm	0.0.487.28



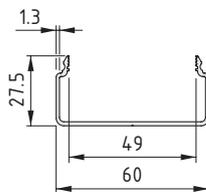
Conduit Profile U 60x30 D30 E

Al, anodized	
A [cm ²]	m [kg/m]
2.78	0.75
natural, cut-off max. 3000 mm	7.0.002.93
natural, 1 pce., length 3000 mm	0.0.451.46



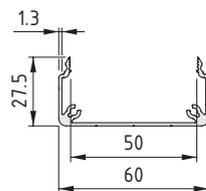
Conduit Profile U 60x30 D30 SE

Al, anodized	
A [cm ²]	m [kg/m]
3.22	0.86
natural, cut-off max. 3000 mm	0.0.487.30
natural, 1 pce., length 3000 mm	0.0.487.31



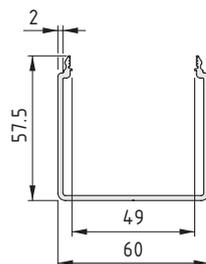
Conduit Profile U 60x30 D60 E

Al, anodized	
A [cm ²]	m [kg/m]
1.51	0.41
natural, cut-off max. 3000 mm	7.0.002.95
natural, 1 pce., length 3000 mm	0.0.451.47



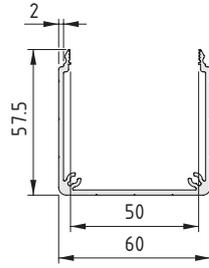
Conduit Profile U 60x30 D60 SE

Al, anodized	
A [cm ²]	m [kg/m]
2.09	0.55
natural, cut-off max. 3000 mm	0.0.487.33
natural, 1 pce., length 3000 mm	0.0.487.34



Conduit Profile U 60x60 E

Al, anodized	
A [cm ²]	m [kg/m]
3.38	0.91
natural, cut-off max. 3000 mm	7.0.002.91
natural, 1 pce., length 3000 mm	0.0.451.45



Conduit Profile U 60x60 SE

Al, anodized

A [cm²] m [kg/m]

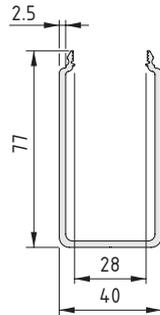
3.82 1.02

natural, cut-off max. 3000 mm

0.0.487.36

natural, 1 pce., length 3000 mm

0.0.487.37



Conduit Profile U 80x40 D40 E

Al, anodized

A [cm²] m [kg/m]

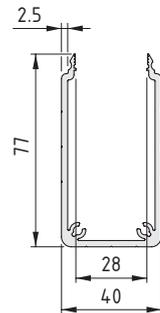
4.62 1.25

natural, cut-off max. 3000 mm

7.0.002.75

natural, 1 pce., length 3000 mm

7.0.002.79



Conduit Profile U 80x40 D40 SE

Al, anodized

A [cm²] m [kg/m]

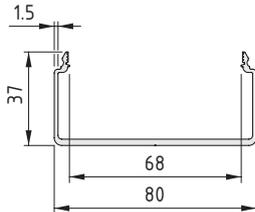
5.11 1.37

natural, cut-off max. 3000 mm

0.0.487.39

natural, 1 pce., length 3000 mm

0.0.487.40



Conduit Profile U 80x40 D80 E

Al, anodized

A [cm²] m [kg/m]

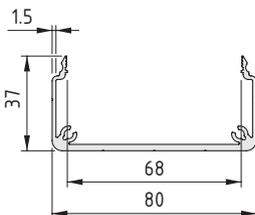
3.06 0.82

natural, cut-off max. 3000 mm

7.0.002.76

natural, 1 pce., length 3000 mm

7.0.002.80



Conduit Profile U 80x40 D80 SE

Al, anodized

A [cm²] m [kg/m]

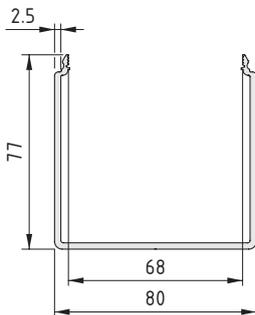
3.60 0.96

natural, cut-off max. 3000 mm

0.0.487.42

natural, 1 pce., length 3000 mm

0.0.487.43



Conduit Profile U 80x80 E

Al, anodized

A [cm²] m [kg/m]

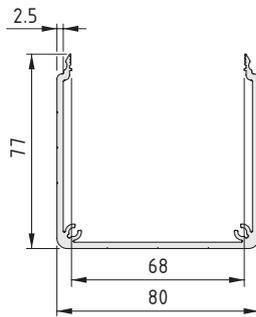
5.61 1.52

natural, cut-off max. 3000 mm

7.0.002.74

natural, 1 pce., length 3000 mm

7.0.002.78



Conduit Profile U 80x80 SE

Al, anodized

A [cm²] m [kg/m]

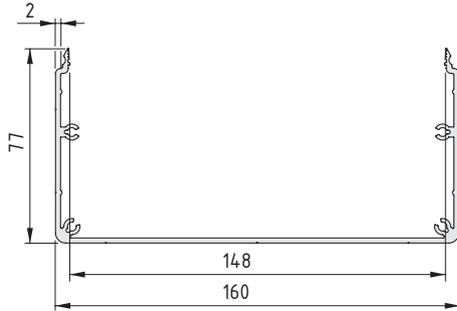
6.10 1.64

natural, cut-off max. 3000 mm

0.0.487.45

natural, 1 pce., length 3000 mm

0.0.487.46



Conduit Profile U 160x80 SE

Al, anodized

A [cm²] m [kg/m]

5.98 1.95

natural, cut-off max. 3000 mm

0.0.630.72

natural, 1 pce., length 3000 mm

0.0.630.71



Lid Profiles

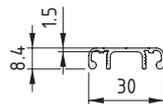
- Flat lid for covering cable conduits
- Compatible with conduits E and the Modular Conduit System

Lid Profile	Self-Tapping Screw DIN 7981	Bore
D30 and D60	3.5x6.5	∅ 3.0 mm
D40 and D80	4.2x9.5	∅ 3.5 mm

Self-Tapping Screws can also be used in the marking guideline to secure the Lid Profile. An electrically conductive connection is established at the same time.

Note: Support Profile 160 (0.0.265.84) from the modular Conduit System is used as a lid for Conduit Profile U in a width of 160 mm.

Self-Tapping Screws 500



Lid Profile D30 E

Al, anodized

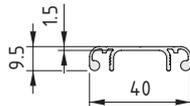
A [cm ²]	m [kg/m]
0.85	0.23

natural, cut-off max. 3000 mm

7.0.002.85

natural, 1 pce., length 3000 mm

0.0.451.42



Lid Profile D40 E

Al, anodized

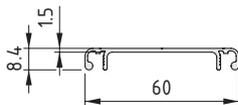
A [cm ²]	m [kg/m]
1.13	0.30

natural, cut-off max. 3000 mm

7.0.001.46

natural, 1 pce., length 3000 mm

0.0.452.09



Lid Profile D60 E

Al, anodized

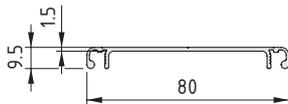
A [cm ²]	m [kg/m]
1.50	0.41

natural, cut-off max. 3000 mm

7.0.002.87

natural, 1 pce., length 3000 mm

0.0.451.43



Lid Profile D80 E

Al, anodized

A [cm ²]	m [kg/m]
2.12	0.57

natural, cut-off max. 3000 mm

7.0.002.73

natural, 1 pce., length 3000 mm

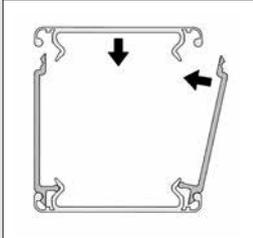
7.0.002.77



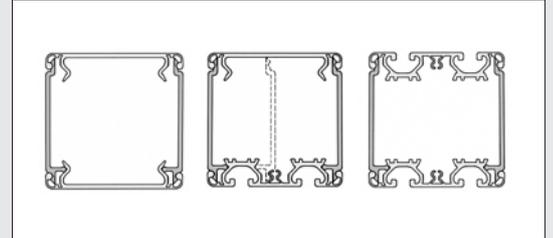
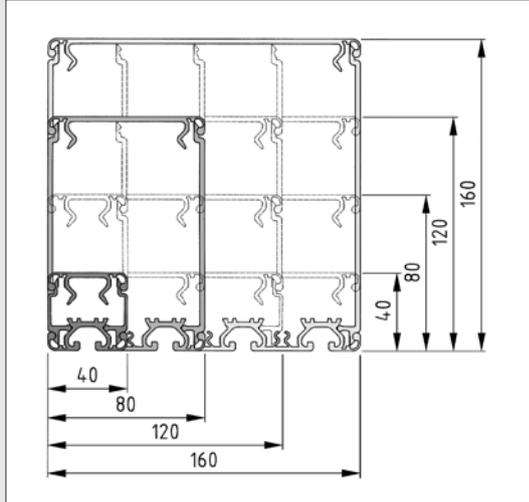
Support Profiles for the Modular Conduit System

The versatile conduit

- Suitable as lids and bases in the Modular Conduit System
- Available with or without Line 8 groove
- For versatile conduits that route cables and hoses
- For conduit sizes from 40x40 mm to 160x160 mm



Straightforward construction of the modular conduits by moving the Wall Profiles into the Support Profiles. The Support Profiles can also be used as a lid. Before installation, it is advisable to wipe the locking areas of the conduit elements with a cloth soaked in oil.



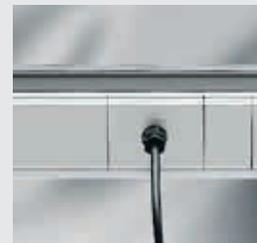
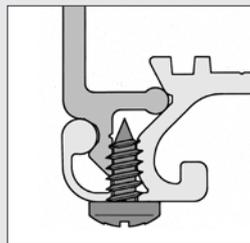
The fact that the Support Profiles and Wall Profiles have identical external dimensions means that different conduits can be constructed by choosing the position of the profiles accordingly. The conduit can be opened and closed from different sides.



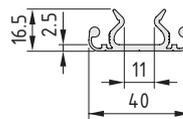
The cable conduit can be opened with a screwdriver.



Wall Profiles and Lid Profiles can be secured in position by means of Self-Tapping Screw St 4.2x9.5. The Support Profiles must be provided with a bore \varnothing 3.5 mm in the marking groove for this purpose. The screw connection creates a conductive bond between the conduit elements.



By subdividing Wall Profiles and Support Profiles into segments and machining accordingly (for e.g. cable glands, plug sockets, pushbuttons etc.) it is possible to reduce the work involved in assembling, dismantling and repairing installations.



Support Profile 40

Al, anodized

A [cm²] m [kg/m]

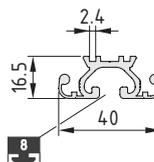
1.74 0.47

natural, cut-off max. 3000 mm

0.0.196.38

natural, 1 pce., length 3000 mm

0.0.453.50



Support Profile 40 with groove 8

Al, anodized

A [cm²] m [kg/m]

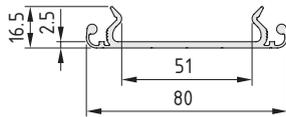
2.06 0.55

natural, cut-off max. 3000 mm

0.0.196.37

natural, 1 pce., length 3000 mm

0.0.453.51



Support Profile 80

Al, anodized

A [cm²] m [kg/m]

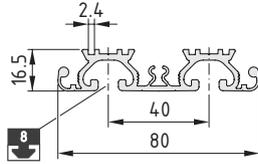
2.73 0.74

natural, cut-off max. 3000 mm

0.0.196.41

natural, 1 pce., length 3000 mm

0.0.453.52



Support Profile 80 with grooves 8



Al, anodized

A [cm²] m [kg/m]

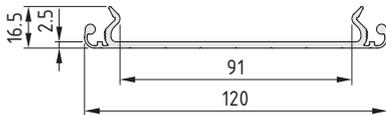
4.17 1.13

natural, cut-off max. 3000 mm

0.0.196.40

natural, 1 pce., length 3000 mm

0.0.453.53



Support Profile 120



Al, anodized

A [cm²] m [kg/m]

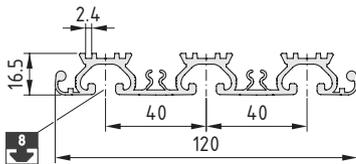
3.73 1.01

natural, cut-off max. 3000 mm

0.0.418.47

natural, 1 pce., length 3000 mm

0.0.453.55



Support Profile 120 with grooves 8



Al, anodized

A [cm²] m [kg/m]

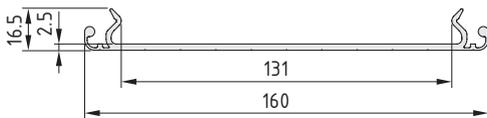
6.21 1.68

natural, cut-off max. 3000 mm

0.0.418.48

natural, 1 pce., length 3000 mm

0.0.453.56



Support Profile 160



Al, anodized

A [cm²] m [kg/m]

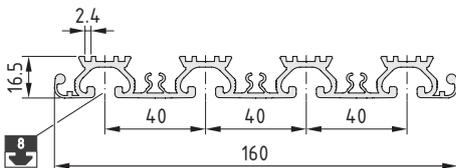
4.73 1.27

natural, cut-off max. 3000 mm

0.0.265.84

natural, 1 pce., length 3000 mm

0.0.453.57



Support Profile 160 with grooves 8



Al, anodized

A [cm²] m [kg/m]

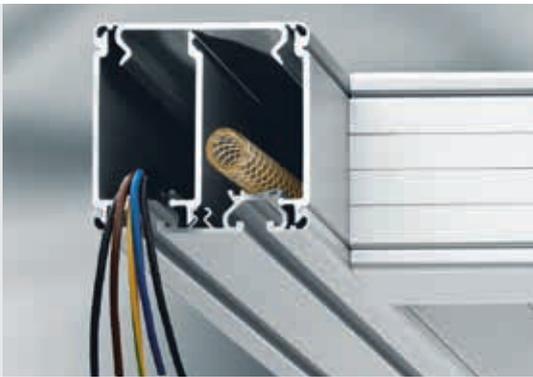
8.27 2.23

natural, cut-off max. 3000 mm

0.0.265.85

natural, 1 pce., length 3000 mm

0.0.453.59

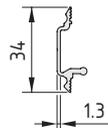


Wall Profiles for the Modular Conduit System

- Suitable as side panels in the Modular Conduit System
- Available in four heights
- Also suitable as partitions in Support Profiles with grooves



160x160 mm conduit using Support Profile 160 with grooves as a base.



Wall Profile 40



Al, anodized

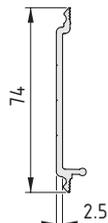
A [cm ²]	m [kg/m]
0.76	0.20

natural, cut-off max. 3000 mm

0.0.196.39

natural, 1 pce., length 3000 mm

0.0.453.64



Wall Profile 80



Al, anodized

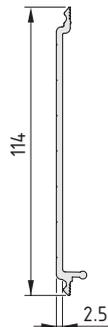
A [cm ²]	m [kg/m]
2.03	0.55

natural, cut-off max. 3000 mm

0.0.196.42

natural, 1 pce., length 3000 mm

0.0.453.65



Wall Profile 120



Al, anodized

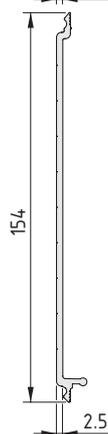
A [cm ²]	m [kg/m]
3.04	0.82

natural, cut-off max. 3000 mm

0.0.411.19

natural, 1 pce., length 3000 mm

0.0.453.66



Wall Profile 160



Al, anodized

A [cm ²]	m [kg/m]
4.04	1.09

natural, cut-off max. 3000 mm

0.0.411.21

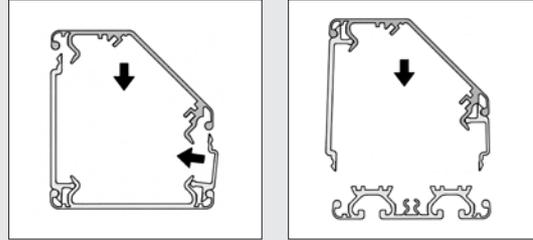
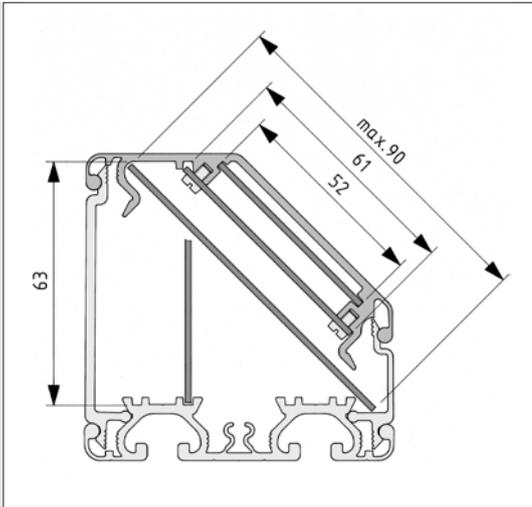
natural, 1 pce., length 3000 mm

0.0.453.74

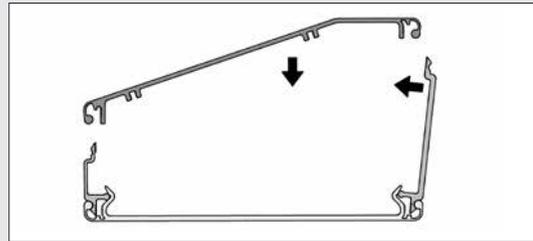
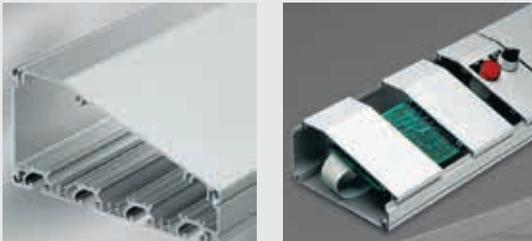


Support Profiles with Angled Geometry

- Attractive cover
- Suitable for incorporating operating elements
- Conduit can be used as a mounting for printed circuit boards
- Two different angles available



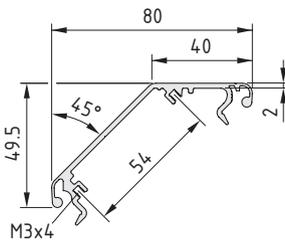
Support Profile 80-45° can be used as floor or lid element, while Support Profile 160-20° can only be used as a lid profile. The Wall Profiles must exhibit a height difference of 40 mm.



Support Profiles 80-45° and 160-20° are particularly suitable, as the lids of a modular conduit, for constructing operating consoles of any length, manual control boxes or similar applications.

The housings can be used to hold and secure printed circuit boards of various sizes up to width 100 mm.

14



Support Profile 80-45°

Al, anodized

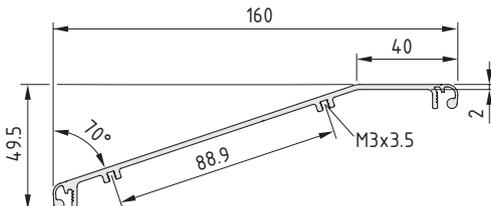
A [cm ²]	m [kg/m]
3.53	0.90

natural, cut-off max. 3000 mm

0.0.411.54

natural, 1 pce., length 3000 mm

0.0.453.54



Support Profile 160-20°

Al, anodized

A [cm ²]	m [kg/m]
4.29	1.16

natural, cut-off max. 3000 mm

0.0.404.81

natural, 1 pce., length 3000 mm

0.0.453.60



Conduit Inside Corners

- Kink prevention for corners in cable conduits
- Covering for sharp cut edges

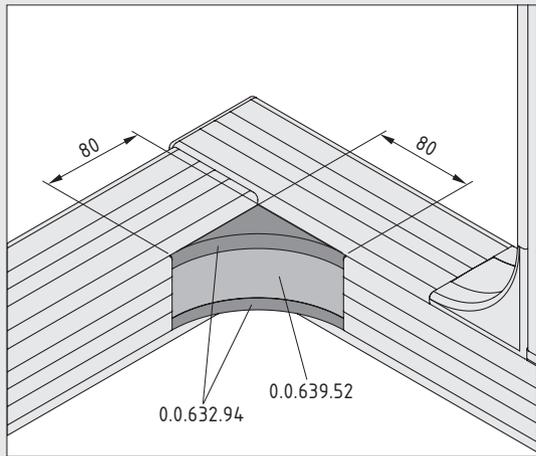
Safe cornering! It's just as important to cable conduits as it is on the roads.

The Conduit Inside Corners for modular cable conduits improve the reliability of cable laying in three ways:

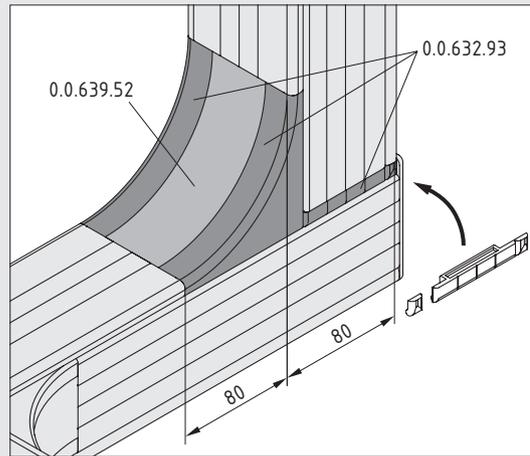
- By preventing kinks in cables and hoses
- By covering cut edges inside the conduit to protect cables
- By creating a smooth transition between Wall Profiles and Support Profiles to protect hands

The Conduit Inside Corner sets for lids and walls include all the components needed to create a corner in a conduit with a wall or lid measuring 40 mm.

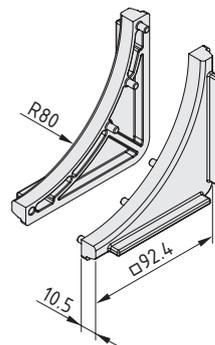
Filler Pieces measuring 40 mm wide are used to extend the height or width of inside corners. As a result, modular conduits up to 160 mm can be fitted with Conduit Inside Corners.



Conduit Inside Corner, Wall on modular conduits, wall height 80 mm:
The wall profiles are each shortened by 80 mm.



Using the Conduit Inside Corner, Lid:
The width of 80 mm is achieved using a Filler Piece.
The cut edge coverings need to be shortened accordingly at one end.

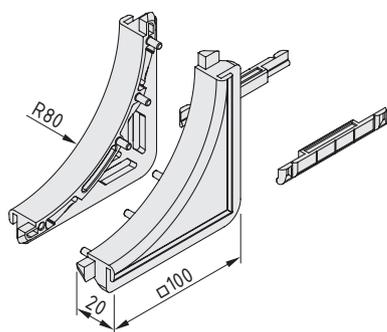


Conduit Inside Corner, Wall

2 inside corners, wall, PA-GF
m = 66.0 g

black, 1 set

0.0.632.94

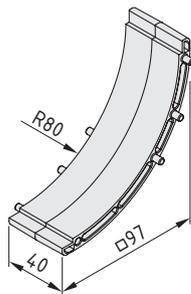


Conduit Inside Corner, Lid

2 inside corners, lid, PA-GF
 2 cut edge coverings, PA-GF
 m = 105.0 g

black, 1 set

0.0.632.93



Conduit Inside Corner Filler Piece

PA-GF
 m = 50.0 g

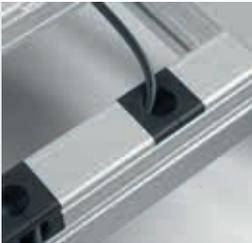
black, 1 pce.

0.0.639.52

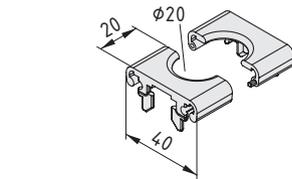


Cable Entry Protectors, Lid and Wall

- Safe covering for cut edges
- For straightforward cable routing in and out of conduits
- Suitable as an opening in Lid Profiles and Wall Profiles



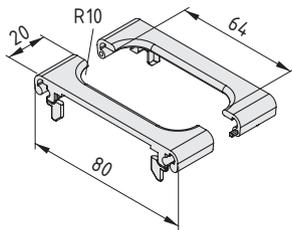
Cable Entry Protectors, Lid and Cable Entry Protectors Wall 120-80 and 160-80 are divided into two parts, which greatly facilitates installation for cables, without having to remove plugs or terminals.



Cable Entry Protector Lid 40

PA-GF
2 halves
m = 7.0 g

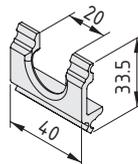
black, 1 set 0.0.479.76



Cable Entry Protector Lid 80

PA-GF
2 halves
m = 9.0 g

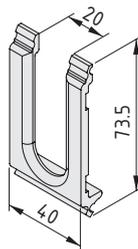
black, 1 set 0.0.479.77



Cable Entry Protector Wall 40

PA-GF
m = 5.0 g

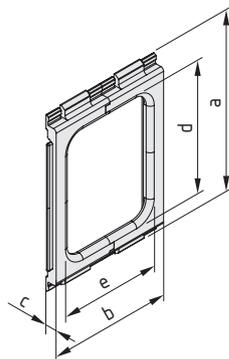
black, 1 pce. 0.0.479.74



Cable Entry Protector Wall 80

PA-GF
m = 9.0 g

black, 1 pce. 0.0.479.75



Cable Entry Protector Wall 120-80

PA-GF

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
116	80	7.6	80	60	32.0

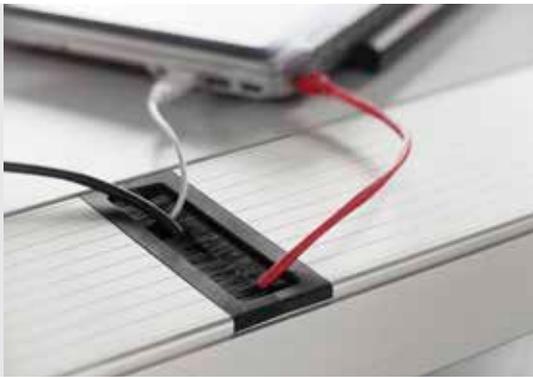
black, 1 set 0.0.642.93

Cable Entry Protector Wall 160-80

PA-GF

a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	m [g]
156	80	7.6	120	60	38.0

black, 1 set 0.0.642.94

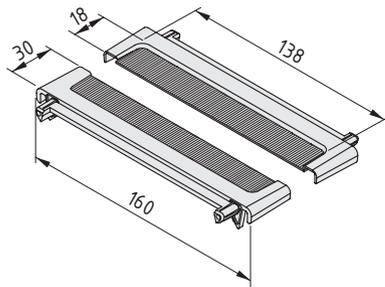


Cable Entry Protector, Lid 160 with Sealing Brush

- Flexible cable guidance
- Keeps dust out



Route cables in and out in record time! Thanks to Cable Entry Protector, Lid 160 with Sealing Brush, users can design flexible openings for cable conduits on a work bench. Cables are routed through the gentle and flexible polyamide bristles without having to drill additional holes. The Cable Entry Protector is simply slotted on to the end of the lid. Consequently, the entryway can be implemented anywhere along the conduit. It can also be retrofitted. The bristles intermesh tightly to stop dust from getting into the cable conduit. All cables disappear into the conduit via the shortest route through the Cable Entry Protector. This solution helps to create a safe and tidy working environment.



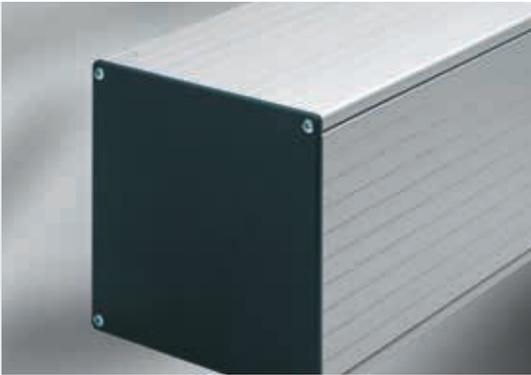
Cable Entry Protector, Lid 160 with Sealing Brush



2 halves
 Casing, PA-GF
 Sealing Brush, PA
 m = 38.0 g

black, 1 set

0.0.665.12



Conduit Caps

- Side covering for cable conduits
- Models to suit all sizes and variants



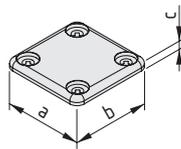
Recommended screws for fastening the Conduit Caps:

Modular 30 mm dimension: Self-Tapping Screw DIN 7981 3.5x6.5 (Order No. 8.0.000.54)

Modular 40 mm dimension: Self-Tapping Screw DIN 7981 4.2x9.5 (Order No. 8.0.000.13)

Materials used in all the following products:

PA-GF



Conduit Cap 30x15

a = 30 mm b = 15 mm c = 3 mm m = 1.0 g

black, 1 pce.

0.0.486.81

Conduit Cap 30x30

a = 30 mm b = 30 mm c = 3 mm m = 2.0 g

black, 1 pce.

0.0.486.82

Conduit Cap 40x20

a = 40 mm b = 20 mm c = 4 mm m = 3.0 g

black, 1 pce.

0.0.486.85

Conduit Cap 40x40

a = 40 mm b = 40 mm c = 4 mm m = 8.0 g

black, 1 pce.

0.0.196.88

Conduit Cap 60x30

a = 60 mm b = 30 mm c = 3 mm m = 4.0 g

black, 1 pce.

0.0.486.83

Conduit Cap 60x60

a = 60 mm b = 60 mm c = 3 mm m = 8.0 g

black, 1 pce.

0.0.486.84

Conduit Cap 80x40

a = 80 mm b = 40 mm c = 4 mm m = 14.0 g

black, 1 pce.

0.0.196.89

Conduit Cap 80x80

a = 80 mm b = 80 mm c = 4 mm m = 30.0 g

black, 1 pce.

0.0.196.90

Conduit Cap 120x40			
a = 120 mm	b = 40 mm	c = 4 mm	m = 24.0 g
black, 1 pce.			0.0.411.33

Conduit Cap 120x80			
a = 120 mm	b = 80 mm	c = 4 mm	m = 45.0 g
black, 1 pce.			0.0.411.34

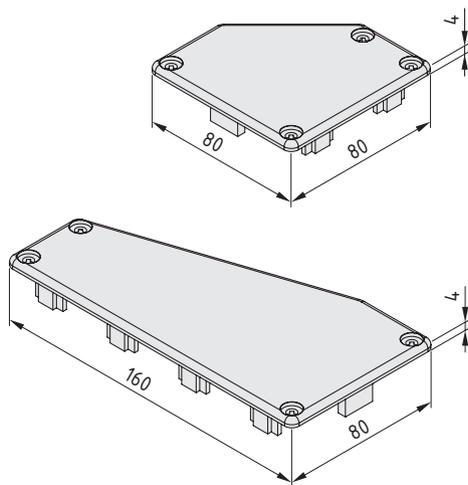
Conduit Cap 120x120			
a = 120 mm	b = 120 mm	c = 4 mm	m = 68.0 g
black, 1 pce.			0.0.418.33

Conduit Cap 160x40			
a = 160 mm	b = 40 mm	c = 4 mm	m = 30.0 g
black, 1 pce.			0.0.364.81

Conduit Cap 160x80			
a = 160 mm	b = 80 mm	c = 4 mm	m = 58.0 g
black, 1 pce.			0.0.265.97

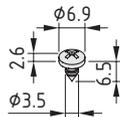
Conduit Cap 160x120			
a = 160 mm	b = 120 mm	c = 4 mm	m = 89.0 g
black, 1 pce.			0.0.411.35

Conduit Cap 160x160			
a = 160 mm	b = 160 mm	c = 4 mm	m = 115.0 g
black, 1 pce.			0.0.411.36

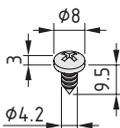


Conduit Cap Set 80x80-45°			
PA-GF Conduit Cap 80x80-45° left Conduit Cap 80x80-45° right m = 50.0 g			
black, 1 set			0.0.406.68

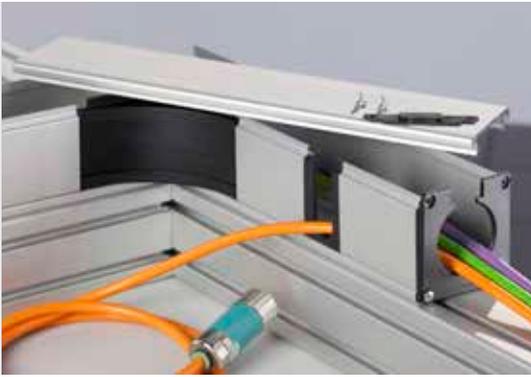
Conduit Cap Set 160x80-20°			
PA-GF Conduit Cap 160x80-20° left Conduit Cap 160x80-20° right m = 96.0 g			
black, 1 set			0.0.406.67



Self-Tapping Screw DIN 7981 St 3.5x6.5			
St m = 0.7 g			
bright zinc-plated, 1 pce.			8.0.000.54



Self-Tapping Screw DIN 7981 St 4.2x9.5			
St m = 1.3 g			
bright zinc-plated, 1 pce.			8.0.000.13



Conduit Caps with Cable Entry Protector

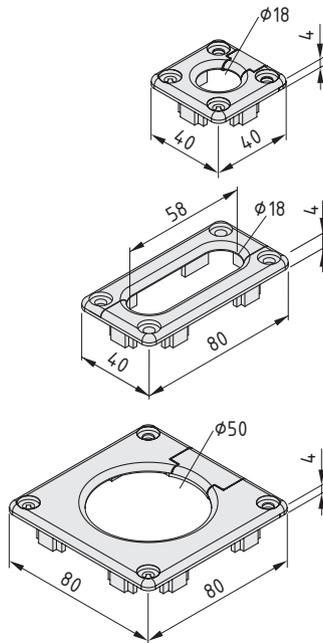
- Cap with end-face opening
- Edge protection that is screwed into place
- Caps stay in place even when cables are being pulled through

The practical accessory for Conduit Profiles U and the Modular Conduit System. Conduit Caps with Cable Entry Protector create an end-face opening for cables and hoses that also safely covers over sharp cut edges.

It can also be fitted to installed cable conduits, even when cables and lines have already been laid. The Caps consist of two parts that interlock and are screwed into place together. The Lid Profile can still be taken off and put back in place.

Note: When working with Conduit Profiles U, please use the SE variant with screw channels.

Recommended screws: Self-Tapping Screw DIN 7981 St 4.2x9.5 (8.0.000.13).



Conduit Cap 40x40 with Cable Entry Protector

PA-GF
m = 8.0 g

black, 1 set

0.0.638.31

Conduit Cap 80x40 with Cable Entry Protector

PA-GF
m = 16.0 g

black, 1 set

0.0.672.01

Conduit Cap 80x80 with Cable Entry Protector

PA-GF
m = 23.0 g

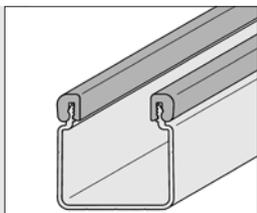
black, 1 set

0.0.638.39



Conduit Edge Profile

- Flexible protective strips for cable conduits
- Prevent damage to cables caused by the conduit wall
- Suitable for use on Wall Profiles and Conduit Profiles E



Conduit Edge Profile

TPE
m = 60 g/m

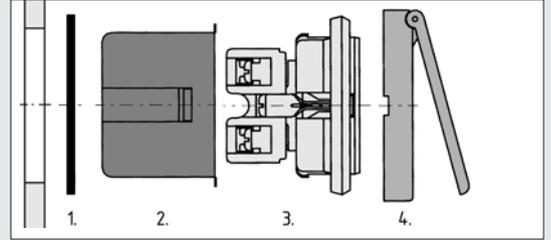
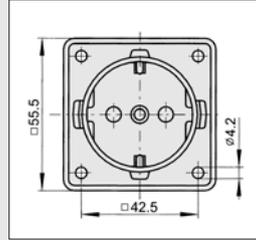
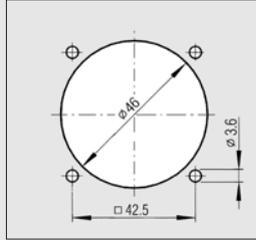
black, 1 roll length 20 m

0.0.411.58



Flush-Mounted Sockets

- For installation in the Wall and Support Profiles of cable conduits
- Suitable for use in any panel elements
- Available with or without swing lid



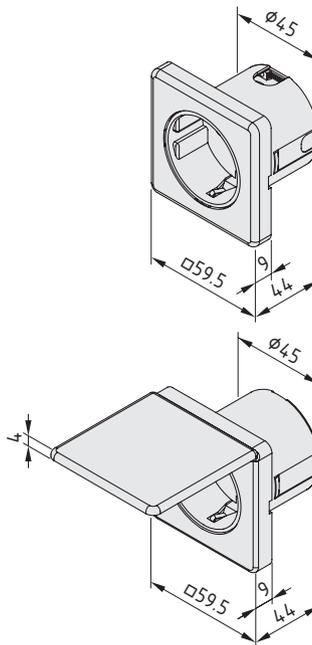
The Flush-Mounted Socket with Lid is dust-tight and protected against splashes (IP44)

Mounting operations

The housing of the Flush-Mounted Socket is secured in place using four Self-Tapping Screws DIN 7981 St-4.2x9.5 (8.0.000.13).

Sequence for installing Flush-Mounted Socket with lid:

1. Seal
2. Insulation box
3. Socket
4. Cover frame with swing lid



Flush-Mounted Socket

Socket, PA, black
 Cover frame, PA, black
 Insulation box, PA, grey
 2-pin + earth, 16 A, 250 V
 m = 50.0 g

1 pce.

0.0.465.82

Flush-Mounted Socket with Lid

Socket, PA, black
 Cover frame with swing lid and seal, PA, black
 Protection: IP 44
 Insulation box, PA, grey
 m = 57.0 g

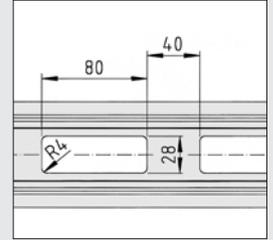
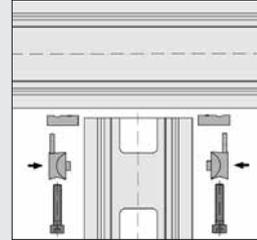
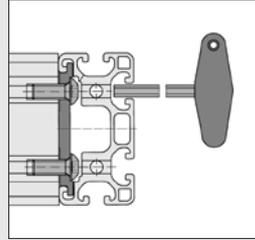
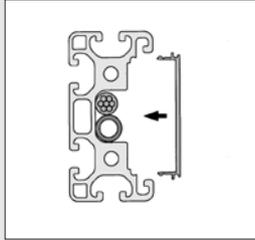
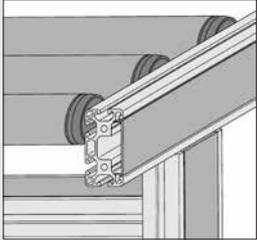
1 pce.

0.0.465.84



Stand Profiles

- Wide profiles with integrated cable conduit
- Easy-to-use system for building frames that incorporate cabling
- Cabling is securely housed within the profile

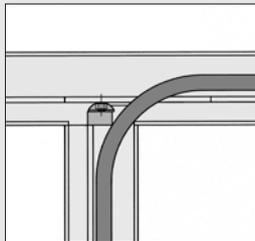
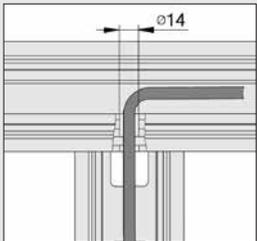


Standard fastening is effected on the end face in conjunction with Stand Profile Connection Element 8 and Button-Head Screws ISO 7380-M8x20 (M = 25 Nm).

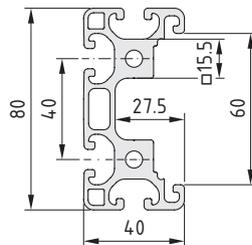
Fastening on the groove side is by means of a Pneumatic Universal-Fastening Set 8 or Automatic-Fastening Set 8.

The openings are located at modular intervals and are used for running through cables and hoses. The Profiles are cut regardless of the positioning of the openings, therefore the minimum profile length is 160 mm.

Pneumatic Universal-Fastening Set 8 461
Automatic-Fastening Set 8 79



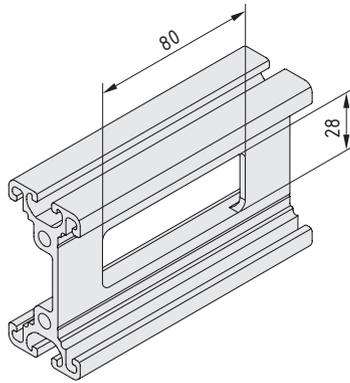
By providing Stand Profile 8 80x40 with a $\varnothing 14$ mm bore, the profile can be used for routing cables and hoses.



Stand Profile 8 80x40 K60

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
10.20	2.75	69.02	11.74	2.58	17.26	5.13
natural, cut-off max. 6000 mm						0.0.427.79
natural, 1 pce., length 6000 mm						0.0.453.49

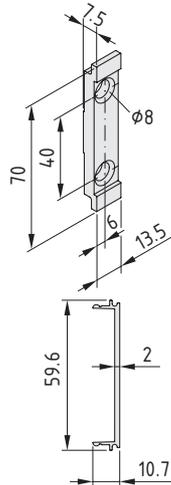


Stand Profile 8 80x40 2xK60



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
7.84	2.05	64.19	7.75	1.05	16.05	3.67
natural, cut-off max. 6000 mm						3.0.005.00
natural, 1 pce., length 6000 mm						0.0.453.48



Stand Profile Connection Element 8



Al, anodized

m = 11.0 g

natural, 1 pce.	3.0.005.03
-----------------	------------

Cover Profile 60



Al, anodized

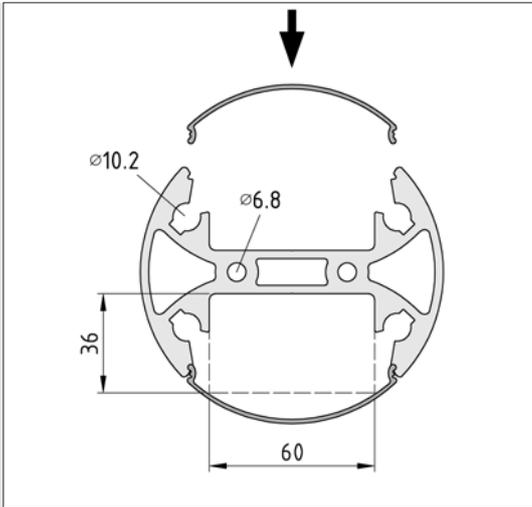
m = 0.36 kg/m

natural, cut-off max. 3000 mm	3.0.005.01
natural, 1 pce., length 3000 mm	0.0.452.02



Column D110

- Central table leg with integrated cable routing
- Elegant support for all types of constructions

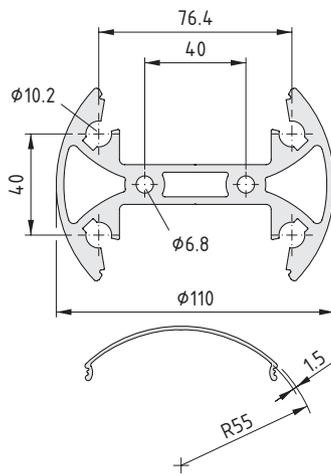


The end face of Column Profile D110 can be screwed to any panel using Flange D130.

Flange 8 D130 199

Located below the Lid Profiles are integrated conduits for equipment cables. Cables can be run in and out of the column at any point through an opening in the Lid Profiles.

Thread M8 can be tapped in core bores $\varnothing 6.8$ mm. Screw channels $\varnothing 10.2$ mm are suitable for thread M12 or for use of Automatic Fasteners 8.



Column Profile D110

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
20.64	5.57	63.06	283.93	21.87	16.55	51.16	
natural, cut-off max. 6000 mm							0.0.475.11
natural, 1 pce., length 6000 mm							0.0.475.10

Column Lid Profile D110

Al, anodized

A [cm ²]	m [kg/m]		
1.39	0.37		
natural, cut-off max. 3000 mm		0.0.475.09	
natural, 1 pce., length 3000 mm		0.0.475.07	



Cable Guide Profile 8 40x16

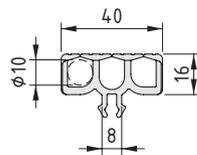
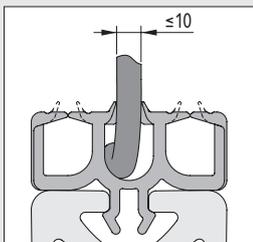
- Easy to process
- Simply clip into a Line 8 groove
- Three separate conduits



The fastest cable conduit solution from item – simply cut to length and press into a Line 8 groove. The profile incorporates three separate conduits, which makes it incredibly easy to lay

and replace individual cables as necessary. Cables can even be laid around corners by pushing Cable Guide Profiles up against each other.

item Multi-Purpose Pliers (0.0.265.63) are all that is needed to cut the profile to size.



Cable Guide Profile 8 40x16



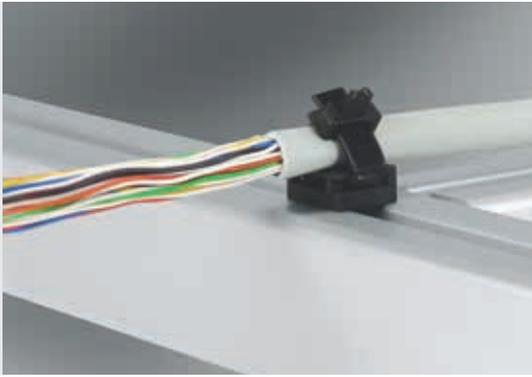
PVC

A [cm²] m [kg/m]

3.30 0.46

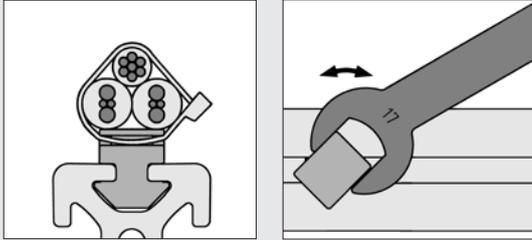
grey similar to RAL 7042, 1 pce., length 2000 mm

0.0.654.44

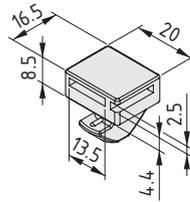


Universal Holder 8

- Simple cable fastener for constructions with Line 8 grooves
- No additional screws required
- Anchor point for cable ties



Universal Holder 8 is inserted directly into the profile groove without additional fastening elements and is locked in place by means of a 90° turn. A wrench A/F 17 is recommended for this operation.



Universal Holder 8

PA-GF
m = 4.0 g

black, 1 pce.

0.0.494.52

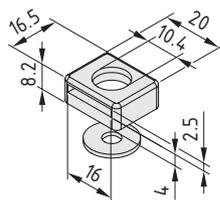


Universal Holder

- Anchor point for cable ties
- Mounting with Countersunk Screw
- Suitable for all profile lines and panel elements



The Universal Holder can be assembled at any angle. Fastening is performed in the profile groove of the panel element using a Countersunk Screw DIN 7991-M5 and corresponding T-Slot Nut or in conjunction with a hexagon nut DIN 936-M5.



Universal Holder

PA-GF, black
1 washer DIN 9021-5.3, St, bright zinc-plated
m = 3.0 g

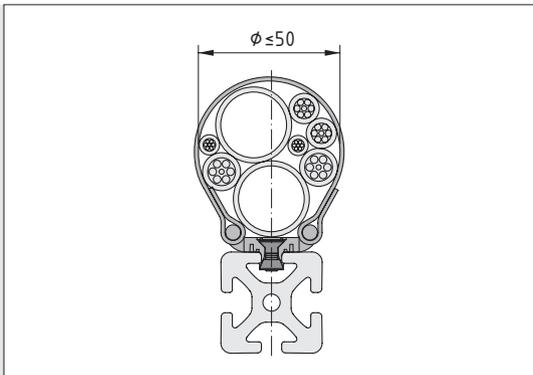
1 set

0.0.418.24

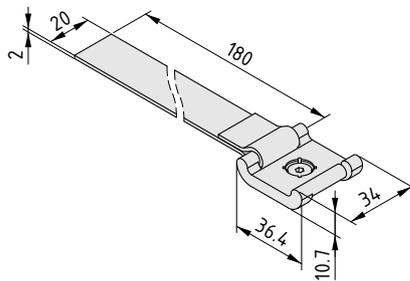


Universal Holder with Securing Strap 8 180

- Secure cables and hoses with a 180 mm-long hook-and-loop strap
- Safe for use with cables and easily released
- Fastened directly to a Line 8 groove via a central screw



Because the opened hook-and-loop strap can be slipped out of the Universal Holder at one side, cables do not need to be fed through a closed loop.



Universal Holder with Securing Strap 8 180



Housing, PA
Hook-and-loop strap
Countersunk Screw DIN 7991-M5x12, St
m = 12.5 g

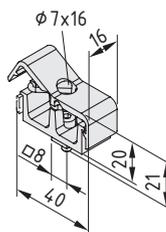
black, 1 set

0.0.627.90



Holder for Cables and Hoses

- Two fittings for fixing in place cables and hoses up to a diameter of 12 mm
- O-rings ensure a secure and gentle hold



Holder for Cables and Hoses 8



PA, black
O-ring
1 Hexagon Socket Head Cap Screw DIN 912-M4x10, St, bright zinc-plated
m = 10.0 g

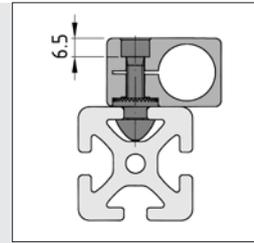
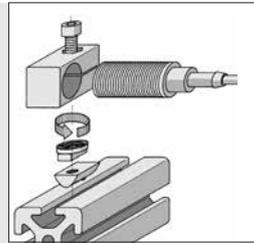
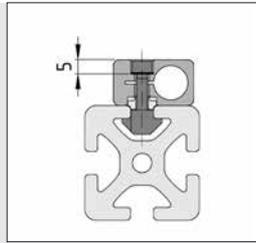
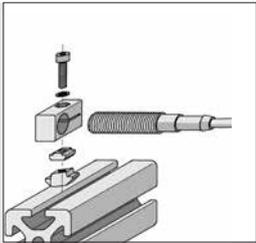
1 set

0.0.196.65



Limit-Switch Holders

- For fastening limit switches to profiles
- Optimum adjustment options for position and angle
- Rigid anti-torsion feature



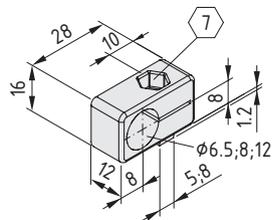
Limit-Switch Holders D6.5, D8 and D12 can be attached with anti-torsion blocks either parallel or at right-angles to the Profile 5 or Profile 8 groove.

Fastening Limit-Switch Holders D6.5, D8 and D12 with Hexagon Socket Head Cap Screw DIN 912-M4, spring washer and T-Slot Nut of the corresponding Line.

When the anti-torsion block is used, Limit-Switch Holders D18 and D20 can be attached in 10° increments relative to the Profile 8 groove. Without anti-torsion blocks, attachment is possible at any angle.

For fastening Limit-Switch Holders D18 and D20 with Hexagon Socket Head Cap Screw DIN 912-M6 and T-Slot Nut of the corresponding Line.

Screw M6x28 comes in a special length for fastening to Line 8 profiles.



Limit-Switch Holder D6.5

Housing and anti-torsion block, PA-GF, black
Spring washer, St, black
m = 8.0 g

1 set 0.0.406.40

Limit-Switch Holder D8

Housing and anti-torsion block, PA-GF, black
Spring washer, St, black
m = 7.0 g

1 set 0.0.406.41

Limit-Switch Holder D12

Housing and anti-torsion block, PA-GF, black
Spring washer, St, black
m = 6.0 g

1 set 0.0.406.42

Limit-Switch Holder D18

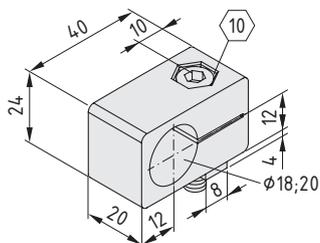
Housing and anti-torsion block, PA-GF, black
Cap Screw DIN 912-M6x28, St, bright zinc-plated
m = 23.0 g

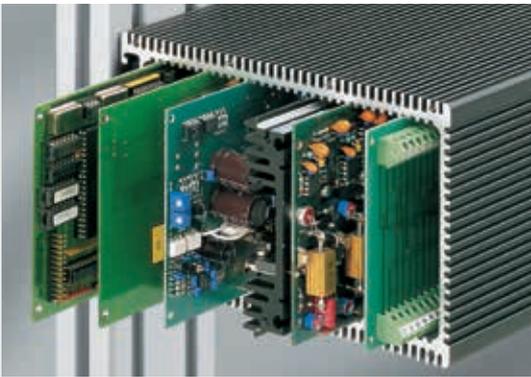
1 set 0.0.411.30

Limit-Switch Holder D20

Housing and anti-torsion block, PA-GF, black
Cap Screw DIN 912-M6x28, St, bright zinc-plated
m = 22.0 g

1 set 0.0.411.31





Electronic-Box Profiles

- For electronic boxes and other sealed containers
- With integrated cooling ribs
- Profile grooves for easy fastening

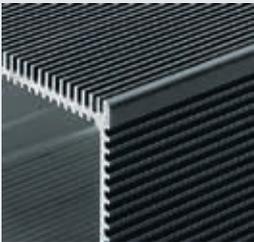


Sealed Electronic Boxes (IP 65, EN 60529) can be constructed, in any length, using Electronic-Box Profiles and the corresponding lids:

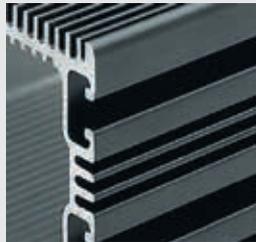
- Stable, anodized aluminium profiles with cooling ribs for heat dissipation, special grooves (in 5.08 mm grid) to accommodate printed circuit boards in European Standard format

(100x160 mm) and Profile 5 and 8 grooves for integration into the MB Building Kit System

- Electronic-Box Lid, plain finish or with knockouts for cable glands, together with bore grid for installing a backplane; sealing provided by matching, peripheral seals



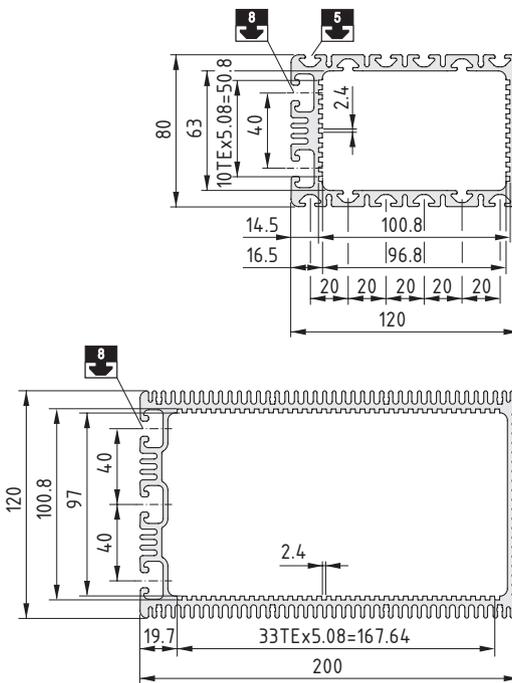
Cooling ribs



Grooves for securing boxes



Seal in box lid



Electronic-Box Profile 8 120x80

Al, anodized

Protection: IP 65, EN 60529 in connection with Electronic-Box Lid 8 120x80

A [cm ²]	m [kg/m]
20.50	5.55
black, cut-off max. 3000 mm	0.0.259.58
black, 1 pce., length 3000 mm	0.0.452.11

Electronic-Box Profile 8 200x120

Al, anodized

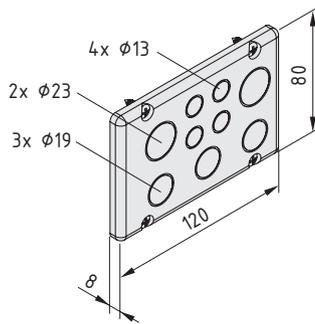
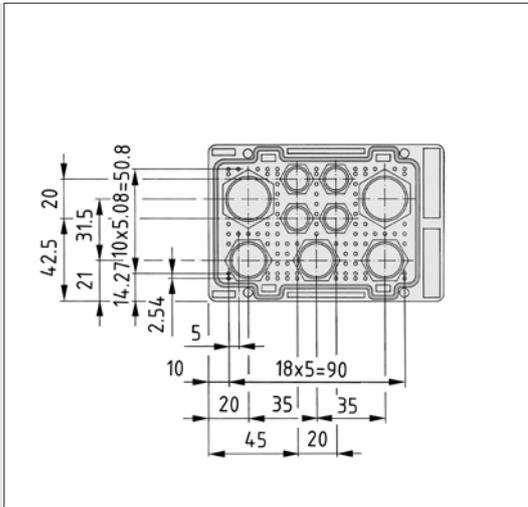
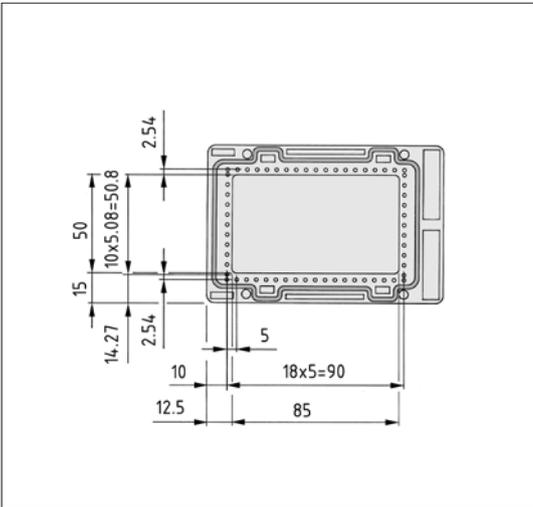
Protection: IP 65, EN 60529 in connection with Electronic-Box Lid 8 200x120

A [cm ²]	m [kg/m]
36.51	9.85
black, cut-off max. 3000 mm	0.0.259.36
black, 1 pce., length 3000 mm	0.0.452.12



Electronic-Box Lids

- The lid for Electronic-Box Profiles
- All-round seal
- Bore grid on inside for creating cable through holes

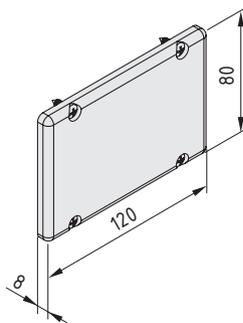


Electronic-Box Lid 8 120x80

PA-GF, black
Seal
Protection: IP 65, EN 60529 in connection with Electronic-Box Profile 8 120x80
4 Self-Tapping Screws DIN 7981-4.2x13, St, bright zinc-plated
m = 64.0 g

1 pce.

0.0.259.60

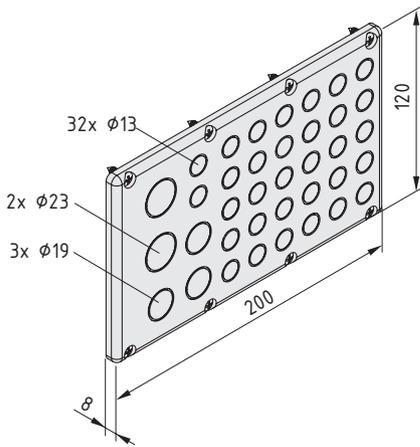
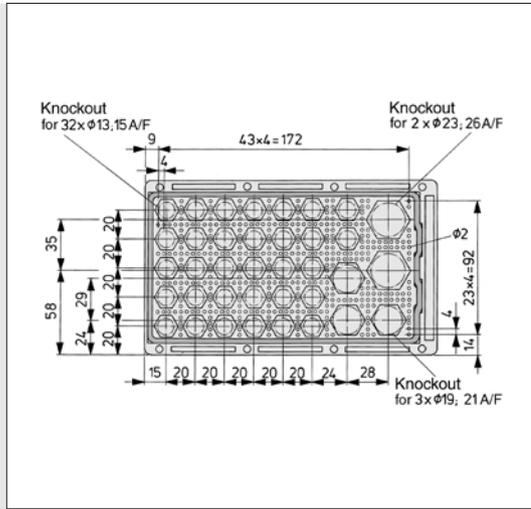
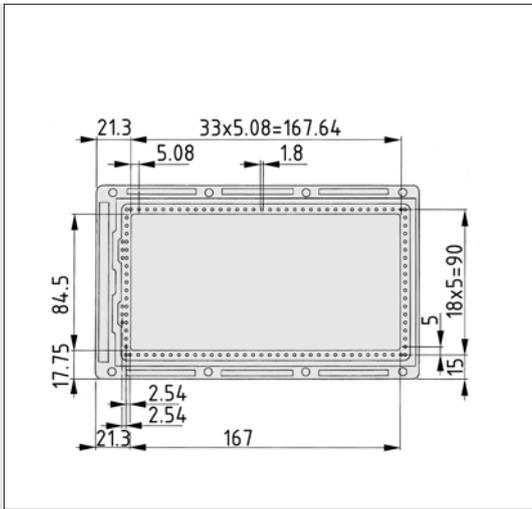


Electronic-Box Lid 8 120x80, plain

PA-GF, black
Seal
Protection: IP 65, EN 60529 in connection with Electronic-Box Profile 8 120x80
4 Self-Tapping Screws DIN 7981-4.2x13, St, bright zinc-plated
m = 59.0 g

1 pce.

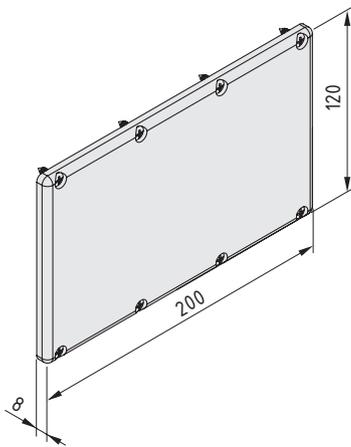
0.0.259.61



Electronic-Box Lid 8 200x120

PA-GF, black
 Seal
 Protection: IP 65, EN 60529 in connection with Electronic-Box Profile 8 200x120
 8 Self-Tapping Screws DIN 7981-4.2x13, St, bright zinc-plated
 m = 170.0 g

1 pce. 0.0.259.37



Electronic-Box Lid 8 200x120, plain

PA-GF, black
 Seal
 Protection: IP 65, EN 60529 in connection with Electronic-Box Profile 8 200x120
 8 Self-Tapping Screws DIN 7981-4.2x13, St, bright zinc-plated
 m = 140.0 g

1 pce. 0.0.259.44



Earthing Terminals

- For connecting protective conductors to profile constructions
- For protecting systems and personnel
- Permanent screw attachment ensures sound contact



Terminals for earthing profile constructions and for interconnecting the profiles when the latter are incorporated into a protective circuit.

Contact is made by partially destroying the anodized layer in the T-slot and on the groove flanks.

The Earthing Terminal is installed by twisting the grub screw into the T-slot ($M_1 = 4 \text{ Nm}$) and screwing in the hexagon nut ($M_2 = 4 \text{ Nm}$) with the earthing line in place. The cable lug must lie between the washer and the special washer.

M5x16



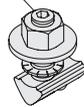
Earthing Terminal 5



T-Slot Nut 5 St M5, stainless
 Grub screw DIN 916-M5x16, St, stainless
 Hexagon nut M5
 Washer DIN 9021-5.3, brass
 Contact washer
 M = 4 Nm m = 6.0 g

1 set 0.3.001.80

M6x25



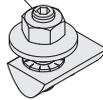
Earthing Terminal 6



T-Slot Nut 6 St M6, stainless
 Grub screw DIN 916-M6x25, St, stainless
 Hexagon nut M6
 Washer DIN 9021-6.4, brass
 Contact washer
 M = 4 Nm m = 13.0 g

1 set 0.3.004.62

M6x25



Earthing Terminal 8



T-Slot Nut 8 St M6, stainless
 Grub screw DIN 916-M6x25, St, stainless
 Hexagon nut M6
 Washer DIN 9021-6.4, brass
 Contact washer
 M = 4 Nm m = 12.0 g

1 set 0.3.001.81



Earthing Connection

The movable connector for protective conductors

- Highly flexible wire for doors and lids

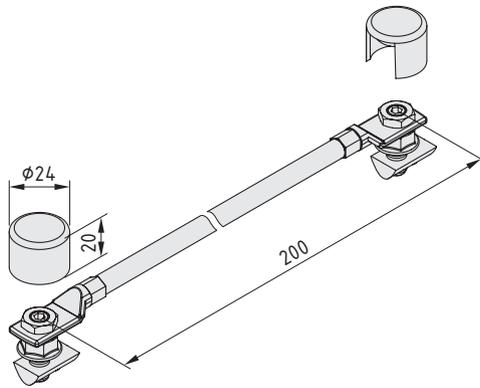


Ready-made electrical connection for system elements that need to be grounded to a construction frame.

All elements of a machine have to be connected to the protective conductor if there is a danger that they will become electrically live in the event of a fault. Detachable or movable components must not be connected via their fastening elements (fastening screws, hinges). A flexible conductor with a large conductive cross-sectional area (16 mm²) ensures that the electrical connection remains intact irrespective of the mechanical fastening or possible movement.

Earthing Connection 8 can also be used to interconnect neighbouring shelves or table constructions in order to equalise potential. Earthing Connection 8 can also be used to connect work benches to the grounding earth equipment.

The set includes selected fastening elements which provide a secure contact with the groove of Profile 8, highly flexible stranded wires and protective caps.



Earthing Connection 8



- 2 T-Slot Nuts 8 St M8, bright zinc-plated
- 2 caps for Earthing Connection 8, PA-GF, black
- Earthing wire, Cu, tin-plated
- 2 hexagon nuts DIN936-M8, St, black
- 2 grub screws DIN 916-M8x30, St, bright zinc-plated
- 2 special washers DIN 6798-8.4, St, bright zinc-plated
- 2 lock nuts M8, St, black
- M = 25 Nm m = 125.0 g

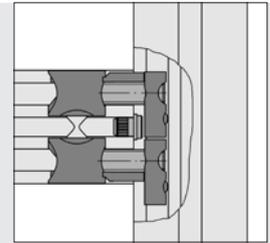
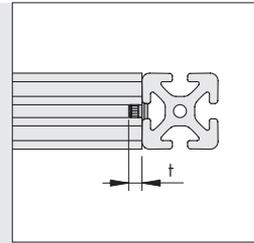
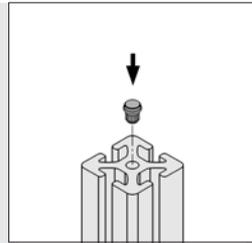
1 set

0.0.486.95



Contact Pins ESD

- For creating an electrostatically dissipative connection between profiles
- Integrated into the profile connection



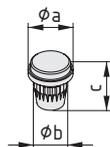
Contact Pins ESD are designed for ESD profile connections. For better identification, fastening elements ESD are given a yellow passivation layer in compliance with Directive 2002/95/EC ("RoHS").

Contact Pin ESD is an additional component used in conjunction with Universal-Fastening and Automatic-Fastening Sets. Pressed into the core bore of the profile, the Contact Pin makes the electrical connection between the profiles when the fastening screws are tightened.

N.B.: Use of Contact Pin ESD can lead to restrictions when retrofitting profiles into closed structures.

Contact Pin 8 ESD destroys the insulating anodized layer in the core bore and profile groove of the connected profiles.

	t
	3.5 mm
	6 mm
	7 mm



Contact Pin 5 ESD



St
a = 6 mm b = 4.5 mm c = 6 mm m = 0.6 g

bright zinc-plated, 1 pce.

0.0.612.15

Contact Pin 6 ESD



St
a = 7 mm b = 5.4 mm c = 8 mm m = 1.4 g

bright zinc-plated, 1 pce.

0.0.612.11

Contact Pin 8 ESD



St
a = 9 mm b = 6.9 mm c = 10 mm m = 3.0 g

bright zinc-plated, 1 pce.

0.0.604.15



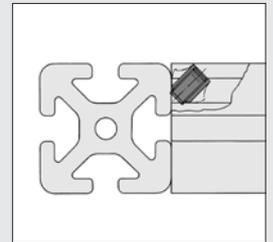
Potential Equaliser

- For safely equalising electrostatic charges in profiles
- Additional ESD-safety – can be retrofitted to constructions



The Potential Equaliser ensures that possible charge buildups are balanced out between the individual profiles of a construction. It can be retrofitted to the profile groove. Fitted at joints, it destroys the insulating anodized layer and creates an electrically conductive connection.

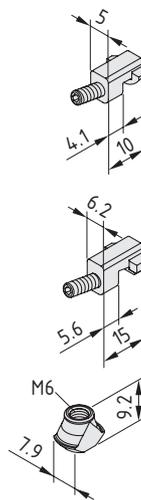
The Potential Equaliser cannot be considered an electrical connection suitable for forming part of a safety circuit.



Potential Equalisers 5 and 6 are swivelled into the Profile Groove and then pushed against the joint.

The grub screw must be screwed in with light pressure on the key, until it rests against both profiles and nudges the Potential Equaliser out of its original position.

Potential Equaliser 8 is twisted into the profile groove, tilted to an angle of 45°, and the grub screw driven in so as to bite jointly where the two profiles meet, thus making contact between them.



Potential Equaliser 5



Die-cast zinc
Grub screw DIN 916-M3x12, St, black
m = 1.0 g

bright zinc-plated, 1 pce.

0.0.464.45

Potential Equaliser 6



Die-cast zinc
Grub screw DIN 916-M4x16, St, bright zinc-pl.
m = 4.0 g

bright zinc-plated, 1 pce.

0.0.459.65

Potential Equaliser 8



St
Grub screw DIN 915-M6x12, St, bright zinc-pl.
m = 4.7 g

bright zinc-plated, 1 pce.

0.0.265.77



Installation profiles

- Stable Profiles with up to two integrated cable conduits
- Install and use supply lines safely
- Two internal aluminium compressed-air conduits
- Suitable for integral and standalone installation

Never lose your connection again – the item installation profiles supply work areas in e.g. production and logistics with power, compressed air and data and avoid a tangled mass of cables. They can be used as multifunctional supply hubs or as an integral part of machines and workstations.

Two versions are available: The large Installation Column Profile 8 160x160 K76 has two spacious cable conduits while the narrower Installation Profile 8 160x80 K76 has one. All conduits can be divided into two separate areas using Partition Profiles K76 K.

The opening on the cable conduits also accommodates Mounting Boxes, Sockets, Keystone Modules and Switches, which are simply clipped into place, with no need for machining. item offers a wide range of compatible installation devices. Open sections of the cable conduit can be cleanly closed over with the corresponding aluminium Cover Profile.

Two integral aluminium ducts are integrated into both variants in order to convey compressed air. Outlets can be fitted at any height. Each of the four sides has two Line 8 grooves that can be used to mount light fittings, monitors, Pivot Arms, notice boards, Parts Containers, etc.

Solid floor fasteners create a sound and stable footing. Depending on the device being installed, it may be necessary to use an optional Earth Connection.



1

Organised!

Large cable conduits help to route supply lines and cables safely to where they are needed – including via the ceiling or floor. Each of these conduits can be further divided in two to keep high and low voltage lines separate.



2

Practical!

Two Line 8 grooves on each of the four sides can be used to attach light fittings, Pivot Arms and even enclosures and guards. The Installation Column Profile and the Installation Profile slot seamlessly into the world of the MB Building Kit System and the Work Bench System.



3

Customisable!

Plug-in Sockets and Switches can be used to configure the installation profiles to suit your specific requirements. Users can add as many connections as they need, wherever they need them. All open sections can be cleanly and safely covered over using the compatible Cover Profile.



4

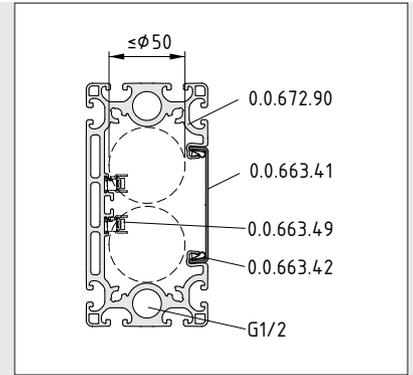
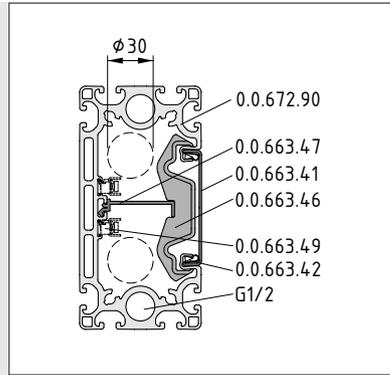
Versatile!

Two integrated aluminium ducts that are separate to the cable conduits convey compressed air to where it is needed. Just like the Sockets and Switches, the outlets can also be fitted at any height.



Installation Profiles 8 K76

- Robust supply column or versatile construction profile
- Route lines safely to work benches



Power, compressed air, data network access – all from a single, central point. The item installation profiles are the robust and versatile solution for routing supply lines right up to workstations.

The sturdy installation profiles feature up to two large cable conduits that can each be divided in two using Partition Profiles K76 K to route high and low voltage lines separately in line with EN 50174.

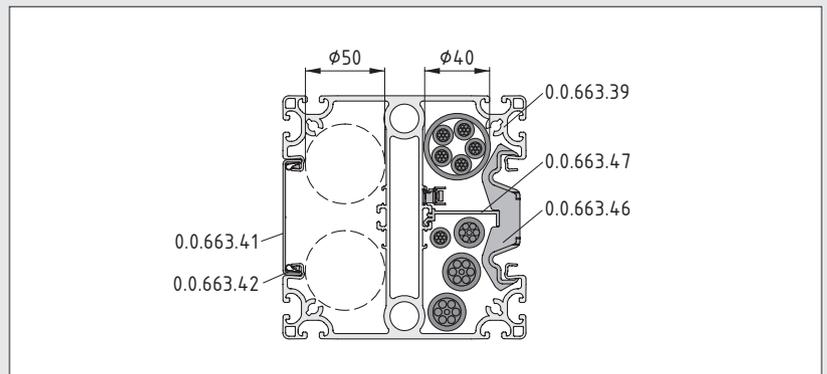
The opening on the conduits also accommodates Mounting Boxes, which are clipped into place with no need for machining. These Mounting Boxes can be used to install network connections, couplings for CEE three-phase plug connectors and conventional sockets at the desired positions. Each side features two Line 8 grooves for mounting accessories.

Two integral aluminium ducts can be used to convey compressed air. When using the appropriate Pneumatic Connecting Sets for Installation Profile 8 160x80 K76 and Installation Column Profile 8 160x160 K76, the outlet can be integrated at any point.

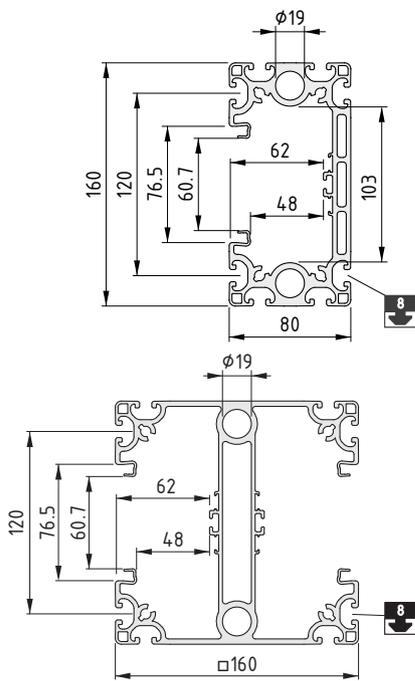
Aluminium Cover Profile 76 seals open sections of the cable conduit to keep dust out. Locking Clips ensure a secure hold and grounding.

Installation example showing Installation Profile 8 160x80 K76 with the conduit divided using Partition Profile K76 K (0.0.663.47) and Partition Profile Clip K76 K (0.0.663.46). The maximum available clearance in the conduit is 30 mm in diameter.

Installation example showing Installation Profile 8 160x80 K76 with Cover Profile 76 Al (0.0.663.41), Locking Clip St (0.0.663.42) and Earth Connection, Installation Column Profile (0.0.663.49). The maximum available clearance in the conduit is 50 mm in diameter.



Installation example showing Installation Column Profile 8 160x160 K76 with the conduit divided using Partition Profile K76 K (0.0.663.47) and Partition Profile Clip K76 K (0.0.663.46). The maximum available clearance in the conduit is 40 mm in diameter. The maximum available clearance in the conduit when not using Partition Profile K76 K (0.0.663.47) and Partition Profile Clip K76 K (0.0.663.46) is 50 mm in diameter.



Installation Profile 8 160x80 K76



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
28.01	7.56	937.38	191.32	15.76	117.23	41.23
natural, cut-off max. 6000 mm						0.0.672.90
natural, 1 pce., length 6000 mm						0.0.672.89

Installation Column Profile 8 160x160 K76



Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]
3.64	9.82	1,392.70	849.30	174.10	106.16
natural, cut-off max. 6000 mm					0.0.663.39
natural, 1 pce., length 6000 mm					0.0.660.28



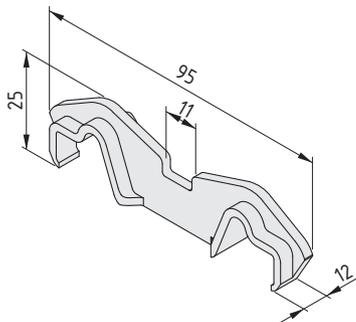
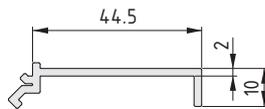
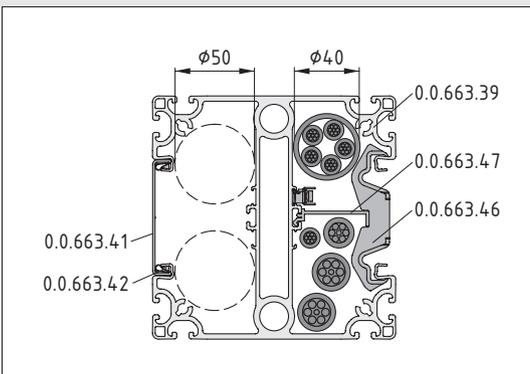
Partition Profile K76 K Partition Profile Clip K76 K

- Subdivides the cable conduit
- Simply clips in

Partition Profile K76 K is used in installation profiles to ensure that low-voltage cables (network, data, etc.) are routed separately to cables carrying high operating voltages. Routing the cables through separate conduits in line with the installation guidelines in EN 50174 reduces the chance of interference.

Partition Profile K76 K is clipped into place in the central groove of the installation conduit, with no need for machining work. The plastic profile creates two continuous conduits.

Additional stability is provided by Partition Profile Clip K76, which is rolled into the conduit opening and clipped into place to prevent deflection of the Partition Profile. The Clip also ensures that cables routed over long stretches cannot slip out of their section of the conduit.



Partition Profile K76 K

PVC
m = 168 g/m

grey, 1 pce., length 2000 mm

0.0.663.47

Partition Profile Clip K76 K

PC
m = 7.0 g

grey, 1 pce.

0.0.663.46



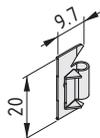
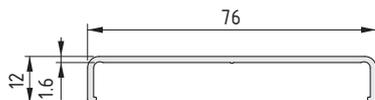
Cover Profile 76 Al Locking Clip St

- Clean closure
- Easy to install

The aluminium profile seals over the cable conduit in the installation profiles. It is held securely in dedicated grooves by Locking Clips and does not require any screw fixings. The conduit can be reopened just as easily to permit maintenance work.

Cover Profile 76 Al can be cut to length easily to make space for sockets and connections.

Note: Locking Clips (0.0.663.42) are used to secure the Cover Profile in place and create an electrical contact with the lower part of the column. Each segment of the Cover Profile must be secured with at least four Locking Clips. We recommend using six Locking Clips to secure profile lengths measuring from 1000 mm to 2000 mm and at least eight for lengths of over 2000 mm. The Locking Clips ensure that the Cover Profile is earthed.



Cover Profile 76 Al

Al, anodized
m = 780 g/m

natural, cut-off max. 2000 mm	0.0.663.41
natural, 1 pce., length 2000 mm	0.0.663.40

Locking Clip St

St
m = 1.0 g

bright zinc-plated, 1 pce.	0.0.663.42
----------------------------	------------



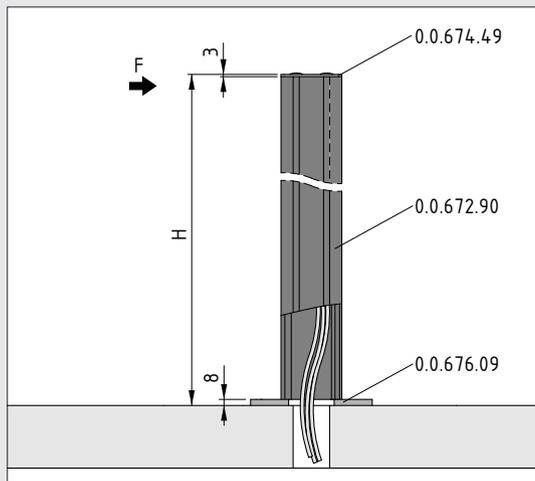
Base Plate, Installation Profiles

- Stable mounting
- Openings for feeding through lines and cables from the floor
- Includes fastening materials and Sealing Plugs for sealing compressed-air conduits



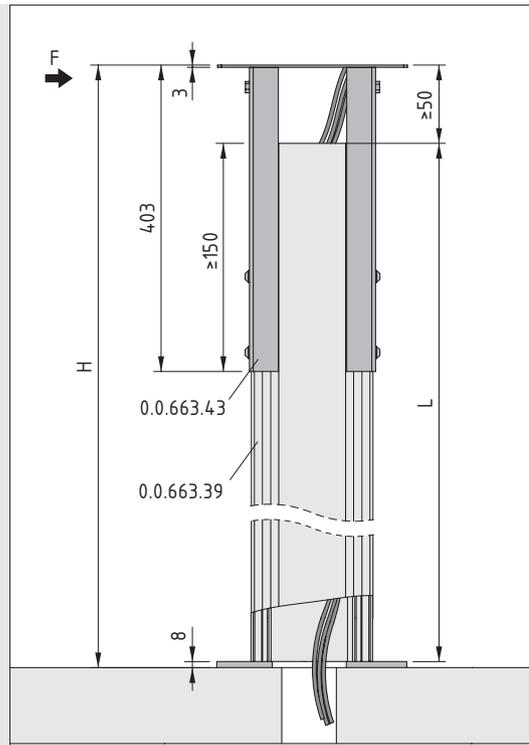
The stable Base Plates ensure that item installation profiles have a firm footing. The plate is anchored to the floor via four holes.

The floor fasteners are fitted directly to the installation profiles via four bolts. Two Sealing Plugs supplied with the Base Plate ensure the integrated compressed air ducts are airtight.



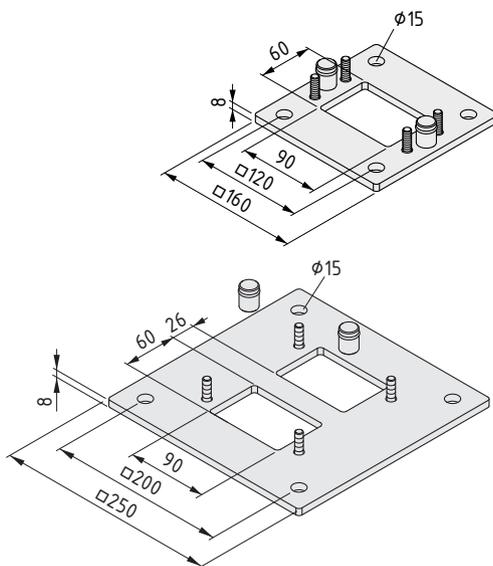
Maximum torsional moment for Base Plate, Installation Profile 160x80, such as for cracked C20/C25 concrete and Floor-Fastening Set M10x135 (0.0.485.82):

$$F \times H < 600 \text{ Nm}$$



Maximum torsional moment for Base Plate, Installation Column Profile such as for cracked C20/C25 concrete and Floor-Fastening Set M10x135 (0.0.485.82):

$$F \times H < 1000 \text{ Nm}$$



Base Plate, Installation Profile 160x80



Floor flange 160x160, St, white aluminium similar to RAL 9006
 2 Sealing Plugs D19
 Fastening elements
 Notes on Use and Installation
 m = 1.2 kg

1 set

0.0.676.09

Base Plate, Installation Column Profile



Floor flange 250x250, St, white aluminium similar to RAL 9006
 2 Sealing Plugs
 Fastening elements
 Notes on Use and Installation
 m = 3.3 kg

1 set

0.0.663.44



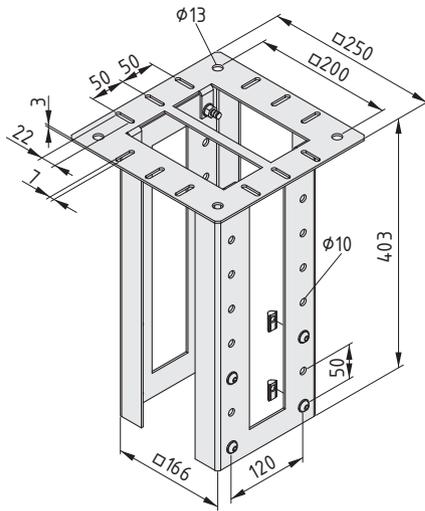
Ceiling Mount, Installation Column Profile

- Increases stability
- Helps even out height differences

The Ceiling Mount makes Installation Column Profile 8 160x160 K76 even more stable. It secures the column to the ceiling and is also used for height adjustment.

The Ceiling Mount for the Installation Column Profile comprises the fastening plate for the ceiling and two U-shaped profiles made from steel sheet. These profiles are anchored in the Line 8 grooves of the item Installation Column Profile, which means that the gap between the top of the column and the ceiling can be varied. This design makes it much easier to route cables and supply lines via the ceiling.

Everything needed to connect the Ceiling Mount is included in the scope of supply.



Ceiling Mount, Installation Column Profile

8

Ceiling flange 250x250, St, white aluminium similar to RAL 9006

2 retaining plates, St, white aluminium similar to RAL 9006

Fastening elements

Notes on Use and Installation

m = 4.6 kg

1 set

0.0.663.43



Accessories for installation profiles

- Simply clip in Sockets and Switches
- Fit where required

Fitting Sockets and Switches to the item installation profiles couldn't be easier or quicker. Simply plug the desired Mounting Box for one, two or three installation elements into the cable conduit opening, insert and connect up the relevant connection and clip the Face Plate into place. That's all it takes to get sockets, network connections and other elements ready for use.

The item accessories range covers all typical application areas – protective contact sockets, couplings for CEE three-phase plug connectors, RJ45 network connections and switches. On request, item can also provide installation elements for additional applications.

All plugs and Mounting Boxes can be used whether the installation profiles are installed vertically or horizontally. However, when installing Face Plates, it is important to take note of their orientation, to ensure that labels can be easily read. In a horizontal installation scenario, the correct Face Plate must be used because it clips into the Mounting Box at a specific angle.

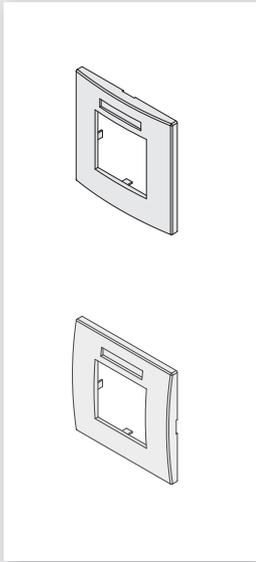
Installation Unit K76 M45 2 HP with Mounting Rail accommodates safety devices such as automatic circuit-breakers and RCD protection switches. It is advisable to use Strain Relief Device, Mounting Box K76 to safeguard cables.

Note: Open sections of the cable conduit are sealed with Cover Profile 76 Al. Locking Clips ensure that the Cover Profile is earthed and held securely in place.

Earth Connection, Installation Column Profile should be installed to dissipate residual currents from cables and sockets.



Possible Combinations



Face Plate M45 1 Gang with Labelling Panel

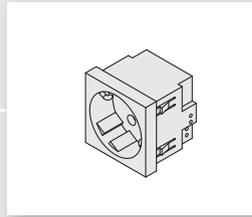
white, similar to RAL 9010, 1 pce.
0.0.663.68

black grey, similar to RAL 7021, 1 pce.
0.0.663.69

Face Plate M45 1 Gang with Labelling Panel, Horizontal

white, similar to RAL 9010, 1 pce.
0.0.675.75

black grey, similar to RAL 7021, 1 pce.
0.0.675.76

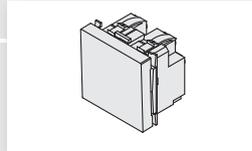


Socket 33° M45 1 Gang

white, similar to RAL 9010, 1 pce.
0.0.663.56

black grey, similar to RAL 7021, 1 pce.
0.0.663.57

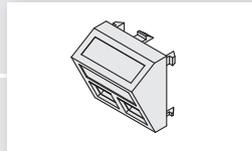
signal red similar to RAL 3001, 1 pce.
0.0.663.58



ON/OFF Switch, 2-Pole M45 16A/250V

white, similar to RAL 9010, 1 pce.
0.0.663.83

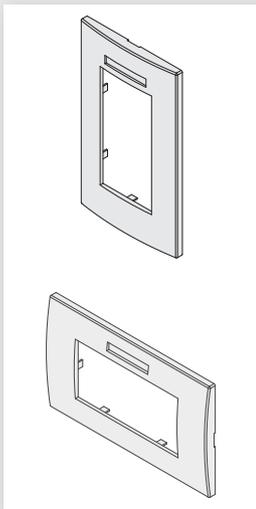
black grey, similar to RAL 7021, 1 pce.
0.0.663.84



Keystone Module Housing RJ45 M45

white, similar to RAL 9010, 1 pce.
0.0.663.80

black grey, similar to RAL 7021, 1 pce.
0.0.663.81



Face Plate M45 2 Gang with Labelling Panel

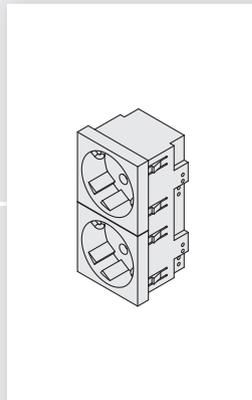
white, similar to RAL 9010, 1 pce.
0.0.663.71

black grey, similar to RAL 7021, 1 pce.
0.0.663.72

Face Plate M45 2 Gang with Labelling Panel, Horizontal

white, similar to RAL 9010, 1 pce.
0.0.675.77

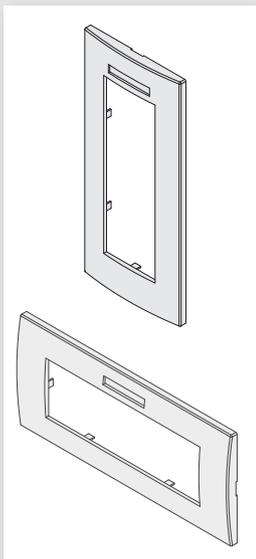
black grey, similar to RAL 7021, 1 pce.
0.0.675.78



Socket 33° M45 2 Gang

white, similar to RAL 9010, 1 pce.
0.0.663.60

black grey, similar to RAL 7021, 1 pce.
0.0.663.61



Face Plate M45 3 Gang with Labelling Panel

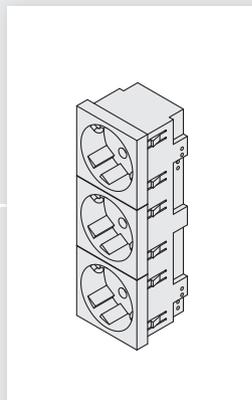
white, similar to RAL 9010, 1 pce.
0.0.663.74

black grey, similar to RAL 7021, 1 pce.
0.0.663.75

Face Plate M45 3 Gang with Labelling Panel, Horizontal

white, similar to RAL 9010, 1 pce.
0.0.675.79

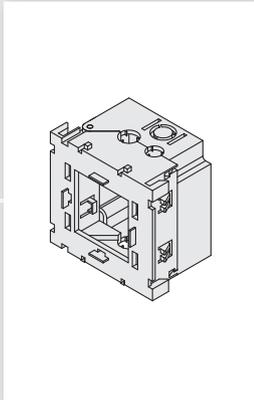
black grey, similar to RAL 7021, 1 pce.
0.0.675.80



Socket 33° M45 3 Gang

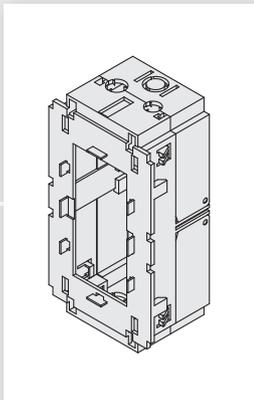
white, similar to RAL 9010, 1 pce.
0.0.663.64

black grey, similar to RAL 7021, 1 pce.
0.0.663.65



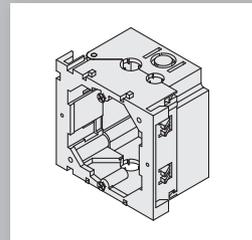
Mounting Box K76 M45 1 Gang

grey, 1 pce.
0.0.663.52



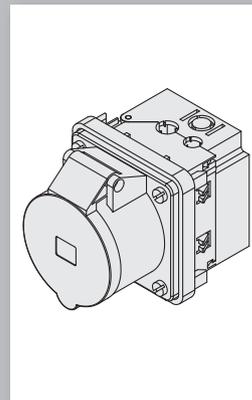
Mounting Box K76 M45 2 Gang

grey, 1 pce.
0.0.663.53



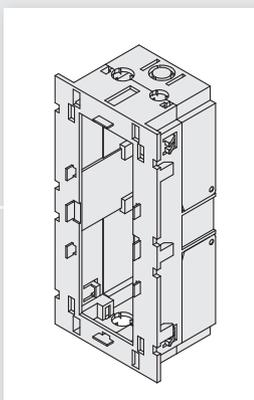
Mounting Box K76 1 Gang

grey, 1 pce.
0.0.663.50



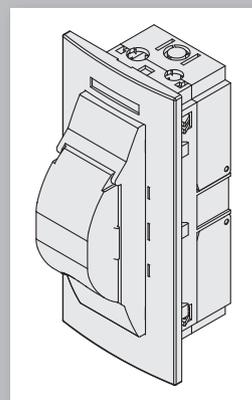
CEE Socket K76 16A/400V

1 set
0.0.663.77



Mounting Box K76 M45 3 Gang

grey, 1 pce.
0.0.663.54



**Installation Unit M45 2 HP with
Mounting Rail**

1 set
0.0.663.78

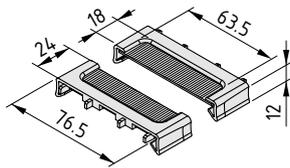
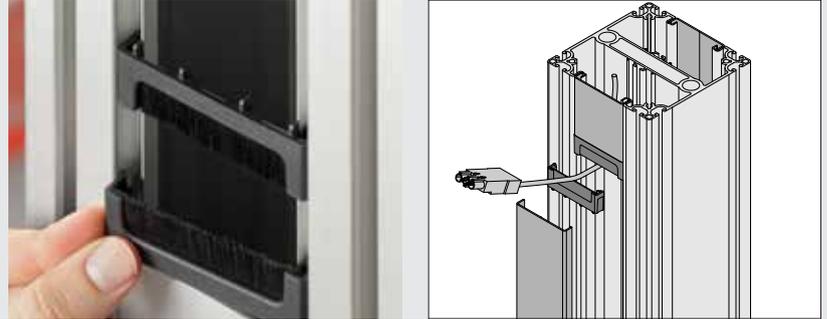


Cable Entry Protector K76 with Sealing Brush

- Dust-proof opening
- For cables with a connector

The simplest way to route cables out of the item installation profiles: Cable Entry Protector K76 with Sealing Brush creates a flexible opening that uses several layers of flexible polyamide bristles to keep dust out. Cables can be easily fed through the bristles.

The Cable Entry Protector is simply pushed onto the ends of Cover Profile 76 AI (0.0.663.41). As a result, the opening can be installed at any height. It is wide enough to allow a monitor or network cable fitted with a plug to pass through it en-route to the end device.



Cable Entry Protector K76 with Sealing Brush

2 halves
Casing, PA-GF
Sealing Brush, PA
m = 14.0 g

black, 1 set

0.0.663.87



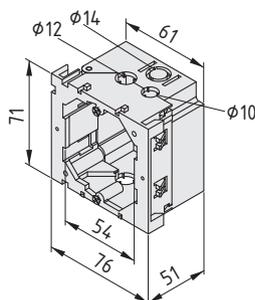
Mounting Box K76

- Box satisfies DIN 49073 for inserts as required

Mounting Box for individual Sockets, Switches and connections on the item installation profiles. Simply insert the front-locking Mounting Box at any point on the cable conduit. The lower part of the Mounting Box can be folded back and even removed so that cables can be connected quickly. The feed openings are

designed to accommodate cables up to 14 mm in diameter. The screw fastenings are spaced 60 mm apart.

Because the internal dimensions comply with DIN 49073 Part 1, it is compatible with conventional installation devices such as sockets and switches with a gauge of 71 mm.



Mounting Box K76 1 Gang

PA
m = 51.0 g
grey, 1 pce.

0.0.663.50

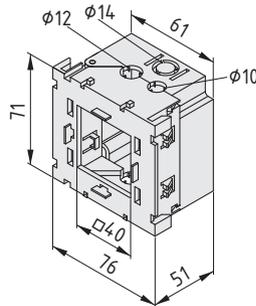
Mounting Boxes K76 M45

- Boxes for connections based on the Modul 45 system
- Available in three sizes

The universal solution for fitting M45 installation devices to the item installation profiles. The front-locking Mounting Box can be inserted at any point on the cable conduit. The lower part of the Mounting Box can be folded back and even removed so that cables can be connected quickly. The feed openings are designed to accommodate cables up to 14 mm in diameter.

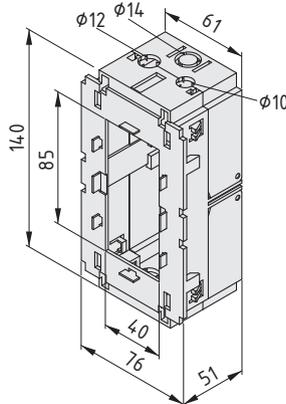
The Mounting Boxes have been designed to support the speedy installation of Sockets, Switches and connections based on the Modul 45 (M45) system.

Simply choose the right size for connecting one, two or three devices in one box.



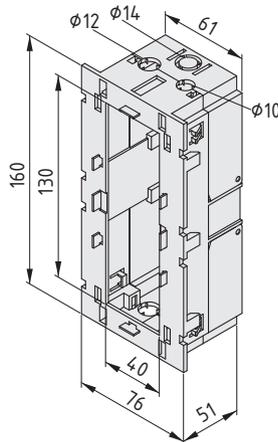
Mounting Box K76 M45 1 Gang

PA	
m = 53.0 g	
grey, 1 pce.	0.0.663.53



Mounting Box K76 M45 2 Gang

PA	
m = 92.0 g	
grey, 1 pce.	0.0.663.53



Mounting Box K76 M45 3 Gang

PA	
m = 103.0 g	
grey, 1 pce.	0.0.663.54



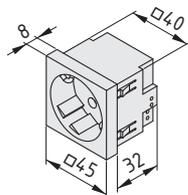
Sockets 33° M45

- Protective contact sockets with offset contact arrangement

The earthed Socket with enhanced shock protection is mounted on the item installation profiles using Mounting Box K76 M45. The 2-pole connection is designed for standard conditions (16 A and 250 V alternating current). The contact arrangement is offset by 33 degrees.

The front-locking Schuko (protective earth) flush-mounted socket features connection terminals to IEC 60884-1. The Sockets should be covered with a suitable Face Plate.

The modules come with one, two or three sockets and are available in various colours.

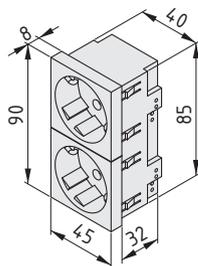


Socket 33° M45 1 Gang

PC

m = 36.0 g

white, similar to RAL 9010, 1 pce.	0.0.663.56
black grey, similar to RAL 7021, 1 pce.	0.0.663.57
signal red similar to RAL 3001, 1 pce.	0.0.663.58

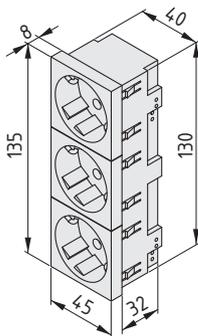


Socket 33° M45 2 Gang

PC

m = 73.6 g

white, similar to RAL 9010, 1 pce.	0.0.663.60
black grey, similar to RAL 7021, 1 pce.	0.0.663.61



Socket 33° M45 3 Gang

PC

m = 109.0 g

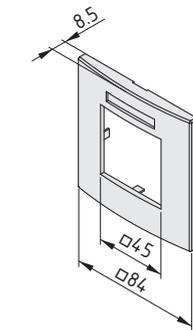
white, similar to RAL 9010, 1 pce.	0.0.663.64
black grey, similar to RAL 7021, 1 pce.	0.0.663.65

Face Plate M45 with Labelling Panel

- Face Plate for vertical and horizontal labelling
- Simple labelling thanks to special panel

The perfect cover for Sockets, Switches and connection points. The front-locking Face Plate fits over Mounting Boxes K76 M45. The integrated labelling panel makes service work easier.

The Face Plates can be supplied in two colours and for vertical and horizontal installation. It is important to select the correct size for your Mounting Boxes – one, two or three gang.



Face Plate M45 1 Gang with Labelling Panel

PC

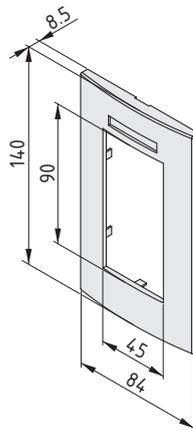
m = 17.0 g

white, similar to RAL 9010, 1 pce.

0.0.663.68

black grey, similar to RAL 7021, 1 pce.

0.0.663.69



Face Plate M45 2 Gang with Labelling Panel

PC

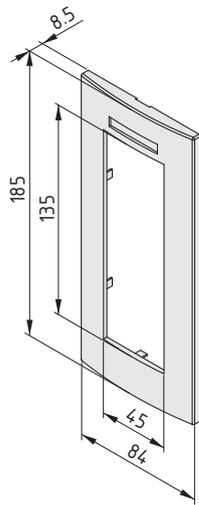
m = 25.0 g

white, similar to RAL 9010, 1 pce.

0.0.663.71

black grey, similar to RAL 7021, 1 pce.

0.0.663.72



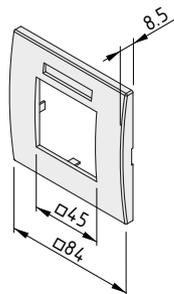
Face Plate M45 3 Gang with Labelling Panel

PC

m = 30.0 g

white, similar to RAL 9010, 1 pce. 0.0.663.74

black grey, similar to RAL 7021, 1 pce. 0.0.663.75



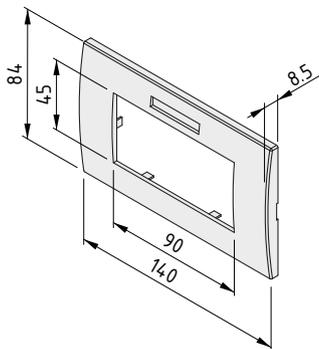
Face Plate M45 1 Gang with Labelling Panel, Horizontal

PC

m = 17.0 g

white, similar to RAL 9010, 1 pce. 0.0.675.75

black grey, similar to RAL 7021, 1 pce. 0.0.675.76



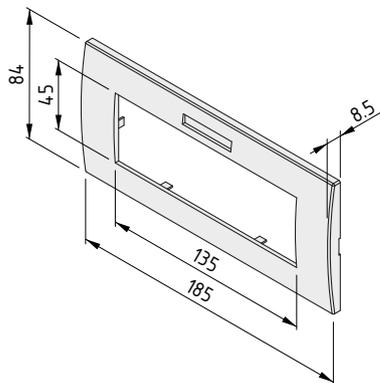
Face Plate M45 2 Gang with Labelling Panel, Horizontal

PC

m = 24.0 g

white, similar to RAL 9010, 1 pce. 0.0.675.77

black grey, similar to RAL 7021, 1 pce. 0.0.675.78



Face Plate M45 3 Gang with Labelling Panel, Horizontal

PC

m = 29.0 g

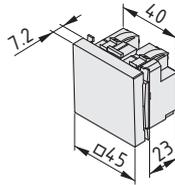
white, similar to RAL 9010, 1 pce. 0.0.675.79

black grey, similar to RAL 7021, 1 pce. 0.0.675.80



ON/OFF Switch

- 2-pole changeover Switch
- For Mounting Boxes based on the Modul 45 system
- Designed for 16A/250V alternating current



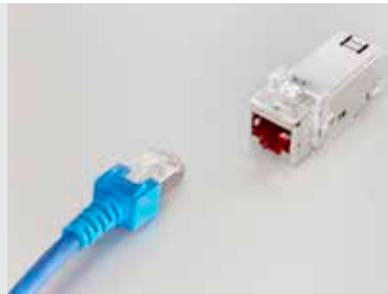
ON/OFF Switch, 2-Pole M45 16A/250V	
PC	
m = 35.0 g	
white, similar to RAL 9010, 1 pce.	0.0.663.83
black grey, similar to RAL 7021, 1 pce.	0.0.663.84



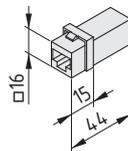
Keystone Module Keystone Module Housing

- Integrated EMC protection
- Suitable for Cat. 6a gigabit Ethernet

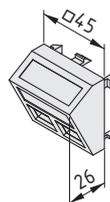
The Keystone Module Housing with angled outlet can accommodate two RJ45 connectors. Sliding covers keep dust out of the sockets when not in use. The Keystone Module Housing is mounted on the item installation profiles using a Mounting Box K76 M45. The clip-in fastening ensures that sockets can be fitted horizontally and vertically plumb.



The connection module with an RJ45 connector for networks complies with Cat. 6A. This ensures optimum shielding against interference from other devices. An EMC shield hood is included as standard to enhance electro-magnetic compatibility. The module with keystone fastening frame comes with a dust cover and cable tie.



Keystone Module RJ45 Cat. 6A	
Cat. 6A connection module (ISO), shielded	
EMC shield hood	
Dust cover	
Cable tie	
Fastening frame for connection module	
Installation guide	
m = 16.0 g	
1 set	0.0.663.79



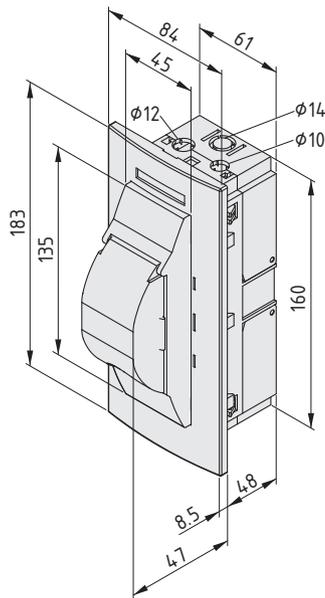
Keystone Module Housing RJ45 M45	
PC	
m = 16.3 g	
white, similar to RAL 9010, 1 pce.	0.0.663.80
black grey, similar to RAL 7021, 1 pce.	0.0.663.81



Installation Unit M45 2 HP

- For fuses and RCD protection switches
- Complete installation frame with cover

The Installation Unit accommodates automatic circuit-breakers or RCD protection switches up to a maximum of 2 HP. Accessories and all necessary fastening elements are supplied, such as Mounting Box K76 M45, which is used to attach the unit to the item installation profiles. A mounting rail, cover housing and Face Plate are also included in the set. Only the required protective device needs to be added.



Installation Unit M45 2 HP with Mounting Rail

Cover housing M45 2 HP, PC
 Mounting rail for 2 HP, PVC
 Face Plate M45 3 Gang, PC
 Mounting Box K76 M45 3 Gang, PA
 m = 39.0 g

1 set

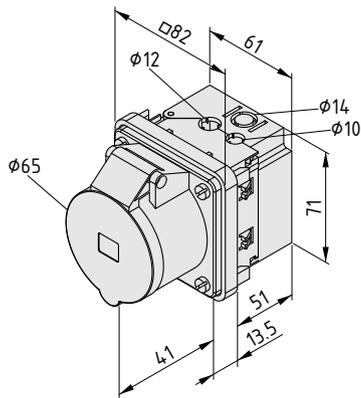
0.0.663.78



CEE Socket

- Socket for three-phase current up to 16A/400V

The CEE three-phase current socket is supplied with all the accessories needed to fit it to the item installation profiles. The CEE socket is designed for 400 V and 16 A.



CEE Socket K76 16A/400V

CEE Socket 16A/400V, PA
 Adapter plate for CEE Socket, PA
 Seal, NBR
 Mounting Box K76 1 Gang, PA
 Fastening elements
 m = 245.0 g

1 set

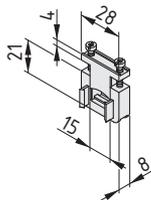
0.0.663.77



Strain Relief Device, Mounting Box K76

- Reduces tensile loading for cables and Mounting Boxes

The Strain Relief device offers additional support for cables and connections in all Mounting Boxes. It is simply clipped into place over the 14 mm diameter cable feed opening.



Strain Relief Device, Mounting Box K76

Strain Relief Device – clip, PA
 Strain Relief Device – clamp, PA
 Fastening elements, St
 m = 6.0 g

grey, 1 set

0.0.663.55

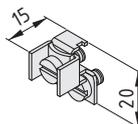


Earth Connection, Installation Column Profile

- Efficient protective conductor
- Simply screw into place

14

When malfunctions occur, metallic parts can become live. The Earth Connection should therefore be used on item installation profiles to ensure that any current is safely dissipated. It is inserted in the track to the side of the central groove in the cable conduit. The screw connection breaks through the insulating anodized surface covering of the aluminium profile to ensure that residual currents and static charges can be safely dissipated.



Earth Connection, Installation Column Profile

St
 Clamping area: 2 x 1.5 - 4 mm²
 m = 6.0 g

bright zinc-plated, 1 pce.

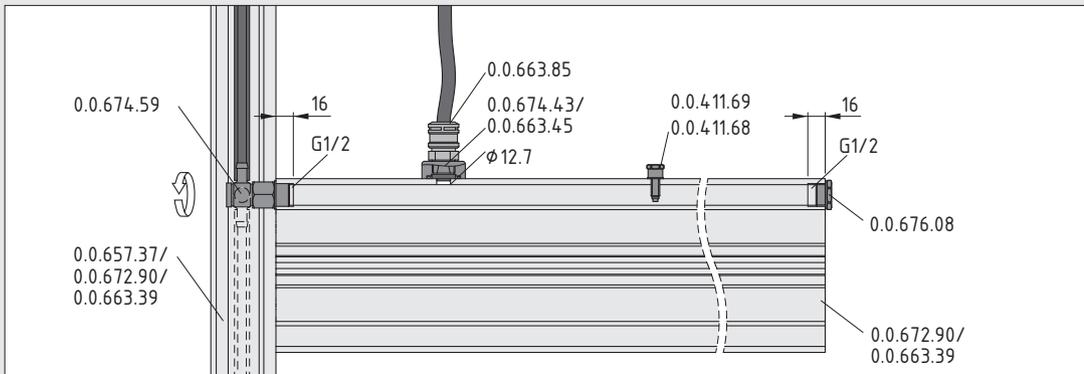
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Pneumatic components

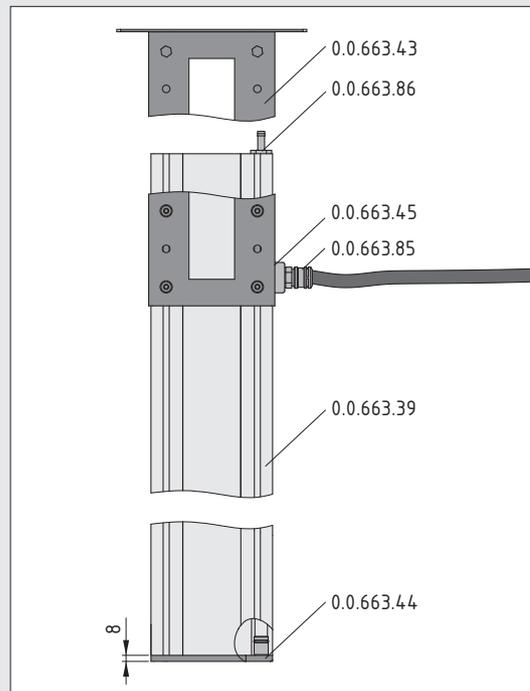
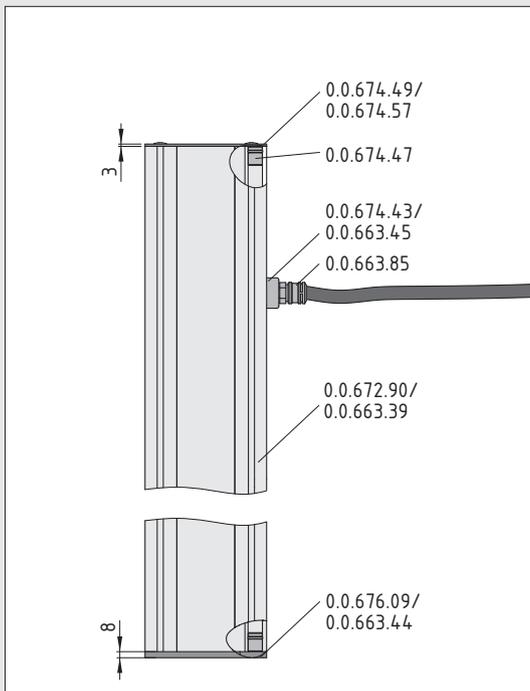
- For integrated compressed air conduits
- Compatible with Installation Column Profile and Installation Profile
- Numerous accessories available

The easy way to use pneumatic applications with the item installation profiles! The Pneumatic Connecting Sets are used to create air connections. They can be fitted to any point along the edge of the profile, once a through-hole has been drilled to the integral compressed-air conduit. The drill template is included in the scope of supply. The through-hole is predrilled with a 10.0 mm drill and then widened to 12.7 mm.

Note: Accessories such as Sealing Plugs and the Screw Plug can be used on both the Installation Profile and the Installation Column Profile.



Example showing a horizontal Installation Profile fitted with various pneumatic components.



Example of a free-standing installation profile with Caps screwed into place and various pneumatic components such as Sealing Plugs.
Note: All conduits must be depressurised before Caps are loosened.

Example of a vertical Installation Column Profile 8 160x160 K76 with Ceiling Mount and various pneumatic components such as Threaded Nozzle G1/2 for connecting to central compressed-air conduits.



Pneumatic Connecting Sets 8 G1/2 Vent Coupling G1/2 ND 7.2

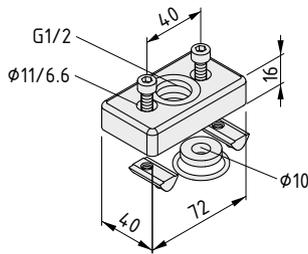
- G 1/2" threaded bore
- Can be fitted at any height



Working under pressure – not a problem with the item installation profiles and Pneumatic Connecting Sets 8 G1/2. The G1/2" threaded bore to ISO 228-1 accommodates standard compressed air couplings. The connecting plate is fitted to the side of the Installation Column Profile, at any height. A hole also has to be drilled through to the integrated compressed air duct in the Installation Column Profile. The corresponding drill template is included in the scope of supply.



Vent Coupling G1/2 is used to connect devices. It is screwed to the Connecting Set to create a standard connection for tools, etc.



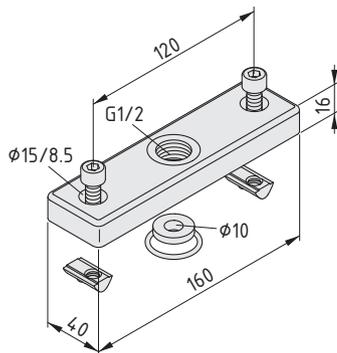
Pneumatic Connecting Set 8 80x40 G1/2



Pneumatic connecting plate 8 80x40 G1/2, Al, white aluminium similar to RAL 9006
 O-ring 25x2.5, NBR, black
 2 Hexagon Socket Head Cap Screws DIN 912-M6x20, St, bright zinc-plated
 2 T-Slot Nuts V 8 St M6, bright zinc-plated
 Drill template
 Notes on Use and Installation
 m = 141.0 g

1 set

0.0.674.43



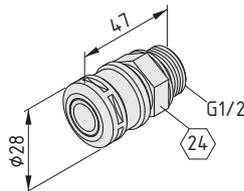
Pneumatic Connecting Set 8 160x40 G1/2



Pneumatic connecting plate 8, Al, white aluminium similar to RAL 9006
 O-ring 25x2.5, NBR, black
 Hexagon Socket Head Cap Screw DIN 912-M8x18, St, bright zinc-plated
 T-Slot Nut V 8 St M8, bright zinc-plated
 Drill template
 Notes on Use and Installation
 m = 283.0 g

1 set

0.0.663.45



Vent Coupling G1/2 ND 7.2

Vent Coupling G1/2 ND 7.2, CuZn, nickel-plated
 Flat gasket DIN 7603-A 21x26, Al
 m = 160.0 g

1 set

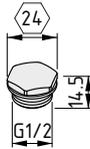
0.0.663.85



Screw Plug with Shoulder G1/2

- Durable seal for compressed air conduits

Screw Plug with Shoulder G1/2 can be used to reliably close and seal the compressed-air conduit.



Screw Plug with Shoulder G1/2

Screw Plug with Shoulder G1/2, CuZn, nickel-plated
Flat gasket DIN 7603-A 21x26, Al
m = 29.0 g

1 set

0.0.676.08

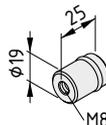


Sealing Plug D19

- Seals compressed air conduits without any machining
- Used in combination with Cap

Sealing Plug D19 creates an airtight seal in a compressed air conduit in Installation Profile 8 160x80 K76 and Installation Column Profile 8 160x160 K76. To ensure it can't be forced out, Caps 8 160x80 or Caps 8 160x160 must be screwed into place. The Sealing Plugs are not connected to the Caps, which prevents leakage when the Installation Profiles are subjected to transverse loads.

Caps St



Sealing Plug D19

Sealing Plug D19, Al
O-ring DIN 3771 15x2.5, NBR, black
m = 16.0 g

1 set

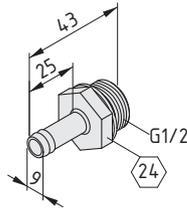
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Threaded Nozzle G1/2 for Hose 9 mm

- Connection for compressed air hose
- Tight connection

The Threaded Nozzle creates a tight connection between a central compressed-air line and the integrated compressed air duct of the item installation profiles. In order to make this connection, it is necessary to tap a G 1/2" hole in the installation profiles.



Threaded Nozzle G1/2 for Hose 9 mm

Threaded Nozzle G1/2, CuZn, nickel-plated
 Flat gasket DIN 7603-A 21x26, Al
 m = 58.0 g

1 set	0.0.663.86
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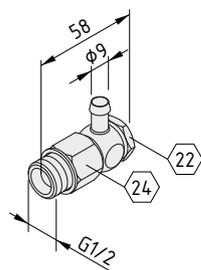


Banjo Connector G1/2 for Hose 9 mm

- Right-angled connection direct at the compressed air conduit
- Stepless rotation through 360°

14

If space for a compressed air connection is limited, such as when using the Installation Profile as part of a work bench, Banjo Connector G1/2 for 9 mm hoses offers a swivelling right-angled connection. When using this device, the compressed air supply can be swivelled 360° steplessly.



Banjo Connector G1/2 for Hose 9 mm

Banjo Connector G3/8, CuZn, nickel-plated
 Reducing nipple G1/2 G3/8, CuZn, nickel-plated
 Gasket DIN 7603-A 21x26, Al
 m = 147.0 g

1 set	0.0.674.59
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LINEAR SLIDES

15

Roller guides

T-slot slider

Linear Guide Systems

C-Rail systems

Ball-Bearing Guide Bushes

Ball-bush block guides

Shafts

Accessories for linear guides

Application example – linear systems
Linear slides, drives and accessories





1 Stable frame

- Made-to-measure construction using various profile lines
- Easily extended thanks to use of universal profile grooves

27

Section 1

6 Rack drive

- Excellent rigidity by incorporating rack in profile groove
- Linear slides with integrated sprocket
- Particularly suitable for vertical movement

614

Section 16

2 Linear Units

- Customised solutions comprising guide, drive and slide
- Suitable for custom combination
- Also available as ready-to-install turnkey systems

545

Section 16

7 Customised slides

- Can be extended as required thanks to use of universal profile grooves
- Wide selection of Bearing Units
- Variable dimensions for large support widths

551

Section 15

3 Synchroniser Shafts

- For connecting linear drives
- Torsionally rigid design

630

Section 16

8 Drive elements

- Systems for various types of application
- Modular building kit system with wide range of combination options

593

Section 16

4 Couplings

- For connecting virtually any motor to a linear drive
- For connecting Synchroniser Shafts
- For evening out angle errors

623

Section 16

9 Timing-belt drive

- High travelling speed
- Suitable for long stretches
- Maintenance-free with low wear

596

Section 16

5 Linear slides

- Shafts directly on the profile for high rigidity or rails for high load-carrying capacity
- With roller guides, Linear Guide Units, Ball-Bearing Guide Bushes or a criss-crossed roller guide

544

Section 15

10 C-Rail Guide

- Easy-running and compact
- Ideal for lifting and sliding doors
- Can also be automated with a drive

568

Section 15

15

Key:  See page

 Products in this section

 Products in other sections

Linear slides
Products in this section



Shaft Clamp Profiles

- For fastening the Shafts for Linear Units to standard profile grooves
- Easy to install thanks to clip-in technology

550



Bearing Units

- Easy-running and strong rollers
- Suitable for any size of slide thanks to modular design

551



End Cap and Lubricating Systems

- Automatic lubrication for Bearing Units
- Oil reservoir for low-maintenance operation

555



Rollers

- For building customised Bearing Units
- Compatible Roller Profiles available

556



T-slot slider

- Sliding shoe uses a Line 8 groove as a guide
- Lubricant-free and low-maintenance

560



Linear Guide Unit 8 D14

- Particularly rigid and strong
- Particularly compact shaft guide

566



C-Rail, Bearing Units

- Secure roller guides for lifting and sliding doors
- Fully preassembled guides

570



Bearing Carriage

- Runs on easily alignable guide rails
- High carrying capacity thanks to full complement of balls

577



Linear Guide Rail

- Stable compact guide
- Fastening to the profile groove

578



Ball-Bearing Guide Bush Sets

- Turnkey system up to 2,000 mm long
- One-piece slides or parallel slides

581



Ball-bush block guides

- Customisable thanks to modular design of blocks
- Special block profiles for different heights

585



Shafts

- Hardened and polished guiding shafts
- Extremely versatile

588



Limit Stop

- Slide stop integrated into the profile groove
- Suitable for positioning anywhere along the groove

590



Slide Clamp 8 heavy-duty

- Hold slides in place
- Large clamping area for high holding force

591

Overview – the quickest route to the ideal linear slide

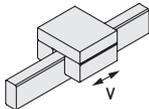
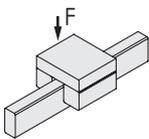
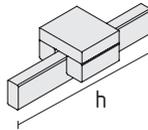
Five different linear slides are available to enable rapid and precise slide movements. Their modular design means they can be configured to create customised solutions in terms of stroke length, speed, drive and construction.

Four **guide variants** are available for various applications and loads:

- Innovative Shaft-Clamp Profiles from item can be used to fasten hardened steel shafts directly to the profile groove, which results in high rigidity and load-carrying capacity, even over long stretches.
- Sliders can move low loads, using the groove of a Line 8 profile as a guiding element.
- Ball bushes can be used to create particularly light lifting guides on unsupported shafts.
- In the case of particularly high requirements in terms of load-carrying capacity and rigidity, steel profile rails are used. A stable recirculating ball-bearing guide ensures smooth running even when carrying heavy loads.

Shafts anchored in the profile can be used with three different **bearing systems**:

- Roller guides are extremely easy to install, move easily and offer a broad range of construction sizes for a variety of purposes.
- Linear Guide Units deliver exceptional rigidity and load-carrying capacity in compact dimensions.
- The ideal linear guide for automated lifting and sliding doors are C-Rails, which ensure precise motion with low tolerances.

Linear slides – a comparison	Speed	Load-carrying capacity	Stroke length (max.)
			
Roller guide – variable and modular  546	10 m/s	400 - 7,600 N	Unlimited (shafts can be butt-joined)
T-slot slider – space saving and low maintenance  560	1 m/s	150 N	3860 mm
Linear Guide Unit – for maximum load-carrying capacity  566	3 m/s	2,300 N	6,000 mm
C-Rail System – for suspended loads  568	10 m/s	50 - 750 N	Unlimited (shafts can be butt-joined)
Linear guide system – for high loads  576	5 m/s	1,000 - 2,500 N	3,800 mm
Ball-Bearing Guide Bush – simple and complete  580	2 m/s	500 - 1,500 N	2,000 mm



Note:

Custom Linear Units can be ordered from item as ready-to-install turnkey systems. Standard components are configured and assembled as per customer specifications. Further information on the time and cost-saving item automation solutions is available online at item24.de/en

The “Mechanical drive elements” section contains Drives for building your own Linear Units.

Roller Guides



Roller Guide 5 D6 as a compound slide



Roller Guide 8 D6



Roller Guide 8 D14



Two Roller Guides on one Profile



Roller Guide 8 D25



Roller guide unit with Double-Bearing Unit



The Roller Guides can be extended to any length

Service

The modular roller guides are easy to assemble and offer high load-carrying capacity, virtually any stroke length and high travelling speed. The low friction and generous dimensions contribute to the long service life. Roller guides consist of a slide and guide profile.

The slides are of modular design constructed from Bearing Units with ball-bearing mounted, prismatic rollers from ball-bearing steel, End Cap and Lubricating Systems, and a carriage plate from a construction profile.

The roller guides are mounted on Line 5 or 8 Profiles using Shaft-Clamp Profiles, which are simply and cost-effectively clipped or screwed (Roller Guides D25) into the profile grooves. The hardened and polished steel shafts are then pressed into the Shaft-Clamp Profiles along the entire length of the guide. By selecting appropriate lengths and offset section joints for the supporting profile,

the Shaft-Clamp Profile and the shaft, it is possible to construct virtually any length of roller guide. Shaft-Clamp Profiles must not be used on profile grooves of types "light" and "E", because sufficient clamping will not be achieved.

The various available diameters of the guiding shafts together with suitable dimensioning of the supporting profile mean that a wide variety of permissible loads can be accommodated.

In addition, any number of Bearing Units can be used and, if necessary, they can be adjusted free from play by means of eccentric bolts.

The Bearing Units offer a range of fastening options via Line 5 or 8 grooves, which makes it far easier to mount or align them on profiles and carriage plates.

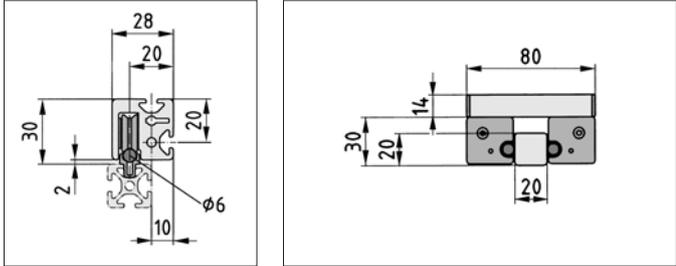


Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.

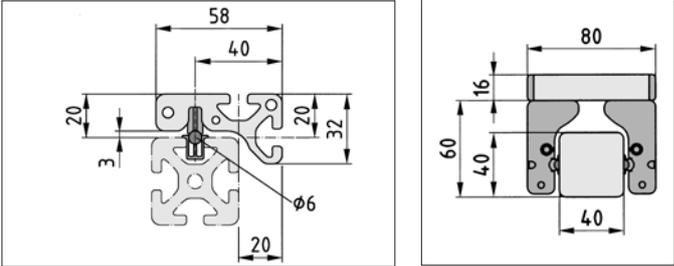
Guide Alternatives

5 D6



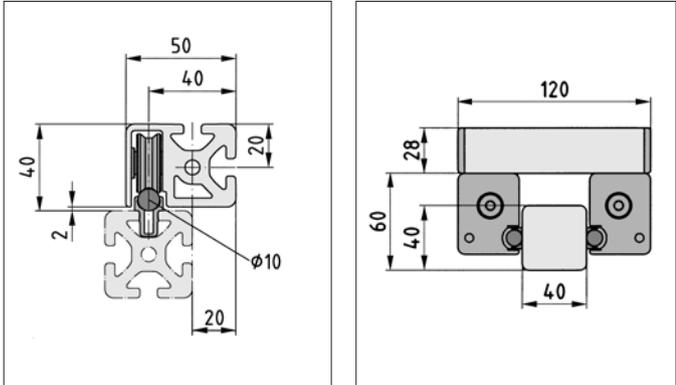
Basic construction of Profiles 5 with Roller Guide 5 on Shaft D6.

8 D6



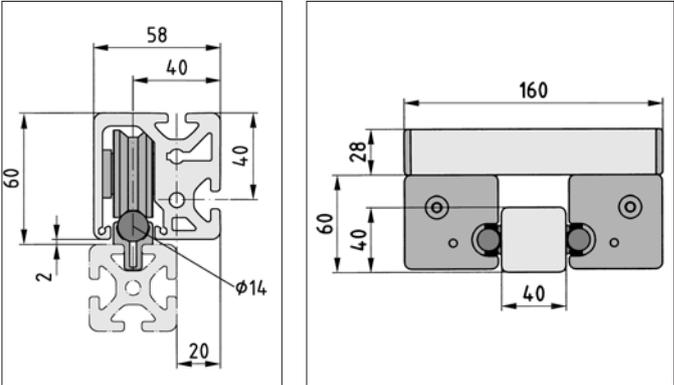
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D6.

8 D10



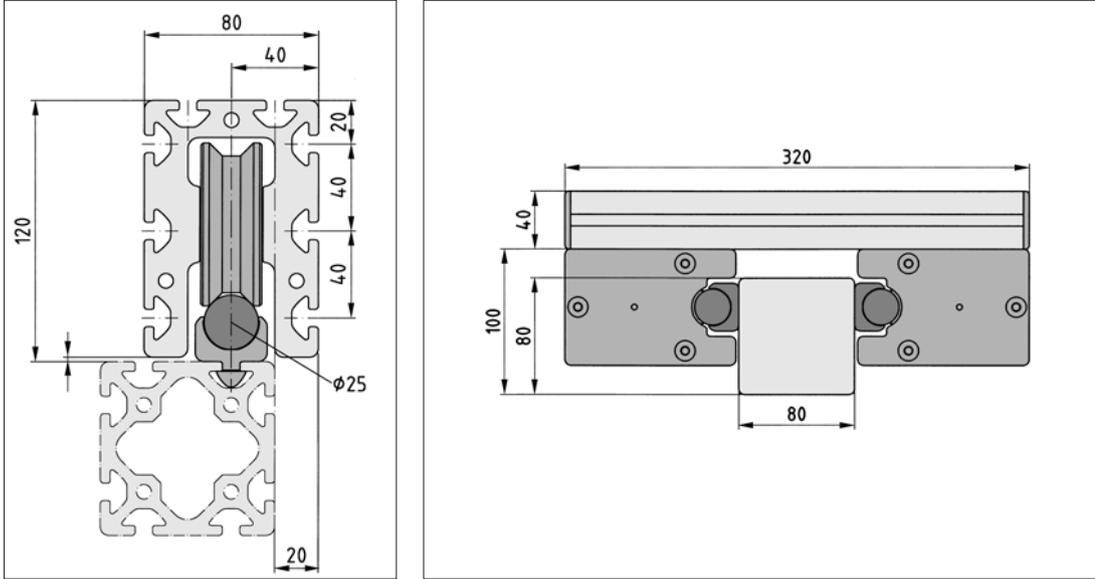
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D10.

8 D14



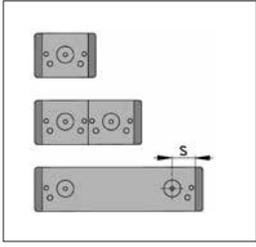
Basic construction of Profiles 8 with Roller Guide 8 on Shaft D14.

8 D25



Basic construction of Profiles 8 with Roller Guide 8 on Shaft D25.

Minimum Stroke Lengths



Possible arrangement of the End Cap and Lubricating Systems which are required in every instance.
The spring-loaded end cap and lubricating felt can be re-lubricated via the hole provided. Recommended re-lubricating cycle: every six months.
In order to ensure adequate lubrication, the minimum stroke lengths required for the slides must be observed.

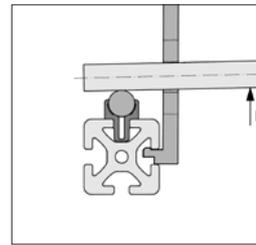
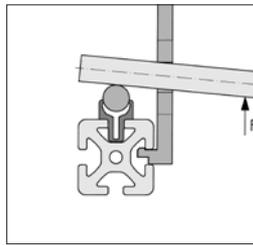
	5 D6	8 D6	8 D10	8 D14	8 D25
Bearing Unit	28 mm	60 mm	60 mm	60 mm	120 mm
Double-Bearing Unit	68 mm	80 mm	140 mm	140 mm	300 mm
Special Bearing Unit	s + 50 mm	s + 50 mm	s + 85 mm	s + 120 mm	s + 235 mm
s = distance between centre of Roller and felt in mm					

Frictional Forces

Frictional losses must be taken into consideration when designing drive units.
The quoted values refer to slides, each with 4 Rollers and 4 End Cap and Lubrication Systems.

Roller Guides 5 D6 and 8 D6	Roller Guide 8 D10	Roller Guide 8 D14	Roller Guide 8 D25 and 12 D25
$F_R = 5 \text{ N}$	$F_R = 10 \text{ N}$	$F_R = 15 \text{ N}$	$F_R = 25 \text{ N}$

Assembly of Guiding Shafts

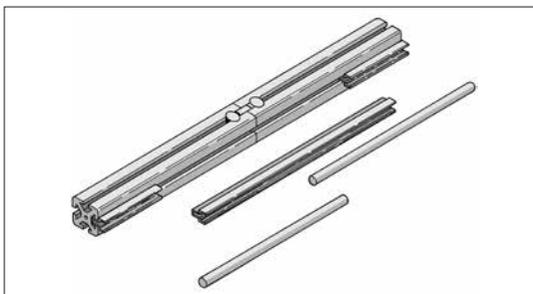


Follow the steps below to assemble Guiding Shafts:

1. In order to prepare Shafts D10, D14 or D25 for pinning, drill blind holes into the Shaft and Shaft-Clamp Profile (for further details, see under Shaft Clamp Profiles).
2. Clean the Shaft-Clamp Profiles and the groove in the supporting profile.

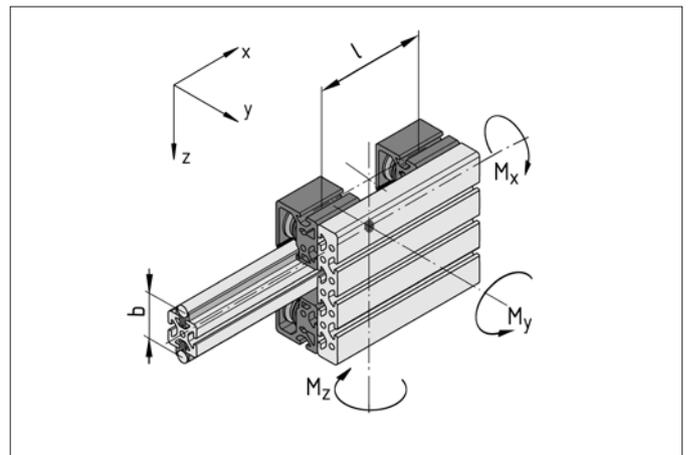
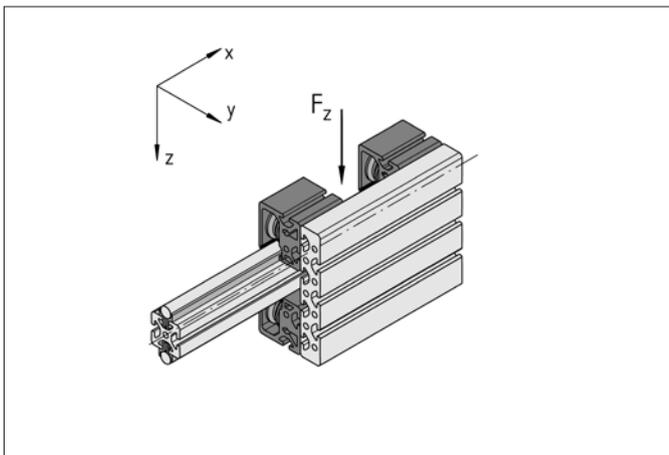
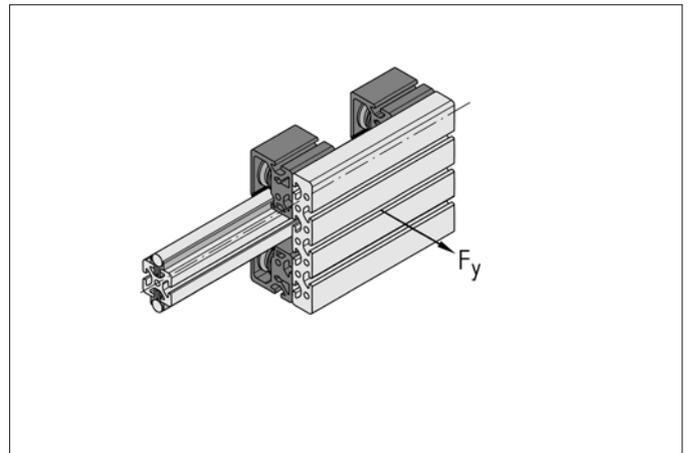
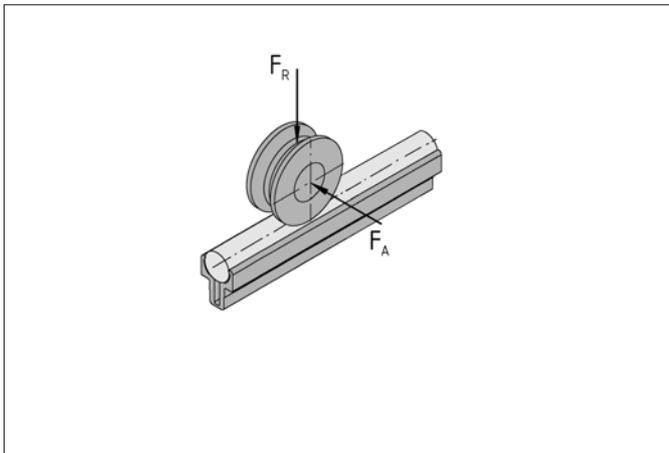
3. Grease the contact faces of the Shaft-Clamp Profiles, supporting profile and guiding shafts with roller bearing grease.
4. Press in the Shaft-Clamp Profiles as far as they will go.
5. Press in the guiding shafts using the mounting aid.

15



Note: Where Roller Guides are longer than 3 m, the Shafts, the Shaft-Clamp Profile and the supporting profile should be assembled with joints offset to each other.

Load Specifications



	5 D6 / 8 D6	8 D10	8 D14	8 D25
F_A	80 N	220 N	400 N	1300 N
F_R	200 N	650 N	1200 N	3800 N
F_y	320 N	880 N	1600 N	5200 N
F_z	400 N	1300 N	2400 N	7600 N
M_x	160 N × b	440 N × b	800 N × b	2600 N × b
M_y	200 N × l	650 N × l	1200 N × l	3800 N × l
M_z	160 N × l	440 N × l	800 N × l	2600 N × l

Performance at max. load: 10,000 km
 Max. speed: 10 m/s

Lengths b and l quoted in m

When using stainless steel shafts and rollers, the permissible loading values must be reduced by 25%!



Shaft-Clamp Profiles

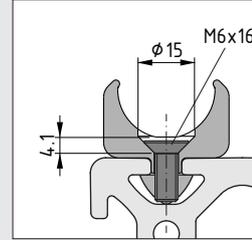
For using standard profiles as a basis for linear slides

- For fastening the Shafts for Linear Units to standard profiles
- Easy to install thanks to clip-in technology

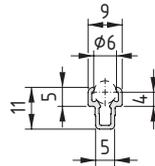


These profiles connect Shafts D6, D10, D14 and D25 with the profile grooves of the corresponding lines.
First the Shaft-Clamp Profile is pressed into the profile groove then the Shaft is pressed into the Shaft-Clamp Profile.
Shafts D10, D14 and D25 must be fixed in position at a chosen location using a dowel DIN 6325, one per length of shaft.

Shafts 588



Shaft-Clamp Profile 8 D25 must be fixed to the profile groove with the appropriate number of Countersunk Screws DIN 7991 - M6x16 and T-Slot Nuts 8 M6. The Shaft-Clamp Profiles D25 are provided with mounting holes (200 mm apart).



Shaft-Clamp Profile 5 D6

Al, anodized

A [cm²] m [kg/m]

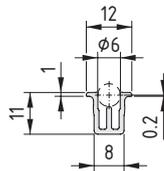
0.38 0.10

natural, cut-off max. 3000 mm

0.0.390.02

natural, 1 pce., length 3000 mm

0.0.448.23



Shaft-Clamp Profile 8 D6

Al, anodized

A [cm²] m [kg/m]

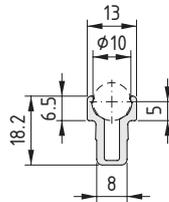
0.46 0.12

natural, cut-off max. 3000 mm

0.0.356.02

natural, 1 pce., length 3000 mm

0.0.453.67



Shaft-Clamp Profile 8 D10

Al, anodized

A [cm²] m [kg/m]

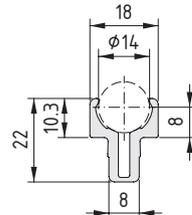
0.81 0.22

natural, cut-off max. 3000 mm

0.0.442.03

natural, 1 pce., length 3000 mm

0.0.452.23



Shaft-Clamp Profile 8 D14

Al, anodized

A [cm²] m [kg/m]

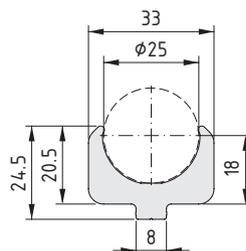
1.36 0.36

natural, cut-off max. 3000 mm

0.0.294.34

natural, 1 pce., length 3000 mm

0.0.453.68



Shaft-Clamp Profile 8 D25

Al, anodized

A [cm²] m [kg/m]

3.74 1.01

natural, cut-off max. 3000 mm

0.0.350.02

natural, 1 pce., length 3000 mm

0.0.453.69



Bearing Units

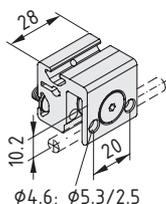
- Wide range of models for all load requirements
- Easy-running and strong rollers
- Suitable for any size of slide thanks to modular design



Bearing Units are connected together by a carriage plate to form a sliding carriage.
 Bearing Units e (eccentric) and c (centric) differ in terms of the geometry of their bolts.

The eccentric bolts can be readjusted to eliminate play in the guide unit. Bearing Units should therefore always be used in pairs comprising one centric and one eccentric version.

The Bearing Units must always be equipped with End Cap and Lubricating Systems in order to prevent premature wear.

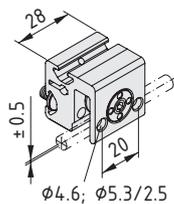


Bearing Unit 5 D6 c



- Al, anodized, natural
- Bolt 5 D6 c
- Roller D6
- 2 Button-Head Screws ISO 7380-M5x8, St, bright zinc-pl.
- 2 washers DIN 125-5.3, St, bright zinc-plated
- Notes on Use and Installation

M _{bolt} [Nm]	C [N]	C ₀ [N]	m [g]
3	1,620	780	47.0
1 pce.			0.0.390.15

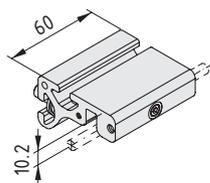


Bearing Unit 5 D6 e



- Al, anodized, natural
- Bolt 5 D6 e
- Roller D6
- 2 Button-Head Screws ISO 7380-M5x8, St, bright zinc-pl.
- 2 washers DIN 125-5.3, St, bright zinc-plated
- Notes on Use and Installation

M _{lock nut} [Nm]	C [N]	C ₀ [N]	m [g]
3	1,620	780	47.0
1 pce.			0.0.390.16

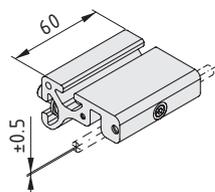


Bearing Unit 8 D6 c



- Al, anodized, natural
- Bolt 8 D6 c
- Roller D6
- 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
- 2 washers DIN 125-8.4, St, bright zinc-plated
- Notes on Use and Installation

M _{grub screw} [Nm]	C [N]	C ₀ [N]	m [g]
3	1,620	780	146.0
1 pce.			0.0.356.30

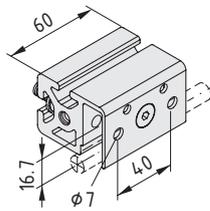


Bearing Unit 8 D6 e



- Al, anodized, natural
- Bolt 8 D6 e
- Roller D6
- 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
- 2 washers DIN 125-8.4, St, bright zinc-plated
- Notes on Use and Installation

M _{grub screw} [Nm]	C [N]	C ₀ [N]	m [g]
3	1,620	780	146.0
1 pce.			0.0.356.31

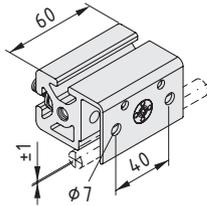


Bearing Unit 8 D10 c



Al, anodized, natural
 Bolt 8 D10 c
 Roller D10
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{bolt} [Nm]	C [N]	C ₀ [N]	m [g]
6	4,400	2,470	210.0
1 pce.			0.0.442.10

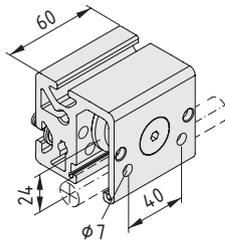


Bearing Unit 8 D10 e



Al, anodized, natural
 Bolt 8 D10 e
 Roller D10
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{lock nut} [Nm]	C [N]	C ₀ [N]	m [g]
6	4,400	2,470	210.0
1 pce.			0.0.442.09

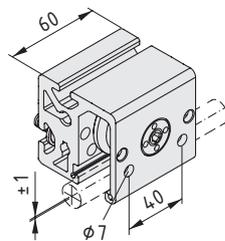


Bearing Unit 8 D14 c



Al, anodized, natural
 Bolt 8 D14 c
 Roller D14
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{bolt} [Nm]	C [N]	C ₀ [N]	m [g]
20	7,800	4,400	400.0
1 pce.			0.0.294.14

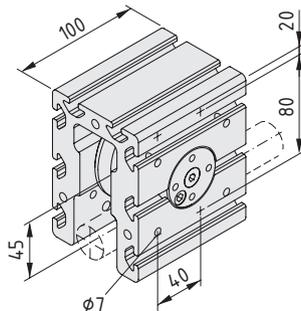


Bearing Unit 8 D14 e



Al, anodized, natural
 Bolt 8 D14 e
 Roller D14
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{lock nut} [Nm]	C [N]	C ₀ [N]	m [g]
20	7,800	4,400	400.0
1 pce.			0.0.294.15

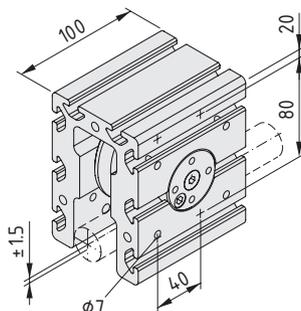


Bearing Unit 8 D25 c



Al, anodized, natural
 Bolt 8 D25 c
 Roller D25
 4 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 4 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{lock nut} [Nm]	M _{locking screw} [Nm]	C [N]	C ₀ [N]	m [kg]
100	10	25,000	15,300	2.0
1 pce.				0.0.350.12

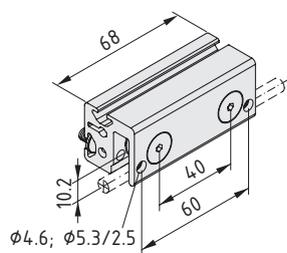


Bearing Unit 8 D25 e



Al, anodized, natural
 Bolt 8 D25 e
 Roller D25
 4 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 4 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{lock nut} [Nm]	M _{locking screw} [Nm]	C [N]	C ₀ [N]	m [kg]
100	10	25,000	15,300	2.0
1 pce.				0.0.350.11



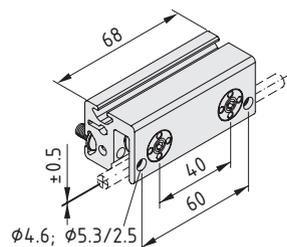
Double-Bearing Unit 5 D6 c



Al, anodized, natural
 2 Bolts 5 D6 c
 2 Rollers D6
 2 Button-Head Screws ISO 7380-M5x8, St, bright zinc-pl.
 2 washers DIN 125-5.3, St, bright zinc-plated
 Notes on Use and Installation

M _{bol} [Nm]	C [N]	C ₀ [N]	m [g]
3	3,240	1,560	110.0

1 pce. 0.0.390.17



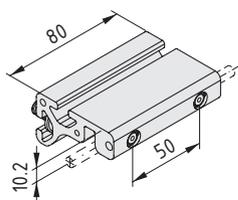
Double-Bearing Unit 5 D6 e



Al, anodized, natural
 2 Bolts 5 D6 e
 2 Rollers D6
 2 Button-Head Screws ISO 7380-M5x8, St, bright zinc-pl.
 2 washers DIN 125-5.3, St, bright zinc-plated
 Notes on Use and Installation

M _{lock nut} [Nm]	C [N]	C ₀ [N]	m [g]
3	3,240	1,560	110.0

1 pce. 0.0.390.18



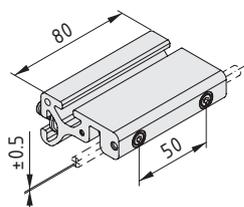
Double-Bearing Unit 8 D6 c



Al, anodized, natural
 2 Bolts 8 D6 c
 2 Rollers D6
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{grub screw} [Nm]	C [N]	C ₀ [N]	m [g]
3	3,240	1,560	200.0

1 pce. 0.0.356.32



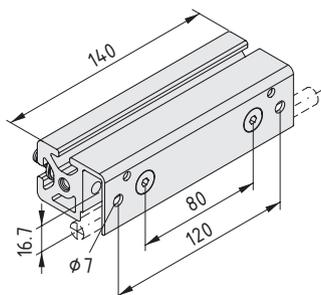
Double-Bearing Unit 8 D6 e



Al, anodized, natural
 2 Bolts 8 D6 e
 2 Rollers D6
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{grub screw} [Nm]	C [N]	C ₀ [N]	m [g]
3	3,240	1,560	200.0

1 pce. 0.0.356.33



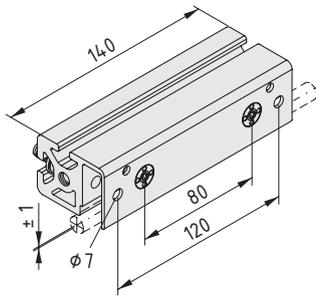
Double-Bearing Unit 8 D10 c



Al, anodized, natural
 2 Bolts 8 D10 c
 2 Rollers D10
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M _{bol} [Nm]	C [N]	C ₀ [N]	m [g]
6	8,800	4,940	450.0

1 pce. 0.0.442.15

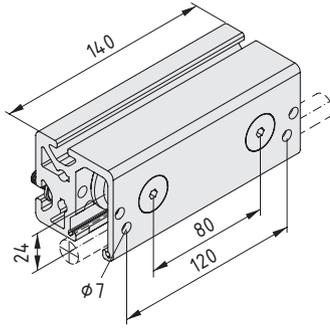


Double-Bearing Unit 8 D10 e



Al, anodized, natural
 2 Bolts 8 D10 e
 2 Rollers D10
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

$M_{lock\ nut}$ [Nm]	C [N]	C_0 [N]	m [g]
6	8,800	4,940	450.0
1 pce.			0.0.442.14

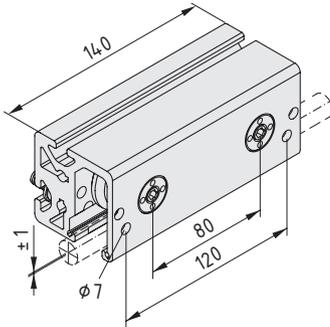


Double-Bearing Unit 8 D14 c



Al, anodized, natural
 2 Bolts 8 D14 c
 2 Rollers D14
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

M_{bolt} [Nm]	C [N]	C_0 [N]	m [g]
20	15,600	8,800	880.0
1 pce.			0.0.294.26

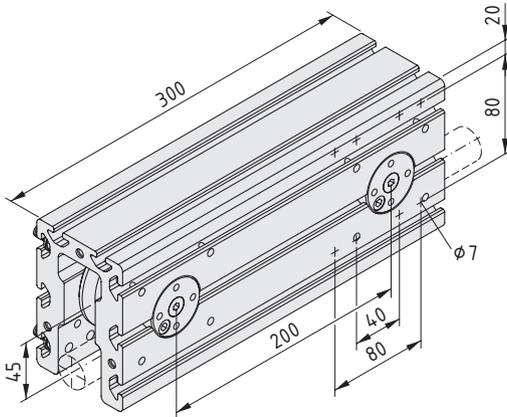


Double-Bearing Unit 8 D14 e



Al, anodized, natural
 2 Bolts 8 D14 e
 2 Rollers D14
 2 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 2 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

$M_{lock\ nut}$ [Nm]	C [N]	C_0 [N]	m [g]
20	15,600	8,800	880.0
1 pce.			0.0.294.28

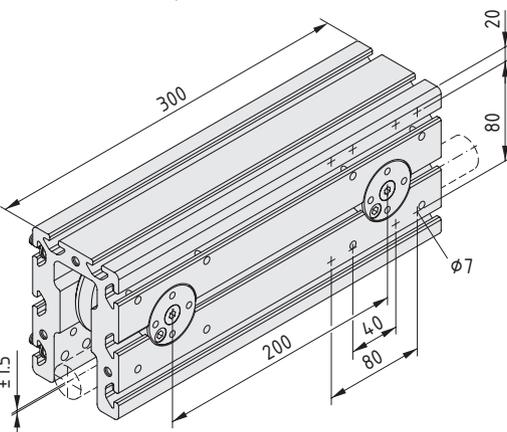


Double-Bearing Unit 8 D25 c



Al, anodized, natural
 2 Bolts 8 D25 c
 2 Rollers D25
 8 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 8 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

$M_{lock\ nut}$ [Nm]	$M_{locking\ screw}$ [Nm]	C [N]	C_0 [N]	m [kg]
100	10	50,000	30,600	5.2
1 pce.				0.0.350.19



Double-Bearing Unit 8 D25 e



Al, anodized, natural
 2 Bolts 8 D25 e
 2 Rollers D25
 8 Button-Head Screws ISO 7380-M8x16, St, bright zinc-pl.
 8 washers DIN 125-8.4, St, bright zinc-plated
 Notes on Use and Installation

$M_{lock\ nut}$ [Nm]	$M_{locking\ screw}$ [Nm]	C [N]	C_0 [N]	m [kg]
100	10	50,000	30,600	5.2
1 pce.				0.0.350.18



End Cap and Lubricating Systems

- Automatic lubrication for Bearing Units
- Clean and non-drip
- Oil reservoir for low-maintenance operation



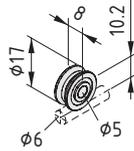
Materials used in all the following products:

PA-GF

	End Cap and Lubricating System 5 D6
	End Cap and Lubricating System 5 D6, right End Cap and Lubricating System 5 D6, left 2 Button-Head Screws ISO 7380-M5x10, St, bright zinc-pl. m = 12.0 g
	black, 1 set 0.0.390.12
	End Cap and Lubricating System 8 D6
	End Cap and Lubricating System 8 D6, right End Cap and Lubricating System 8 D6, left 2 Hexagon Socket Head Cap Screws DIN 912-M4x10, St, bright zinc-pl. m = 20.0 g
	black, 1 set 0.0.356.24
	grey, 1 set 0.0.630.14
	End Cap and Lubricating System 8 D10
	End Cap and Lubricating System 8 D10, right End Cap and Lubricating System 8 D10, left 2 Button-Head Screws ISO 7380-M8x10, St, bright zinc-pl. m = 21.0 g
	black, 1 set 0.0.442.23
	grey, 1 set 0.0.630.01
	End Cap and Lubricating System 8 D14
	End Cap and Lubricating System 8 D14, right End Cap and Lubricating System 8 D14, left 2 Button-Head Screws ISO 7380-M8x10, St, bright zinc-pl. m = 60.0 g
	black, 1 set 0.0.294.46
	grey, 1 set 0.0.630.10
	End Cap and Lubricating System 8 D25
	End Cap and Lubricating System 8 D25, right End Cap and Lubricating System 8 D25, left 6 Button-Head Screws ISO 7380-M8x10, St, bright zinc-pl. m = 170.0 g
	black, 1 set 0.0.350.13
	grey, 1 set 0.0.630.18

Rollers

- For building customised Bearing Units
- Compatible Roller Profiles available
- Maintenance-free

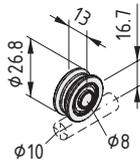


Roller D6

St, 100 Cr 6, hardened, polished
Double ball bearing, shielded, maintenance-free

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
1,620	780	10,000	8.0

1 pce. 0.0.356.03

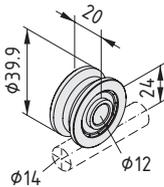


Roller D10

St, 100 Cr 6, hardened, polished
Double ball bearing, shielded, maintenance-free
Washer, St, bright zinc-plated

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
4,400	2,470	7,500	28.0

1 pce. 0.0.442.02



Roller D14

St, 100 Cr 6, hardened, polished
Double ball bearing, shielded, maintenance-free

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
7,800	4,400	5,000	100.0

1 pce. 0.0.294.03

Roller D14K

St, 100 Cr 6, hardened, polished
Double ball bearing, shielded, maintenance-free
Also corrosion-resistant and coated

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
7,800	4,400	5,000	100.0

black, 1 pce. 0.0.294.52

Roller D14, stainless

St, X 105 Cr Mo 17, hardened, polished
Double ball bearing, shielded, maintenance-free

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
6,200	3,500	5,000	100.0

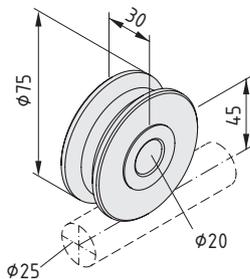
1 pce. 0.0.488.20

Roller D25

St, 100 Cr 6, hardened, polished
Double ball bearing, shielded, maintenance-free

C [N]	C ₀ [N]	n _{max} [min ⁻¹]	m [g]
25,000	15,300	2,500	590.0

1 pce. 0.0.350.03



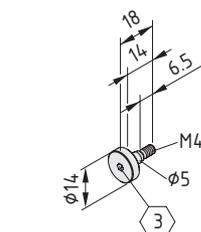
Bolts

■ For fastening Rollers to customised Bearing Units

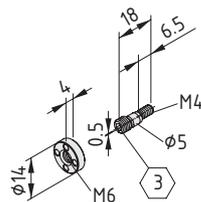


Materials used in all the following products:

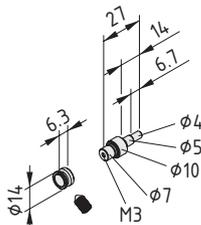
St



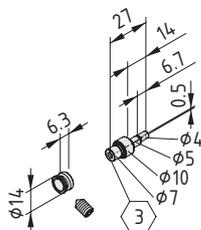
Bolt 5 D6 c		5
M [Nm]	m [g]	
3	5.0	
bright zinc-plated, 1 pce.		0.0.390.03



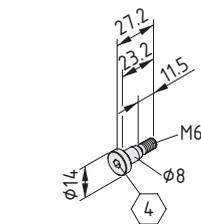
Bolt 5 D6 e		5
Bolt and lock nut		
M _{lock nut} [Nm]	m [g]	
3	5.0	
bright zinc-plated, 1 set		0.0.390.19



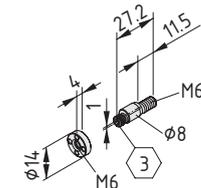
Bolt 8 D6 c		8
Bolt and locking ring Grub screw DIN 914-M6x10		
M [Nm]	m [g]	
3	6.0	
bright zinc-plated, 1 set		0.0.356.04



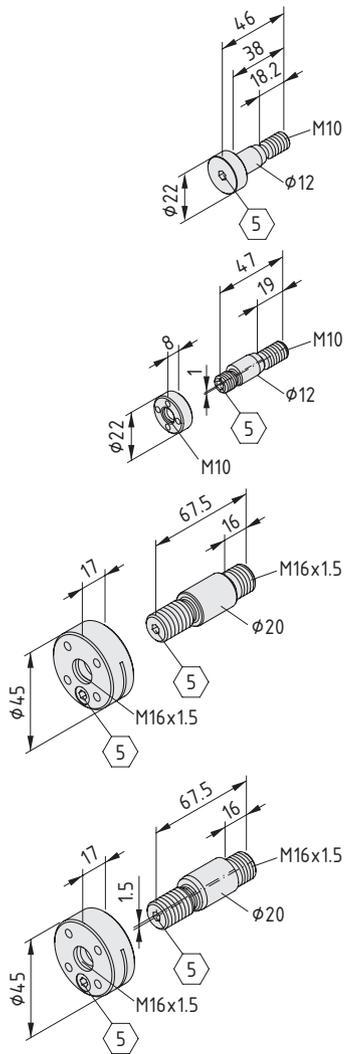
Bolt 8 D6 e		8
Bolt and locking ring Grub screw DIN 914-M6x10		
M [Nm]	m [g]	
3	6.0	
bright zinc-plated, 1 set		0.0.356.05



Bolt 8 D10 c		8
M [Nm]	m [g]	
6	12.0	
bright zinc-plated, 1 pce.		0.0.442.06



Bolt 8 D10 e		8
Bolt and lock nut		
M _{lock nut} [Nm]	m [g]	
6	10.0	
bright zinc-plated, 1 set		0.0.442.07



Bolt 8 D14 c



M [Nm]	m [g]
20	48.0
bright zinc-plated, 1 pce.	
0.0.294.10	

Bolt 8 D14 e



Bolt and lock nut	
M _{lock nut} [Nm]	m [g]
20	46.0
bright zinc-plated, 1 set	
0.0.294.12	

Bolt 8 D25 c



Bolt and lock nut		
M _{lock nut} [Nm]	M _{locking screw} [Nm]	m [g]
100	10	285.0
bright zinc-plated, 1 set		
0.0.350.04		

Bolt 8 D25 e



Bolt and lock nut		
M _{lock nut} [Nm]	M _{locking screw} [Nm]	m [g]
100	10	285.0
bright zinc-plated, 1 set		
0.0.350.05		



Roller Profiles

- For building customised Bearing Units up to 3,000 mm in length
- For use with compatible Rollers and Bolts



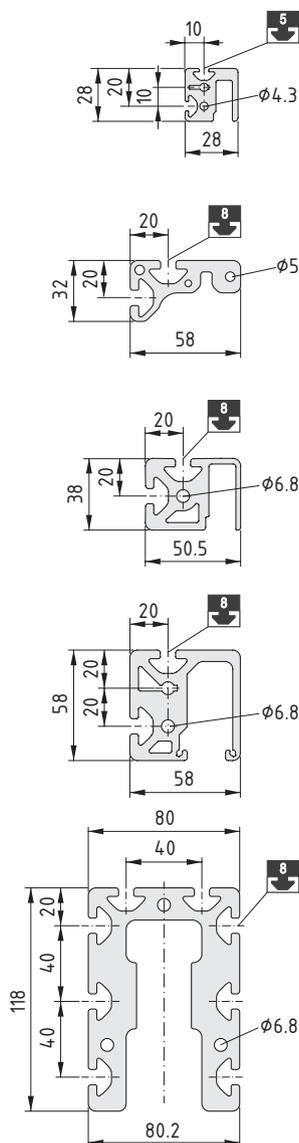
Profiles for constructing Bearing Units of any length, using the appropriate Rollers, Bolts and End Cap and Lubricating Systems.

In conjunction with the End Cap and Lubricating Systems, the Roller Profile acts as a bearing shell and safety cover, as well as providing protection against soiling. This ensures uninterrupted operation, even under adverse operating conditions.



Materials used in all the following products:

Al, anodized



Roller Profile 5 D6

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
4.30	1.16	2.99	3.06	0.82	1.98	2.05
natural, cut-off max. 3000 mm						0.0.390.01
natural, 1 pce., length 3000 mm						0.0.448.01

Roller Profile 8 D6

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
7.54	2.03	4.46	24.14	1.66	2.09	8.05
natural, cut-off max. 3000 mm						0.0.356.23
natural, 1 pce., length 3000 mm						0.0.452.31

Roller Profile 8 D10

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
9.35	2.52	12.64	18.89	4.84	6.52	6.54
natural, cut-off max. 6000 mm						0.0.442.01
natural, 1 pce., length 6000 mm						0.0.452.37

Roller Profile 8 D14

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
15.48	4.18	47.90	47.92	10.75	15.34	14.25
natural, cut-off max. 6000 mm						0.0.294.02
natural, 1 pce., length 6000 mm						0.0.452.32

Roller Profile 8 D25

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
44.19	11.93	508.41	331.49	26.61	79.98	82.87
natural, cut-off max. 3000 mm						0.0.350.01
natural, 1 pce., length 3000 mm						0.0.452.33



Slide Set GSF 8 80x40

- Compact slide
- Sliding shoe uses profile groove as guide



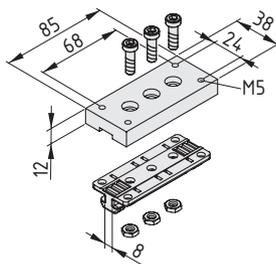
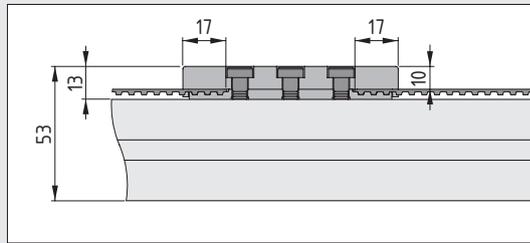
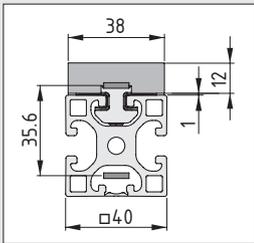
The space-saving carriage features a sliding shoe made of high-performance plastic. The solution thus requires no lubricants, is maintenance-free and uses a Line 8 profile groove as a guide. This reduces the number of components required.

A timing belt can be installed between the carriage plate and T-Slot Slider in a space-saving arrangement. When used with Drive Unit GSF 8 40 R10, it produces linear units that can be installed in very small spaces.

Slide Set GSF 8 80x40 can also be used as a slide guide in a Line 8 profile groove without a timing-belt drive.



Drive Unit GSF 8 40 R10 



Slide Set GSF 8 80x40

- Carriage plate GSF 8 80x40, Al, natural
- T-Slot Slider 8 80x40
- 3 Hexagon Socket Head Cap Screws DIN 6912-M6x20, St, bright zinc-plated
- 3 hexagon nuts ISO 4035-M6, St, bright zinc-plated
- m = 173.0 g

1 set

0.0.654.24



Slide LRF 8

- Time-saving, ready-to-install turnkey solution
- Slides with a flat surface
- Easy-adjust rollers



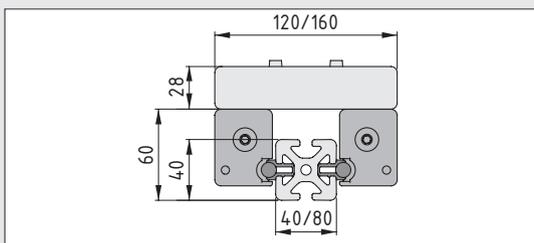
Everything runs smoothly with this solution. Slide LRF 8 is a practical complete system for roller guides that run on Shafts D10 or D14, which are fastened to a Line 8 groove using Shaft-Clamp Profiles. It is delivered ready for installation and comprises a Carriage Profile with a flat surface and two quiet-running Double-Bearing Units with End Cap and Lubricating Systems. Simply slot it onto the shafts, adjust the rollers from the side, tighten everything up and that's it – your torsion-

resistant linear slide is good to go. Slide LRF 8 is available for linear slides in a width of 40 and 80 mm.

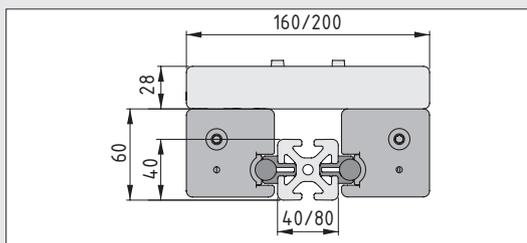
Fitting functional elements is also incredibly easy. The upper surface of the slide has been milled flat and features four openings for positioning collars. As a result, any application can be fastened to the Slide with outstanding precision, which makes maintenance work easier and reduces setup times.

Slide LRF can also be combined with a Timing-Belt Drive or chain drive to form automated solutions.

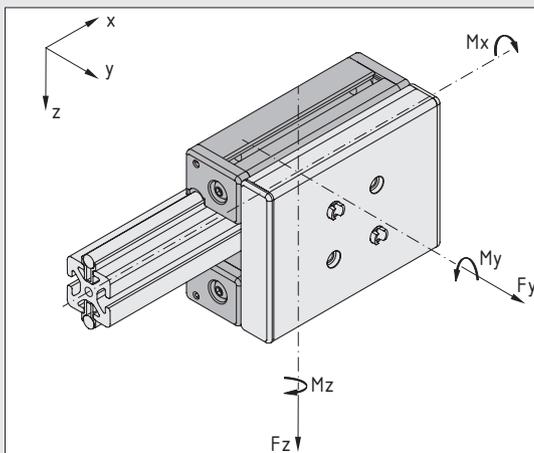
Slide Sets LRF and Slide Profiles LRF can also be ordered separately to build slides in customised lengths.



LRF 8 D10



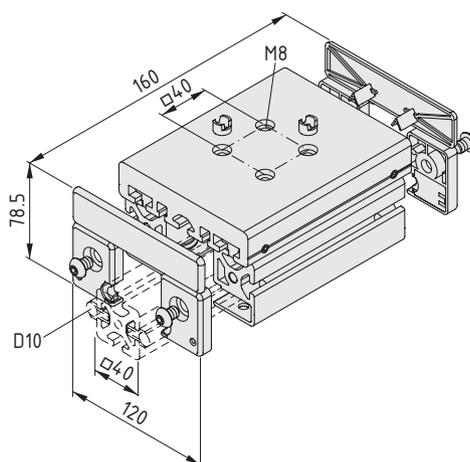
LRF 8 D14



Simplified method for determining the maximum permissible load for Slide Sets LRF 8:

	8 D10		8 D14	
	120	160	160	200
F_y	880 N		1600 N	
F_z	1300 N		2400 N	
M_x	22 Nm	39 Nm	40 Nm	76 Nm
M_y	52 Nm		96 Nm	
M_z	35 Nm		64 Nm	

Run length under max. load: 10000 km
Max. speed: 10 m/s



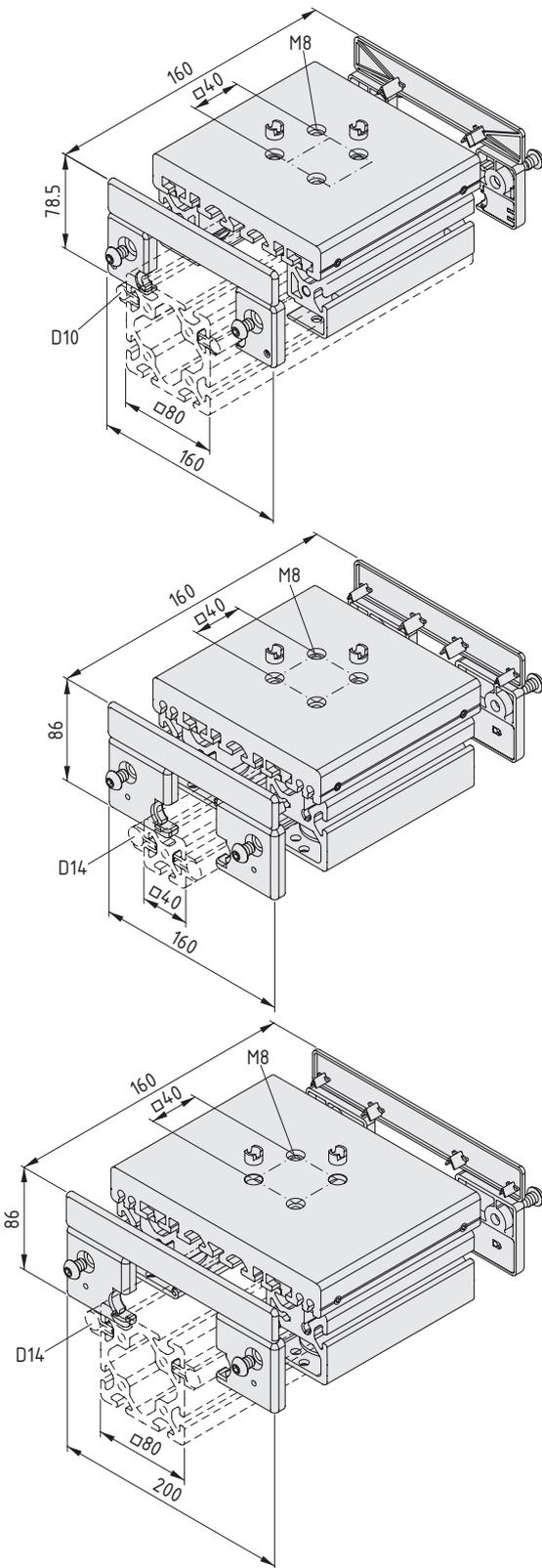
Slide LRF 8 D10 120x160

Slide LRF 8 D10 120x160, preassembled
2 End Cap and Lubricating Systems 8 D10, black
2 Caps LRF 8 D10 120x28, PA-GF, black
2 positioning collars, St
Installation guide
 $m = 2.1 \text{ kg}$

1 set

0.0.658.32





Slide LRF 8 D10 160x160



Slide LRF 8 D10 160x160, preassembled
 2 End Cap and Lubricating Systems 8 D10, black
 2 Caps LRF 8 D10 160x28, PA-GF, black
 2 positioning collars, St
 Installation guide
 m = 2.5 kg

1 set

0.0.658.37

Slide LRF 8 D14 160x160



Slide LRF 8 D14 160x160, preassembled
 2 End Cap and Lubricating Systems 8 D14, black
 2 Caps LRF 8 D14 160x28, PA-GF, black
 2 positioning collars, St
 Installation guide
 m = 3.5 kg

1 set

0.0.656.27

Slide LRF 8 D14 200x160



Slide LRF 8 D14 200x160, preassembled
 2 End Cap and Lubricating Systems 8 D14, black
 2 Caps LRF 8 D14 200x28, PA-GF, black
 2 positioning collars, St
 Installation guide
 m = 3.8 kg

1 set

0.0.658.21



Slide Sets LRF 8

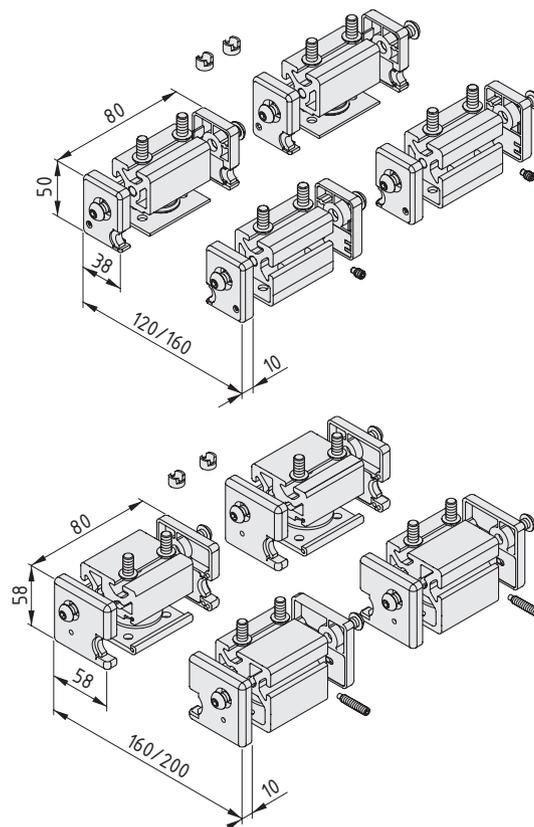
- For building carriages in custom lengths
- For carriage profiles with a flat surface



The ideal solution for customised slides! Slide Sets LRF 8, Slide Profiles LRF 8 and Adjuster Profile 8 can be used to design and build customised linear slides up to 3000 mm in length. Slide Set LRF 8 contains everything that a roller unit needs – Bearing Units, End Cap and Lubricating Systems and all the fastening elements required to install the four modules of the Slide Set with exceptional speed. There is no need for pinning.

Sets are available with either D10 or D14 rollers as appropriate to the loads involved. The Slide Sets are screwed to Adjuster Profile 8 (0.0.657.20). Two grub screws installed in the side of Slide Profile LRF 8 are used to adjust the Bearing Units so as to eliminate play.

Note: Fully preassembled Slides LRF 8 are also available in standard sizes.



Slide Set LRF 8 D10



- 4 Bearing Units 8 D10 c
- 4 End Cap and Lubricating Systems 8 D10, black
- 2 grub screws DIN 915-M6x10, St, bright zinc-plated
- 8 Button-Head Screws ISO 7380-M8x16, St, bright zinc-plated
- 8 washers DIN 125-8.4, St, bright zinc-plated
- 2 positioning collars, St
- Installation guide
- m = 1.0 kg

1 set	0.0.658.83
-------	------------

Slide Set LRF 8 D14



- 4 Bearing Units 8 D14 c
- 4 End Cap and Lubricating Systems 8 D14, black
- 2 grub screws DIN 915-M6x30, St, bright zinc-plated
- 8 Button-Head Screws ISO 7380-M8x16, St, bright zinc-plated
- 8 washers DIN 125-8.4, St, bright zinc-plated
- 2 positioning collars, St
- Installation guide
- m = 2.0 kg

1 set	0.0.658.67
-------	------------



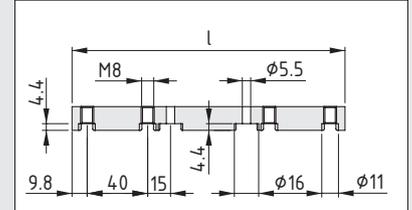
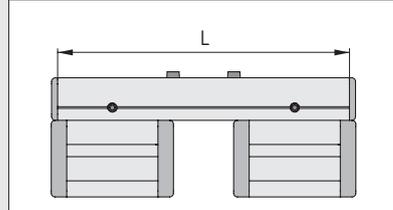
Adjuster Profile 8

- Optimum hold, even on long carriages
- Connects together Slide Profile and Slide Sets LRF 8

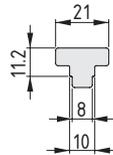
Adjuster Profile 8 ensures there is no play between the roller units and shaft, even on long slides. The bearing units of Slide Sets LRF 8 don't exhibit displacement over long-term use either. Consequently, Slide Profile LRF 8 runs with very little wear, even in the case of very long slides.

Slide Sets LRF 8 are fastened to the Adjuster Profile via a screw connection. The Profile is inserted into the special groove and runs the entire length of the slide.

Note: The Adjuster Profile needs to be machined before the Slide Set can be installed. Your item partner can do this as an additional service.



The length of the slide (L) determines how long the Adjuster Profile (l) needs to be.
 $l = L - 12.4 \text{ mm}$



Adjuster Profile 8

Al
 $m = 592.0 \text{ g/m}$

natural, cut-off max. 6000 mm	0.0.657.21
natural, 1 pce., length 6000 mm	0.0.657.20



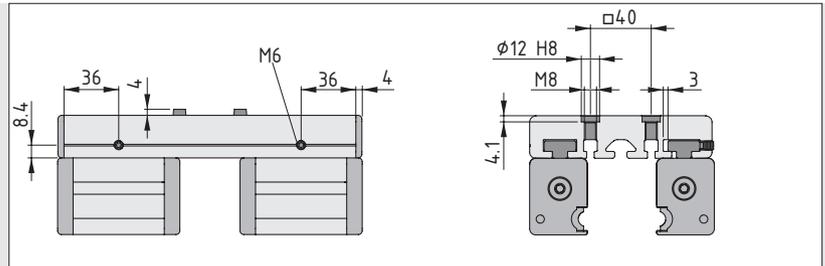
Slide Profiles LRF 8

- For building strong custom carriages
- Available in four widths
- Up to 3000 mm in length

15

The surface of Slide Profile LRF 8 is flat and face-milled. The underside of the Slide Profile features a Line 8 groove as well as special grooves to accommodate Adjuster Profile 8, to which the Slide Set LRF 8 is fastened. Two threaded bores need to be machined to enable adjustment of the rollers. One of the special grooves for the Adjuster Profile is wider than the other in order that the rollers can be adjusted via a grub screw so as to eliminate play.

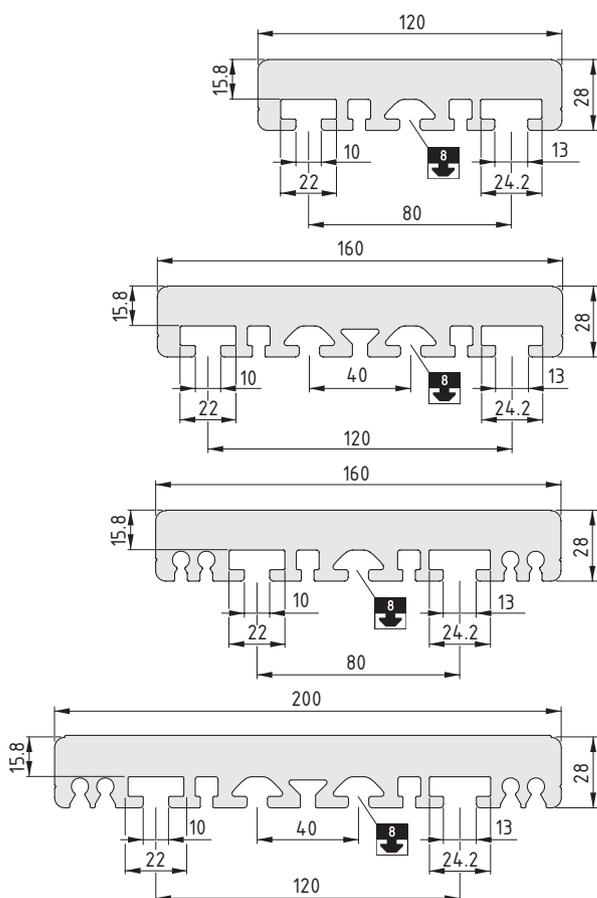
Note: Please note the tightening torques recommended in the installation guide.



Machining requirements when using Slide Profiles LRF 8 in customised lengths. The indentations at the side offer a good point of orientation. The Slide Profiles allow users to locate mounting bores at will. The positioning collars can be used as necessary.

Materials used in all the following products:

Al, anodized



Slide Profile LRF 8 D10 120x28

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
26.08	7.04	16.36	320.81	9.73	13.32	
natural, cut-off max. 3000 mm						0.0.658.20
natural, 1 pce., length 3000 mm						0.0.658.03

Slide Profile LRF 8 D10 160x28

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
34.99	9.45	21.91	751.43	13.07	93.29	
natural, cut-off max. 3000 mm						0.0.658.23
natural, 1 pce., length 3000 mm						0.0.658.08

Slide Profile LRF 8 D14 160x28

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
35.13	9.49	21.80	777.78	13.07	96.79	
natural, cut-off max. 3000 mm						0.0.655.95
natural, 1 pce., length 3000 mm						0.0.645.39

Slide Profile LRF 8 D14 200x28

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
44.03	11.49	27.40	1,501.23	16.36	150.12	
natural, cut-off max. 3000 mm						0.0.655.97
natural, 1 pce., length 3000 mm						0.0.647.04

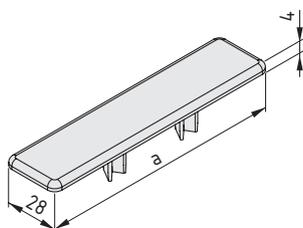


Caps LRF 8

- End-face closure for Slide Profiles LRF 8
- Glass-fibre-reinforced plastic covers over cut edges cleanly

Materials used in all the following products:

PA-GF



Cap LRF 8 D10 120x28

a = 120 mm	m = 14.0 g	
black, 1 pce.		0.0.657.72

Cap LRF 8 D10 160x28

a = 160 mm	m = 18.0 g	
black, 1 pce.		0.0.658.30

Cap LRF 8 D14 160x28

a = 160 mm	m = 18.0 g	
black, 1 pce.		0.0.656.26

Cap LRF 8 D14 200x28

a = 200 mm	m = 22.0 g	
black, 1 pce.		0.0.657.00



Linear Guide Units 8 D14

The compact shaft guide

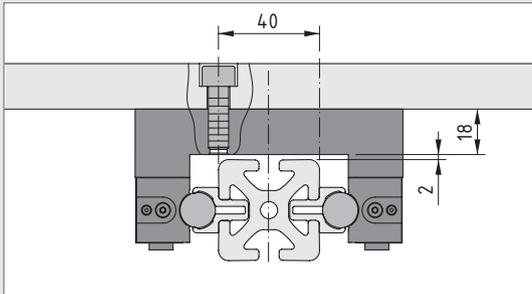
- Particularly rigid and strong
- Runs securely on Shafts D14
- Can be driven via a Timing Belt or spindle



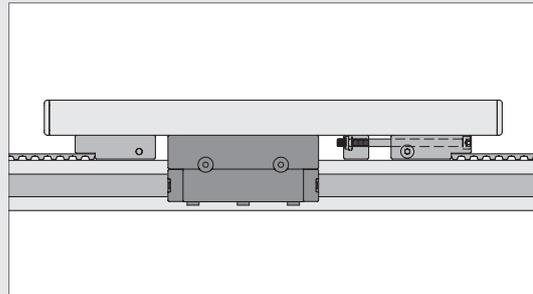
Looking for a linear slide that is more rigid and compact than roller guides but just as modular and easy to fit to standard profiles?

The linear guide units from item are exactly what you need! Complete carriages for profile widths of 40 and 80 mm that are mounted on shafts in Shaft-Clamp Profiles. Other benefits of these guide elements include ease of assembly, lower moving mass and simple adjustability.

Guiding shafts D 14 can be fitted to Profiles 8 (not the light or E variants) in widths of 40 or 80 mm. Maximum guide length: 6,000 mm. The guide is particularly suitable for tensile and compressive loads on the carriage plate.

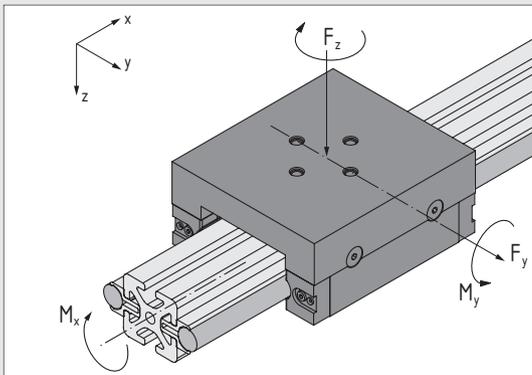


Universal connection bores in the carriage plate: M8 threaded holes for fastening profiles or any other structures.



The driving force: A Timing Belt or spindle drive KGT can be connected to a Profile 8 that is screwed to the carriage plate.

Load Specifications



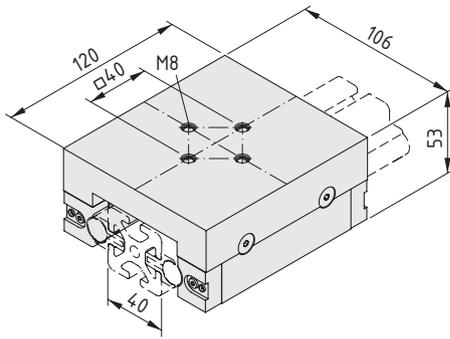
	8 D14 120x40	8 D14 120x80
$F_y = F_z$	2,300 N	2,300 N
M_x	237 Nm	355 Nm
$M_y = M_z$	95 Nm	95 Nm
C	10,800 N	10,800 N
C_0	13,400 N	13,400 N
$v_{max.}$	3 m/s	3 m/s
ϑ	-10 – +100 °C	-10 – +100 °C
$h_{min.}$	120 mm	120 mm

15



Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.

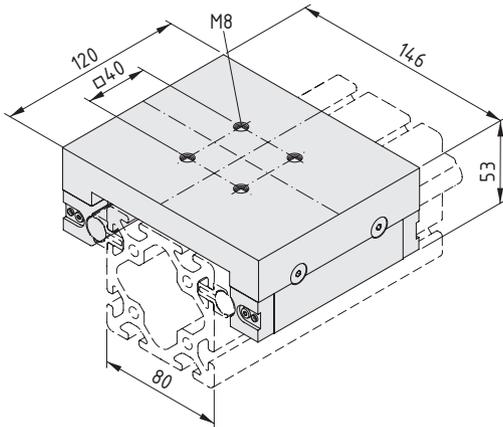


Linear Guide Carriage Unit 8 D14 120x40



2 Linear Guide Units
 Carriage plate, Al
 4 sets crews 8 M5, St, bright zinc-plated
 6 Hexagon Socket Head Cap Screws DIN 6912-M5x40, St, bright zinc-plated
 Notes on Use and Installation
 m = 1.3 kg

1 set 0.0.629.19



Linear Guide Carriage Unit 8 D14 120x80



2 Linear Guide Units
 Carriage plate, Al
 4 sets crews 8 M5, St, bright zinc-plated
 6 Hexagon Socket Head Cap Screws DIN 6912-M5x40, St, bright zinc-plated
 Notes on Use and Installation
 m = 1.5 kg

1 set 0.0.634.63



C-Rail Systems

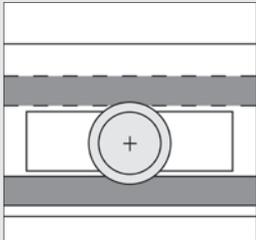
- Variable roller guide for large doors
- Three design variants, each available in three versions for different lines
- Can be adjusted to be free from play if required



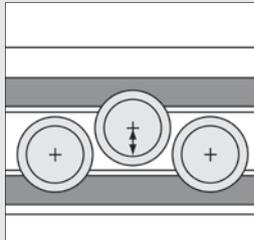
C-Rail Systems are specialised Roller Guides and are ideal for constructing compact guides, lifting doors, sliding doors, movable guards and enclosures etc.



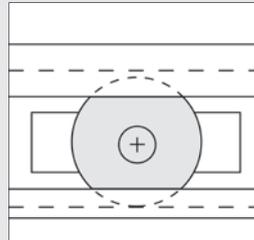
The C-Rail Systems for Profiles 5, 6 and 8 are each available in 3 versions:



C-Rail System 1R with slides on prismatic steel rollers mounted on ball bearings and a polished guiding shaft. A second guiding shaft can also be fitted in order to prevent the sliding door from tilting when moved.



C-Rail System 3R with guide slides that can be adjusted via eccentrics. The 3 steel rollers mounted on ball bearings run free from play on 2 polished shafts and are ideal for cases where particular requirements are placed on the precision of the guides. This version can accommodate high loads in the vertical downward plane and features particularly low-friction running.



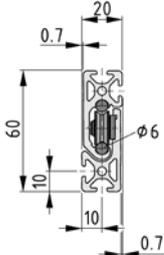
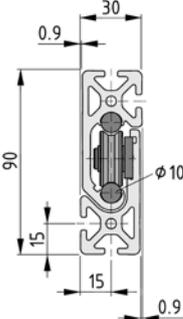
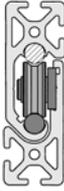
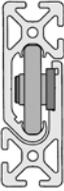
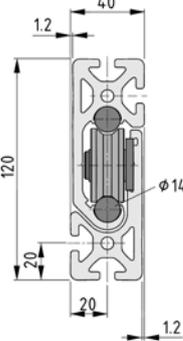
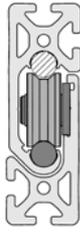
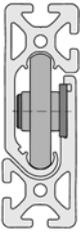
C-Rail System K with slide consisting of plastic rollers running directly on the aluminium rail profile. This variant can accommodate low hanging loads as shown in the illustration opposite and is adequate for simple guide operations.



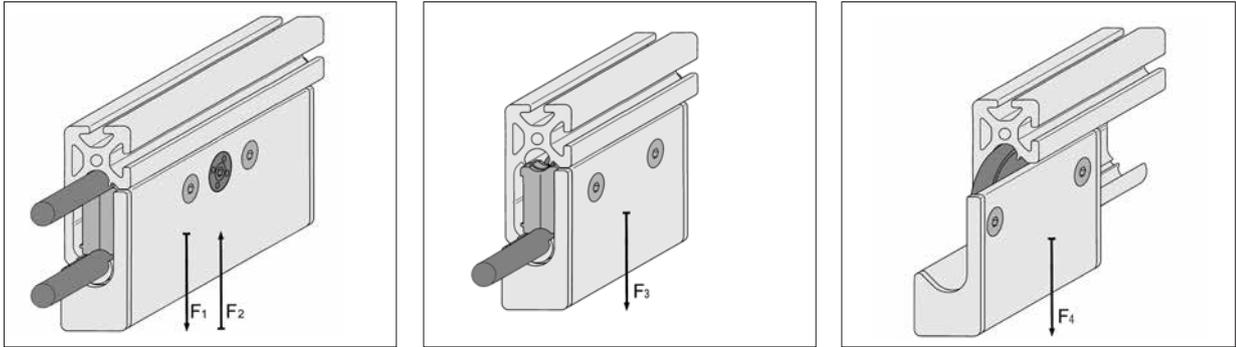
Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.

Guide Alternatives

Line	C-Rail System 3R	C-Rail System 1R	C-Rail System K
			
			
			

Load Specifications



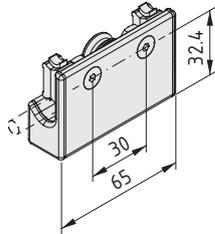
C-Rail System 5 D6 3R $F_1 = 250 \text{ N}, F_2 = 125 \text{ N}$	C-Rail System 5 D6 1R $F_3 = 125 \text{ N}$	C-Rail System 5 K $F_4 = 50 \text{ N}$
C-Rail System 6 D10 3R $F_1 = 750 \text{ N}, F_2 = 350 \text{ N}$	C-Rail System 6 D10 1R $F_3 = 350 \text{ N}$	C-Rail System 6 K $F_4 = 125 \text{ N}$
C-Rail System 8 D14 3R $F_1 = 1500 \text{ N}, F_2 = 750 \text{ N}$	C-Rail System 8 D14 1R $F_3 = 750 \text{ N}$	C-Rail System 8 K $F_4 = 250 \text{ N}$



C-Rail, Bearing Units

Secure roller guides for lifting and sliding doors

- Fully preassembled, compact guides
- C-Rail System enclosed on three sides
- Ideal for movable guards and enclosures

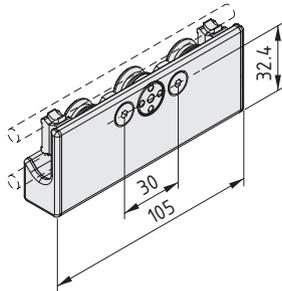


C-Rail, Bearing Unit 5 D6 1R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 5
 C-Rail, Bearing Set 5 D6 1R
 m = 64.0 g

1 pce. 0.0.460.31

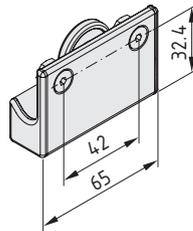


C-Rail, Bearing Unit 5 D6 3R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 5
 C-Rail, Bearing Set 5 D6 3R
 m = 117.0 g

1 pce. 0.0.460.30

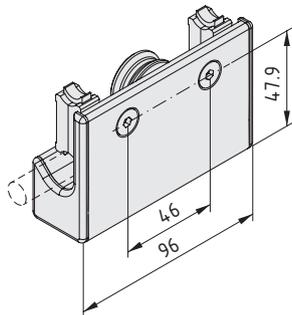


C-Rail, Bearing Unit 5 K



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 5
 C-Rail, Bearing Set 5 K
 m = 60.0 g

1 pce. 0.0.460.33

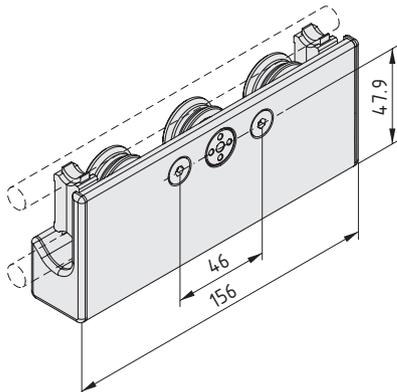


C-Rail, Bearing Unit 6 D10 1R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 6
 C-Rail, Bearing Set 6 D10 1R
 m = 231.0 g

1 pce. 0.0.461.31

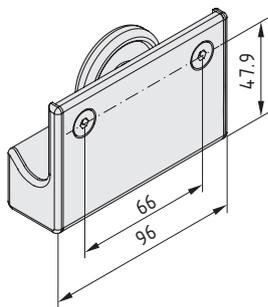


C-Rail, Bearing Unit 6 D10 3R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 6
 C-Rail, Bearing Set 6 D10 3R
 m = 425.0 g

1 pce. 0.0.461.30



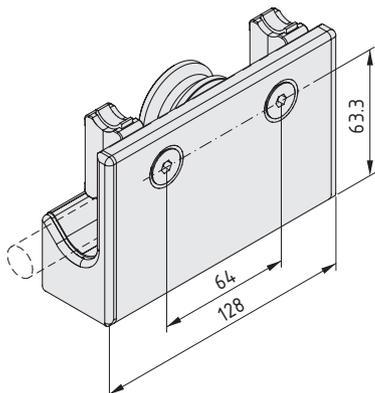
C-Rail, Bearing Unit 6 K



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 6
 C-Rail, Bearing Set 6 K
 m = 209.0 g

1 pce.

0.0.461.33



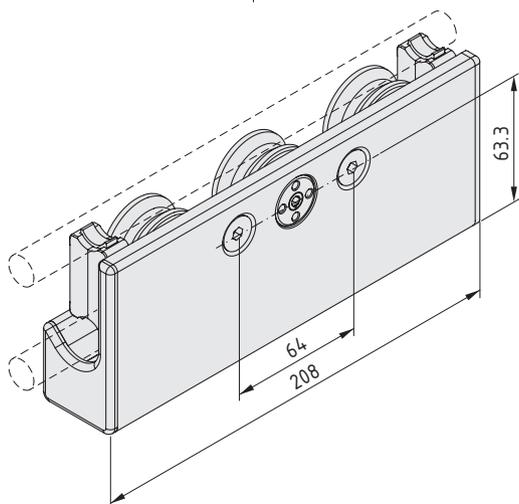
C-Rail, Bearing Unit 8 D14 1R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 8
 C-Rail, Bearing Set 8 D14 1R
 m = 576.0 g

1 pce.

0.0.462.31



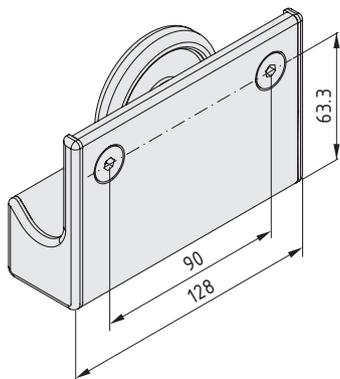
C-Rail, Bearing Unit 8 D14 3R



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 8
 C-Rail, Bearing Set 8 D14 3R
 m = 1.1 kg

1 pce.

0.0.462.30



C-Rail, Bearing Unit 8 K



C-Rail, Slide Profile segment, Al, anodized, natural
 C-Rail, Slide Profile Cap Set 8
 C-Rail, Bearing Set 8 K
 m = 492.0 g

1 pce.

0.0.462.33

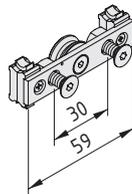


C-Rail, Bearing Sets

■ Durable rollers for constructing customised C-Rail Guides



Pre-assembled Bearing Sets for special bearing units for creating continuous guide profiles using Slide Profiles. The Slide Profiles must be machined appropriately for installing the Bearing Sets.



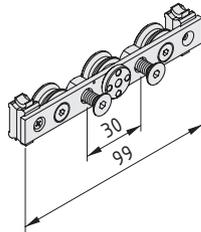
C-Rail, Bearing Set 5 D6 1R



C-Rail, slide plate complete, St, bright zinc-plated
 Roller D6, centric
 2 C-Rail, Lubricating Systems 5 D6
 2 Countersunk Screws DIN 7991-M5x10, St, bright zinc-pl.
 m = 21.0 g

1 set

0.0.460.35



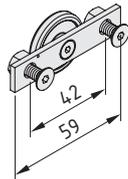
C-Rail, Bearing Set 5 D6 3R



C-Rail, slide plate complete, St, bright zinc-plated
 2 Rollers D6, centric
 Roller D6, eccentric
 2 C-Rail, Lubricating Systems 5 D6
 2 Countersunk Screws DIN 7991-M5x10, St, bright zinc-pl.
 m = 51.0 g

1 set

0.0.460.34



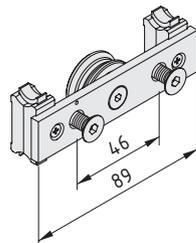
C-Rail, Bearing Set 5 K



C-Rail, slide plate complete, St, bright zinc-plated
 C-Rail, Roller 5 K, PA
 2 Countersunk Screws DIN 7991-M5x10, St, bright zinc-pl.
 m = 21.0 g

1 set

0.0.460.37



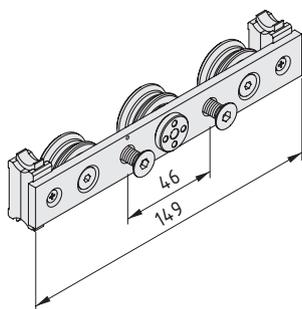
C-Rail, Bearing Set 6 D10 1R



C-Rail, slide plate complete, St, bright zinc-plated
 Roller D10, centric
 2 C-Rail, Lubricating Systems 6 D10
 2 Countersunk Screws DIN 7991-M6x12, St, bright zinc-pl.
 m = 103.0 g

1 set

0.0.461.35

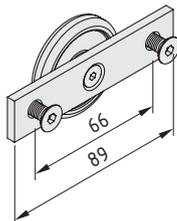


C-Rail, Bearing Set 6 D10 3R



C-Rail, slide plate complete, St, bright zinc-plated
 2 Rollers D10, centric
 Roller D10, eccentric
 2 C-Rail, Lubricating Systems 6 D10
 2 Countersunk Screws DIN 7991-M6x12, St, bright zinc-pl.
 m = 214.0 g

1 set 0.0.461.34

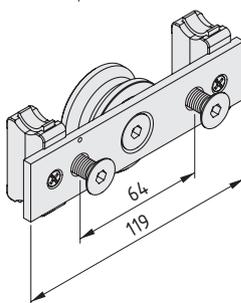


C-Rail, Bearing Set 6 K



C-Rail, slide plate complete, St, bright zinc-plated
 C-Rail, Roller 6 K, PA
 2 Countersunk Screws DIN 7991-M6x12, St, bright zinc-pl.
 m = 79.0 g

1 set 0.0.461.37

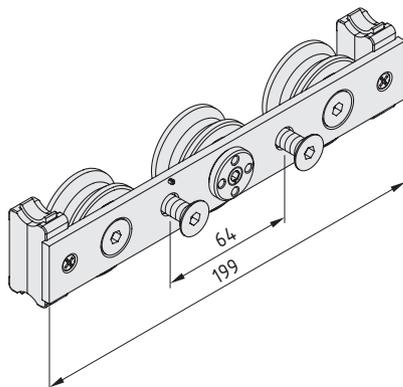


C-Rail, Bearing Set 8 D14 1R



C-Rail, slide plate complete, St, bright zinc-plated
 Roller D14, centric
 2 C-Rail, Lubricating Systems 8 D14
 2 Countersunk Screws DIN 7991-M8x16, St, bright zinc-plated
 m = 257.0 g

1 set 0.0.462.35

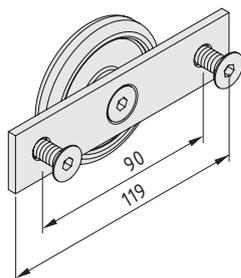


C-Rail, Bearing Set 8 D14 3R



C-Rail, slide plate complete, St, bright zinc-plated
 2 Rollers D14, centric
 Roller D14, eccentric
 2 C-Rail, Lubricating Systems 8 D14
 2 Countersunk Screws DIN 7991-M8x16, St, bright zinc-plated
 m = 576.0 g

1 set 0.0.462.34

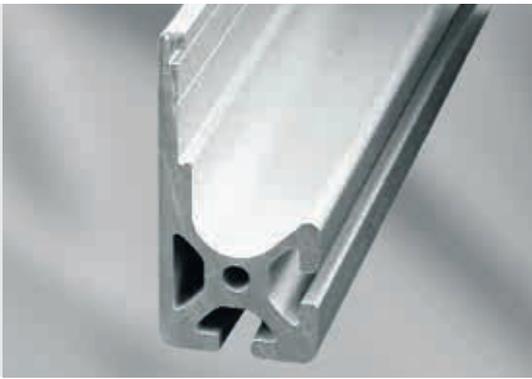


C-Rail, Bearing Set 8 K



C-Rail, slide plate complete, St, bright zinc-plated
 C-Rail, Roller 8 K, PA
 2 Countersunk Screws DIN 7991-M8x16, St, bright zinc-plated
 m = 158.0 g

1 set 0.0.462.37



C-Rail, Slide Profiles C-Rail, Rail Profiles

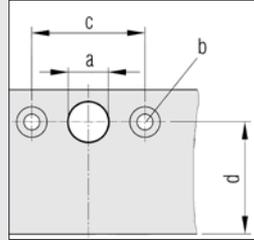
■ For constructing customised slides and C-Rail Guides



For constructing slides for C-Rail System 5, 6, or 8 using Bearing Sets. The positions of the holes are identified by marking grooves in the profiles.



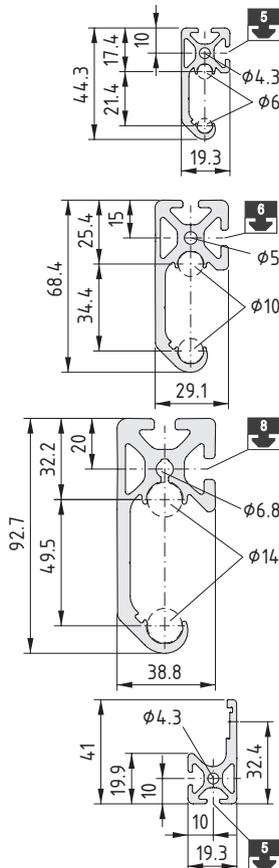
Bearing Units K (without guiding shaft) or 1R (with 1 or 2 guiding shafts) or 3R are guided in the Rail Profiles.



	a [mm]	b DIN 74	c [mm]	d [mm]
	∅ 14.5	Bf5	30 / 42	32.4
	∅ 16.5	Bf6	46 / 66	47.9
	∅ 22.5	Bm8	64 / 90	63.3

The relevant holes (a) for the lock nuts and countersinks DIN 74 (b) for the Countersunk Screws must be provided to secure the Bearing Sets.

Materials used in all the following products:
Al, anodized

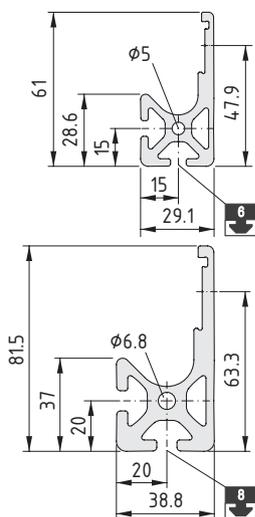


C-Rail, Rail Profile 5						
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.62	0.71	4.64	0.91	0.20	1.76	0.76
natural, cut-off max. 6000 mm						0.0.460.01
natural, 1 pce., length 6000 mm						0.0.448.25

C-Rail, Rail Profile 6						
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
6.23	1.68	25.89	5.19	1.09	6.13	2.94
natural, cut-off max. 6000 mm						0.0.461.01
natural, 1 pce., length 6000 mm						0.0.451.52

C-Rail, Rail Profile 8						
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
11.41	3.10	84.49	16.61	2.41	14.34	6.99
natural, cut-off max. 6000 mm						0.0.462.01
natural, 1 pce., length 6000 mm						0.0.452.52

C-Rail, Slide Profile 5						
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
2.46	0.67	2.83	0.97	0.23	1.09	0.71
natural, cut-off max. 6000 mm						0.0.460.02
natural, 1 pce., length 6000 mm						0.0.448.27

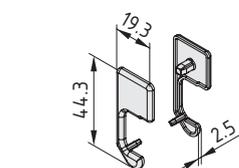


C-Rail, Slide Profile 6							6
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
5.44	1.47	13.08	5.00	1.07	3.24	2.79	
natural, cut-off max. 6000 mm							0.0461.02
natural, 1 pce., length 6000 mm							0.0451.54

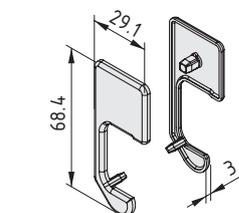
C-Rail, Slide Profile 8							8
A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
9.81	2.65	41.90	16.09	3.36	7.62	6.71	
natural, cut-off max. 6000 mm							0.0462.02
natural, 1 pce., length 6000 mm							0.0452.54

Materials used in all the following products:

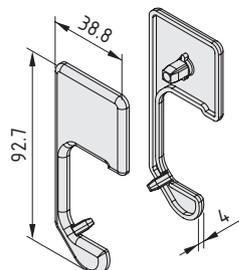
PA-GF



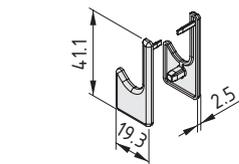
C-Rail, Rail Profile Cap Set 5							5
C-Rail, Rail Profile Cap right C-Rail, Rail Profile Cap left m = 2.0 g							
black, 1 set							0.0460.38



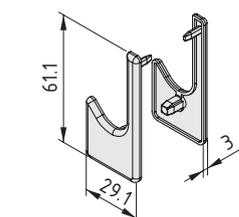
C-Rail, Rail Profile Cap Set 6							6
C-Rail, Rail Profile Cap right C-Rail, Rail Profile Cap left m = 5.0 g 5.0							
black, 1 set							0.0461.38



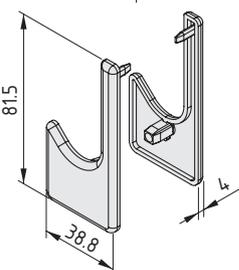
C-Rail, Rail Profile Cap Set 8							8
C-Rail, Rail Profile Cap right C-Rail, Rail Profile Cap left m = 13.0 g 13.0							
black, 1 set							0.0462.38



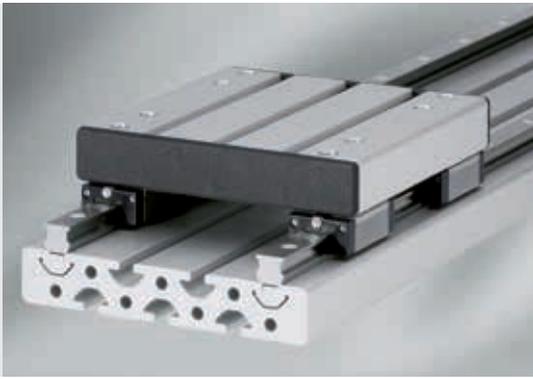
C-Rail, Slide Profile Cap Set 5							5
C-Rail, Slide Profile Cap right C-Rail, Slide Profile Cap left m = 2.0 g							
black, 1 set							0.0460.39



C-Rail, Slide Profile Cap Set 6							6
C-Rail, Slide Profile Cap right C-Rail, Slide Profile Cap left m = 4.0 g							
black, 1 set							0.0461.39



C-Rail, Slide Profile Cap Set 8							8
C-Rail, Slide Profile Cap right C-Rail, Slide Profile Cap left m = 11.0 g							
black, 1 set							0.0462.39



Profiled Steel Rail Guide Systems

- Four-row linear guide systems (with full complement) on profiled rails
- Bearing Carriages can carry loads from all directions
- High load-carrying capacity and rigidity

Four-row linear guide systems (with full complement) on profiled rails whose special fastening geometry makes them ideal for use on profile constructions.

The individual linear guide system carriages can be loaded from all directions and can absorb moments around all axes. The key features of linear guide systems PS are high load-carrying capacity, rigidity and compact design.

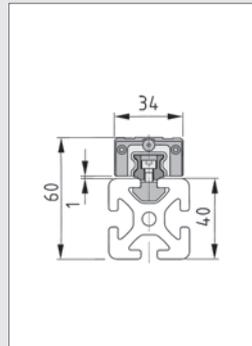
Each linear guide system carriage can be freely combined with every Linear Guide Rail within a given Line, so that one, two or more carriages are possible per rail and carriages can be exchanged.

In a number of application cases, particularly involving high forces and moments that need to be absorbed by greater support distances, the carriages should not be used individually, but rather in combination. Solutions involving several carriages on a single rail and several carriages on parallel rails are also possible.

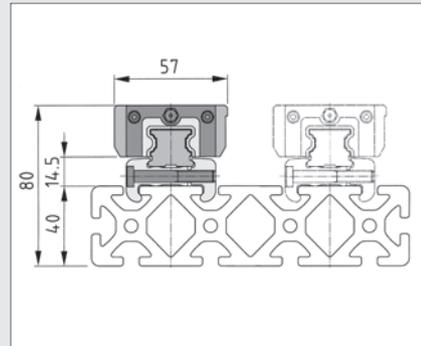
Rail Attachment



Guide systems with parallel rails on a single supporting profile can be constructed on the profile groove without elaborate alignment measures due to the special fastening geometry employed by the rail. The use of parallel rails on independent profiles or different support constructions will require the amount of alignment and fastening which is typical for profile rail guides (machining of location surfaces, use of parallel segments etc.).



Guide rail PS 4-15 is attached to the Profile 8 groove. The rail has been shaped for this purpose and centres automatically when screwed against Groove Profile 8 AI M4-60.



A guide PS 4-25 with one or more guide carriages, one guide rail and one rail clamp on a Support Profile.

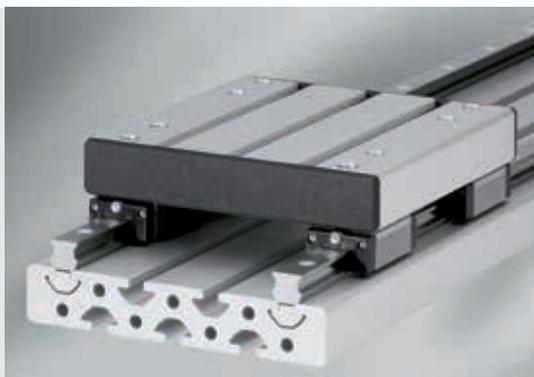
The self-centring rail clamp also serves as a support for the guide rail and secures this to any Support Profile 8 with a minimum width of 80 mm. Profile 8 lightweight and 8 E should not be used for the support profiles.

item
Innovation



Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.



Bearing Carriages

- High load-carrying capacity and rigidity in a compact package
- Full complement of balls ensures low wear



The Bearing Carriages can be used either individually or in various combinations on one or more rails. The Bearing Carriage has four polished tracks on which the bearings are in linear rolling-ball contact with the profiled rail.

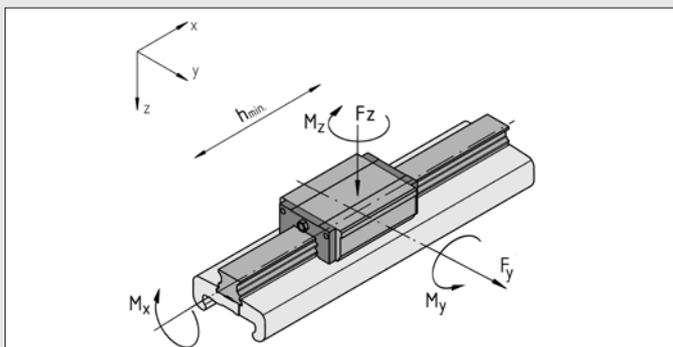
The bearings are recirculated through the end-face reverse units and closed return conduits. The carriages are fitted with end-face wipers and additional longitudinal wipers in order to minimise sensitivity to external influences.



Button-Head Screws ISO 7380 and Locating Washers 8 are used to fasten Profiles 8 to the Bearing Carriage.

Button-Head Screws ISO 7380 153

Locating Washers 161



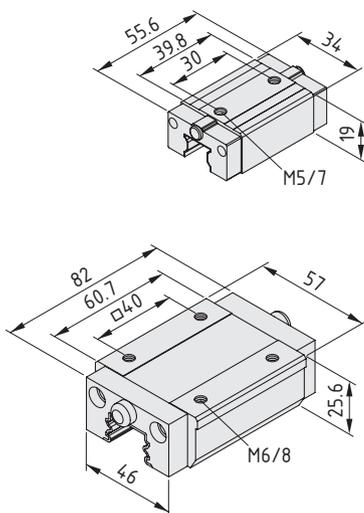
	PS 4-15	PS 4-25
$F_y = F_z$	1,000 N *	2,500 N
M_x	15 Nm	60 Nm
$M_y = M_z$	10 Nm	25 Nm
C	7,200 N	17,900 N
C_0	14,500 N	37,000 N
v_{max}	5 m/s	5 m/s
ϑ	-40 – +100 °C	-40 – +100 °C
h_{min}	40 mm	60 mm

The permissible load for a linear guide system depends on the load bearing capacity of the guide elements but also on the strength of the screw connections and the construction of the profile frame.

The minimum stroke length (h_{min}) is required if the rolling-ball contact is to be adequately lubricated. The carriage is charged at the factory with lithium-based grease. Lithium-based grease with a mineral-oil base can be used for re-lubrication.

Given the contact pressure of the wipers, a displacement force of 10 N must be taken into account irrespective of the load.

*Note: The fastening of the guide rail does not enable the stated tensile forces of the PS4-15 linear guide system to be utilised to the full in all directions.



Bearing Carriage PS 4-15

Housing, St, hardened
 2 wipers, PA, black
 2 lubricating nipples
 Notes on Use and Installation
 m = 140.0 g

1 pce. 0.0.443.06

Bearing Carriage PS 4-25

Housing, St, hardened
 2 wipers, PA, black
 2 lubricating nipples DIN 3405 A M6-120°
 m = 545.0 g

1 pce. 0.0.443.16

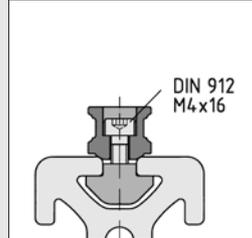


Linear Guide Rail PS 4-15

- Stable guide for two-sided raceway
- Self-centring fastening to the profile groove

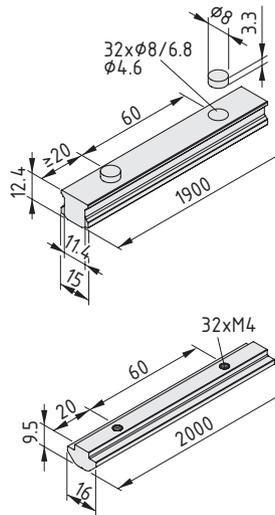


Profiled Linear Guide Rail with special fastening geometry for grooves of Profile 8 at the base of the rail. The rails are provided with fastening bores and countersinks for Hexagon Socket Head Cap Screws DIN 912-M4. Following installation, the countersinks must be covered flush using the caps provided in order to increase the service life of the end-face wiper systems.



The rails are best fastened to the Profile 8 using Groove Profile 8 Al M4/60 and Hex. Socket Head Cap Screws DIN 912-M4x16.

Hexagon Socket Head Cap Screws 158



Linear Guide Rail PS 4-15

St, Cf 53, hardened, polished
Caps, PA
m = 1.30 kg/m

cut-off max. 1900 mm

1 pce., length 1900 mm

0.0.443.32

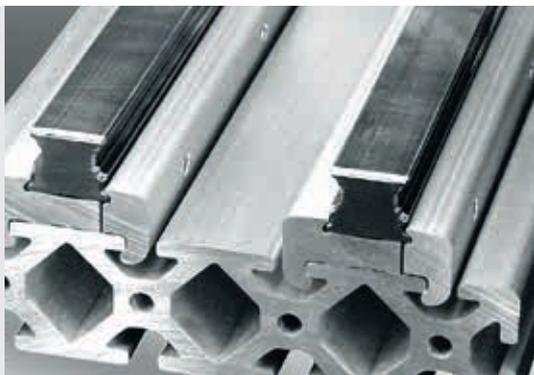
0.0.443.31

Groove Profile 8 Al M4-60

Al, anodized
m = 590 g/m

natural, 1 pce., length 2000 mm

0.0.443.02

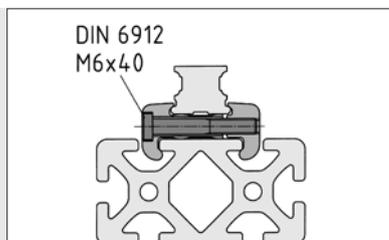


Linear Guide Rail PS 4-25

- Exceptional rigidity thanks to Guide Rail Clamping Profile
- Simple assembly with no additional profile machining



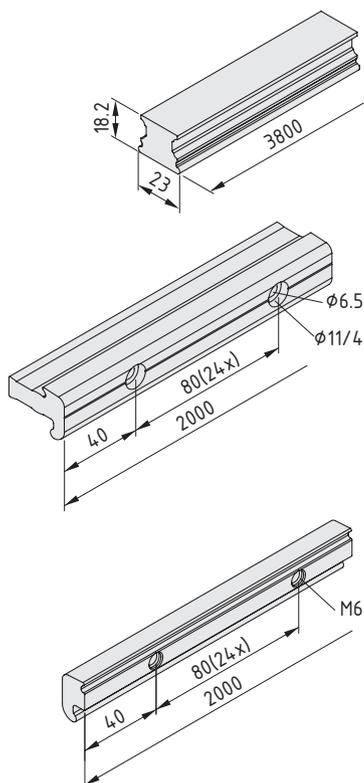
Profiled Linear Guide Rail with special rail base geometry. Clamping using the Guide Rail Mounting Profile and Guide Rail Clamping Profile makes it possible to use rails without holes that do not require Caps, or subsequent machining.



Linear Guide Rail PS 4-25 uses fastening profiles to create a clamping effect. A Guide Rail Mounting Profile, a Guide Rail Clamping Profile and the appropriate number of Hexagon Socket Head Cap Screws DIN 6912-M6x40 are required to mount each guide rail. The screws connect the two components of the linear guide system while the fastening profiles do not need to be machined.

Recommended tightening torque for the screws $M_A = 10 \text{ Nm}$.

Hexagon Socket Head Cap Screw DIN 6912 M6x40  159



Linear Guide Rail PS 4-25

St, Cf 53, hardened, polished m = 2.50 kg/m	
cut-off max. 3800 mm	0.0.443.34
1 pce., length 3800 mm	0.0.602.04

Guide Rail Mounting Profile PS 4-25

Al, anodized m = 940 g/m	
natural, 1 pce., length 2000 mm	0.0.443.17

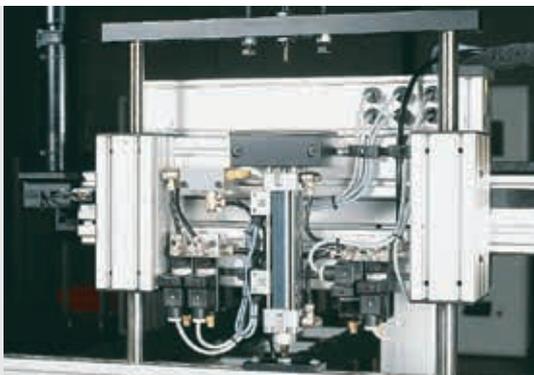
Guide Rail Clamping Profile PS 4-25

Al, anodized m = 529 g/m	
natural, 1 pce., length 2000 mm	0.0.443.18



Ball-bearing guide bushes

- Grooves all the way round for fastening purposes
- Available to suit 2 shaft diameters
- Ideal for vertical lifting movements



Ball-bearing guide bushes can be integrated as compact linear slides in profile constructions.

The length of the guide is determined solely by the length of the guiding shaft.

The Ball Bushes offer low friction and are characterised by high linearity of motion.

The heart of a ball-bearing guide bush is the recirculating ball bearing which runs on a hardened steel guiding shaft. Ball Bushes and guiding shafts are integrated into the profile cavities with the minimum of ancillary components.

Two sizes, based on shaft diameters D14 and D25, are designed to withstand slide loads of 500 and 1500 N. The maximum travelling speed is 2 m/s.

The double-sided seal of the Ball Bush, together with a high-quality grease filling, guarantee a long service life for the guide units, even under unfavourable operating conditions.

It is recommended that an evaluation should be made of the load-bearing capacity and service life, together with an allowance for deflection of the guiding shafts in the case of longer strokes.



Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.



Ball-Bearing Guide Bush Sets

The easy way to achieve a customised slide

- Turnkey system up to 2,000 mm long
- Easily combined to achieve increased load-carrying capacity
- Available in two variants – one-piece or parallel slides

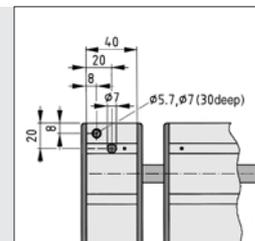
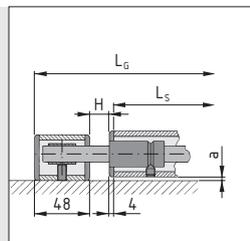
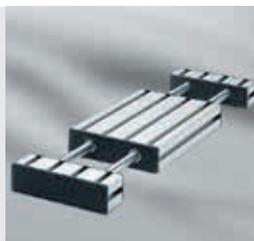


Complete guide systems based on Shafts D14 or D25 with variable slide (S) and stroke lengths (H) (please indicate when ordering).

The slightly shorter shaft length allows adjustments during installation.

The maximum length of guide is 2000 mm.

The load ratings of the slides are governed by the type and number of Ball-Bearing Guide Bush Units used.

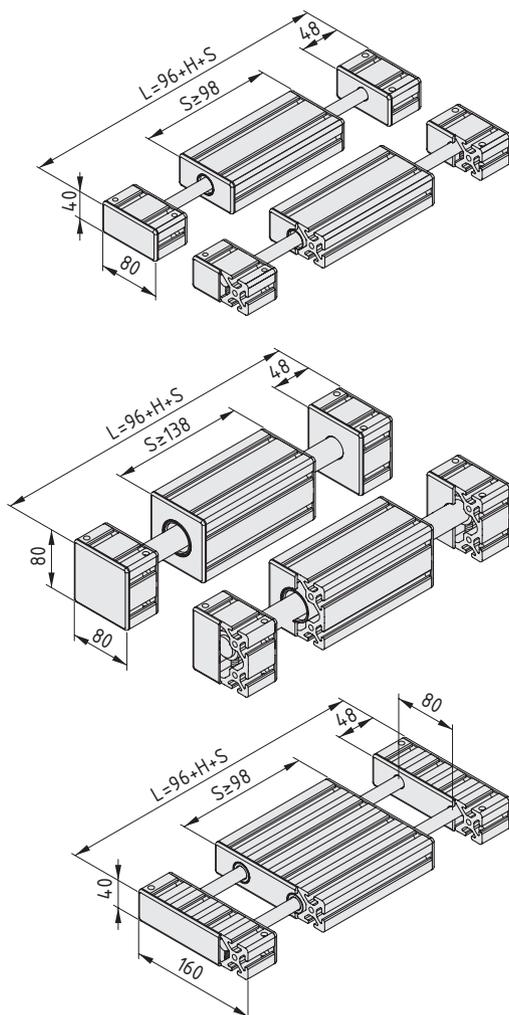


Guide Alternatives	a [mm]
80x40 D14 160x40 D14	3,3
80x80 D25 160x80 D25	4,3

L_G = Overall length of the guide

$L_G = (L_S + 2 \times 4\text{mm}) + H + 2 \times 48\text{mm}$

Recommended arrangement for a fixing or mounting hole.



Ball-Bearing Guide Bush Set 8 80x40 D14



- Fully machined and pre-assembled
- 2 slides 8 80x40 D14, Al, anodized, natural
- 4 Clamp Blocks 8 80x40 D14
- 4 Caps 8 80x40
- 4 Clamp-Block Caps 8 80x40 D14
- 4 Slide Caps 8 80x40 D14
- 4 Ball-Bearing Guide Bush Units 8 D14
- 4 Shaft-Clamping Bushes 8 D14
- 2 Shafts D14

1 set

0.0.386.11

Ball-Bearing Guide Bush Set 8 80x80 D25



- Fully machined and pre-assembled
- 2 slides 8 80x80 D25, Al, anodized, natural
- 4 Clamp Blocks 8 80x80 D25
- 4 Caps 8 80x80
- 4 Clamp-Block Caps 8 80x80 D25
- 4 Slide Caps 8 80x80 D25
- 4 Ball-Bearing Guide Bush Units 8 D25
- 4 Shaft-Clamping Bushes 8 D25
- 2 Shafts D25

1 set

0.0.387.11

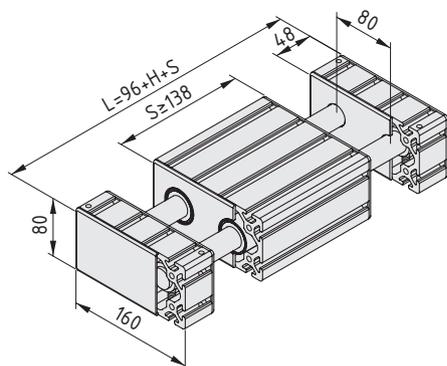
Ball-Bearing Guide Bush Set 8 160x40 D14



- Fully machined and pre-assembled
- Slide 8 160x40 D14, Al, anodized, natural
- 2 Clamp Blocks 8 160x40 D14
- 2 Caps 8 160x40
- 2 Clamp-Block Caps 8 160x40 D14
- 2 Slide Caps 8 160x40 D14
- 4 Ball-Bearing Guide Bush Units 8 D14
- 4 Shaft-Clamping Bushes 8 D14
- 2 Shafts D14

1 set

0.0.386.10



Ball-Bearing Guide Bush Set 8 160x80 D25



- Fully machined and pre-assembled
- Slide 8 160x80 D25, Al, anodized, natural
- 2 Clamp Blocks 8 160x80 D25
- 2 Caps 8 160x80
- 2 Clamp-Block Caps 8 160x80 D25
- 2 Slide Caps 8 160x80 D25
- 4 Ball-Bearing Guide Bush Units 8 D25
- 4 Shaft-Clamping Bushes 8 D25
- 2 Shafts D25

1 set

0.0.387.10

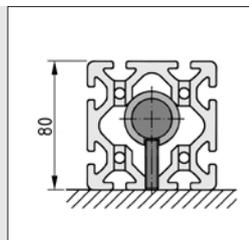
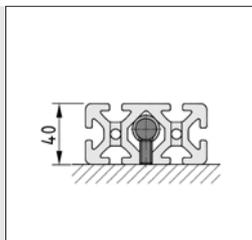


Shaft-Clamping Bushes

- For holding Shafts firmly and securely in the hollow chamber of a profile
- For building customised ball-bearing clamp blocks



For clamping Shafts D14 and D25.
The Shaft-Clamping Bushes are fixed in the cavities of Profiles 8 using grub screw DIN 913-M8.



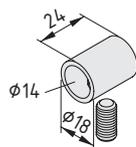
Shaft-Clamping Bush 8 D14



- St, black
- Grub screw DIN 913-M8x16, St, bright zinc-plated
- m = 22.0 g

1 pce.

0.0.386.03



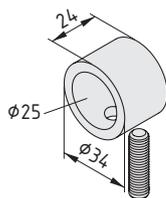
Shaft-Clamping Bush 8 D25



- St, black
- Grub screw DIN 913-M8x27, St, bright zinc-plated
- m = 85.0 g

1 pce.

0.0.387.03



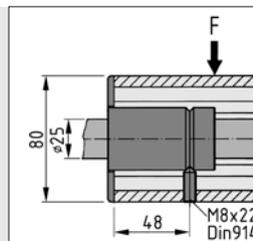
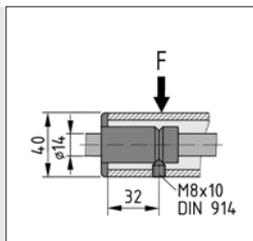


Ball-Bearing Guide Bush Units

- For compact and maintenance-free Linear Units
- Easily installed in Profiles 8
- For customised ball-bearing guide bush slides

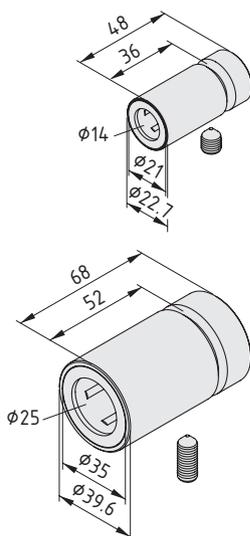


Ball-Bearing Guide Bush Units consist of sleeves accommodating the Ball Bushes. They form the guide elements for a ball-bearing guide bush.



The Ball-Bearing Guide Bush Units are fixed in the cavities of Profiles 8 using grub screw DIN 914-M8.

The direction of the load for the Ball-Bearing Guide Bush Unit should be selected such that the operating load presses the Ball-Bearing Guide Bush Unit into the prism of the profile cavity and not against the grub screw.



Ball-Bearing Guide Bush Unit 8 D14 8

Sleeve, St, black
Ball Bush D14, sealed both ends, maintenance-free
Grub screw DIN 914-M8x10, St, bright zinc-plated

C [N]	C ₀ [N]	v _{max} [m/s]	m [g]
620	520	2	62.0
1 pce.			0.0.386.12

Ball-Bearing Guide Bush Unit 8 D25 8

Sleeve, St, black
Ball Bush D25, sealed both ends, maintenance-free
Grub screw DIN 914-M8x22, St, bright zinc-plated

C [N]	C ₀ [N]	v _{max} [m/s]	m [g]
1,990	1,670	2	300.0
1 pce.			0.0.387.12



Slide Caps Clamp-Block Caps

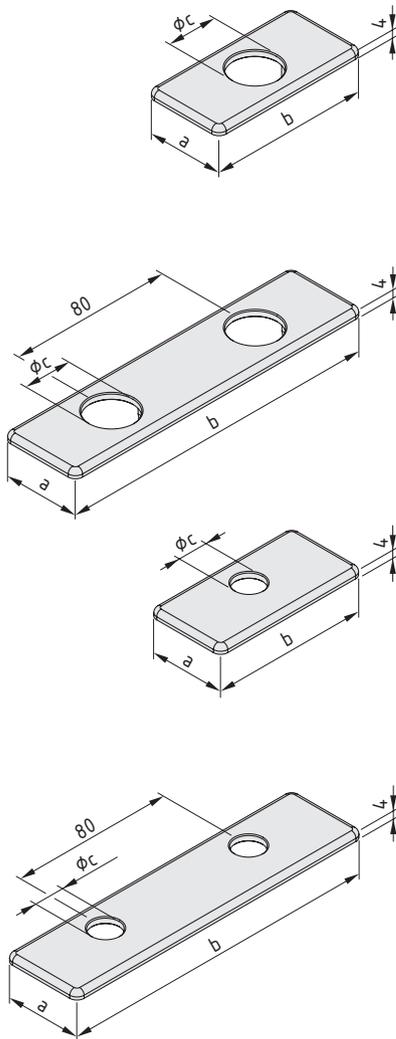
- Safe covering for the end face
- Prevents soiling
- For constructing customised ball-bearing guide bushes



Rounded face covering for cut profile end of the slides or Clamp Blocks of ball-bearing guide bushes.

Materials used in all the following products:

PA-GF



Slide Cap 8 80x40 D14

a = 40 mm b = 80 mm c = 24 mm m = 13.0 g

black, 1 pce. 0.0.386.08

Slide Cap 8 80x80 D25

a = 80 mm b = 80 mm c = 42 mm m = 24.0 g

black, 1 pce. 0.0.387.08

Slide Cap 8 160x40 D14

a = 40 mm b = 160 mm c = 24 mm m = 26.0 g

black, 1 pce. 0.0.386.06

Slide Cap 8 160x80 D25

a = 80 mm b = 160 mm c = 42 mm m = 53.0 g

black, 1 pce. 0.0.387.06

Clamp-Block Cap 8 80x40 D14

a = 40 mm b = 80 mm c = 15 mm m = 14.0 g

black, 1 pce. 0.0.386.09

Clamp-Block Cap 8 80x80 D25

a = 80 mm b = 80 mm c = 26 mm m = 28.0 g

black, 1 pce. 0.0.387.09

Clamp-Block Cap 8 160x40 D14

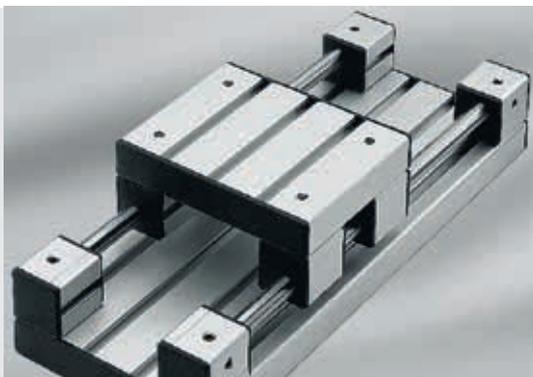
a = 40 mm b = 160 mm c = 15 mm m = 28.0 g

black, 1 pce. 0.0.386.07

Clamp-Block Cap 8 160x80 D25

a = 80 mm b = 160 mm c = 26 mm m = 56.0 g

black, 1 pce. 0.0.387.07



Ball-bush block guides

- Modular blocks enable customisation
- Special block profiles for different heights



The application and characteristics of the modular ball-bush block guides are similar to those of the ball-bearing guide bushes. By separating the sliding carriage into two units, the distance between the points of support on the guides can be selected in accordance with the applied loads.

The special profiles of sizes 40x40 and 60x60 (with Line 8 grooves) accommodate both the shaft and the Ball Bushes.

The range of sizes and the different shaft diameters are designed to withstand applied loads ranging from 500 to 1500 N at a maximum travelling speed of 2 m/s. The Ball Bushes, which are sealed at both ends, and the high-quality

grease filling ensure a long service life, even under difficult operating conditions.

It is advisable to carry out calculations to check the load-bearing capacity and service life and to make an allowance for the deflection of the guiding shafts in the case of longer strokes.

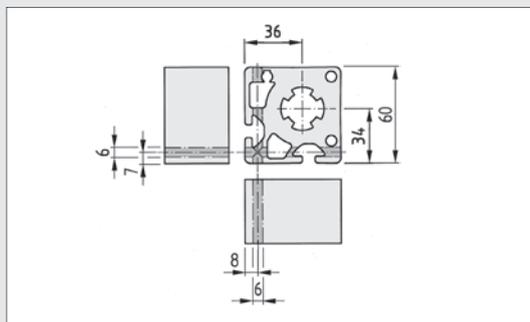
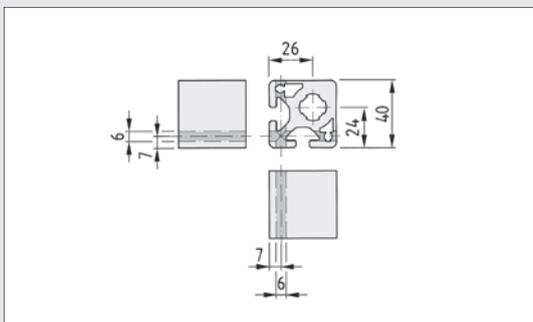
The Direct-Fastening Set is particularly suitable for connecting the profiles of the ball-bush block guides to other profiles, so that the profiles can be moved and no machining is required.



Ball-bush block guides, size 40x40, Shaft D14



Ball-bush block guides, size 60x60, Shaft D25

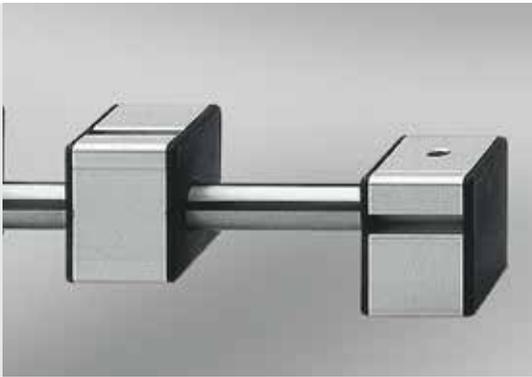


The blocks can be pinned in the areas marked (depending on requirements).



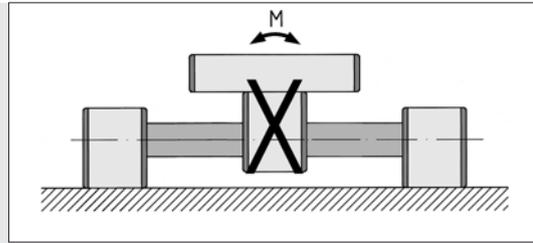
Note:

Section 19 includes equations for calculating the statistically projected service life of all linear slides mounted on rolling elements.



Shaft-Clamp Block Sets Ball-Bush Block Sets

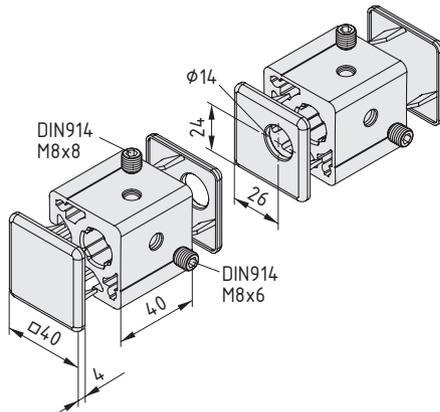
- Compact components for customised linear slides
- All necessary components in one package
- Stable hold for Shafts



The Shaft-Clamp Blocks hold and clamp the shafts. The shafts are clamped by means of appropriate grub screws.

The Ball-Bush Blocks serve as the guide elements with integral press-fitted recirculating Ball Bushes.

An individual Ball Bush is unable to absorb any moment. It is therefore always necessary to use two shafts for a guide system, with at least two Ball Bushes being located one after the other on a single shaft. The distances must be appropriate for the moment loads.



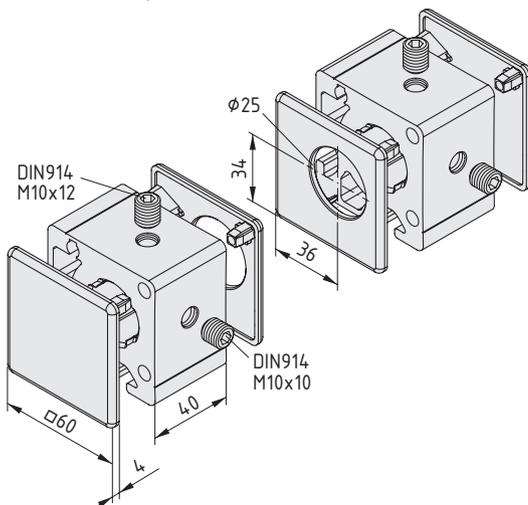
Shaft-Clamp Block Set 8 D14



- 2 Shaft-Clamp Blocks 8 D14, Al, anodized, natural
- 1 Block-End Cap Set 8 40x40, PA-GF, black
- 1 Block-Cap Set 8 D14, PA-GF, black
- m = 220.0 g

1 set

0.0.629.05



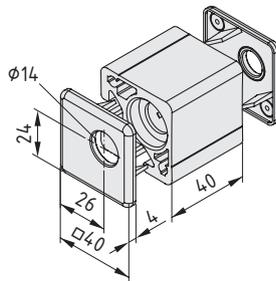
Shaft-Clamp Block Set 8 D25



- 2 Shaft-Clamp Blocks 8 D25, Al, anodized, natural
- 1 Block-End Cap Set 8 60x60, PA-GF, black
- 1 Block-Cap Set 8 D25, PA-GF, black
- m = 537.0 g

1 set

0.0.629.08

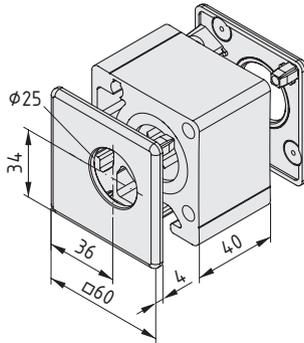


Ball-Bush Block Set 8 D14



1 Ball-Bush Block 8 D14, Al, anodized, natural
 1 Block-Cap Set 8 D14, PA-GF, black

C [N]	C ₀ [N]	v _{max} [m/s]	m [g]
620	520	2	112.0
1 set			0.0.629.16



Ball-Bush Block Set 8 D25



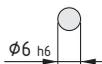
Ball-Bush Block 8 D25, Al, anodized, natural
 Block-Cap Set 8 D25, PA-GF, black

C [N]	C ₀ [N]	v _{max} [m/s]	m [g]
1,990	1,670	2	260.0
1 set			0.0.629.17



Shafts

- Hardened and polished guiding shafts
- Extremely versatile – for use with linear slides, roller guides, linear guide elements, C-Rails, ball-bearing guide bushes, ball-bush block guides
- Available with additional corrosion-resistant coating (Shaft D14K)
- Shaft D14 also available in stainless steel



Shaft D6

St, Cf 53, hardened, polished
 Hardness HRC 60 ± 2
 Roughness Ra = 0.3 µm, Rz = 1.6 µm
 Hardening depth min. 0.4 mm
 Roundness 4 µm, Parallelism 5 µm/1000 mm
 m = 0.22 kg/m

bright, cut-off max. 3000 mm	0.0.356.01
bright, 1 pce., length 3000 mm	0.0.453.75



Shaft D10

St, Cf 53, hardened, polished
 Hardness HRC 60 ± 2
 Roughness Ra = 0.3 µm, Rz = 1.6 µm
 Hardening depth min. 0.4 mm
 Roundness 4 µm, Parallelism 6 µm/1000 mm
 m = 0.62 kg/m

bright, cut-off max. 6000 mm	0.0.401.09
bright, 1 pce., length 3000 mm	0.0.453.76
bright, 1 pce., length 6000 mm	0.0.615.19



Shaft D14

St, Cf 53, hardened, polished
 Hardness HRC 60 ± 2
 Roughness Ra = 0.3 µm, Rz = 1.6 µm
 Hardening depth min. 0.6 mm
 Roundness 5 µm, Parallelism 8 µm/1000 mm
 m = 1.21 kg/m

bright, cut-off max. 6000 mm	0.0.294.01
bright, 1 pce., length 3000 mm	0.0.453.77
bright, 1 pce., length 6000 mm	0.0.614.59

Shaft D14 K

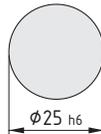
St, Cf 53, hardened, polished
 Hardness HRC 60 ± 2
 Roughness Ra = 0.3 µm, Rz = 1.6 µm
 Hardening depth min. 0.6 mm
 Roundness 5 µm, Parallelism 8 µm/1000 mm
 With corrosion-resistant coating
 m = 1.21 kg/m

black, cut-off max. 3000 mm	0.0.294.55
black, 1 pce., length 3000 mm	0.0.453.78

Shaft D14

St, X 46 Cr 13, hardened, polished
 Hardness HRc 54 ± 2
 Roughness Ra = 0.3 µm, Rz = 2 µm
 Hardening depth min. 0.6 mm
 Roundness 5 µm, Parallelism 8 µm/1000 mm
 m = 1.21 kg/m

stainless, cut-off max. 3000 mm	0.0.472.30
stainless, 1 pce., length 3000 mm	0.0.472.31



Shaft D25

St, Cf 53, hardened, polished
 Hardness HRc 60 ± 2
 Roughness Ra = 0.3 µm, Rz = 1.6 µm
 Hardening depth min. 0.9 mm
 Roundness 6 µm, Parallelism 9 µm/1000 mm
 m = 3.85 kg/m

bright, cut-off max. 6000 mm	0.0.350.09
bright, 1 pce., length 3000 mm	0.0.453.80
bright, 1 pce., length 6000 mm	0.0.615.23

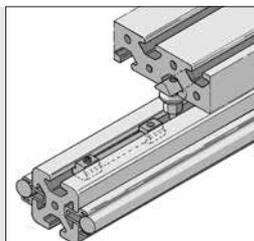


Limit Stop

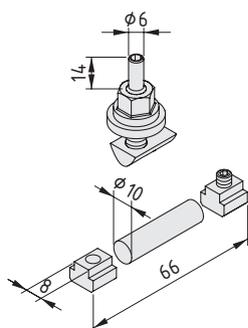
- Slide stop integrated into the profile groove
- No protruding components
- Suitable for positioning anywhere along the groove



Limit Stop for hand-operated sliding carriage or additional mechanical safeguard.
A Limit Stop is required for each terminal position.
The Limit Stop can also be located in the area of the groove covered by a Timing Belt.



Arrangement of the plastic buffer in the groove of the supporting profile. Grub screw M8x44 is secured in the opposing groove of the moving carriage.



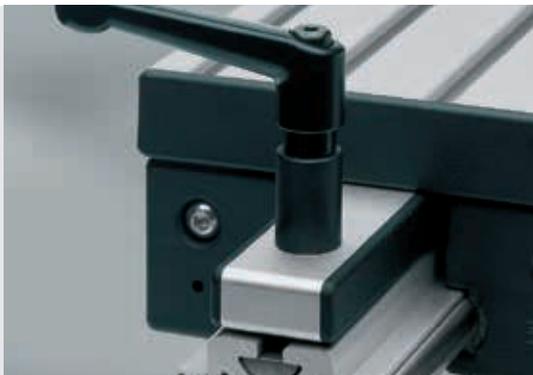
Limit Stop 8



- T-Slot Nut 8 St M8, bright zinc-plated
- Grub screw DIN 916-M6x12, St, bright zinc-plated
- T-Slot Nut M6x8 with thrust piece, St, bright zinc-plated
- Nut DIN 508-M6x8, St, bright zinc-plated
- Plastic buffer Ø 10x40 mm, PUR yellow, 90 Shore A
- Grub screw M8x44, St, bright zinc-plated
- Washer DIN 6340-8.4, St, bright zinc-plated
- Hexagon nut DIN 6331-M8, St, bright zinc-plated
- m = 65.0 g

1 set

0.0.337.11

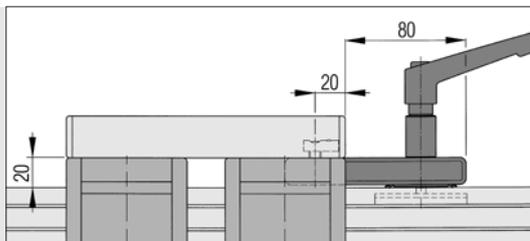


Slide Clamp 8 heavy-duty

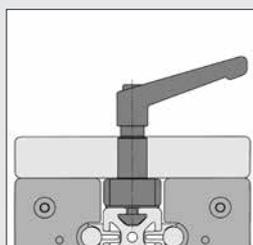
- Hold slides in place
- Large clamping area for high holding force
- Can be used with any slide design



Slide Clamp 8 heavy-duty is used for securing the guide slide relative to the guide profile.
 It can be screw-connected under any carriage of item's linear slides where there is a clearance of 20 mm to the guide profile.
 It is advisable to additionally pin Slide Clamp 8 heavy-duty to the sliding profile (dowel DIN 6325-5m6 x 30).
 Fixing bores have already been provided in Slide Clamp 8 heavy-duty for this purpose.

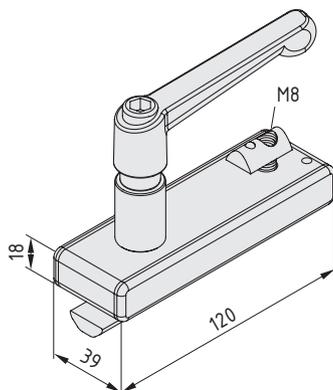


The special design of Slide Clamp 8 heavy-duty prevents undue force being applied to the bearings as a result of the clamping action.



Clamping elements	F* [N]
dry	Approx. 1,500 N
oily	Approx. 1,000 N

*Holding force for maximum tightening torque of 15 Nm



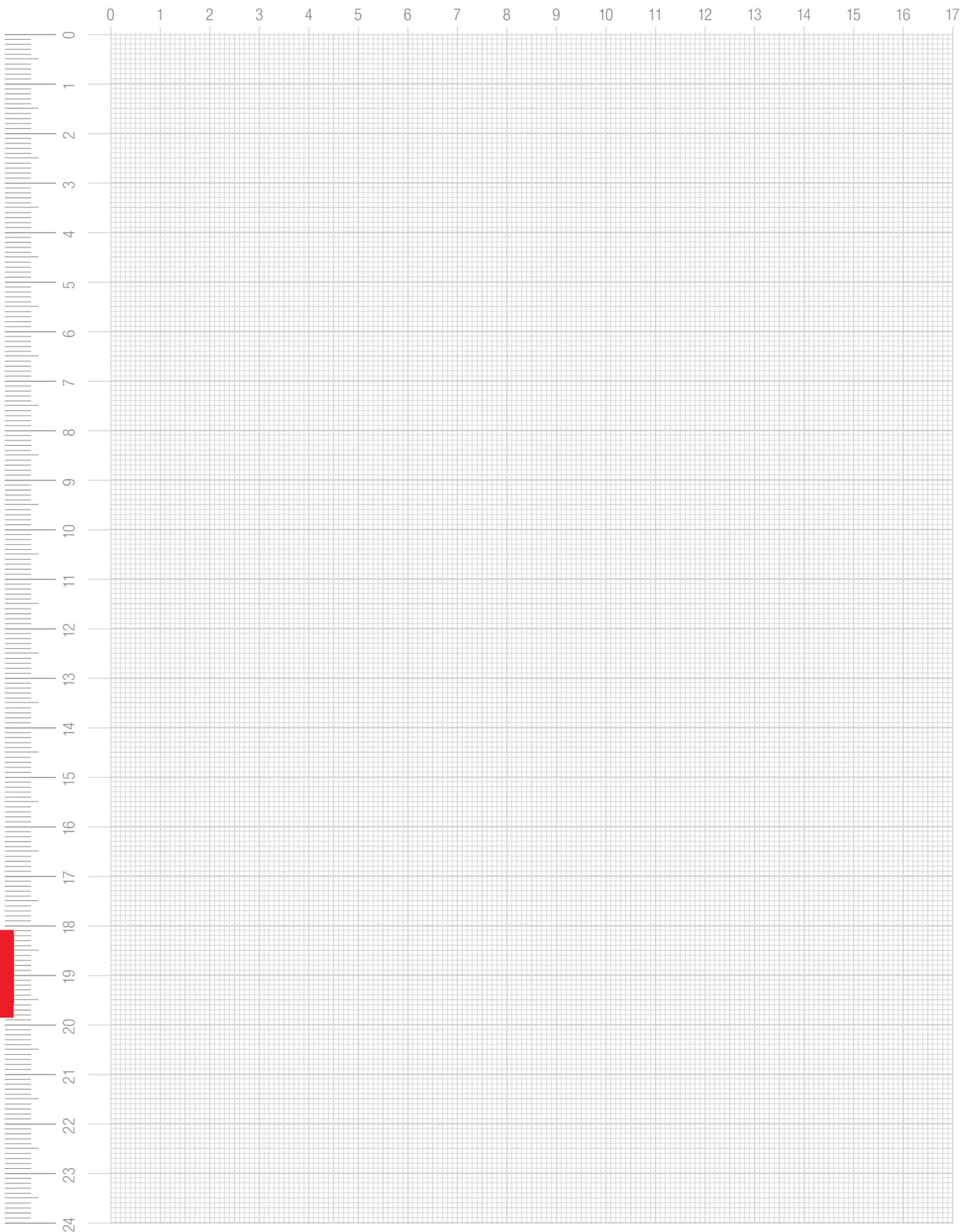
Slide Clamp 8 heavy-duty



- Slide Clamp Profile 8, Al, anodized, natural
- 2 Caps, PA, black
- Special clamping nut, St, black
- Spacer sleeve, St
- 2 wipers
- Hexagon Socket Head Cap Screw DIN912 M8x20, St
- T-Slot Nut 8 St M8
- Clamp lever, black
- m = 385.0 g

1 pce.

0.0.463.65





MECHANICAL DRIVE ELEMENTS

16

- Linear Units
- Timing-Belt Drives
- Chain Drive
- Rack Drive
- Ball Screw Units
- Bevel Gearbox
- Accessories for Mechanical Drive Elements

Mechanical drive elements Products in this section



Timing-Belt Reverse Units

- For driving and reversing Timing Belts
- With multi-spline hub or hub processed to customer specifications

📄596



Timing-Belt Counter-Reverse Units

- Movable axes for mobile applications
- Drive with Timing-Belt Reverse Unit on the slide

📄607



Timing Belt

- Quiet running, rigid traction device
- Highly flexible steel cables with polyurethane sheathing for long service life

📄609



Chain drive

- Chain drive for Linear Slides
- Ideal for simple drive solutions

📄613



Rack drive

- The rack sits entirely in the profile groove
- High drive rigidity with minimum space requirements

📄615



Ball Screw Unit KGT

- For Linear Units with the ultimate positioning accuracy
- Low-wear spindle for long-term precision

📄618



Bevel Gearbox WG

- For connecting drives in virtually any position
- Five connection variants from 90° to 360°

📄619



Couplings

- Compensation for alignment errors
- Cushioning of drive influences

📄623



Coupling Housing

- Stable connection between motor and linear drive
- Can be modified to suit the size of the coupling and the drive casing

📄624



Multi-Spline Shafts

- For building drive shafts and Synchroniser Shafts
- Simple power transmission through plug connection

📄628



Synchronising Shaft Profiles

- For easily constructing Synchroniser Shafts between drive elements
- Torsion angle can be modified using an equaliser coupling

📄630



Proximity Switch

- Inductive proximity switch for added safety in linear drives
- Can be fitted to a Line 8 groove or on a Timing-Belt Reverse Unit

📄635



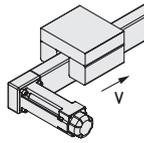
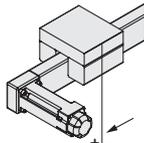
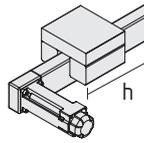
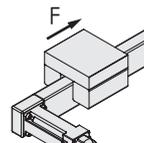
Note:

Technical data on the couplings can be found in Section 19.

Overview – the quickest route to the ideal drive element

Drive elements are the perfect complement to the linear guides available from item. They use timing belts, ball screws and other mechanisms to ensure reliable power transmission between any motor of choice and the carriage. A range of specialised solutions is available to suit various applications, thus making sure that the ideal combination of linear guide and drive element can be found whatever the requirements. All tasks can therefore be taken care of, from rapid and precise process automation to the safe lifting of loads.

The MB Building Kit System supports the construction of custom solutions, which means that even difficult installation scenarios can be dealt with. Linear Units can also be ordered as ready-to-install turnkey solutions for typical tasks that use a combination of standard components as appropriate to requirements. The end result is an automation solution in the required length that saves both time and costs. Online product configurators also make it easier to select the right products. Find out more online, at www.item24.de/en

Drive elements – a comparison	Speed (max.)	Repeat accuracy	Stroke length (max.)	Motive power (max.)
				
Timing-belt drive  596 <ul style="list-style-type: none"> ▪ Universal solution for high speeds ▪ Ideal for long stroke lengths 	5 m/s	0.15 mm	11,700 mm	2,100 N
Chain drive  613 <ul style="list-style-type: none"> ▪ Robust for contaminated environments ▪ Consistently high power transmission 	2 m/s	0.5 mm	5,700 mm	1,400 N
Rack drive  615 <ul style="list-style-type: none"> ▪ Ideal for vertical movements ▪ Extremely rigid and precise 	3 m/s	0.1 mm	5,700 mm	1,000 N
Ball Screw Unit  616 <ul style="list-style-type: none"> ▪ Highest precision of all item drives ▪ Low wear and outstanding rigidity 	1 m/s	0.05 mm	2,700 mm	2,000 N



Note:

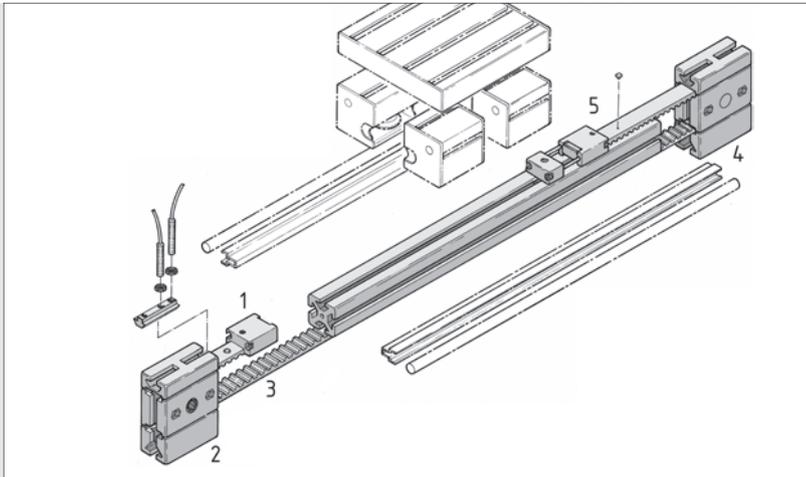
Drive elements from item can be operated with a whole range of motors. item enables users to choose the drive motor that best suits their requirements. Flexible couplings are available for integrating the motor of choice and even synchronised drives are possible. Information on couplings can be found in this section.



Modular Timing-Belt Drives Timing-Belt Reverse Units

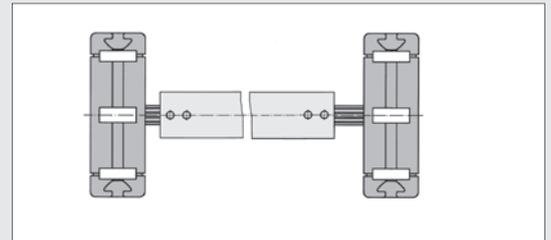
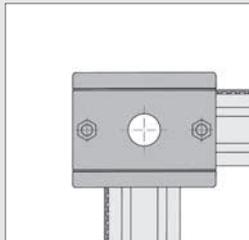
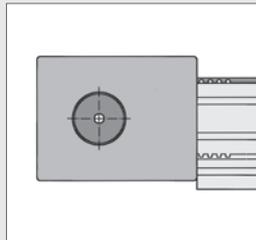
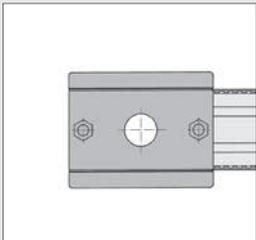
For highly dynamic motions

- Drive and Reverse Unit for timing-belt drives
- Can be connected to virtually any motor
- Available with Multi-Spline Shaft or processed according to customer specifications



Timing-belt drives are particularly suitable for high speeds and extended stroke lengths.

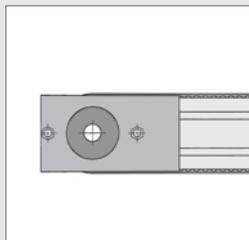
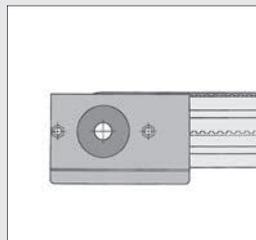
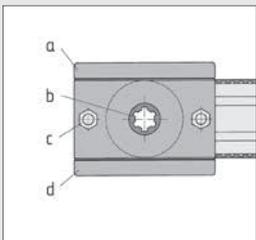
The Timing Belt is fastened to the slide with a Timing Belt Tensioner (1), it is then looped 180° through a Timing-Belt Reverse Unit at the end of the supporting profile (2) and fed back either through or outside the profile (3) to a second Timing-Belt Reverse Unit, where it is again looped 180° (4) before the loose end is connected to and/or tightened on the sliding carriage (5).



Reversal of the Timing Belt around 180°. The Timing Belt can be returned either inside or outside the profile. The timing pulley is provided with multi-spline toothing for attaching drive units or Multi-Spline / Adapter Shafts, or with a bore which can be machined for other shaft / hub connections. The housings of the Timing-Belt Reverse Units feature grooves for connecting to profiles of the relevant Lines.

The special apertures in the Timing-Belt Reverse Unit can also be used to turn the belt through 90°, with the return path being located at any distance from the sliding carriage. If necessary, an additional slide can also be powered, offset at 90° from the first, using the same drive mechanism.

Connection of Timing-Belt Reverse Units either with Multi-Spline Shafts or, for distances in excess of 500 mm, with Adapter Shafts, hollow shafts or Synchroniser Shafts.



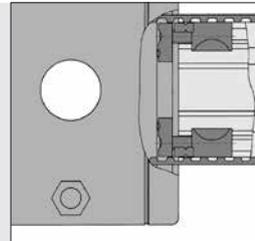
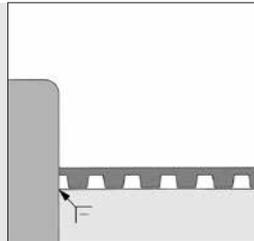
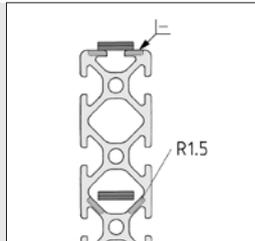
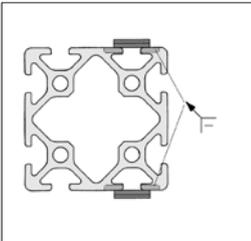
General function of bore and belt covers (exception: Timing-Belt Reverse Units R50 and R75)

- Top belt cover (a) can be detached when used as belt drive
- Timing pulley (b) with multi-spline hub or bore
- Bore in basic shell (c) for mounting Coupling Housings, Adapter Flange, Bevel Gearbox and Ball Screw Unit or for interconnecting Timing-Belt Reverse Units
- Bottom belt cover (d) can be detached where space is restricted



Timing-Belt Reverse Units 5 40 R10

- For driving and reversing Timing Belt R10 T5
- With multi-spline hub or hub processed to customer specifications
- Various motors can be used

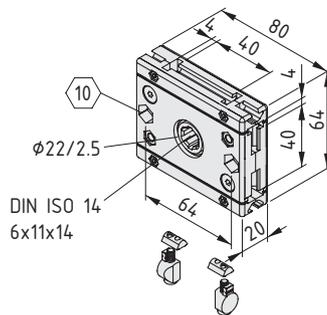


Timing Belts 609

Couplings 623

To protect the Timing Belt against damage, the profiles must be rounded at the joint to the Timing-Belt Reverse Unit.

Mounting at a height of 40 mm in the groove of Pro-profile 5 with Universal-Fastening Set 5.

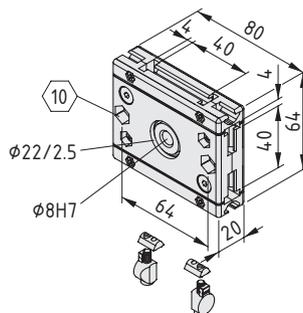


Timing-Belt Reverse Unit 5 40 R10 VK14

Timing-Belt Reverse Unit, die-cast aluminium, black
 Ball-bearing timing pulley with multi-spline hub, hub geometry VK14 for Multi-Spline Shaft VK14 DIN ISO 14 - 6x11x14, hub depth 18 mm,
 One revolution corresponds to 140 mm, effective radius $r_w = 22.3$ mm,
 Frictional moment with 1‰ pre-tensioning of the Timing Belt: $M_R = 0.05$ Nm
 Max. load: $M_p = 3.3$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 110 mm
 180° reversal (outer dimension 80): 135 mm
 180° reversal (outer dimension 64): 150 mm
 2 Universal-Fastening Sets 5, die-cast zinc, bright zinc-pl.
 Pitch $p = 5$ mm Number of teeth $z = 28$
 Notes on Use and Installation
 $m = 262.0$ g

1 pce.

0.0.410.01

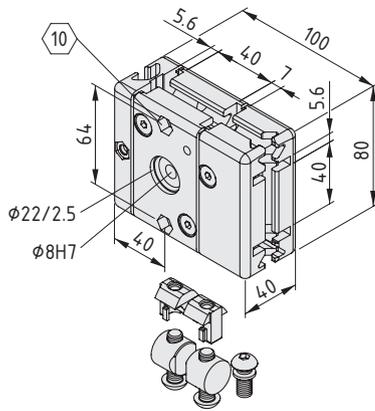


Timing-Belt Reverse Unit 5 40 R10 with Bore

Timing-Belt Reverse Unit, die-cast aluminium, black
 Ball-bearing timing pulley with bore $\varnothing 8H7$, reborable up to max. $\varnothing 15$ mm
 Hub depth 18 mm
 One revolution corresponds to 140 mm, effective radius $r_w = 22.3$ mm,
 Frictional moment with 1‰ pre-tensioning of the Timing Belt: $M_R = 0.05$ Nm
 Max. load: $M_p = 3.3$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 110 mm
 180° reversal (outer dimension 80): 135 mm
 180° reversal (outer dimension 64): 150 mm
 2 Universal-Fastening Sets 5, die-cast zinc, bright zinc-pl.
 Pitch $p = 5$ mm Number of teeth $z = 28$
 Notes on Use and Installation
 $m = 277.0$ g

1 pce.

0.0.410.06



Timing-Belt Reverse Unit 8 40 R25 with Bore

Timing-Belt Reverse Unit, die-cast zinc, black

Ball-bearing timing pulley with bore \varnothing 8H7, reborable up to max. \varnothing 15 mm, hub depth 30 mm

One revolution corresponds to 150 mm, effective radius $r_w = 23.9$ mm

Frictional moment with 1‰ pre-tensioning of the Timing Belt: $M_f = 0.30$ Nm

Max. load: $M_0 = 20$ Nm

Timing Belt length in the Timing-Belt Reverse Unit for 90° reversal: 140 mm

180° reversal (emerg. on 100 mm side): 160 mm

180° reversal (emerg. on 80 mm side): 200 mm

2 Universal Fasteners 8

2 Button-Head Screws ISO 7380-M8x30, St, bright zinc-pl.

Special T-Slot Nut M8, cast steel

Button-Head Screw ISO 7380-M8x20, St, bright zinc-pl.

Washer DIN 125-8.4 St, bright zinc-plated

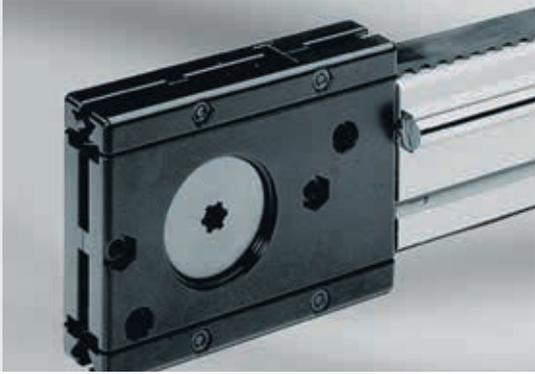
Pitch $p = 10$ mm Number of teeth $z = 15$

Notes on Use and Installation

$m = 1.3$ kg

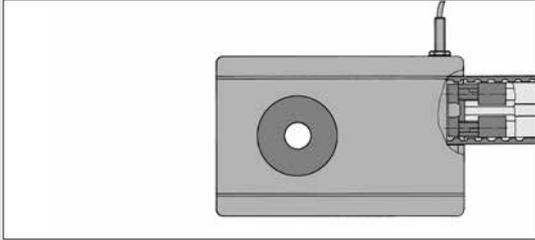
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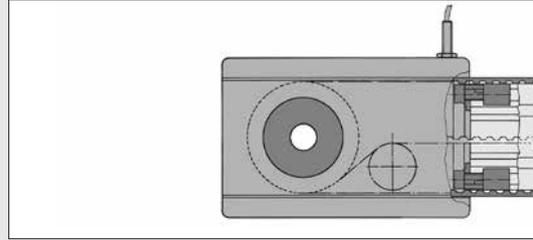


Timing-Belt Reverse Units 8 80 R25

- For driving and reversing Timing Belt R25 T10
- Variable emergence dimension of 40 or 80 mm
- With multi-spline hub or hub processed to customer specifications
- Various motors can be used

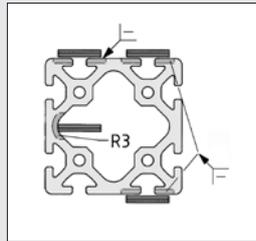
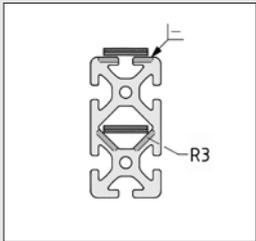


Timing-Belt Reverse Unit 8 80 R25 mounted at a profile height of 40 mm in the groove of Profile 8 using Universal Fastener 8 and special T-Slot Nut or at a profile height of 80 mm by splitting the special T-Slot Nut at the specified break point.

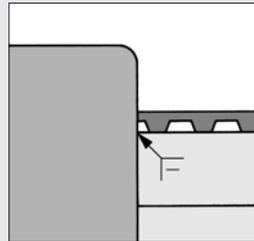


The variation in the emergence dimensions from 80 mm to 40 mm is achieved by rerouting the Timing Belt internally. The Timing Belt is routed with its smooth reverse side over the reversing pulleys.

The allowable driving torque of Timing-Belt Reverse Units 8 80 R25 is limited to $M_D = 40 \text{ Nm}$ when the loaded belt runs through the reversing pulleys. In this case, a Timing-Belt Reverse Unit 8 40 R25 can be used as a second reverse unit.

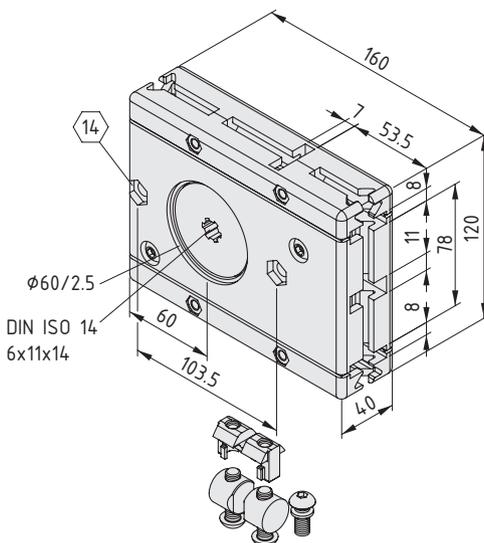


To protect the Timing Belt against damage, the profiles must be rounded at the joint to the Timing-Belt Reverse Unit.



Timing Belts 609

Couplings 623

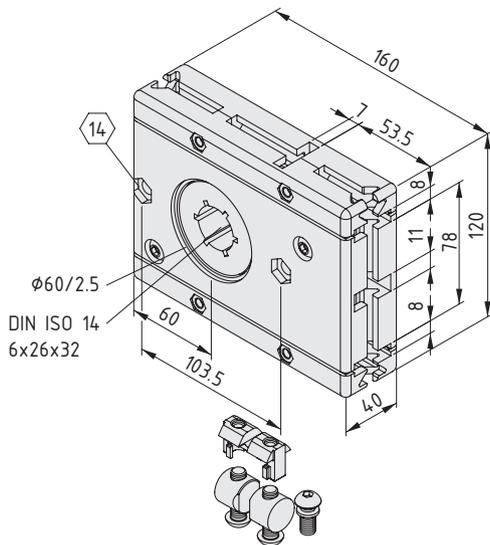


Timing-Belt Reverse Unit 8 80 R25 VK14

Timing-Belt Reverse Unit, die-cast zinc, black
 Ball-bearing timing pulley with multi-spline hub, hub geometry VK14 for Multi-Spline Shaft VK14 DIN ISO 14 - 6x11x14, hub depth 29 mm
 One revolution corresponds to 280 mm, effective radius $r_w = 44.6 \text{ mm}$
 Frict. moment with 1‰ pre-tensioning of the Timing Belt:
 (Emergence dim. 40) $M_R = 1.05 \text{ Nm}$
 (Emergence dim. 80) $M_R = 0.55 \text{ Nm}$
 Max. load: $M_D = 28 \text{ Nm}$
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 190 mm
 180° reversal (emergence dim. 40): 360 mm
 180° reversal (emergence dim. 80): 340 mm
 2 Universal Fasteners 8
 2 Button-Head Screws ISO 7380-M8x30, St, bright zinc-pl.
 Special T-Slot Nut M8, cast steel
 Pitch $p = 10 \text{ mm}$ Number of teeth $z = 28$
 Notes on Use and Installation
 $m = 3.3 \text{ kg}$

1 pce.

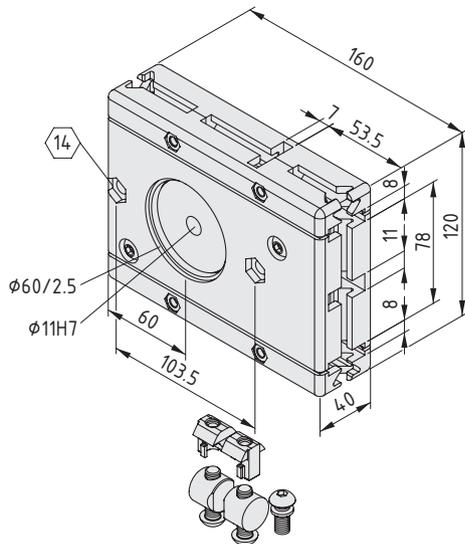
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**Timing-Belt Reverse Unit 8 80 R25 VK32**

Timing-Belt Reverse Unit, die-cast zinc, black
 Ball-bearing timing pulley with multi-spline hub, hub geometry VK14 for Multi-Spline Shaft VK32 DIN ISO 32 - 6x26x32, hub depth 29 mm
 One revolution corresponds to 280 mm, effective radius $r_w = 44.6$ mm
 Frict. moment with 1‰ pre-tensioning of the Timing Belt:
 (Emergence dim. 40) $M_R = 1.05$ Nm
 (Emergence dim. 80) $M_R = 0.55$ Nm
 Max. load: $M_D = 52$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 190 mm
 180° reversal (emergence dim. 40): 360 mm
 180° reversal (emergence dim. 80): 340 mm
 2 Universal Fasteners 8
 2 Button-Head Screws ISO 7380-M8x30, St, bright zinc-pl.
 Special T-Slot Nut M8, cast steel
 Pitch $p = 10$ mm Number of teeth $z = 28$
 Notes on Use and Installation
 $m = 3.2$ kg

1 pce.

0.0.366.11

**Timing-Belt Reverse Unit 8 80 R25 with Bore**

Timing-Belt Reverse Unit, die-cast zinc, black
 Ball-bearing timing pulley with bore $\varnothing 11H7$, reborable up to max. $\varnothing 50$ mm, hub depth 29 mm
 One revolution corresponds to 280 mm, effective radius $r_w = 44.6$ mm
 Frict. moment with 1‰ pre-tensioning of the Timing Belt:
 (Emergence dim. 40) $M_R = 1.05$ Nm
 (Emergence dim. 80) $M_R = 0.55$ Nm
 Max. load: $M_D = 52$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 190 mm
 180° reversal (emergence dim. 40): 360 mm
 180° reversal (emergence dim. 80): 340 mm
 2 Universal Fasteners 8
 2 Button-Head Screws ISO 7380-M8x30, St, bright zinc-pl.
 Special T-Slot Nut M8, cast steel
 Pitch $p = 10$ mm Number of teeth $z = 28$
 Notes on Use and Installation
 $m = 3.3$ kg

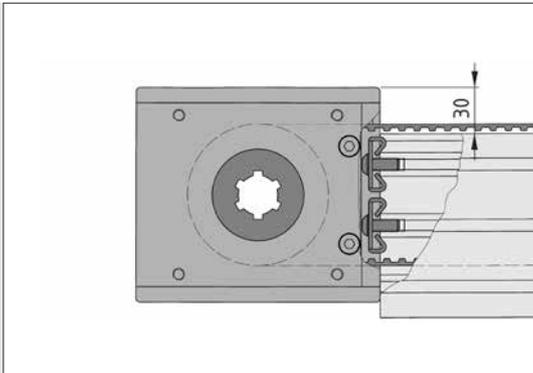
1 pce.

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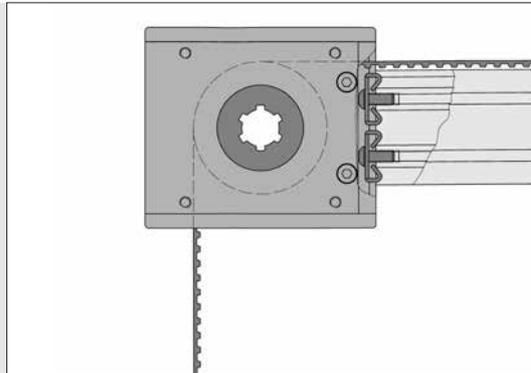


Timing-Belt Reverse Units 8 80 R50 II

- For driving and reversing Timing Belt R50 T10
- Compatible with Profiles 8 in dimensions of 80 x 80 mm and larger
- With multi-spline hub or hub processed to customer specifications
- Various motors can be used

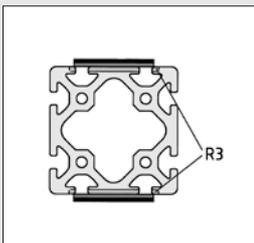


Connection of Timing-Belt Reverse Unit 8 80 R50 II based on a profile height of 120 mm (return of the Timing Belt in the profile cavity) or a profile height of 80 mm with Standard-Fastening Sets 8. To do this, the Timing-Belt Reverse Unit is partially dismantled, secured to the profile and then refitted. The emergence dimension of the Timing Belt is 80 mm.

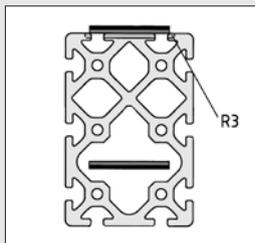


90° reversal of Timing Belt R50 T10.

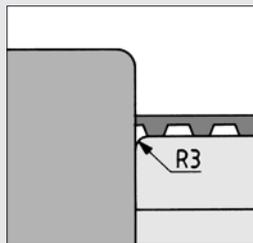
The opening for the Timing Belt is marked out on the inside and must be removed from the cap. If for design reasons the Timing-Belt Reverse Unit is fitted without a cap, the length of the Timing Belt in the Reverse Unit reduces by 10 mm.



To protect the Timing Belt against damage, the profiles must be rounded at the joint to the Timing-Belt Reverse Unit.



The profile cavities of Profiles 8 120x80 and 8 200x80 are suitable for routing back the Timing Belt internally.



Timing Belts	609
Couplings	623
Mounting Plate	606

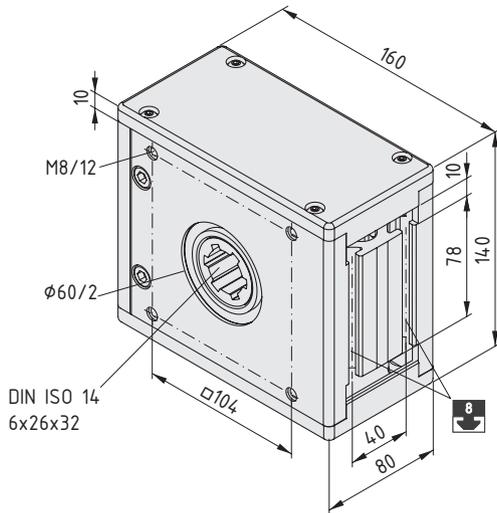


Timing-Belt Reverse Unit 8 80 R50 II VK32

Timing-Belt Reverse Unit, Al, black
 Ball-bearing timing pulley with multi-spline hub, Hub geometry VK32 for Multi-Spline Shaft VK32 DIN ISO 14 - 6x26x32, hub depth 75 mm
 One revolution corresponds to 280 mm, effective radius $r_w = 44.6$ mm
 Frictional moment with 1‰ pre-tensioning of the Timing Belt: $M_R = 1.05$ Nm
 Max. load: $M_0 = 92$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 220 mm
 180° reversal: 300 mm
 Pitch $p = 10$ mm Number of teeth $z = 28$
 $m = 3.9$ kg

1 pce.

0.0.426.19

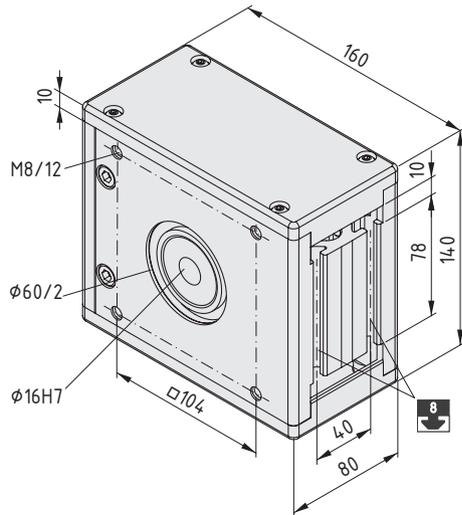


Timing-Belt Reverse Unit 8 80 R50 II with Bore

Timing-Belt Reverse Unit, Al, black
 Ball-bearing timing pulley with bore $\varnothing 16H7$, reborable up to max. $\varnothing 36$ mm, hub depth 75 mm
 One revolution corresponds to 280 mm, effective radius $r_w = 44.6$ mm
 Frictional moment with 1‰ pre-tensioning of the Timing Belt: $M_R = 1.05$ Nm
 Max. load: $M_0 = 92$ Nm
 Timing Belt length in the Timing-Belt Reverse Unit for
 90° reversal: 220 mm
 180° reversal: 300 mm
 Pitch $p = 10$ mm Number of teeth $z = 28$
 $m = 4.2$ kg

1 pce.

0.0.426.21





Drive Unit GSF 8 40 R10 Timing-Belt Reverse Unit GSF 8 40 R10

Space-saving solution for moving light loads

- Especially compact timing-belt drive
- Uses Line 8 profile as a guide
- Very low material requirements due to T-slot slider



It's so small and yet it's a complete timing-belt drive! All the components fit together to make a compact solution. The tensioning device for the Timing Belt is integrated into the Reverse Unit. The ball-bearing mounted pulleys ensure that everything runs smoothly. When used with Slide Set GSF 8 80x40, it creates a Linear Unit made up of just a few components. Drive Set GSF 8 40 is used to connect to the motor.

Drive Unit and Timing-Belt Reverse Unit GSF 8 40 R10 can be used with a wide range of Line 8 profiles that are 40 mm in height as a guide. These profiles must have one Line 8 groove for the T-slot slider and another Line 8 groove opposite, through which the timing belt can be returned.

The Drive Unit and Reverse Unit are fixed in place in the core bore of the profile, which has to be tapped with an M8 thread.

Timing Belts 609

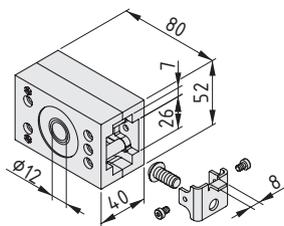
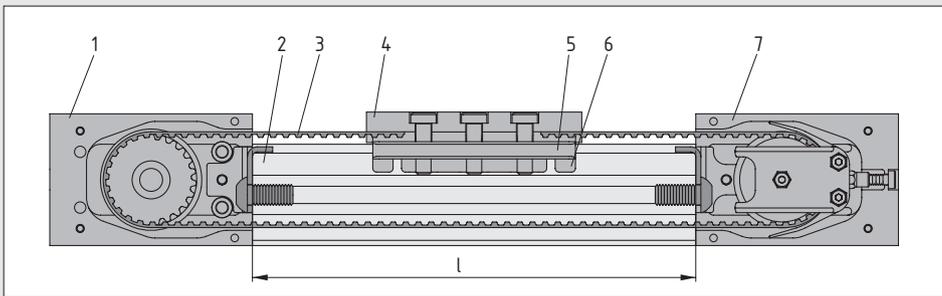
Slide Set GSF 8 80x40 560



Belt length $L = 2 \times l + 210 \text{ mm}$

- 1 Drive Unit GSF 8 40 R10
- 2 Profile X 8 40x40 1N
- 3 Timing Belt R10 T5
- 4 Slide plate*
- 5 Sliding shoe*
- 6 Slide*
- 7 Timing-Belt Reverse Unit GSF 8 40 R10

(*4, 5, 6 = Slide Set GSF 8 80x40)

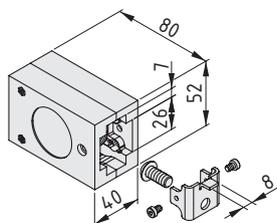


Drive Unit GSF 8 40 R10

Drive Unit Al, natural
Hollow shaft $\varnothing 12 \text{ H7}$, St, stainless
Effective radius 18.3 mm
 $M_{\text{max}} = 3 \text{ Nm}$
Length of Timing Belt inside the Timing-Belt Reverse Unit: 137 mm
Button-Head Screw ISO 7380-M8x18, St, bright zinc-plated
Retaining bracket, St, stainless
2 Hexagon Socket Head Cap Screws DIN 7984-M4x6, St, bright zinc-plated
Installation guide
 $m = 442.5 \text{ g}$

1 set

0.0.654.21



Timing-Belt Reverse Unit GSF 8 40 R10

Timing-Belt Reverse Unit Al, natural
Tensioning device
Length of Timing Belt inside the Timing-Belt Reverse Unit: 115 mm
Button-Head Screw ISO 7380-M8x18, St, bright zinc-plated
Retaining bracket, St, stainless
2 Hexagon Socket Head Cap Screws DIN 7984-M4x6, St, bright zinc-plated
Installation guide
 $m = 404.3 \text{ g}$

1 set

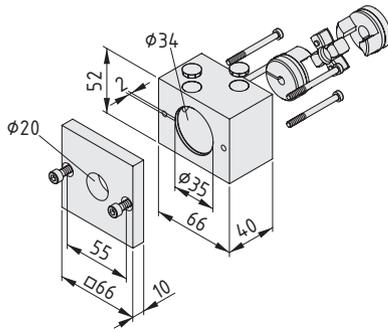
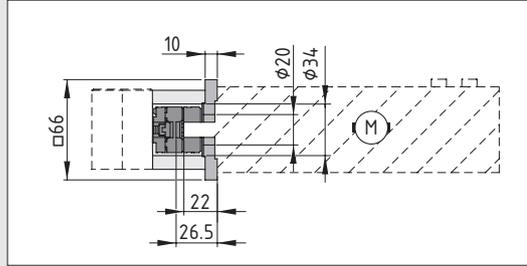
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Drive Set GSF 8 40

- A variable coupling is used to enable connection of any drives

Drive Set GSF 8 40 can be used to connect any drives to Linear Unit GSF 8. The versatile coupling can be adapted for several different drive shafts and transfers drive torque without play. The maximum transferrable drive torque is 3 Nm.



Drive Set GSF 8 40

- Coupling Housing GSF 8, Al
- Adapter Plate GSF 8, Al
- Coupling Half D30/D6, Al - reborable up to $\varnothing 16\text{mm}$
- Expanding hub coupling half D30/D12, St and Al
- Coupling Insert D30, PU, blue
- 4 Hexagon Socket Head Cap Screws DIN 7984 M4x45, St, bright zinc-plated
- 2 Hexagon Socket Head Cap Screws DIN 912 M5x14, St, bright zinc-plated
- Cap D30F, PA, grey
- Tightening torque, expanding hub screw: 2.8 Nm
- Tightening torque, clamping hub screw: 2 Nm
- m = 477.0 g

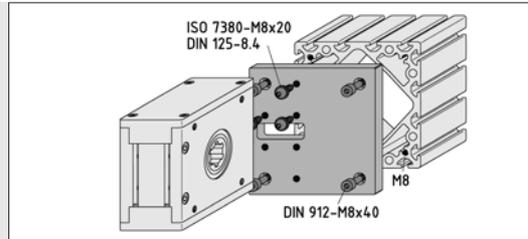
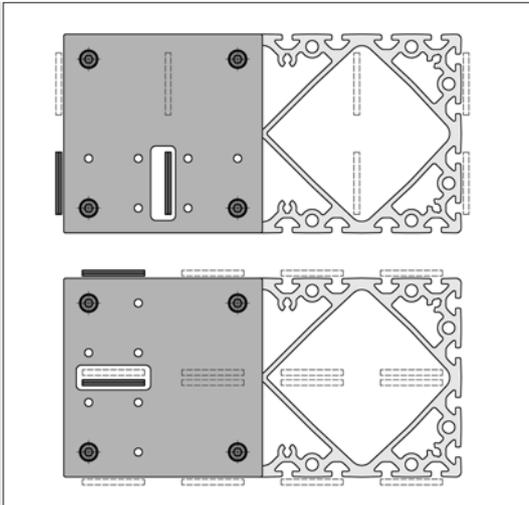
1 set

0.0.654.23



Mounting Plate

- For fastening Timing-Belt Reverse Unit 8 80 R50 II to Profiles 8 160x160 and 320x160.



1. Fitting the Mounting Plate to the end face of the profile:
Secure plate to the profile core bores using four bolts DIN 912-M8x40.
2. Fitting the Timing-Belt Reverse Unit 8 80 R50 II to the Mounting Plate:
Drive 3 Button-Head Screws M8x20 with washers DIN 125-8.4 into the threaded bores of the Mounting Plate.

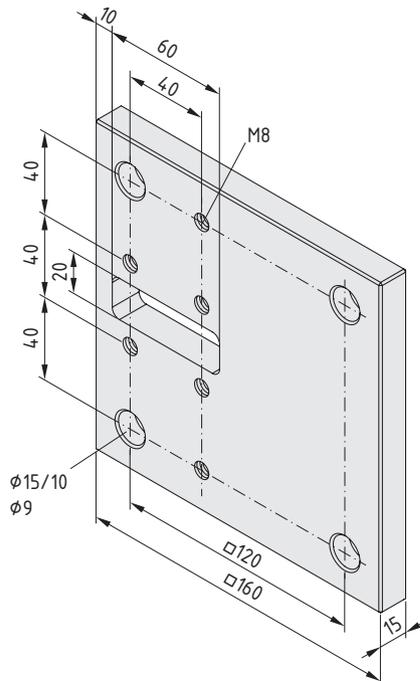
The Mounting Plate can be used to fasten Timing Belt R50 to any face of the profile.

Connecting Plate 160x160 U80R50

Al
m = 1.0 kg

black, 1 pce.

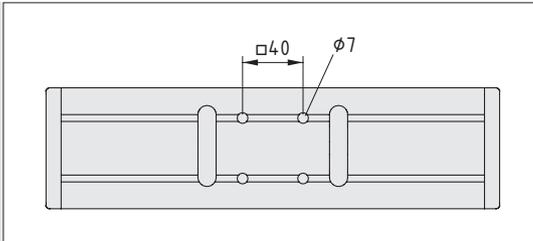
0.0.480.71



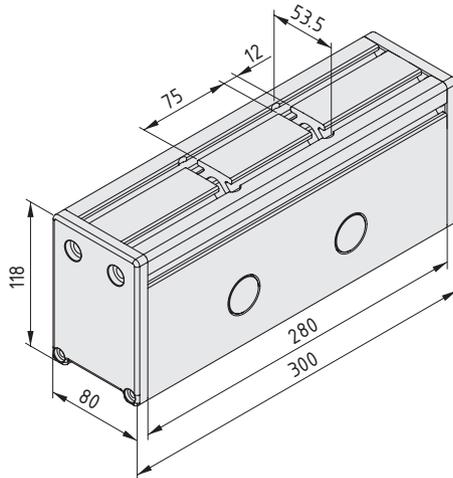


Timing-Belt Counter-Reverse Unit 8 80 R50

- For installing the drive on the slide
- Emergence dimension of Timing Belt 80 mm
- Ideal for vertical axes
- Drive with Timing-Belt Reverse Unit 8 80 R50 II



The Line 8 grooves of the Housing Profile can be used for fastening the Timing-Belt Reverse Unit and the slide construction.



Timing-Belt Counter-Reverse Unit 8 80 R50



Housing Al, black
 2 caps, PA, black
 2 ball-bearing reverse rollers, for Timing Belt width 50 mm
 Frictional moment with 1‰ pre-tensioning of the Timing Belt:
 $M_R = 0.75 \text{ Nm}$
 Timing Belt length in the Counter-Reverse Unit:
 2 x 202 mm
 $m = 4.7 \text{ kg}$

1 pce.

0.0.362.07



Timing Belts

- Quiet running, rigid traction device
- Highly flexible stranding results in a low-maintenance belt despite tight bending radii
- Steel cables with polyurethane sheathing
- Designed specifically for use with Timing-Belt Reverse Units and Timing-Belt Counter-Reverse Units from item



The overall length of the Timing Belt is calculated from the length of the supporting profile and the Timing Belt segments located in the Timing-Belt Reverse Units.

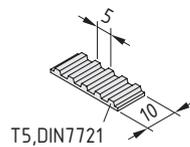
The pre-tensioning should be larger than or equal to the expected operating load. The pre-tensioning and operating load together must not exceed the maximum permissible load. To set the calculated pre-tensioning distance ΔL , it is advisable to measure the elongation during the tensioning process. The required minimum pre-tensioning distance of the Timing Belt must be calculated as a function of the pre-tensioning force F_v :

$$\Delta L = \frac{L \cdot F_v}{1000 \cdot K}$$

L = Total length of the Timing Belt in mm

F_v = Pre-tensioning force in N

K = Constant of expansion in N (equivalent to the pre-tensioning force to expand the Timing Belt by 1%)



Timing Belt R10 T5

With integrated steel wires

Perm. load 300 N

$K = 75$ N

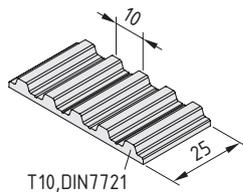
$m = 23$ g/m

black, cut-off max. 50 m

0.0.400.04

black, 1 roll length 50 m

0.0.400.11



Timing Belt R25 T10

With integrated steel wires

Perm. load 2,400 N

$K = 500$ N

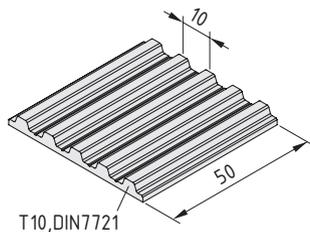
$m = 125$ g/m

black, cut-off max. 50 m

0.0.337.10

black, 1 roll length 50 m

0.0.337.64



Timing Belt R50 T10

With integrated steel wires

Perm. load 4,200 N

$K = 1,000$ N

$m = 250$ g/m

black, cut-off max. 50 m

0.0.426.03

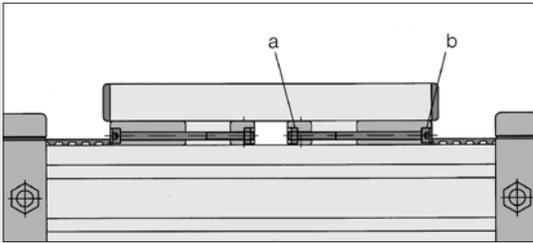
black, 1 roll length 50 m

0.0.426.10



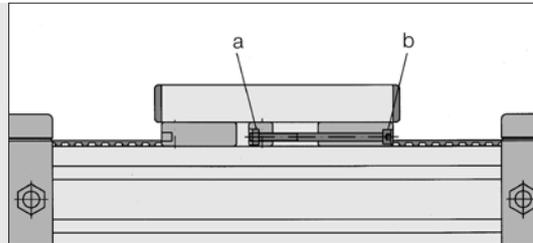
Timing-Belt Tensioner

- For fastening and tensioning Timing Belts
- Can be installed underneath the sliding carriage or at the profile end

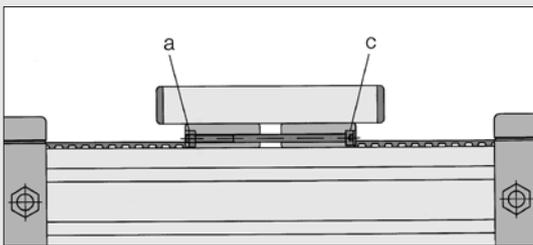


Fastening and tensioning the Timing Belt on a sliding carriage using Tensioning Blocks and Fixing Block and the appropriate bolts.

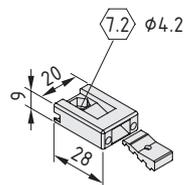
Where high loads are involved, Tensioning Block 8 and Fixing Block 8 will need to be pinned (dowel ISO 2338- \varnothing 6 mm). The position of the dowels is indicated by the prepared bores \varnothing 5.5 mm.



	5 R10	8 R25	8 R50
a = hexagon nut DIN 985	M3	M6	M6
b = Hexagon Socket Head Cap Screw DIN 912	M3x50	M6x80	M6x100
c = Hexagon Socket Head Cap Screw DIN 912	M3x60	M6x100	M6x140



Hexagon Socket Head Cap Screws 158

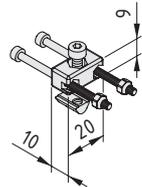


Timing-Belt Tensioner, Tensioning Block 5 R10

Tensioning Block, die-cast aluminium, black
Interlocking fixing piece, die-cast aluminium, black
m = 8.5 g

1 set

0.0.400.07

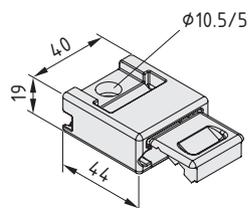


Timing-Belt Tensioner, Fixing Block 5 R10

Fixing Block, die-cast aluminium, black
Cap Screw DIN 912-M4x10, St, bright zinc-plated
T-Slot Nut 5 St M4, bright zinc-plated
2 hexagon nuts DIN 985-M3, self-locking, St, bright zinc-plated
2 Cap Screws DIN 912-M3x50, St, bright zinc-plated
m = 13.0 g

1 set

0.0.400.06

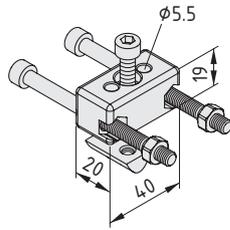


Timing-Belt Tensioner, Tensioning Block 8 R25

Tensioning Block, cast steel, black
Interlocking fixing piece, cast steel, black
m = 136.0 g

1 set

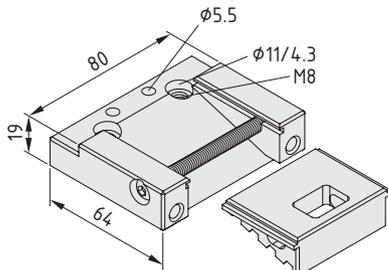
0.0.426.29

**Timing Belt Tensioner, Fixing Block 8 R25**

Fixing Block, cast steel, black
 Cap Screw DIN 912-M6x25, St, bright zinc-plated
 T-Slot Nut 8 St M6, bright zinc-plated
 2 hexagon nuts DIN 985-M6, self-locking, St, bright zinc-plated
 2 Cap Screws DIN 912-M6x80, St, bright zinc-plated
 m = 128.0 g

1 set

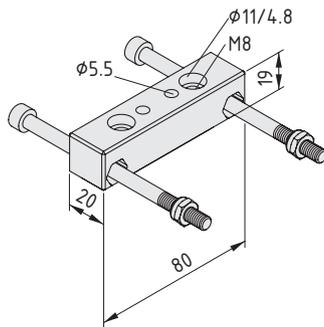
0.0.426.30

**Timing-Belt Tensioner, Tensioning Block 8 R50**

Tensioning Block, Al, anodized, black
 Interlocking fixing piece, Al, anodized, black
 m = 205.0 g

1 set

0.0.426.04

**Timing-Belt Tensioner, Fixing Block 8 R50**

Fixing Block, Al, anodized, black
 2 hexagon nuts DIN 985-M6, self-locking, St, bright zinc-pl.
 2 Hexagon Socket Head Cap Screws DIN 912-M6x100, St, bright zinc-plated
 m = 119.0 g

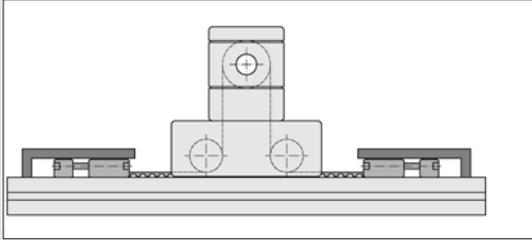
1 set

0.0.426.05

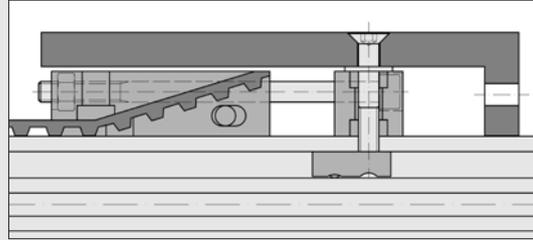


Timing-Belt Tensioner Holder

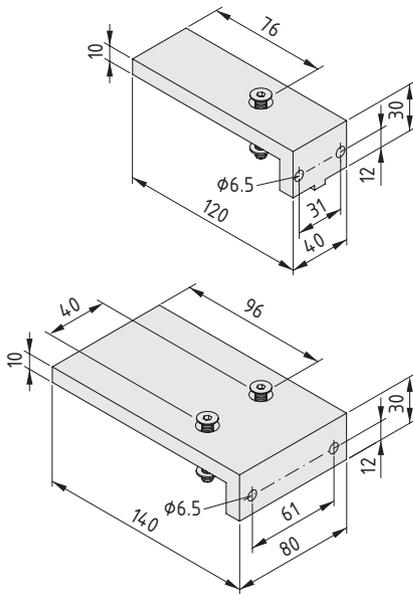
- For reinforcing the hold of Timing-Belt Tensioners on driven linear axes
- For holding down tensioners and ensuring the belt runs straight and level
- For reducing vibrations and taking strain off screw connections



Drawing of a linear drive with moving axis. Holders prevent the timing-belt tensioners lifting away from the profile.



The Timing-Belt Tensioner Holder is screwed together with the fixing block. The tensioning screws of the timing-belt tensioner are accessed through the holes provided.



Timing-Belt Tensioner Holder 8 R25



Holder, Al, anodized, natural
 Countersunk Screw DIN 7991-M6x40, St, bright zinc-plated
 3 adapter washers DIN 988, St, stainless
 m = 160.0 g

1 set

0.0.426.33

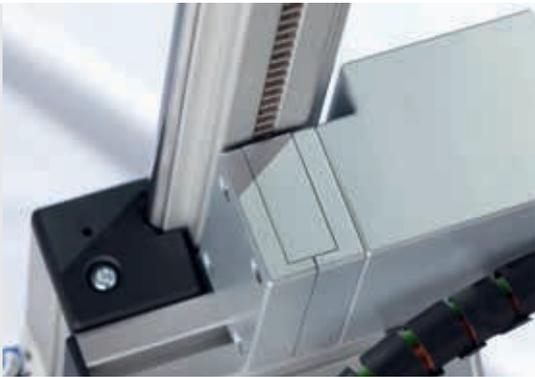
Timing-Belt Tensioner Holder 8 R50



Holder, Al, anodized, natural
 2 Countersunk Screws DIN 7991-M6x40, St, bright zinc-plated
 6 adapter washers DIN 988, St, stainless
 m = 360.0 g

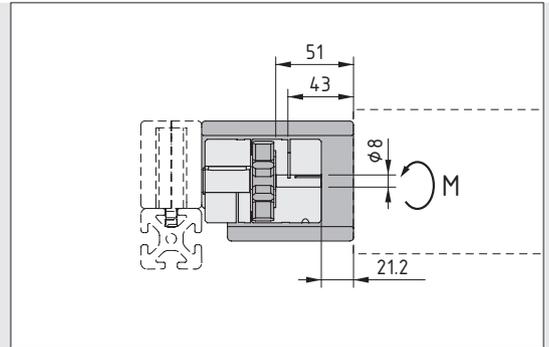
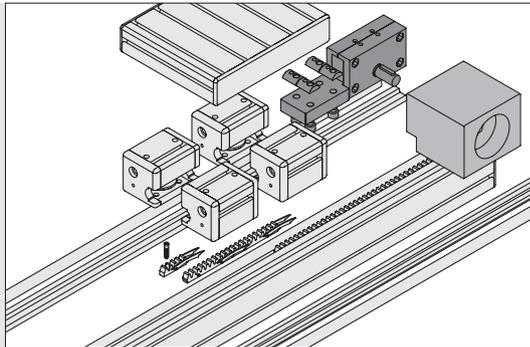
1 set

0.0.426.36



Modular Rack Drive Rack 8 Drive Module

- Slide driven directly via the rack
- Versatile coupling ensures virtually any drive can be connected



The item rack drive can also be used with a motor of the customer's choosing. That's why the Coupling Module comes with a universal coupling for connecting virtually any motor. The coupling is connected directly to the module's housing.

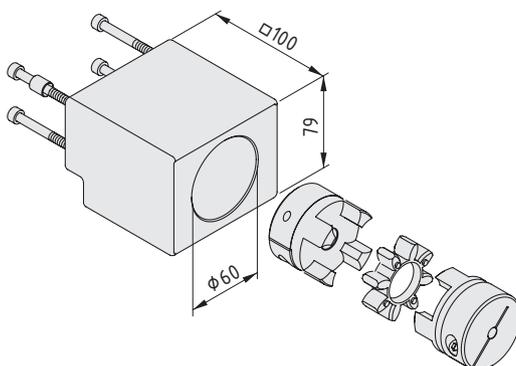
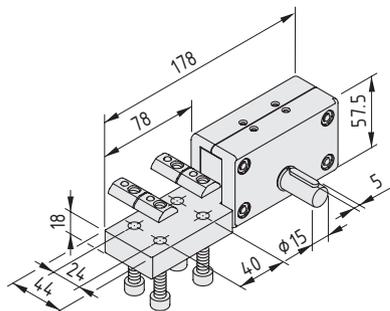
Technical data:

Maximum drive force 1000 N

$M_{\max} = 23 \text{ Nm}$

$n = 1200 / \text{min}$ ($V_{\max} = 3 \text{ m/s}$)

The Rack 8 Coupling Module fits nearly any motor – simply process the housing and coupling to suit your needs. You will, however, need to take care over how far the shaft extends into the coupling half.



Rack 8 Drive Module



- Drive housing, Al, white aluminium similar to RAL 9006
- Height-adjustable carriage connection plate, St, white aluminium
- Drive gear, double ball bearing, $z = 18$, St
- One revolution corresponds to 144 mm
- 2 felt discs
- 4 Hexagon Socket Head Cap Screws DIN 912-M8x20, bright zinc-plated
- 4 T-Slot Nuts 8 St M8, heavy duty
- Notes on Use and Installation
- $m = 1.5 \text{ kg}$

1 set

0.0.621.69

Rack 8 Coupling Module



- Coupling housing, Al, white aluminium
- Coupling set D55
- Screws, fastening elements and centring sleeves
- Tightening torque, clamping hub screw: 9.6 Nm
- $m = 1.7 \text{ kg}$

1 set

0.0.621.73



Rack 8

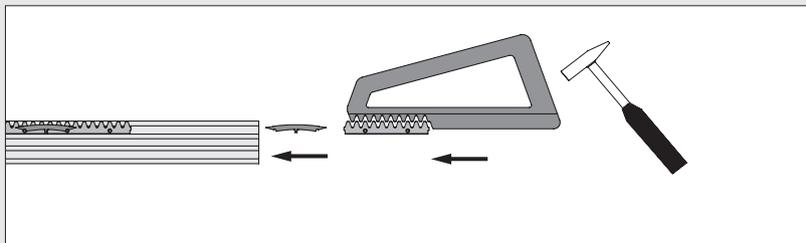
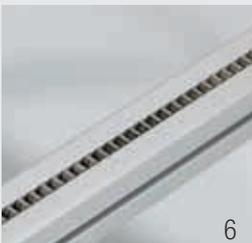
Safe lifting motion and precise repeatability

- The rack sits entirely in the profile groove
- High drive rigidity with minimum space requirements
- Practical clamping technology eliminates need for machining during installation



This rack drive is unrivalled in its compact design. There's nothing above it and no space is wasted. High rigidity and long service life combine with minimum maintenance.

Rack drive 8 is designed for use with a Linear Slide 8 D14. Precise manufacturing tolerances and an effective and innovative longitudinal fastening system result in reduced pitch error over longer lengths.

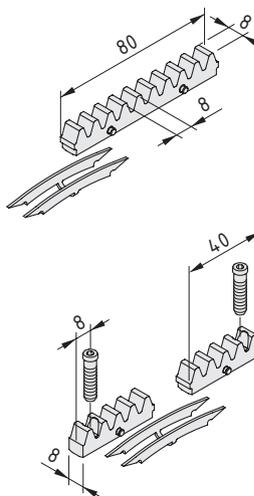


Rack 8 Assembly Tool 669

Rack 8 End Section and Rack 8 Segment 80

The two parts of the Rack 8 End Section form the start and finish of a rack. As many Segment 80 pieces as required can be used between these two points. The protected clamp technology secures each Segment with no extra work required. The short but precise length of each rack segment eliminates systematic errors typical in longer lengths. The connecting clips form an effective fastening system that holds each rack segment securely in place.

Note: Rack 8 must not be installed in profiles of type "light" or "E".



Rack 8 Segment 80

Rack segment, St
Spring clip, St, stainless
m = 47.0 g

1 set

0.0.621.94

Rack 8 End Section

2 rack end sections, St
2 dowel screws M5x22, St
Spring clip, St, stainless
m = 50.0 g

1 set

0.0.621.93



Ball Screw Units

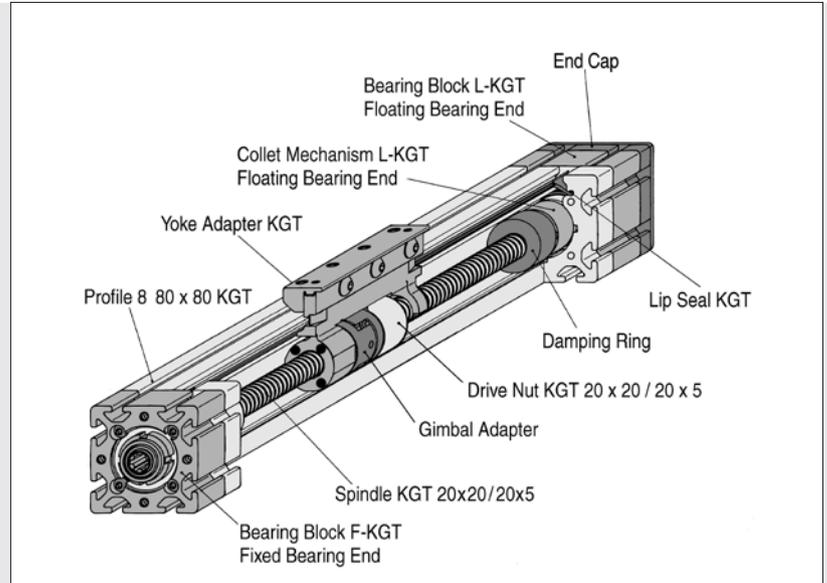
For optimum precision and power

- High accuracy, high efficiency, high rigidity
- For use in Linear Units and handling systems
- Drive side can be selected as required
- Can be combined with any guides

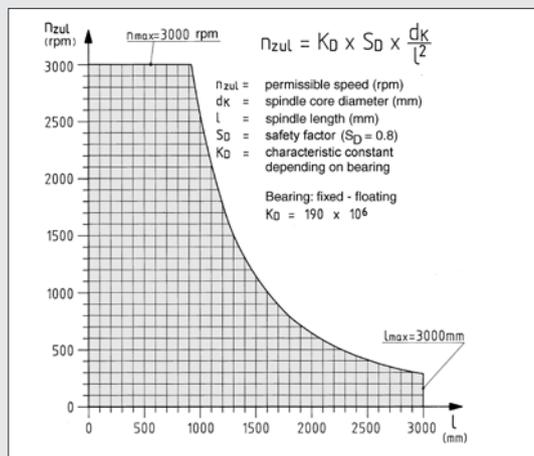


Ball Screw Units KGT are suitable for use as a drive mechanism for linear slides, particularly for low speeds and short strokes. They feature high precision, high efficiency, high rigidity of the drive system and low mechanical wear:

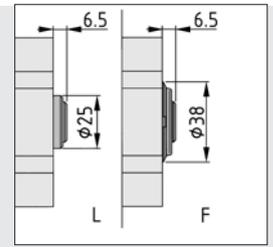
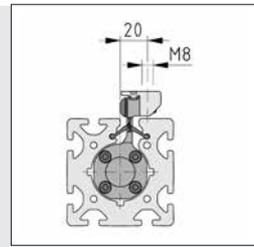
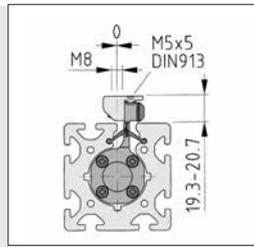
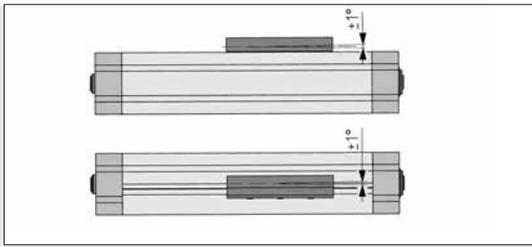
- For use in linear units, conveyors, handling devices, work bench design and any other fixtures
- Powered by hand wheel, AC/DC motors, stepper motors and hydraulic or pneumatic drive mechanisms
- Choice of power input end
- Can be combined with any type of guide
- Individual components are replaceable
- Full compatibility with MB Building Kit System products



The modular design of the Ball Screw Units KGT with no need for complex machining results in short delivery times and facilitates installation and maintenance.

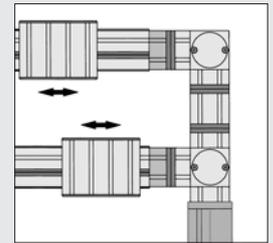
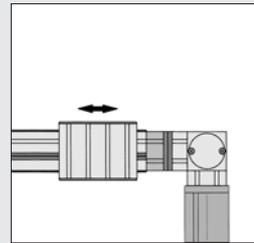
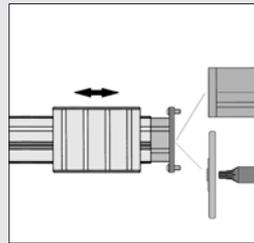
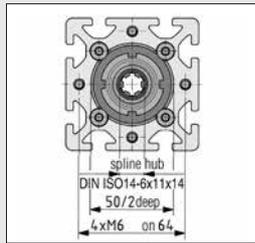
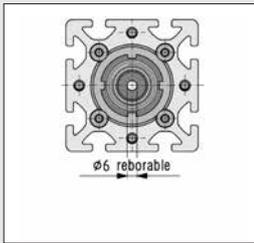


The Ball Screw Unit KGT can be driven from the fixed or floating bearing end. The Ball Screw Unit should be positioned so as to ensure that the main load is a tensile load from the fixed bearing end (i.e. fixed bearing at the top in a vertical unit). The maximum stroke velocities of the Ball Screw Unit depend on the spindle length (see diagram opposite). Under axial compression, the buckling behaviour of the spindle must be taken into consideration.



Suitable for combination with all item linear slides.
The necessary guidance for the yoke must be provided by the external linear slide.
The driving nut is suspended on gimbals to prevent strains and allow for slight errors in alignment with the load.

The yoke adapter can be matched to the height of the slide by means of grub screws DIN 913-M5x5.
The position of the connecting thread M8 for securing the slide can be either central or offset relative to the slide depending on the position the yoke adapter is used in.



Connection dimensions of the Bearing Blocks at the floating (L) and fixed (F) bearing ends. Depending on the drive type selected, the Bearing Blocks and drive holders may need to be machined.

The hub is reborable up to max. \varnothing 17 mm or \varnothing 14 mm for insertion of a parallel keyway as per DIN 6885 T1.

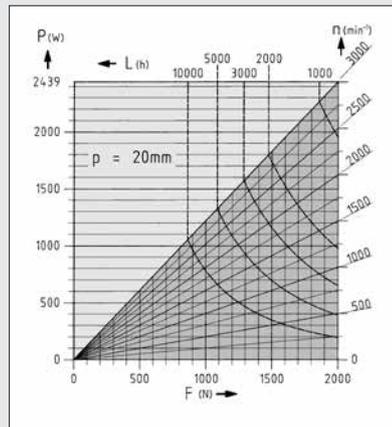
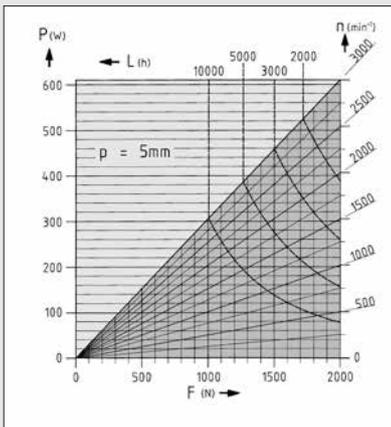
Direct drive connection with Adapter Plate 120x80. Various drives adaptable using the Adapter Shaft and Adapter Flange Universal.

Direct connection to Bevel Gearbox WG via Adapter Plate 80x80. Drives can be connected to Bevel Gearbox WG with the Coupling Housings.

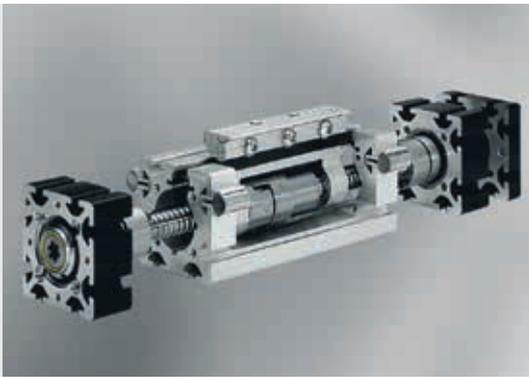
Parallel arrangement of Ball Screw Units in connection with Bevel Gearboxes.

Couplings 623

Calculation of Service Life



The service life of the spindle / drive nut combination can be calculated as a function of the axial load and drive speed.



Ball Screw Units KGT

- For Linear Units with the ultimate positioning accuracy
- Low-wear spindle for long-term precision
- Complete drive unit in a profile that is enclosed on three sides
- Compatible with various item linear slides

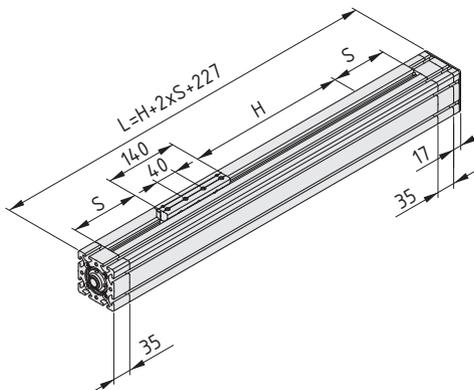


Complete drive units of variable stroke length (H), spindle pitches of 5 mm or 20 mm and drive option via Multi-Spline Shaft or custom machined hubs. Supporting profile with integrated lip seals, fixed and floating bearing blocks, ball-bearing collet mechanism for holding the spindle, end of stroke damping, secure yoke, play-minimised drive nut suspended on gimbals and rolled spindle.

Grease lubrication
 Lubrication interval: Every 400-500 operating hours with lithium-based roller-bearing grease (not general purpose grease) Max. acceleration = 5 m/s²
 Max. stroke length = 2687 mm
 Total length L = stroke length + 400 mm
 Safety clearance S = 86.5 mm

Couplings 623

Adapter Plates (for motors and drives) 632



Ball Screw Unit KGT 20x5, VK14

Pitch p = 5 mm
 Stroke velocity_{max.} = 0.25 m/s
 Efficiency of overall unit = 80 %
 Backlash_{max.(spindle/drive nut)} = 0.04 mm
 m = 5 kg + H x 0.011 kg/mm

1 pce. 0.0.414.33

Ball Screw Unit KGT 20x5, bored and keyed to customer specification

Pitch p = 5 mm
 Stroke velocity_{max.} = 0.25 m/s
 Efficiency of overall unit = 80 %
 Backlash_{max.(spindle/drive nut)} = 0.04 mm
 m = 5 kg + H x 0.011 kg/mm

1 pce. 0.0.414.51

Ball Screw Unit KGT 20x20, VK14

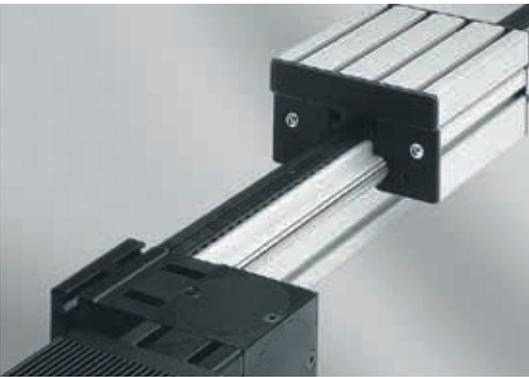
Pitch p = 20 mm
 Stroke velocity_{max.} = 1.00 m/s
 Efficiency of overall unit = 85 %
 Backlash_{max.(spindle/drive nut)} = 0.08 mm
 m = 5 kg + H x 0.011 kg/mm

1 pce. 0.0.414.32

Ball Screw Unit KGT 20x20, bored and keyed to customer specification

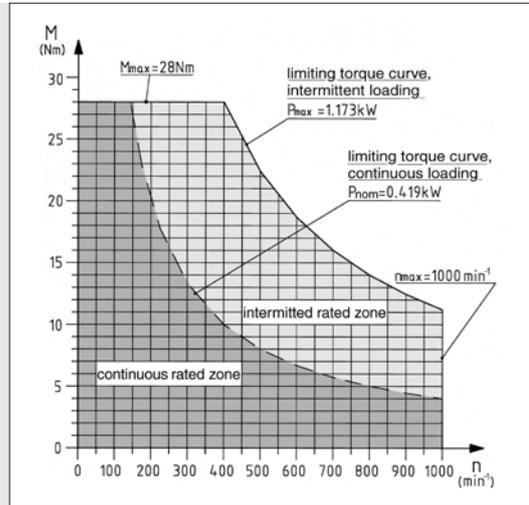
Pitch p = 20 mm
 Stroke velocity_{max.} = 1.00 m/s
 Efficiency of overall unit = 85 %
 Backlash_{max.(spindle/drive nut)} = 0.08 mm
 m = 5 kg + H x 0.011 kg/mm

1 pce. 0.0.414.50

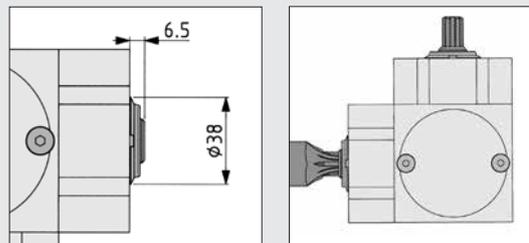
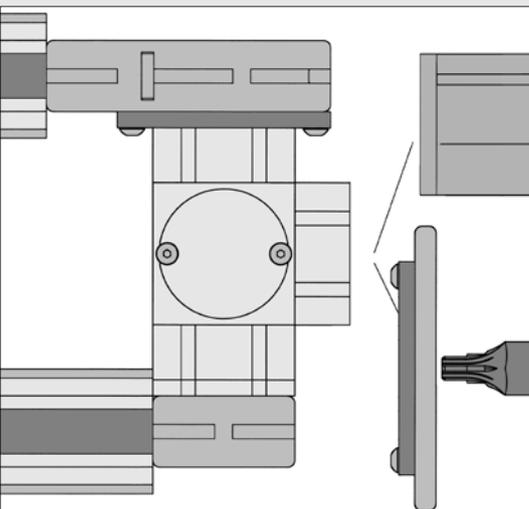


Bevel Gearbox

- Power transmission, drive and linear axis
- For a timing-belt drive, chain drive or Ball Screw Unit
- Input torque redirected by 90°.
- Distribution of input torque and option of adjusting direction of rotation on output shafts
- Subsequent changeover to other kinematics is also possible
- High efficiency, low backlash and low mechanical wear



The diagram is used for calculating the permissible torques M and speeds n of the Bevel Gearboxes. For loads in the continuous rated zone, continuous operation is permissible. In the intermitted rated zone, operating times must be reduced accordingly.



The geometry for connecting multi-spline hub to Multi-Spline Shaft or solid shaft $\varnothing 30$ mm can be changed by using Connecting Shaft U-WG or the Adapter Shaft.

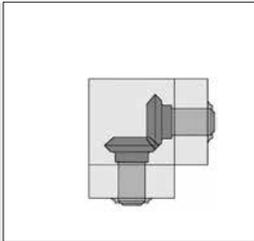
Adapter Plates (for motors and drives)  632

The Bevel Gearboxes with special kinematics and the ability to combine several Bevel Gearboxes allows flexible positioning of drives and linear units.

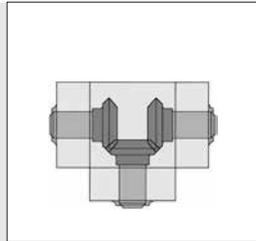


Bevel Gearboxes WG

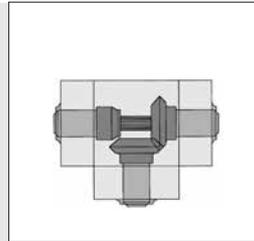
- For connecting drives in virtually any position
- Five connection variants from 90° to 360°
- Also suitable for synchronising drive elements



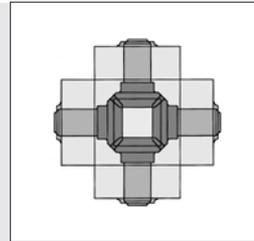
Bevel Gearbox WG 90°



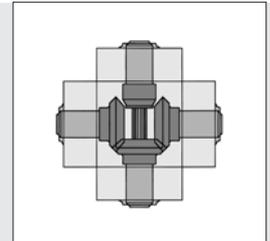
Bevel Gearbox WG 180°



Bevel Gearbox WG 180° D



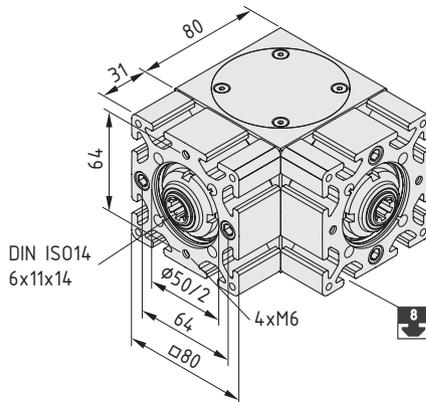
Bevel Gearbox WG 360°



Bevel Gearbox WG 360° D

The following applies to all the products below:

- Box, box lid and Bearing Blocks, Al, anodized, black
- Straight-toothed ball-bearing bevel gear pairs, made of high strength steel with minimal backlash and wear-resistant surface
- Prelubricated, maintenance-free
- Gear ratio $i = 1 : 1$
- Nominal torque $M_{nom} = 10 \text{ Nm}$
- Nominal speed $n_{nom} = 400 \text{ min}^{-1}$
- Nominal power $P_{nom} = 0.419 \text{ kW}$
- Torque $M_{max} = 28 \text{ Nm}$
- Speed $n_{max} = 1000 \text{ min}^{-1}$
- Power $P_{max} = 1.173 \text{ kW}$
- Service life $L = 10,000 \text{ h}$
- Play angle $\alpha_{max} = 20'$



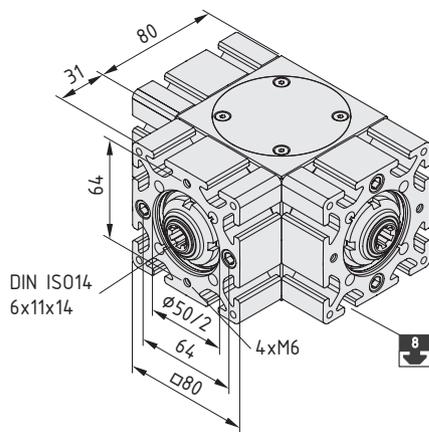
Bevel Gearbox WG 90°



$\eta = 93\%$ $m = 2.0 \text{ kg}$

1 pce.

0.0.408.10

**Bevel Gearbox WG 180°** $\eta = 90\%$ m = 2.6 kg

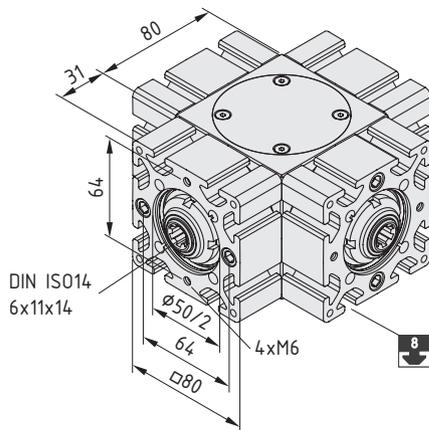
1 pce.

0.0.408.20

Bevel Gearbox WG 180° D $\eta = 91\%$ m = 2.7 kg

1 pce.

0.0.408.25

**Bevel Gearbox WG 360°** $\eta = 87\%$ m = 3.4 kg

1 pce.

0.0.408.26

Bevel Gearbox WG 360° D $\eta = 88\%$ m = 3.4 kg

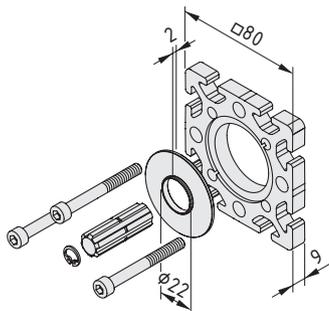
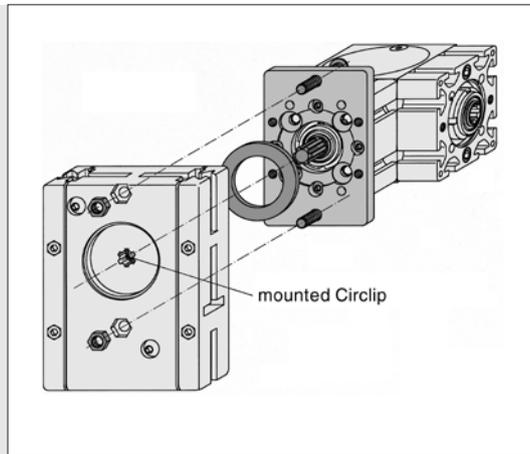
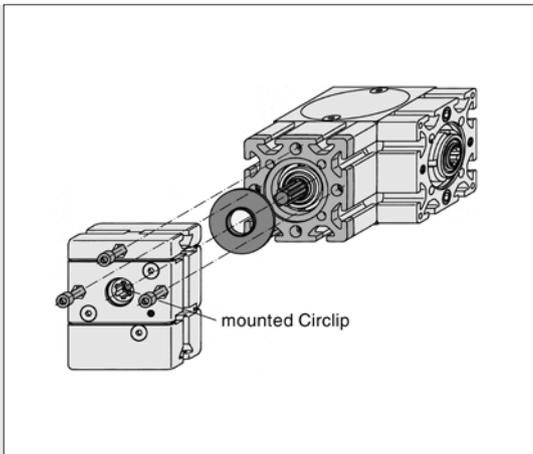
1 pce.

0.0.408.27



Fastening Sets for Bevel Gearboxes

■ For connecting Bevel Gearboxes to Timing-Belt Reverse Units



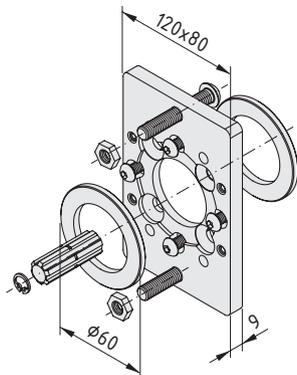
Fastening Set U40-WG



Locating profile 80x80x9, Al, anodized, black
 Centring piece D50-D22
 Connecting Shaft U-WG
 3 Hexagon Socket Head Cap Screws DIN 912-M6x55, St, black
 Circlip N
 m = 185.0 g

1 set

0.0.408.23



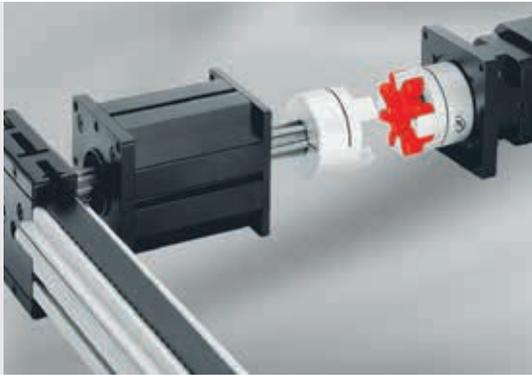
Fastening Set U80-WG



Adapter Plate 120x80
 Centring Piece D60-D60
 Centring Piece D50-D50
 Connecting Shaft U-WG
 Circlip N
 4 Button-Head Screws ISO 7380-M6x16, St, bright zinc-plated
 2 Button-Head Screws ISO 7380-M8x50, St, black
 2 hexagon nuts DIN 936-M8, St, black
 m = 320.0 g

1 set

0.0.408.24



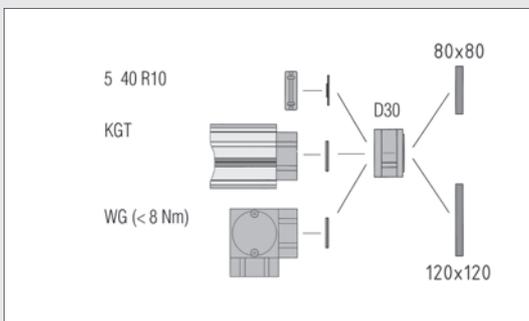
Couplings

- Compensation for alignment errors
- Cushioning of drive influences
- Simple installation and maintenance

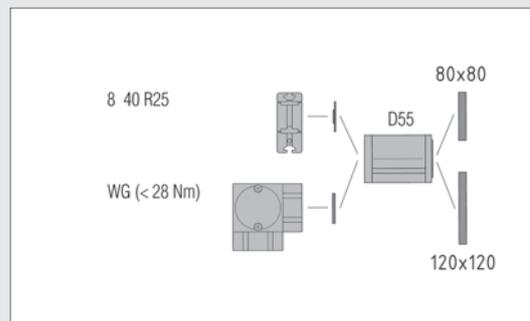


Couplings can be installed between the mechanical drive elements (Timing-Belt Reverse Units, chain drives, Ball Screw Units, Bevel Gearboxes) and the drive in order to suppress and compensate for angular errors and radial or axial offset.

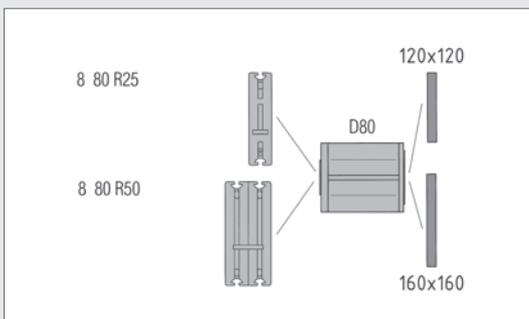
The use of couplings means that a plug-type connection is possible between the drive and mechanical drive elements, thereby facilitating assembly, machining and maintenance. To achieve a safe connection between drive and drive element, the coupling shafts must be covered by a Coupling Housing with a length and diameter that is suitable for the various couplings.



The connection dimensions and the permissible torque range ($M_b < 8 \text{ Nm}$) make Coupling D30 ideally suited for use with Ball Screw Units (Ball Screw Units KGT; Centring Piece D50-D50), Timing-Belt Reverse Unit 5 40 R10 with multi-spline VK14 (Centring Piece D50-D22) and (optionally) Bevel Gearboxes WG (Centring Piece D50-D50).



The connection dimensions and the permissible torque range ($M_b < 50 \text{ Nm}$) make Coupling D55 ideally suited for use with Timing-Belt Reverse Unit 8 40 R25 with multi-spline VK14 (Centring Piece D50-D22) and (optionally) Bevel Gearboxes WG (Centring Piece D50-D50: note torque limit 28 Nm!).



Coupling D80 is used with an appropriately sized Coupling Housing for the purpose of transferring the high torque ($M_b < 100 \text{ Nm}$) of Timing-Belt Reverse Units 8 80 R25 and 8 80 R50 II with multi-spline VK32. The Coupling Housing has a corresponding Centring Piece ($\varnothing 60 \text{ mm}$) for the Timing-Belt Reverse Units.

Coupling Housing 8 D30, D55 or D80 should be used as appropriate to the connection dimensions of the motors.



Note:

Further technical data on the couplings can be found in Section 19.



Coupling Housing 8

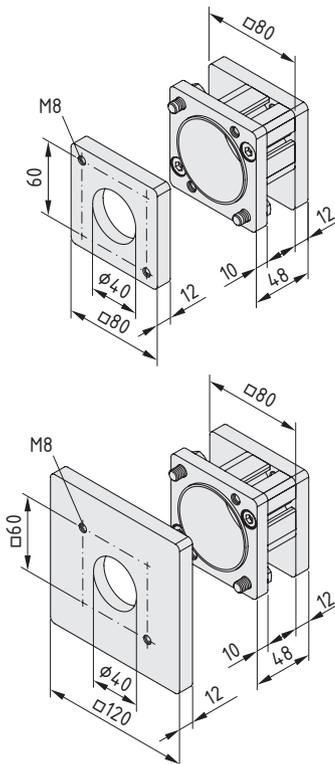
- Stable connection between motor and linear drive
- Can be modified to suit the size of the coupling and the drive casing



In addition to the connection between the rotating elements described above, the casings of the mechanical drive elements must also have a static connection to the drives. This is achieved using various Coupling Housings which are adapted in length and diameter to the various couplings. Universal Coupling Adapter Plates, which have to be provided with fastening bores and centring diameters for the relevant drives, enable the drive to be secured to the Coupling Housing.

The Coupling Housings create a stable connection between mechanical drive elements and motors. Coupling Adapter Plates Universal are used to make the connection with the drive. They need to be selected in a size that is suitable for the housing type and machined according to the connection geometry of the drive.

It is advisable to provide separate support for the drive unit (motor and coupling) at the Coupling Housing.



Coupling Housing 8 D30 80x80



Coupling Housing 8 D30, black
 2 hexagon screws DIN 933-M8x22, St, black
 Coupling Adapter Plate D30/D55 Universal 80x80, Al, black
 m = 460.0 g

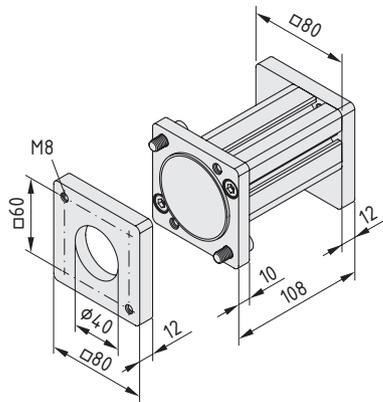
1 set	0.0.628.95
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Coupling Housing 8 D30 120x120



Coupling Housing 8 D30, black
 2 hexagon screws DIN 933-M8x22, St, black
 Coupling Adapter Plate D30/D55 Universal 120x120, Al, black
 m = 1.0 kg

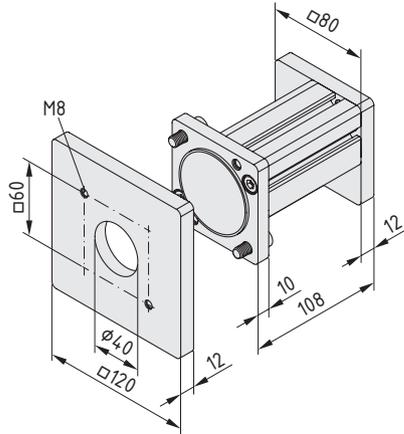
1 set	0.0.628.96
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**Coupling Housing 8 D55 80x80**

Coupling Housing 8 D55, black
 2 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, black
 Coupling Adapter Plate D30/D55 Universal 80x80, Al, black
 m = 750.0 g

1 set

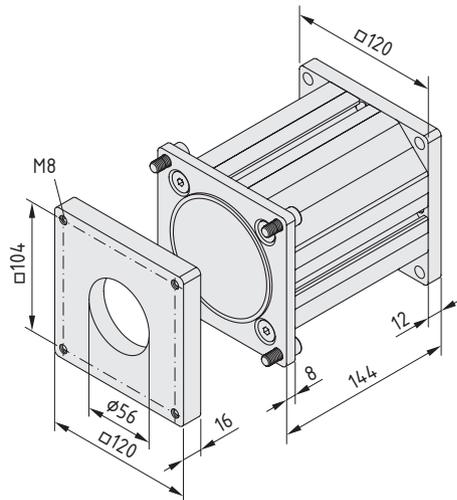
0.0.628.97

**Coupling Housing 8 D55 120x120**

Coupling Housing 8 D55, black
 2 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, black
 Coupling Adapter Plate D30/D55 Universal 120x120, Al, black
 m = 1.0 kg

1 set

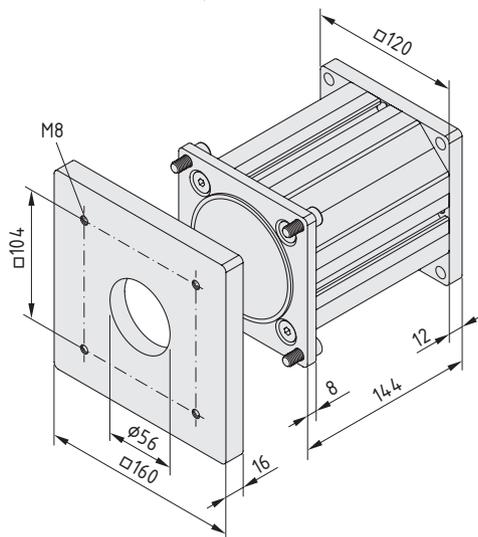
0.0.628.98

**Coupling Housing 8 D80 120x120**

Coupling Housing 8 D80, black
 4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, black
 Coupling Adapter Plate D80 Universal 120x120, Al, black
 m = 1.8 kg

1 set

0.0.628.99

**Coupling Housing 8 D80 160x160**

Coupling Housing 8 D80, black
 4 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, black
 Coupling Adapter Plate D80 Universal 160x160, Al, black
 m = 2.3 kg

1 set

0.0.629.00



Coupling Sets

- Rigid torque transmission
- Elastic Coupling Inserts, easy to install
- Prepared multi-spline connections enable plug-in connection

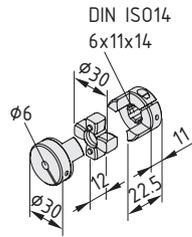


The Coupling Halves with multi-spline hubs VK14 and VK32 can be connected with the corresponding Connecting Shafts or mechanical drive elements without the need for machining.

In the case of Coupling Halves with bores, simple machining (reborring, parallel keyway, etc.) is required to ensure they match the drive output shaft of gear-boxes/motor drives.

The Coupling Halves are connected to the Coupling Inserts, which exhibit an elasticity that is configured for the item drive elements.

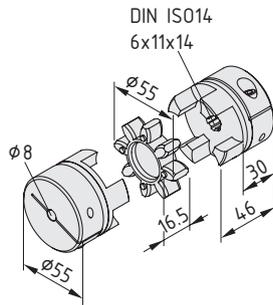
In conjunction with Ball Screw Units driven with stepper motors, the flexible couplings make it possible to decouple the moving masses of the spindle and drive.



Coupling D30

Coupling Half D30 D6 Al, reborable up to \varnothing 16 mm
 Coupling Half D30 VK 14
 Coupling Insert D30, hardness 80 Sh A
 Torque range: $M_D < 8$ Nm
 Elasticity_{dyn.} = 0.318 °/ Nm
 Elasticity_{stat.} = 0.955 °/ Nm
 Perm. offset_{axial} = 1.00 mm
 Perm. offset_{radial} = 0.21 mm
 Perm. offset_{angular} = 1.1 °
 m = 52.0 g

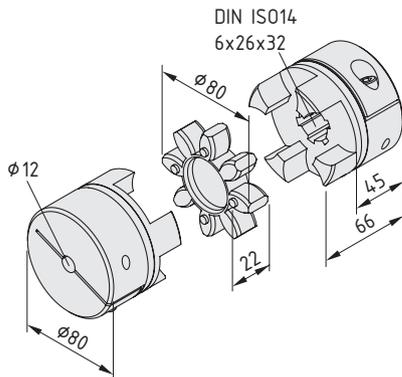
1 set 0.0.628.83



Coupling D55

Coupling Half D55 D8, reborable up to \varnothing 28 mm
 Coupling Half D55 VK14
 Coupling Insert D55, hardness 98 Sh A
 Torque range: $M_D < 50$ Nm
 Elasticity_{dyn.} = 0.009 °/ Nm
 Elasticity_{stat.} = 0.028 °/ Nm
 Perm. offset_{axial} = 1.40 mm
 Perm. offset_{radial} = 0.10 mm
 Perm. offset_{angular} = 0.9 °
 m = 280.0 g

1 set 0.0.628.84



Coupling D80

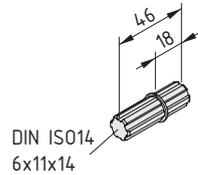
Coupling Half D80 D12, reborable up to \varnothing 45 mm
 Coupling Insert D80, hardness 98 Sh A
 Coupling Half D80 VK32
 Torque range: $M_D < 200$ Nm
 Elasticity_{dyn.} = 0.003 °/ Nm
 Elasticity_{stat.} = 0.008 °/ Nm
 Perm. offset_{axial} = 1.80 mm
 Perm. offset_{radial} = 0.12 mm
 Perm. offset_{angular} = 0.9 °
 m = 924.0 g

1 set 0.0.628.85



Connecting Shafts

- Torsionally rigid connection between drives and couplings
- Simple plug-in connection thanks to Multi-Spline Shaft

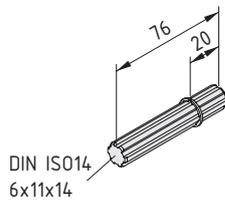


Connecting Shaft VK14 R10/KGT

Multi-Spline Shaft similar to DIN ISO 14-6x11x14, St, C 45 k
Snap ring W14
m = 44.0 g

1 pce.

0.0.463.17

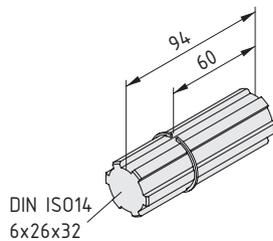


Connecting Shaft VK14 R25/WG

Multi-Spline Shaft similar to DIN ISO 14-6x11x14, St, C 45 k
Snap Ring W14
m = 73.0 g

1 pce.

0.0.463.15

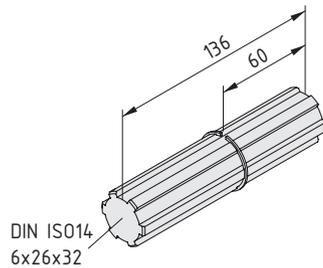


Connecting Shaft VK32 R25

Multi-Spline Shaft similar to DIN ISO 14 6x26x32, St, C 45 k
Snap Ring W32
m = 470.0 g

1 pce.

0.0.337.93



Connecting Shaft VK32 R50

Multi-Spline Shaft similar to DIN ISO 14 6x26x32, St, C 45 k
Snap Ring W32
m = 680.0 g

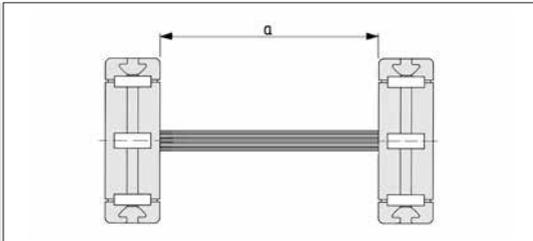
1 pce.

0.0.337.92



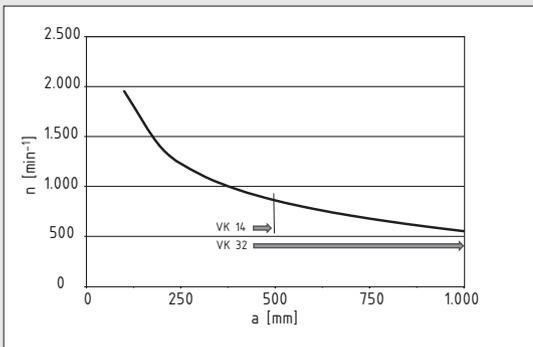
Multi-Spline Shafts

- Simple power transmission through plug-in connection
- For building drive shafts and Synchroniser Shafts



Suitable for use in combination with Timing-Belt Reverse Units for generating synchronous movements up to a distance "a".

Multi-Spline Shaft	$a_{max.}$ [mm]
VK 14	500
VK 32	1,000



The permissible speed of a Synchroniser Shaft depends on its length.

DIN ISO14
6x11x14

Multi-Spline Shaft VK14

Multi-Spline Shaft, similar to DIN ISO 14-6x11x14, St, C 45 k
Polar resistance moment: $W_t = 210 \text{ mm}^3$
 $m = 0.92 \text{ kg/m}$

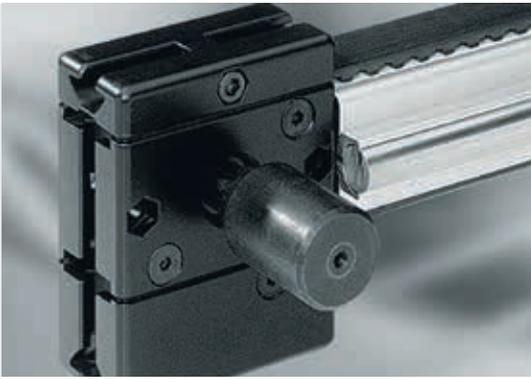
cut-off max. 3000 mm	0.0.337.05
1 pce., length 3000 mm	0.0.453.82

DIN ISO14
6x26x32

Multi-Spline Shaft VK32

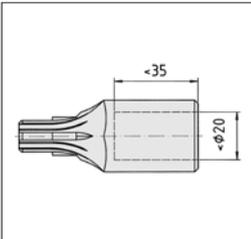
Multi-Spline Shaft, similar to DIN ISO 14-6x26x32, St, C 45 k
Polar resistance moment: $W_t = 3,120 \text{ mm}^3$
 $m = 5.00 \text{ kg/m}$

cut-off max. 3000 mm	0.0.337.63
1 pce., length 3000 mm	0.0.452.50



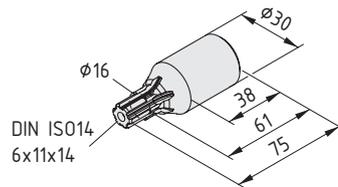
Adapter Shaft

- For a torsionally rigid connection between shafts and Reverse Units, Bevel Gearboxes or Ball Screw Units



The Adapter Shaft only uses half the hub width of timing pulleys R25 for transferring the torque.

With alternating loads, it is necessary to reduce the torque values of the Timing-Belt Reverse Units with Adapter Shafts. The plug-in connection must be lubricated with a multi-purpose grease or similar.



Adapter Shaft VK14

St
surface-hardened
 $m = 275.0 \text{ g}$

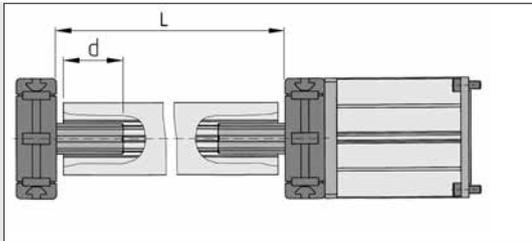
black, 1 pce.

0.0.337.25



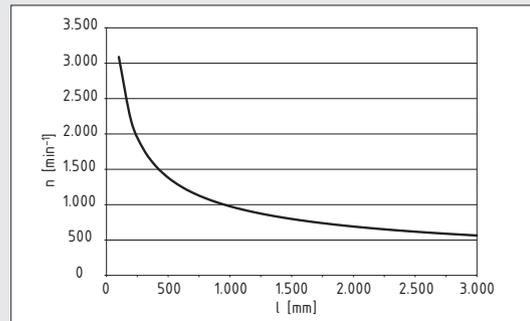
Synchroniser Shaft Profiles

- For easily constructing Synchroniser Shafts between drive elements
- Connection made via Multi-Spline Shafts
- Increased torsional rigidity

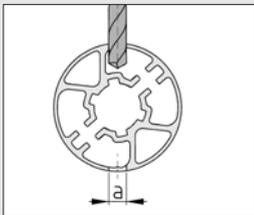


Use of a synchronising shaft for connecting two Timing-Belt Reverse Units.
The length of a Multi-Spline Shaft section depends on the minimum penetration depth (d), the construction sizes of the connected dynamic elements and the gap between the rotating and fixed parts.

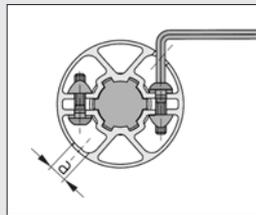
	Synchronising Shaft Profile	
	VK14	VK32
a	∅ 8 mm	∅ 10 mm
b	10 mm	15 mm
c	20 mm	30 mm
d	min. 40 mm	min. 60 mm
M	28 Nm	100 Nm



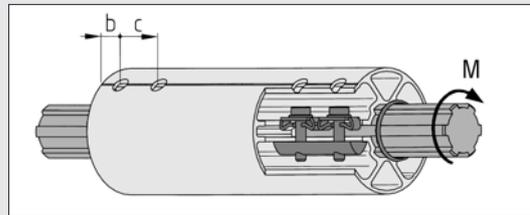
The permissible speed of a Synchroniser Shaft depends on its length.



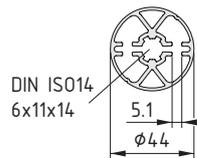
The mounting holes for the tensioning screws are drilled perpendicular to the profile's centre axis along the marking grooves.



The tensioning screws are tightened through the mounting holes drilled earlier.



The Clamping Set contains all the parts needed to secure sections of Multi-Spline Shaft at both ends of a Synchronising Shaft Profile.
Snap rings 14 A/F / 32 A/F should be used to secure the Synchroniser Shaft axially between the drive elements.



Synchronising Shaft Profile VK14

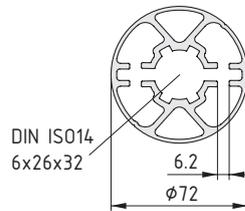
Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _z [cm ⁴]
4.77	1.29	7.17	6.68	9.52
natural, cut-off max. 3000 mm				
natural, 1 pce., length 3000 mm				

Clamping Set for Synchronising Shaft Profile VK14

8 standard connecting plates 5, St, bright zinc-plated
4 T-Slot Nuts 6 St 2xM5-40, bright zinc-plated
8 screws M5x16, St, bright zinc-plated
m = 88.0 g

1 set	0.0.463.72
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Synchronising Shaft Profile VK32

Al, anodized

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	
11.62	3.13	47.42	45.09	65.95	
natural, cut-off max. 3000 mm					0.0.463.56
natural, 1 pce., length 3000 mm					0.0.454.05

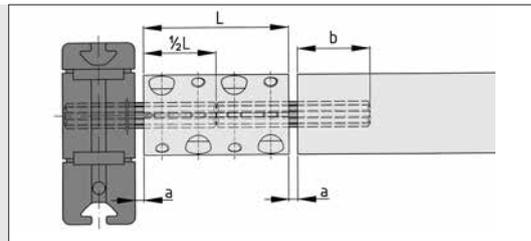
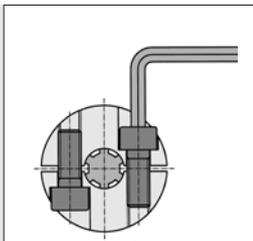
Clamping Set for Synchronising Shaft Profile VK32

8 standard connecting plates 6, St, bright zinc-plated
 4 T-Slot Nuts 8 St 2xM6-60, bright zinc-plated
 8 screws M6x25, St, bright zinc-plated
 m = 196.0 g

1 set	0.0.463.30
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Synchroniser Shaft Equaliser Couplings

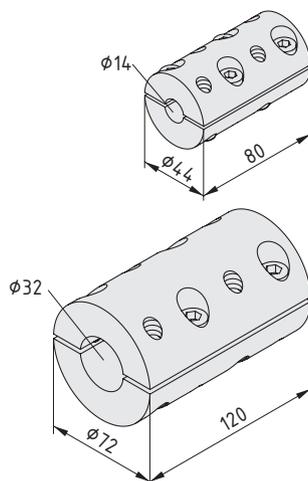
- For the precise angular alignment of synchronised linear drives
- Power-lock connection for Multi-Spline Shafts



	Synchronizer Shaft Equaliser Coupling	
	VK14	VK32
L	80 mm	120 mm
a	1-1.5 mm	2-3 mm
b	min. 40 mm	min. 60 mm

The Synchroniser Shaft Equaliser Coupling is positioned at the ends of the Multi-Spline Shafts and power-lock connected using clamping screws. The tightening torque of the clamping screws is 25 Nm (Equaliser Coupling VK14) or 50 Nm (Equaliser Coupling VK32).

The two halves of the coupling must be screwed onto degreased shaft ends using the waxed screws supplied, so as to transfer the necessary torque.


Synchroniser Shaft Equaliser Coupling VK14

2 half shells, St, bright zinc-plated
 8 Hexagon Socket Head Cap Screws DIN 912-M8x20, St, bright zinc-plated and waxed
 m = 0.7 kg

1 set	0.0.472.28
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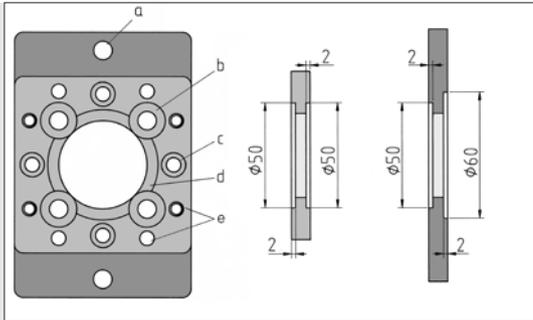
Synchroniser Shaft Equaliser Coupling VK32

2 half shells, St, bright zinc-plated
 8 Hexagon Socket Head Cap Screws DIN 912 M10x30, St, bright zinc-plated and waxed
 8 screws M6x25, St, bright zinc-plated
 m = 2.8 kg

1 set	0.0.472.29
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Adapter Plates

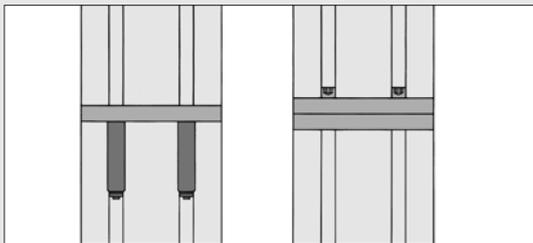
- For connecting together drives, Bevel Gearboxes, Reverse Units and profiles
- Suitable bores for a range of connection dimensions



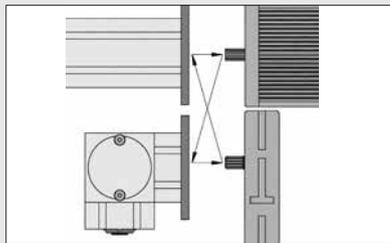
Universal Adapter Plates for connecting drives, Bevel Gearboxes, Reverse Units and profiles.

Functions of the mounting holes and threads:

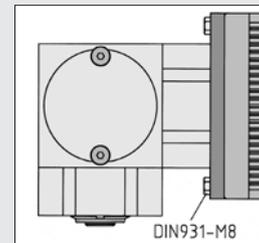
- > 2 M8 holes (a) for securing Timing-Belt Reverse Unit 8 80 R25 or 2 Adapter Plates to each other
- > 4 holes for Countersunk Screw M8 (b) for the central bores of Profiles 8
- > 4 counterbores \varnothing 11 mm, 6 mm deep (c) for Button-Head Screws ISO 7380-M6x16 for connecting Timing-Belt Reverse Unit 8 40 R25, Chain Reverse Unit 8 80, bearing profile 8 80x80 or Bevel Gearboxes
- > Holder (d) for Centring Pieces
- > 4 M6 holes and 4 M6 threads (e) for connecting together Adapter Plates or connecting profiles (Automatic Fastener)



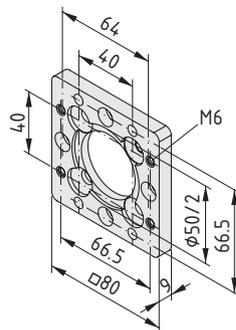
Possibilities for butt fastenings with Adapter Plates and Automatic Fasteners.



Attachment of drives (possibly with Adapter Flange Universal) and Timing-Belt Reverse Units to the Bevel Gearboxes with Adapter Plates.



Where space is restricted, hexagon screws DIN 931-M8 can be used.

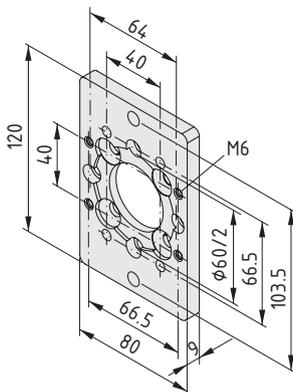


Adapter Plate 80x80

Al, anodized
m = 91.0 g

black, 1 pce.

0.0.408.16



Adapter Plate 120x80

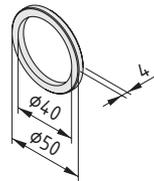
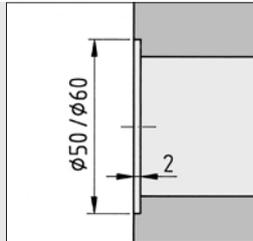
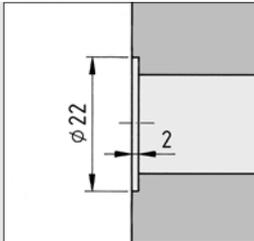
Al, anodized
m = 164.0 g

black, 1 pce.

0.0.408.06

Centring Pieces

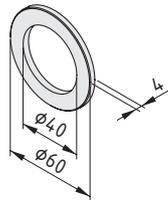
■ For centring housings and Adapter Plates



Centring Piece D50-D50

St
m = 21.0 g
black, 1 pce.

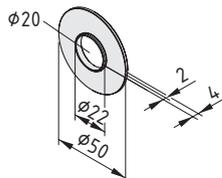
0.0.408.12



Centring Piece D60-D60

St
m = 48.0 g
black, 1 pce.

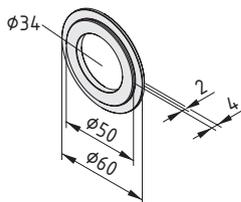
0.0.408.11



Centring Piece D50-D22

St
m = 27.0 g
black, 1 pce.

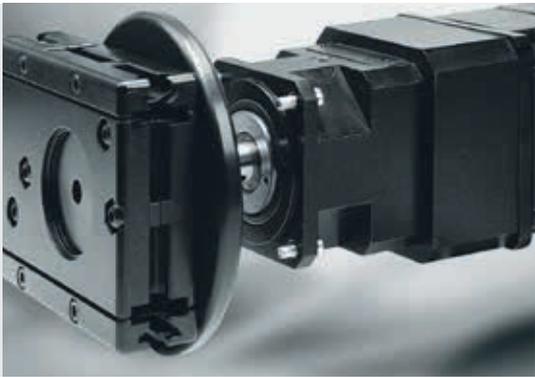
0.0.379.17



Centring Piece D60-D50

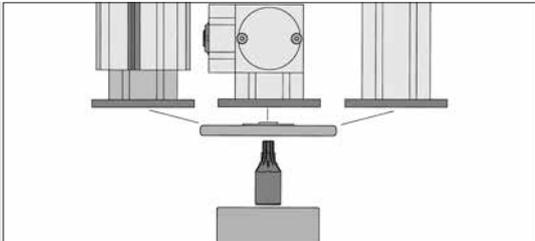
St
m = 47.0 g
black, 1 pce.

0.0.379.18

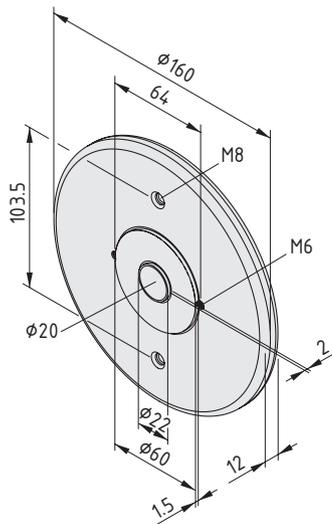


Adapter Flange

- Universal adapter for connecting motors
- Integrated centring system for Timing-Belt Reverse Units
- Easily machined to suit connection geometry



Virtually any drive can be connected to a Ball Screw Unit KGT, Bevel Gearbox or profile using the Adapter Shaft, Adapter Plate 120x80 and Adapter Flange Universal.



Adapter Flange Universal

Al, anodized
m = 635.0 g

black, 1 pce.

0.0.337.32



Proximity Switch

- Inductive proximity switch for added safety in linear drives
- Installed in Line 8 groove (Proximity Switch 8)
- Installed in Timing-Belt Reverse Unit (Proximity Switch M8)



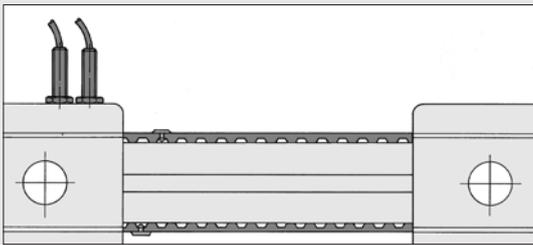
Proximity Switch M8 is a versatile device for limiting the terminal position or for reference on linear units with timing-belt drives. It is available with a permanent or plug-in connecting cable.

The Proximity-Switch Cam is used to mark the terminal position and/or the reference point of the unit on the Timing Belt.



The Proximity-Switch Fastening Set is used to position and attach inductive Proximity Switches M8 on the Timing-Belt Reverse Units.

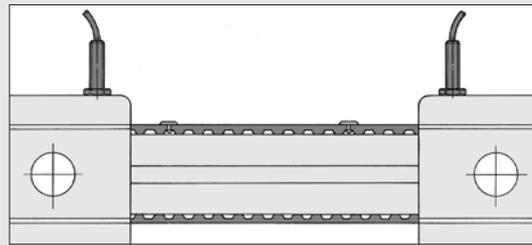
Proximity-Switch Connecting Cable in plug-in design with integrated LEDs for displaying the switch function and operating voltage.



Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:

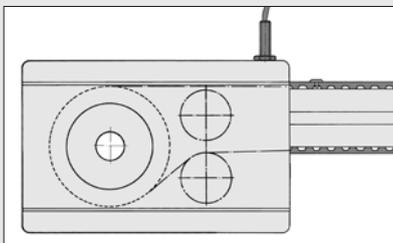
The Proximity-Switch Cams run through the Timing-Belt Reverse Units.

Particularly suitable when used with the drive end Timing Belt Reverse Unit for simplifying cable routing between the drive unit, Proximity Switch and motor control unit.

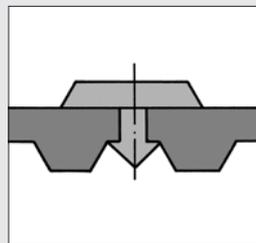


Possible arrangement of Proximity Switches 8 and Proximity-Switch Cams 8:

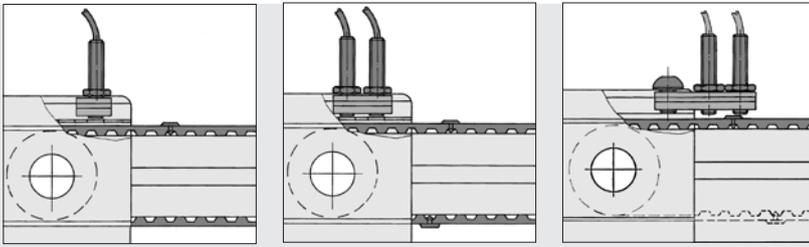
The Proximity-Switch Cams do not run through the Timing-Belt Reverse Units.



When using a system that reverses the timing belt via contact with its flat side (Timing-Belt Counter-Reverse Unit 8 R25/ Timing-Belt Reverse Unit 8 80 R25 with emergence 40 mm), Proximity-Switch Cams 8 must not pass through the Timing-Belt Reverse Units. In this case, Proximity Switches 8 and Proximity-Switch Cams 8 must be positioned to prevent this from happening.

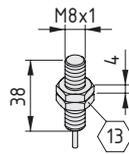


Proximity-Switch Cam 8 is pressed into the flat side of the Timing Belt at the required positions.



Options for installing Proximity Switches 8 using the Proximity-Switch Fastening Set. Depending on the application, the Proximity-Switch Fastening Set must be shortened accordingly.

Proximity Switch 8 is particularly suitable in conjunction with Timing-Belt Reverse Units 8 or Timing-Belt Counter-Reverse Unit 8, Proximity-Switch Fastening Set 8 and Proximity-Switch Cams 8. Timing-Belt Reverse Units 8 are provided with openings for the Proximity Switch at appropriate points in order to ensure compact installation.



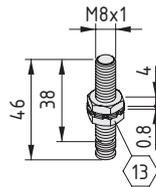
Proximity Switch M8



St, stainless
 Inductive Proximity Switch, positive switching,
 suitable for installation in thread M8x1
 Voltage = 10...30 V DC
 Max. switching current = 200 mA
 Sensing range = 1.5 mm
 LED control display
 Connecting cable, black l = 3 m; d = 3.5 mm
 m = 54.0 g

1 pce.

0.0.337.14



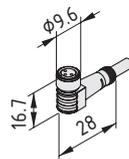
Proximity Switch M8, Plug Connection



St, stainless
 Inductive Proximity Switch, positive switching,
 suitable for installation in thread M8x1
 Voltage = 10...30 V DC
 Max. switching current = 200 mA
 Sensing range = 1.5 mm
 LED control display
 m = 16.0 g

1 pce.

0.3.001.24



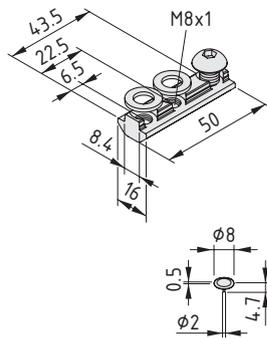
Proximity-Switch Connecting Cable



Outer sheath PUR, grey
 Structure Lif9YH11YH, 3x0.25 mm²
 Plug: integrated 3-pole plug with metal collar M8x1
 Cable inlet angled by 90°
 LED control display: Green = Operating display, Yellow/orange = Switch function display
 Connecting cable l = 5 m; d = 4.0 mm
 m = 144.0 g

1 pce.

0.3.001.25

**Proximity-Switch Fastening Set 8**

St
 2 washers DIN 433 8.4, St, bright zinc-plated
 Button-Head Screw ISO 7380 M8x10, St, bright zinc-pl.
 m = 37.0 g

1 set

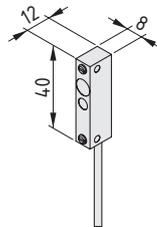
0.0.337.31

Proximity-Switch Cam 8

St
 m = 0.2 g
 black, 1 pce.

0.0.337.15

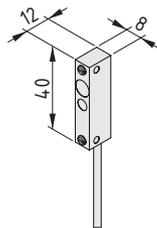
Proximity Switch for use directly in the profile groove

**Proximity Switch 8 - 1NC**

Inductive Proximity Switch, positive switching
 Casing Al, anodized, natural
 Fixing mechanism, fixing screws
 Voltage = 10...30 V DC
 Switching current_{max} = 150mA
 Sensing range = 2 mm
 Cable, grey l = 3 m ; d = 3 mm
 m = 51.0 g

1 pce.

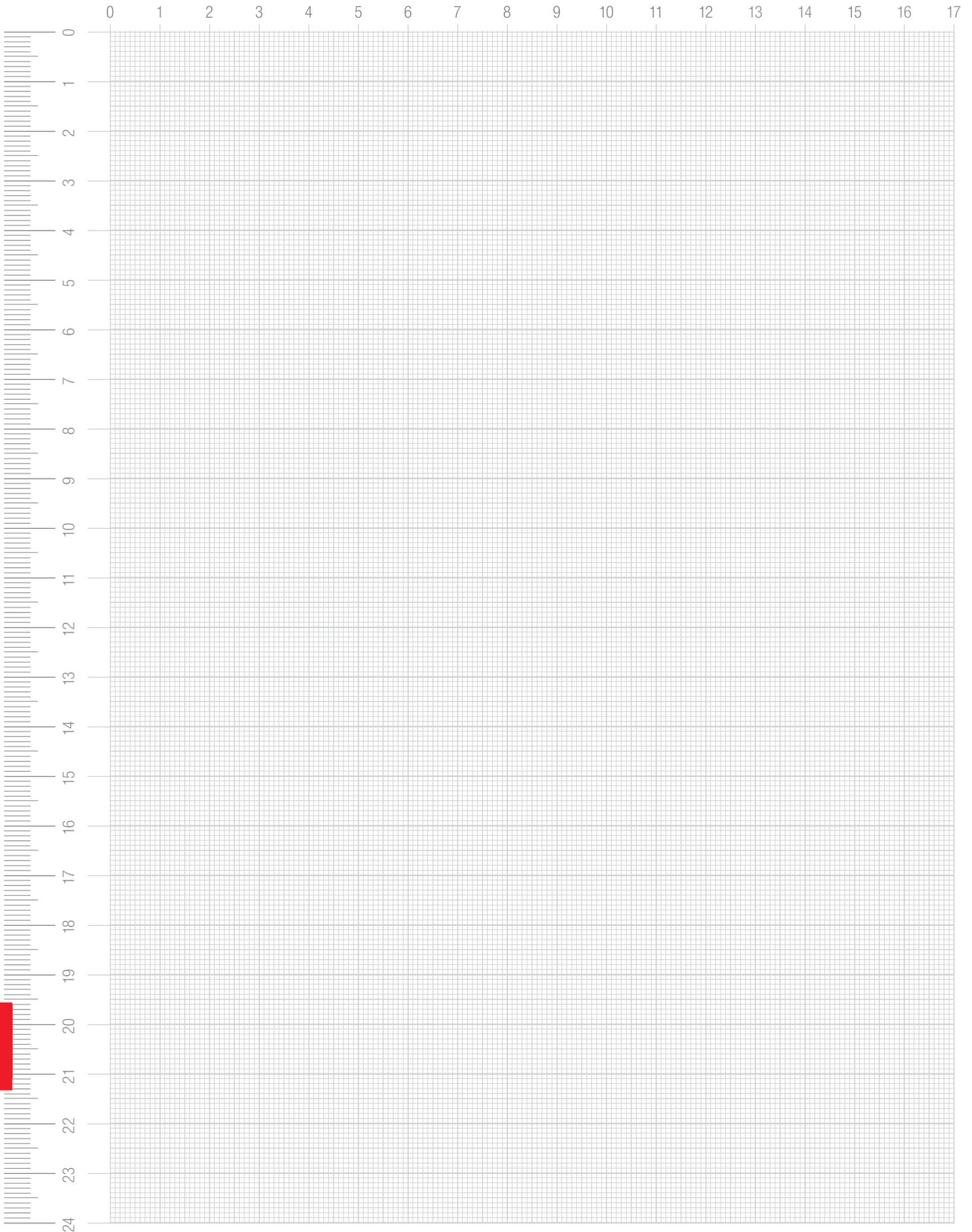
0.0.600.05

**Proximity Switch 8 - 1NO**

Inductive Proximity Switch, positive switching
 Casing Al, anodized, natural
 Fixing mechanism, fixing screws
 Voltage = 10...30 V DC
 Switching current_{max} = 150mA
 Sensing range = 2 mm
 Cable, grey l = 3 m ; d = 3 mm
 m = 51.0 g

1 pce.

0.3.001.30





COMPONENTS MADE OF SPECIAL MATERIALS

17

- Profile St
- Fastening elements for Profile St
- Floor Elements for Profile St
- Profile KH
- Fastening elements for Profile KH

Components made of special materials
Products in this section



Profile St 8 40x40

- Steel profile that is fully compatible with Line 8
- Corrosion resistant and resistant to acids and alkalis

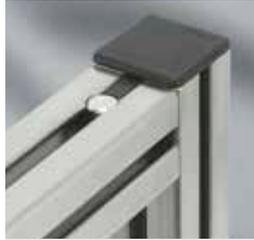
641



Standard-Fastening Set (Profile St) 8

- Power-lock, right-angled connection between profiles

643



Universal-Fastening Set (Profile St) 8

- Robust profile connections made from steel
- Maximum stability and easy installation

644



T-Slot Nuts (Profile St) 8

- Strong steel T-Slot Nut
- Designed for the special groove of Profiles St 8

645



Profile Bar (Profile St) 8

- Customised fastening option in the profile groove
- Made from high-strength, corrosion-resistant steel

645



Footplate (Profile St) 8 40x40 M8

- Mounting plate for fitting a Knuckle Foot to a Profile St 8
- For stainless steel Knuckle Feet

646



Drill D12.2

- Drill bit specifically intended for machining high-strength steel profiles

646



Profiles KH 8

- Innovative 70 percent wood composite material
- Electrically non-conductive and permeable to electromagnetic waves

647



Standard-Fastening Set KH 8

- Fully concealed in the profile groove when installed
- Quick-action installation thanks to self-tapping screw

649



Angle Bracket 8 PA

- Additional hold for Profiles KH
- Easy-to-fit plastic Angle Bracket for temporary structures

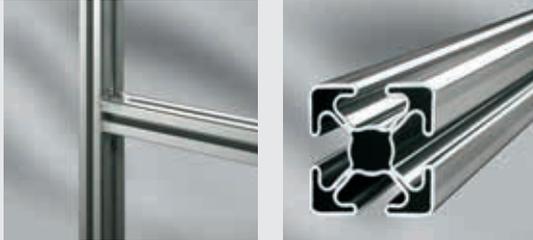
650



Profile St 8

Strong steel for special applications

- Steel profile and fasteners that are fully compatible with Line 8
- Corrosion resistant and resistant to acids and alkalis
- For extremely strong constructions



Resistant to corrosion and high temperatures.

Special tasks require special materials. Corrosion-resistant stainless steel in the tried-and-tested design of Profiles 8 from the item MB Building Kit System opens up a whole range of additional applications for the construction of production facilities. Line St 8 profiles combine the universality of the building kit with an alternative material.

The stainless steel (V2A) used in Profiles St 8 is resistant to acids and chemicals. It is also physiologically safe and can therefore be used for items that come into contact with foodstuffs. The steel's high-grade, smooth surfaces are also easy to clean.

And even temperatures of 200°C and above do not impair the strength of the profiles and fastening elements.

Conductive profile connections with tried-and-tested fastening technology.

This is where the building kit principle is used to great advantage. In just a short time, it is possible to create even complex structures without any special knowledge or tools. The fastening techniques are easy to learn and quick to apply, with reliable results. Conductive materials and surfaces make it far easier to construct earthed and ESD-safe structures.

Fully compatible with the elements of the item MB Building Kit System.

Profiles St 8 are a further addition to the comprehensive MB Building Kit System. When designing these Profiles, particular attention was paid to ensuring their compatibility with the kit's modular elements. For example, all major proven components in Line 8, such as Multiblocks, can be used without any restrictions whatsoever. Special accessories for Profiles St 8 increase the number of applications still further. In terms of material selection and load-carrying capacity, they fit in perfectly with the features of stainless steel profiles. The focus is primarily on corrosion resistance and mechanical properties.

Also suitable for welding in special applications.

A further advantage of Profiles St 8 is the fact that they are easy to weld. When necessary, they can be welded firmly and permanently together or to other frame elements. This creates load-bearing structures that combine all the advantages of steel and profile-based building techniques. The profile groove forms a universal slot, significantly increasing the flexibility of the entire structure – during both assembly and in subsequent use.

Existing screw connections can also be subsequently welded, thereby increasing their load-carrying capacity and ensuring that any definitive position arrived at following adjustments can be made permanent.



Profile St 8 40x40 Cap (Profile St) 8

- Exceptionally strong and resistant to aggressive substances
- Fasteners and accessories made of corrosion-resistant steel



The basic Line 8 profile made from corrosion-resistant steel (1.4301) is suitable for all kinds of structures requiring a particularly high load-carrying capacity and fatigue resistance.



Cap to cover the end faces of Profile St 8 40x40. Easy to assemble thanks to a press fit in the Profile's central cavity.



Tip:

Profile St 8 has a specially shaped profile groove and core bore. As a result, specially designed T-Slot Nuts, Caps, etc. need to be used with these Profiles.

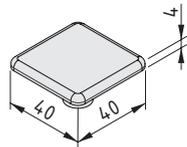


Profile St 8 40x40



St

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
4.64	3.65	7.44	7.44	0.75	3.72	3.72	
stainless, cut-off max. 6000 mm							0.0.603.16
stainless, 1 pce., length 6000 mm							0.0.492.61



Cap (Profile St) 8 40x40



PA-GF

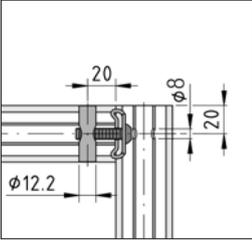
m = 6.0 g

black, 1 pce.	0.0.494.33
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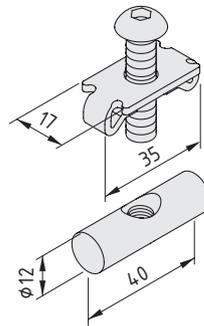
Standard-Fastening Set (Profile St) 8

- Power-lock, right-angled connection between profiles
- Both Profiles need to be machined



The fastener's counterpart takes the form of a pin with threaded bore which is inserted in one of the cross-holes (\varnothing 12.2 mm) in the Profile.

Access to the head of the fastener is provided by a correctly positioned through hole (\varnothing 8 mm).



Standard-Fastening Set (Profile St) 8



St
 Standard connecting plate 8
 Button-Head Screw ISO 7380-M8x35, tin-plated
 Threaded bolt D12x40 M8
 $M_{\text{stainl.}} = 20 \text{ Nm}$ $m = 59.0 \text{ g}$
 stainless, 1 set

0.0.494.35

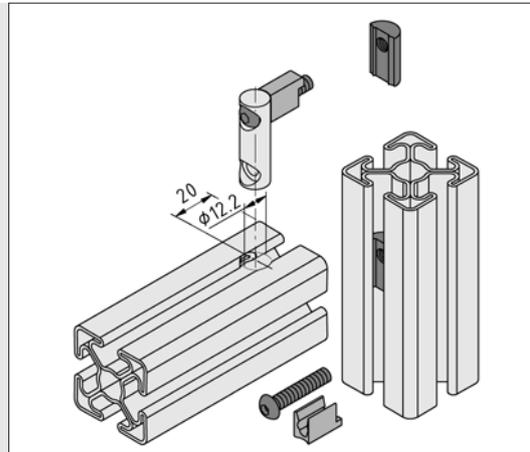


Universal-Fastening Set (Profile St) 8

- Sound profile connection made from steel
- Maximum stability and easy installation
- Only basic profile machining required



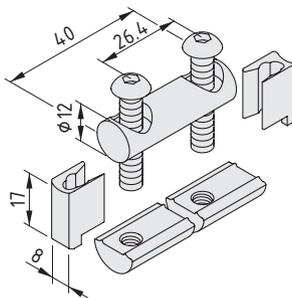
The Universal-Fastening Set (Profile St) 8 40 creates a right-angled profile connection for Profiles St 8 with the option of subsequent movement along the profile groove or subsequent insertion of struts in profile frames that are already closed. This means that it is not necessary to specify the position of the fastening point in advance.



The pre-tensioning force of the Universal-Fastening Set (Profile St) 8 is applied by two screws which are tightened from the profile groove. They are screwed into T-Slot Nuts (Profile St) 8 M6, which are inserted in the opposite profile groove.

The fastener's counterpart takes the form of a pin with two through holes, which is inserted in one of the cross-holes ($\phi 12.2$ mm) in the Profile.

The caps are also used to fix the positions of the screws during assembly.



Universal-Fastening Set (Profile St) 8 40



- St
- Connecting pin D12x40 2D6
- 2 Button-Head Screws ISO 7380-M6x32, tin-plated
- 2 T-Slot Nuts (Profile St) 8 M6
- 2 Caps, PA black
- $M_{\text{stainl.}} = 8 \text{ Nm}$ $m = 65.0 \text{ g}$

stainless, 1 set

0.0.601.03



T-Slot Nuts (Profile St) 8

- Strong T-Slot Nut made from corrosion-resistant steel
- Designed for the groove of Profiles St 8



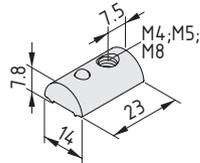
T-Slot Nuts (Profile St) 8 are adapted to suit the special shape of the profile groove of Profiles St 8. They can be inserted into the grooves at any location and are fixed in place using a ball thrust piece.

An anti-torsion feature simplifies the process of moving the T-Slot Nut and stops it slipping out of the profile groove when doing so.



Tip:

This special T-Slot Nut must be used whenever fastening accessories to Profiles St 8.



T-Slot Nut (Profile St) 8 M4



St

m = 14.0 g

stainless, 1 pce.

0.0.494.38

T-Slot Nut (Profile St) 8 M5



St

m = 13.0 g

stainless, 1 pce.

0.0.494.37

T-Slot Nut (Profile St) 8 M8

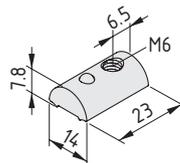


St

m = 12.0 g

stainless, 1 pce.

0.0.494.28



T-Slot Nut (Profile St) 8 M6



St

m = 13.0 g

stainless, 1 pce.

0.0.494.36



Profile Bar (Profile St) 8

- Customised fastening option in the profile groove
- Made from high-strength, corrosion-resistant steel



Profile Bar (Profile St) 8

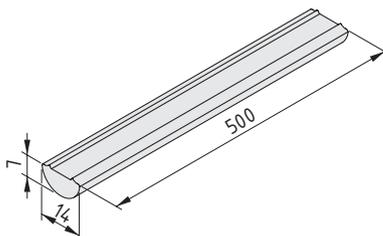


St

m = 313.0 g

stainless, 1 pce., length 500 mm

0.0.495.11





Footplate (Profile St) 8 40x40 M8

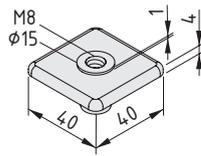
- Mounting plate for fitting a Knuckle Foot to a Profile St 8



Footplate (Profile St) 8 40x40 is intended for attaching Knuckle Feet with a central M8 thread. The Footplate is pressed into the end face of Profiles St 8. The threaded bore engages with the spindle of a height-adjustable Knuckle Foot. Use of Knuckle Foot D40, M8x60 stainless (0.0.475.41) is particularly recommended.

Note: Footplate (Profile St) 8 40x40 is only designed to absorb compressive forces!

$F_{max.} = 350 \text{ N}$



Footplate (Profile St) 8 40x40 M8



Die-cast zinc
m = 36.0 g

black, 1 pce.

0.0.602.30



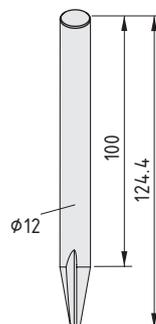
Drill D12.2

- Drill bit specifically intended for machining high-strength steel profiles



Drill D12.2 is a special drill for machining Profiles St 8. It is used to drill the $\varnothing 12.2$ mm through-hole for the bolts in Standard-Fastening Set (Profile St) 8 and Universal-Fastening Set (Profile St) 8.

An appropriate Drill Paste must be used to lubricate the Drill when drilling the Profiles.



Drill D12.2



High-performance, high-speed steel
m = 81.0 g

1 pce.

0.0.602.12



Profiles KH 8

The profiles that are entirely non-metallic

- Innovative composite material made of wood and plastic
- Very strong, lightweight profiles
- Electrically insulating and neutral to electromagnetic waves



The metal-free alternative in the item MB Building Kit System. An innovative, high-strength material that is particularly easy to process.

Profiles KH 8 are made from environmentally friendly material (more than 70 percent wood fibre) and have exactly the same design as the equivalent item aluminium profiles. As a result, they are fully compatible with all attachments and can also be combined with other building kit system elements. The Line 8 groove can accommodate all fastening elements and enables users to insert panels directly into profile frames.

A top-quality innovative material. The combination of thermoplastic and renewable raw materials offers the best of both worlds. Solid-coloured in elegant anthracite grey with a smooth plastic outer surface. Moisture resistant, dimensionally stable and strong – the ideal basis for lightweight applications.



Profiles KH 8 are connected together using a special Standard-Fastening Set or Angle Bracket Sets 8 PA. Caps 8 40x40 and 8 80x40 seal the profile end faces.

The wood used in Profile KH 8 is sourced from sustainably managed forests. It carries the PEFC label. Further information is available at: www.pefc.co.uk.

Thanks to ease of processing (the material is cut and drilled like conventional wood) and special, adapted fastening elements, no special machines or tools are needed when working with the profiles.

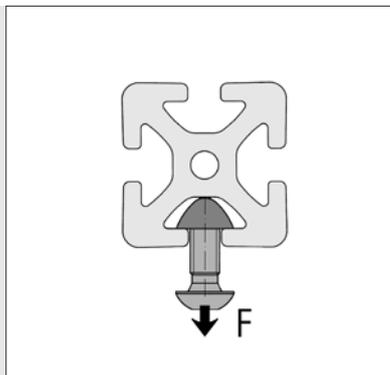
When a construction has to be lightweight, when electrical insulation is a requirement or when a particularly low-cost solution from the building kit system is needed, Profiles KH 8 are the answer.

The profiles are also ideal for use with laboratory equipment for EMC measurements and when building racks, table frames, guards and enclosures.

Physical properties of material KH

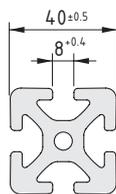
Modulus of elasticity in tension	9900 N/mm ²
Tensile strength	43 N/mm ²
Tensile elongation at failure point	1.2 %
Modulus of elasticity in bending	7000 N/mm ²
Flexural strength	77 N/mm ²
Heat distortion temperature	+100/-15 °C
Water absorption 1d	Volume swelling: 1.16 % Mass swelling: 3.08 %
Acid resistance (dil.)	+
Alkali resistance (dil.)	+





Permissible tensile load F on the groove flanks. This nominal load incorporates safety factors ($S > 2$) that act against deformation and fracturing.

$F = 750 \text{ N}$

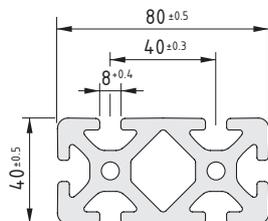


Profile KH 8 40x40



Wood-PP composite

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	I _t [cm ⁴]	W _x [cm ³]	W _y [cm ³]
9.21	1.06	14.70	14.70	1.88	7.04	7.04
anthracite, cut-off max. 6000 mm						0.0.641.61
anthracite, 1 pce., length 6000 mm						0.0.626.86



Profile KH 8 80x40



Wood-PP composite

A [cm ²]	m [kg/m]	I _x [cm ⁴]	I _y [cm ⁴]	W _x [cm ³]	W _y [cm ³]	
16.80	2.08	26.99	101.79	13.49	25.48	
anthracite, cut-off max. 6000 mm						0.0.655.30
anthracite, 1 pce., length 6000 mm						0.0.637.47



Standard-Fastening Set KH 8

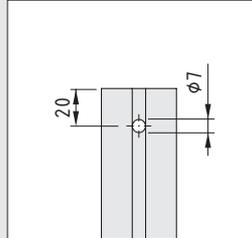
- The quick-action profile fastening
- Concealed in the profile groove
- Position of the fastening must be fixed



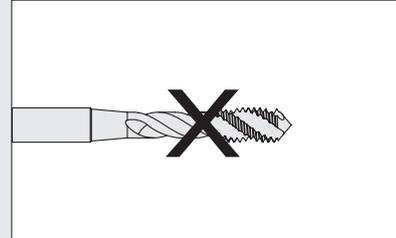
The special fastening techniques for Profiles KH 8 require little processing work and use self-tapping screws that are driven into the core bore of the profile. Only a through hole for the tool (TX30; \varnothing 7 mm) specifies the location of the connecting point.

Standard-Fastening Set KH 8 is entirely concealed in the profile groove – maximum integration ensures no space is wasted and creates clean, clear lines for an elegant construction.

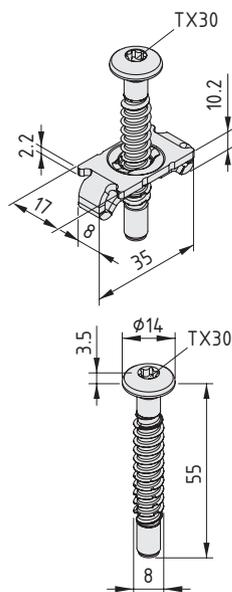
The Button-Head Screw is also available separately for fastening attachments to the core bore of Profile KH.



Position of the through holes for the key.



Quick-action profile connection thanks to self-tapping screw.



Standard-Fastening Set KH 8



Standard connecting plate 8, St
 Button-Head Screw KH 8x55, TX30, St
 $M_{bzp} = 10 \text{ Nm}$ $m = 27.0 \text{ g}$

bright zinc-plated, 1 set

0.0.642.18

Button-Head Screw KH 8x55, TX30

St
 $m = 16.0 \text{ g}$

bright zinc-plated, 1 pce.

0.0.642.17



Angle Bracket 8 PA

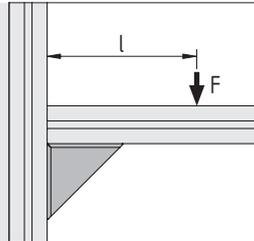
- Holds profiles with no additional machining
- Also ideal as a temporary fastening



The flexible machining-free profile fastening. Using the Angle Bracket ensures constructions can be easily reconfigured, as it does not need to be permanently fixed in one place.

Because Angle Brackets reinforce fastening points, they are particularly useful in applications that are likely to involve bending loads.

Angle Bracket Sets 8 PA include all the necessary fastening materials for joining two Profiles KH.



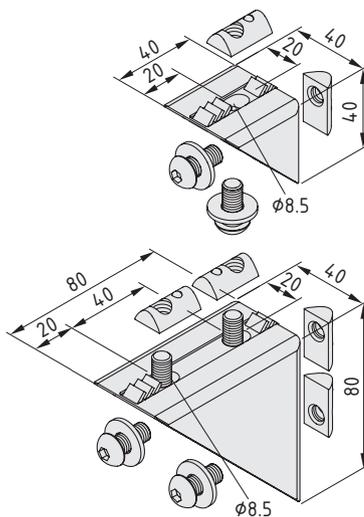
Angle Bracket 8 40x40 PA $F < 200\text{ N}$ $\wedge F \times l < 10\text{ Nm}$

Angle Bracket 8 80x80 PA $F < 400\text{ N}$ $\wedge F \times l < 30\text{ Nm}$

The load-carrying capacity is to be checked to ensure both conditions are met.



Angle Brackets PA come with removable anti-torsion features, meaning that attachments without a profile groove can also be screw-connected with ease.



Angle Bracket Set 8 40x40 PA



Angle Bracket 8 40x40 PA, black
 2 Button-Head Screws ISO 7380-M8x18, St, bright zinc-plated
 2 washers 9x20x2, St, bright zinc-plated
 2 T-Slot Nuts 8 St M8, bright zinc-plated
 m = 53.0 g

1 set

0.0.647.03

Angle Bracket Set 8 80x80 PA



Angle Bracket 8 80x80 PA, black
 4 Button-Head Screws ISO 7380-M8x18, St, bright zinc-plated
 4 washers 9x20x2, St, bright zinc-plated
 4 T-Slot Nuts 8 St M8, bright zinc-plated
 m = 177.0 g

1 set

0.0.647.05



JIGS, FIXTURES AND TOOLS

18

Machining for profile connections

Machining for linear technology

General tools

Jigs, fixtures and tools Products in this section



Drilling Jigs and Step Drills

- For rapid and precise profile machining
- Simple handling on pillar drills

653



Drilling Unit

- Drilling Stands for simplified profile machining without a pillar drill

660



Drilling Jigs, T-Slot Opening

- Precise positioning for opening up closed grooves
- Hardened drill bushes.

662



T-Slot Opener 8N

- For opening closed grooves quickly and carefully
- For Profiles 8 and X 8 with removable groove covering

663



T-Slot Deburrer 8N

- For smoothing the edges of grooves that have been opened
- Adjustable shaft length for ergonomic working practices

664



Lip Seal Assembly Tool

- The easy and reliable way to press Lip Seals into place
- Suitable roller size for a range of profile sizes

665



Shaft Mounting Aid

- The easy way to press Shafts into Shaft-Clamp Profiles

667



Pin Spanners

- For adjusting the eccentrics on roller guides and C-Rail Guides
- For the lock nuts in Bearing Units

668



Rack 8 Assembly Tool

- For connecting together the rack segments of a rack drive

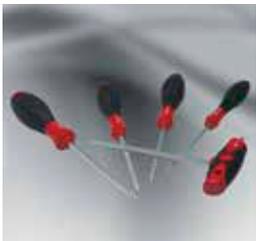
669



Track Oil for Linear Guides

- For reducing friction
- For a longer service life

670



Keys

- Designed specifically for use with profiles and fastening elements from item
- Also models suitable for difficult-to-reach screws

671



Ratchet Wrenches

- Tighten screws with a continuous motion
- Compatible with item Key Inserts

673



Key Inserts

- Wrenches suitable for item fasteners
- Suitable for use in various tools

674



Security L-Key Set

- For all security fastenings using item's special bolts

675



Multi-Purpose Pliers

- For cutting plastic, rubber, wood and thin aluminium
- For cutting Cover Profiles precisely to length

678



Drilling Jigs and Step Drills Standard Connection and Universal Connection

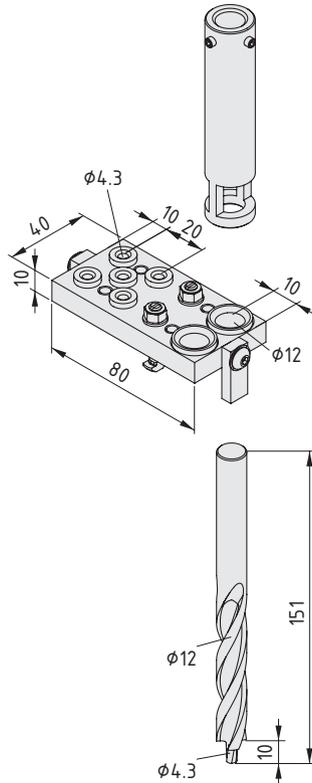
- For rapid and precise profile machining
- Simple handling on pillar drills



Drilling Jigs for precisely positioned machining of profiles with the required through holes for Standard Fasteners and Universal Fasteners.



Because Drilling Jig 8 80, Standard Fastener 8 clamps to the outside of a profile, it can also be used on profiles with closed grooves. Suitable for Profiles 8 and Profiles X 8 up to a width of 80 mm.



Drilling Jig 5



St, black
 Drill bushes, St, hardened and polished
 Slewable longitudinal limit stop
 Clamp attachment on the profile
 Depth limit stop for the Step Drill
 m = 390.0 g

1 pce.

0.0.370.19

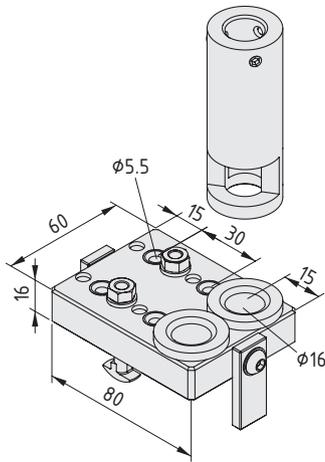
Step Drill, Universal Connection 5



High-performance, high-speed steel
 Shaft: \varnothing 12 mm
 m = 80.0 g

1 pce.

0.0.370.35

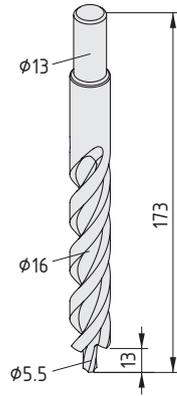


Drilling Jig 6



St, black
 Drill bushes, St, hardened and polished
 Slewable longitudinal limit stop
 Clamp attachment on the profile
 Depth limit stop for the Step Drill
 m = 832.0 g

1 pce. 0.0.434.25

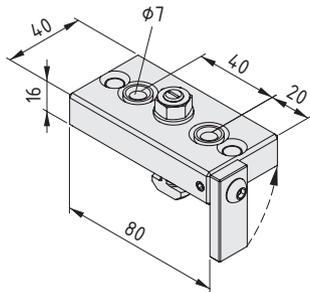


Step Drill, Universal Connection 6



High-performance, high-speed steel
 Shaft: \varnothing 13 mm
 m = 150.0 g

1 pce. 0.0.431.19

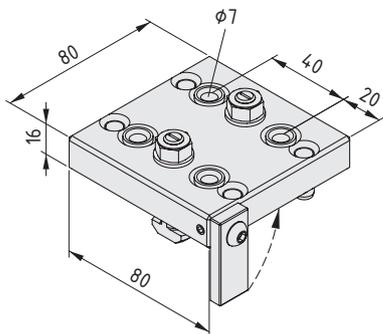


Drilling Jig 8, small, Standard Connection 8



St, black
 Drill bushes, St, hardened and polished
 Slewable longitudinal limit stop
 Clamp attachment on the profile
 m = 420.0 g

1 pce. 0.0.026.09

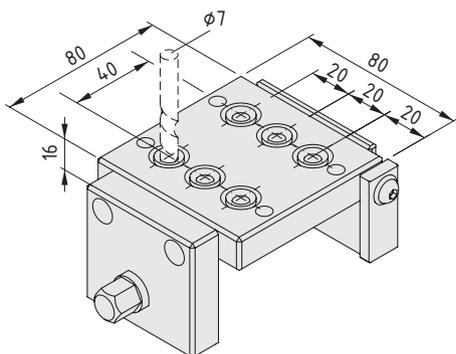


Drilling Jig 8, large, Standard Connection 8



St, black
 Drill bushes, St, hardened and polished
 Slewable longitudinal limit stop
 Clamp attachment on the profile
 m = 810.0 g

1 pce. 0.0.026.19

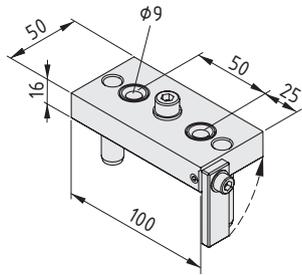


Drilling Jig 8 80, Standard Fastener 8



St, black
 Drill bushes, St, hardened and polished
 Longitudinal limit stop and clamp fitting
 m = 1.1 kg

1 pce. 0.0.642.72



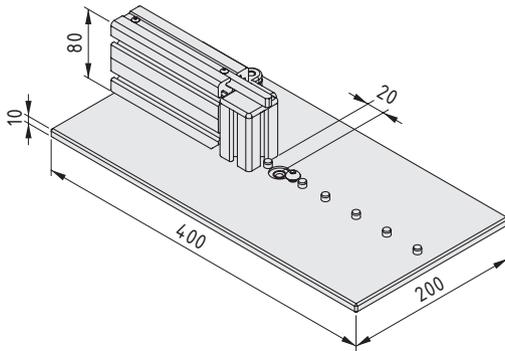
Drilling Jig 10, small, Standard Connection 10



St, black
 Drill bushes, St, hardened and polished
 Slewable longitudinal limit stop
 Clamp attachment on the profile
 m = 662.0 g

1 pce.

0.0.632.12



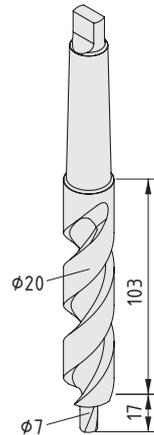
Drilling Jig 8



Base plate, plastic, green
 Profile, Al, anodized, natural
 Drill bush, St, hardened and polished
 Slewable stop
 Profile-guide elements
 m = 2.3 kg

1 pce.

0.0.026.91



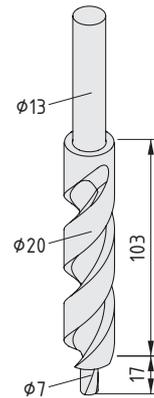
Step Drill, Universal Connection 8, MT2



High-performance, high-speed steel
 Taper shank: MT 2
 m = 260.0 g

1 pce.

0.0.026.90



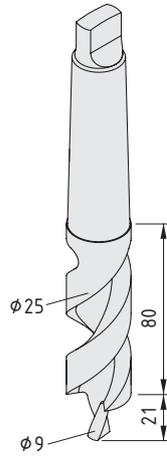
Step Drill, Universal Connection 8, D13



High-performance, high-speed steel
 Shaft: Ø 13 mm
 m = 240.0 g

1 pce.

0.0.465.90



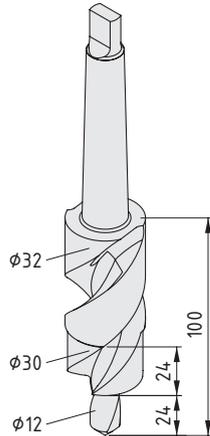
Step Drill, Universal Connection 10



High-performance, high-speed steel
Taper shank: MT 3
m = 431.0 g

1 pce.

0.0.632.09



Step Drill with tapered countersink, Universal Connection 12



High-performance, high-speed steel
Taper shank: MT3
m = 550.0 g

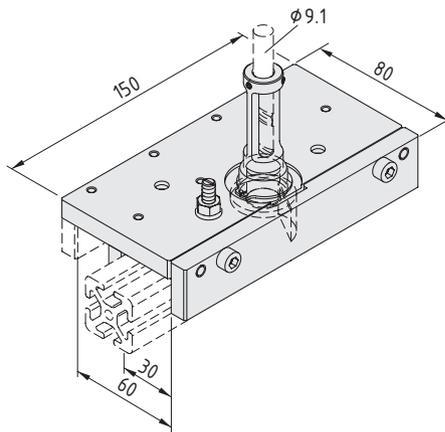
1 pce.

0.0.014.03



Drilling Jig and Step Drill Mitre Connection and Central Fastening

- Straightforward profile machining for Mitre-Fastening Set and Central-Fastening Set
- Suitable for any mitre angle
- For cutting the correct bore in the cut profile



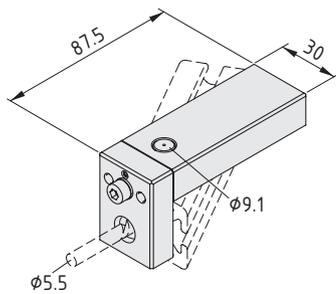
Drilling Jig, Mitre Connection 6 D9.1



St, black
Depth limit stop
Notes on Use and Installation
m = 1.3 kg

1 pce.

0.0.616.77



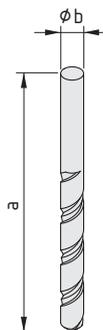
Drilling Jig, Mitre Connection 6 D5.5



St, black
Depth limit stop
Notes on Use and Installation
m = 390.0 g

1 pce.

0.0.616.89



Drill D9.1

High-performance, high-speed steel
a = 125 mm b = 9.1 mm m = 63.0 g

1 pce.

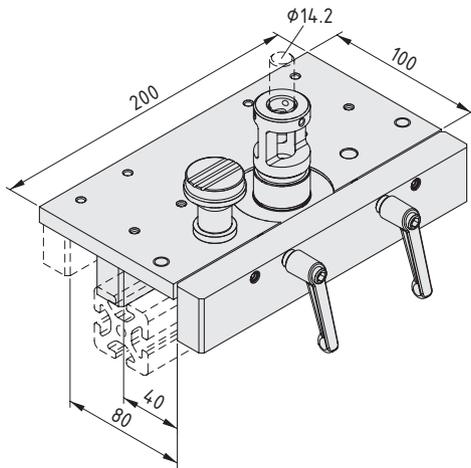
0.0.628.25

Drill D5.5

High-performance, high-speed steel
a = 93 mm b = 5.5 mm m = 18.0 g

1 pce.

0.0.628.55

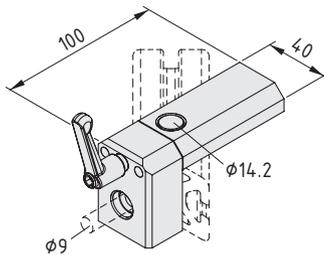


Drilling Jig Mitre Connection 8 D14.2



St, black
 Depth limit stop
 Notes on Use and Installation
 m = 1.8 kg

1 pce. 0.0.493.72

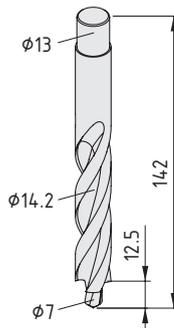


Drilling Jig Mitre Connection 8 D9



St, black
 Notes on Use and Installation
 m = 0.8 kg

1 pce. 0.0.493.71

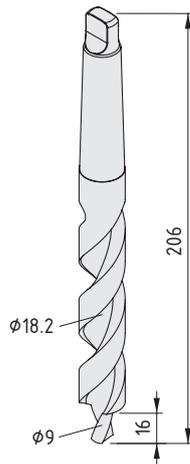


Step Drill, Mitre Connection 8



High-performance, high-speed steel
 Shaft: \varnothing 12.5 mm
 m = 104.0 g

1 pce. 0.0.492.60



Step Drill Central-Fastening Set 10



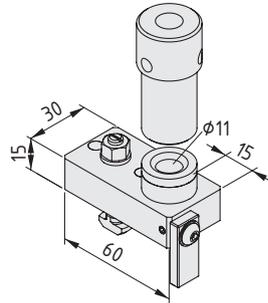
High-performance, high-speed steel
 Taper shank DIN 228-MK-B2 AT6
 m = 244.0 g

1 pce. 0.0.632.75



Drilling Jigs and Step Drills Clamp Profiles

■ For machining profiles when creating a 90° connection between
Clamp Profiles 6 30x30 and 8 40x40



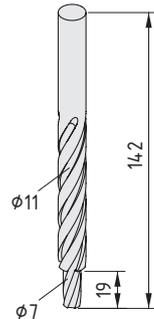
Drilling Jig 6, Clamp Profile 6 30x30



St, black
Drill bush, St, hardened and polished
Sleivable longitudinal limit stop
Clamp attachment on the profile
Depth limit stop for the Step Drill
m = 388.0 g

1 pce.

0.0.434.23



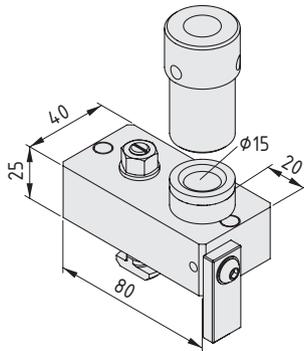
Step Drill, Clamp Profile 6 30x30



High-performance, high-speed steel
Shaft: Ø 11 mm
m = 63.0 g

1 pce.

0.0.431.20



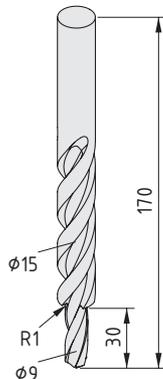
Drilling Jig 8, Clamp Profile 8 40x40



St, black
Drill bush, St, hardened and polished
Sleivable longitudinal limit stop
Clamp attachment on the profile
Depth limit stop for the Step Drill
m = 880.0 g

1 pce.

0.0.265.22



Step Drill, Clamp Profile 8 40x40



High-performance, high-speed steel
Shaft: Ø 15 mm
m = 150.0 g

1 pce.

0.0.265.21



Drilling Unit

Straightforward profile machining on site

- Drilling Stands for simplified profile machining without a pillar drill
- Fasten direct to the profile
- Adapter for various profile lines



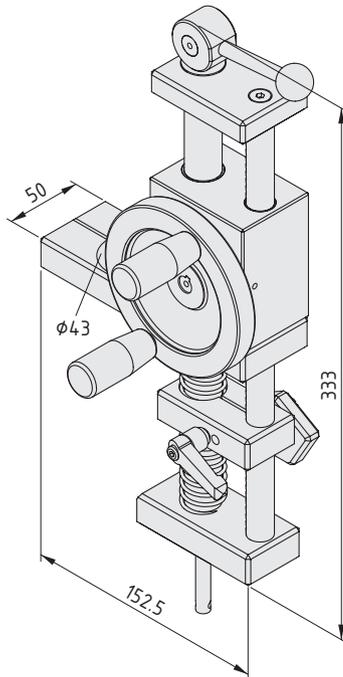
Stepped bore for the Universal-Fastening Set.



Through hole and thread for the Standard-Fastening Set.



The Drilling Unit can be operated with a commercially available drilling machine with European mount (Ø 43 mm). A machine with electronic speed control, R/L operation and 2-speed gearing is recommended.

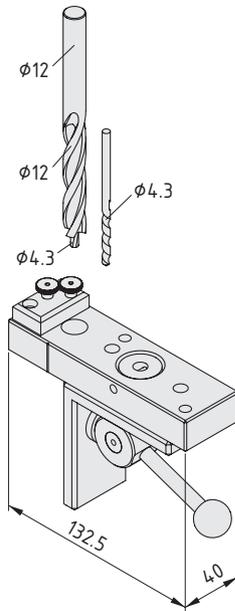


Drilling Unit, Drilling Stand

St
Notes on Use and Installation
m = 3.0 kg

1 pce.

0.0.465.88



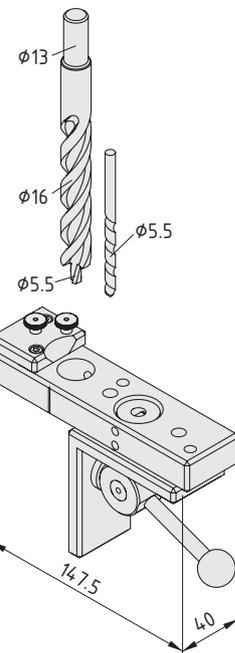
Drilling Unit, Drilling Adapter Set 5



Adapter Plate, St, black
 Angle Bracket, St, black
 Step Drill, Universal Connection 5, high-performance, high-speed steel
 Drill \varnothing 4.3 DIN 338, high-performance, high-speed steel
 m = 1.2 kg

1 set

0.0.464.30



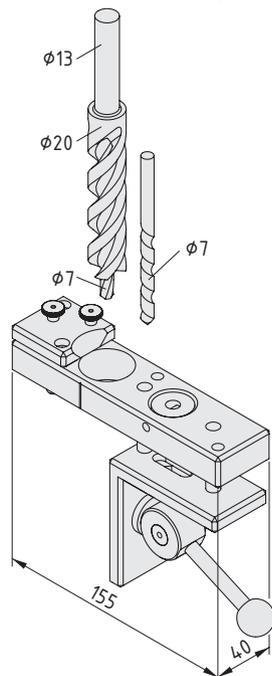
Drilling Unit, Drilling Adapter Set 6



Adapter Plate, St, black
 Angle Bracket, St, black
 Step Drill, Universal Connection 6, high-performance, high-speed steel
 Drill \varnothing 5.5 DIN 338, high-performance, high-speed steel
 m = 1.3 kg

1 set

0.0.459.33



Drilling Unit, Drilling Adapter Set 8



Adapter Plate, St, black
 Angle Bracket, St, black
 Step Drill, Universal Connection 8, high-performance, high-speed steel
 Drill \varnothing 7 DIN 338, high-performance, high-speed steel
 m = 1.3 kg

1 set

0.0.465.89

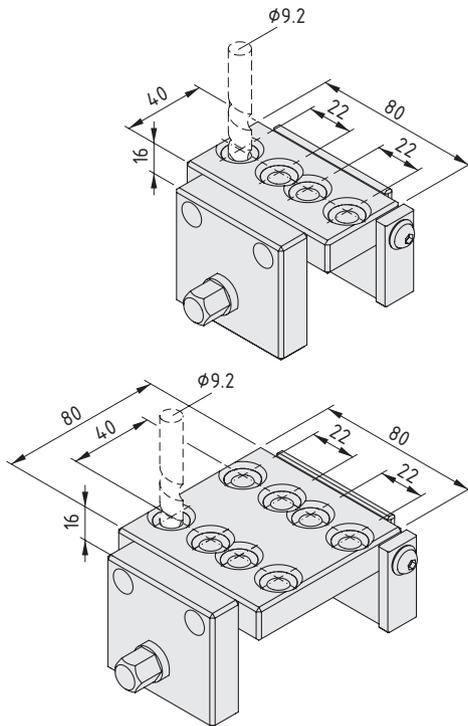


Drilling Jigs 8, T-Slot Opener



The task: Cutting holes or slots into the closed profile grooves of a Profile 8 or Profile X 8 – in precisely the right position and dimensions for deploying a T-Slot Nut 8 or other fastener.

The solution: The Drilling Jig for opening up grooves, which is fastened to the outside of the profile and incorporates hardened drill bushes for high-precision drill guidance. Simple to use with reliable results!



Drilling Jig 8 40, T-Slot Opening



St, black
 Drill bushes, St, hardened and polished
 Longitudinal limit stop and clamp fitting
 m = 764.0 g

1 pce.

0.0.642.70

Drilling Jig 8 80, T-Slot Opening



St, black
 Drill bushes, St, hardened and polished
 Longitudinal limit stop and clamp fitting
 m = 1.1 kg

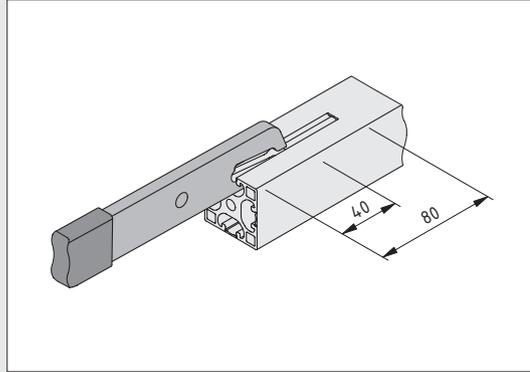
1 pce.

0.0.642.74



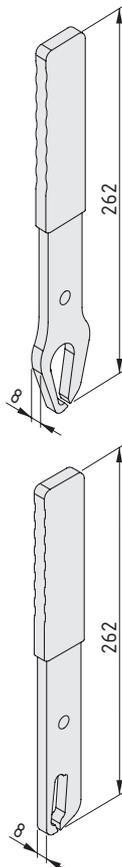
T-Slot Opener 8N

- For opening closed grooves quickly and carefully
- For Profiles 8 and X 8 with removable groove covering



T-Slot Opener 8N is used to remove the groove cover over any length beginning from the end face of the profile or any other opening of sufficient size. If the opening does not extend to the end of the profile, the end of the opening must be defined with a hole of $\varnothing 9.2$ mm.

T-Slot Opener 8N for Standard-Fastening Set:
Each levering movement will open the profile groove over the length of a Standard-Fastening Set 8.



T-Slot Opener 8N



St, galvanized
Handle, PVC
m = 580.0 g

1 pce.

0.0.612.88

T-Slot Opener 8N for Standard-Fastening Set



St, galvanized
Handle, PVC
m = 500.0 g

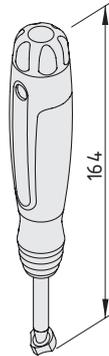
1 pce.

0.0.612.89



T-Slot Deburrer 8N

- For smoothing the edges of grooves that have been opened
- Adjustable shaft length for ergonomic working practices



T-Slot Deburrer 8N



m = 88.0 g

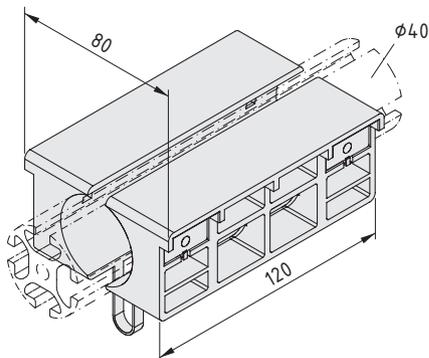
1 pce.

0.0.612.47



Clamping Jaws D40

- For careful machining of profiles with the cylindrical D40 cross-section
- Simple and rapid clamping in a vice



Clamping Jaws D40

PA
4 magnetic inserts
m = 185.0 g

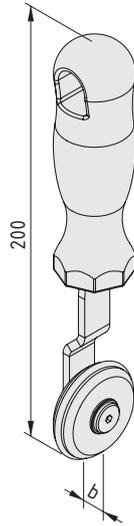
1 pce.

1.0.003.75



Lip Seal Assembly Tools

- The easy and reliable way to press Lip Seals into place
- Suitable roller size for a range of profile sizes



Assembly Tool Lip Seal 5



Roller, PA
 Bolt, St
 Button-Head Screw ISO 7380-M5x10
 Handle, PA
 b = 11 mm m = 85.0 g

1 pce. 0.0.484.40

Lip Seal Assembly Tool 6-12

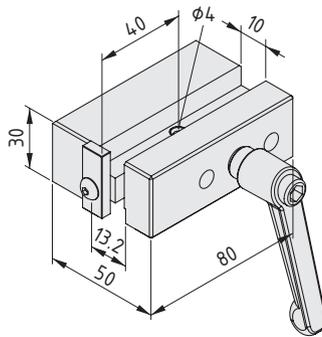
Roller, PA
 Bolt, St
 Button-Head Screw ISO 7380-M5x10
 Handle, PA
 b = 8 mm m = 81.0 g

1 pce. 0.0.493.28



Combination Drilling Jigs

- For easier machining of Shafts, Shaft-Clamp Profiles and Support Profiles
- For cutting precisely positioned fixing bores



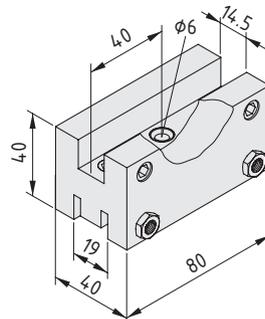
Combination Drilling Jig for Shaft D10



St, black
 Drill bush, St, hardened and polished
 Clamp lever
 Slewable longitudinal limit stop
 m = 889.0 g

1 pce.

0.0.444.68



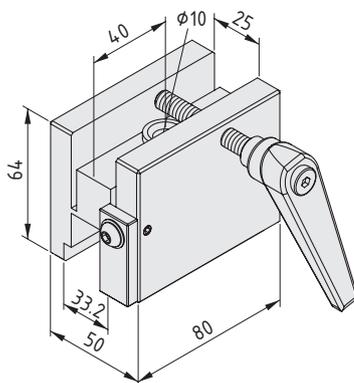
Combination Drilling Jig for Shaft D14



St, black
 Drill bush, St, hardened and polished
 Clamp attachment
 m = 780.0 g

1 pce.

0.0.373.55



Combination Drilling Jig for Shaft D25



St, black
 Drill bush, St, hardened and polished
 Clamping lever
 Slewable longitudinal limit stop
 m = 1.4 kg

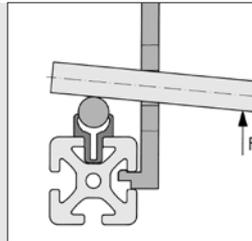
1 pce.

0.0.373.15

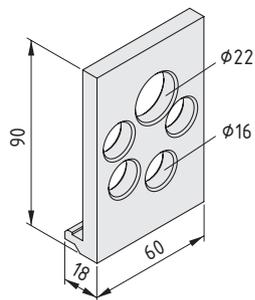


Mounting Aid

■ The easy way to press Shafts into Shaft-Clamp Profiles



Using a round steel bar to press guiding shafts into place



Mounting Aid for Shaft D6/D14/D25

St
m = 270.0 g
black, 1 pce.

0.0.265.38

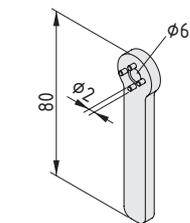


Pin Spanners

■ For adjusting the eccentrics on roller guides and C-Rail Guides



For tightening lock nuts in the Bearing Units of Roller Guides 5 D6, 8 D10, 8 D14 and 8 D25.

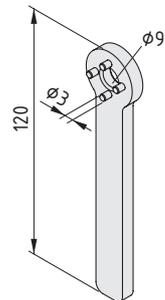


Pin Spanner 5 D6, 8 D10



St
m = 40.0 g
black, 1 pce.

0.0.390.13

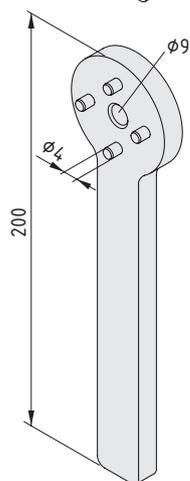


Pin Spanner 8 D14



St
m = 90.0 g
black, 1 pce.

0.0.294.41



Pin Spanner 8 D25



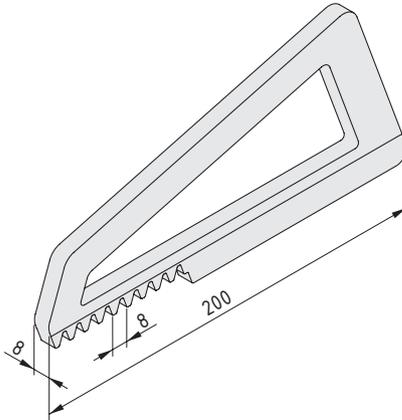
St
m = 430.0 g
black, 1 pce.

0.0.350.30



Rack 8 Assembly Tool

■ For connecting together the rack segments of a rack drive



Rack 8 Assembly Tool



St, stainless
m = 451.0 g

1 pce.

0.0.625.39



Track Oil for Linear Guides Oil Can for Linear Guides Assembly Paste

- High-quality oils increase the service life of linear slides
- Ideal for product maintenance and care
- Assembly Paste reduces friction when assembling structures

The maintenance and care products from item are the perfect complement to our high-quality components. Linear slides need to be lubricated on a regular basis and fully synthetic Track Oil is the ideal product. It spreads out evenly and does not tend to gum up. The Oil Can enables you to access difficult-to-reach lubricating points.

Components made from stainless steel are extremely strong but, due to high levels of friction, can often be difficult to position during assembly. item Assembly Paste ensures that screws and profiles slot easily into position.

Track Oil and Assembly Paste are approved for contact with foodstuffs.



The special Track Oil for Linear Guides is entirely synthetic and approved for contact with foodstuffs. It is used to maintain oil-lubricated guide tracks.

Assembly Paste ensures stainless steel screws and profiles glide more easily into position, making it far easier to achieve a flush fit.

Track Oil for Linear Guides

Synthetic lubrication oil ISO VG 460
Contents: 250 ml (bottle)
m = 285.0 g

1 pce. 0.0.612.75

Oil Can for Linear Guides

Pump-action oil dispenser Al with pointed tip
Contents: 200 ml
m = 600.0 g

1 pce. 0.0.612.74

Assembly Paste

Contents: 100 g (tube)
m = 115.0 g

1 pce. 1.0.003.61

Grease for Linear Guide Carriage Units

Contents: 250 g (tube)
m = 300.0 g

1 pce. 0.0.644.87

Grease Gun for Linear Guide Carriage Unit D14

Conical adapter with needle mouthpiece
Contents: 50 ml
m = 150.0 g

1 pce. 0.0.644.88



Keys

- Designed specifically for use with profiles and fastening elements from item
- Also models suitable for difficult-to-reach screws

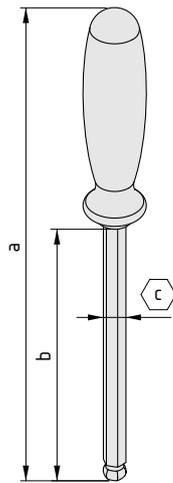
Ball-Headed Keys are particularly suitable for initial tightening and for screws which are difficult to reach (tightening angles up to 25°).

Keys with T-Handle and L-Keys are suitable for the maximum tightening torques of the various screws.

L-Keys are particularly suitable for tightening the screws of Universal Connections.

A special L-Key 5 A/F N is used for the Automatic-Fastening Sets 8 N.

The keys are made of high-grade chrome-vanadium steel, matt-chrome plated. The ergonomic plastic handles have an elastic coating of TPE.



Ball-Headed Key 1.5 A/F

a [mm]	b [mm]	c [mm]	m [g]
179	75	1.5	29.0

1 pce. 0.0.473.79

Ball-Headed Key 2 A/F

a [mm]	b [mm]	c [mm]	m [g]
204	100	2	31.0

1 pce. 0.0.473.78

Ball-Headed Key 3 A/F

a [mm]	b [mm]	c [mm]	m [g]
204	100	3	31.0

1 pce. 0.0.370.58

Ball-Headed Key 4 A/F

a [mm]	b [mm]	c [mm]	m [g]
211	100	4	57.0

1 pce. 0.0.406.60

Ball-Headed Key 5 A/F

a [mm]	b [mm]	c [mm]	m [g]
211	100	5	66.0

1 pce. 0.0.026.54

Ball-Headed Key 6 A/F

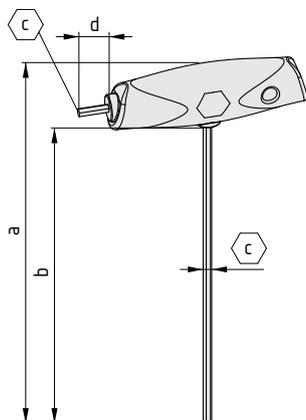
a [mm]	b [mm]	c [mm]	m [g]
243	125	6	104.0

1 pce. 0.0.406.61

Ball-Headed Key 8 A/F

a [mm]	b [mm]	c [mm]	m [g]
268	150	8	153.0

1 pce. 0.0.480.34



Ball-Headed Key 10 A/F

a [mm]	b [mm]	c [mm]	m [g]
271	150	10	212.0
1 pce.			0.0.480.35

Key with T-Handle 3 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
170	145	3	12	34.0
1 pce.				0.0.370.59

Key with T-Handle 4 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
170	145	4	12	43.0
1 pce.				0.0.406.39

Key with T-Handle 5 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
230	195	5	16	91.0
1 pce.				0.0.026.29

Key with T-Handle 6 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
230	195	6	16	110.0
1 pce.				0.0.406.38

Key with T-Handle 8 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
330	295	8	16	200.0
1 pce.				0.0.480.36

Key with T-Handle 10 A/F

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
330	295	10	16	320.0
1 pce.				0.0.480.37

Key with T-Handle TX30

a [mm]	b [mm]	c [mm]	d [mm]	m [g]
182	150	TX30	17	93.4
1 pce.				0.0.647.93

Materials used in all the following products:

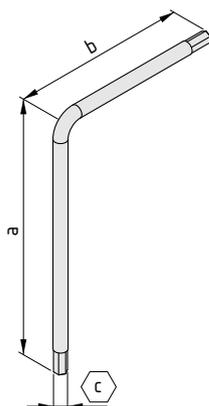
Chrome vanadium steel, matt chrome-plated

L-Key 3 A/F

a [mm]	b [mm]	c [mm]	m [g]
93	66	3	9.0
1 pce.			0.0.440.73

L-Key 4 A/F

a [mm]	b [mm]	c [mm]	m [g]
109	74	4	19.0
1 pce.			0.0.440.74



L-Key 5 A/F			
a [mm]	b [mm]	c [mm]	m [g]
125	85	5	34.0
1 pce.			0.0.026.89

L-Key 5 A/F N			
a [mm]	b [mm]	c [mm]	m [g]
163	20	5	30.0
1 pce.			0.0.492.59

L-Key 6 A/F			
a [mm]	b [mm]	c [mm]	m [g]
200	160	6	150.0
1 pce.			0.0.007.01

L-Key 8 A/F			
a [mm]	b [mm]	c [mm]	m [g]
300	200	8	300.0
1 pce.			0.0.007.12

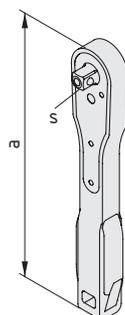


Ratchet Wrench 1/4" and 3/8"

- Optimised tool for working with profiles
- Perfect power transmission, even at an angle
- Integrated scratch protection

The item family of tools is perfectly geared up for work with profiles and fastening elements. The Ratchet Wrenches with integrated scratch protection safeguard the immaculate profile surfaces. The robust plastic sheathing (PA) stops metal coming into contact with metal. Screws can also be tightened and loosened faster, since users don't have to constantly shift their grip on the ratchet wrenches in the same way as when using standard keys.

When used with the length-optimised item Key Inserts, the Ratchet Wrenches offer the quickest and easiest way to assemble and disassemble profile connections.



Ratchet Wrench 1/4"			
materials	s	a [mm]	m [g]
St	1/4"	127.5	103.0
1 pce.			0.0.654.69

Ratchet Wrench 3/8"			
materials	s	a [mm]	m [g]
St	3/8"	202.5	240.0
1 pce.			0.0.654.57



Key Inserts

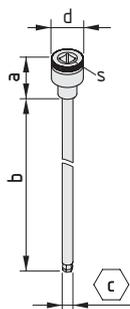
- Universal inserts suitable for item fasteners



Key Inserts from item feature long wrenches and special head shapes. They enable optimum power transmission whether they're used vertically or at an angle. The Key Inserts can be used with the relevant item Ratchet Wrenches. Variants with a 1/4" square drive fit standard torque wrenches.

Materials used in all the following products:

Chrome vanadium steel, matt chrome-plated



Key Insert 5 A/F-1/4" short					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
1/4"	23	30	5	Ø13	17.8
1 pce.					0.0.654.33

Key Insert 3 A/F-1/4"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
1/4"	23	80	3	Ø13	19.0
1 pce.					0.0.650.51

Key Insert 4 A/F-1/4"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
1/4"	23	120	4	Ø13	29.8
1 pce.					0.0.650.50

Key Insert 5 A/F-1/4"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
1/4"	23	160	5	Ø13	39.0
1 pce.					0.0.644.68

Key Insert 6 A/F-3/8"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
3/8"	29	200	6	Ø18	71.5
1 pce.					0.0.650.13

Key Insert 8 A/F-3/8"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
3/8"	29	240	8	Ø18	103.4
1 pce.					0.0.650.49

Key Insert 8 A/F-1/2"					
s	a [mm]	b [mm]	c [mm]	d [mm]	m [g]
1/2"	38	340	8	Ø23	320.0
1 pce.					0.0.674.76

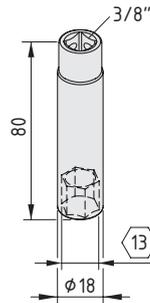


Socket Wrench Insert 13 A/F-3/8"

- For tightening nuts
- Compatible with the item Ratchet Wrench

The robust Socket Wrench Insert 13 A/F-3/8" for tightening nuts. Compatible with the item Ratchet Wrench with scratch protection. The Socket Wrench Insert is ideal for tightening Automatic Flat and Angle Bracket Sets 8.

For making strong profile connections in the flick of a wrist - no machining required.



Socket Wrench Insert 13 A/F-3/8"

St
m = 83.0 g

1 pce.

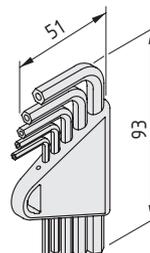
0.0.654.58



Security L-Key Set 2.5-6 A/F

- For all security fastenings using item's special bolts

For all item security bolts: L-Keys that give authorized personnel the access they need.



Security L-Key Set 2.5-6 A/F

Chrome vanadium steel, black
In plastic holder, black
m = 75.0 g

1 set

0.0.627.48



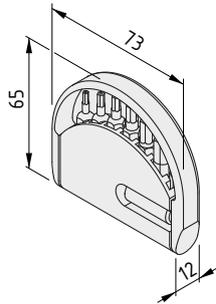
Security Bit Set 2A/F – 6A/F

- For item security bolts

Access for authorised personnel only! Products fitted with item Security Bolts cannot be opened or fastened using conventional bit sets. The security pin in the centre prevents the insertion of a hex bit. item Security Bolts thus offer effective protection from unauthorised tampering.

Security Bit Set 2A/F – 6A/F has the appropriate depression in all five sizes. item security bolts are used as standard with the following products:

- Safety Switch 8, 24V DC (0.0.658.28)
- Safety Fastening Set Multiblock 8 (0.0.626.63)
- Safety Hanger 8/6 (0.0.627.78)
- Safety Hanger 8/8 (0.0.626.00)



Security Bit Set 2A/F – 6A/F

Security bit TR2; 2.5; 3; 4; 5; 6, chromium-vanadium steel
 Universal Holder, St
 in plastic case, black
 m = 68.0 g

1 set

0.0.661.47



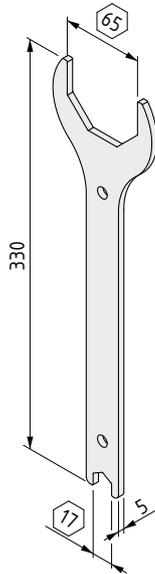
Spanner 65A/F / 17A/F flat

- Flat and versatile
- Ideal for Jacking Castor D62

Optimum force transmission even in tight spaces! Spanner 65A/F / 17A/F flat makes it extremely easy to tighten and adjust Jacking Castors D62. It combines all the key widths that are relevant to the Jacking Castors.

Jacking Castors D62 boast optimum mobility, thanks to a stable castor, and a solid footing, thanks to an extendible foot. The latter is operated via an adjustment wheel. When under heavy loads, an additional small 17 A/F wrench is also needed. The item Spanner 65A/F / 17A/F flat is compact enough that it is easy to use close to the floor and long enough that strong leverage can be generated.

The opposite end of Spanner 65A/F / 17A/F flat features a large 65 A/F wrench for fitting Jacking Castor D62 (0.0.674.53) to the profile. As a result, one tool is all you need to do everything.



Spanner 65A/F / 17A/F flat

St, bright zinc-plated
m = 416.0 g

1 pce.

0.0.671.12



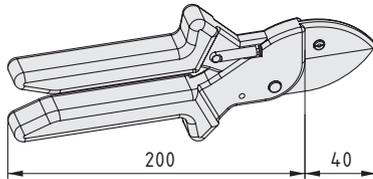
Multi-Purpose Pliers

- Ideal for quickly cutting to length
- Cuts perfect right angles

Multi-Purpose Pliers can cut through rubber, plastic and even thin aluminium profiles. They are ideal for cutting Cover Profiles to length.

Never again cut slanting edges – Multi-Purpose Pliers with 90° Stop makes it easier to cut products to length at a right angle. As a result, there is usually no need to mark a cutting line. To keep edges perfect, the lateral support and anvil stop soft materials bending.

The blades are longer than those of conventional multi-purpose pliers. Together with the long, sheathed grip, this ensures that a great deal of force can be applied to cut through strong materials.

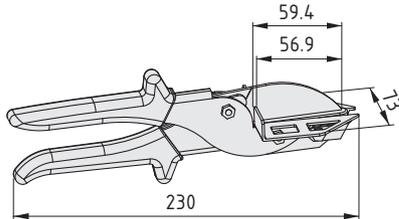


Multi-Purpose Pliers

Scissor body, sheet steel, bright nickel-plated
 Blade, special steel
 Anvil, light steel
 Handle plastic-coated, non-slip design
 m = 300.0 g

1 pce.

0.0.265.63



Multi-Purpose Pliers with 90° Stop

Scissor body, steel sheet, bright nickel-plated
 Blade, special steel
 Anvil, light metal
 Stop, St, bright zinc-plated
 Grip, plastic sheathed, with non-slip design
 m = 370.0 g

1 pce.

0.0.662.33



TECHNICAL DATA

19

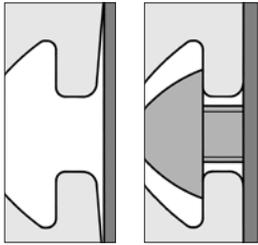
- Aluminium Profiles
- Fastening Technology
- T-Slot Nuts
- Linear Slides
- Mechanical Drive Elements

Note

All the loading values stated in this catalogue incorporate safety factors to protect against slipping and material failure. A safety factor of >2 is always applied. This means that users can make full use of the permissible values.

Note: All loading values apply to static loads. Where dynamic loads are involved, the maximum values should be viewed as comparative values.

Technical Data for Section 1 – Profiles and accessories



Extruded Profile

Symbol Al Mg Si 0.5 F 25
Material number 3.3206.72
Status: artificially aged

Mechanical values (apply only in pressing direction)

Tensile strength Rm min. 245 N/mm²
Yield point Rp0.2 min. 195 N/mm²
Density 2.7 kg/dm³
Ductile yield A₅ min. 10 %
Ductile yield A₁₀ min. 8 %
Linear coefficient of expansion 23.6x10⁻⁶ 1/K
Modulus of elasticity E approx. 70,000 N/mm²
Modulus of rigidity G approx. 25,000 N/mm²
Hardness approx. 75 HB - 2.5/187.5

Tolerances

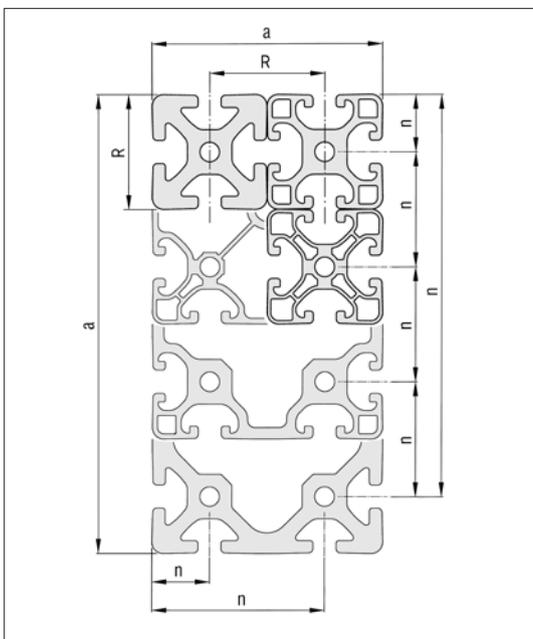
Deformations such as straightness and flatness tolerance to DIN EN 12020 Part 2.
Profiles not cut to size may be up to 100 mm longer than specified, due to manufacturing methods.

Surface

The aluminium profiles are natural (C0) or black (C35) anodized and are therefore permanently resistant to scratching and corrosion. Surface with matt finish (E 6), compressed with anodic oxidation. Minimum layer thickness 10 µm, layer hardness 250 - 350 HV. The all-round hard anodized surface covering makes saw cuts virtually burr-free, thereby eliminating the need for remachining.

All standard Profiles and Profiles "light" and Profiles "E" feature defined points of support on the Profile exterior and inclined groove flanks. These ensure a firm and stable connection with other components. Thanks to controlled elastic deformation in the groove flanks, the fastening screw creates a vibration-free connection.

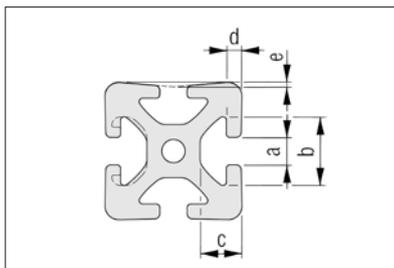
Groove position, external dimensions and modular dimensions



Modular dimension R [mm]				
20	30	40	50	60

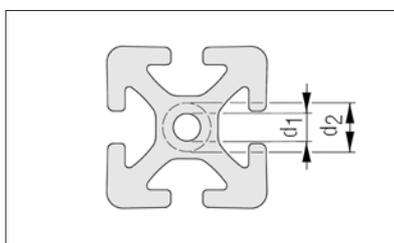
Profile edge length a [mm]		Tolerances of external dimensions a and groove position n ± [mm]
from	up to	
0	10	0.10
10	20	0.15
20	40	0.20
40	60	0.30
60	80	0.40
80	100	0.45
100	120	0.50
120	160	0.60
160	240	0.80
240	320	1.50

Groove Dimensions

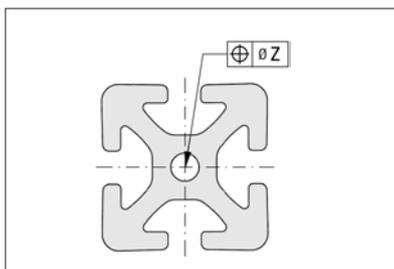


	5	6	8	10	12
a	5.0 ^{+0.3}	6.2 ^{+0.3}	8.0 ^{+0.4}	10.0 ^{+0.4}	12.0 ^{+0.4}
b	11.5 ^{+0.3}	16.3 ^{+0.3}	20.0 ^{+0.4}	25.0 ^{+0.4}	30.0 ^{+0.3}
c	6.35 ^{±0.15}	9.75 ^{+0.2}	12.25 ^{+0.3}	15.5 ^{+0.3}	18.3 ^{+0.3}
d	1.8 ^{+0.1}	3.0 ^{-0.25}	4.5 ^{+0.3}	5.3 ^{+0.3}	6.6 ^{+0.3}
e	0.15 ^{±0.1}	0.15 ^{±0.1}	0.2 ^{+0.1}	0.25 ^{±0.1}	0.3 ^{±0.1}

Core Bores



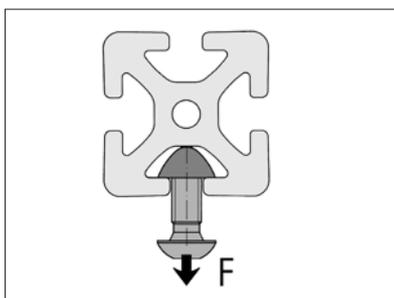
	5	6	8	10	12
Drilled hole d ₁	∅ 4.3 ^{+0.1} mm for M5	∅ 5 ^{+0.2} mm for M6	∅ 6.8 ^{-0.2} mm for M8	∅ 8.5 ^{+0.1} _{-0.2} mm for M10	∅ 10.2 ^{-0.2} mm for M12
Reborable up to d ₂	∅ 6 mm or M6	∅ 8 mm or M8	∅ 13 mm or M12 (not Profile E)	∅ 16 mm or M16 (not Profile E)	∅ 20 mm or M20



Profiles with Open Grooves		Closed Grooves	
Number of Holes	z [mm]	Number of Holes	z [mm]
1	0.4	1	0.6
2 to 4	0.6	> 1	0.8
> 4	0.8		

The hole position tolerance depends on the number of core bores and the profile contour.

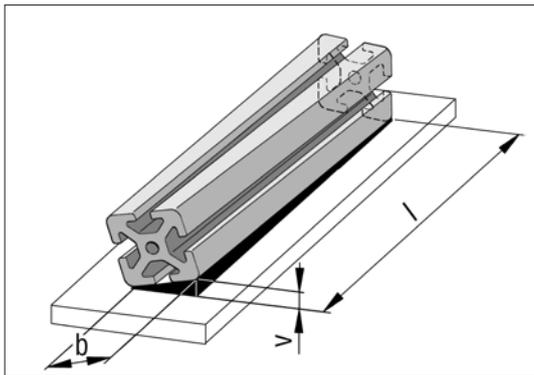
Tensile Loading



Groove shape	5	6	8	10	12
Normal	500 N	1,750 N	5,000 N	7,000 N	10,000 N
Light		500 N	2,500 N		5,000 N
E			1,750 N	3,500 N	

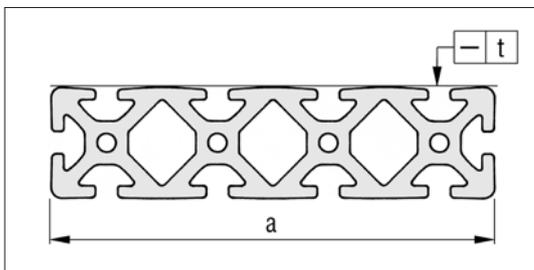
The permissible tensile forces F on the groove flanks. These nominal loads include safety factors ($S > 2$) against plastic deformation.

Torsion



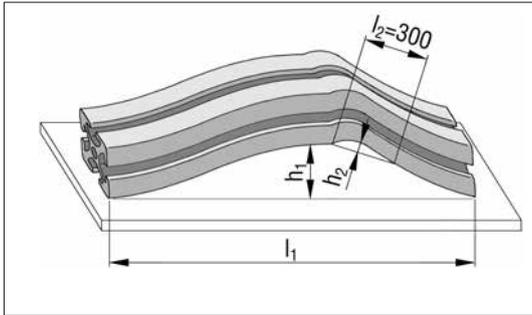
b [mm]		Torsion tolerance v for Length l [mm]					
from	up to	up to 1,000	up to 2,000	up to 3,000	up to 4,000	up to 5,000	up to 6,000
-	25	1.0	1.5	1.5	2.0	2.0	2.0
25	50	1.0	1.2	1.5	1.8	2.0	2.0
50	75	1.0	1.2	1.5	1.5	2.0	2.0
75	100	1.0	1.5	1.8	2.2	2.5	3.0
100	125	1.2	1.5	1.8	2.2	2.5	3.0
125	150	1.2	1.5	1.8	2.2	2.5	3.0
150	200	1.5	1.8	2.2	2.6	3.0	3.5
200	300	1.8	2.5	3.0	3.5	4.0	4.5
300	320	2.0	2.8	3.5	4.0	4.5	5.0

Straightness Tolerance transverse



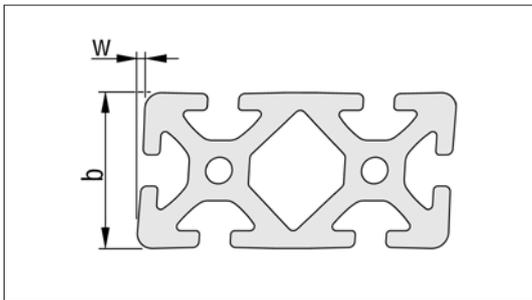
Width a [mm]		Straightness Tolerance
from	up to	t [mm]
0	80	0.3
80	120	0.4
120	160	0.5
160	240	0.7
240	320	1.0

Straightness Tolerance longitudinal



Length		Tolerances	
l_1 [mm]	h_1 [mm]	h_2	
up to 1,000	0.7	For every length section of $l_2 = 300$ mm, a maximum deviation of 0.3 mm is allowed	
up to 2,000	1.3		
up to 3,000	1.8		
up to 4,000	2.2		
up to 5,000	2.6		
up to 6,000	3.0		

Angular Tolerance



Width b [mm]		Angular Tolerance
from	up to	$w \pm$ [mm]
0	20	0.2
20	40	0.4
40	80	0.6
80	120	0.8
120	200	1.2
200		1.5

Construction profiles: Determination of the Profile Deflection

The following equations apply for calculating deflection f:

Example load 1

$$f = \frac{F \times l^3}{3 \times E \times I \times 10^4}$$

Example load 2

$$f = \frac{F \times l^3}{48 \times E \times I \times 10^4}$$

Example load 3

$$f = \frac{F \times l^3}{192 \times E \times I \times 10^4}$$

The following equations are to be used for calculating the deflection caused by the dead weight:

As example load 1

$$f = \frac{F \times l^3}{8 \times E \times I \times 10^4}$$

As example load 2

$$f = \frac{5 \times F \times l^3}{384 \times E \times I \times 10^4}$$

As example load 3

$$f = \frac{F \times l^3}{384 \times E \times I \times 10^4}$$

F = Load in N
 l = Free profile length in mm
 I = Moment of inertia in cm⁴
 E = Modulus of elasticity in N/mm²
 E_{Al} = 70,000 N/mm²

An approximate calculation of the deflection is possible with the help of the nomogram shown on the right.
 The example shown is worked through in the direction of the arrow to determine the deflection.

Example:

Given:

F = 1,000 N

l = 500 mm

I_y = 5,14 cm⁴ (Profile 5 40x20, upright)

Find:

f = Deflection in mm

Results:

Example load 1

f = 11.6 mm

Example load 2

f = 0.72 mm

Example load 3

f = 0.18 mm

The bending values that are either calculated or determined using graphs must be added to the deflection caused by the dead weight of the profiles.

For an approximate calculation of the deflection caused by the dead weight, the dead weight is entered as F in the nomogram and the resulting values should be halved.

Check of the bending stress

$$\sigma = \frac{M_b}{W \times 10^3}$$

σ = Bending stress in N/mm²

M_b = Max. bending moment in Nmm

W = Resistance moment in cm³

R_{p0,2Al} = 195 N/mm²

The calculated bending stress σ must be compared with the permissible bending stress σ_{perm}.

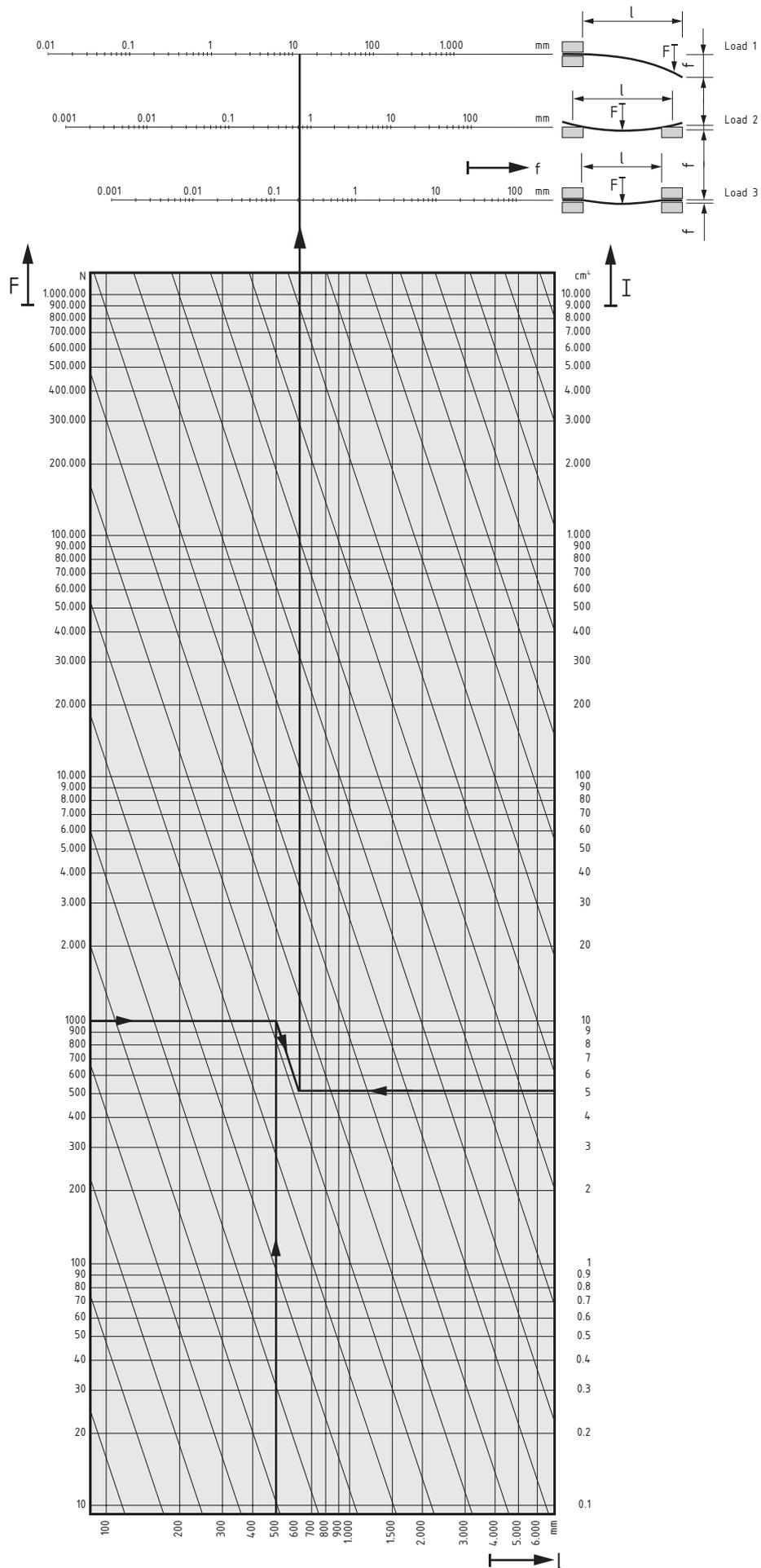
$$\sigma_{perm} = \frac{R_{p0,2}}{S}$$

The safety factor S must be selected depending on the required application conditions.



Note:

Calculate the deflection in a profile easily online: A profile deflection calculator that takes into account all three load scenarios is available online at item24.com.



Construction profiles: Determination of the torsion angle

The following equations apply for calculating the torsion angle ϑ :

Example load 1

$$\vartheta = \frac{180^\circ \times M_t \times l}{\pi \times G \times I_t \times 10}$$

Example load 2

$$\vartheta = \frac{180^\circ \times M_t \times l}{\pi \times 4 \times G \times I_t \times 10}$$

Where:

- M_t = Torsional moment in Nm
- l = Free profile length in mm
- I_t = Moment of inertia in cm^4
- G = Modulus of rigidity in N/mm^2
 $G_{Al} = 25,000 \text{ N/mm}^2$
- ϑ = Torsion angle in decimal degrees

The example shown on the nomogram opposite is based on the free profile length and a given torsional moment. The result is the torsion angle as a deformation of Profile 8 80x80.

It is naturally also possible to use the nomogram in reverse and begin with a maximum permissible torsion to calculate the required profile sizes or the maximum loading moments for a specified profile length.

Example:

Given:

$M_t = 20\text{Nm}$

$l = 2,000 \text{ mm}$

$I_t = 136.98 \text{ cm}^4$ (Profile 8 80x80)

Find:

$\vartheta =$ Torsion angle in decimal degrees

Results:

Example load 1

$\vartheta = 0.07^\circ$

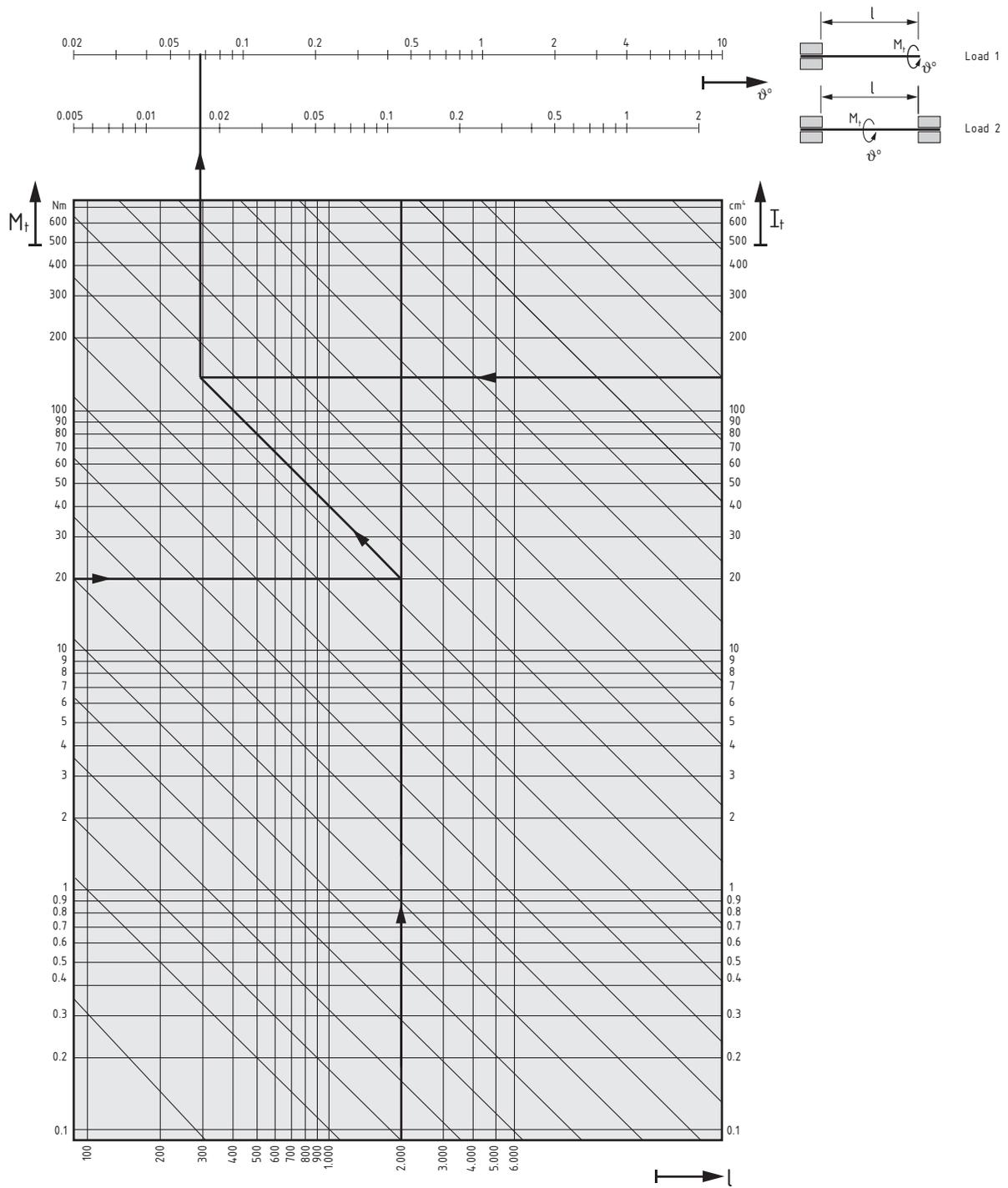
Example load 2

$\vartheta = 0.02^\circ$

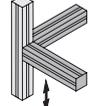
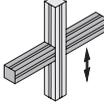
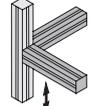
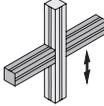
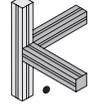
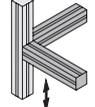
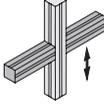
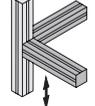
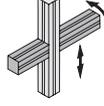
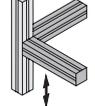
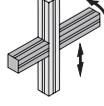
The values for the profiles' torsional moments of inertia were determined experimentally or through an approximate calculation. Component tolerances and simplifying assumptions mean the actual torsion angles can differ from the calculated value by up to 15%.

Check of the torsional stress

In practice, the criterion for a profile to fail under a torsional load is less the fact that the permissible torsional stress is exceeded, but rather the presence of excessive twist (torsion angle) even though it is still within the elastic limit. This deformation greatly impairs correct functioning of the components. Consequently, a more torsionally rigid profile must be selected long before the permissible stress values are reached.

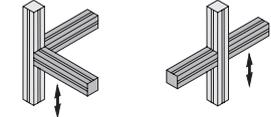
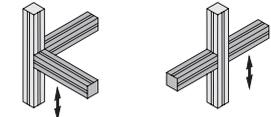
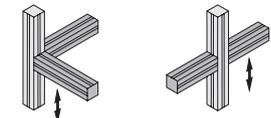
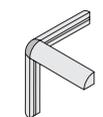
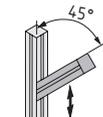
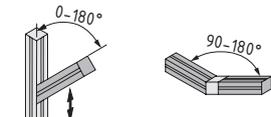


Technical Data for Section 2 – Fastening technology

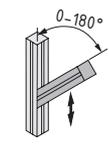
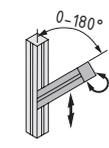
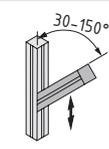
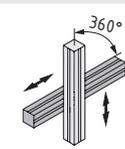
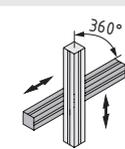
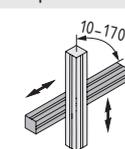
Application options		 Line	 Displacement force	 Torsional moment *	 Bending moment *	 Profile machining	Can be retrofitted to existing constructions
Automatic-Fastening Sets							
	   79	5 6 8 10 12	++	++	++	No	Yes
Universal-Fastening Sets							
	   82	5 6 8 10 12	++	++	++	Yes 1 stepped bore each	Yes
Standard-Fastening Sets							
	  85	5 6 8 10 12	++	+	+	Yes 1 bore 1 threaded bore	No
Central-Fastening Set							
	   91	8	○	○	○	Yes 2 stepped bores	Yes
Direct-Fastening Set 90°							
	   93	8	○	○	○	1 threaded bore	No
Click-Fastening Set 90°							
	   92	8	○	–	–	1 threaded bore	Yes

• Fixed  Movable (linear)  Twistable (axial)  Freely selectable angle ++ Excellent + Good ○ Recommended for some cases – Not recommended

* Dependent on line and profile design

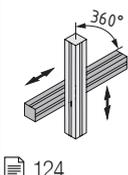
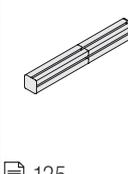
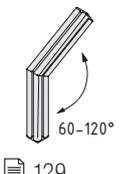
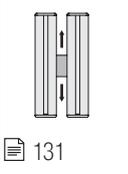
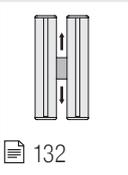
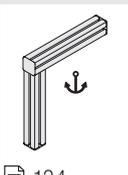
Application options		Line	Displacement force	Torsional moment *	Bending moment *	Profile machining	Can be retrofitted to existing constructions
Angle Bracket Zn    96		5 6 8 12	++	++	++	No	Yes
Angle Bracket V Zn    101		5 6 8	+	+	+	No	Yes
Angle Bracket Al and St    102		8 12	++	++	++	No	Yes
Corner Fastening Sets    106		5 6 8	++	○	○	Yes 3 threaded bores	
Angle Elements    112		6 8	++	+	+	No	Yes
Hinges, heavy-duty    114		5 6 8	+	—		Dependent on assembly scenario	Yes

• Fixed ↕ Movable (linear) ↻ Twistable (axial) ▷ Freely selectable angle ++ Excellent + Good ○ Recommended for some cases — Not recommended
 * Dependent on line and profile design

Application options		Line	Displacement force	Torsional moment *	Bending moment *	Profile machining	Can be retrofitted to existing constructions
	 0-180° 116	8	+	○		Dependent on assembly scenario	Yes
	 0-180° 117	8	+	-	-	No	Yes
	 30-150° 118	6 8	○	-	○	Yes	Yes
	 360° 119	8	-	-	○	No	Yes
	 360° 120	8	○	-	○	No	Yes
	 10-170° 122	5 6 8	+	+	+	No	Yes

• Fixed ↕ Movable (linear) ↻ Twistable (axial) ▷ Freely selectable angle ++ Excellent + Good ○ Recommended for some cases - Not recommended

* Dependent on line and profile design

Application options		 Line	 Displacement force	 Torsional moment *	 Bending moment *	 Profile machining	Can be retrofitted to existing constructions
Angle Locking Bracket 8 80x40							
	 124	8	+	+	+	No	Yes
Automatic Butt-Fastening Sets							
	 125	5 6 8 12	+	+	○	No	Yes
Mitre-Butt-Fastening Sets							
	 129	6 8	○	○	○	Yes	No
Parallel Fastener 8							
	 131	8	○	—	—	No	Yes
Connecting Profiles							
	 132	8	++	++	++	No	Yes
Pin Elements							
	 134	8 10 12	++	++	++	Yes	No Yes No

• Fixed  Movable (linear)  Twistable (axial)  Freely selectable angle ++ Excellent + Good ○ Recommended for some cases — Not recommended

* Dependent on line and profile design

Technical Data for Section 3 – T-Slot Nuts

T-Slot Nuts	Order No.	Recommended tightening torque	Permissible operating load
 5 St M5	0.0.370.01	4.5 Nm	500 N
5 St M5, stainless	0.0.425.11	3.6 Nm	400 N
5 St M4	0.0.370.06	3.0 Nm	500 N
5 St M4, stainless	0.0.425.10	2.4 Nm	400 N
5 St M3	0.0.437.19	1.5 Nm	500 N
5 Zn M3	0.0.391.20	1.0 Nm	50 N
 6 St M6	0.0.419.40	14.0 Nm	1,750 N *
6 St M6, stainless	0.0.439.75	11.0 Nm	1,400 N *
6 St M5	0.0.419.43	8.0 Nm	1,750 N *
6 St M5, stainless	0.0.439.72	6.5 Nm	1,400 N *
6 St M4	0.0.419.46	4.0 Nm	1,750 N *
6 St M3	0.0.459.44	1.5 Nm	500 N
6 Zn M4	0.0.441.45	1.5 Nm	150 N
 8 St M8, heavy	0.0.420.83	34.0 Nm	5,000 N *
8 St M6, heavy	0.0.427.75	14.0 Nm	3,500 N *
V 8 St M8	0.0.480.48	20.0 Nm	4,000 N *
V 8 St M6	0.0.480.50	14.0 Nm	3,500 N *
V 8 St M5	0.0.480.54	8.0 Nm	2,500 N *
V 8 St M4	0.0.480.57	4.0 Nm	2,500 N *
8 St M8	0.0.026.18	25.0 Nm	5,000 N *
8 St M8, stainless	0.0.388.49	20.0 Nm	4,000 N *
8 St M6	0.0.026.23	14.0 Nm	3,500 N *
8 St M6, stainless	0.0.388.51	11.0 Nm	2,800 N *
8 St M5	0.0.420.05	8.0 Nm	2,500 N *
8 St M5, stainless	0.0.428.55	6.5 Nm	2,000 N *
8 St M4	0.0.420.06	4.0 Nm	2,500 N *
8 St M4, stainless	0.0.428.54	3.2 Nm	2,000 N *
8 St/PA M6	0.0.416.17	8.0 Nm	1,000 N
8 St/PA M5	0.0.416.20	4.5 Nm	1,000 N
8 St/PA M4	0.0.416.23	2.0 Nm	500 N
8 St/PA M3	0.0.416.26	1.0 Nm	500 N
8 Zn M5	0.0.373.44	1.5 Nm	250 N
8 Zn M4	0.0.373.58	1.5 Nm	250 N
8 Zn M3	0.0.373.59	1.0 Nm	250 N
8 PA	0.0.436.52	1.5 Nm	150 N

	T-Slot Nuts	Order No.	Recommended tightening torque	Permissible operating load
	10 St M10, heavy	0.0.624.95	65 Nm	7,000 N *
	10 St M8, heavy	0.0.624.97	34 Nm	6,000 N *
	10 St M10	0.0.625.02	46 Nm	7,000 N *
	10 St M8	0.0.625.04	34 Nm	6,000 N *
	10 St M6	0.0.625.06	14 Nm	3,500 N *
	12 St M12, heavy	0.0.003.68	100 Nm	10,000 N *
	12 St M10, heavy	0.0.003.67	65 Nm	10,000 N *
	12 St M8, heavy	0.0.003.66	34 Nm	6,000 N *
	12 St M12	0.0.003.65	80 Nm	10,000 N *
	12 St M10	0.0.003.64	46 Nm	10,000 N *
	12 St M8	0.0.003.63	34 Nm	6,000 N *
	12 St M6	0.0.003.72	14 Nm	3,500 N

* Maximum load achievable in standard Profile only. Check profile properties if using e.g. Profile Light or Profile E.

The total load of a screw connection comprises the sum of the pre-tensioning force and the operating load!

The permissible operating load is based on a safety factor of 1.5.

Technical Data for Section 15 – Linear slides

Calculation of service life for all linear slides mounted on rolling elements

$$L = \left(\frac{C}{P}\right)^3 \cdot 100$$

$$L_h = \left(\frac{C}{P}\right)^3 \cdot \frac{1666}{\bar{v}}$$

$$S_0 = \frac{C_0}{P}$$

L = Service life in km

L_h = Service life in h

C = Dynamic load rating in N

P = Load in N

\bar{v} = Mean slide speed in m/min

S₀ = Static load safety factor > 3

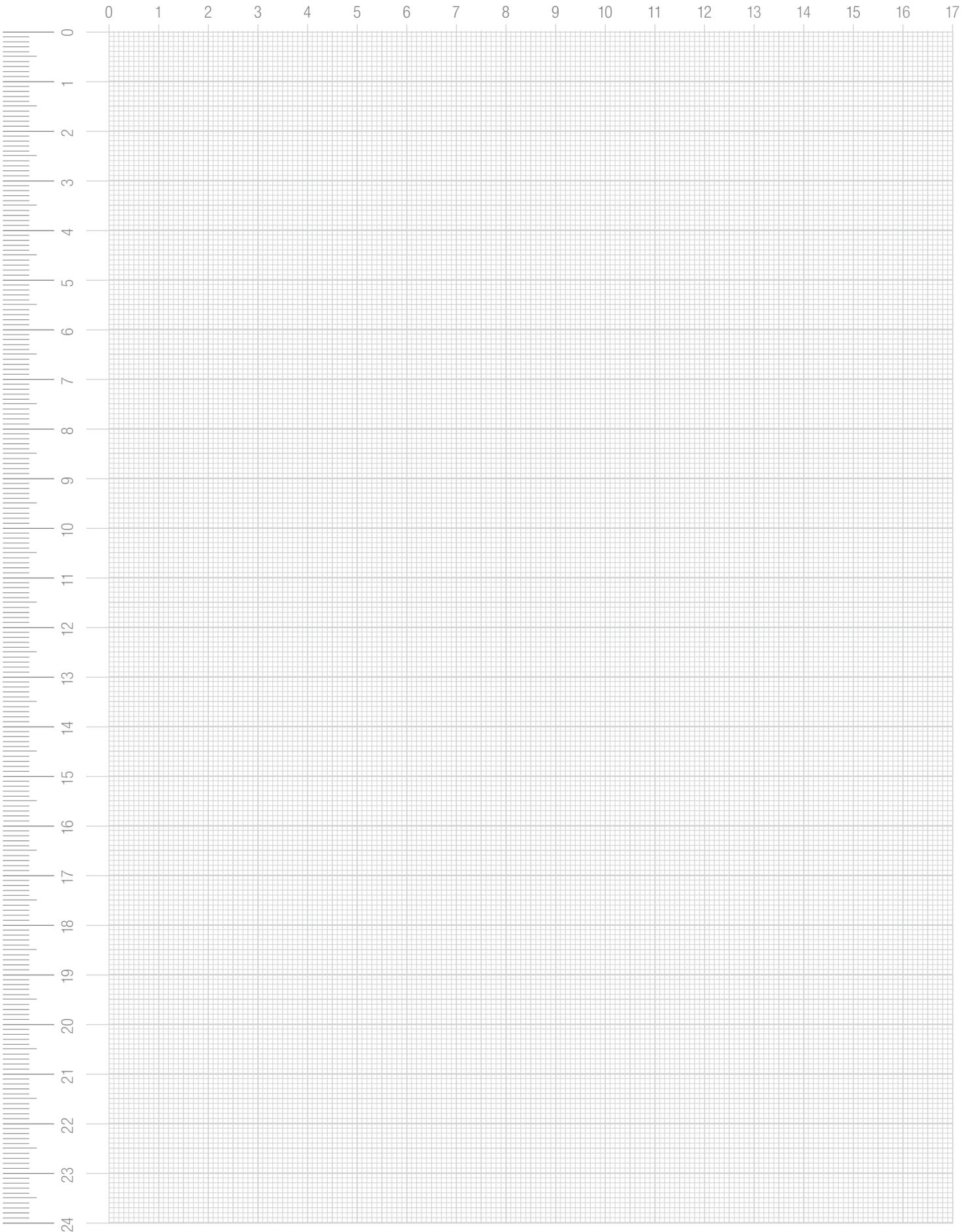
C₀ = Static load rating in N

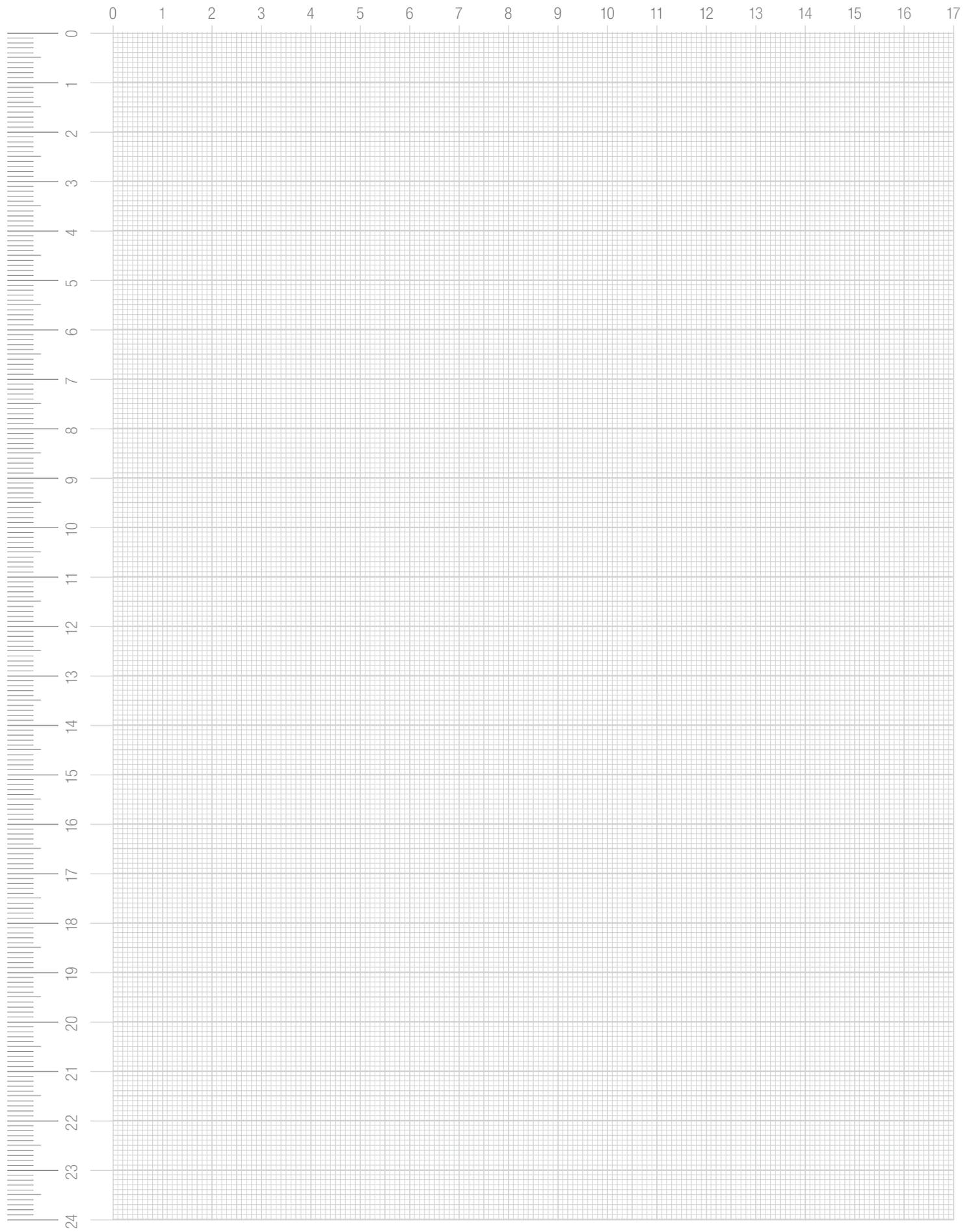
Technical Data for Section 16 – Mechanical drive elements

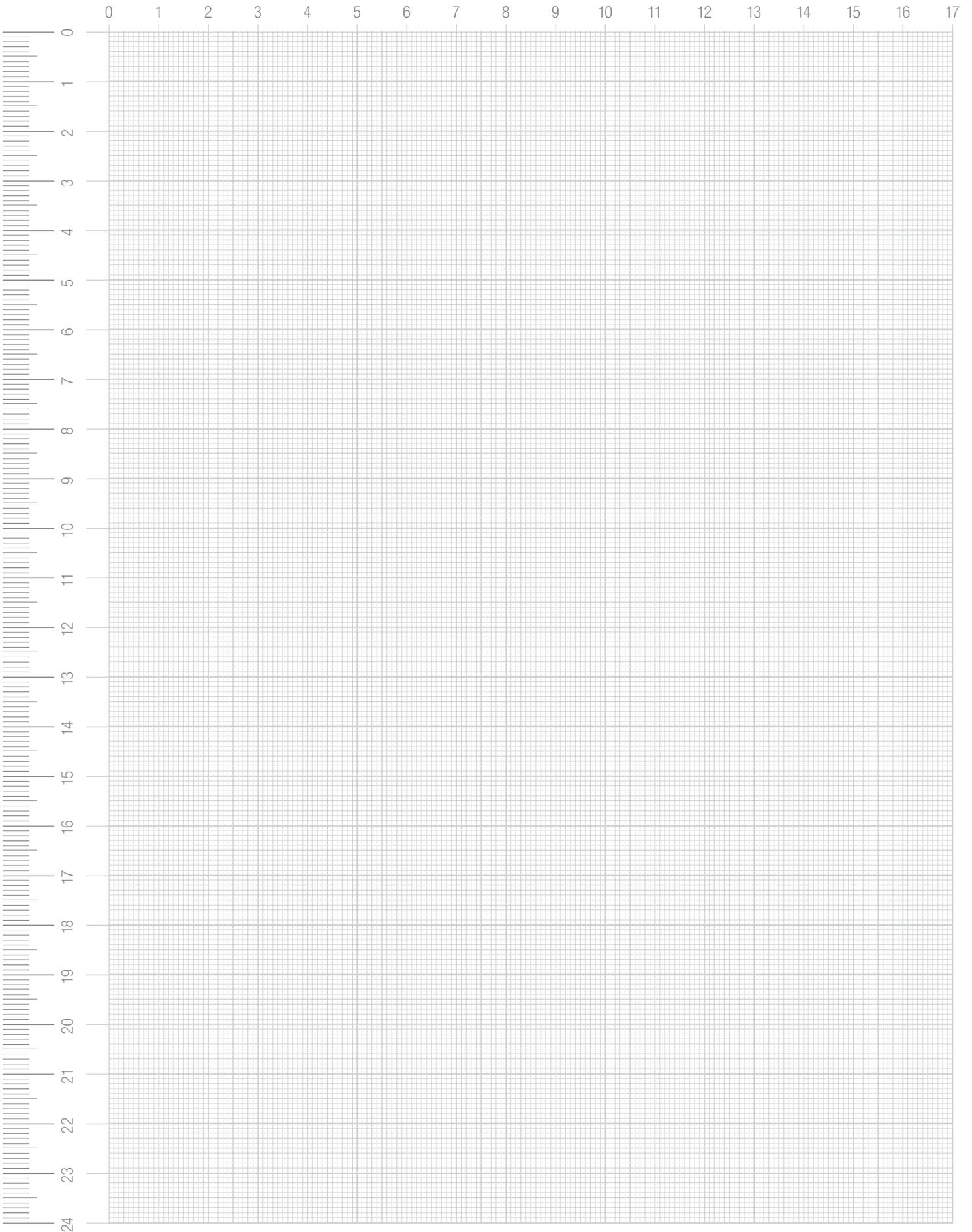
Combination options for couplings and accessories

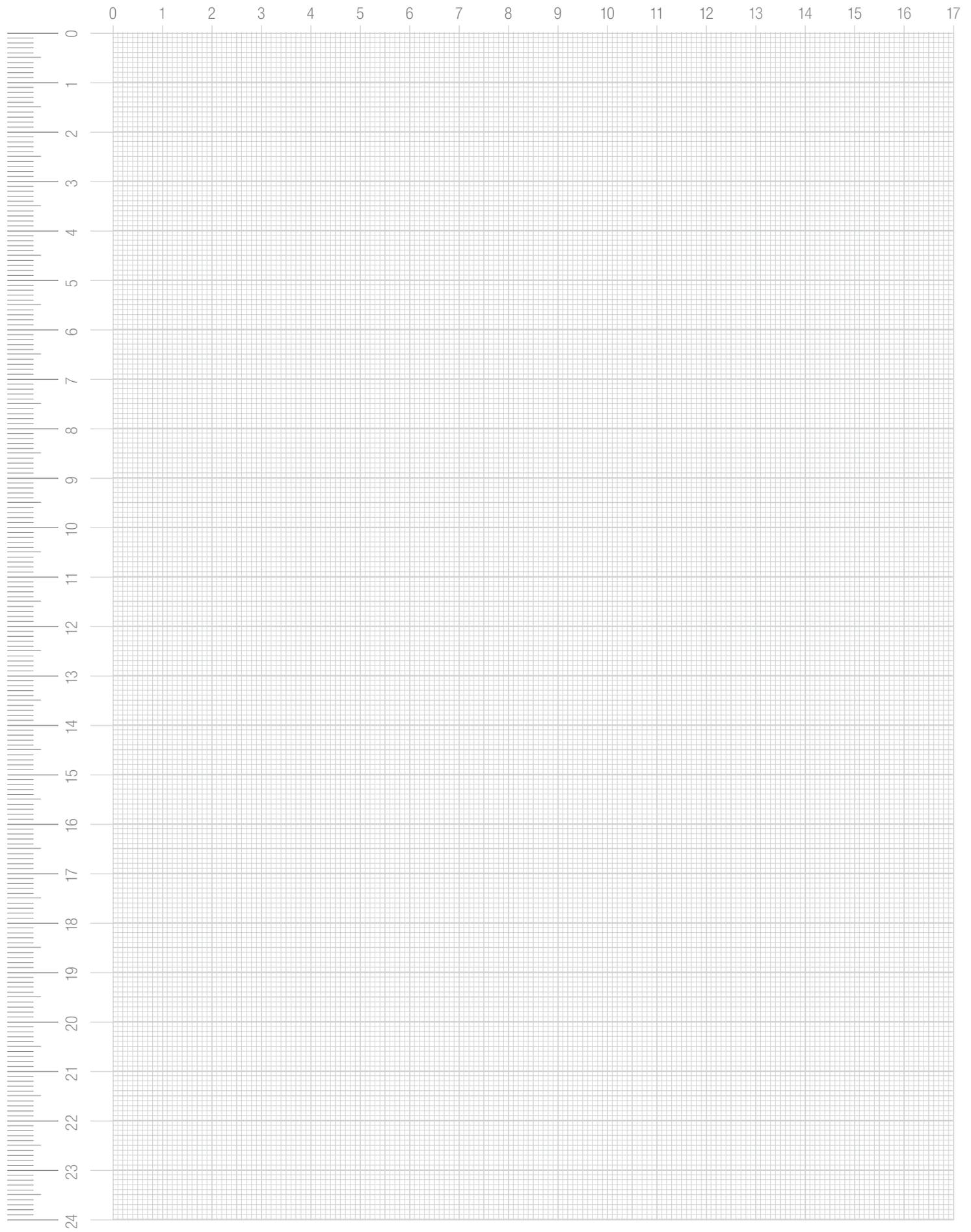
The table of options shown below shows the required components for combining mechanical drive elements

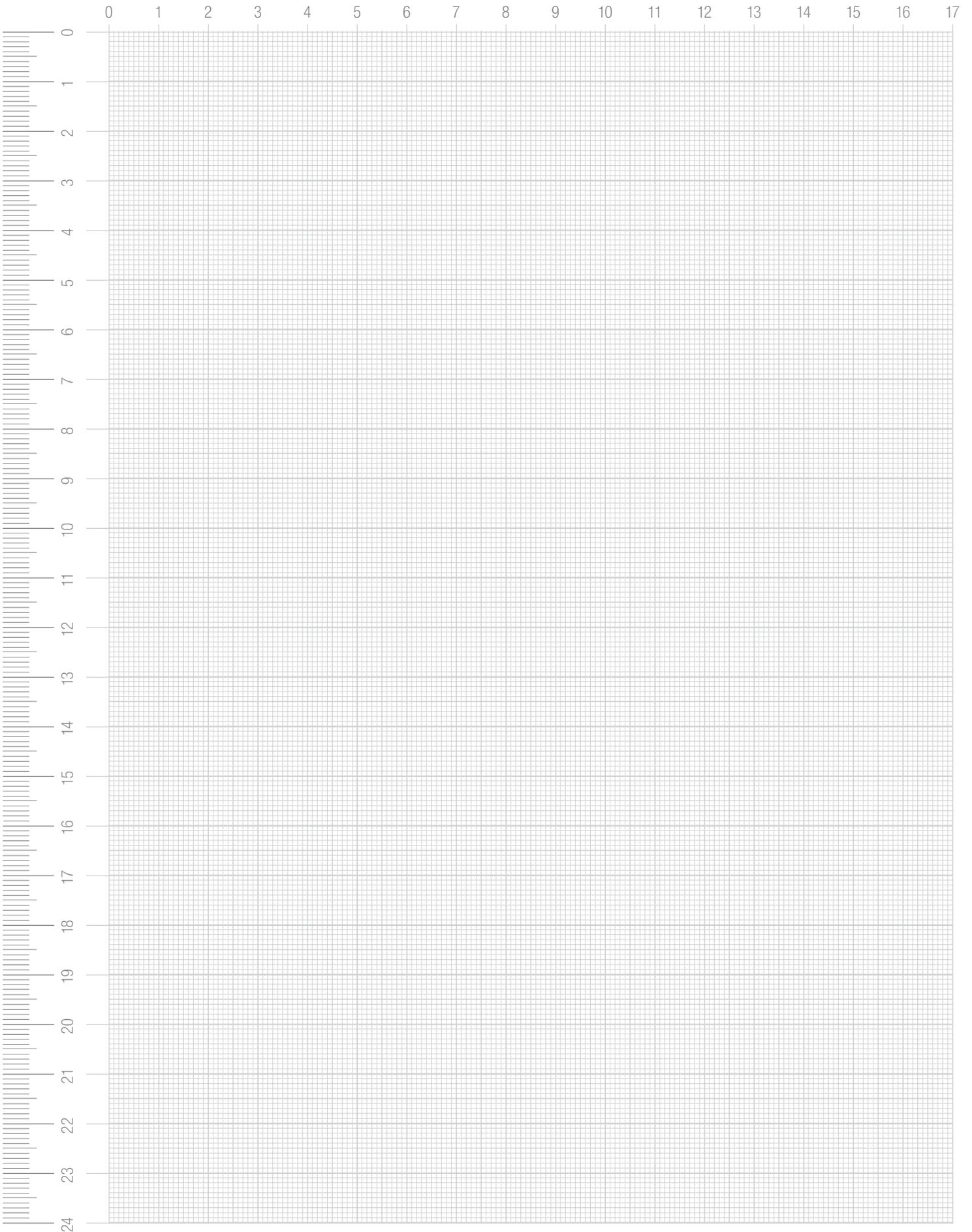
	Coupling D30 $M_D < 8 \text{ Nm}$	Coupling D55 $M_D < 50 \text{ Nm}$	Coupling D80 $M_D \leq 100 \text{ Nm}$
Ball Screw Units KGT 20x5: $M_D < 1 \text{ Nm}$ 20x20: $M_D < 4 \text{ Nm}$	Connecting Shaft VK14 R10/KGT (0.0.463.17) Coupling D30 (0.0.628.83) (Machining required) Centring Piece D50-D50 (0.0.408.12) Coupling Housing 8 D30 80x80 (0.0.628.95) Coupling Housing 8 D30 120x120 (0.0.628.96) (Machining required) 2 x Button-Head Screw ISO 7380 M6x16 (8.0.000.63)		
Timing-Belt Reverse Unit 5 40 R10 with VK14 $M_D < 4 \text{ Nm}$	Connecting Shaft VK14 R10/KGT (0.0.463.17) Coupling D30 (0.0.628.83) (Machining required) Centring Piece D50-D22 (0.0.379.17) Coupling Housing 8 D30 80x80 (0.0.628.95) Coupling Housing 8 D30 120x120 (0.0.628.96) (Machining required) 2 x Button-Head Screw ISO 7380 M6x25 (8.0.000.01)		
Timing-Belt Reverse Unit 8 40 R25 with VK14 $M_D < 20 \text{ Nm}$		Connecting Shaft VK14 R25/WG (0.0.463.15) Coupling D55 (0.0.628.84) (Machining required) Centring Piece D50-D22 (0.0.379.17) Coupling Housing 8 D55 80x80 (0.0.628.97) Coupling Housing 8 D55 120x120 (0.0.628.98) (Machining required) 2 x Button-Head Screw ISO 7380 M6x45 (8.0.002.53)	
Timing-Belt Reverse Unit 8 80 R25 with VK32 $M_D < 60 \text{ Nm}$			Connecting Shaft VK32 R25 (0.0.337.93) Coupling D80 (0.0.628.85) (Machining required) Coupling Housing 8 D80 120x120 (0.0.628.99) Coupling Housing 8 D80 160x160 (0.0.629.00) (Machining required) 2 x Button-Head Screw ISO 7380 M8x45 (8.0.000.20)
Timing-Belt Reverse Unit 8 80 R50 II with VK32 $M_D < 100 \text{ Nm}$			Connecting Shaft VK32 R50 (0.0.337.92) Coupling D80 (0.0.628.85) (Machining required) Coupling Housing 8 D80 120x120 (0.0.628.99) Coupling Housing 8 D80 160x160 (0.0.629.00) (Machining required) 4 x Hexagon Socket Head Cap Screw DIN 912 M8x20 (8.0.004.41)
Bevel Gear Box WG $M_D < 28 \text{ Nm}$	Only for $M_D < 8 \text{ Nm}$ (in conjunction with Ball Screw Units KGT or Timing-Belt Reverse Unit 5 40 R10): Connecting Shaft VK14 R10/KGT (0.0.463.17) Coupling D30 (0.0.628.83) (Machining required) Centring Piece D50-D50 (0.0.408.12) Coupling Housing 8 D30 80x80 (0.0.628.95) Coupling Housing 8 D30 120x120 (0.0.628.96) (Machining required) 4 x Button-Head Screw ISO 7380 M6x16 (8.0.000.63)	Only for $M_D < 28 \text{ Nm}$: Connecting Shaft VK14 R25/WG (0.0.463.15) Coupling D55 (0.0.628.84) (Machining required) Centring Piece D50-D50 (0.0.408.12) Coupling Housing 8 D55 80x80 (0.0.628.97) Coupling Housing 8 D55 120x120 (0.0.628.98) (Machining required) 4 x Button-Head Screw ISO 7380 M6x16 (8.0.000.63)	

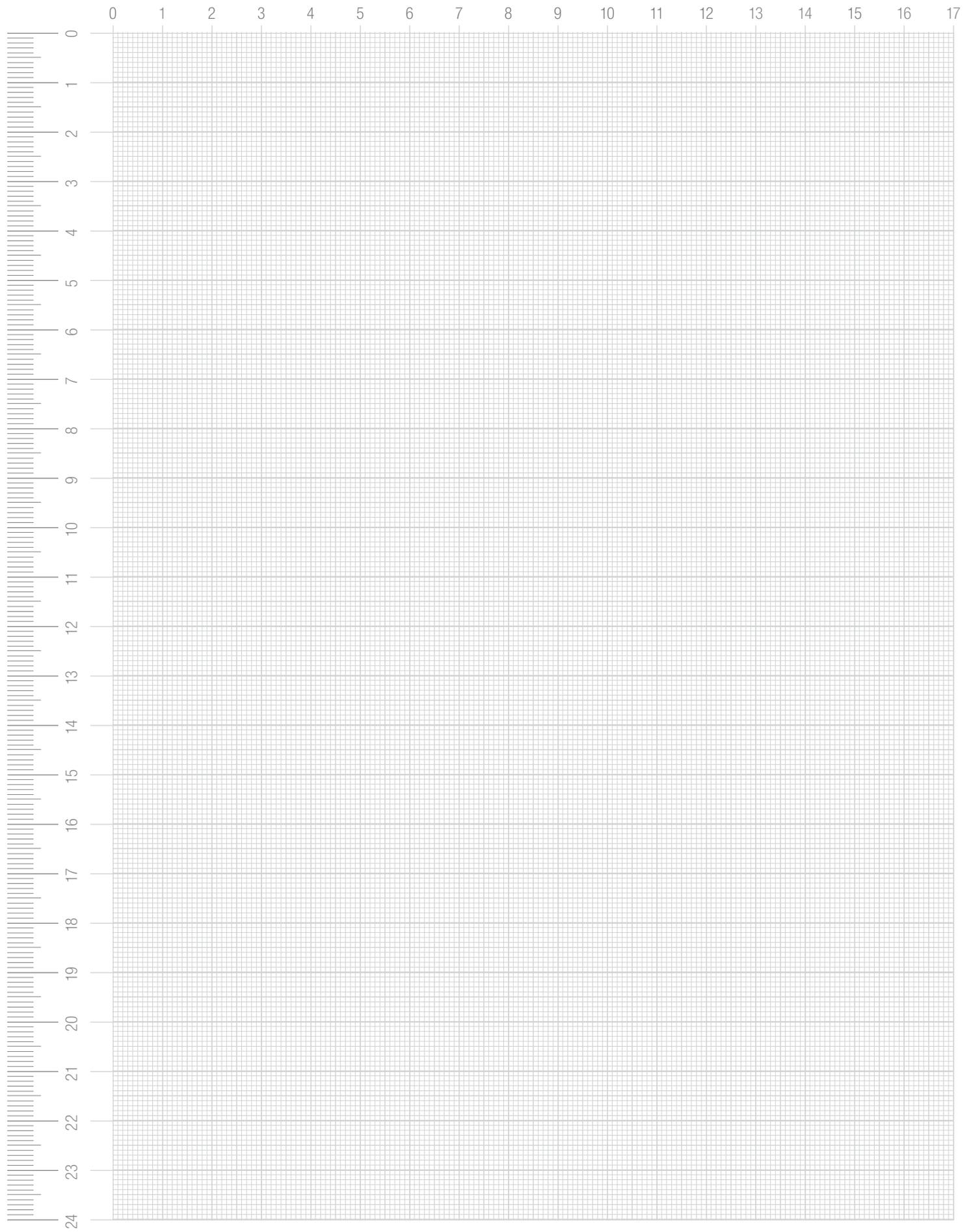


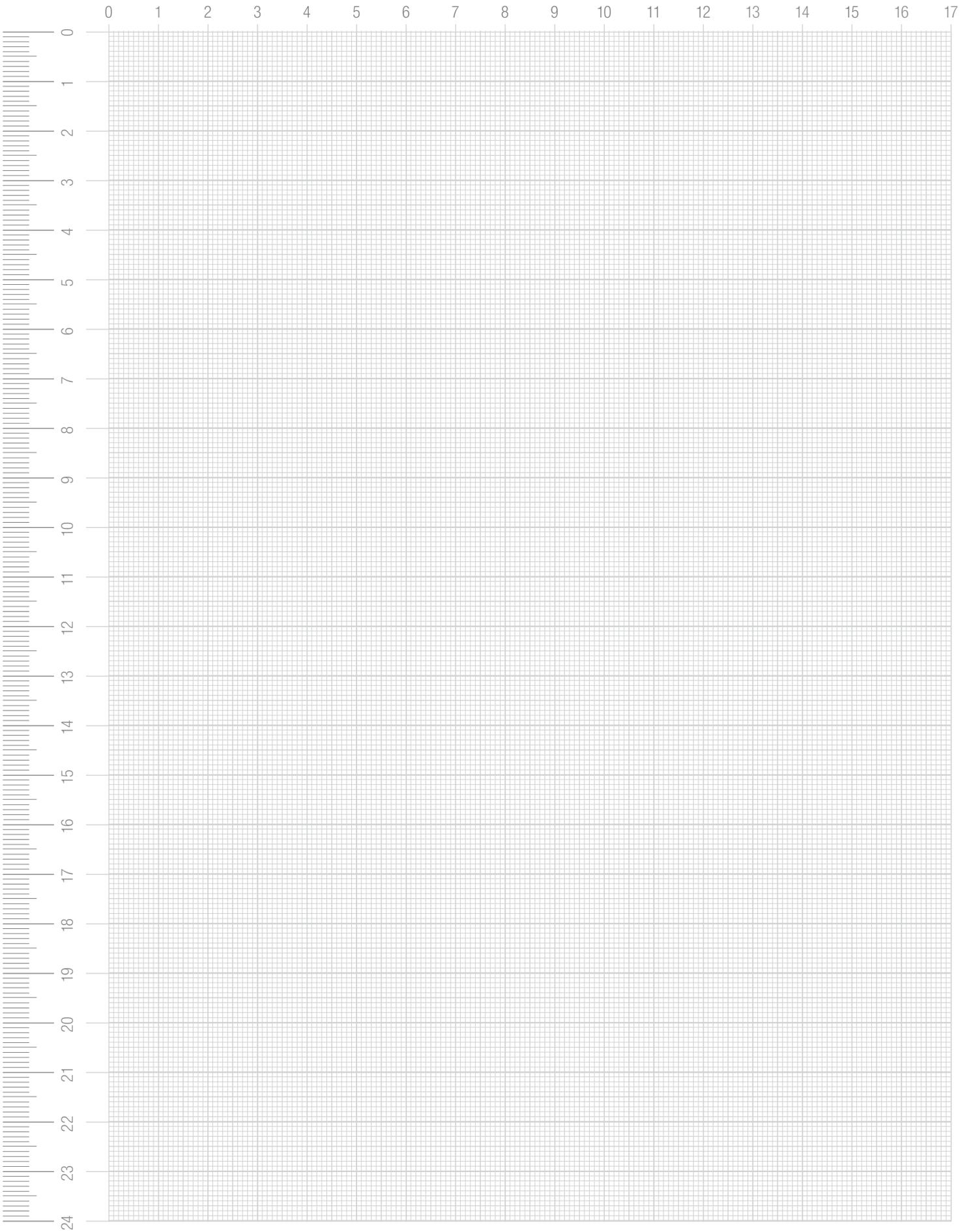


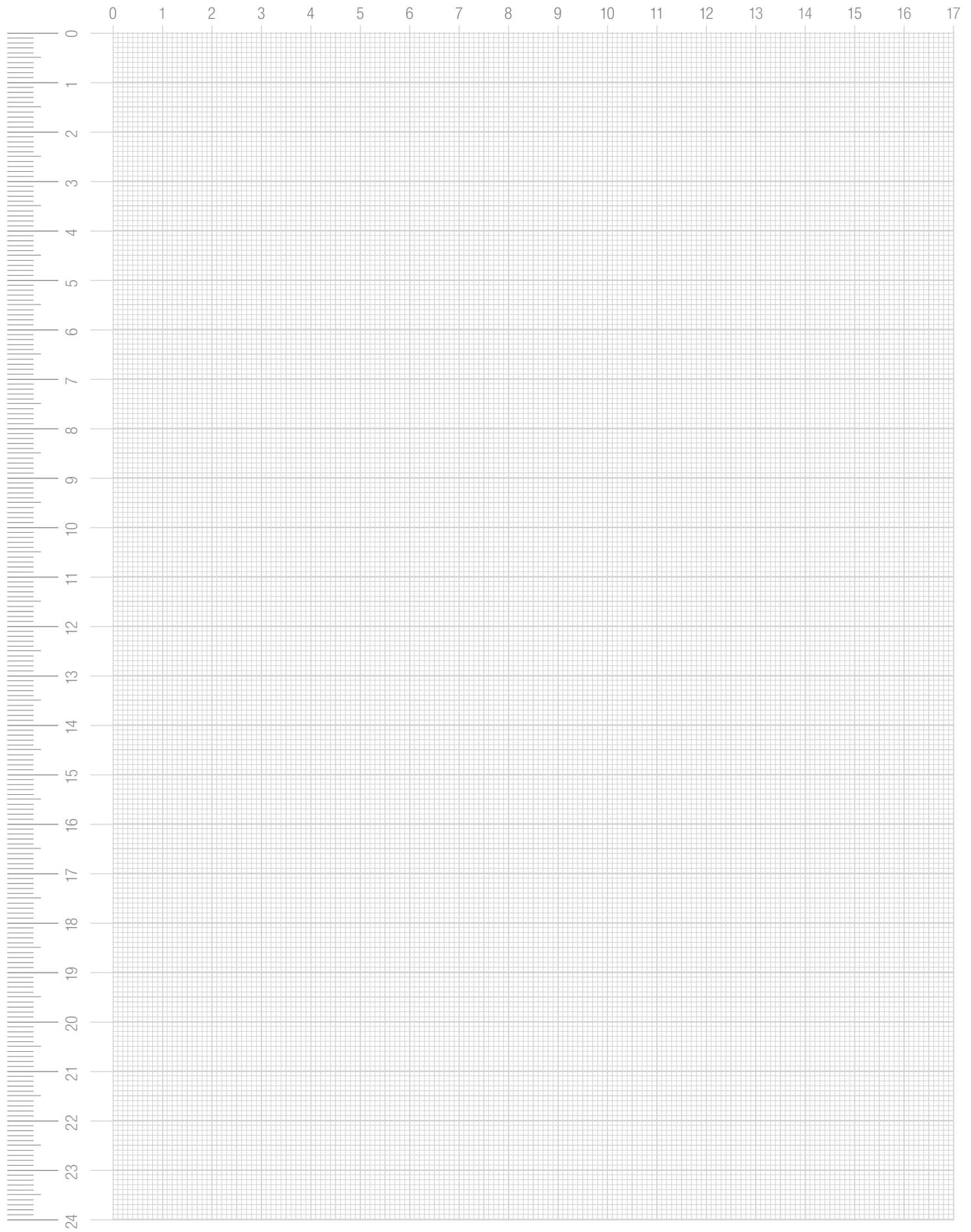


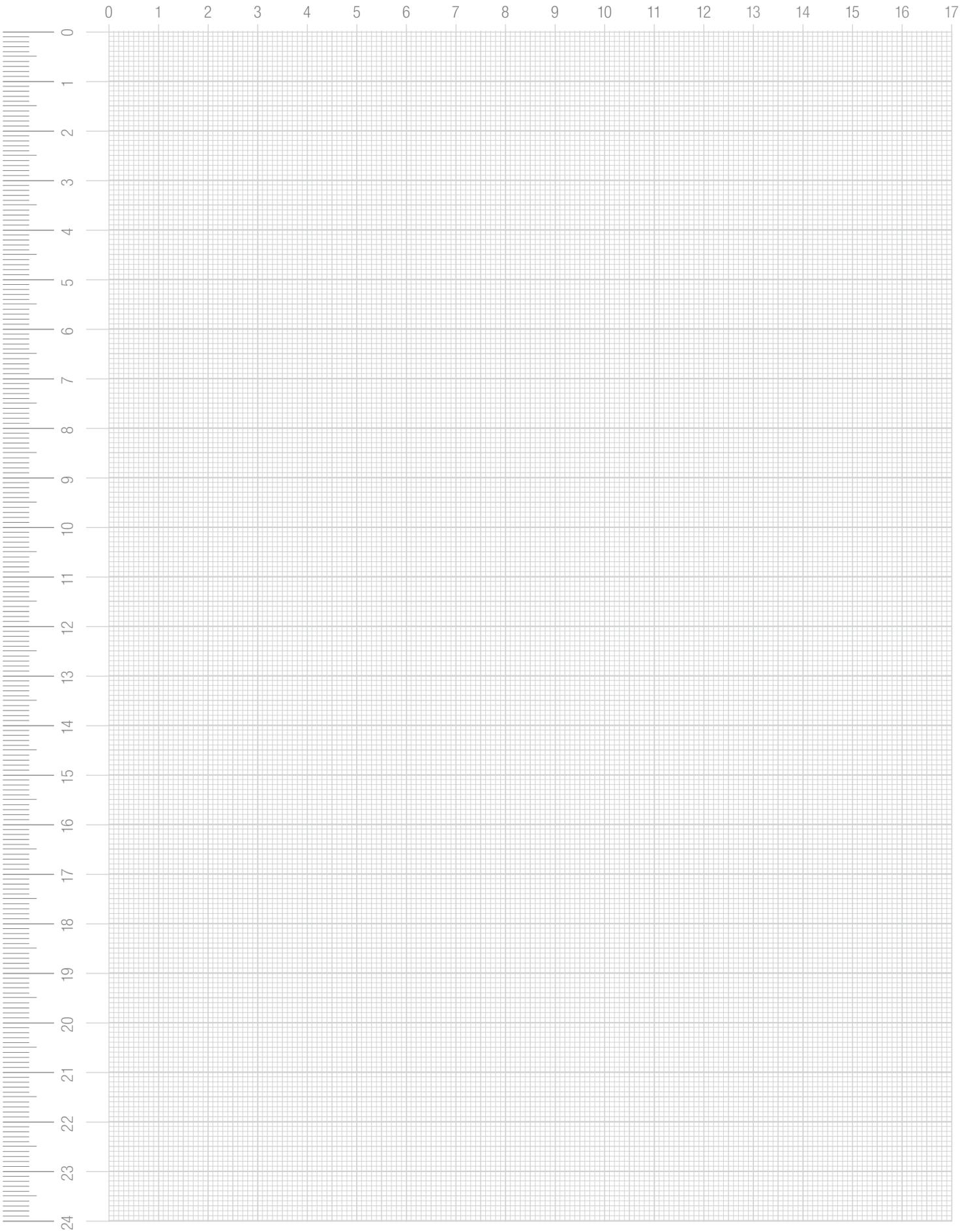


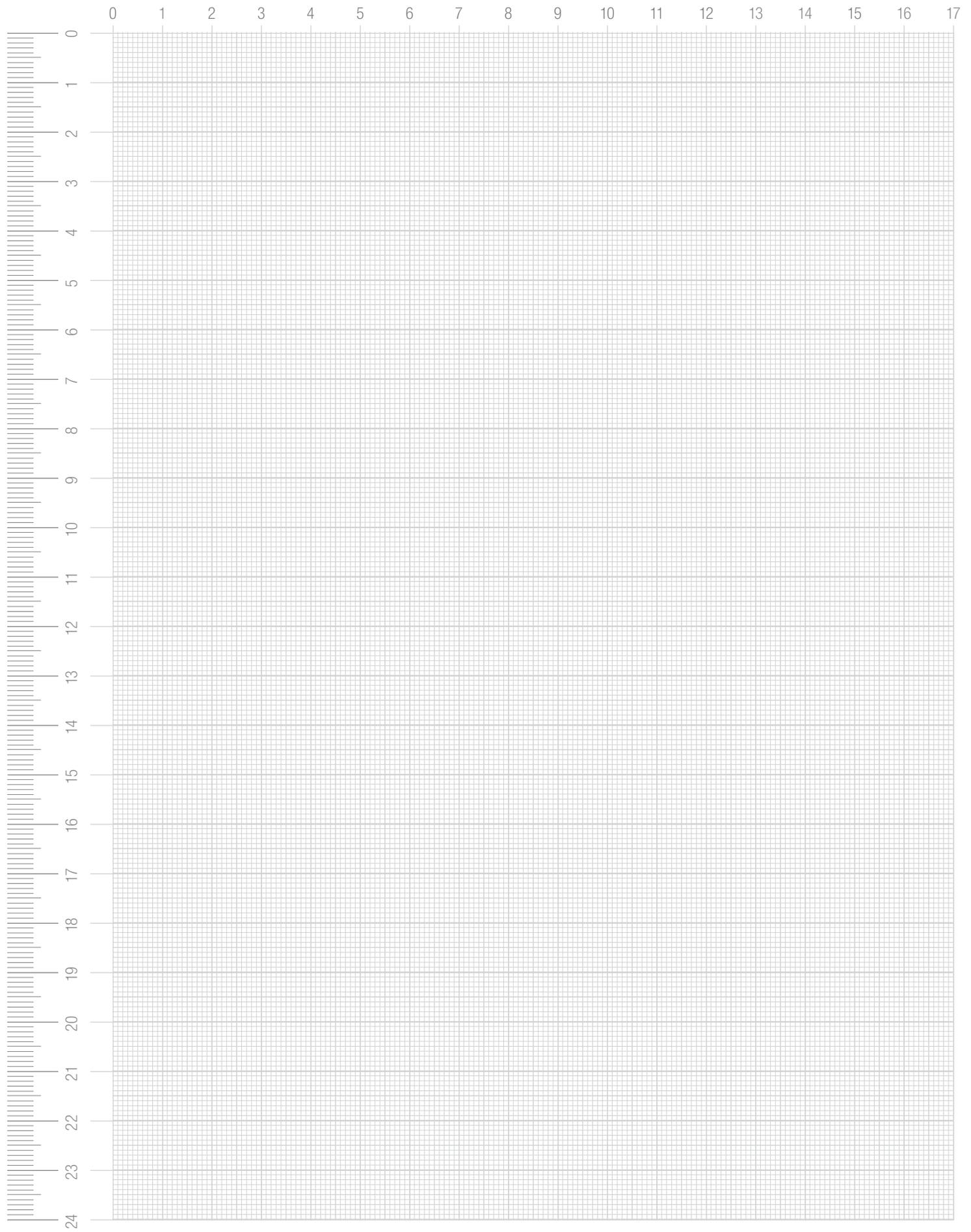












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0.0.001.04	51	0.0.010.06	134	0.0.259.36	511	0.0.337.26	598	0.0.370.56	147
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0.0.001.07	49	0.0.026.01	55	0.0.259.44	513	0.0.337.32	634	0.0.370.59	672
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0.0.001.12	49	0.0.026.03	27	0.0.259.60	512	0.0.337.63	628	0.0.370.85	19
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0.0.001.15	50	0.0.026.09	654	0.0.265.08	301	0.0.337.93	627	0.0.370.92	54
0.0.001.16	49	0.0.026.10	237	0.0.265.09	301	0.0.350.01	559	0.0.370.97	263
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0.0.001.19	50	0.0.026.17	357	0.0.265.21	659	0.0.350.04	558	0.0.373.23	179
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0.0.001.30	49	0.0.026.33	27	0.0.265.37	134	0.0.350.19	554	0.0.373.58	143
0.0.003.20	97	0.0.026.34	29	0.0.265.38	667	0.0.350.30	668	0.0.373.59	143
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0.0.390.16	551	0.0.408.24	622	0.0.417.07	458	0.0.419.66	98	0.0.425.97	106
0.0.390.17	553	0.0.408.25	621	0.0.417.17	458	0.0.419.67	99	0.0.426.03	609
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0.0.406.32	389	0.0.414.33	618	0.0.419.04	23	0.0.425.05	99	0.0.428.32	325
0.0.406.33	389	0.0.414.50	618	0.0.419.05	23	0.0.425.06	97	0.0.428.34	325
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0.0.428.95	71	0.0.436.58	407	0.0.439.49	22	0.0.443.31	578	0.0.448.27	574
0.0.428.96	71	0.0.436.59	407	0.0.439.66	186	0.0.443.32	578	0.0.448.33	17
0.0.428.97	71	0.0.436.62	108	0.0.439.70	67	0.0.443.34	579	0.0.451.01	213
0.0.429.02	72	0.0.436.63	107	0.0.439.72	139	0.0.444.03	168	0.0.451.02	213
0.0.429.04	31	0.0.436.85	173	0.0.439.75	139	0.0.444.04	168	0.0.451.03	21
0.0.429.05	32	0.0.436.88	173	0.0.439.85	179	0.0.444.05	168	0.0.451.04	21
0.0.429.51	64	0.0.436.92	210	0.0.439.86	65	0.0.444.06	168	0.0.451.05	21
0.0.429.54	64	0.0.436.93	324	0.0.439.87	65	0.0.444.07	168	0.0.451.06	21
0.0.429.60	70	0.0.436.94	324	0.0.440.05	218	0.0.444.08	168	0.0.451.07	21
0.0.429.61	70	0.0.437.03	287	0.0.440.39	144	0.0.444.09	168	0.0.451.08	25
0.0.429.62	71	0.0.437.05	287	0.0.440.40	144	0.0.444.15	126	0.0.451.09	22
0.0.429.63	71	0.0.437.06	287	0.0.440.41	144	0.0.444.18	83	0.0.451.10	22
0.0.429.64	191	0.0.437.12	173	0.0.440.42	144	0.0.444.32	148	0.0.451.11	22
0.0.429.95	213	0.0.437.19	138	0.0.440.43	144	0.0.444.41	162	0.0.451.12	22
0.0.431.01	68, 171	0.0.437.24	186	0.0.440.48	210	0.0.444.42	162	0.0.451.13	22
0.0.431.04	147	0.0.437.27	397	0.0.440.50	424	0.0.444.43	162	0.0.451.14	22
0.0.431.06	388	0.0.437.33	236	0.0.440.54	424	0.0.444.44	161	0.0.451.15	22
0.0.431.07	389	0.0.437.46	80	0.0.440.56	331	0.0.444.45	161	0.0.451.16	22
0.0.431.08	389	0.0.437.49	85	0.0.440.58	80	0.0.444.46	161	0.0.451.17	23
0.0.431.09	389	0.0.437.52	82	0.0.440.65	119	0.0.444.47	161	0.0.451.18	23
0.0.431.11	213	0.0.437.55	127	0.0.440.71	389	0.0.444.48	161	0.0.451.19	23
0.0.431.14	213	0.0.437.58	388	0.0.440.72	389	0.0.444.68	666	0.0.451.20	26
0.0.431.16	52	0.0.437.59	388	0.0.440.73	672	0.0.444.71	424	0.0.451.21	486
0.0.431.19	654	0.0.437.60	388	0.0.440.74	672	0.0.444.76	214	0.0.451.39	23
0.0.431.20	659	0.0.437.61	388	0.0.440.75	330	0.0.444.81	168	0.0.451.42	490
0.0.431.23	236	0.0.437.66	17	0.0.440.94	128	0.0.444.82	168	0.0.451.43	490
0.0.431.25	236	0.0.437.67	17	0.0.441.08	397	0.0.444.83	168	0.0.451.44	486
0.0.431.27	236	0.0.437.73	108	0.0.441.11	218	0.0.444.84	168	0.0.451.45	487
0.0.432.06	66	0.0.437.74	17	0.0.441.33	219	0.0.444.89	192	0.0.451.46	487
0.0.432.09	286	0.0.437.75	18	0.0.441.45	143	0.0.444.92	362	0.0.451.47	487
0.0.432.28	286	0.0.437.76	18	0.0.441.52	210	0.0.444.93	362	0.0.451.49	210
0.0.432.84	337	0.0.437.77	18	0.0.441.58	248	0.0.444.94	362	0.0.451.50	149
0.0.432.96	66	0.0.437.78	18	0.0.441.61	248	0.0.444.95	362	0.0.451.52	574
0.0.432.97	386	0.0.437.83	122	0.0.441.67	80	0.0.446.04	221	0.0.451.54	575
0.0.434.23	659	0.0.437.84	123	0.0.441.71	126	0.0.446.05	327	0.0.451.62	26
0.0.434.25	654	0.0.437.85	123	0.0.441.74	83	0.0.446.06	327	0.0.451.63	24
0.0.434.29	147	0.0.437.89	65	0.0.441.77	128	0.0.446.07	327	0.0.451.64	26
0.0.434.50	340	0.0.437.96	107	0.0.441.80	214	0.0.446.08	326	0.0.451.65	24
0.0.434.51	336	0.0.437.98	257	0.0.441.81	248	0.0.446.09	306	0.0.451.66	26
0.0.434.52	336	0.0.437.99	17	0.0.441.84	287	0.0.446.10	222	0.0.451.67	21
0.0.434.70	347	0.0.439.03	147	0.0.441.86	287	0.0.448.01	559	0.0.451.68	26
0.0.434.71	347	0.0.439.10	86	0.0.441.87	287	0.0.448.02	19	0.0.451.76	242
0.0.434.72	25	0.0.439.15	389	0.0.441.97	122	0.0.448.03	19	0.0.451.78	242
0.0.434.73	26	0.0.439.16	388	0.0.441.98	123	0.0.448.04	17	0.0.451.80	242
0.0.434.74	64	0.0.439.17	149	0.0.441.99	123	0.0.448.05	17	0.0.452.01	132
0.0.434.75	62	0.0.439.20	173	0.0.442.01	559	0.0.448.06	19	0.0.452.02	505
0.0.434.83	108	0.0.439.22	337	0.0.442.02	556	0.0.448.07	18	0.0.452.03	67
0.0.434.84	108	0.0.439.23	337	0.0.442.03	550	0.0.448.08	18	0.0.452.04	67
0.0.434.85	108	0.0.439.29	337	0.0.442.06	557	0.0.448.09	18	0.0.452.09	490
0.0.434.86	107	0.0.439.30	337	0.0.442.07	557	0.0.448.11	18	0.0.452.11	511
0.0.434.87	106	0.0.439.33	340	0.0.442.09	552	0.0.448.12	18	0.0.452.12	511
0.0.434.88	107	0.0.439.34	72	0.0.442.10	552	0.0.448.13	19	0.0.452.17	286
0.0.436.23	97	0.0.439.37	343	0.0.442.14	554	0.0.448.14	18	0.0.452.19	486
0.0.436.24	99	0.0.439.42	210	0.0.442.15	553	0.0.448.15	20	0.0.452.20	487

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0.0.452.21	210	0.0.453.22	31	0.0.454.38	211	0.0.458.66	271	0.0.462.38	575
0.0.452.22	424	0.0.453.24	31	0.0.454.45	211	0.0.458.75	271	0.0.462.39	575
0.0.452.23	550	0.0.453.26	31	0.0.454.47	445	0.0.458.76	270	0.0.463.15	627
0.0.452.24	206	0.0.453.28	31	0.0.454.48	445	0.0.458.77	271	0.0.463.17	627
0.0.452.25	213	0.0.453.30	32	0.0.454.54	243	0.0.458.78	273	0.0.463.24	41
0.0.452.26	213	0.0.453.32	31	0.0.454.56	243	0.0.458.85	264	0.0.463.25	41
0.0.452.29	41	0.0.453.33	42	0.0.454.58	243	0.0.458.92	44	0.0.463.30	631
0.0.452.31	559	0.0.453.35	42	0.0.454.59	451	0.0.458.93	341	0.0.463.37	415
0.0.452.32	559	0.0.453.36	42	0.0.457.06	312	0.0.459.05	305	0.0.463.38	413
0.0.452.33	559	0.0.453.37	43	0.0.457.07	312	0.0.459.07	257	0.0.463.39	413
0.0.452.34	29	0.0.453.39	42	0.0.457.09	316	0.0.459.09	215	0.0.463.46	613
0.0.452.35	30	0.0.453.40	44	0.0.457.12	329	0.0.459.11	164	0.0.463.48	413
0.0.452.37	559	0.0.453.41	44	0.0.457.13	329	0.0.459.12	164	0.0.463.49	412
0.0.452.39	28	0.0.453.43	52	0.0.457.14	313	0.0.459.26	164	0.0.463.50	414
0.0.452.40	29	0.0.453.45	52	0.0.457.15	313	0.0.459.27	260	0.0.463.53	412
0.0.452.41	29	0.0.453.46	409	0.0.457.16	314	0.0.459.30	260	0.0.463.54	413
0.0.452.43	29	0.0.453.47	149	0.0.457.17	314	0.0.459.32	260	0.0.463.56	631
0.0.452.45	30	0.0.453.48	505	0.0.457.18	323	0.0.459.33	661	0.0.463.57	630
0.0.452.47	30	0.0.453.49	504	0.0.457.19	328	0.0.459.35	26	0.0.463.65	591
0.0.452.50	628	0.0.453.50	491	0.0.457.20	328	0.0.459.38	26	0.0.463.72	630
0.0.452.52	574	0.0.453.51	491	0.0.457.21	317	0.0.459.39	63	0.0.463.75	415
0.0.452.54	575	0.0.453.52	492	0.0.457.22	319	0.0.459.40	63	0.0.463.81	413
0.0.452.55	41	0.0.453.53	492	0.0.457.23	319	0.0.459.41	63	0.0.463.83	413
0.0.452.62	36	0.0.453.54	494	0.0.457.24	319	0.0.459.42	63	0.0.463.91	416
0.0.452.63	36	0.0.453.55	492	0.0.457.25	319	0.0.459.44	138	0.0.463.95	417
0.0.452.64	35	0.0.453.56	492	0.0.457.26	319	0.0.459.54	26	0.0.463.98	417
0.0.452.65	27	0.0.453.57	492	0.0.457.27	319	0.0.459.57	26	0.0.464.01	17
0.0.452.66	27	0.0.453.59	492	0.0.457.28	319	0.0.459.65	517	0.0.464.02	17
0.0.452.68	28	0.0.453.60	494	0.0.457.29	319	0.0.459.70	112	0.0.464.03	18
0.0.452.69	28	0.0.453.64	493	0.0.457.30	319	0.0.459.72	113	0.0.464.04	18
0.0.452.71	28	0.0.453.65	493	0.0.457.33	319	0.0.459.74	112	0.0.464.05	18
0.0.452.73	28	0.0.453.66	493	0.0.457.36	325	0.0.459.76	113	0.0.464.06	18
0.0.452.74	28	0.0.453.67	550	0.0.457.37	325	0.0.460.01	574	0.0.464.18	125
0.0.452.76	28	0.0.453.68	550	0.0.457.38	325	0.0.460.02	574	0.0.464.19	125
0.0.452.79	27	0.0.453.69	550	0.0.457.45	331	0.0.460.30	570	0.0.464.22	164
0.0.452.80	27	0.0.453.70	190	0.0.457.47	258	0.0.460.31	570	0.0.464.23	164
0.0.452.81	27	0.0.453.71	189	0.0.457.51	258	0.0.460.33	570	0.0.464.24	259
0.0.452.83	27	0.0.453.74	493	0.0.457.52	30	0.0.460.34	572	0.0.464.27	259
0.0.452.84	39	0.0.453.75	588	0.0.457.59	30	0.0.460.35	572	0.0.464.29	259
0.0.452.86	39	0.0.453.76	588	0.0.457.60	258	0.0.460.37	572	0.0.464.30	661
0.0.452.88	39	0.0.453.77	588	0.0.457.72	70	0.0.460.38	575	0.0.464.39	114
0.0.452.90	39	0.0.453.78	588	0.0.457.76	122	0.0.460.39	575	0.0.464.43	115
0.0.452.91	36	0.0.453.80	589	0.0.457.77	123	0.0.461.01	574	0.0.464.45	517
0.0.452.93	36	0.0.453.82	628	0.0.457.78	123	0.0.461.02	575	0.0.464.75	336
0.0.452.94	29	0.0.453.85	409	0.0.457.92	215	0.0.461.30	570	0.0.464.81	338
0.0.452.95	29	0.0.453.90	132	0.0.457.99	397	0.0.461.31	570	0.0.464.83	17
0.0.452.97	29	0.0.453.91	41	0.0.458.01	468	0.0.461.33	571	0.0.465.17	225, 414
0.0.452.98	29	0.0.454.02	44	0.0.458.03	133	0.0.461.34	573	0.0.465.24	260
0.0.452.99	29	0.0.454.04	630	0.0.458.08	133	0.0.461.35	572	0.0.465.26	260
0.0.453.01	30	0.0.454.05	631	0.0.458.14	133	0.0.461.37	573	0.0.465.33	410
0.0.453.02	30	0.0.454.09	38	0.0.458.17	133	0.0.461.38	575	0.0.465.39	414
0.0.453.03	30	0.0.454.11	38	0.0.458.18	133	0.0.461.39	575	0.0.465.50	64
0.0.453.05	39	0.0.454.20	32	0.0.458.21	133	0.0.462.01	574	0.0.465.57	273
0.0.453.07	39	0.0.454.22	32	0.0.458.33	305	0.0.462.02	575	0.0.465.58	273
0.0.453.11	30	0.0.454.24	36	0.0.458.34	305	0.0.462.30	571	0.0.465.63	270
0.0.453.13	30	0.0.454.26	36	0.0.458.35	305	0.0.462.31	571	0.0.465.66	273
0.0.453.15	31	0.0.454.29	43	0.0.458.36	305	0.0.462.33	571	0.0.465.69	271
0.0.453.17	31	0.0.454.30	32	0.0.458.42	305	0.0.462.34	573	0.0.465.70	270
0.0.453.18	36	0.0.454.36	303	0.0.458.58	260	0.0.462.35	573	0.0.465.79	38
0.0.453.20	36	0.0.454.37	28	0.0.458.64	270	0.0.462.37	573	0.0.465.80	38

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0.0.465.82	503	0.0.474.60	163	0.0.479.77	497	0.0.486.80	303	0.0.489.19	30
0.0.465.84	503	0.0.474.61	163	0.0.479.96	103	0.0.486.81	499	0.0.489.21	384
0.0.465.85	32	0.0.474.62	163	0.0.479.98	191	0.0.486.82	499	0.0.489.39	45
0.0.465.86	33	0.0.474.63	163	0.0.480.01	109	0.0.486.83	499	0.0.489.40	45
0.0.465.88	660	0.0.474.71	466	0.0.480.02	110	0.0.486.84	499	0.0.489.43	68, 171
0.0.465.89	661	0.0.474.72	466	0.0.480.03	110	0.0.486.85	499	0.0.489.44	68, 171
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0.0.472.01	417	0.0.474.74	466	0.0.480.34	671	0.0.487.07	224	0.0.489.46	68, 171
0.0.472.04	408	0.0.474.82	199	0.0.480.35	672	0.0.487.08	225	0.0.489.47	66
0.0.472.08	408	0.0.474.99	224	0.0.480.36	672	0.0.487.14	224	0.0.489.50	66
0.0.472.20	408	0.0.475.06	294	0.0.480.37	672	0.0.487.18	225	0.0.489.53	63
0.0.472.22	408	0.0.475.07	506	0.0.480.44	211	0.0.487.24	486	0.0.489.60	56
0.0.472.23	408	0.0.475.09	506	0.0.480.48	139	0.0.487.25	486	0.0.489.61	56
0.0.472.25	408	0.0.475.10	506	0.0.480.50	139	0.0.487.27	487	0.0.489.79	120
0.0.472.28	631	0.0.475.11	506	0.0.480.54	139	0.0.487.28	487	0.0.489.82	229
0.0.472.29	631	0.0.475.15	57	0.0.480.57	139	0.0.487.30	487	0.0.489.83	229
0.0.472.30	589	0.0.475.16	57	0.0.480.58	40	0.0.487.31	487	0.0.489.85	228
0.0.472.31	589	0.0.475.20	104	0.0.480.59	40	0.0.487.33	487	0.0.489.86	111
0.0.473.02	104	0.0.475.21	102	0.0.480.71	606	0.0.487.34	487	0.0.489.87	111
0.0.473.03	387	0.0.475.38	277	0.0.480.75	32	0.0.487.36	488	0.0.489.88	111
0.0.473.04	319	0.0.475.41	338	0.0.480.76	32	0.0.487.37	488	0.0.489.91	173
0.0.473.05	319	0.0.476.13	311	0.0.480.77	33	0.0.487.39	488	0.0.489.94	173
0.0.473.06	319	0.0.476.21	311	0.0.480.91	358	0.0.487.40	488	0.0.489.96	89
0.0.473.07	319	0.0.476.22	444	0.0.481.01	68, 171	0.0.487.42	488	0.0.489.98	56
0.0.473.08	316	0.0.476.23	444	0.0.482.39	64	0.0.487.43	488	0.0.491.03	65
0.0.473.09	316	0.0.476.24	445	0.0.483.34	32	0.0.487.45	489	0.0.491.08	173
0.0.473.12	319	0.0.476.25	445	0.0.483.35	32	0.0.487.46	489	0.0.491.30	22
0.0.473.16	319	0.0.476.39	338	0.0.483.36	211	0.0.487.57	225	0.0.491.31	22
0.0.473.22	230	0.0.476.46	326	0.0.483.49	313	0.0.487.59	225	0.0.491.37	110
0.0.473.23	229	0.0.476.47	326	0.0.483.50	313	0.0.487.64	320	0.0.491.40	110
0.0.473.24	229	0.0.476.48	327	0.0.483.56	211	0.0.487.65	320	0.0.491.43	98
0.0.473.25	229	0.0.476.49	327	0.0.483.57	211	0.0.488.07	88	0.0.492.03	315
0.0.473.26	228	0.0.476.58	131	0.0.483.59	245	0.0.488.20	556	0.0.492.04	315
0.0.473.27	228	0.0.476.59	131	0.0.483.60	245	0.0.488.34	243	0.0.492.05	311
0.0.473.41	256	0.0.476.60	131	0.0.483.61	246	0.0.488.35	243	0.0.492.07	315
0.0.473.42	256	0.0.476.64	57	0.0.483.62	246	0.0.488.36	243	0.0.492.08	315
0.0.473.62	295	0.0.476.70	358	0.0.483.64	328	0.0.488.38	374	0.0.492.09	311
0.0.473.74	256	0.0.476.72	303	0.0.484.34	65	0.0.488.39	374	0.0.492.15	311
0.0.473.75	256	0.0.476.96	303	0.0.484.39	173	0.0.488.40	375	0.0.492.16	311
0.0.473.78	671	0.0.476.98	303	0.0.484.40	665	0.0.488.45	299	0.0.492.18	375
0.0.473.79	671	0.0.477.69	313	0.0.485.10	224	0.0.488.51	83	0.0.492.25	129
0.0.473.81	256	0.0.478.05	24	0.0.485.18	224	0.0.488.56	451	0.0.492.30	118
0.0.473.82	32	0.0.478.07	24	0.0.485.19	224	0.0.488.60	83	0.0.492.35	312
0.0.473.84	32	0.0.478.09	60	0.0.485.22	246	0.0.488.63	451	0.0.492.36	312
0.0.473.86	36	0.0.478.11	60	0.0.485.76	445	0.0.488.70	451	0.0.492.37	312
0.0.473.88	36	0.0.478.13	338	0.0.485.82	386	0.0.488.82	30	0.0.492.38	312
0.0.473.90	227	0.0.478.22	338	0.0.485.83	386	0.0.488.84	30	0.0.492.39	312
0.0.473.93	229	0.0.478.27	21	0.0.485.88	445	0.0.488.88	28	0.0.492.40	312
0.0.474.01	55	0.0.478.73	109	0.0.485.89	445	0.0.488.90	240	0.0.492.47	352
0.0.474.04	55	0.0.478.74	110	0.0.485.90	445	0.0.488.92	240	0.0.492.55	66
0.0.474.07	61	0.0.478.75	110	0.0.485.92	445	0.0.488.94	240	0.0.492.59	673
0.0.474.10	61	0.0.478.94	242	0.0.485.94	55	0.0.488.96	240	0.0.492.60	658
0.0.474.36	319	0.0.478.95	242	0.0.486.16	246	0.0.488.98	239	0.0.492.61	642
0.0.474.37	319	0.0.478.96	242	0.0.486.17	353	0.0.489.01	239	0.0.492.75	36
0.0.474.44	121	0.0.478.99	65	0.0.486.18	353	0.0.489.03	239	0.0.492.80	315
0.0.474.46	63	0.0.479.59	283	0.0.486.28	101	0.0.489.05	240	0.0.492.81	315
0.0.474.48	43	0.0.479.61	313	0.0.486.48	303	0.0.489.07	241	0.0.492.87	33
0.0.474.57	32	0.0.479.74	497	0.0.486.72	251	0.0.489.09	241	0.0.492.88	33
0.0.474.58	32	0.0.479.75	497	0.0.486.76	445	0.0.489.11	28	0.0.492.90	33
0.0.474.59	307	0.0.479.76	497	0.0.486.79	303	0.0.489.18	30	0.0.492.91	33

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0.0.492.93	33	0.0.495.12	208	0.0.605.46	363	0.0.611.08	142	0.0.615.76	141
0.0.492.94	33	0.0.495.13	208	0.0.605.47	363	0.0.611.40	175	0.0.616.31	81, 126
0.0.492.96	34	0.0.495.33	209	0.0.605.48	363	0.0.611.45	17	0.0.616.57	252
0.0.492.97	34	0.0.495.37	278	0.0.606.47	129	0.0.611.86	33	0.0.616.63	429
0.0.492.99	34	0.0.495.96	343	0.0.606.51	340	0.0.611.87	33	0.0.616.64	429
0.0.493.01	34	0.0.496.01	197	0.0.606.61	157	0.0.611.89	33	0.0.616.65	429
0.0.493.03	34	0.0.496.02	339	0.0.606.67	157	0.0.611.90	33	0.0.616.69	429
0.0.493.04	34	0.0.496.03	339	0.0.606.69	268	0.0.611.92	33	0.0.616.77	657
0.0.493.28	665	0.0.600.05	637	0.0.606.90	268	0.0.611.93	33	0.0.616.89	657
0.0.493.36	45	0.0.600.13	349	0.0.606.94	92	0.0.611.95	33	0.0.616.93	435
0.0.493.37	45	0.0.600.55	390	0.0.607.03	390	0.0.611.96	33	0.0.616.95	435
0.0.493.39	45	0.0.600.56	390	0.0.607.10	193	0.0.612.01	344	0.0.617.31	252
0.0.493.40	45	0.0.600.70	282	0.0.607.26	29	0.0.612.04	86	0.0.617.63	198
0.0.493.42	46	0.0.600.73	292	0.0.607.39	262	0.0.612.11	516	0.0.617.80	69, 172
0.0.493.43	46	0.0.601.03	644	0.0.607.75	29	0.0.612.14	85	0.0.617.96	216
0.0.493.45	46	0.0.601.12	115	0.0.608.48	427	0.0.612.15	516	0.0.617.97	216
0.0.493.46	46	0.0.601.13	115	0.0.608.49	426	0.0.612.47	664	0.0.617.98	216
0.0.493.48	46	0.0.601.21	387	0.0.608.50	426	0.0.612.74	670	0.0.617.99	216
0.0.493.49	46	0.0.601.23	257	0.0.608.57	427	0.0.612.75	670	0.0.618.28	399
0.0.493.53	188	0.0.601.30	292	0.0.608.69	117	0.0.612.78	101	0.0.618.53	436
0.0.493.71	658	0.0.601.36	285	0.0.608.85	389	0.0.612.79	101	0.0.618.56	436
0.0.493.72	658	0.0.601.52	237	0.0.608.87	24	0.0.612.88	663	0.0.618.61	435
0.0.493.73	188	0.0.601.61	100	0.0.608.88	24	0.0.612.89	663	0.0.618.97	439
0.0.493.75	188	0.0.601.62	100	0.0.608.90	24	0.0.612.98	407	0.0.619.14	319
0.0.493.76	315	0.0.601.63	285	0.0.608.91	24	0.0.612.99	407	0.0.619.15	319
0.0.493.77	315	0.0.601.65	285	0.0.608.93	342	0.0.613.12	286	0.0.619.16	319
0.0.493.88	66	0.0.601.70	291	0.0.608.94	268	0.0.613.18	145	0.0.619.17	319
0.0.493.91	90	0.0.601.97	237	0.0.608.95	268	0.0.613.19	145	0.0.619.26	296
0.0.494.11	116	0.0.602.04	579	0.0.609.05	342	0.0.613.20	145	0.0.619.27	297
0.0.494.15	91	0.0.602.12	646	0.0.609.16	103	0.0.613.21	145	0.0.619.28	297
0.0.494.28	645	0.0.602.30	646	0.0.609.20	24	0.0.613.22	145	0.0.619.29	298
0.0.494.33	642	0.0.602.31	225, 414	0.0.609.21	37	0.0.613.23	145	0.0.619.33	296
0.0.494.35	643	0.0.602.36	102	0.0.609.28	61	0.0.614.40	141	0.0.619.34	402
0.0.494.36	645	0.0.602.38	366	0.0.609.29	61	0.0.614.42	141	0.0.619.35	296
0.0.494.37	645	0.0.602.39	366	0.0.609.32	24	0.0.614.59	588	0.0.619.36	297
0.0.494.38	645	0.0.602.40	366	0.0.609.34	37	0.0.614.71	188	0.0.619.37	297
0.0.494.45	98	0.0.602.41	366	0.0.609.59	52	0.0.614.76	188	0.0.619.38	297
0.0.494.46	110	0.0.602.44	339	0.0.609.60	52	0.0.614.85	320	0.0.619.39	297
0.0.494.49	110	0.0.602.46	339	0.0.609.61	53	0.0.614.86	320	0.0.619.40	298
0.0.494.52	508	0.0.603.14	178	0.0.609.62	53	0.0.614.87	320	0.0.619.41	298
0.0.494.58	286	0.0.603.15	178	0.0.609.63	53	0.0.614.88	320	0.0.619.42	296
0.0.494.59	286	0.0.603.16	642	0.0.609.64	53	0.0.614.90	187	0.0.619.43	296
0.0.494.64	188	0.0.603.26	366	0.0.609.65	53	0.0.614.91	187	0.0.619.44	297
0.0.494.71	207	0.0.603.33	345	0.0.609.66	53	0.0.614.93	187	0.0.619.45	297
0.0.494.73	207	0.0.603.41	183	0.0.609.71	31	0.0.614.94	187	0.0.619.50	296
0.0.494.74	208	0.0.603.42	183	0.0.609.73	427	0.0.615.00	187	0.0.619.52	296
0.0.494.76	209	0.0.603.59	250	0.0.609.79	31	0.0.615.01	187	0.0.619.53	262
0.0.494.77	268	0.0.603.74	346	0.0.609.88	55	0.0.615.19	588	0.0.619.55	297
0.0.494.86	278	0.0.604.10	183	0.0.610.10	141	0.0.615.23	589	0.0.619.56	103
0.0.494.95	37	0.0.604.15	516	0.0.610.11	86	0.0.615.30	32	0.0.619.57	297
0.0.494.96	37	0.0.604.19	158	0.0.610.22	61	0.0.615.37	242	0.0.619.62	262
0.0.494.97	37	0.0.604.52	390	0.0.610.23	61	0.0.615.38	242	0.0.619.63	296
0.0.494.98	37	0.0.604.53	390	0.0.610.29	60	0.0.615.39	243	0.0.619.64	297
0.0.495.02	188	0.0.604.56	426	0.0.610.30	60	0.0.615.40	243	0.0.619.65	297
0.0.495.03	188	0.0.604.57	426	0.0.610.72	141	0.0.615.43	240	0.0.619.66	298
0.0.495.04	188	0.0.604.60	427	0.0.610.80	142	0.0.615.45	240	0.0.619.68	439
0.0.495.05	188	0.0.605.21	193	0.0.610.89	350	0.0.615.48	447	0.0.619.69	130
0.0.495.08	175	0.0.605.29	366	0.0.610.95	117	0.0.615.59	124	0.0.619.70	439
0.0.495.09	286	0.0.605.41	196	0.0.610.98	117	0.0.615.69	429	0.0.619.71	429
0.0.495.11	645	0.0.605.45	363	0.0.611.00	117	0.0.615.73	141	0.0.619.72	429

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0.0.620.00	404	0.0.625.14	47	0.0.627.56	63	0.0.632.10	69, 172	0.0.637.01	337
0.0.620.05	390	0.0.625.15	391	0.0.627.57	98	0.0.632.12	655	0.0.637.05	450
0.0.620.06	401	0.0.625.16	391	0.0.627.58	98	0.0.632.25	56	0.0.637.47	648
0.0.620.16	401	0.0.625.17	47	0.0.627.59	99	0.0.632.26	56	0.0.638.31	501
0.0.620.26	403	0.0.625.18	47	0.0.627.60	108	0.0.632.27	56	0.0.638.39	501
0.0.620.84	404	0.0.625.19	391	0.0.627.69	182	0.0.632.28	56	0.0.639.02	68, 171
0.0.620.87	450	0.0.625.20	391	0.0.627.70	182	0.0.632.41	103	0.0.639.13	367
0.0.620.93	403	0.0.625.23	100	0.0.627.71	182	0.0.632.45	165	0.0.639.52	496
0.0.620.94	436	0.0.625.26	100	0.0.627.78	217	0.0.632.46	165	0.0.640.32	107
0.0.621.00	436	0.0.625.27	391	0.0.627.80	345	0.0.632.47	165	0.0.640.33	106
0.0.621.16	243	0.0.625.28	397	0.0.627.86	441	0.0.632.53	48	0.0.640.34	107
0.0.621.69	614	0.0.625.30	193	0.0.627.90	509	0.0.632.54	48	0.0.640.54	165
0.0.621.73	614	0.0.625.33	88	0.0.628.25	657	0.0.632.55	61	0.0.640.57	338
0.0.621.77	435	0.0.625.39	669	0.0.628.40	400	0.0.632.56	61	0.0.641.36	355
0.0.621.93	615	0.0.625.90	184	0.0.628.41	400	0.0.632.63	67	0.0.641.41	355
0.0.621.94	615	0.0.625.91	184	0.0.628.42	400	0.0.632.74	91	0.0.641.42	355
0.0.622.12	435	0.0.626.00	217	0.0.628.43	400	0.0.632.75	658	0.0.641.45	186
0.0.622.20	406	0.0.626.06	142	0.0.628.55	657	0.0.632.84	243	0.0.641.46	108
0.0.622.22	403	0.0.626.63	180	0.0.628.63	166	0.0.632.86	241	0.0.641.48	108
0.0.622.24	403	0.0.626.68	262	0.0.628.68	108	0.0.632.87	241	0.0.641.52	236
0.0.622.26	404	0.0.626.76	266	0.0.628.69	108	0.0.632.88	188	0.0.641.53	236
0.0.622.27	401	0.0.626.77	266	0.0.628.83	626	0.0.632.89	188	0.0.641.54	235
0.0.622.28	401	0.0.626.86	648	0.0.628.84	626	0.0.632.90	188	0.0.641.58	177
0.0.622.29	266, 405	0.0.626.90	58	0.0.628.85	626	0.0.632.91	188	0.0.641.59	186
0.0.622.30	405	0.0.626.91	399	0.0.628.95	624	0.0.632.92	243	0.0.641.61	648
0.0.623.27	437	0.0.626.97	436	0.0.628.96	624	0.0.632.93	496	0.0.641.94	237
0.0.623.30	437	0.0.627.00	436	0.0.628.97	625	0.0.632.94	495	0.0.641.96	237
0.0.623.58	266	0.0.627.06	401	0.0.628.98	625	0.0.633.43	367	0.0.642.11	106
0.0.623.61	266	0.0.627.07	401	0.0.628.99	625	0.0.633.44	367	0.0.642.12	107
0.0.623.88	433	0.0.627.08	401	0.0.629.00	625	0.0.633.45	367	0.0.642.13	106
0.0.623.89	433	0.0.627.09	401	0.0.629.05	586	0.0.633.46	371	0.0.642.14	107
0.0.623.92	434	0.0.627.10	401	0.0.629.08	586	0.0.633.47	371	0.0.642.15	107
0.0.624.45	266	0.0.627.11	401	0.0.629.16	587	0.0.633.48	371	0.0.642.17	649
0.0.624.47	58	0.0.627.12	118	0.0.629.17	587	0.0.633.49	371	0.0.642.18	649
0.0.624.51	47	0.0.627.14	437	0.0.629.19	567	0.0.633.50	485	0.0.642.28	291
0.0.624.52	47	0.0.627.16	55	0.0.629.41	32	0.0.633.51	485	0.0.642.53	95
0.0.624.55	47	0.0.627.18	55	0.0.629.44	32	0.0.633.52	485	0.0.642.54	95
0.0.624.56	47	0.0.627.20	55	0.0.629.81	473	0.0.633.97	317	0.0.642.55	95
0.0.624.59	47	0.0.627.21	61	0.0.629.83	473	0.0.634.63	567	0.0.642.56	95
0.0.624.60	47	0.0.627.23	206	0.0.630.01	555	0.0.635.09	177	0.0.642.70	662
0.0.624.67	47	0.0.627.24	64	0.0.630.10	555	0.0.635.11	446	0.0.642.72	654
0.0.624.68	47	0.0.627.25	61	0.0.630.14	555	0.0.635.17	338	0.0.642.74	662
0.0.624.74	80	0.0.627.27	55	0.0.630.18	555	0.0.635.20	338	0.0.642.76	385
0.0.624.78	103	0.0.627.28	55	0.0.630.28	177	0.0.635.24	337	0.0.642.93	497
0.0.624.81	148	0.0.627.29	61	0.0.630.45	237	0.0.635.43	337	0.0.642.94	497
0.0.624.85	148	0.0.627.30	55	0.0.630.71	489	0.0.635.49	337	0.0.643.80	474
0.0.624.87	134	0.0.627.31	55	0.0.630.72	489	0.0.635.51	337	0.0.643.85	485
0.0.624.92	47	0.0.627.32	63	0.0.630.89	236	0.0.635.68	177	0.0.643.86	483
0.0.624.93	47	0.0.627.35	406	0.0.631.00	18	0.0.635.98	465	0.0.643.87	484
0.0.624.95	146	0.0.627.40	459	0.0.631.05	206	0.0.636.04	317	0.0.644.01	281
0.0.624.97	146	0.0.627.42	459	0.0.631.17	430	0.0.636.17	108	0.0.644.02	281
0.0.625.02	140	0.0.627.43	459	0.0.631.19	431	0.0.636.18	108	0.0.644.03	281
0.0.625.04	140	0.0.627.44	459	0.0.631.20	431	0.0.636.19	108	0.0.644.14	142
0.0.625.06	140	0.0.627.48	675	0.0.631.51	432	0.0.636.22	186	0.0.644.15	473
0.0.625.08	86	0.0.627.50	70	0.0.631.70	449	0.0.636.61	446	0.0.644.16	473
0.0.625.09	56	0.0.627.51	70	0.0.631.79	460	0.0.636.62	446	0.0.644.51	142
0.0.625.10	56	0.0.627.52	63	0.0.632.04	69, 172	0.0.636.63	446	0.0.644.55	402
0.0.625.11	56	0.0.627.53	63	0.0.632.07	83	0.0.636.95	338	0.0.644.68	674
0.0.625.12	56	0.0.627.54	63	0.0.632.08	128	0.0.636.97	337	0.0.644.87	670
0.0.625.13	47	0.0.627.55	63	0.0.632.09	656	0.0.636.99	337	0.0.644.88	670

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0.0.645.03	467	0.0.654.69	673	0.0.658.67	563	0.0.666.51	351	0.0.674.47	539
0.0.645.39	565	0.0.654.86	473	0.0.658.83	563	0.0.666.74	34	0.0.674.49	57
0.0.645.40	465	0.0.654.89	67	0.0.659.03	105	0.0.666.75	34	0.0.674.51	29
0.0.647.03	650	0.0.655.08	158	0.0.659.13	440	0.0.666.76	34	0.0.674.52	29
0.0.647.04	565	0.0.655.30	648	0.0.659.29	232	0.0.666.77	34	0.0.674.53	383
0.0.647.05	650	0.0.655.31	174	0.0.660.28	520	0.0.666.92	241	0.0.674.57	57
0.0.647.84	483	0.0.655.32	398	0.0.660.30	453	0.0.667.16	368	0.0.674.59	540
0.0.647.85	484	0.0.655.33	398	0.0.660.52	453	0.0.667.17	368	0.0.674.71	59
0.0.647.89	483	0.0.655.34	398	0.0.660.54	453	0.0.667.18	368	0.0.674.76	674
0.0.647.90	483	0.0.655.35	398	0.0.660.55	453	0.0.667.19	368	0.0.674.95	442
0.0.647.91	484	0.0.655.95	565	0.0.660.56	453	0.0.667.20	368	0.0.674.96	442
0.0.647.92	484	0.0.655.97	565	0.0.661.39	453	0.0.667.21	368	0.0.674.97	442
0.0.647.93	672	0.0.656.06	477	0.0.661.47	676	0.0.667.22	372	0.0.674.98	442
0.0.648.05	483	0.0.656.15	452	0.0.662.33	678	0.0.667.23	372	0.0.675.51	31
0.0.648.06	483	0.0.656.16	452	0.0.662.40	243	0.0.667.24	372	0.0.675.52	31
0.0.648.08	474, 485	0.0.656.17	452	0.0.662.42	243	0.0.667.25	372	0.0.675.75	532
0.0.648.09	485	0.0.656.18	452	0.0.663.39	520	0.0.667.26	373	0.0.675.76	532
0.0.648.65	87	0.0.656.19	452	0.0.663.40	522	0.0.667.27	373	0.0.675.77	532
0.0.648.98	402	0.0.656.26	565	0.0.663.41	522	0.0.667.29	376	0.0.675.78	532
0.0.649.32	467	0.0.656.27	562	0.0.663.42	522	0.0.667.30	376	0.0.675.79	532
0.0.649.47	247	0.0.656.49	453	0.0.663.43	524	0.0.667.31	376	0.0.675.80	532
0.0.650.02	472	0.0.656.52	453	0.0.663.44	523	0.0.667.32	376	0.0.676.08	539
0.0.650.03	472	0.0.656.62	34	0.0.663.45	538	0.0.667.33	377	0.0.676.09	523
0.0.650.04	472	0.0.656.63	34	0.0.663.46	521	0.0.667.34	377	0.0.676.17	476
0.0.650.05	472	0.0.656.64	34	0.0.663.47	521	0.0.667.35	378	0.0.676.18	476
0.0.650.13	674	0.0.656.65	34	0.0.663.49	536	0.0.667.36	378	0.0.676.19	476
0.0.650.43	256	0.0.656.67	34	0.0.663.50	528	0.0.667.37	378	0.0.680.92	236
0.0.650.44	256	0.0.656.68	34	0.0.663.52	529	0.0.667.38	378	0.0.680.93	236
0.0.650.49	674	0.0.656.69	34	0.0.663.53	529	0.0.667.39	379	0.0.680.95	237
0.0.650.50	674	0.0.656.70	34	0.0.663.54	529	0.0.667.40	379	0.0.680.96	165
0.0.650.51	674	0.0.656.71	467	0.0.663.55	536	0.0.667.44	383	0.3.001.24	636
0.0.650.85	36	0.0.657.00	565	0.0.663.56	530	0.0.668.97	159	0.3.001.25	636
0.0.650.86	36	0.0.657.20	564	0.0.663.57	530	0.0.669.05	89	0.3.001.30	637
0.0.650.87	61	0.0.657.21	564	0.0.663.58	530	0.0.669.28	95	0.3.001.80	514
0.0.651.16	434	0.0.657.24	474	0.0.663.60	530	0.0.669.30	292	0.3.001.81	514
0.0.651.24	434	0.0.657.37	474	0.0.663.61	530	0.0.669.88	95	0.3.004.62	514
0.0.651.25	431	0.0.657.72	565	0.0.663.64	530	0.0.669.89	95	1.0.001.08	365
0.0.651.33	431	0.0.658.03	565	0.0.663.65	530	0.0.669.90	95	1.0.001.09	365
0.0.651.54	432	0.0.658.04	346	0.0.663.68	531	0.0.670.11	100	1.0.001.97	365
0.0.651.55	432	0.0.658.08	565	0.0.663.69	531	0.0.670.12	100	1.0.001.98	365
0.0.651.65	95	0.0.658.20	565	0.0.663.71	531	0.0.670.18	381	1.0.003.61	670
0.0.651.97	37	0.0.658.21	562	0.0.663.72	531	0.0.670.19	381	1.0.003.75	664
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0.0.652.66	300	0.0.658.29	453	0.0.663.77	535	0.0.671.12	383, 677	3.0.005.03	505
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0.0.653.91	272	0.0.658.36	321	0.0.663.81	533	0.0.672.85	81	7.0.000.09	27
0.0.653.92	272	0.0.658.37	562	0.0.663.83	533	0.0.672.86	81	7.0.000.12	39
0.0.653.93	272	0.0.658.38	321	0.0.663.84	533	0.0.672.87	81	7.0.000.15	36
0.0.654.21	604	0.0.658.39	321	0.0.663.85	538	0.0.672.88	81	7.0.000.17	29
0.0.654.22	604	0.0.658.40	321	0.0.663.86	540	0.0.672.89	520	7.0.000.20	29
0.0.654.23	605	0.0.658.41	321	0.0.663.87	528	0.0.672.90	520	7.0.000.23	29
0.0.654.24	560	0.0.658.42	321	0.0.665.12	498	0.0.672.91	470	7.0.000.26	28
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0.0.654.57	673	0.0.658.46	322	0.0.666.35	165	0.0.673.11	470	7.0.001.14	52
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