

**One Construction Kit. Countless Possibilities.**



## Profile Technology



» Components, modules and solutions for factory automation. «

## Conveyor Technology



Maschinenbau Kitz, the parent company of the mk Technology Group, was founded in 1966 in Troisdorf, near Bonn, Germany. mk is one of the leading suppliers of components, modules and systems for factory automation.

Its portfolio of profile technology includes workstation set-ups, guarding and custom-designed machine frames and platforms, in addition to the aluminium profile system on which these are based.

## System Solutions



In terms of conveyor technology, mk offers an extensive range of standardised conveyor types, supplemented with linear technology for precision handling applications.

Furthermore, mk is at hand to assist its customers with system solutions, from project planning and design to the commissioning of complete transfer systems.

Our services round off the product portfolio and include repairs, maintenance and a spare parts supply service.

## Services



With our dense production, sales and service network consisting of subsidiaries, sales partners and external service providers, we guarantee our customers fast access to our expert advice and outstanding products.

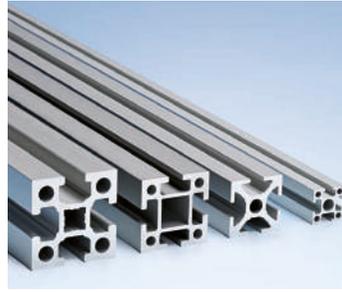
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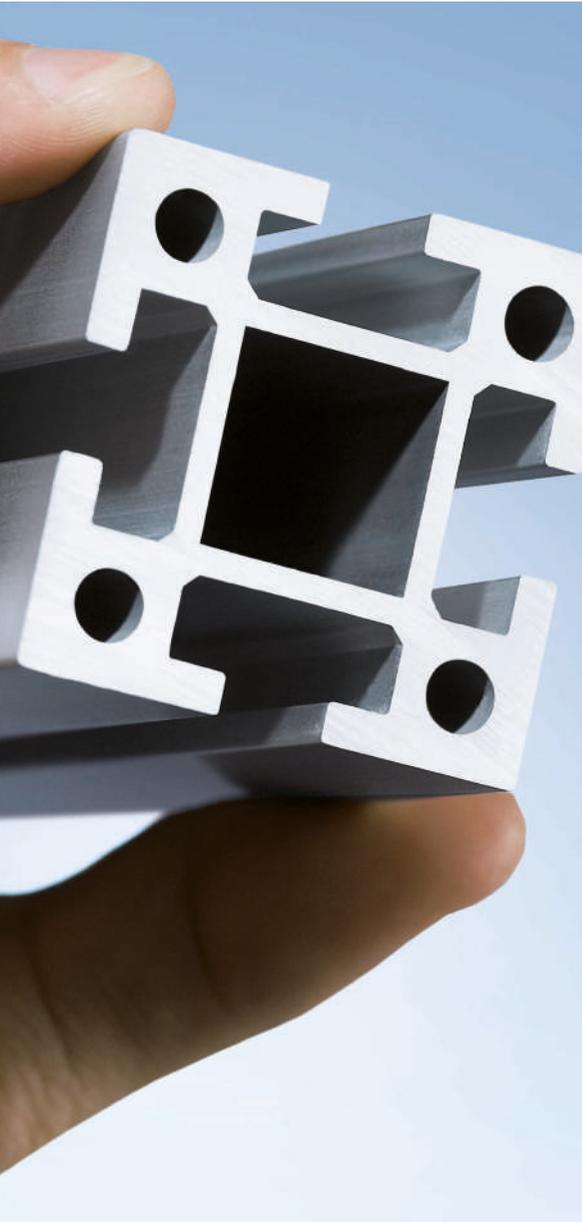
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# Benefits of mk Profile Technology

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» mk profile technology offers maximum flexibility and reliability. «

Our profile technology consists of the proven, versatile mk profile system as the common base technology as well as the workshop and industrial applications that are based on this system.

## **Profile System**

The modular mk profile system has the right profile, the right connection technology and the right accessories for every application. The system's flexible modular design provides virtually endless possibilities for custom-designed structures and solutions.

## **Guarding**

Our guarding range is based on the mk profile system and offers functional machine housings, enclosures and protective fences. Their flexible, modular design ensures that systems, machines and production areas can be secured effectively and economically.

## **Workstation Set-Ups**

Industrial workstations built from mk's profile system offer maximum ergonomics and functionality to optimise your employees' productivity. These workstations can be expanded into complete assembly lines including workstation inter-linking to ensure optimised process flows.

## **Machine Frames and Platforms**

Frames for machines and other systems are custom-manufactured and optimised for the customer's particular requirements and loads. Platforms with stairs offer safe access to various levels, whether mobile or stationary, to allow employees to maintain or work on machines and systems.

## Benefits of mk Profile Technology

- Comprehensive profile system for maximum flexibility in all industries and applications
- No welding, abrasive grinding or painting necessary, unlike steel structures
- Sturdy profiles that combine high load capacity with attractive design
- Profiles and components can be reused
- 1 mm edge radius for virtually gap-free connections between profiles
- Sturdy and diverse connection technology with standard screws
- Online profile system shop with free CAD data
- Machine housings, enclosures and protective fences for effective and highly functional guarding of machines and systems
- Ergonomic industrial workstations built from mk profiles can be interlinked into assembly lines for maximum productivity
- Stairs and platforms for safe access to machines or production areas
- High degree of standardisation for short planning, design and assembly times
- Degree of assembly can be selected, from individual pieces, to assemblies, to custom-built frames and complete applications
- Expert on-site consulting by mk sales engineers

### Profile System



### Guarding



### Industrial Workstations



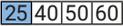
### Stairs and Platforms

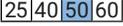


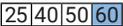
# Explanation of Symbols

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## Profile series symbols

 The symbols indicate the profile series in which a connecting element or accessory component can be used.





 Depending on which fields are coloured in, components may be compatible with multiple profile series.



 A light-blue field indicates that the component can be used in this series with certain conditions. Our technical sales department will be happy to advise you.



Connecting elements and accessory components without a series symbol can be used in all profile series. The D28 round tube profiles have their own range of connectors.

## Slot Widths

These symbols indicate the slot width of the profile or profile series in millimetres.



## Screws

 These symbols indicate the screws to be used (thread x length in mm). If screws compliant with a specific standard are required, this is also indicated.







## Cross References

The cross reference symbol with a corresponding page number refers you to complimentary products or information that can be found elsewhere in the catalogue.



## Curved Profiles

This symbol identifies select profiles that are also available in a curved variant. The number indicates the minimum possible inner radius in millimetres. The profiles can only be bent along the narrow side of the profile (horizontal bending axis).



## ESD (Electrostatic Discharge)

Items labelled with the ESD symbol have a discharging or conductive design and are therefore suitable for used in ESD-sensitive areas or for creating ESD protection zones. These products guarantee a resistance to earth from the contact point of  $< 10^{11}$  ohms.

## Item Number and Name

When placing an order, please always provide the item number and the product name. Our profiles can be ordered in one of our stock lengths or cut to a custom length. The last four digits indicate the desired length in mm.

Name  
Profile mk 2040.01 (40x40)

Item number  
**54.01. ....** Length in mm (4 digits)  
Profile ID number



[www.aluprofil.shop](http://www.aluprofil.shop)



## 24/7 Online Shop\*

All products in our proven profile system are available to you after a one-time registration.

- Accessible from a computer, tablet or smartphone
- Products clearly organised into categories
- Images and product descriptions help you make your selection
- Search by name or item number
- Direct access to CAD data



## CAD Data

Reduce your planning and design time by using our CAD parts library.

- Online in our shop or from the Cadenas Part Community
- Free access to CAD data
- Native and neutral CAD formats for easy processing
- 3D models or 2D CAD drawings
- Can be imported directly into customers' CAD programs

\*Only for commercial customers in Germany and Austria

# Section 2 Profiles

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Overview of Profiles					
Construction Profiles					
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments I <sub>x</sub> [cm <sup>4</sup> ]   I <sub>y</sub> [cm <sup>4</sup> ]		
<b>Series 40 Profiles</b>					
mk 2040.31 (40x40) extra light duty 54.31. ....		561	1.50	9.69	9.0
mk 2040.40 (40x40) light duty 54.40. ....		606	1.64	10.50	10.0

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**Application Profiles**

The application profiles are included in the profile overview, and some are addressed in more detail in various sections for specific topics; see the cross references in the profile overview.

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# Choosing a Profile

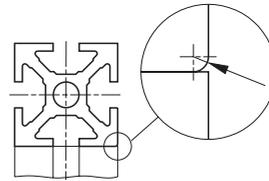
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## Features of mk Aluminium Profiles

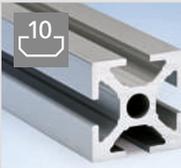
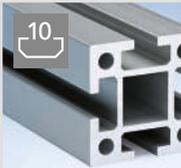
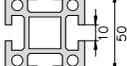
With a large selection of profiles, divided into four series with grid dimensions of 25, 40, 50 and 60 mm, as well as the round tube profile series D28, we have the perfect profile for any application and for all load-capacity and design requirements. Our profiles are made from a high-quality aluminium alloy with an extremely durable anodised coating and employ connection technology designed to ensure maximum stability – for sturdiness and dependability that is never in doubt, and without compromising on design. They can be used to construct anything from light-duty fixtures, structures and frames to load-bearing structures for machine construction applications. In addition to construction profiles, our portfolio also includes application profiles for a range of different purposes, e.g. for guarding and workstation set-ups and for conveyor frames and side rails for use in conveyor technology.

All mk profiles have a small edge radius of only 1 mm, which provides a gapless connection between profiles.

- No space for dirt to accumulate
- Attractive design
- Profile structures with a closed slot are thus ideally suited for use in cleanrooms



## Overview of Profile Series

Series D28	Series 25	Series 40	Series 50	Series 60
				
<b>Grid dimensions</b>				
∅ 28 mm 	25 x 25 mm 	40 x 40 mm 	50 x 50 mm 	60 x 60 mm 
<b>Dimensions max.</b>				
∅ 28 mm	25 x 150 mm or 50 x 50 mm	160 x 160 mm	50 x 200 mm or 100 x 100 mm	120 x 240 mm
<b>Material</b>				
EN AW 6063 T66 AlMgSi 0.5 F25	EN AW 6063 T66 AlMgSi 0.5 F25	EN AW 6063 T66 AlMgSi 0.5 F25	EN AW 6005A T6 AlMgSi 0.7 F27*	EN AW 6005A T6 AlMgSi 0.7 F27*
<b>Application examples</b>				
Supply trolley, shelves, lightweight frames, extensions for workstations	Light-duty frames, test set-ups, measurement and test units	Moderate to light-duty machine frames, guarding, industrial workstations	Machine frames, load-bearing structures	Machine frames under very high loads, gantries

## Deflection Calculator

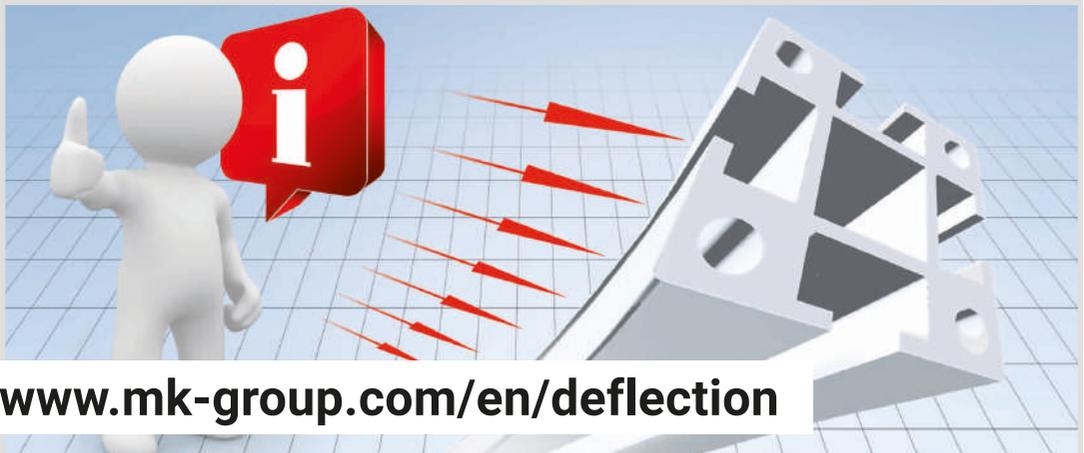
Will your profile structure withstand the loads it is meant to support? Find out quickly and conveniently using our online tool for calculating the deflection of mk profiles as a function of load. The following formulas are used for the calculation.

$$\sigma_b = \frac{M_{bmax}}{W_{x,y}}$$

$$S = \frac{R_{p0.2}}{\sigma_b}$$

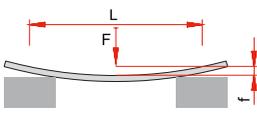
$R_{p0.2} = 200 \text{ N/mm}^2$  (AlMgSi 0.5 F25)

$R_{p0.2} = 215 \text{ N/mm}^2$  (AlMgSi 0.7 F27)



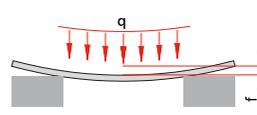
[www.mk-group.com/en/deflection](http://www.mk-group.com/en/deflection)

### Load scenario 1 (profile on two supports, flexible joints)



$$M_{bmax} = \frac{F \cdot L}{4}$$

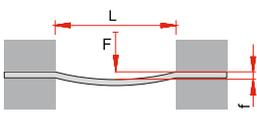
$$f = \frac{F \cdot L^3}{48 \cdot E \cdot I_{x,y}}$$



$$M_{bmax} = \frac{q \cdot L^2}{8}$$

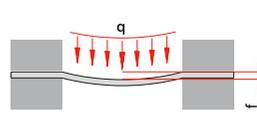
$$f = \frac{5}{384} \cdot \frac{q \cdot L^4}{E \cdot I_{x,y}}$$

### Load scenario 2 (profile on two supports, clamped at both ends)



$$M_{bmax} = \frac{F \cdot L}{8}$$

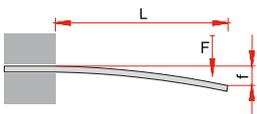
$$f = \frac{F \cdot L^3}{192 \cdot E \cdot I_{x,y}}$$



$$M_{bmax} = \frac{q \cdot L^2}{12}$$

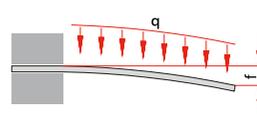
$$f = \frac{q \cdot L^4}{384 \cdot E \cdot I_{x,y}}$$

### Load scenario 3 (profile clamped at one end)



$$M_{bmax} = F \cdot L$$

$$f = \frac{F \cdot L^3}{3 \cdot E \cdot I_{x,y}}$$



$$M_{bmax} = \frac{q \cdot L^2}{2}$$

$$f = \frac{q \cdot L^4}{8 \cdot E \cdot I_{x,y}}$$

# Choosing a Profile

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## Standards and Basic Information

The profiles are made from extruded aluminium and are available in a standard length of 5100 mm. They can also be cut to length. Lengths in excess of the standard length are available on request. All construction profiles are pretreated with the E6 chemical process, which removes grooves and scratches in the surface. The profiles are anodised with a coating that is approx. 10 µm thick and with colour C0 (natural colour). The coating is resistant to acids and bases (alkali bases up to pH 9.5 and acids up to pH 4).

Profile structures are typically suitable for indoor use at temperatures from +10° to +60° C and a humidity of 30 to 60%. Low temperatures down to -20° C are possible on request. Temperatures above 80° C are only briefly permissible for most plastics. Ambient temperatures higher than 150° C are only permissible for aluminium base structures after testing. The values shown in the table below are the highest permissible deviations as specified in the standard.

## Materials of mk Profiles

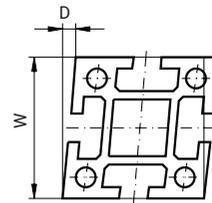
According to DIN EN 755-2

mk generally uses two different materials for its profile technology. AlMgSi 0.5 F25 is used for Series 25 and 40, and AlMgSi 0.7 F27 is primarily used for Series 50 and 60, which exhibits 7% higher strength.

Material name according to DIN EN 573-3			EN AW 6063 T66	EN AW 6005A T6
Material abbreviation according to DIN 1725-1			AlMg0.7Si	AlSiMg(A)
Material number			AlMgSi 0.5 F25	AlMgSi 0.7 F27
			3.3206.72	3.3210.71
Density	ρ	g/cm <sup>3</sup>	2.7	2.7
Elastic modulus	E	N/mm <sup>2</sup>	70,000	70,000
Tensile strength	Rm	N/mm <sup>2</sup>	245	270
0.2% offset yield stress	Rp0.2	N/mm <sup>2</sup>	200	215
Elongation at break	A5	%	8	8
Brinell hardness	HB		80	85
Coefficient of thermal expansion (up to 20° C/up to 293° K) (20°–100° C/293°–373° K)	α	1/K	21.8*10 <sup>-6</sup> 23.2*10 <sup>-6</sup>	21.8*10 <sup>-6</sup> 23.2*10 <sup>-6</sup>
Thermal conductivity	λ	W/(m*K)	200–220	180–220
Electrical conductivity (20° C/293° K)	κ	m/(Ω*mm <sup>2</sup> )	28–34	26–32

## Squareness Tolerance\*

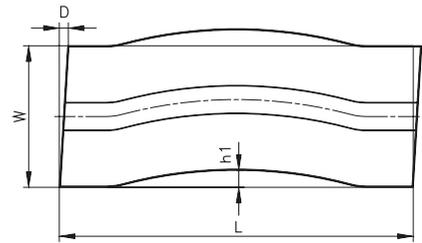
Width W (mm) range		Squareness tolerance for cross section D (mm)
over	up to	
–	40	0.20
40	60	0.30
60	90	0.40
90	120	0.45
120	150	0.55
150	180	0.65
180	210	0.70



Profiles may exhibit web marks. Tolerances for flatness and contour deviations available on request.

## Straightness Tolerance\*

The straightness tolerance  $h_1$  must not exceed the values in the table for a given length; the deviation must also not exceed 0.3 mm over a distance of 300 mm.



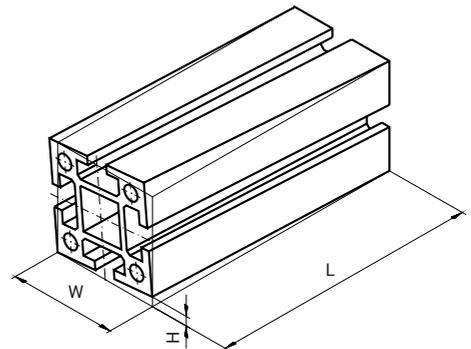
Length L	up to 1000	up to 2000	up to 3000	up to 4000	up to 5000	up to 6000	over 6000
Tolerance $h_1$	0.7	1.3	1.8	2.2	2.6	3	3.5

## Tolerances for Cut Profiles\*

Length L	up to 500	up to 1000	up to 2000	up to 6000
Tolerance	± 0.5	± 0.8	± 1.2	± 2.0
Width W	up to 50	up to 100	up to 200	up to 300
Angular tolerance D	0.2 mm	0.4 mm	0.8 mm	1.2 mm

If the length tolerances above are insufficient, optional machining of the profile face is also available.

## Twisting



Width W			Twisting tolerance H for lengths L						As agreed
over	up to	up to 1000	over 1000 up to 2000	over 2000 up to 3000	over 3000 up to 4000	over 4000 up to 5000	over 5000 up to 6000	over 6000	
—	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	1.2	1.5	2.0	2.0		
75	100	1.0	1.2	1.5	2.0	2.2	2.5		
100	125	1.0	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		

\* According to DIN 17615 or DIN EN 12020



# Profile Services

## Overview of End Services

To achieve positive-locked connections, the ends of profiles often need to be machined. For example, bores may have to be drilled for tension plugs, or profiles may need to be mitre-cut. Below are diagrams showing the various end services options.

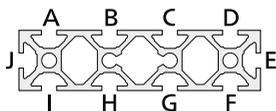
The subsequent section presents the most common end services option for each profile, along with the item number. Other end services options are possible and can be delivered on request.

### Note

Our online shop and our CAD library lets you conveniently select and order end service options as well as the corresponding CAD data ([www.aluprofil.shop](http://www.aluprofil.shop)).

For lateral bores, you have to indicate the positions of the bores, i.e. the particular slots:

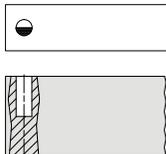
Example for mk 2040.06 profile



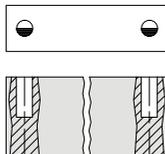
Starting point A is the slot at the top left with the profile cross-section on a long side. Further indexing is then carried out alphabetically in ascending order in a clockwise direction. You are also welcome to provide us with a drawing.

### Lateral bores to the profile centre

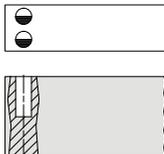
One end



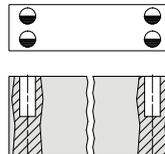
Both ends



2 x on one end

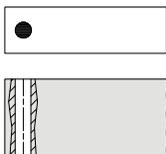


2 x on both ends

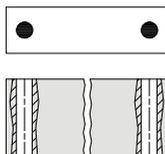


### Lateral through bores

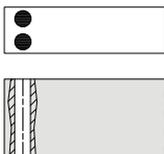
One end



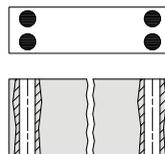
Both ends



2 x on one end

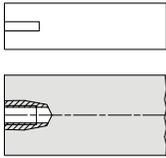


2 x on both ends

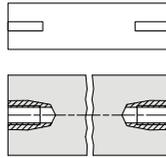


**Threads, front side**

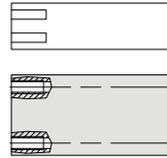
One end



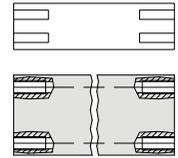
Both ends



2 x or 4 x on one end

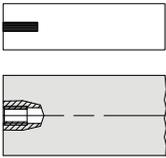


2 x or 4 x on both ends

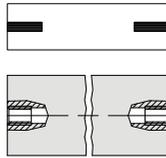


**Threaded inserts, front side**

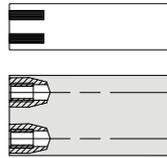
One end



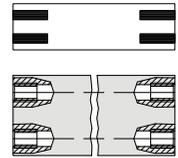
Both ends



2 x or 4 x on one end

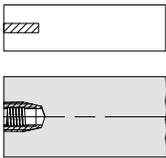


2 x or 4 x on both ends

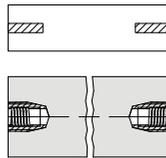


**HELICOIL, front side**

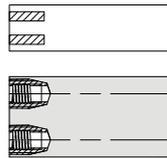
One end



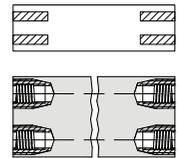
Both ends



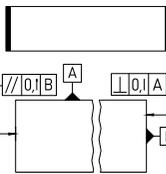
2 x or 4 x on one end



2 x or 4 x on both ends



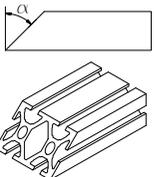
**Facing**



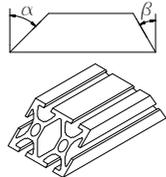
To provide a more exact right angle and a smaller length tolerance, the profile face can also be machined up to a length of 2 meters (other lengths on request).

**Mitre Cutting**

One end



Both ends



The mitre cuts included in the catalogue are always made on the long side, as shown here.

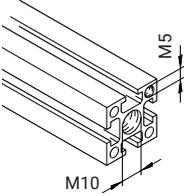
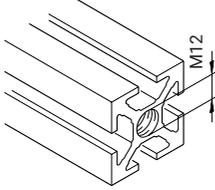
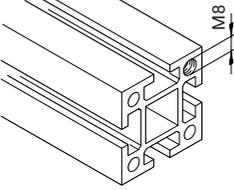
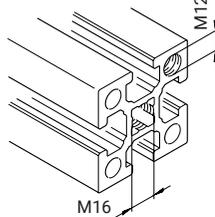
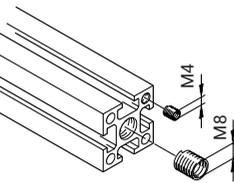
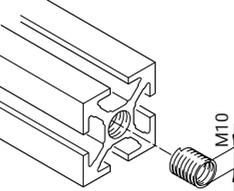
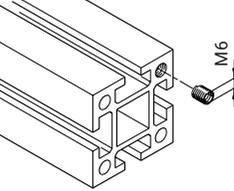
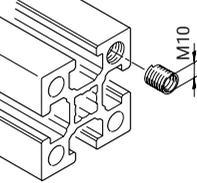
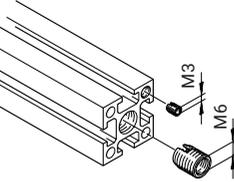
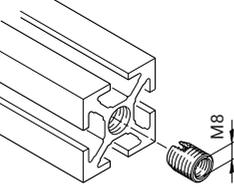
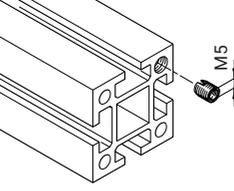
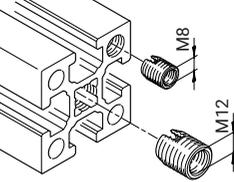
For mitre cuts on both ends, the cuts are always in opposing directions, as shown here.

Other cuts are available on request.

# Profile Services

2

## End Services Front Side

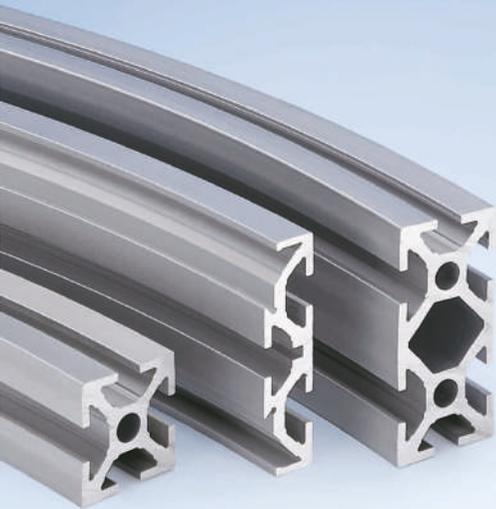
Series 25	Series 40	Series 50	Series 60
 <p>M5 or M10 thread</p>	 <p>M12 thread M8 for extra light duty</p>	 <p>M8 thread</p>	 <p>M12 or M16 thread Reduced load capacity with M16 thread</p>
 <p>M4 HELICOIL K112030104</p> <p>M8 HELICOIL K112030109</p>	 <p>M10 HELICOIL K112030110</p>	 <p>M6 HELICOIL K112030106</p>	 <p>M10 HELICOIL K112030110</p>
 <p>M3 threaded insert K112030002</p> <p>M6 threaded insert K112030006</p>	 <p>M8 threaded insert K112030008</p>	 <p>M5 threaded insert K112030005</p>	 <p>M8 threaded insert K112030008</p> <p>M12 threaded insert K112030010</p>

## End Services Front Side

Below is an overview of the taps and installation tools needed for end services, as well as the necessary threaded inserts and HELICOILs. The machining can be done with a hand-held drill. The installation tools are meant to be used by hand.

2

Series	Bore channel ø [mm]	End Services		Tool		Thread depth [mm]
25	4.2	M5 thread		M5 tap	K903060005	15
25	8.5	M10 thread		M10 tap	K903060010	30
25	4.2	M3 threaded insert	K112030002	M5x0.5 mm tap, installation tool	K903060105 K902010004	10
25	8.5	M6 threaded insert	K112030006	M9x1 mm tap, installation tool	K903060109 K902010010	15
25	4.2	M4 HELICOIL	K112030104	M4 HELICOIL tap, installation tool	K903060204 K902010204	10
25	8.5	M8 HELICOIL	K112030109	M8 HELICOIL tap, installation tool	K903060208 K902010208	15
40 extra light duty	7.4	M8 thread		M8 forming tap	K903070008	20
40	10.0	M12 thread		M12 tap	K903060012	35
40/60	10,0/10,5	M8 threaded insert	K112030008	M12x1.5 mm tap, installation tool	K903060113 K902010012	20
40/60	10,0/10,5	M10 HELICOIL	K112030110	M10 HELICOIL tap, installation tool	K903060210 K902010210	20
50	7.0	M8 thread		M8 tap	K903060008	25
50	7.0	M5 threaded insert	K112030005	M8x1 mm tap, installation tool	K903060108 K902010008	15
50	7.0	M6 HELICOIL	K112030106	M6 HELICOIL tap, installation tool	K903060206 K902010206	15
60	10.5	M12 thread		M12 tap	K903060012	35
60	14.5	M16 thread		M16 tap	K903060016	45
60	14.5	M12 threaded insert	K112030010	M16x1.5 mm tap, installation tool	K903060116 K902010016	25



## Profile Services

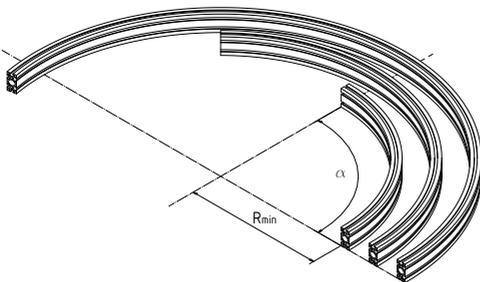
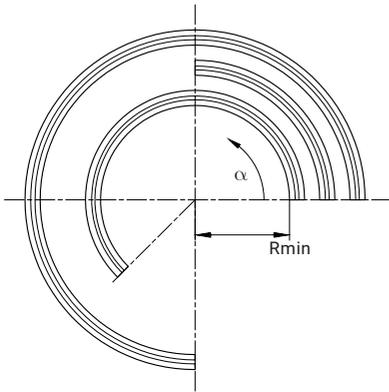
### Curved Profiles

Certain profiles can be bent to a desired radius. Profiles with this bending option are marked with a symbol, with the number indicating the minimum inner radius (Rmin) in millimetres.

#### Information required for ordering

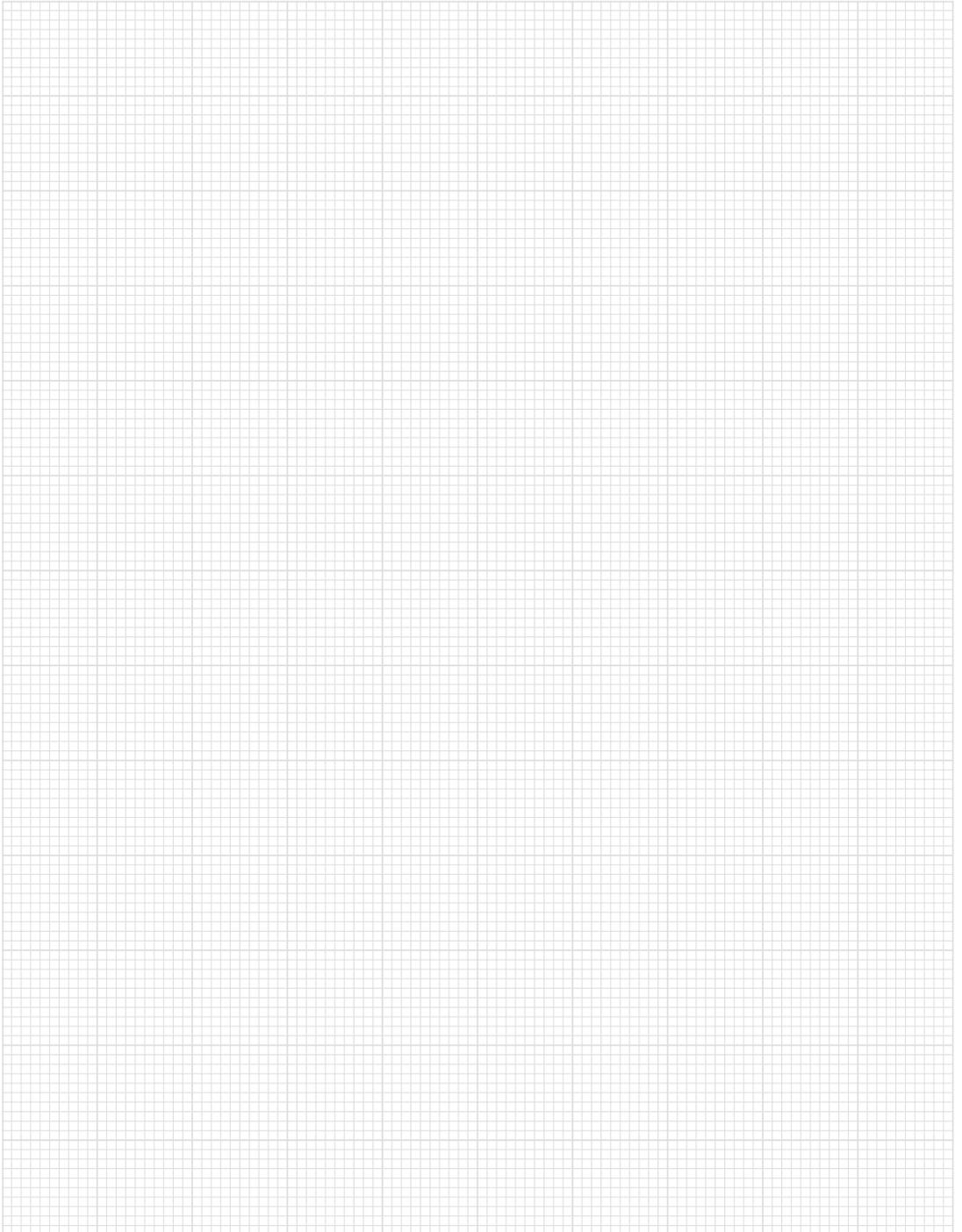
- Profile ID number
- Inner radius R
- Angle  $\alpha$

Non-square profiles can only be bent along the narrow side of the profile, i.e. in the upright orientation, as shown here. Bending will deform the cross sections slightly, so slot widths may be reduced.



#### The following profiles can be bent

mk 2025.01 (25x25)	on page 42
mk 2025.02 (25x50)	on page 43
mk 2025.03 (25x100)	on page 43
mk 2025.04 (25x150)	on page 43
mk 2025.22	on page 44
mk 2025.41 (20x40)	on page 46
mk 2025.42 (20x80)	on page 46
mk 2025.43 (20x120)	on page 47
mk 2025.44 (20x160)	on page 47
mk 2025.31 (25x25)	on page 48
mk 2025.35 (25x25)	on page 48
mk 2025.32 (25x50)	on page 49
mk 2025.36 (25x50)	on page 49
mk 2040.01 (40x40)	on page 51
mk 2040.02 (40x80)	on page 53
mk 2001	on page 63
mk 2000 (50x50)	on page 63
mk 2014 (50x50) light duty	on page 63
mk 2023 (50x75)	on page 64
mk 2004 (50x100)	on page 64

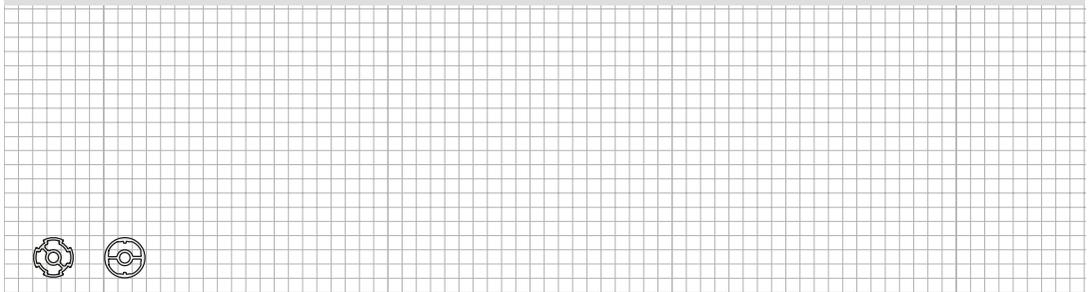


# Overview of Profiles

## Construction profile dimensions

### Series D28 Construction Profiles

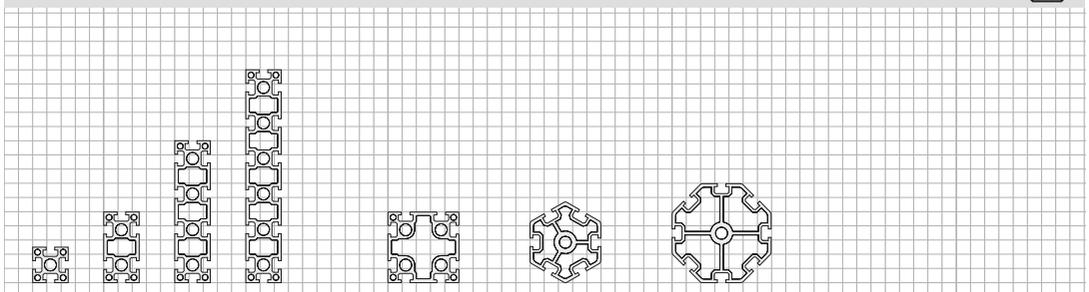
2



$\varnothing 28$      $\varnothing 28$

### Series 25 Construction Profiles

6



25 x 25    25 x 50    25 x 100    25 x 150

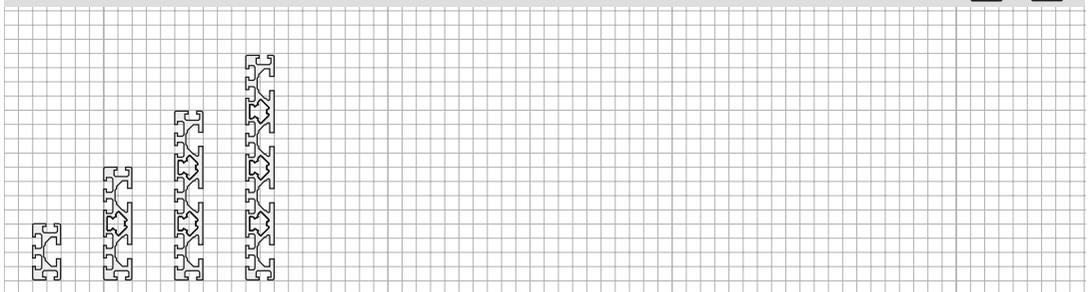
50 x 50

50 x 57

70 x 70

### Series 25/40 Adapter Profiles

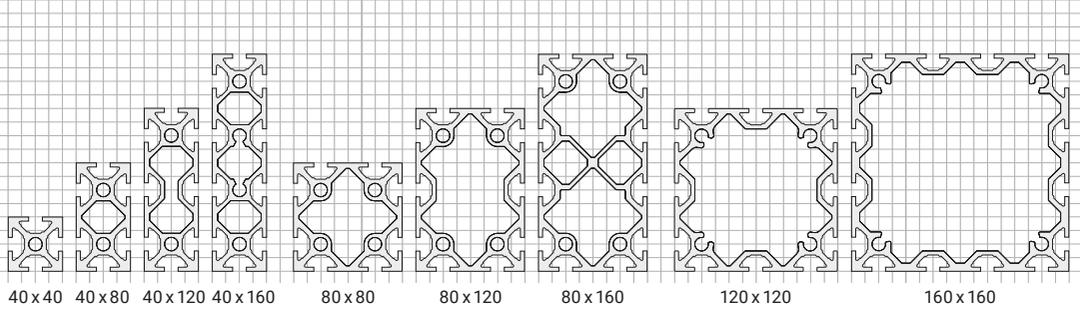
6    10



20 x 40    20 x 80    20 x 120    20 x 160

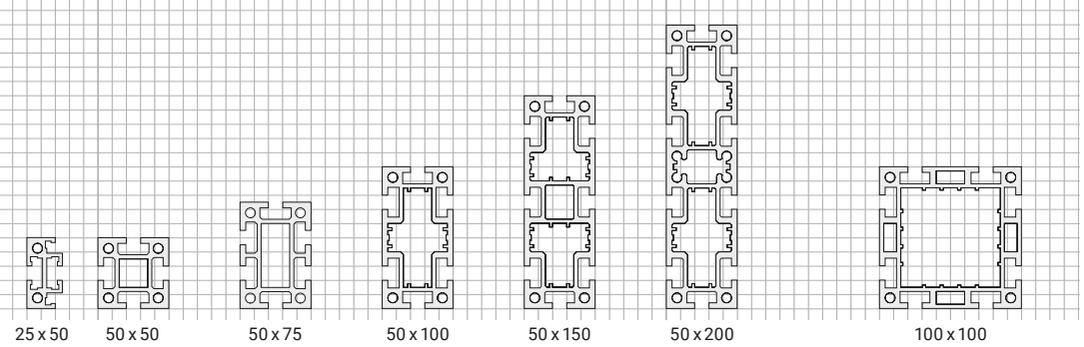
**Series 40 Construction Profiles**

10



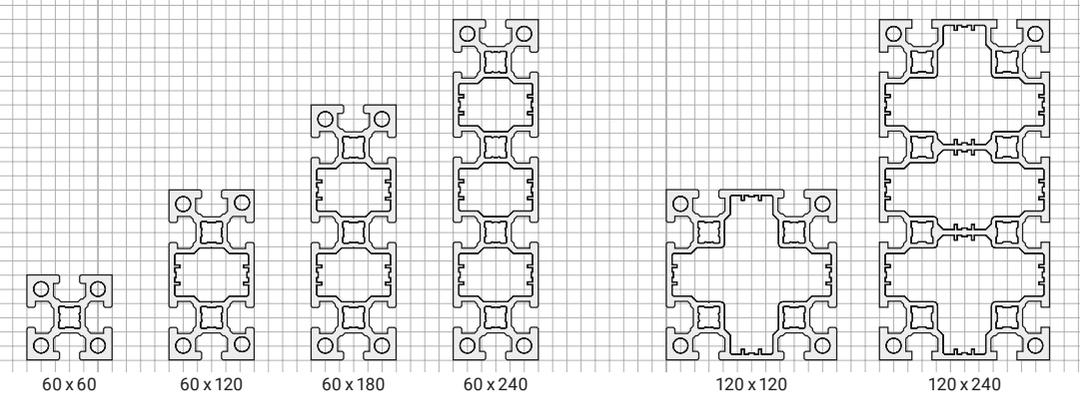
**Series 50 Construction Profiles**

10



**Series 60 Construction Profiles**

14

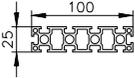
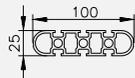
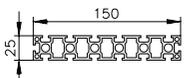
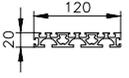
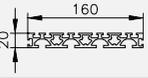


# Overview of Profiles

## Construction Profiles

2

		Area	Mass	Moments of inertia			Section moduli			Page
		A [mm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]	
<b>Series D28 Profiles</b>										
mk 2279 <b>52.79. ....</b>		235	0.63	1.44	1.32	–	1.07	0.99	–	<b>40</b>
mk 2280 <b>52.80. ....</b>		245	0.67	1.64	1.54	–	1.17	1.10	–	<b>40</b>
<b>Series 25 Profiles</b>										
mk 2025.01 (25x25) <b>25.01. ....</b>		279	0.75	1.73	1.73	0.40	1.38	1.38	0.38	<b>42</b>
mk 2025.31 (25x25) <b>25.31. ....</b>		284	0.77	1.73	1.62	0.46	1.42	1.29	0.32	<b>48</b>
mk 2025.35 (25x25) <b>25.35. ....</b>		275	0.75	1.71	1.68	–	1.38	1.34	–	<b>48</b>
mk 2025.37 <b>25.37. ....</b>		267	0.73	1.32	1.28	–	1.14	1.12	–	<b>49</b>
mk 2025.38 <b>25.38. ....</b>		290	0.79	1.52	1.48	–	1.27	1.25	–	<b>49</b>
mk 2025.02 (25x50) <b>25.02. ....</b>		501	1.35	12.20	3.30	2.20	4.87	2.64	1.25	<b>43</b>
mk 2025.32 (25x50) <b>25.32. ....</b>		475	1.29	3.22	12.00	–	2.60	4.81	–	<b>49</b>
mk 2025.36 (25x50) <b>25.36. ....</b>		462	1.25	3.12	11.90	–	2.58	4.81	–	<b>49</b>
mk 2025.39 <b>25.39. ....</b>		407	1.10	2.05	9.44	–	1.81	3.77	–	<b>49</b>

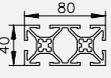
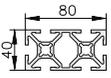
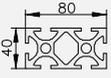
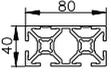
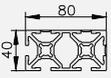
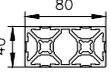
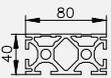
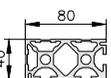
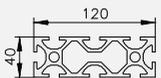
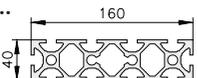
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Series 25 Profiles</b>										
mk 2025.03 (25x100) <b>25.03. ....</b>		945	2.55	87.00	6.44	6.53	17.40	5.15	3.03	<b>43</b>
mk 2025.22 <b>25.22. ....</b>		837	2.26	64.30	5.84	-	12.90	4.67	-	<b>44</b>
mk 2025.04 (25x150) <b>25.04. ....</b>		1390	3.75	280.00	9.58	11.00	37.30	7.66	4.64	<b>43</b>
mk 2025.05 (50x50) <b>25.05. ....</b>		816	2.21	22.30	22.30	11.90	8.90	8.90	3.91	<b>43</b>
mk 2025.18 <b>25.18. ....</b>		376	1.02	3.72	5.06	-	1.77	2.14	-	<b>49</b>
mk 2025.20 <b>25.20. ....</b>		783	2.12	15.50	15.50	8.62	6.20	5.45	2.13	<b>45</b>
mk 2025.21 <b>25.21. ....</b>		1100	2.98	43.60	43.60	27.20	12.50	12.50	5.00	<b>45</b>
<b>Series 25/40 Adapter Profiles</b>										
mk 2025.41 (20x40) <b>25.41. ....</b>		377	1.02	6.20	1.49	-	3.10	1.39	-	<b>46</b>
mk 2025.42 (20x80) <b>25.42. ....</b>		717	1.94	42.50	2.97	-	10.60	2.88	-	<b>46</b>
mk 2025.43 (20x120) <b>25.43. ....</b>		1060	2.86	136.00	4.44	-	22.70	4.37	-	<b>47</b>
mk 2025.44 (20x160) <b>25.44. ....</b>		1400	3.77	315.00	5.90	-	39.30	5.86	-	<b>47</b>

# Overview of Profiles

## Construction Profiles

2

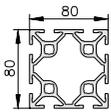
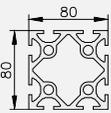
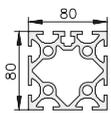
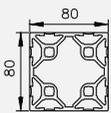
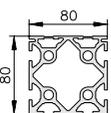
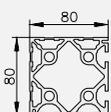
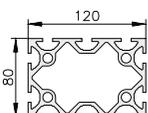
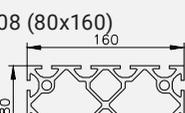
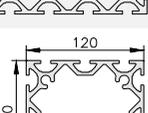
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Series 40 Profiles</b>										
mk 2040.31 (40x40) extra light duty <b>54.31. ....</b>		561	1.50	9.69	9.69	0.66	4.84	4.84	0.53	<b>50</b>
mk 2040.40 (40x40) light duty <b>54.40. ....</b>		606	1.64	10.50	10.50	0.79	5.26	5.26	0.57	<b>51</b>
mk 2040.01 (40x40) <b>54.01. ....</b>		742	2.00	12.10	12.10	1.17	6.06	6.06	0.98	<b>51</b>
mk 2040.92 (40x40) <b>54.92. ....</b>		623	1.68	11.00	10.60	1.83	5.40	5.28	0.74	<b>56</b>
mk 2040.93 (40x40) <b>54.93. ....</b>		634	1.72	11.00	11.00	2.91	5.40	5.40	1.28	<b>56</b>
mk 2040.94 (40x40) <b>54.94. ....</b>		634	1.72	11.40	10.50	3.86	5.73	5.28	1.19	<b>57</b>
mk 2040.95 (40x40) <b>54.95. ....</b>		647	1.75	11.00	11.40	6.04	5.41	5.74	1.40	<b>57</b>
mk 2040.96 (40x40) <b>54.96. ....</b>		659	1.78	11.50	11.50	-	5.74	5.74	-	<b>57</b>
mk 2040.16 <b>54.16. ....</b>		463	1.25	5.28	6.22	-	2.87	3.11	-	<b>57</b>
mk 2040.21 (40x40) <b>54.21. ....</b>		685	1.84	11.00	10.20	2.60	5.42	5.10	1.28	<b>59</b>
mk 2040.11 (40x40) <b>54.11. ....</b>		696	1.88	11.10	11.10	3.36	5.50	5.50	1.35	<b>59</b>
mk 2040.14 <b>54.14. ....</b>		604	1.62	8.30	8.30	-	4.75	4.75	-	<b>60</b>

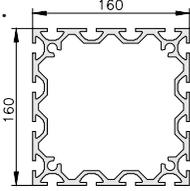
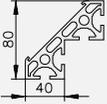
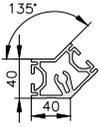
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>10 Series 40 Profiles</b>										
mk 2040.15 <b>54.15. ....</b>		561	1.51	7.85	7.85	-	4.54	4.54	-	<b>60</b>
mk 2040.52 (40x80) extra light duty <b>54.52. ....</b>		988	2.67	64.10	17.50	-	16.00	8.76	-	<b>52</b>
mk 2040.41 (40x80) light duty <b>54.41. ....</b>		1160	2.85	68.90	18.70	6.65	17.20	9.33	2.70	<b>52</b>
mk 2040.02 (40x80) <b>54.02. ....</b>		1340	3.62	83.30	22.60	12.60	20.80	11.30	5.16	<b>53</b>
mk 2040.100 (40x80) <b>54.100. ....</b>		1090	2.94	70.80	19.70	12.90	17.70	9.63	2.61	<b>57</b>
mk 2040.101 (40x80) <b>54.101. ....</b>		1100	2.97	72.70	19.70	14.10	18.00	9.64	2.66	<b>57</b>
mk 2040.104 (40x80) <b>54.104. ....</b>		1140	3.07	75.50	20.60	30.60	18.80	10.30	3.26	<b>57</b>
mk 2040.22 (40x80) <b>54.22. ....</b>		1270	3.43	75.50	21.50	18.80	18.90	10.70	3.37	<b>60</b>
mk 2040.12 (40x80) <b>54.12. ....</b>		1270	3.43	77.90	21.40	22.00	19.90	10.90	2.59	<b>60</b>
mk 2040.05 (40x120) <b>54.05. ....</b>		1740	4.69	257.00	31.60	19.70	43.70	15.80	6.24	<b>54</b>
mk 2040.06 (40x160) <b>54.06. ....</b>		2320	6.26	576.00	41.40	37.50	72.00	20.70	11.20	<b>54</b>

# Overview of Profiles

## Construction Profiles

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	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
 <b>Series 40 Profiles</b>										
mk 2040.45 (80x80) light duty <b>54.45. ....</b>		1760	4.75	127.90	128.00	53.70	31.90	31.90	9.88	<b>53</b>
mk 2040.03 (80x80) <b>54.03. ....</b>		2060	5.57	150.00	150.00	88.70	37.40	37.40	12.30	<b>53</b>
mk 2040.73 (80x80) <b>54.73. ....</b>		2110	5.72	150.00	150.00	80.50	37.10	37.40	12.30	<b>54</b>
mk 2040.109 (80x80) <b>54.109. ....</b>		1860	5.04	138.00	138.00	145.00	34.50	34.50	7.47	<b>57</b>
mk 2040.46 (80x80) <b>54.46. ....</b>		2020	5.44	145.00	146.00	79.40	35.60	36.40	9.27	<b>61</b>
mk 2040.13 (80x80) <b>54.13. ....</b>		1970	5.32	142.00	142.00	-	36.00	36.00	-	<b>61</b>
mk 2040.07 (80x120) <b>54.07. ....</b>		2580	6.96	441.00	208.00	146.00	73.40	52.10	18.20	<b>54</b>
mk 2040.08 (80x160) <b>54.08. ....</b>		3500	9.46	949.00	272.00	321.00	119.00	68.00	29.00	<b>55</b>
mk 2040.10 (120x120) <b>54.10. ....</b>		3060	8.26	585.00	585.00	312.00	97.50	97.50	31.80	<b>55</b>

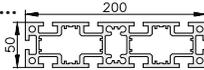
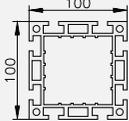
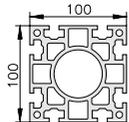
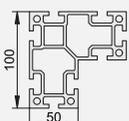
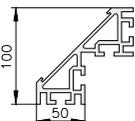
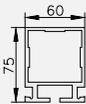
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]	
<b>10</b> Series 40 Profiles									
mk 2040.09 (160x160) <b>54.09. ....</b> 	4220	11.40	-	-	-	-	-	-	<b>55</b>
mk 2040.04 <b>54.04. ....</b> 	1340	3.61	71.80	71.80	6.51	18.80	18.80	3.00	<b>61</b>
mk 2040.19 <b>54.19. ....</b> 	943	2.54	22.10	30.50	-	6.64	8.10	-	<b>61</b>

# Overview of Profiles

## Construction Profiles

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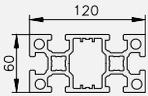
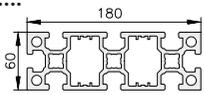
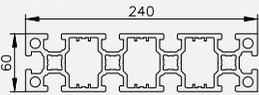
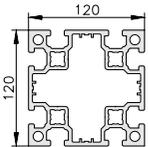
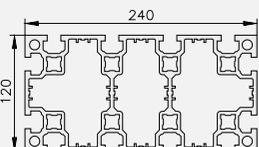
		Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page
				I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]	
 <b>Series 50 Profiles</b>										
mk 2001 51.01. ....		542	1.49	14.30	2.67	–	5.70	1.82	–	<b>63</b>
mk 2030 51.30. ....		394	1.06	3.12	4.45	–	2.08	2.96	–	<b>63</b>
mk 2002 (50x50) extra light duty 51.02. ....		693	1.75	19.60	19.60	–	7.83	7.83	–	<b>63</b>
mk 2014 (50x50) light duty 51.14. ....		760	1.98	21.20	21.20	2.96	8.51	8.51	1.91	<b>63</b>
mk 2000 (50x50) 51.00. ....		1080	2.85	29.90	29.90	5.23	12.00	12.00	2.85	<b>63</b>
mk 2019 (50x50) 51.19. ....		1100	3.00	30.60	30.00	–	12.10	11.90	–	<b>66</b>
mk 2018 (50x50) 51.18. ....		1110	3.00	30.60	30.60	–	12.10	12.10	–	<b>66</b>
mk 2017 (50x50) 51.17. ....		1120	3.03	30.60	31.30	16.10	12.10	12.50	2.70	<b>66</b>
mk 2003 51.03. ....		762	2.00	14.00	14.00	–	6.49	6.49	–	<b>63</b>
mk 2023 (50x75) 51.23. ....		1400	3.78	89.30	39.60	–	23.80	15.80	–	<b>64</b>
mk 2004 (50x100) 51.04. ....		1810	4.87	200.00	55.40	24.40	40.00	22.10	6.39	<b>64</b>
mk 2006 (50x150) 51.06. ....		2600	7.00	597.00	80.50	49.20	79.70	32.10	13.20	<b>65</b>

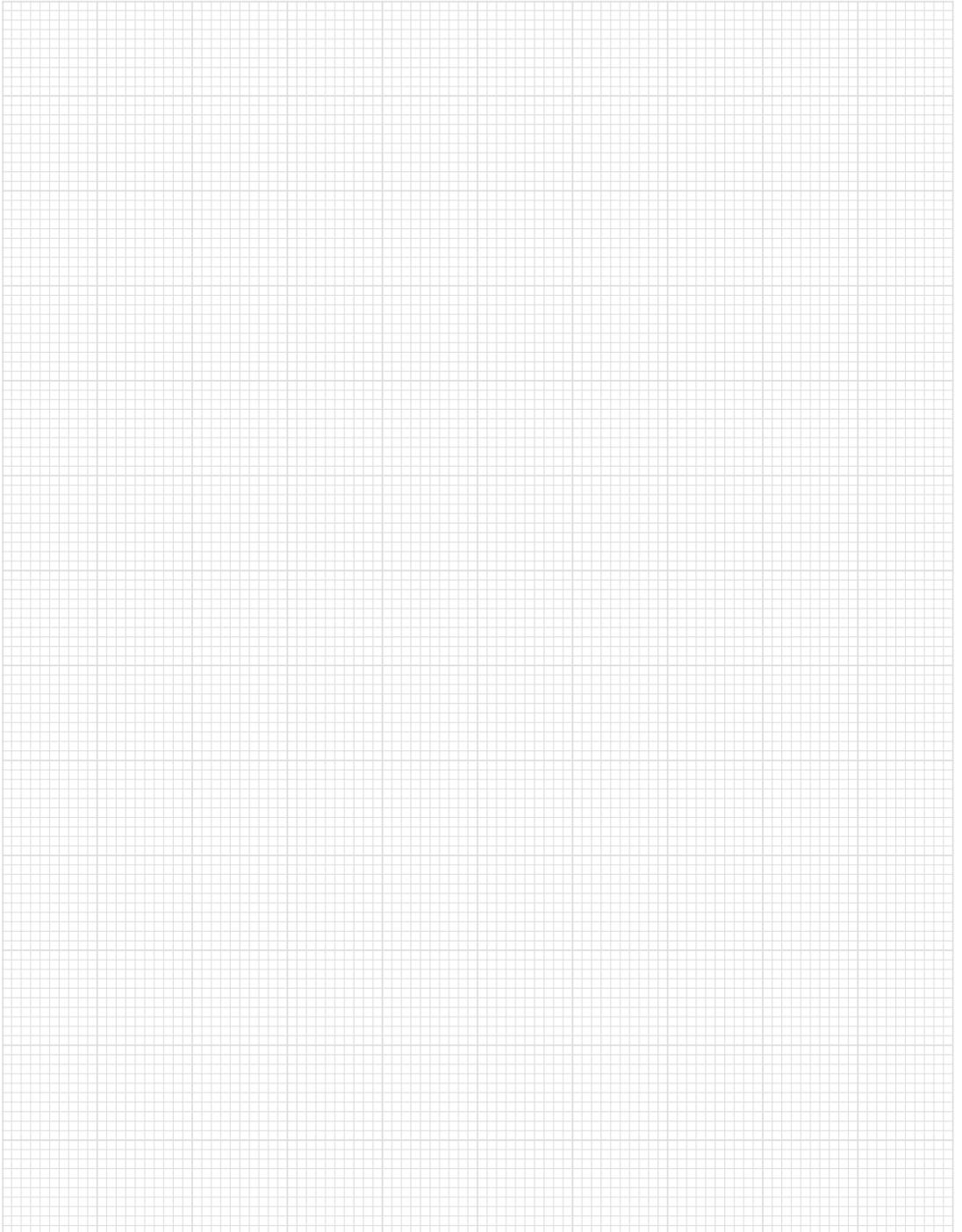
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Series 50 Profiles</b>										
mk 2008 (50x200) <b>51.08. ....</b>		3370	9.09	1300.00	107.00	72.70	130.00	42.70	17.50	<b>65</b>
mk 2005 (100x100) light duty <b>51.05. ....</b>		2650	7.00	335.00	335.00	153.00	67.00	67.00	18.10	<b>64</b>
mk 2011 (100x100) <b>51.11. ....</b>		3670	9.70	383.00	383.00	226.00	76.70	76.70	26.50	<b>65</b>
mk 2009 <b>51.09. ....</b>		2320	6.27	239.00	239.00	-	42.00	42.00	-	<b>64</b>
mk 2072 <b>51.72. ....</b>		1710	4.62	152.00	152.00	-	28.70	28.70	-	<b>65</b>
mk 2031 <b>51.31. ....</b>		1120	2.85	79.20	55.60	-	23.20	18.50	-	<b>67</b>
mk 2033 <b>51.33. ....</b>		554	1.50	5.22	27.70	-	4.94	9.24	-	<b>67</b>

# Overview of Profiles

## Construction Profiles

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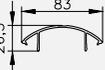
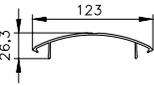
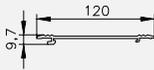
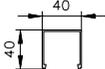
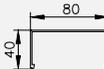
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>14</b> Series 60 Profiles										
mk 2060.01 (60x60) <b>60.01. ....</b>		1600	4.31	60.20	60.20	7.18	20.00	20.00	3.05	<b>69</b>
mk 2060.02 (60x120) <b>60.02. ....</b>		2580	6.95	404.00	103.00	50.20	67.30	34.50	9.13	<b>69</b>
mk 2060.03 (60x180) <b>60.03. ....</b>		3540	9.57	1210.00	147.00	70.70	134.00	48.90	22.30	<b>69</b>
mk 2060.04 (60x240) <b>60.04. ....</b>		4520	12.20	2660.00	190.00	155.00	221.00	63.30	25.60	<b>69</b>
mk 2060.05 (120x120) <b>60.05. ....</b>		3800	10.30	660.00	660.00	225.00	110.00	110.00	31.90	<b>70</b>
mk 2060.07 (120x240) <b>60.07. ....</b>		6700	18.10	4090.00	1180.00	591.00	340.00	169.00	58.30	<b>70</b>



# Overview of Profiles

## Application Profiles

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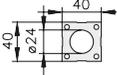
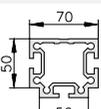
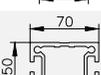
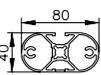
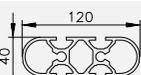
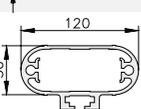
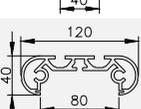
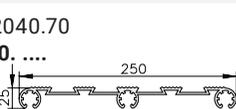
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Cover Profiles</b>										
mk 2040.43 <b>54.43. ....</b>		151	0.41	-	-	-	-	-	-	<b>196</b>
mk 2040.42 <b>54.42. ....</b>		251	0.68	-	-	-	-	-	-	<b>196</b>
mk 2040.44 <b>54.44. ....</b>		316	0.85	-	-	-	-	-	-	<b>196</b>
mk 2040.85 <b>54.85. ....</b>		344	0.93	-	-	-	-	-	-	<b>197</b>
mk 2040.50 <b>54.50. ....</b>		189	0.51	-	-	-	-	-	-	<b>202</b>
mk 2040.51 <b>54.51. ....</b>		249	0.67	-	-	-	-	-	-	<b>202</b>
mk 2050 <b>51.50. ....</b>		158	0.43	-	-	-	-	-	-	<b>202</b>
mk 2051 <b>51.51. ....</b>		203	0.56	-	-	-	-	-	-	<b>202</b>

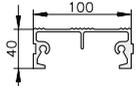
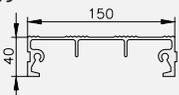
	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Closure Strips</b>										
mk 2060.30 60.30. ....		55	0.15	-	-	-	-	-	-	156
<b>Profiles for Panelling</b>										
mk 2206 52.06. ....		52	0.14	-	-	-	-	-	-	246
mk 2207 52.07. ....		102	0.28	-	-	-	-	-	-	246
mk 2203 52.03. ....		130	0.37	-	-	-	-	-	-	246
mk 2210 52.10. ....		93	0.25	-	-	-	-	-	-	246
mk 2211 52.11. ....		174	0.47	-	-	-	-	-	-	246
mk 2214 52.14. ....		91	0.25	-	-	-	-	-	-	246
mk 2215 52.15. ....		174	0.47	-	-	-	-	-	-	246
mk 2040.60 54.60. ....		120	0.32	-	-	-	-	-	-	251
mk 2220 52.20. ....		119	0.32	-	-	-	-	-	-	253

# Overview of Profiles

## Application Profiles

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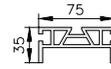
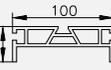
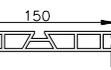
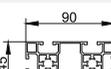
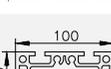
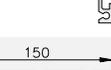
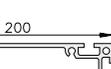
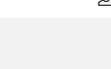
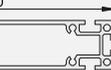
		Area	Mass	Moments of inertia			Section moduli			Page
		A [mm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]	
<b>Profiles for Industrial Workstations</b>										
mk 2040.36 54.36. ....		1050	2.83	17.50	17.50	27.20	8.75	8.75	8.02	<b>316</b>
mk 2040.37 54.37. ....		426	1.17	2.74	14.60	-	1.09	9.73	-	<b>317</b>
mk 2040.38 54.38. ....		933	2.52	43.10	32.40	26.00	13.60	13.00	3.65	<b>317</b>
mk 2040.39 54.39. ....		1110	3.00	49.90	49.90	28.60	16.30	16.30	4.18	<b>317</b>
mk 2040.74 54.74. ....		1300	3.50	74.30	56.40	32.80	21.20	18.70	4.83	<b>317</b>
mk 2040.75 54.75. ....		1120	3.01	68.40	38.60	30.80	27.30	11.00	4.04	<b>317</b>
mk 2040.23 54.23. ....		785	2.12	42.60	12.00	-	10.70	5.90	-	<b>318</b>
mk 2040.34 54.34. ....		1310	3.56	140.00	24.10	28.30	23.50	12.00	4.67	<b>318</b>
mk 2040.30 54.30. ....		1590	4.29	234.00	67.10	-	39.10	21.30	-	<b>318</b>
mk 2040.33 54.33. ....		1170	3.15	162.00	14.00	-	27.30	9.66	-	<b>318</b>
mk 2040.70 54.70. ....		1310	3.53	-	-	-	-	-	-	<b>319</b>
mk 2040.35 54.35. ....		593	1.60	19.20	3.16	-	6.40	2.50	-	<b>318</b>

	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Profiles for Sliding Doors and Windows</b>										
mk 2240 <b>52.40. ....</b>		173	0.47	-	-	-	-	-	-	237
mk 2241 <b>52.41. ....</b>		248	0.67	-	-	-	-	-	-	237
mk 2245 <b>52.45. ....</b>		569	1.54	14.40	12.70	-	4.86	6.33	-	226/ 303
mk 2244 <b>52.44. ....</b>		321	0.87	-	-	-	-	-	-	277
<b>Profiles for Stairs and Platforms</b>										
mk 2040.68 <b>54.68. ....</b>		878	2.37	-	14.2	-	-	8.71	-	327
mk 2040.69 <b>54.69. ....</b>		1063	2.87	-	16.8	-	-	11.74	-	327

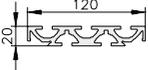
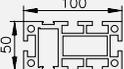
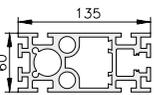
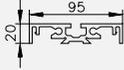
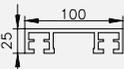
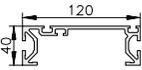
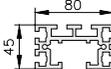
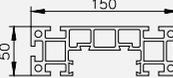
# Overview of Profiles

## Application Profiles

2

		Area	Mass	Moments of inertia			Section moduli			Page
		A [mm <sup>2</sup> ]	m [kg/m]	I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]	
<b>Profiles for Conveyor Technology*</b>										
mk 2075 51.75. ....		830	2.24	49.60	6.81	-	13.20	5.34	-	CT
mk 2100 51.76. ....		980	2.65	103.00	8.00	-	20.60	6.49	-	CT
mk 2150 51.77. ....		1370	3.70	607.00	10.50	-	40.90	8.97	-	CT
mk 2045.41 45.41. ....		563	1.52	11.20	11.20	-	5.00	5.00	-	CT
mk 2045.42 45.42. ....		956	2.58	79.20	19.80	-	17.60	8.80	-	CT
mk 2026 51.26. ....		1310	3.56	172.00	32.80	-	34.50	10.30	-	CT
mk 2027 51.27. ....		1520	4.10	476.00	37.40	-	63.50	11.00	-	CT
mk 2007 51.07. ....		2381	6.42	622.00	48.70	5.07	83.00	27.40	4.02	CT
mk 2028 51.28. ....		1710	4.64	969.00	40.90	-	96.90	11.50	-	CT
mk 2024 51.24. ....		3140	8.48	2210.00	121.00	-	177.00	48.70	-	CT
mk 2251 52.51. ....		1340	3.62	81.80	35.80	-	20.40	13.30	-	CT
mk 2040.80 54.80. ....		679	1.83	2.40	36.30	-	2.76	9.06	-	CT

\* See conveyor technology catalogue (CT)

	Area A [mm <sup>2</sup> ]	Mass m [kg/m]	Moments of inertia			Section moduli			Page	
			I <sub>x</sub> [cm <sup>4</sup> ]	I <sub>y</sub> [cm <sup>4</sup> ]	I <sub>t</sub> [cm <sup>4</sup> ]	W <sub>x</sub> [cm <sup>3</sup> ]	W <sub>y</sub> [cm <sup>3</sup> ]	W <sub>p</sub> [cm <sup>3</sup> ]		
<b>Profiles for Conveyor Technology*</b>										
mk 2040.86 54.86. ....		1074	2.90	122.00	4.12	-	20.3	4.47	-	CT
mk 2010 51.10. ....		1800	4.87	193.00	51.40	10.60	38.30	19.90	4.89	CT
mk 2012 51.12. ....		2840	7.67	502.00	118.00	68.40	71.90	39.40	10.20	CT
mk 2254 52.54. ....		767	2.08	56.60	2.88	-	11.90	2.44	-	CT
mk 2065 51.65. ....		627	1.68	39.80	4.23	-	11.70	4.63	-	CT
mk 2066 51.66. ....		877	2.36	98.70	6.15	-	19.70	6.40	-	CT
mk 2255 52.55. ....		906	2.45	182.00	16.50	-	29.00	6.27	-	CT
mk 2086 51.86. ....		616	1.64	-	-	-	-	-	-	CT
mk 2060 51.60. ....		1245	3.24	88.10	25.80	-	22.00	12.50	-	CT
mk 2061 51.61. ....		2280	6.17	595.00	57.60	25.90	79.30	26.30	8.76	CT
mk 2238 52.38. ....		148	0.40	-	-	-	-	-	-	CT
mk 2239 52.39. ....		138	0.37	-	-	-	-	-	-	CT
mk 2260 52.60. ....		428	1.16	1.75	7.5	-	1.36	3.54	-	CT

\* See conveyor technology catalogue (CT)



## Series D28 Profiles

### Basic Profiles

Series D28 round tube profiles have a diameter of 28 mm and a centre bore channel of 7.4 mm. They are compatible with mk Series 40 profiles and can be connected with an adapter or tension plug. They can be used for constructing equipment such as lightweight frames, supply trolleys, shelves or extensions for workstations.

Material: Anodised aluminium



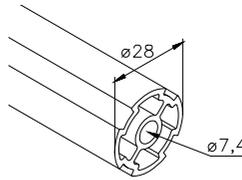
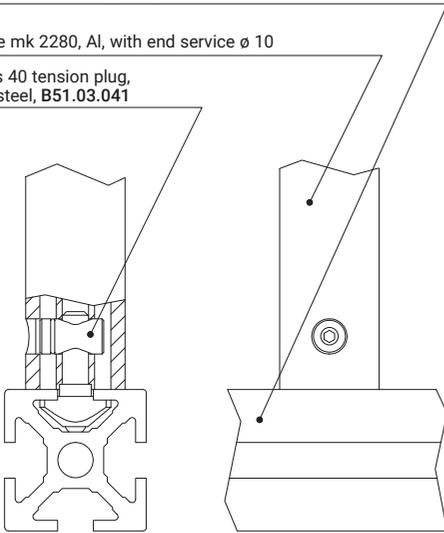
Series D28 connectors starting on page 132  
End caps starting on page 150

#### Fastening example

Profile mk 2040.01 (40x40), Al

Profile mk 2280, Al, with end service  $\varnothing 10$

Series 40 tension plug,  
galv. steel, B51.03.041



Profile mk 2279

0.63 kg/m

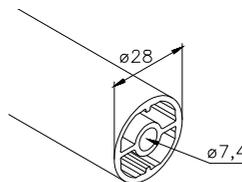
#### Item no.

Stock length **52.79.5100**

Cut **52.79. ....**

#### End service

	$\varnothing 10$	<b>5279BV...</b>
	$\varnothing 10$	<b>5279BW...</b>
	M8 formed	<b>5279AA....</b>
	M8 formed	<b>5279AB....</b>



Profile mk 2280

0.67 kg/m

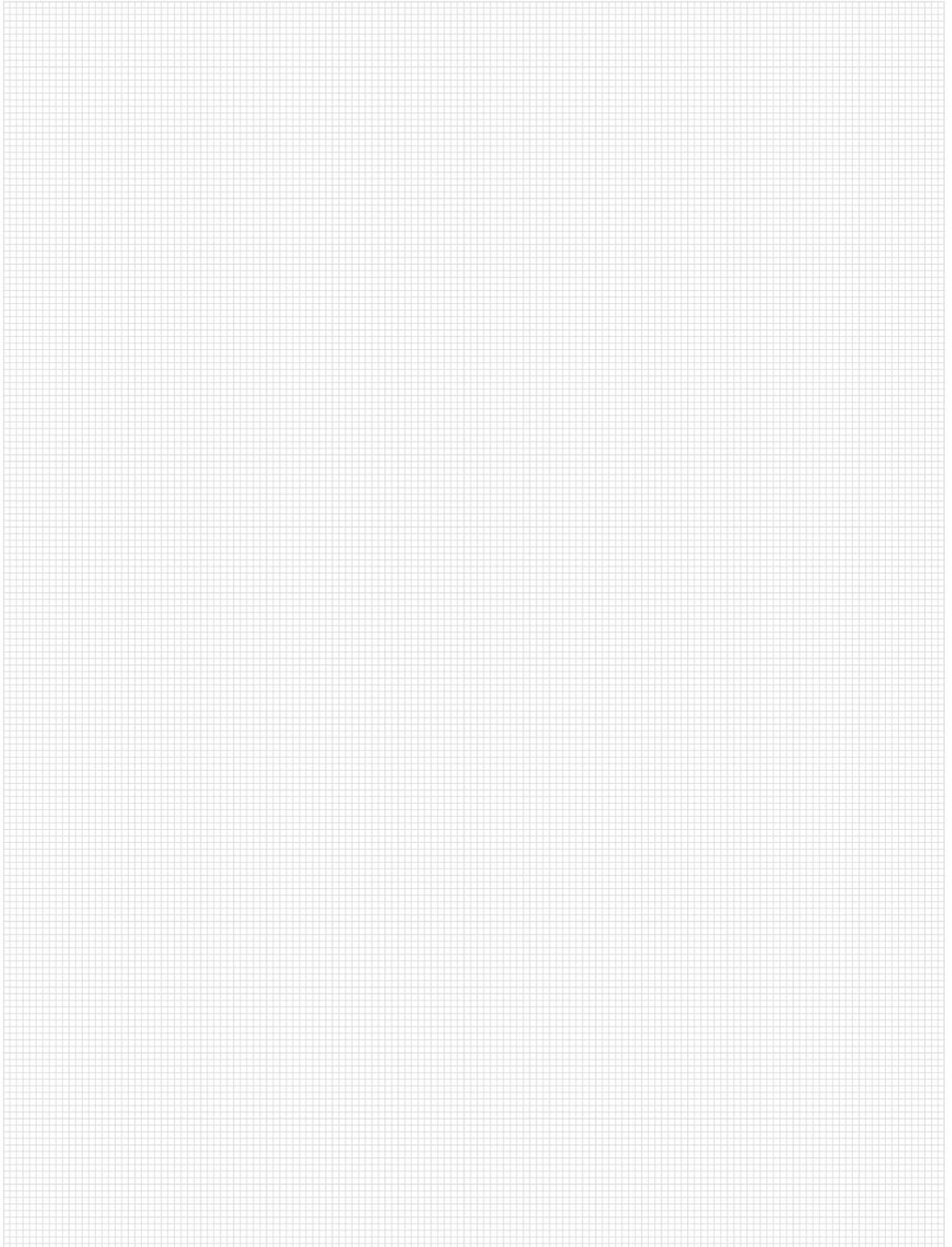
#### Item no.

Stock length **52.80.5100**

Cut **52.80. ....**

#### End service

	$\varnothing 10$	<b>5280BV...</b>
	$\varnothing 10$	<b>5280BW...</b>
	M8 formed	<b>5280AA....</b>
	M8 formed	<b>5280AB....</b>





# Series 25 Profiles

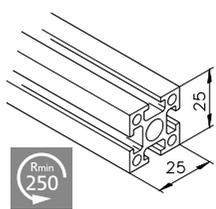
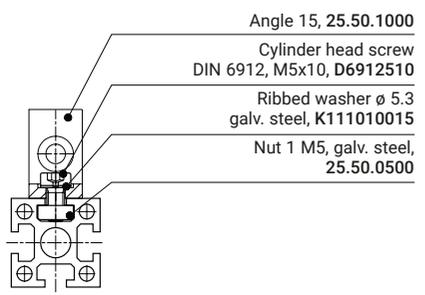
## Basic Profiles

Series 25 profiles are based on a grid dimension of 25 x 25 mm. They are generally used for light-duty frames, cabinets, test set-ups, measurement and test units, as well as electronics housings. The slot width of 6 mm and slot depth of 6.5 mm are designed for use with DIN M5 screws. However, M4 and M6 screws can also be used. The profile's bore channels are designed for tapping threads or for inserting a threaded insert or HELICOIL.

Material: Anodised aluminium

 End caps starting on page 150

Example of fastening with an angle



Profile mk 2025.01 (25x25)

0.75 kg/m

**Item no.**

**Stock length** 25.01.5100

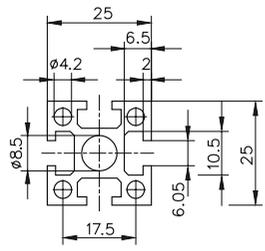
**Cut** 25.01. ....

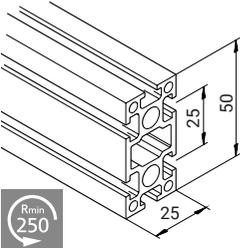
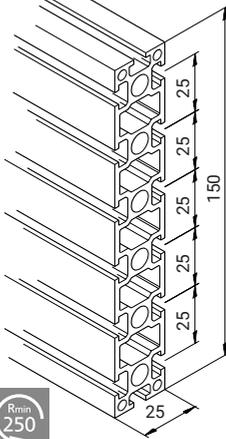
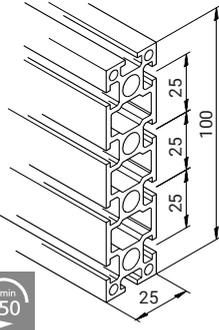
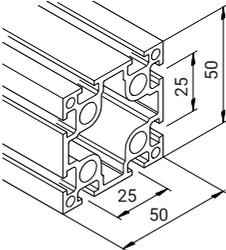
**End service**

	α	2501AE....
	α and β	2501AF....
	ø 5,8	2501BA....
	ø 5,8	2501BB....
	M10	2501AA....
	M10	2501AB....
	4 x M5	2501AD....
	M6	B25.01.002....
	M8	B25.01.011....

### Standard profile dimensions

Example of mk 2025.01 (25x25)



 <p>Profile mk 2025.02 (25x50)</p> <p>1.35 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2025.04 (25x150)</p> <p>3.75 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>25.02.5100</b></p>	<p>Stock length <b>25.04.5100</b></p>
<p>Cut <b>25.02. ....</b></p>	<p>Cut <b>25.04. ....</b></p>
<p><b>End service</b></p>	
<p> <math>\alpha</math> and <math>\beta</math> <b>2502AF...</b></p>	
<p> <math>\varnothing</math> 5,8 <b>2502BA....</b></p>	
<p> <math>\varnothing</math> 5,8 <b>2502BB....</b></p>	
<p> M10 <b>2502AC....</b></p>	
<p> M10 <b>2502AD....</b></p>	
<p> M6 <b>B25.02.002....</b></p>	
<p> M8 <b>B25.02.011....</b></p>	
 <p>Profile mk 2025.03 (25x100)</p> <p>2.55 kg/m</p> <p><b>Item no.</b></p> <p>Stock length <b>25.03.5100</b></p> <p>Cut <b>25.03. ....</b></p>	 <p>Profile mk 2025.05 (50x50)</p> <p>2.21 kg/m</p> <p><b>Item no.</b></p> <p>Stock length <b>25.05.5100</b></p> <p>Cut <b>25.05. ....</b></p> <p><b>End service</b></p> <p> <math>\alpha</math> and <math>\beta</math> <b>2505AF...</b></p> <p> 4 x M6 <b>B25.05.002....</b></p>



# Series 25 Profiles

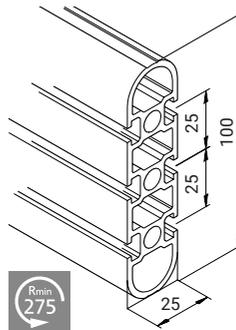
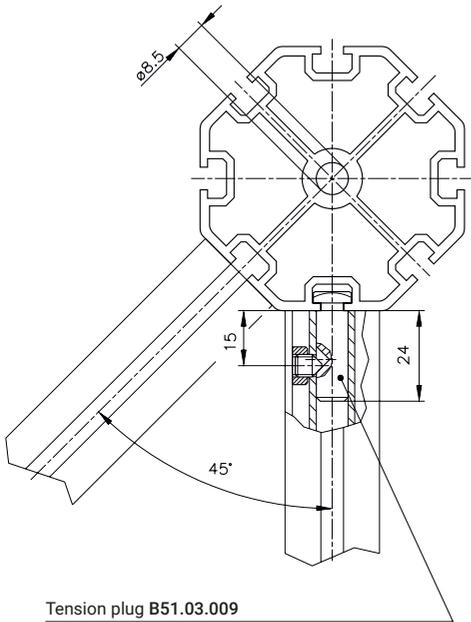
## Basic Profiles

Typical applications include trade fair construction, variable partitions, frames or applications where the profiles need to be 45° or 60° apart.

Material: Anodised aluminium

 End caps starting on page 150

Example of fastening with a tension plug



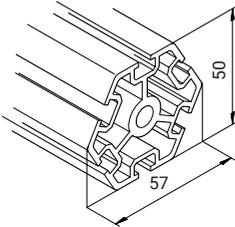
Profile mk 2025.22

2.26 kg/m

**Item no.**

Stock length **25.22.5100**

Cut **25.22. ....**



Profile mk 2025.20

2.12 kg/m

**Item no.**

Stock length **25.20.5100**

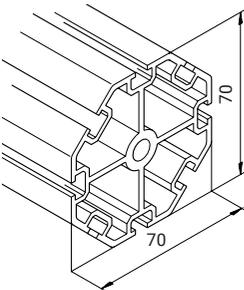
Cut **25.20. ....**

**End service**

 M10 **2520AB....**

 M6 **B25.20.002....**

 M8 **B25.20.011....**



Profile mk 2025.21

2.98 kg/m

**Item no.**

Stock length **25.21.5100**

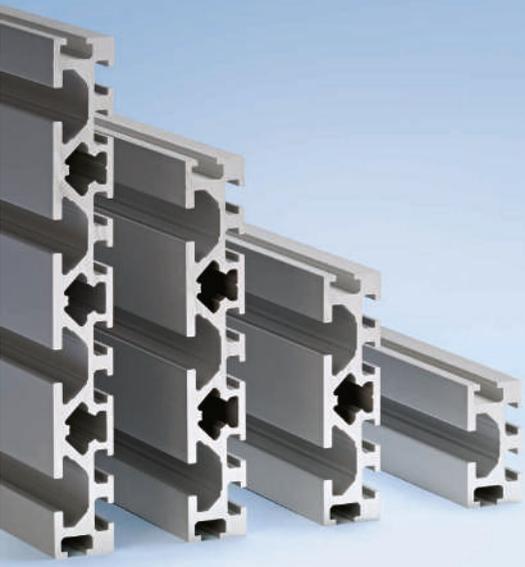
Cut **25.21. ....**

**End service**

 M10 **2521AB....**

 M6 **B25.21.002....**

 M8 **B25.21.011....**

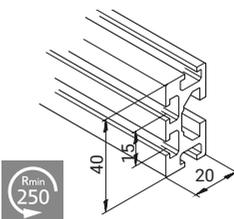


## Series 25 Profiles

### Series 25/40 Adapter Profiles

One side of the profile has a slot width of 6 mm for Series 25 and the other has a slot width of 10 mm for Series 40. Applications include base plates for laboratory benches or test set-ups as well as general structures that combine Series 25 and 40 profiles.

Material: Anodised aluminium



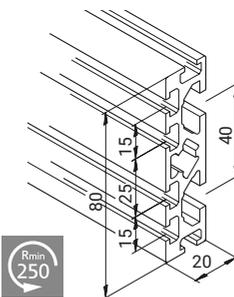
Profile mk 2025.41  
(20x40)

1.02 kg/m

**Item no.**

Stock length **25.41.5100**

Cut **25.41. ....**



Profile mk 2025.42  
(20x80)

1.94 kg/m

**Item no.**

Stock length **25.42.5100**

Cut **25.42. ....**

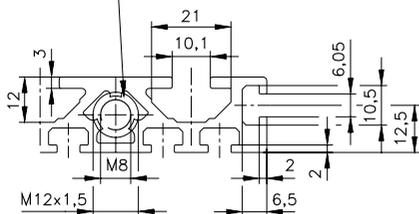
**End service**

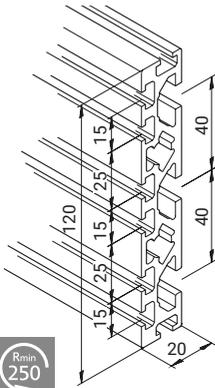
 M8 **B25.42.002....**

### Standard dimensions

with threaded insert

Threaded insert M8  
K112030008





Profile mk 205.43  
 (20x120)

2.86 kg/m

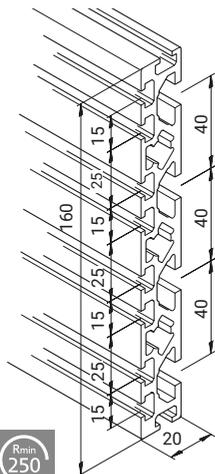
**Item no.**

Stock length **25.43.5100**

Cut **25.43. ....**

**End service**

 2 x M8 **B25.43.002....**



Profile mk 205.44  
 (20x160)

3.77 kg/m

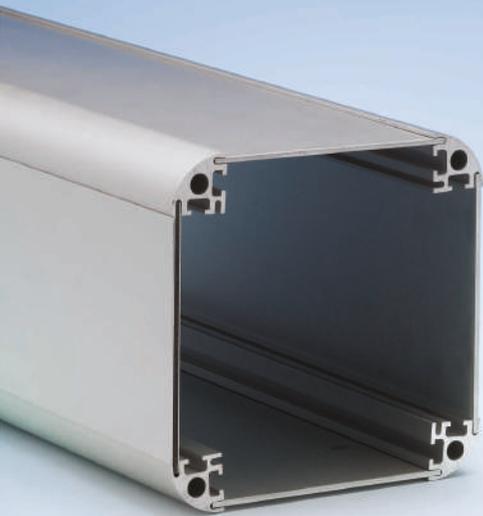
**Item no.**

Stock length **25.44.6200**

Cut **25.44. ....**

**End service**

 3 x M8 **B25.44.002....**



## Series 25 Profiles

### Profiles for Fastening Panelling

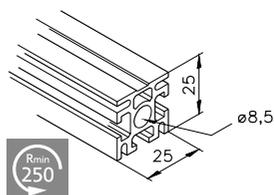
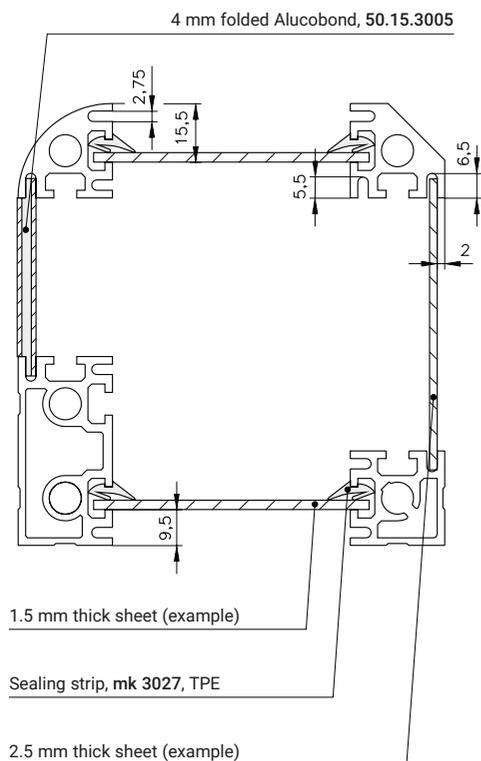
mk Series 25 profiles with closed slots have, in addition to the system slot, a second, smaller slot for attaching panelling.

For the bendable profiles listed here, bending will reduce the slot width.

Material: Anodised aluminium

 End caps starting on page 150

Example of fastening with panelling



Profile mk 2025.31  
(25x25)

0.77 kg/m

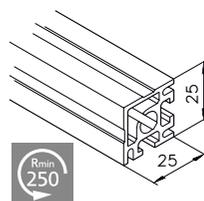
**Item no.**

Stock length **25.31.5100**

Cut **25.31. ....**

**End service**

	ø 5,8	<b>2531BA....</b>
	ø 5,8	<b>2531BB....</b>
	M6	<b>B25.31.002....</b>



Profile mk 2025.35  
(25x25)

0.75 kg/m

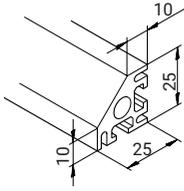
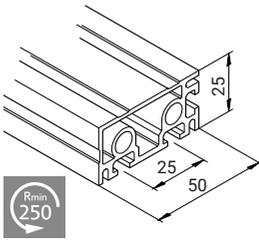
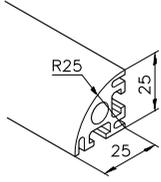
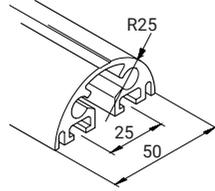
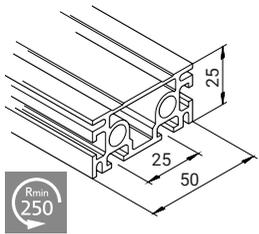
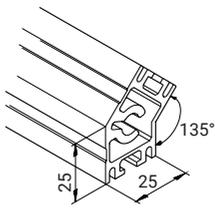
**Item no.**

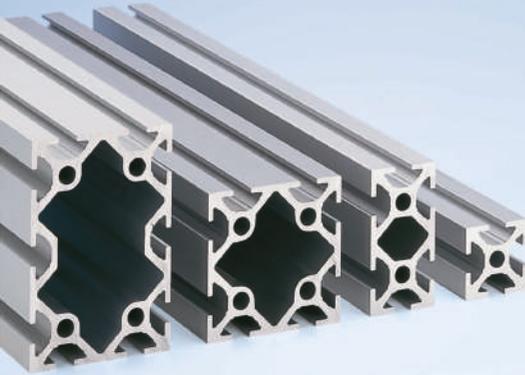
Stock length **25.35.5100**

Cut **25.35. ....**

**End service**

	ø 5,8	<b>2535BB....</b>
	M6	<b>B25.35.002....</b>

 <p>Profile mk 2025.38 0.79 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2025.36 (25x50) 1.25 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>25.38.5100</b></p>	<p>Stock length <b>25.36.5100</b></p>
<p>Cut <b>25.38. ....</b></p>	<p>Cut <b>25.36. ....</b></p>
<p><b>End service</b></p>	
<p> ø 5,8 <b>2538BB....</b></p>	<p> ø 5,8 <b>2536BB....</b></p>
<p> M6 <b>B25.38.002....</b></p>	<p> M6 <b>B25.36.002....</b></p>
 <p>Profile mk 2025.37 0.73 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2025.39 1.1 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>25.37.5100</b></p>	<p>Stock length <b>25.39.5100</b></p>
<p>Cut <b>25.37. ....</b></p>	<p>Cut <b>25.39. ....</b></p>
<p><b>End service</b></p>	
<p> ø 5,8 <b>2537BB....</b></p>	<p> ø 5,8 <b>2539BB....</b></p>
<p> M6 <b>B25.37.002....</b></p>	<p> M6 <b>B25.39.002....</b></p>
 <p>Profile mk 2025.32 (25x50) 1.29 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2025.18 1.02 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>25.32.5100</b></p>	<p>Stock length <b>25.18.5100</b></p>
<p>Cut <b>25.32. ....</b></p>	<p>Cut <b>25.18. ....</b></p>
<p><b>End service</b></p>	
<p> ø 5,8 <b>2532BB....</b></p>	
<p> M6 <b>B25.32.004....</b></p>	



# Series 40 Profiles

## Basic Profiles

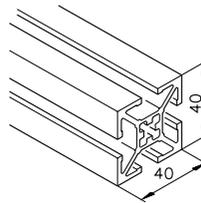
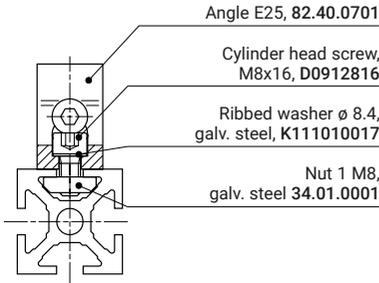
Series 40 profiles are based on a grid dimension of 40 x 40 mm. They are generally used for moderate to light-duty machine frames, guarding, assembly work stations, exhibit construction and work platforms. The slot width of 10 mm and slot depth of 12 mm are designed for use with DIN M8 screws. However, M4, M5 and M6 screws can also be used. The profile's bore channels are designed for tapping threads or for inserting a threaded insert or HELICOIL.

Material: Anodised aluminium



End caps starting on page 150

Example of fastening with an angle



Profile mk 2040.31  
(40x40) extra light duty  
1.50 kg/m

**Item no.**

Stock length **54.31.5100**

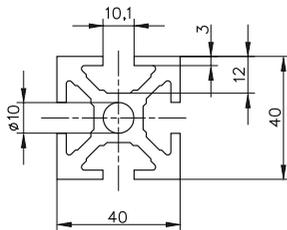
Cut **54.31. ....**

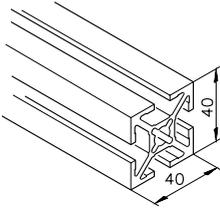
**End service**

	$\alpha$ and $\beta$	<b>5431AF...</b>
	$\phi$ 10	<b>5431BV...</b>
	$\phi$ 10	<b>5431BW...</b>
	M8 formed	<b>5431AA....</b>
	M8 formed	<b>5431AB....</b>

### Standard profile dimensions

Example of mk 2040.01 (40x40)





Profile mk 2040.40  
(40x40) light duty

1.64 kg/m

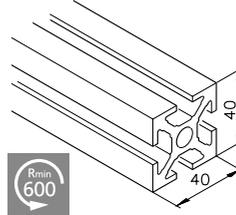
**Item no.**

Stock length **54.40.5100**

Cut **54.40. ....**

**End service**

		<b>5440AI....</b>
	$\alpha$ and $\beta$	<b>5440AC....</b>
	$\varnothing 10$	<b>5440BA....</b>
	$\varnothing 10$	<b>5440BB....</b>
	$\varnothing 10$	<b>5440BV....</b>
	$\varnothing 10$	<b>5440BW....</b>
	$\varnothing 14$	<b>5440BY....</b>
	$\varnothing 14$	<b>5440BZ....</b>
	M12	<b>5440AA....</b>
	M12	<b>5440AB....</b>
	M8	<b>B54.40.002....</b>
	M8	<b>B54.40.001....</b>
	M10	<b>B54.40.004....</b>
	M10	<b>B54.40.005....</b>



Profile mk 2040.01  
(40x40)

2.00 kg/m

**Item no.**

Stock length **54.01.5100**

Stock length **54.01.6100**

Cut **54.01. ....**

**End service**

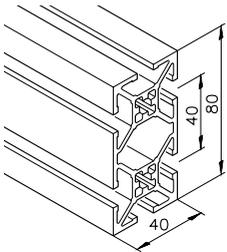
		<b>5401AI....</b>
	$\alpha$	<b>5401AE....</b>
	$\alpha$ and $\beta$	<b>5401AF....</b>
	$\varnothing 10$	<b>5401BA....</b>
	$\varnothing 10$	<b>5401BB....</b>
	$\varnothing 10$	<b>5401BV....</b>
	$\varnothing 10$	<b>5401BW....</b>
	$\varnothing 14$	<b>5401BY....</b>
	$\varnothing 14$	<b>5401BZ....</b>
	M12	<b>5401AA....</b>
	M12	<b>5401AB....</b>
	M8	<b>B54.01.003....</b>
	M8	<b>B54.01.002....</b>
	M10	<b>B54.01.001....</b>
	M10	<b>B54.01.007....</b>

# Series 40 Profiles

2



End caps  
starting on page 150



Profile mk 2040.52  
(40x80) extra light duty

2.67 kg/m

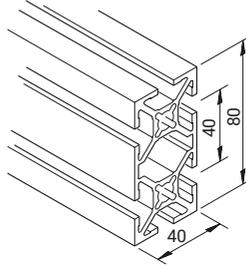
**Item no.**

Stock length **54.52.5100**

Cut **54.52. ....**

**End service**

	$\alpha$ and $\beta$	<b>5452AH....</b>
	$\varnothing$ 10	<b>5452BV....</b>
	$\varnothing$ 10	<b>5452BW....</b>
	M8 formed	<b>5452AA....</b>
	M8 formed	<b>5452AB....</b>



Profile mk 2040.41  
(40x80) light duty

2.85 kg/m

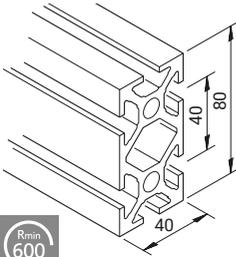
**Item no.**

Stock length **54.41.5100**

Cut **54.41. ....**

**End service**

		<b>5441AI....</b>
	$\alpha$ and $\beta$	<b>5441AH....</b>
	$\varnothing$ 10	<b>5441BA....</b>
	$\varnothing$ 10	<b>5441BB....</b>
	$\varnothing$ 10	<b>5441BV....</b>
	$\varnothing$ 10	<b>5441BW....</b>
	$\varnothing$ 14	<b>5441BY....</b>
	$\varnothing$ 14	<b>5441BZ....</b>
	M12	<b>5441AC....</b>
	M12	<b>5441AB....</b>
	M8	<b>B54.41.002....</b>
	M8	<b>B54.41.001....</b>
	M10	<b>B54.41.004....</b>
	M10	<b>B54.41.005....</b>



Profile mk 2040.02  
(40x80)

3.62 kg/m

**Item no.**

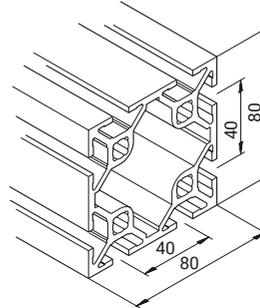
Stock length **54.02.5100**

Stock length **54.02.6100**

Cut **54.02. ....**

**End service**

	<b>5402AI....</b>
α and β	<b>5402AH....</b>
ø 10	<b>5402BA....</b>
ø 10	<b>5402BB....</b>
ø 10	<b>5402BV....</b>
ø 10	<b>5402BW....</b>
ø 14	<b>5402BY....</b>
ø 14	<b>5402BZ....</b>
M12	<b>5402AA....</b>
M12	<b>5402AB....</b>
M8	<b>B54.02.002....</b>
M8	<b>B54.02.001....</b>
M10	<b>B54.02.004....</b>
M10	<b>B54.02.005....</b>



Profile mk 2040.45  
(80x80) light duty

4.75 kg/m

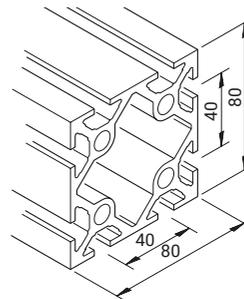
**Item no.**

Stock length **54.45.5100**

Cut **54.45. ....**

**End service**

α and β	<b>5445AF...</b>
ø 14	<b>5445BY...</b>
ø 14	<b>5445BZ...</b>
4 x M12	<b>5445AA....</b>
4 x M12	<b>5445AB....</b>
4 x M8	<b>B54.45.002....</b>
4 x M8	<b>B54.45.001....</b>



Profile mk 2040.03  
(80x80)

5.57 kg/m

**Item no.**

Stock length **54.03.5100**

Stock length **54.03.6100**

Cut **54.03. ....**

**End service**

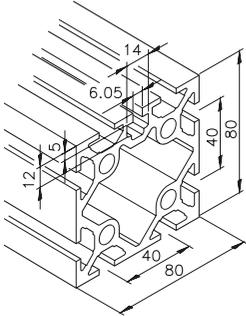
α and β	<b>5403AF...</b>
ø 14	<b>5403BY...</b>
ø 14	<b>5403BZ...</b>
4 x M12	<b>5403AA....</b>
4 x M12	<b>5403AB....</b>
4 x M8	<b>B54.03.002....</b>
4 x M8	<b>B54.03.001....</b>

# Series 40 Profiles



End caps  
starting on page 150

2



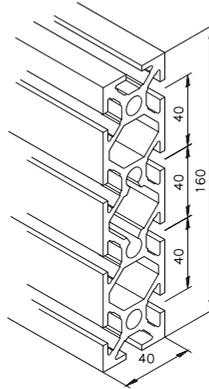
Profile mk 2040.73  
(80x80)

5.72 kg/m

**Item no.**

Stock length **54.73.5100**

Cut **54.73. ....**



Profile mk 2040.06  
(40x160)

6.26 kg/m

**Item no.**

Stock length **54.06.5100**

Cut **54.06. ....**

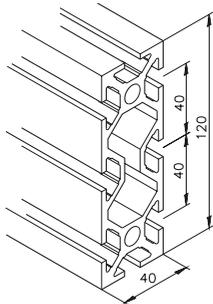
**End service**

ø 10 **5406BB....**

ø 14 **5406BY....**

ø 14 **5406BZ....**

M8 **B54.06.001....**



Profile mk 2040.05  
(40x120)

4.69 kg/m

**Item no.**

Stock length **54.05.5100**

Cut **54.05. ....**

**End service**

a **5405AG....**

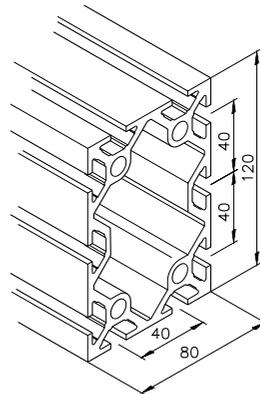
ø 10 **5405BB....**

ø 10 **5405BV....**

ø 14 **5405BY....**

ø 14 **5405BZ....**

M8 **B54.05.001....**



Profile mk 2040.07  
(80x120)

6.96 kg/m

**Item no.**

Stock length **54.07.5100**

Stock length **54.07.7500**

Cut **54.07. ....**

**End service**

ø 14 **5407BY....**

ø 14 **5407BZ....**

4 x M8 **B54.07.001....**





# Series 40 Profiles

## Cleanroom Profiles

mk cleanroom profiles feature a smooth and uninterrupted surfaces that prevents dirt from accumulating. This makes the profiles ideally suited for environments that place stringent requirements on cleanliness or design. The typical mk edge radius of only 1 mm ensures smooth connections between profiles without any gaps or spaces. The profiles' slots can be opened if necessary.

Material: Anodised aluminium

 End caps starting on page 150

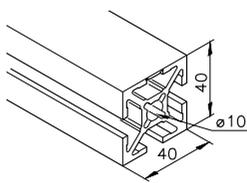
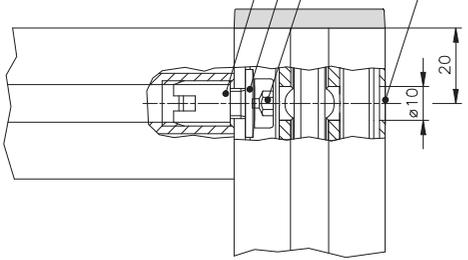
### Fastening example

Sticker  $\varnothing$  24 SI K123000004

Cylinder head screw DIN 6912, M8x20, stainless steel, D6912820A2

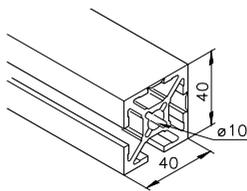
Waster  $\varnothing$  8.4, stainless steel D67968.4A2

M8 threaded insert, stainless steel K112030020



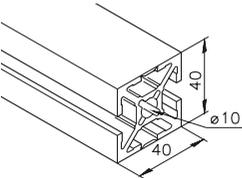
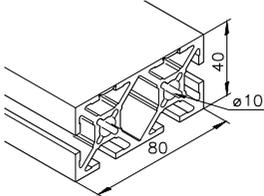
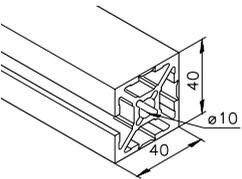
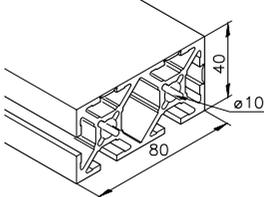
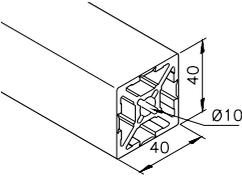
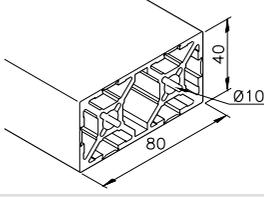
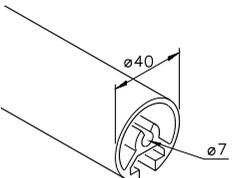
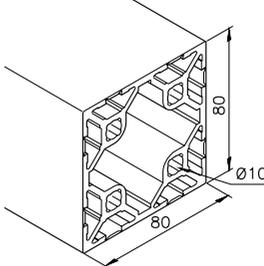
Profile mk 2040.92 (40x40)  
1.68 kg/m

Item no.	
Stock length	<b>54.92.5100</b>
Cut	<b>54.92. ....</b>
End service	
 $\varnothing$ 10	<b>5492BV....</b>
 $\varnothing$ 10	<b>5492BW....</b>
 $\varnothing$ 14	<b>5492BY....</b>
 $\varnothing$ 14	<b>5492BZ....</b>



Profile mk 2040.93 (40x40)  
1.72 kg/m

Item no.	
Stock length	<b>54.93.5100</b>
Cut	<b>54.93. ....</b>

 <p>Profile mk 2040.94 (40x40)</p> <p>1.72 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2040.100 (40x80)</p> <p>2.94 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>54.94.5100</b></p>	<p>Stock length <b>54.100.5100</b></p>
<p>Cut <b>54.94. ....</b></p>	<p>Cut <b>54.100. ....</b></p>
<p><b>End service</b></p> <p>• □ ∅ 10 <b>5494BV....</b></p> <p>• • □ ∅ 10 <b>5494BW....</b></p> <p>• □ ∅ 14 <b>5494BY....</b></p> <p>• • □ ∅ 14 <b>5494BZ....</b></p>	<p><b>End service</b></p> <p>• □ ∅ 10 <b>54100BV....</b></p> <p>• • □ ∅ 10 <b>54100BW....</b></p> <p>• □ ∅ 14 <b>54100BY....</b></p> <p>• • □ ∅ 14 <b>54100BZ....</b></p>
 <p>Profile mk 2040.95 (40x40)</p> <p>1.75 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2040.101 (40x80)</p> <p>2.97 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>54.95.5100</b></p>	<p>Stock length <b>54.101.5100</b></p>
<p>Cut <b>54.95. ....</b></p>	<p>Cut <b>54.101. ....</b></p>
 <p>Profile mk 2040.96 (40x40)</p> <p>1.78 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2040.104 (40x80)</p> <p>3.07 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>54.96.5100</b></p>	<p>Stock length <b>54.104.5100</b></p>
<p>Cut <b>54.96. ....</b></p>	<p>Cut <b>54.104. ....</b></p>
 <p>Profile mk 2040.16</p> <p>1.25 kg/m</p> <p><b>Item no.</b></p> <p>Stock length <b>54.16.5100</b></p> <p>Cut <b>54.16. ....</b></p> <p><b>End service</b></p> <p>≡ M8 <b>5416AB....</b></p>	 <p>Profile mk 2040.109 (80x80)</p> <p>5.04 kg/m</p> <p><b>Item no.</b></p> <p>Stock length <b>54.109.5100</b></p> <p>Cut <b>54.109. ....</b></p>

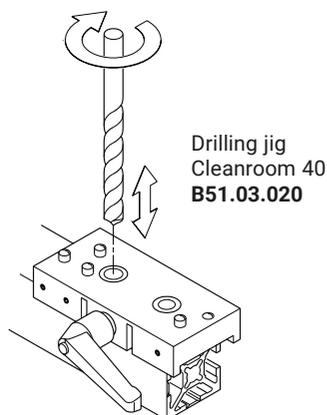


## Series 40 Profiles

### Cleanroom Profiles – Machining

The slot in a cleanroom profile can be manually opened, either partially or completely, without any complicated procedures. A parting tool is used to open the profile at the desired location. This can be done without significant exertion. If you want to open the profile only partway, use the drilling jig to drill a bore at the end of the desired section.

#### Drilling

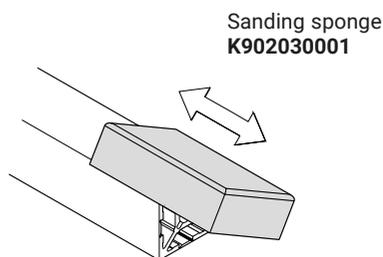


Drilling jig  
Cleanroom 40  
**B51.03.020**

 For drilling jigs,  
on page 339

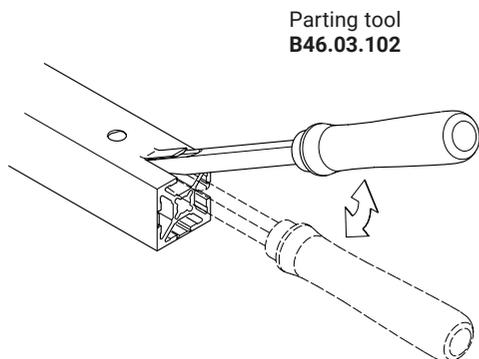
#### Deburring

A sanding sponge can be used to easily and manually deburr the profiles during assembly.



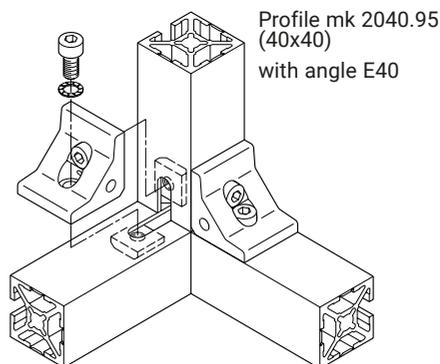
Sanding sponge  
**K902030001**

#### Parting

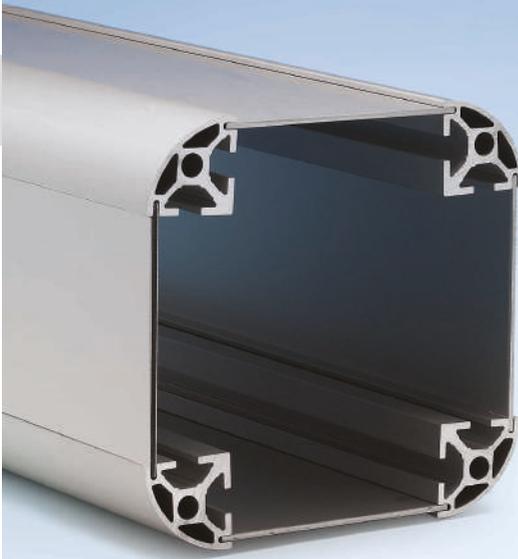


Parting tool  
**B46.03.102**

#### Profile with angle



Profile mk 2040.95  
(40x40)  
with angle E40



## Profiles for Fastening Panelling

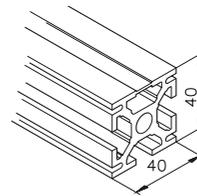
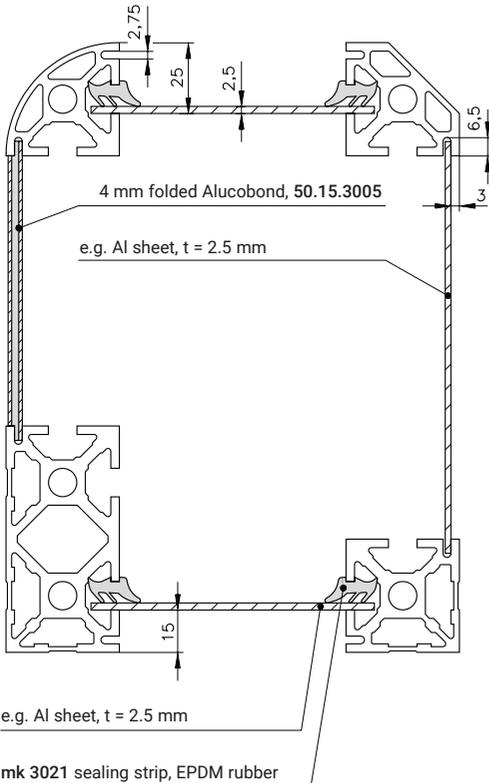
mk Series 40 profiles with closed slots on one or both sides have, in addition to the system slot, a second, smaller 2.75 mm slot for attaching panelling. This allows the main slot to remain free, for example for attaching angles.

Material: Anodised aluminium



End caps starting on page 150

Example of fastening with panelling



Profile mk 2040.21  
(40x40)

1.84 kg/m

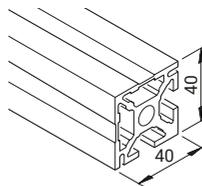
**Item no.**

Stock length **54.21.5100**

Cut **54.21. ....**

**End service**

	<b>5421Al....</b>
	<b>5421BB....</b>
	<b>5421BW....</b>
	<b>5421BY....</b>
	<b>5421BZ....</b>
	<b>5421AA....</b>
	<b>B54.21.001....</b>



Profile mk 2040.11  
(40x40)

1.88 kg/m

**Item no.**

Stock length **54.11.5100**

Cut **54.11. ....**

**End service**

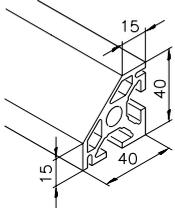
	<b>5411Al....</b>
	<b>5411BB....</b>
	<b>5411BW....</b>
	<b>5411AA....</b>
	<b>B54.11.001....</b>

# Series 40 Profiles

2



End caps starting on page 150



Profile mk 2040.14

1.62 kg/m

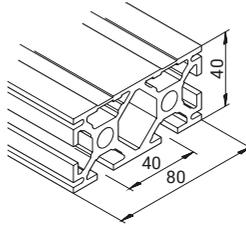
**Item no.**

Stock length **54.14.5100**

Cut **54.14. ....**

**End service**

	∅ 10	<b>5414BB....</b>
	∅ 10	<b>5414BW....</b>
	M12	<b>5414AA....</b>
	M8	<b>B54.14.001....</b>



Profile mk 2040.22 (40x80)

3.43 kg/m

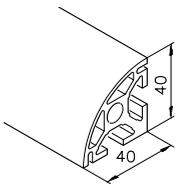
**Item no.**

Stock length **54.22.5100**

Cut **54.22. ....**

**End service**

	∅ 10	<b>5422BA....</b>
	∅ 10	<b>5422BB....</b>
	∅ 14	<b>5422BY....</b>
	∅ 14	<b>5422BZ....</b>



Profile mk 2040.15

1.51 kg/m

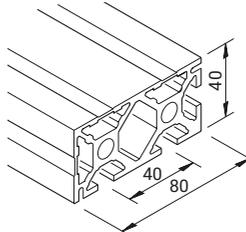
**Item no.**

Stock length **54.15.5100**

Cut **54.15. ....**

**End service**

	∅ 10	<b>5415BB....</b>
	∅ 10	<b>5415BW....</b>
	M12	<b>5415AA....</b>
	M8	<b>B54.15.001....</b>



Profile mk 2040.12 (40x80)

3.43 kg/m

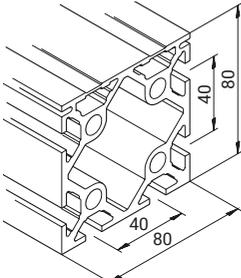
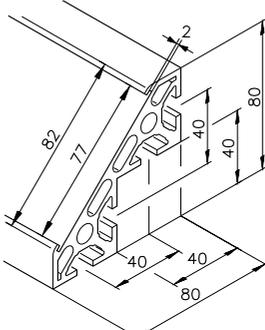
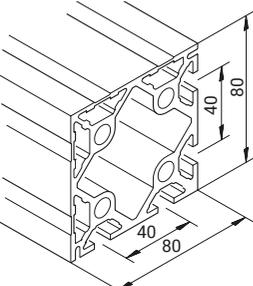
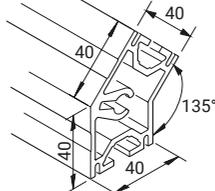
**Item no.**

Stock length **54.12.5100**

Cut **54.12. ....**

**End service**

	M8	<b>B54.12.001....</b>
--	----	-----------------------

 <p>Profile mk 2040.46 (80x80)</p> <p>5.44 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2040.04</p> <p>3.61 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>54.46.5100</b></p>	<p>Stock length <b>54.04.5100</b></p>
<p>Cut <b>54.46. ....</b></p>	<p>Cut <b>54.04. ....</b></p>
<p><b>End service</b></p>	<p><b>End service</b></p>
<p> ø 14 <b>5446BY...</b></p>	<p> 2 x M12 <b>5404AA....</b></p>
<p> ø 14 <b>5446BZ....</b></p>	<p> 2 x M12 <b>5404AB....</b></p>
<p> 4 x M8 <b>B54.46.002....</b></p>	<p> 2 x M8 <b>B54.04.002....</b></p>
<p> 4 x M8 <b>B54.46.002....</b></p>	<p> 2 x M8 <b>B54.04.001....</b></p>
 <p>Profile mk 2040.13 (80x80)</p> <p>5.32 kg/m</p> <p><b>Item no.</b></p>	 <p>Corner blocks, on page 124</p> <p>Profile mk 2040.19</p> <p>2.54 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>54.13.5100</b></p>	<p>Stock length <b>54.19.5100</b></p>
<p>Cut <b>54.13. ....</b></p>	<p>Cut <b>54.19. ....</b></p>
<p><b>End service</b></p>	<p><b>End service</b></p>
<p> 4 x M8 <b>B54.13.001....</b></p>	<p> M8 <b>B54.19.002....</b></p>
<p> 4 x M8 <b>B54.13.001....</b></p>	<p> M8 <b>B54.19.001....</b></p>

# Series 50 Profiles

## Basic Profiles

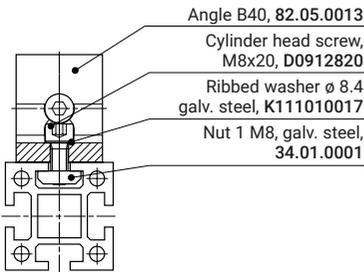
Series 50 profiles are based on a grid dimension of 50 x 50 mm. They are generally used for heavy-duty machine frames, frames with high static loads and load-bearing structures. The slot width of 10 mm and slot depth of 12 mm are designed for use with DIN M8 screws. However, M4, M5 and M6 screws can also be used. The profile's bore channels are designed for tapping threads or for inserting a threaded insert or HELICOIL.

Material: Anodised aluminium

2

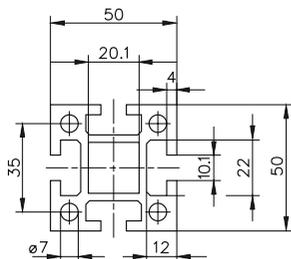
 End caps starting on page 150

Example of fastening with an angle

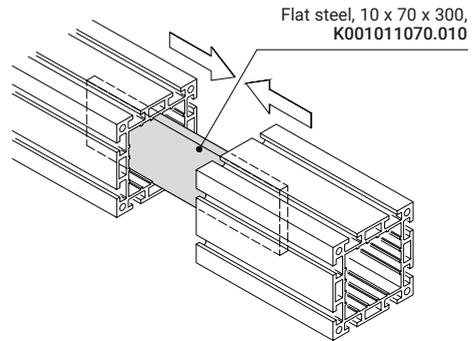


## Standard profile dimensions

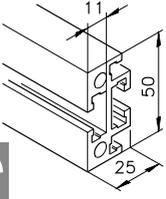
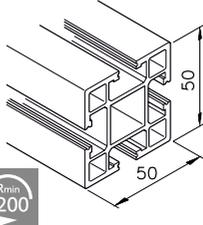
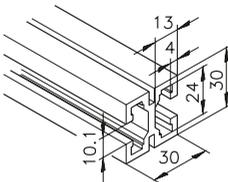
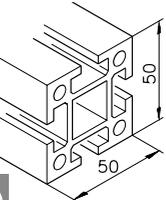
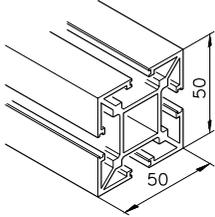
Example of mk 2000 (50x50)



Example of fastening with flat steel



A flat steel plate can be inserted to join two profiles at their faces. Screw connections are used to fasten the profiles. The steel plate should extend into each profile a distance of at least twice its width.

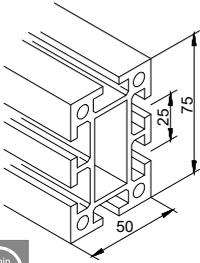
 <p>Profile mk 2001</p> <p>1.59 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2014 (50x50) light duty</p> <p>1.98 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>51.01.5100</b></p>	<p>Stock length <b>51.14.5100</b></p>
<p>Cut <b>51.01. ....</b></p>	<p>Cut <b>51.14. ....</b></p>
<p><b>End service</b></p>	<p><b>End service</b></p>
<p> M8 <b>5101AA....</b></p>	<p> α <b>5114AE...</b></p>
 <p>Profile mk 2030</p> <p>1.06 kg/m</p> <p><b>Item no.</b></p>	<p> α and β <b>5114AF...</b></p> <p> ø 10 <b>5114BG....</b></p> <p> ø 14 <b>5114BY...</b></p> <p> ø 14 <b>5114BZ....</b></p> <p> 4 x M8 <b>B51.14.022....</b></p> <p> 4 x M8 <b>B51.14.021....</b></p>
<p>Stock length <b>51.30.5100</b></p>	<p>Stock length <b>51.02.5100</b></p>
<p>Cut <b>51.30. ....</b></p>	<p>Cut <b>51.02. ....</b></p>
 <p>Profile mk 2000 (50x50)</p> <p>2.85 kg/m</p> <p><b>Item no.</b></p>	 <p>Profile mk 2002 (50x50) extra light duty</p> <p>1.75 kg/m</p> <p><b>Item no.</b></p>
<p>Stock length <b>51.00.5100</b></p>	<p>Stock length <b>51.03.5100</b></p>
<p>Stock length <b>51.00.6100</b></p>	<p>Cut <b>51.03. ....</b></p>
<p>Cut <b>51.00. ....</b></p>	<p>Profile mk 2003</p> <p>2.00 kg/m</p> <p><b>Item no.</b></p>
<p><b>End service</b></p>	<p> α and β <b>5100AF...</b></p>
<p> ø 10 <b>5100BG....</b></p>	<p> ø 7 <b>5103AA....</b></p>
<p> ø 14 <b>5100BY...</b></p>	<p>Stock length <b>51.03.5100</b></p>
<p> ø 14 <b>5100BZ....</b></p>	<p>Cut <b>51.03. ....</b></p>
<p> 4 x M8 <b>5100AC....</b></p>	<p><b>End service</b></p>
<p> 4 x M8 <b>5100AD....</b></p>	<p> M8 <b>5103AA....</b></p>

# Series 50 Profiles

2



End caps starting on page 150



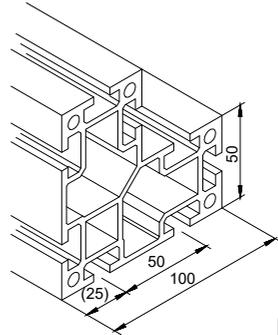
Profile mk 2023  
(50x75)

3.78 kg/m

**Item no.**

Stock length **51.23.5100**

Cut **51.23. ....**



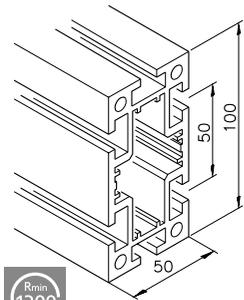
Profile mk 2009

6.27 kg/m

**Item no.**

Stock length **51.09.5100**

Cut **51.09. ....**



Profile mk 2004  
(50x100)

4.87 kg/m

**Item no.**

Stock length **51.04.5100**

Stock length **51.04.6100**

Cut **51.04. ....**

**End service**



**5104AI....**



**5104BY....**



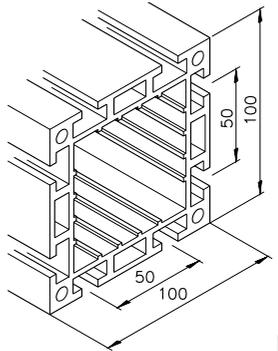
**5104BZ....**



**5104AA....**



**5104AC....**



Profile mk 2005  
(100x100) (light duty)

7.00 kg/m

**Item no.**

Stock length **51.05.5100**

Stock length **51.05.6100**

Cut **51.05. ....**

**End service**



**5105AI....**



**5105BY....**



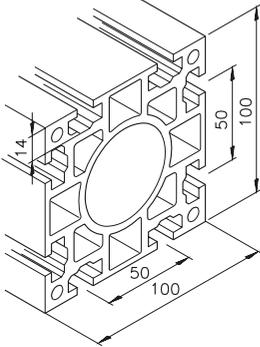
**5105BZ....**



**5105AB....**



**5105AA....**



Profile mk 2011  
 (100x100)  
 9.70 kg/m

**Item no.**

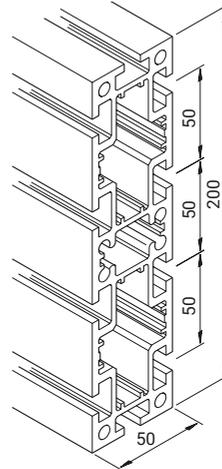
Stock length **51.11.5100**

Stock length **51.11.6100**

Cut **51.11. ....**

**End service**

- $\varnothing 14$  **5111BY...**
- $\varnothing 14$  **5111BZ...**
- 4 x M8 **5111AA...**
- 4 x M8 **5111AB...**



Profile mk 2008  
 (50x200)  
 9.09 kg/m

**Item no.**

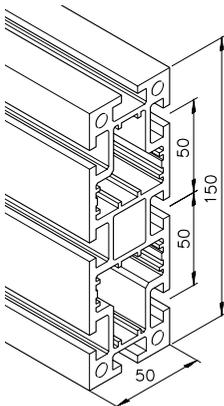
Stock length **51.08.5100**

Stock length **51.08.6100**

Cut **51.08. ....**

**End service**

- $\varnothing 14$  **5108BY...**
- $\varnothing 14$  **5108BZ...**
- 4 x M8 **5108AA...**
- 4 x M8 **5108AB...**



Profile mk 2006  
 (50x150)  
 7.00 kg/m

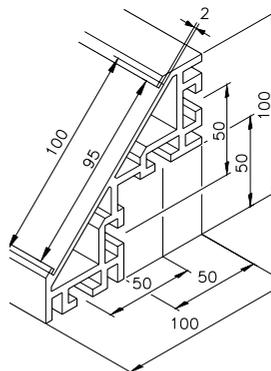
**Item no.**

Stock length **51.06.5100**

Cut **51.06. ....**

**End service**

- $\varnothing 14$  **5106BY...**
- $\varnothing 14$  **5106BZ...**
- 4 x M8 **5106AA...**
- 4 x M8 **5106AB...**



Profile mk 2072  
 4.62 kg/m

**Item no.**

Stock length **51.72.5100**

Cut **51.72. ....**



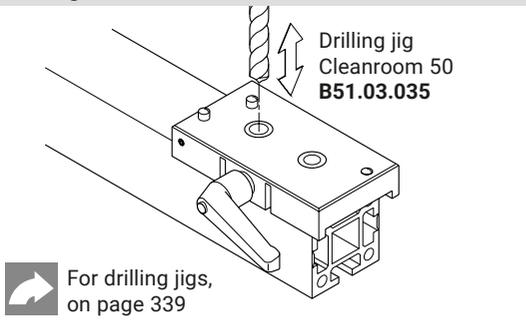
## Series 50 Profiles

### Cleanroom Profiles

mk cleanroom profiles feature a smooth and uninterrupted surfaces that prevents dirt from accumulating. This makes the profiles ideally suited for environments that place stringent requirements on cleanliness or design. The typical mk edge radius of only 1 mm ensures smooth connections between profiles without any gaps. The profiles' slots can be opened without complicated machining so that all connecting elements in the standard mk product range can be used.

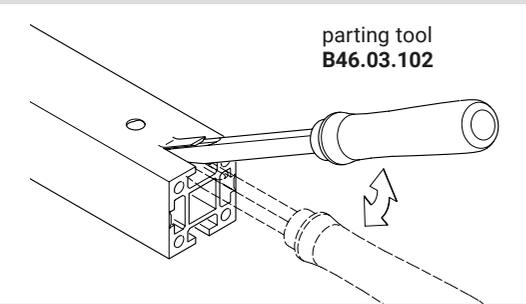
Material: Anodised aluminium

#### Drilling



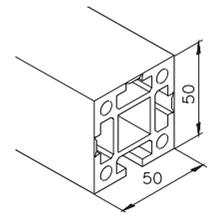
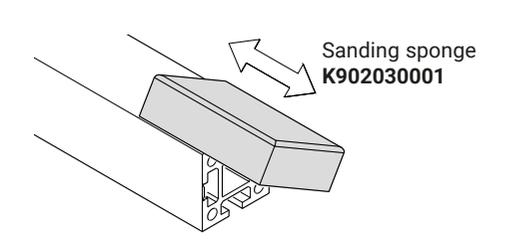
End caps starting on page 150

#### Parting



#### Deburring

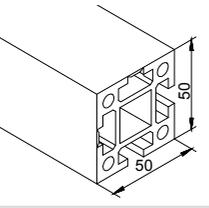
A sanding sponge can be used to easily and manually deburr the profiles during assembly.



Profile mk 2017  
(50x50)  
3.03 kg/m

**Item no.**

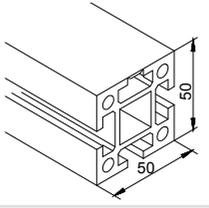
Stock length	<b>51.17.5100</b>
Cut	<b>51.17. ....</b>



Profile mk 2018  
(50x50)  
3.00 kg/m

**Item no.**

Stock length	<b>51.18.5100</b>
Cut	<b>51.18. ....</b>



Profile mk 2019  
(50x50)  
3.00 kg/m

**Item no.**

Stock length	<b>51.19.5100</b>
Cut	<b>51.19. ....</b>



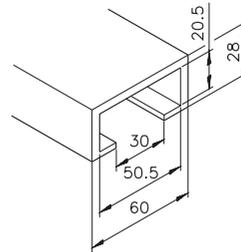
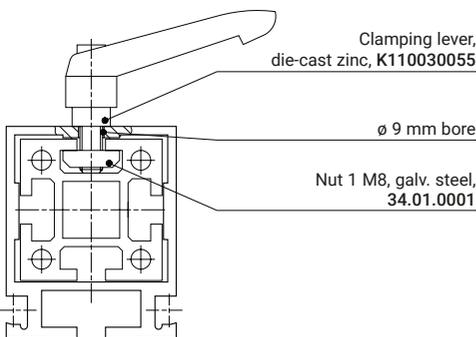
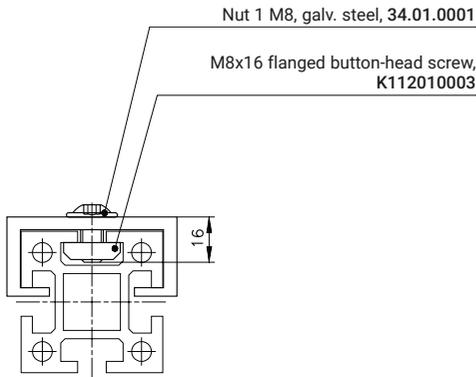
## Profiles for Telescoping

These profiles can be combined with the mk 2000 (50x50) basic profile to allow for quick and easy height adjustment with a screw or clamping lever, for example in a support frame.

Material: Anodised aluminium



for series 40 telescoping profiles, on page 316



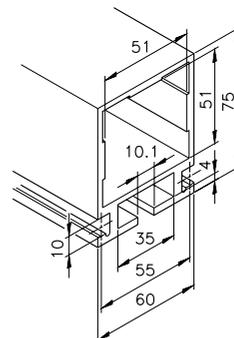
Profile mk 2033

1.50 kg/m

**Item no.**

Stock length **51.33.5100**

Cut **51.33. ....**



Profile mk 2031

2.85 kg/m

**Item no.**

Stock length **51.31.5100**

Cut **51.31. ....**



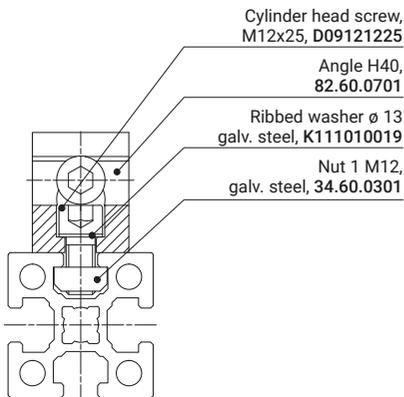
## Series 60 Profiles

### Basic Profiles

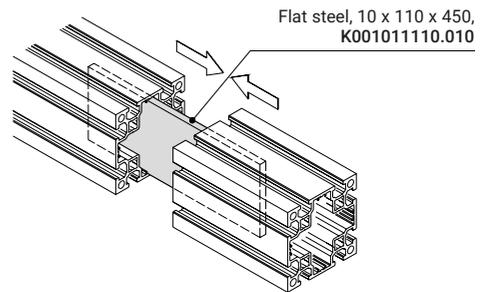
Series 60 profiles are based on a grid dimension of 60 x 60 mm. They are generally used for large gantries and machine frames subject to the heaviest loads, applications which are usually reserved for steel constructions. The slot width of 14 mm and slot depth of 19 mm are designed for use with DIN M12 screws. However, M6, M8 and M10 screws can also be used. The profile's bore channels are designed for tapping threads or for inserting a threaded insert or HELICOIL.

Material: Anodised aluminium

Example of fastening with an angle

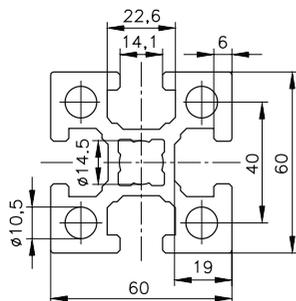


Example of fastening with flat steel



### Standard profile dimensions

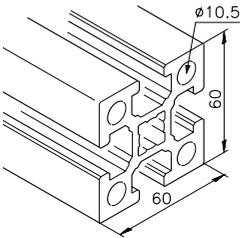
Example of mk 2060.01 (60x60)



A flat steel plate can be inserted to join two profiles at their faces. Screw connections are used to fasten the profiles. The steel plate should extend into each profile a distance of at least twice its width.



End caps  
 starting on page 150



Profile mk 2060.01  
 (60x60)

4.31 kg/m

**Item no.**

Stock length **60.01.5100**

Cut **60.01. ....**

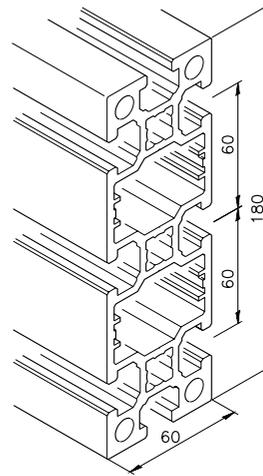
**End service**

α and β **6001AF....**

4 x M12 **6001AA....**

4 x M12 **6001AB....**

M12 **B60.01.606....**



Profile mk 2060.03  
 (60x180)

9.57 kg/m

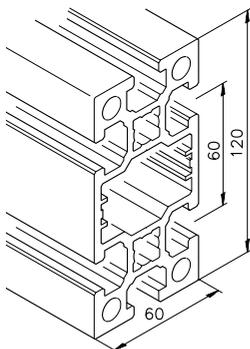
**Item no.**

Stock length **60.03.5100**

Cut **60.03. ....**

**End service**

4 x M12 **6003AB....**



Profile mk 2060.02  
 (60x120)

6.95 kg/m

**Item no.**

Stock length **60.02.5100**

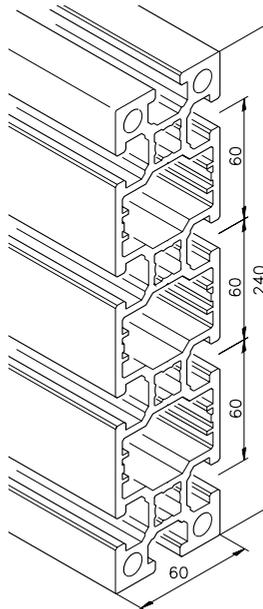
Cut **60.02. ....**

**End service**

4 x M12 **6002AA....**

4 x M12 **6002AB....**

4 x M8 **B60.02.601....**



Profile mk 2060.04  
 (60x240)

12.20 kg/m

**Item no.**

Stock length **60.04.5100**

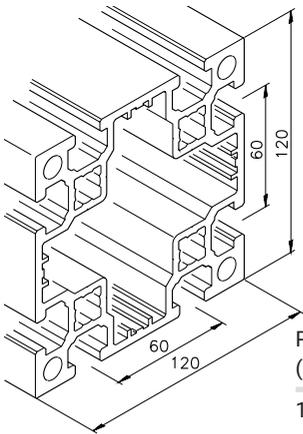
Cut **60.04. ....**

# Series 60 Profiles

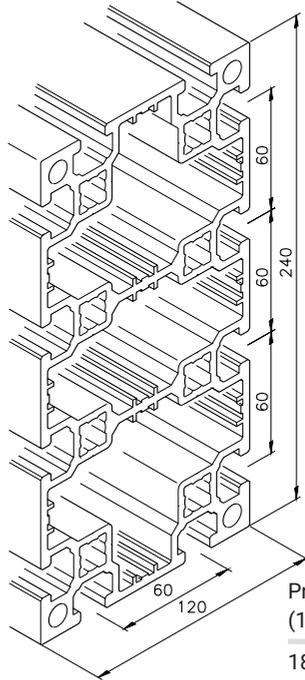


End caps  
starting on page 150

2



Profile mk 2060.05  
(120x120)  
10.30 kg/m



Profile mk 2060.07  
(120x240)  
18.10 kg/m

**Item no.**

Stock length **60.05.5100**

Cut **60.05. ....**

**End service**

4 x M12 **6005AA....**

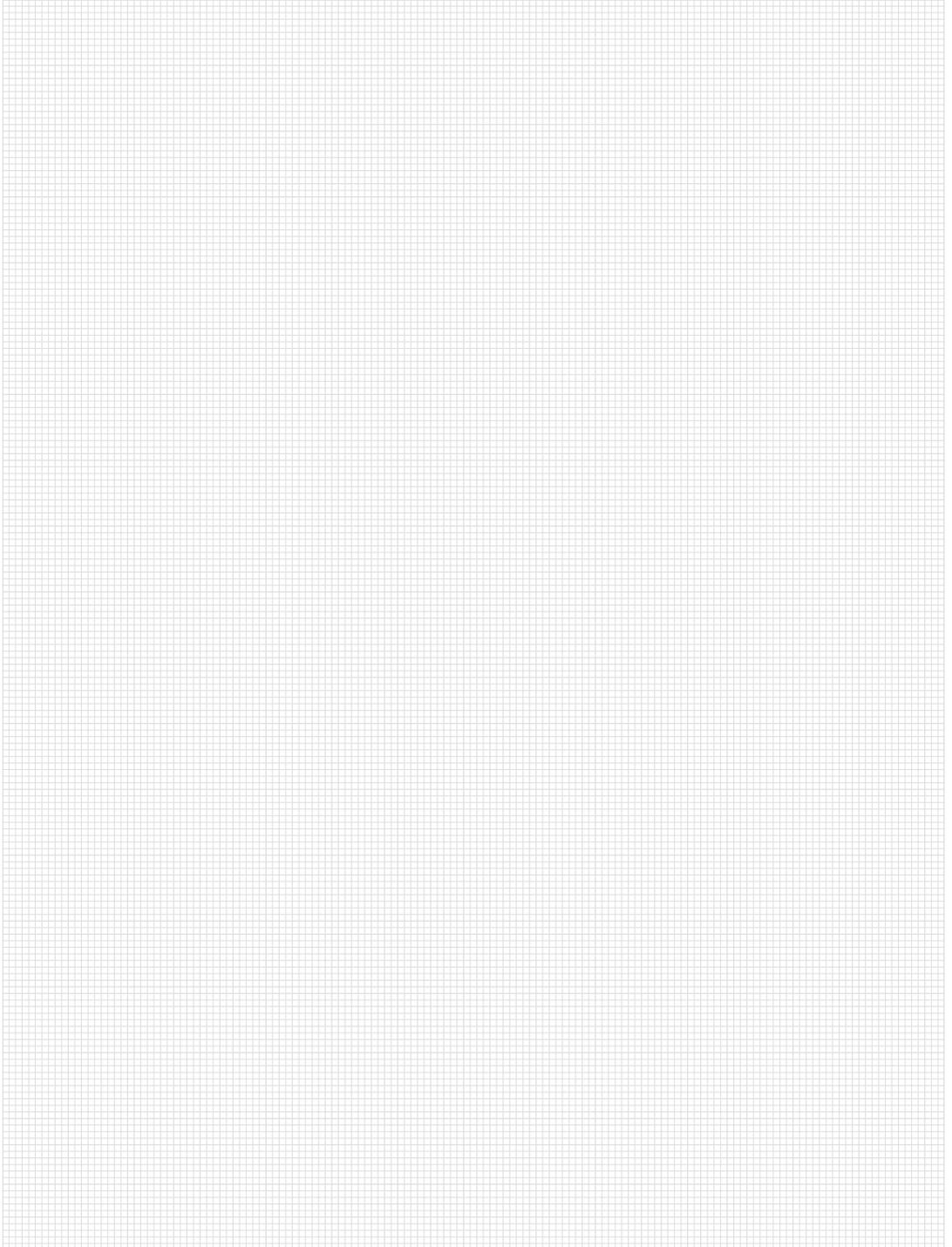
4 x M12 **6005AB....**

4 x M12 **B60.05.605....**

**Item no.**

Stock length **60.07.5100**

Cut **60.07. ....**



# Section 3 Connecting Elements

3



## Choosing a Connection

Features of mk Connection Technology	74
Load specifications	75
Selection Matrix for Connecting Elements	77



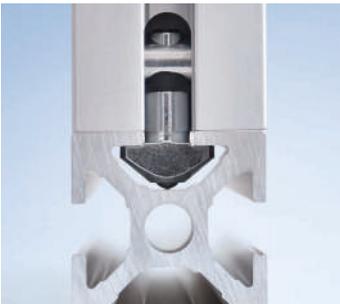
## Angle Fasteners

90° Angles	78
Angle Braces	89
90° Angle Brackets	90
30/45/60° Angles	94
Adjustable Angle Brackets	95



## Plate Fasteners

Plate Fasteners	96
Heavy-Duty Plate Fasteners	100



## Internal Fasteners

Tension Plugs and Screw Connections	106
Anchor Fasteners	113
Clamping Jaws	114
Bolt Fasteners	115
Hinge Tension Plugs	116
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# Choosing a Connection

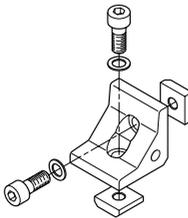
3

## Features of mk Connection Technology

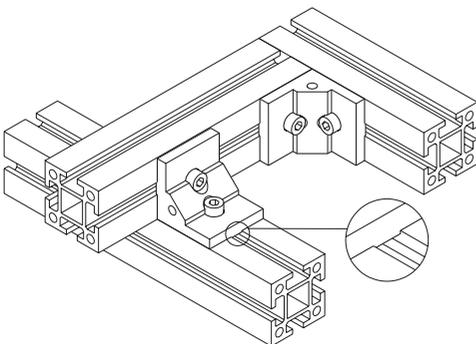
The mk profile system offers a wide range of connection options and gives you ultimate flexibility in designing your structure. You can select from a variety of different connectors, each with their own special features and advantages, for example angle fasteners, internal fasteners, plate fasteners, corner

blocks, truss blocks and clamped connections. With the mk profile system, you can create connections at any angle. All connecting elements use standard screws. Whatever your requirements, we always have the perfect connection technology.

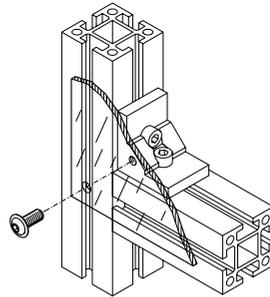
The recommended standard connector is the solid angle fastener. It is a simple and extremely sturdy screw connection that can be used without profile machining. For each angle we also offer a complete assembly kit that contains the necessary fastening accessories (screws, ribbed washers, nuts/T-nuts) in the appropriate quantities.



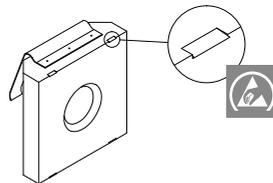
Angles can also be mounted or removed later and allow profiles from various series or other components to be connected to each other. Angles with a key prevent undesired twisting and provide a perfectly aligned connection.



Threads for inserting panelling elements can be tapped into the angle's lateral bores.



To create a conductive connection using angles, simply use the nuts/T-nuts labelled with the ESD symbol. It may be possible to adapt nuts not labelled for ESD use; please contact us.



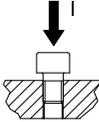
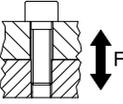
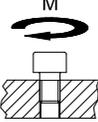
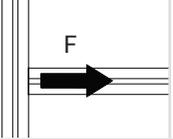
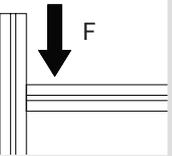
In addition to angle fasteners, we also offer a range of other connectors for different applications.

➡ See page 77

# Load specifications

## ... for screw connections

Consult the literature to calculate the necessary screw dimensions. The values listed here for max. operating force and frictional connection include a safety factor of  $s_0 = 2$  compared with the max. values given in the literature. The specifications applies at room temperature to screws of strength class 8.8.

Thread	Min. screw depth [mm] 	Pretension [N] 	Tightening torque [Nm] 	Max. static operating force in axial direction [N] 	Max. frictional connection [N] 
M 5	≥ 4	6,000	6	1,800	400
M 6*	≥ 4	6,000	7	1,800	400
M 6	≥ 6	9,000	10	2,500	630
M 8	≥ 6	16,500	25	4,000	1,100
M 10	≥ 8	26,000	49	7,400	1,800
M 12*	≥ 9	26,000	63	8,600	1,800
M 12	≥ 10	38,300	86	11,300	1,900

\* For connections with an M6 nut (Series 25 with 6 mm slot) or M12 nut (Series 60 with 14 mm slot), the pretension and thus the max. frictional connection and max. operating force must be reduced. This is due to the screw depth of the nut and the max. permissible surface pressure on the profile.

### Safety factors

The following safety factors are recommended depending on the application:

- Static or pulsating load:  $s_0 \geq 2$
- Alternating load direction:  $s_0 \geq 3$
- Dynamic loads:  $s_0 \geq 4$
- Vibration and shocks:  $s_0 \geq 5$

# Choosing a Connection

## Load specifications

### Profiles combined with nuts

The profiles are designed for different strength and deformation requirements. Will your profile structure withstand the loads it is meant to support? Use our quick and convenient online deflection calculator to calculate the deflection of mk profiles as a function of load (see page 13).

Light duty and extra light duty profiles have a reduced pull-out strength, so longer nuts should be used. Nuts that have a smaller contact surface compared to standard nuts also have a lower pull-out strength.

The following table serves as a rough guide as to how the pull-out strength changes with different profile–nut combinations, using the example of an M8 nut in Series 40 and 50 profiles.

	 Nut 1 34.01.0001	 Swivel-in nut 34.16.0831	 Slot nut 34.03.0002	 T-nut 34.06.0002
mk 2040.01 (40x40)	<b>100 % (4 kN)</b>	<b>66 %</b>	<b>50 %</b>	<b>33 %</b>
mk 2040.40 (40x40) light duty	<b>66 %</b>	<b>50 %</b>	<b>25 %</b>	<b>25 %</b>
mk 2040.31 (40x40) extra light duty	<b>50 %</b>	<b>25 %</b>	<b>12,5 %</b>	<b>12,5 %</b>
mk 2000 (50x50)	<b>100 % (4 kN)</b>	<b>75 %</b>	<b>75 %</b>	<b>66 %</b>
mk 2014 (50x50) light duty	<b>75 %</b>	<b>66 %</b>	<b>50 %</b>	<b>33 %</b>
mk 2002 (50x50) extra light duty	<b>25 %</b>	<b>25 %</b>	<b>12,5 %</b>	<b>12,5 %</b>

### Screw connection on the profile face

For threads cut/formed directly into the profile, we recommend a screw depth of 2x the thread size. If the bore cannot be fully tapped (e.g. the centre bore in Series 60), you must reduce the load capacity. Feel free to ask us for load capacity details.

### Angles

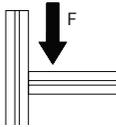
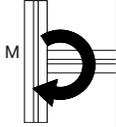
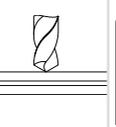
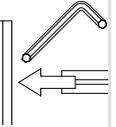
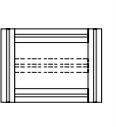
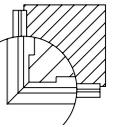
Angles can be used to transfer loads from the screw connection. Angles with keys are recommended because they have machined contact surfaces, engage positively and are easier to mount.

### Ribbed washer

The teeth on a ribbed washer cause plastic deformation of the screw head contact surface, pressing into the material. This provides a strong screw connection that can withstand dynamic loads. If you disassemble and reassemble the connection multiple times, you should replace at least the ribbed washer to ensure that the locking function is maintained. For applications with vibrations and highly dynamic loads, you should additionally secure the screws with thread-locking adhesive (e.g. Loctite).

## Selection Matrix for Connecting Elements

**++ Recommended**    **+ Suitable**    **o Not suitable**

	High load capacity 	High torque capacity 	High twisting moment 	Little machining required 	Little assembly work required 	Later mounting in frames 	Internal slots remain free 
Angles (one side)	+	+	+	++	++	++	o
Angles (two sides)	++	++	++	++	++	++	o
Plates	+	+	+	++	++	++	++
Tension plugs	+	o	o	+	++	o	++
Tension plug S	+	+	+	+	++	o	+
Cleanroom fasteners	+	o	o	+	++	o	++
Clamping jaws	+	o	o	+	+	++	o
Anchor fasteners	+	o	o	++	+	o	o
Bolt fasteners	++	+	+	+	+	++	o
Corner blocks	+	o	o	+	+	o	o
Clamps	+	o	o	++	+	o	o

Angle braces or truss blocks can be used to further reinforce right-angled connections.

# Angle Fasteners

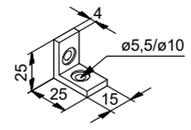
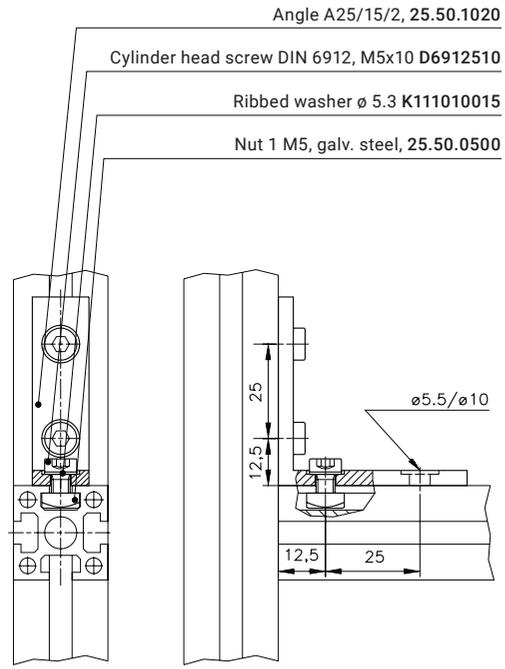
## 90° Angles

The angle fastener is a simple and extremely sturdy screw connection that can be used without profile machining. Angle fasteners are also suitable for retrofitting components on existing structures. Angles with a key prevent undesired twisting and provide a perfectly aligned connection.

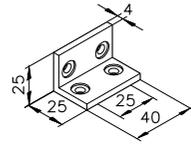
Material: Tumbled aluminium

**25** **40** **50** **60**    **M5x10** DIN 6912

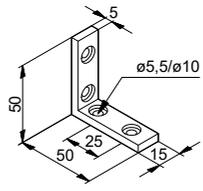
Fastening example set T25.50.1020



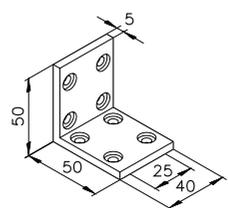
Angle 15  
**25.50.1000**  
**T25.50.1000\***



Angle 40  
**25.50.1001**  
**T25.50.1001\***



Angle A25/15/2  
**25.50.1020**  
**T25.50.1020\***



Angle A25/40/2  
**25.50.1021**  
**T25.50.1021\***

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.



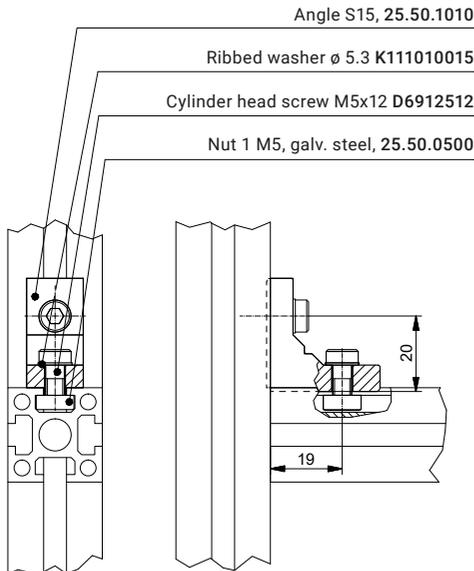
## 90° Angles

Angles with a key prevent undesired twisting and provide a perfectly aligned connection.

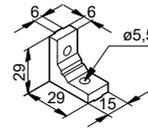
Material: Tumbled aluminium

25 40 50 60 M5x12

### Fastening example set T25.50.1010

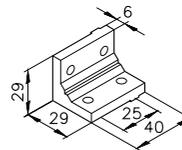


### Angle (with key)



Angle S15  
**25.50.1010**

**T25.50.1010\***



Angle S40  
**25.50.1012**

**T25.50.1012\***

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.



# Angle Fasteners

## 90° Angles

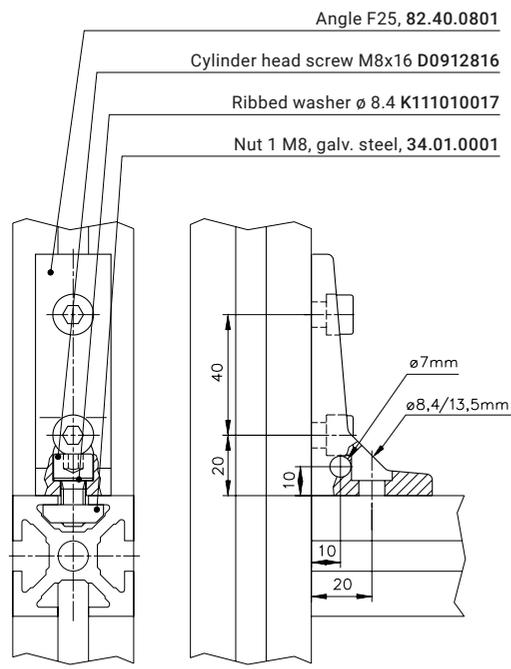
Material: Tumbled aluminium



**Assembly video angles**  
<https://youtu.be/JQxyc-LRbr0>

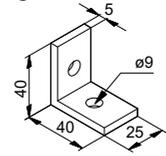
M8x16

Fastening example Set T82.40.0801



Threads for inserting panelling elements can be tapped into the angle's lateral bores.

### Angle P

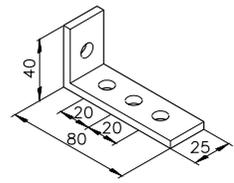


25|40|50|60

Angle P1  
**82.00.0023**

**T82.00.0023\***

### Angle P3

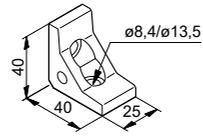


25|40|50|60

Angle P3  
**82.00.0024**

**T82.00.0024\***

### Angle E

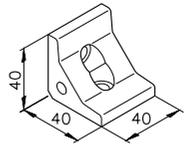


25|40|50|60

Angle E25  
**82.40.0701**

**T82.40.0701\***

### Angle E40

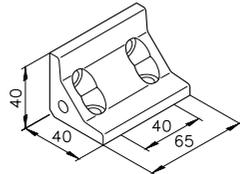


25|40|50|60

Angle E40  
**82.40.0702**

**T82.40.0702\***

### Angle E65



25|40|50|60

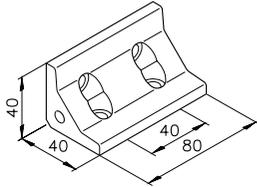
Angle E65  
**82.40.0704**

**T82.40.0704\***

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.

M8x16

**Angle E**



25 | 40 | 50 | 60

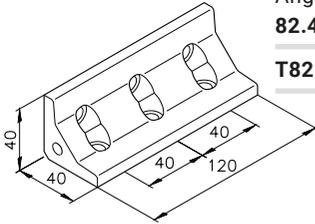
Angle E80  
**82.40.0703**

**T82.40.0703\***

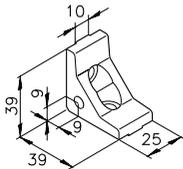
25 | 40 | 50 | 60

Angle E120  
**82.40.0705**

**T82.40.0705\***



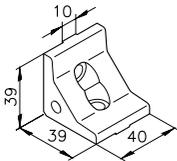
**Angle Es (with key)**



25 | 40 | 50 | 60

Angle E25s  
**82.40.0741**

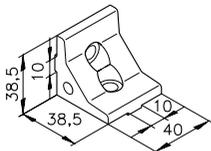
**T82.40.0741\***



25 | 40 | 50 | 60

Angle E40s  
**82.40.0742**

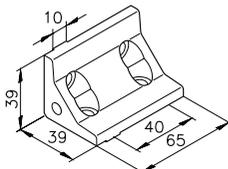
**T82.40.0742\***



25 | 40 | 50 | 60

Angle E40s3  
**82.40.0747**

**T82.40.0747\***

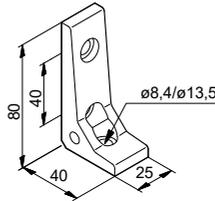


25 | 40 | 50 | 60

Angle E65s  
**82.40.0744**

**T82.40.0744\***

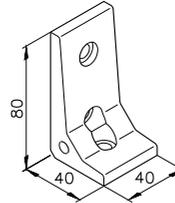
**Angle F**



25 | 40 | 50 | 60

Angle F25  
**82.40.0801**

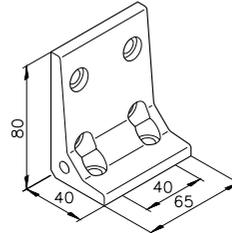
**T82.40.0801\***



25 | 40 | 50 | 60

Angle F40  
**82.40.0802**

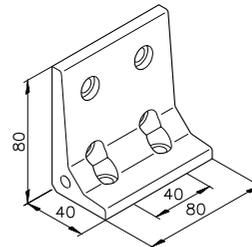
**T82.40.0802\***



25 | 40 | 50 | 60

Angle F65  
**82.40.0804**

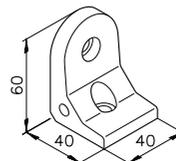
**T82.40.0804\***



25 | 40 | 50 | 60

Angle F80  
**82.40.0803**

**T82.40.0803\***



25 | 40 | 50 | 60

Angle F40/R  
**82.40.0805**

**T82.40.0805\***

for attaching partitions  
to posts

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.

# Angle Fasteners

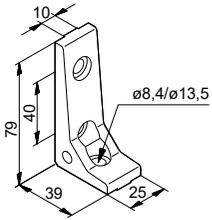
## 90° Angles

Material: Tumbled aluminium

M8x16

3

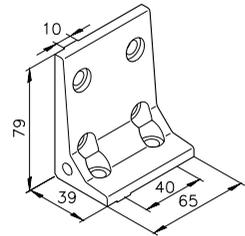
### Angle Fs (with key)



25|40|50|60

Angle F25s  
82.40.0841

T82.40.0841\*

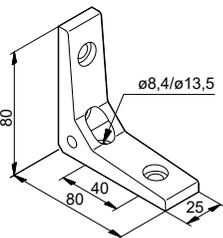


25|40|50|60

Angle F65s  
82.40.0844

T82.40.0844\*

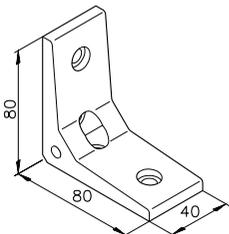
### Angle G



25|40|50|60

Angle G25  
82.40.0901

T82.40.0901\*

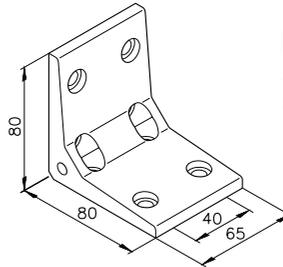


25|40|50|60

Angle G40  
82.40.0902

T82.40.0902\*

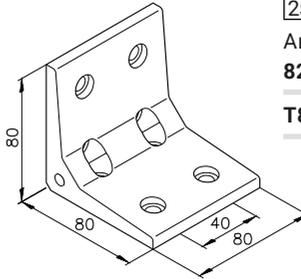
### Angle G



25|40|50|60

Angle G65  
82.40.0904

T82.40.0904\*

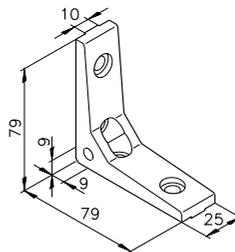


25|40|50|60

Angle G80  
82.40.0903

T82.40.0903\*

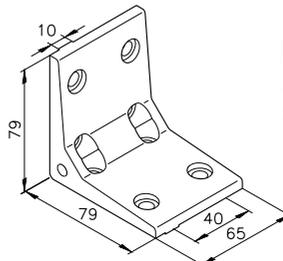
### Angle Gs (with key)



25|40|50|60

Angle G25s  
82.40.0941

T82.40.0941\*



25|40|50|60

Angle G65s  
82.40.0942

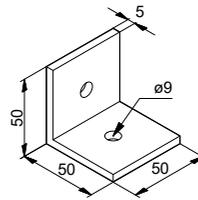
T82.40.0942\*



## 90° Angles

Material: Tumbled aluminium

### Angle A M8x16

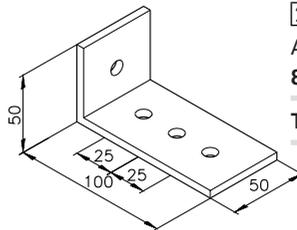


25 40 50 60

Angle A1

**82.02.0001**

**T82.02.0001\***



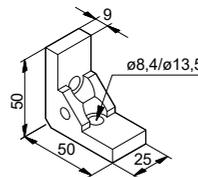
25 40 50 60

Angle A3

**82.03.0001**

**T82.03.0001\***

### Angle B M8x20

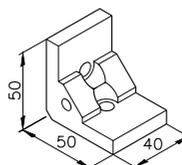


25 40 50 60

Angle B25

**82.05.0003**

**T82.05.0003\***



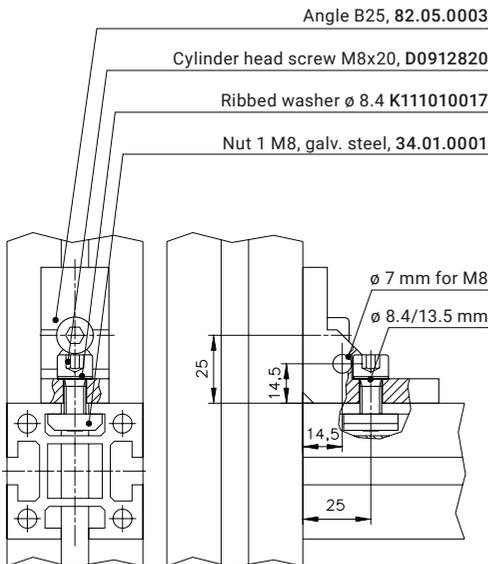
25 40 50 60

Angle B40

**82.05.0013**

**T82.05.0013\***

### Fastening example Set T82.05.0003



Threads for inserting panelling elements can be tapped into the angle's lateral bores.

# Angle Fasteners

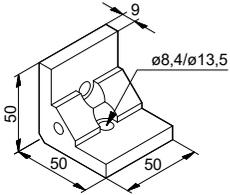
3

## 90° Angles

Material: Tumbled aluminium

M8x20

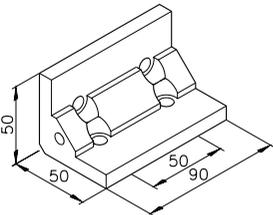
### Angle B



25|40|50|60

Angle B50  
82.05.0004

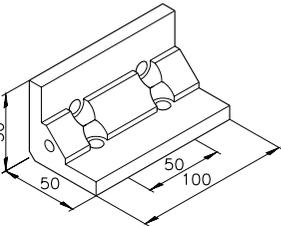
T82.05.0004\*



25|40|50|60

Angle B90  
82.05.0022

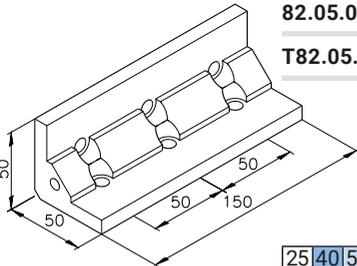
T82.05.0022\*



25|40|50|60

Angle B100  
82.05.0006

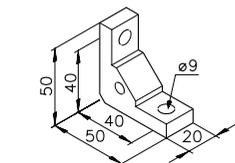
T82.05.0006\*



25|40|50|60

Angle B150  
82.05.0012

T82.05.0012\*



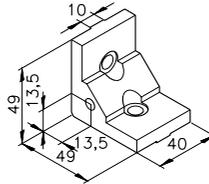
25|40|50|60

Angle B20/40  
82.05.0026

T82.05.0026\*

for attaching partitions  
to posts

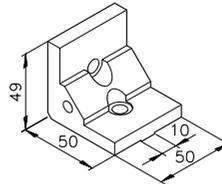
### Angle Bs (with key)



25|40|50|60

Angle B40s2  
82.05.0055

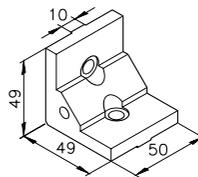
T82.05.0055\*



25|40|50|60

Angle B50s1  
82.05.0051

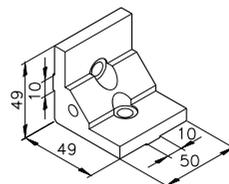
T82.05.0051\*



25|40|50|60

Angle B50s2  
82.05.0052

T82.05.0052\*



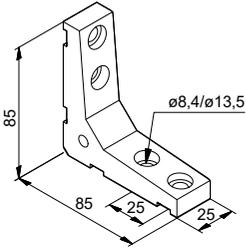
25|40|50|60

Angle B50s3  
82.05.0053

T82.05.0053\*

M8x20

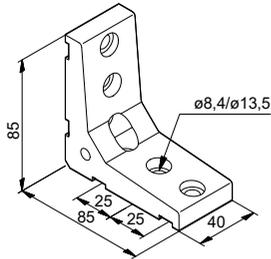
**Angle C**



25|40|50|60

Angle C25  
**82.06.0001**

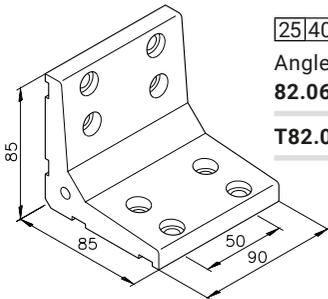
**T82.06.0001\***



25|40|50|60

Angle C40/3  
**82.06.0014**

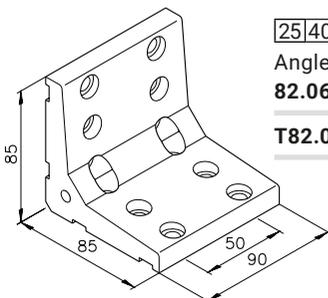
**T82.06.0014**



25|40|50|60

Angle C90  
**82.06.0003**

**T82.06.0003\***

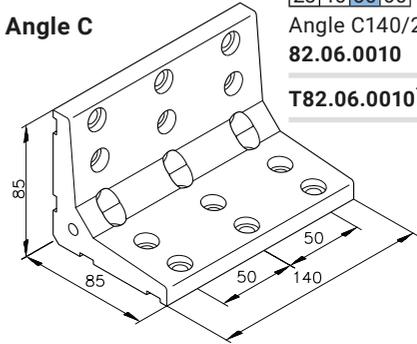


25|40|50|60

Angle C90/2  
**82.06.0009**

**T82.06.0009\***

**Angle C**

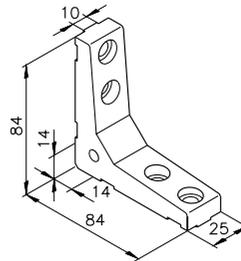


25|40|50|60

Angle C140/2  
**82.06.0010**

**T82.06.0010\***

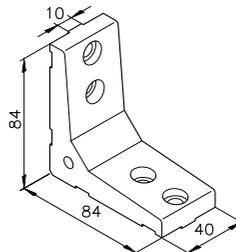
**Angle Cs (with key)**



25|40|50|60

Angle C25s  
**82.06.0040**

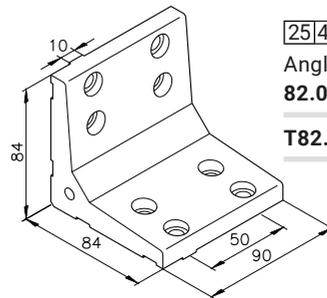
**T82.06.0040\***



25|40|50|60

Angle C40s  
**82.06.0041**

**T82.06.0041\***



25|40|50|60

Angle C90s  
**82.06.0042**

**T82.06.0042\***

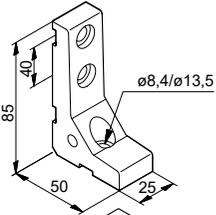
# Angle Fasteners

## 90° Angles

Material: Tumbled aluminium

M8x20

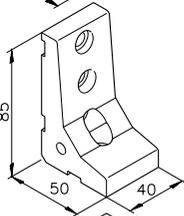
### Angle D



25|40|50|60

Angle D25  
82.07.0001

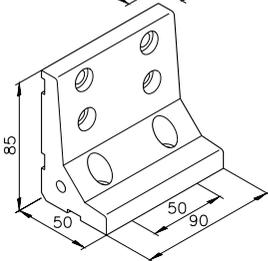
T82.07.0001\*



25|40|50|60

Angle D40/3  
82.07.0013

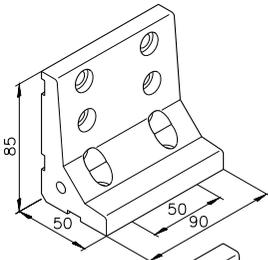
T82.07.0013\*



25|40|50|60

Angle D90  
82.07.0003

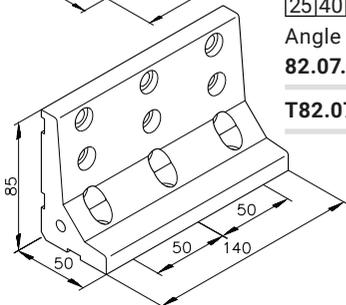
T82.07.0003\*



25|40|50|60

Angle D90/2  
82.07.0009

T82.07.0009\*

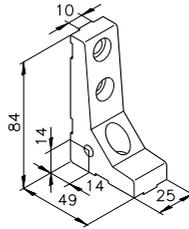


25|40|50|60

Angle D140/2  
82.07.0010

T82.07.0010\*

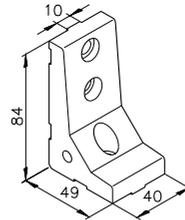
### Angle Ds (with key)



25|40|50|60

Angle D25s  
82.07.0040

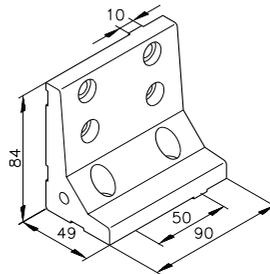
T82.07.0040\*



25|40|50|60

Angle D40s  
82.07.0041

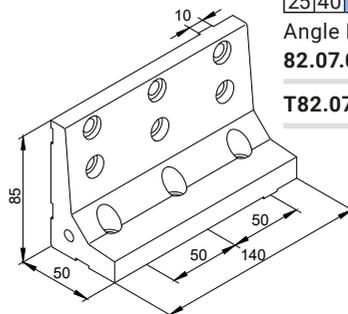
T82.07.0041\*



25|40|50|60

Angle D90s  
82.07.0042

T82.07.0042\*



25|40|50|60

Angle D140s  
82.07.0043

T82.07.0043\*

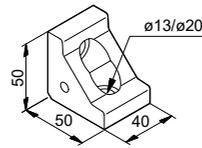


## 90° Angles

Material: Tumbled aluminium

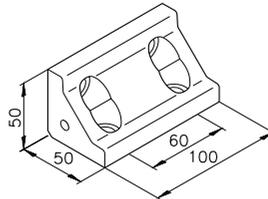
25 40 50 60 M12x25

### Angle H



Angle H40  
**82.60.0701**

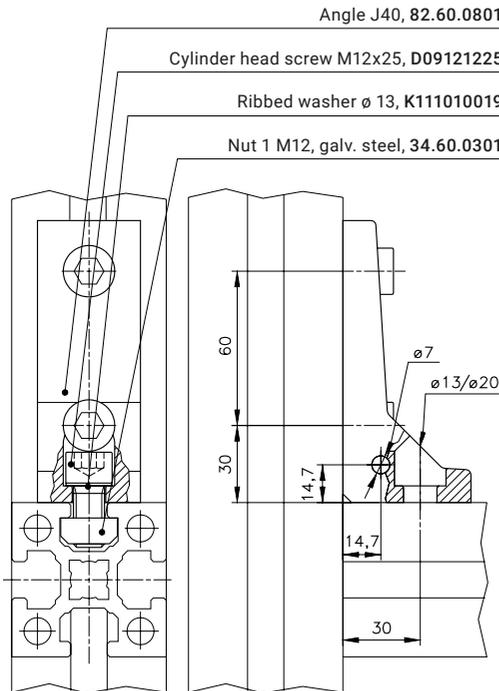
**T82.60.0701\***



Angle H100  
**82.60.0702**

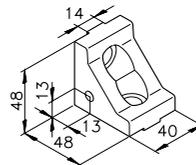
**T82.60.0702\***

Fastening example Set T82.60.0801



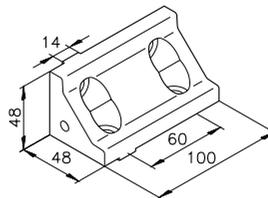
Threads for inserting panelling elements can be tapped into the angle's lateral bores.

### Angle Hs (with key)



Angle H40s  
**82.60.0741**

**T82.60.0741\***



Angle H100s  
**82.60.0742**

**T82.60.0742\***

# Angle Fasteners

3

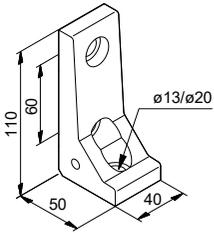
## 90° Angles

Material: Tumbled aluminium

25|40|50|60

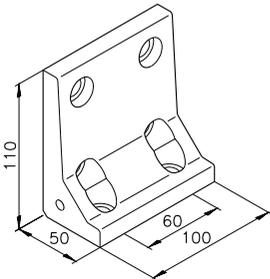
M12x25

### Angle J



Angle J40  
**82.60.0801**

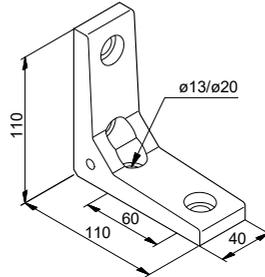
**T82.60.0801\***



Angle J100  
**82.60.0802**

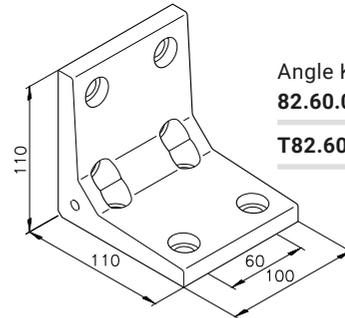
**T82.60.0802\***

### Angle K



Angle K40  
**82.60.0901**

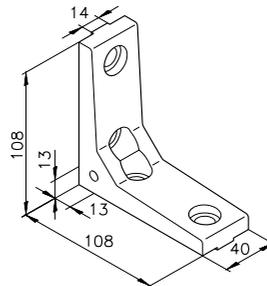
**T82.60.0901\***



Angle K100  
**82.60.0902**

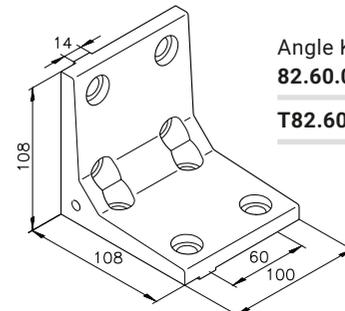
**T82.60.0902\***

### Angle Ks (with key)



Angle K40s  
**82.60.0941**

**T82.60.0941\***



Angle K100s  
**82.60.0942**

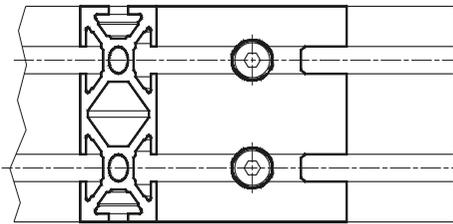
**T82.60.0942\***



## Angle Braces

Angle braces are a simple option for lending higher stability to a profile structure under heavy loads. The angle braces are installed using cylinder head screws and nuts, making them suitable for later installation into existing systems. End services includes the 45° mitre cuts on both ends and the bores for inserting the cylinder head screws.

Material: anodised aluminium



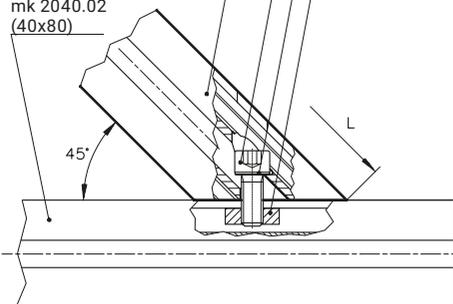
Nut 1 M8, galvanised steel, 34.01.0001

Ribbed washer  $\varnothing$  8.4, galvanised steel, K111010017

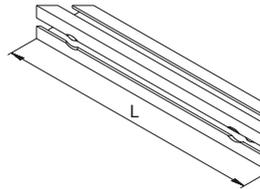
Cylinder head screw M8x20, DIN 912, D0912820

mk 2040.02 (40x80), 5402CA ....\*

mk 2040.02 (40x80)



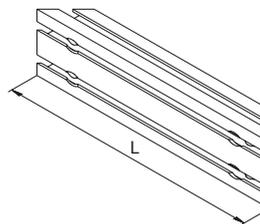
M8x20



Angle brace 01  
 Profile mk 2040.01  
 (40x40)

Artikel-Nr.

Length 200 mm	<b>5401CC0200</b>
Length 300 mm	<b>5401CC0300</b>
Length 400 mm	<b>5401CC0400</b>
Length 500 mm	<b>5401CC0500</b>



Angle brace 02  
 Profile mk 2040.02  
 (40x80)

Artikel-Nr.

Length 200 mm	<b>5402CA0200</b>
Length 300 mm	<b>5402CA0300</b>
Length 400 mm	<b>5402CA0400</b>
Length 500 mm	<b>5402CA0500</b>

## Angle Fasteners

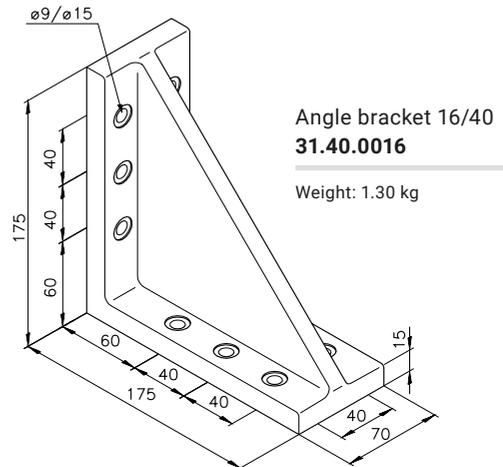
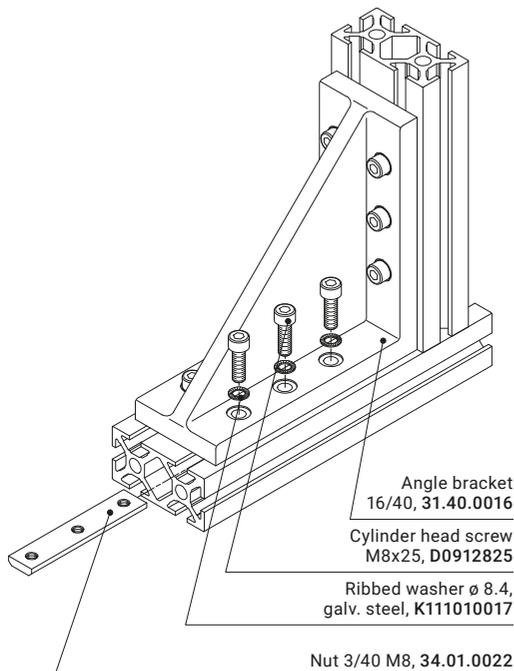
### 90° Angle Brackets

mk angle brackets are an excellent addition to mk's range of angles, designed for structures subject to high static loads and for connecting heavy, third-party components. Angle brackets can be used without profile machining and are also suitable for retrofitting components on existing structures.

Material: Die-cast aluminium,  
milled at right angles

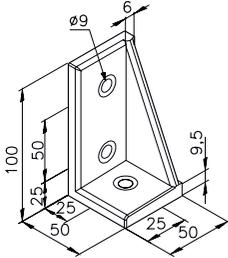
25 40 50 60 M8x25

#### Fastening example



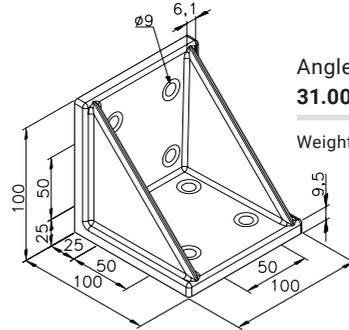
25 40 50 60

M8x20



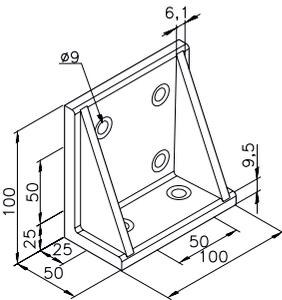
Angle bracket 1  
**31.00.0001**

Weight: 0.25 kg



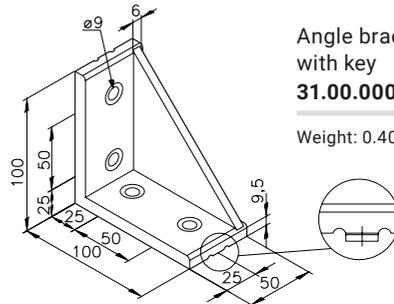
Angle bracket 5  
**31.00.0005**

Weight: 0.70 kg



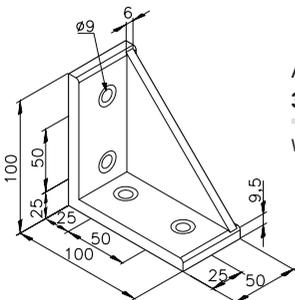
Angle bracket 2  
**31.00.0002**

Weight: 0.50 kg



Angle bracket 7  
 with key  
**31.00.0007**

Weight: 0.40 kg



Angle bracket 4  
**31.00.0004**

Weight: 0.35 kg

# Angle Fasteners

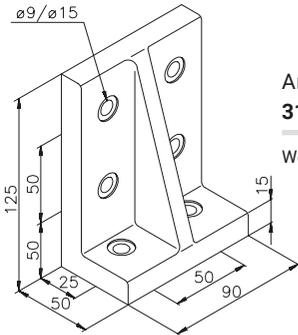
## 90° Angle Brackets

Material: Die-cast aluminium, milled at right angles

25 40 50 60

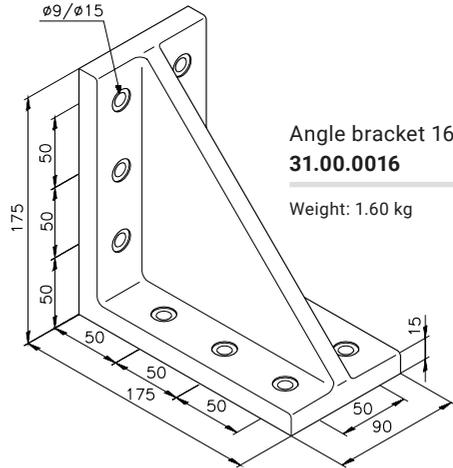
M8x25

3



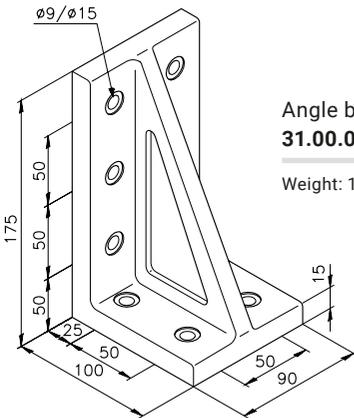
Angle bracket 14  
**31.00.0014**

Weight: 0.70 kg



Angle bracket 16  
**31.00.0016**

Weight: 1.60 kg



Angle bracket 15  
**31.00.0015**

Weight: 1.20 kg



## 90° Angle Brackets

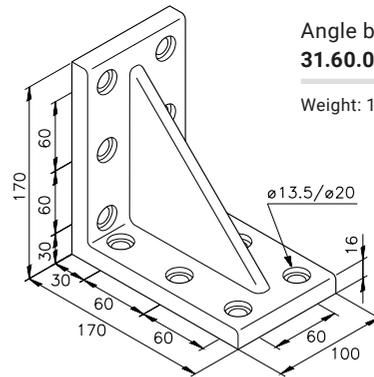
Material: Die-cast aluminium, milled at right angles

25 | 40 | 50 | 60 | M12x30

3

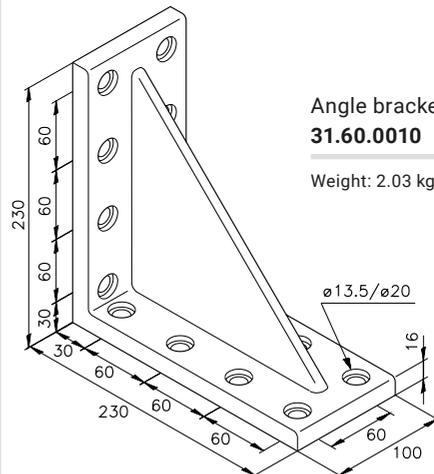
### Angle bracket 60/1 31.60.0009

Weight: 1.38 kg



### Angle bracket 60/7 31.60.0010

Weight: 2.03 kg

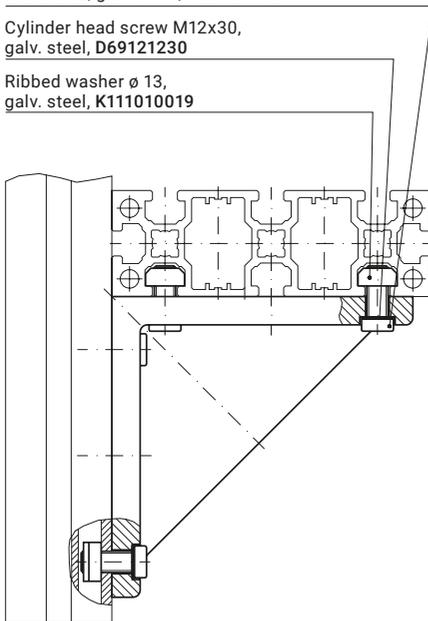


### Fastening example

Nut 1 M12, galv. steel, 34.60.0301

Cylinder head screw M12x30,  
 galv. steel, D69121230

Ribbed washer  $\varnothing 13$ ,  
 galv. steel, K111010019



# Angle Fasteners



## 30/45/60° Angles

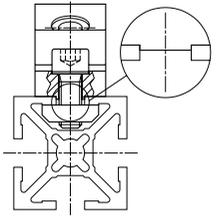
The L (30°), M (45°) and N (60°) angles are ideal for reinforcing corners. In rectangular frame structures, you must always combine two M angles or one L angle and one N angle. This will make the profiles line up automatically.

Material: Tumbled aluminium

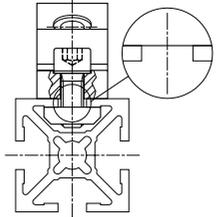
**25 40 50 60** **M8x20**

### Angle with and without key

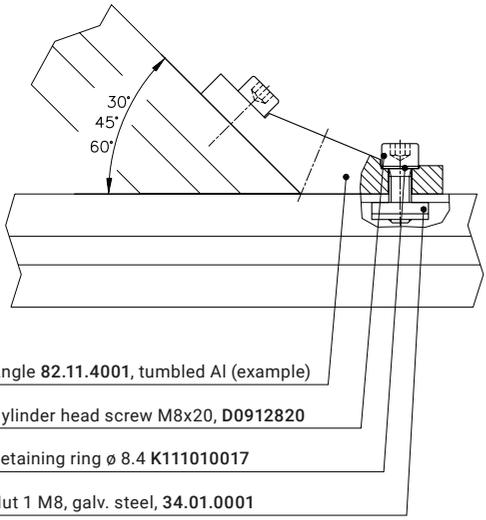
Angle M25s



Angle M25



### Fastening example

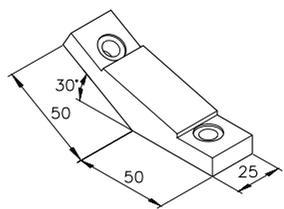


Angle 82.11.4001, tumbled Al (example)

Cylinder head screw M8x20, D0912820

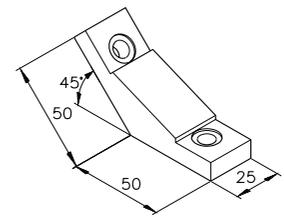
Retaining ring ø 8.4 K111010017

Nut 1 M8, galv. steel, 34.01.0001



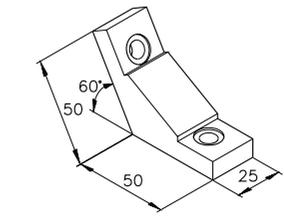
Angle L25  
**82.10.4001**

Angle L25s  
(with key)  
**82.10.4041**



Angle M25  
**82.11.4001**

Angle M25s  
(with key)  
**82.11.4041**



Angle N25  
**82.12.4001**

Angle N25s  
(with key)  
**82.12.4041**



## Adjustable Angle Brackets

Adjustable angle brackets make it possible to connect mk profiles at continuously variable angles.

Material: Tumbled aluminium

3

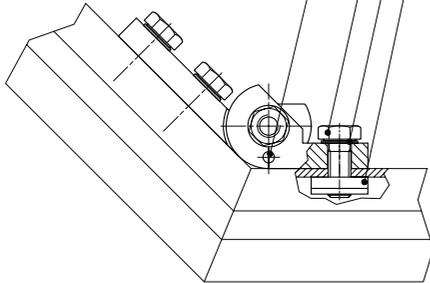
### Fastening example Set B46.00.027

Nut 1 M8, galv. steel, 34.01.0001

Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

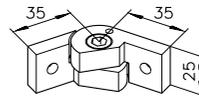
Hexagon head screw M8x20, D0933820

\*Dowel pin 4 x 24, D1481424



\*If needed, the adjustable angle brackets can be easily dowelled. The dowel pin is included with delivery.

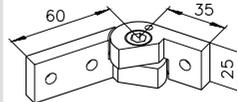
25 40 50 60 M6x16



Adjustable angle bracket A25/1

**B46.00.035**

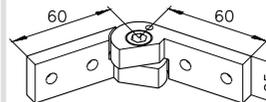
**B46.00.025\***



Adjustable angle bracket A25/2

**B46.00.036**

**B46.00.026\***

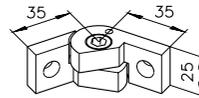


Adjustable angle bracket A25/3

**B46.00.034**

**B46.00.024\***

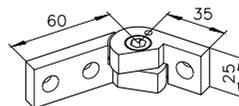
25 40 50 60 M8x20



Adjustable angle bracket B25

**B46.00.033**

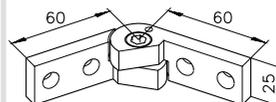
**B46.00.021\***



Adjustable angle bracket C25

**B46.00.037**

**B46.00.027\***



Adjustable angle bracket D25

**B46.00.032**

**B46.00.020\***



# Plate Fasteners

## Plate Fasteners

Depending on your installation situation, you can choose among straight plates, T-plates or angle plates. The plates have a pressed indentation to ensure that they do not twist in the slot.

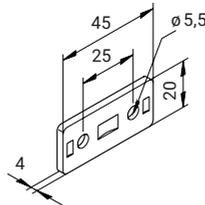
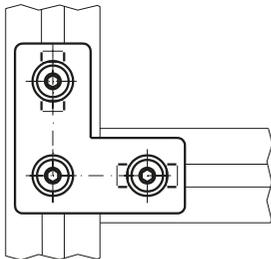
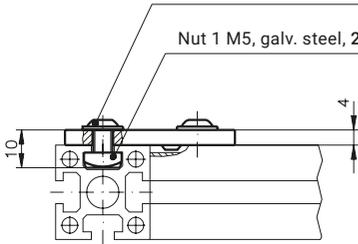
Material: Tumbled aluminium

**25 40 50 60** M5x10 Flanged button-head screw

Fastening example Set T25.50.3002

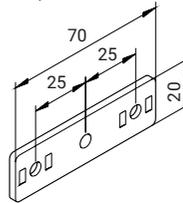
Flanged button-head screw,  
M5x10, K112010021

Nut 1 M5, galv. steel, 25.50.0500



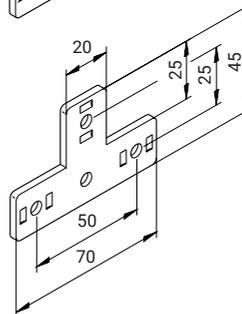
Straight plate 01  
**25.50.3000**

**T25.50.3000\***



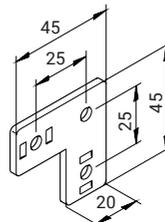
Straight plate 02  
**25.50.3001**

**T25.50.3001\***



T-plate 01  
**25.50.3006**

**T25.50.3006\***



Angle plate 01  
**25.50.3002**

**T25.50.3002\***



## Plate Fasteners

Plate fasteners are also used to connect guard partitions. The inner slots remain unobstructed and can thus be used to attach panelling. Straight plate 05, shown here, can be used to connect two guard partitions without a gap.

Material: Tumbled aluminium

25 | 40 | 50 | 60

M8x12 Flanged button-head screw

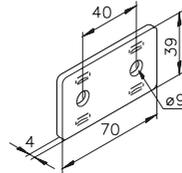
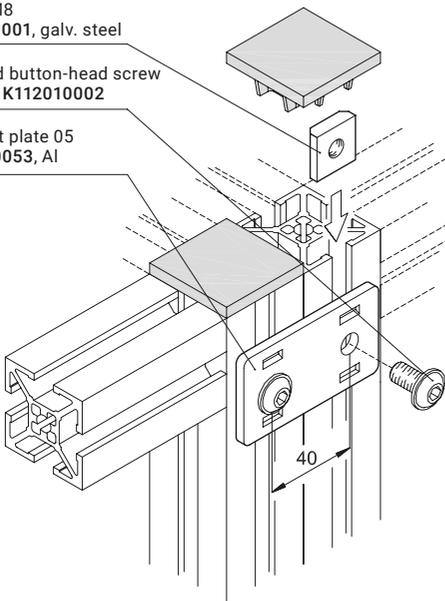
3

### Fastening example Set T50.05.0053

Nut 1 M8  
 34.01.0001, galv. steel

Flanged button-head screw  
 M8x12, K112010002

Straight plate 05  
 50.05.0053, Al



Straight plate 05  
**50.05.0053**

**T50.05.0053\***

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.



# Plate Fasteners

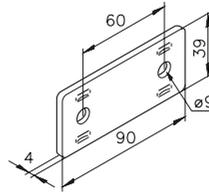
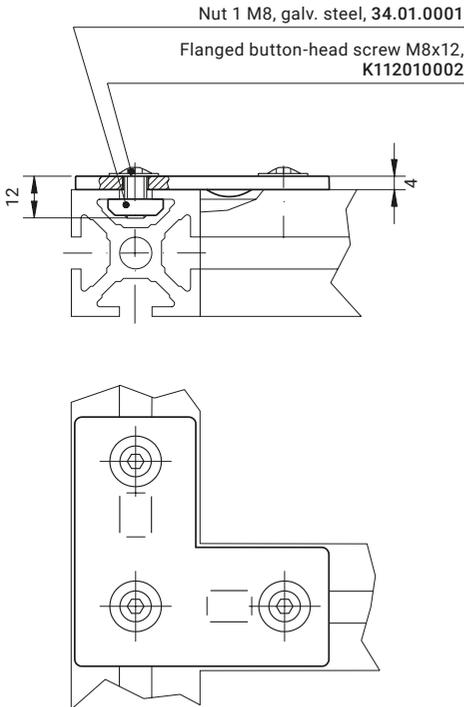
## Plate Fasteners

Plate fasteners with a plate thickness of 4 mm are designed for low to medium loads. Plates with a key ensure that profile paths are exactly aligned and that the connections do not twist in the slot.

Material: Tumbled aluminium

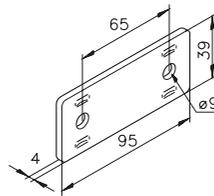
**25 40 50 60** M8x12 Flanged button-head screw

### Fastening example Set T50.05.0045



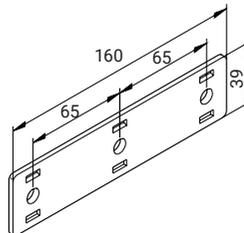
Straight plate 04  
**50.05.0077**

**T50.05.0077\***



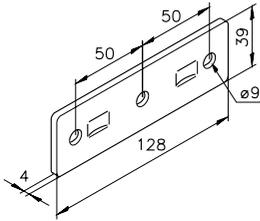
Straight plate 03  
**50.05.0052**

**T50.05.0052\***



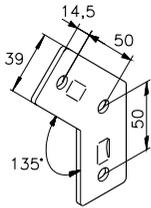
Straight plate 09  
**50.05.0070**

**T50.05.0070\***



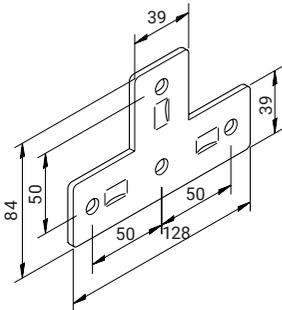
Straight plate 07  
**50.05.0047**

**T50.05.0047\***



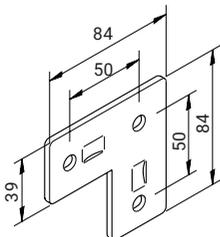
Angle plate 13  
**50.05.0051**

**T50.05.0051\***



T-plate 03  
**50.05.0046**

**T50.05.0046\***



Angle plate 03  
**50.05.0045**

**T50.05.0045\***

\* Set with fastening accessories, contains appropriate quantities of screws, ribbed washers and nuts.



# Plate Fasteners

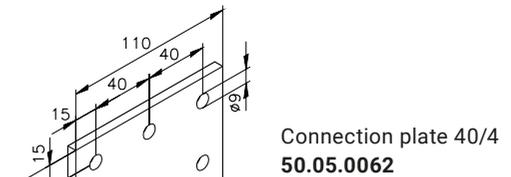
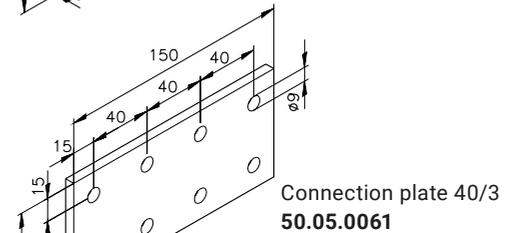
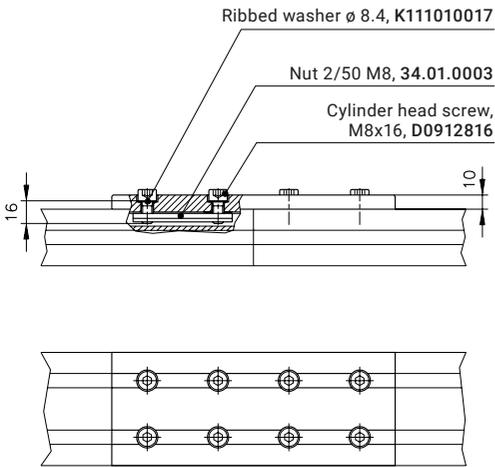
## Heavy-Duty Plate Fasteners

The heavy-duty plate fasteners have a plate thickness of 6 mm and are designed for higher loads.

Material: Tumbled aluminium

**25** **40** **50** **60**    **M8x16**

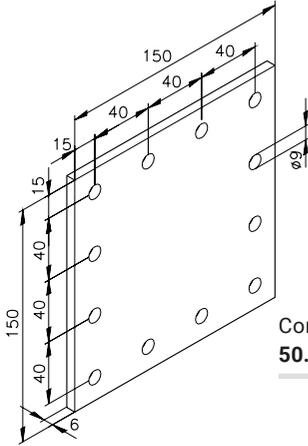
Fastening example



## Heavy-Duty Plate Fasteners

Plate fasteners made from profiles 3855 and 3856 have a special geometry to fit exactly into a 10 mm slot. This ensures that profiles are exactly aligned and that the connections do not twist in the slot.

Material: Anodised aluminium

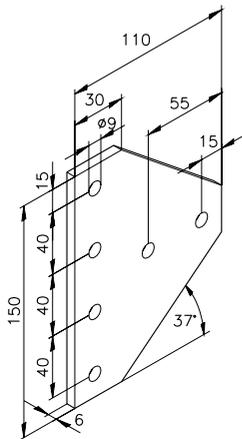


Connection plate 40/6  
**50.05.0064**

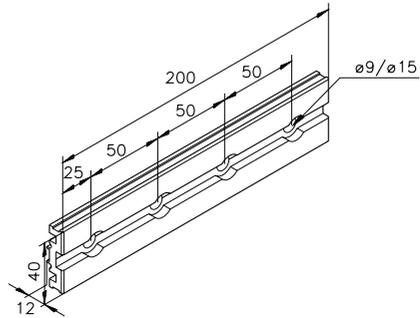
M8x16

25 40 50 60

Profile 3855  
**3855BF0200**

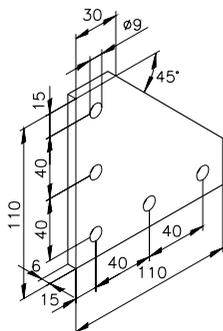


Connection plate 40/7  
**50.05.0065**

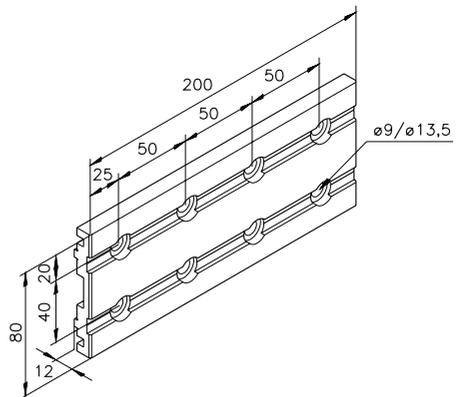


25 40 50 60

Profile 3856  
**3856BD0200**



Connection plate 40/8  
**50.05.0066**





# Plate Fasteners

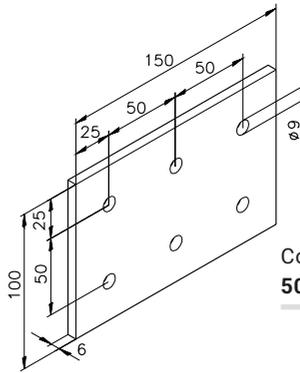
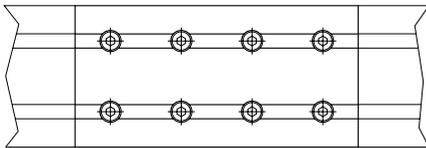
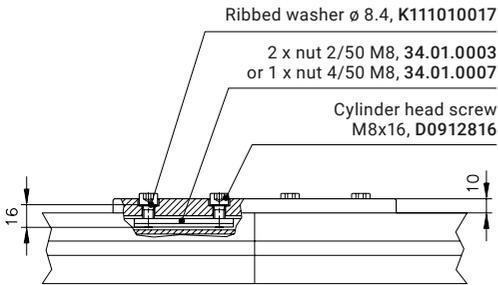
## Heavy-Duty Plate Fasteners

The heavy duty plate fasteners have a plate thickness of 6 mm and are designed for higher loads.

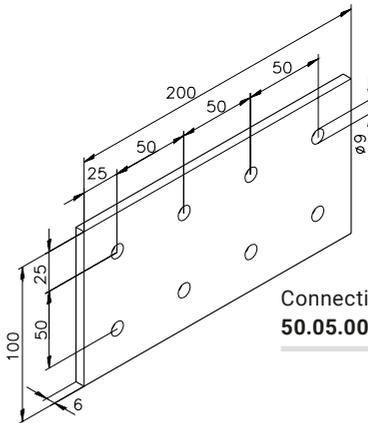
Material: Tumbled aluminium

25 | 40 | 50 | 60    M8x16

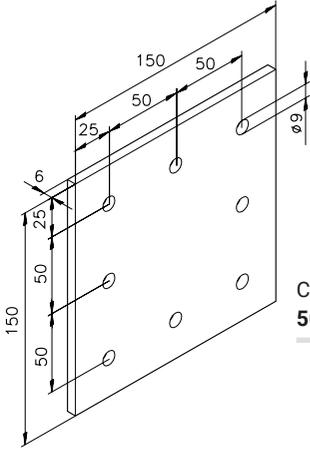
### Fastening example



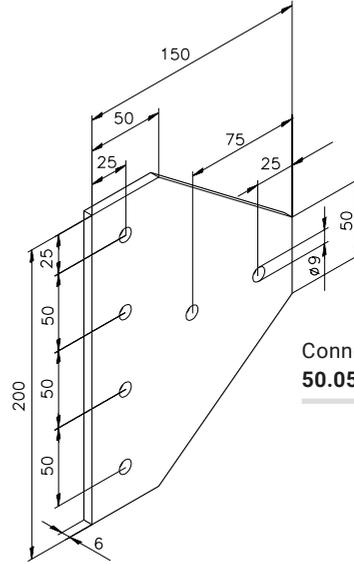
Connection plate 16  
**50.05.0016**



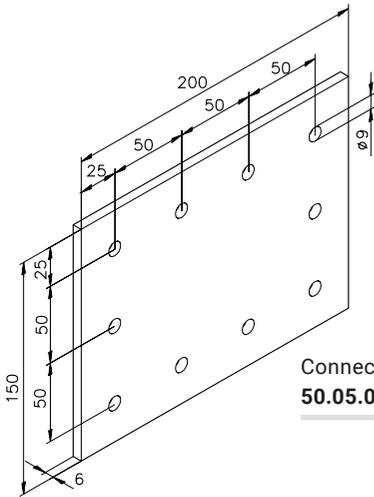
Connection plate 17  
**50.05.0017**



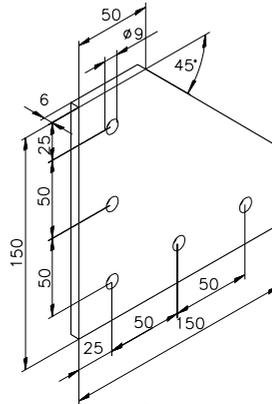
Connection plate 13  
**50.05.0013**



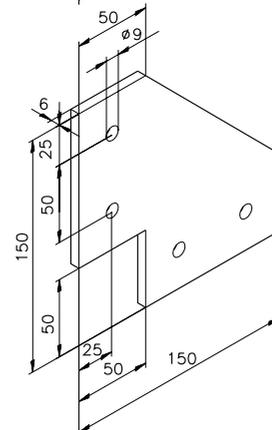
Connection plate 12  
**50.05.0012**



Connection plate 18  
**50.05.0018**



Connection plate 10  
**50.05.0010**



Connection plate 11  
**50.05.0011**

# Plate Fasteners

## Heavy-Duty Plate Fasteners

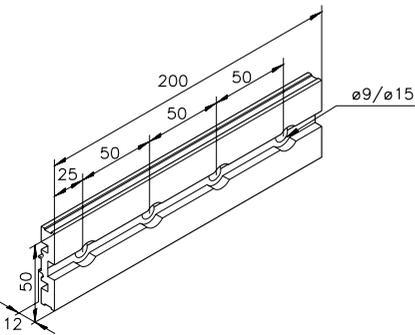
Plate fasteners made from profiles 3860 and 3861 have a special geometry to fit exactly into the 10 mm slot on a Series 50 profile. This ensures that profiles are exactly aligned and that the connections do not twist in the slot.

Material: Anodised aluminium

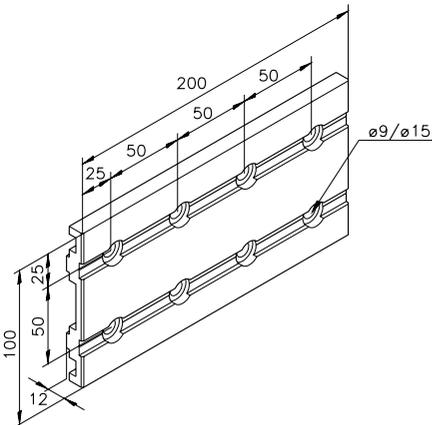
25 40 50 60

M8x16

Profile 3860  
**3860BD0200**



Profile 3861  
**3861BD0200**

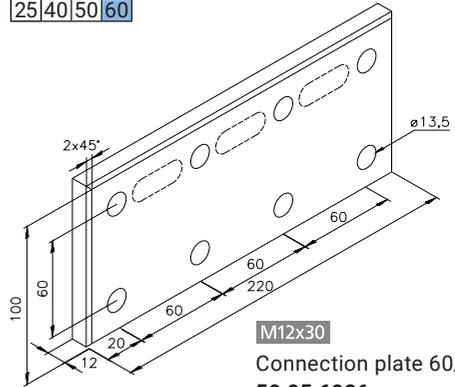




## Heavy-Duty Plate Fasteners

Material: Tumbled aluminium

25 40 50 60



M12x30

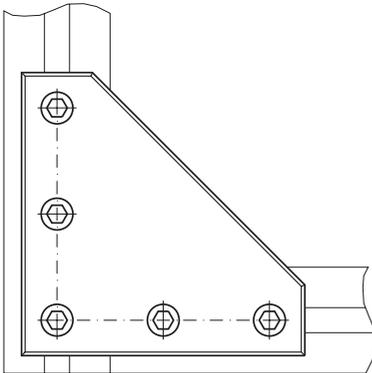
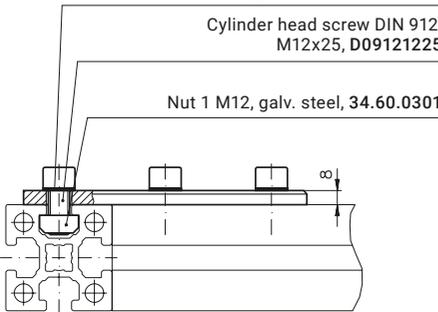
Connection plate 60/26  
**50.05.6026**

### Fastening example

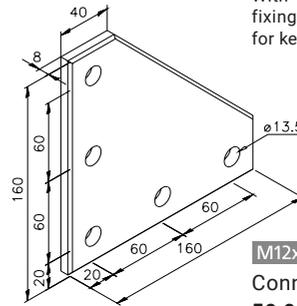
Ribbed washer ø 13,  
 galv. steel, K111010019

Cylinder head screw DIN 912,  
 M12x25, D09121225

Nut 1 M12, galv. steel, 34.60.0301

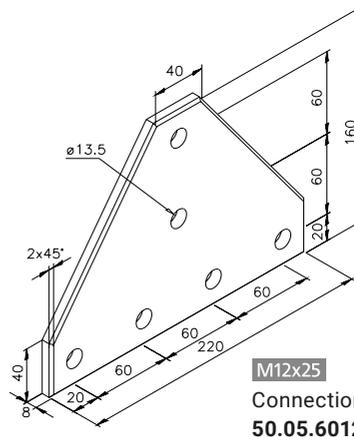


With 14 mm key slots for  
 fixing plate in profile slot,  
 for keys D6885A14940



M12x25

Connection plate 60/10  
**50.05.6010**



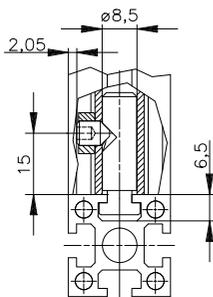
M12x25

Connection plate 60/12  
**50.05.6012**



Tools starting on page 334  
End services starting on page 16

#### Fastening example



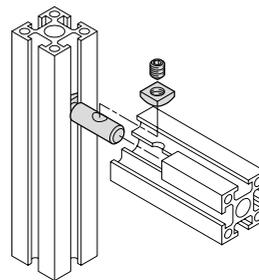
## Internal Fasteners

### Tension Plugs

Tension plugs are an alternative to angles when the slots must be left free for inserting panelling or when structures are to be created without visible connecting elements. Tension plugs are therefore often used with protective panels or in light-duty frame construction.

Material: Galvanised steel

25|40|50|60



Tension plug  
**B51.03.009**

End services BA, BB  
( $\varnothing$  5.8 mm bore to centre, 15 mm distance)



## Screw Connections

Screw connections allow users to create profile structures using only standard parts. The connection requires an M8 thread in profile 1 (extra light duty profile) or an M8 threaded insert. In profile 2, a  $\varnothing$  10 mm bore is required at the spot of the connection to tighten the screw with an Allen key. For a seamless closure with an end cap, the bore should be 15 mm from the edge.



**Assembly video screw connections**

<https://youtu.be/zjgKKTmhjWw>

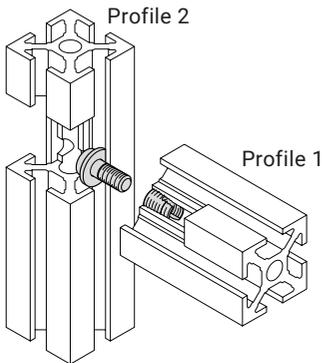


Tools starting on page 334

End services starting on page 16

25 40 50 60

### Fastening example



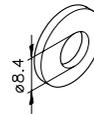
Cylinder head screw  
M8x20

**D6912820**

DIN 6912, 8.8 galv. steel

**D6912820A2**

DIN 6912, 4.6 stainless steel



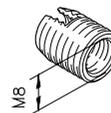
Tension washer

**D67968**

Galv. steel

**D67968A2**

Stainless steel



M8 threaded insert

**K112030008**

Galv. steel

( $\varnothing$  10 mm through-bore)



# Internal Fasteners

## Screw Connections

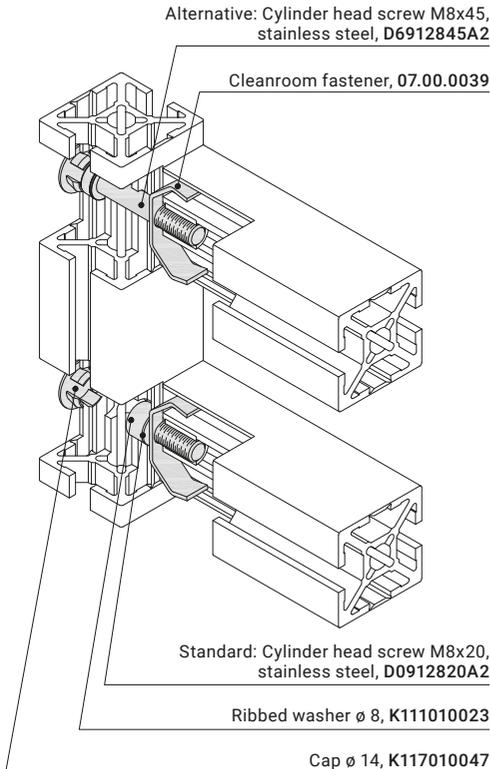
### ... for Cleanrooms

mk's cleanroom fastener is a fastener that securely connects Series 40 cleanroom profiles while also preventing twisting. The connector is clipped into the face of a profile equipped with a threaded insert. When the profiles are screwed together, the connector is pulled into the closed slot and displaces the removable material covering the slot. This produces a particularly close fit.

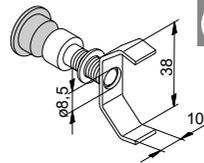


Tools starting on page 334  
 End services starting on page 16  
 Cleanroom Profiles on page 56

### Fastening example



25 | 40 | 50 | 60



Cleanroom fastener with silver cap  
**B51.03.100.SI**

with black cap  
**B51.03.100.SW**

Including screw, ribbed washer and cap



## Tension Plugs

Tension plugs are an alternative to angles when structures need to have hidden connecting elements and unobstructed slots. As an alternative to the tension plugs listed below, you can also use tension plugs with a thrust part; see the following page. The plugs with thrust parts are more versatile and have additional benefits, but they have a smaller contact surface in the slot than the connectors shown here.



### Assembly video tension plugs

<https://youtu.be/MUjiEZwmOvQ>

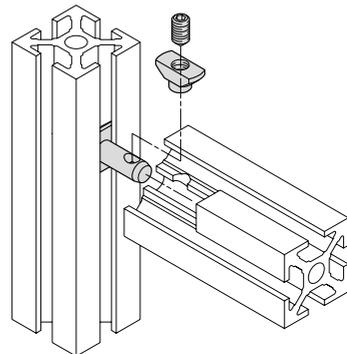
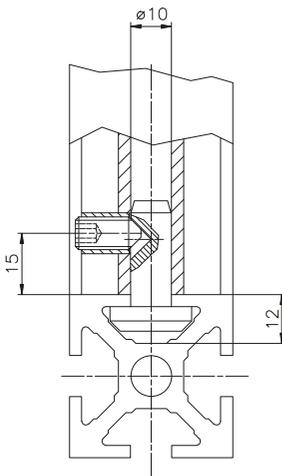


Tools starting on page 334

End services starting on page 16

25 40 50 60

### Fastening example



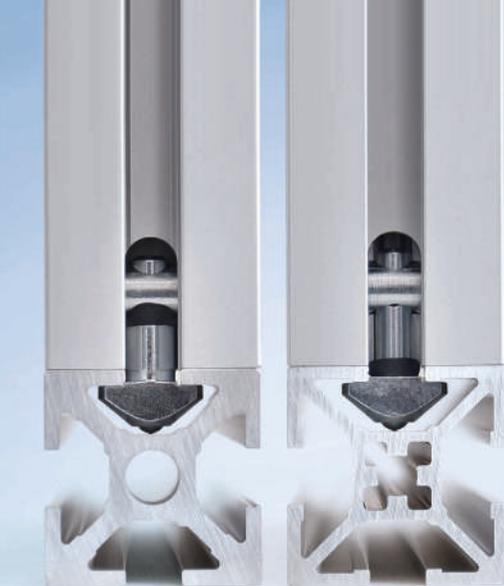
Tension plug  
**B51.03.004**

Galv. steel

**B51.03.030**

Stainless steel

End services BA, BB  
 (ø 10 mm bore to centre, 15 mm distance)



# Internal Fasteners

## Tension Plugs

### ... with Thrust Part

Tension plugs with a thrust part are ideally suited for frame structures containing panelling, since all slots remain free. The tension plugs also allow profiles to be retrofitted onto existing structures, even if the faces of the profiles are already sealed. The connector is fastened in the slot using the thrust part (ball with spring), which eases mounting in a vertical position and provides an additional mounting option.

Material: Galvanised steel



**Assembly video tension plugs**

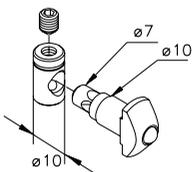
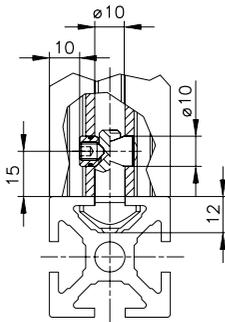
[https://youtu.be/59hvmgZ\\_w5E](https://youtu.be/59hvmgZ_w5E)

25 40 50 60



Tools starting on page 334  
End services starting on page 16

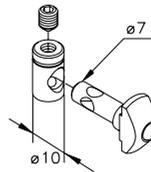
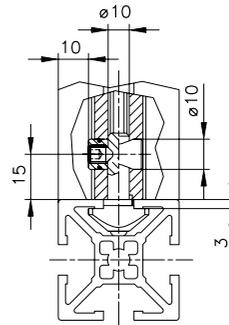
### Fastening example



**Tension plug  
B51.03.040**

for series 40 profiles,  
light duty and normal

### Fastening example



**Tension plug  
B51.03.041**

for series 40 profiles,  
extra light duty

End services BV, BW  
( $\varnothing$  10 mm through-bore, 15 mm distance)

End services BV, BW  
( $\varnothing$  10 mm through-bore, 15 mm distance)



## Tension Plugs S

The Tension plug S creates quick, strong and easy aluminum profile structures with no obstructing edges. The ribbing on the contact surface ensures that the connections are conductive (ESD). One T-slot remains completely open, allowing panelling to be inserted into the slot. The Tension plug S was specially developed to connect mk Series 40 aluminium profiles on the face side. The connector requires little installation work, as only one central bore is required.

Material: Galvanised steel



Tools starting on page 334  
 End services starting on page 16



**Assembly video tension plugs**

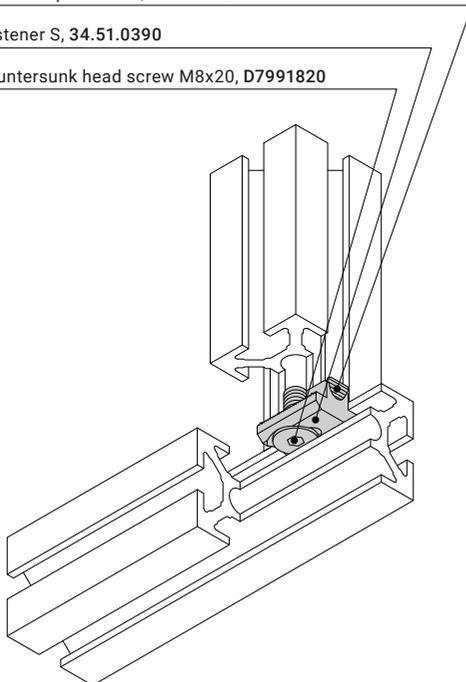
<https://youtu.be/9c9cS95ym04>

### Fastening example

Threaded pin M8x20, D0913812

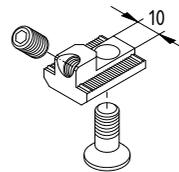
Fastener S, 34.51.0390

Countersunk head screw M8x20, D7991820



25 40 50 60

M8x20



Tension plug S  
**B51.03.090\***

\*Set with fastening accessories threaded pin and countersunk head screw



## Internal Fasteners

### Tension Plugs

A tension plug is also available for Series 50 structures that require hidden connecting elements and unobstructed slots. The tension plug features a high load capacity and standardised end machining. Only the profile in which the front end of the tension plug is inserted contains a bore at the defined distance. This profile can be inserted into another profile and attached to the desired area without additional machining.

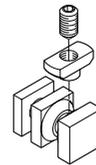
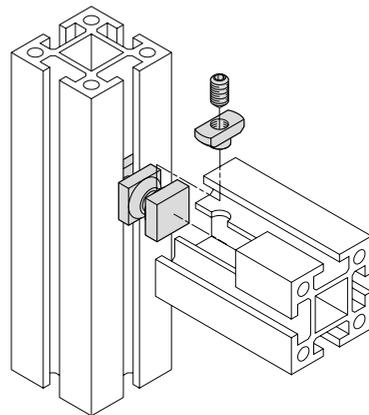
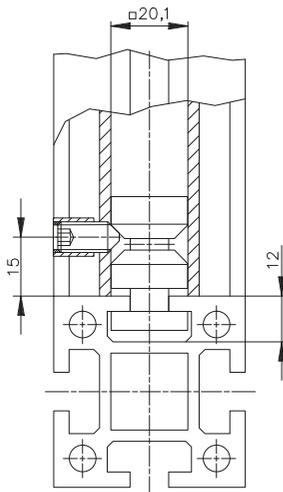
Material: Galvanised steel



Tools starting on page 334  
End services starting on page 16

25|40|50|60

#### Fastening example



Tension plug  
**B51.03.006**

End services BF, BG  
( $\varnothing$  10 mm bore to centre, 15 mm distance)



## Anchor Fasteners

Anchor fasteners are an innovative type of hidden connector that can be used without profile machining. They enable you to create profile structures with no obstructing edges and, moreover, do not require profile machining. They are slid into the  $\varnothing 10$  mm bore of a Series 40 profile and clamped using a screw. The side anchors are used to fasten the connector to the other profile while also preventing twisting.

Material: Galvanised steel



**Assembly video anchor fasteners**

[https://youtu.be/HTI7\\_0YNikY](https://youtu.be/HTI7_0YNikY)

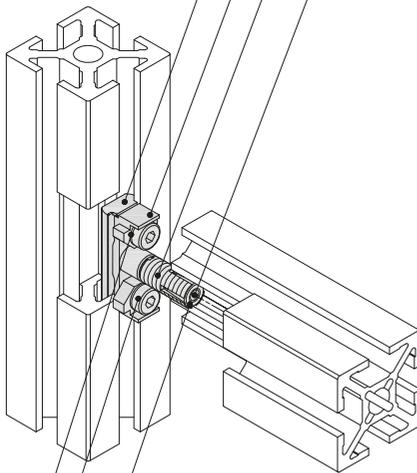
### Fastening example

Cylinder head screw M5x35, D0912535

Outer bushing, 06.00.0030

Anchor clamp,  
die-cast steel, 79.00.0050

Swivel-in nut 2 M6 ESD,  
for anchor, 34.16.0636



Inner bushing, 06.00.0031

Cylinder head screw M6x16, D7984616

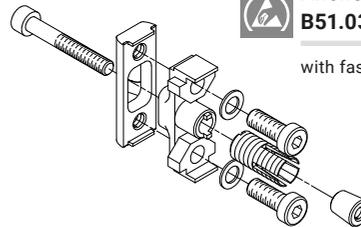
Ribbed washer  $\varnothing 6$ , K111010016

25 | 40 | 50 | 60



**Anchor fastener  
B51.03.050**

with fastening accessories





# Internal Fasteners

## Clamping Jaws

Clamping jaws are a versatile and hidden connection for Series 40 and Series 50 profiles. The screw can be easily tightened in the slot and they are suitable for later mounting in existing structures, making them appropriate for a wide range of applications. They can be used in profiles with two, four, eight or even "n" slots. The connection requires standard end service with a  $\varnothing$  10 mm bore that is 15 mm from the edge for Series 40 and 14 mm from the edge for Series 50.

Material: Galvanised steel



Tools starting on page 334  
End services starting on page 16

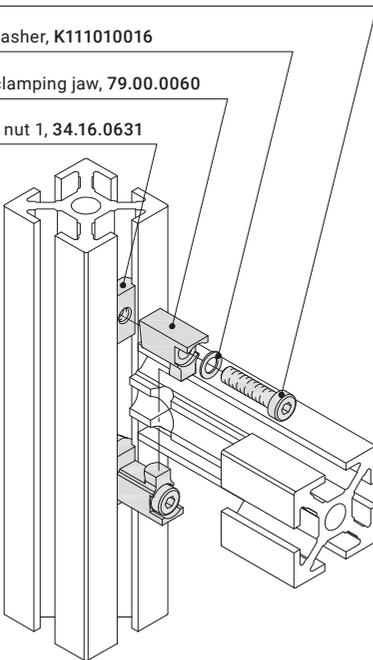
### Fastening example

Cylinder head screw M6x25, D7984625

Ribbed washer, K111010016

Slanted clamping jaw, 79.00.0060

Swivel-in nut 1, 34.16.0631



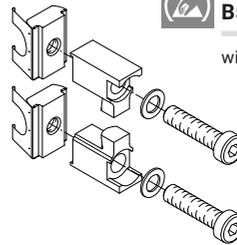
Series 40 end services BV, BW (15 mm distance)  
Series 50 end services BF, BG (15 mm distance)  
( $\varnothing$  10 mm through-bore)

25 40 50 60 M6x25



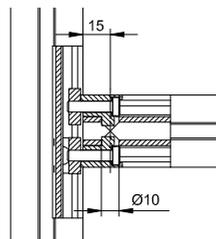
Clamping jaw  
**B51.03.060**

with fastening accessories

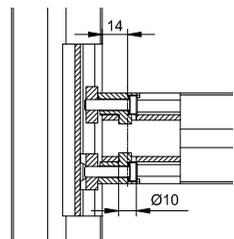


### Dimensional sketch

Series 40



Series 50





## Bolt Fasteners

Bolt fasteners are compact and highly stable connectors. They are ideal for applications where you need a sturdy connection but want to avoid the obstructing edge produced by an angle. In order to use the bolt fastener, end service is required to provide a  $\varnothing 14$  mm bore at a distance of 20 mm from the edge. Different versions allow you to use the connectors in Series 40 and Series 50 profiles.

Material: Galvanised steel

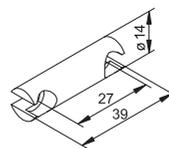
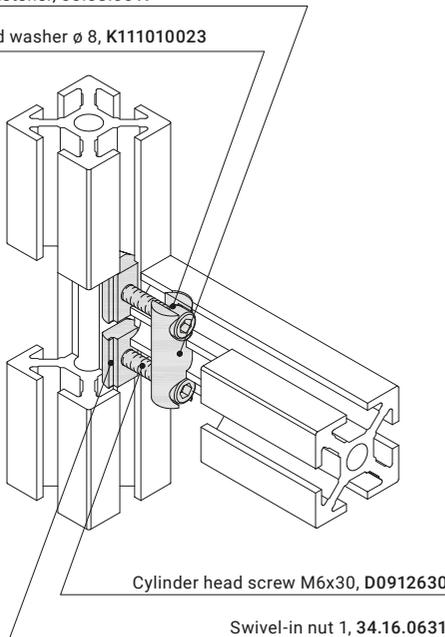
3

 End services starting on page 16

### Fastening example

Bolt fastener, 05.03.0019

Ribbed washer  $\varnothing 8$ , K111010023

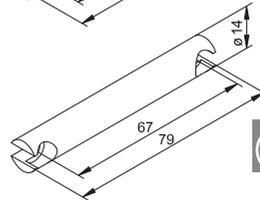


25 | 40 | 50 | 60



Bolt fastener 40  
**B51.03.070SI\***

**B51.03.070SW\***

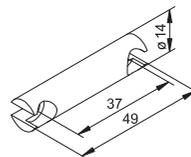


25 | 40 | 50 | 60



Bolt fastener 80  
**B51.03.071SI\***

**B51.03.071SW\***

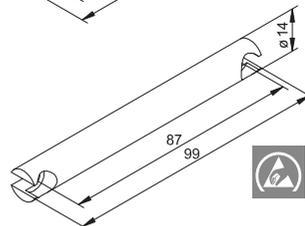


25 | 40 | 50 | 60



Bolt fastener 50  
**B51.03.073SI\***

**B51.03.073SW\***



25 | 40 | 50 | 60



Bolt fastener 100  
**B51.03.074SI\***

**B51.03.074SW\***

End services BY, BZ  
 ( $\varnothing 14,1$  mm through-bore, 20 mm distance)

\*With fastening accessories and cap (SI = silver, SW = black)

# Internal Fasteners

## Hinge Tension Plugs

You can use hinge tension plugs to connect mitre-cut profiles at their faces. Profiles can be connected at all angles within  $\pm 90^\circ$ . The connection requires a single-side bore in both profiles on the chamfered side, 15 mm from the centre of the cut edge. The single-side bore must be  $\varnothing 5.8$  for Series 25 hinge tension plugs, and  $\varnothing 10$  for Series 40.

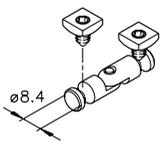
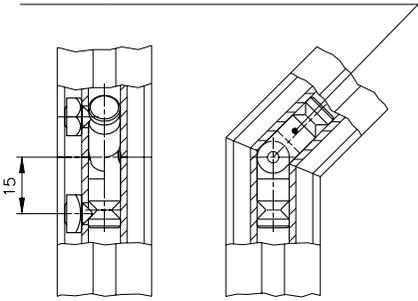
Material: Galvanised steel



Tools starting on page 334  
End services starting on page 16

### Fastening example

Series 25 hinge tension plug,  
galv. steel, B51.03.010



25|40|50|60



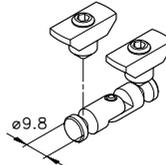
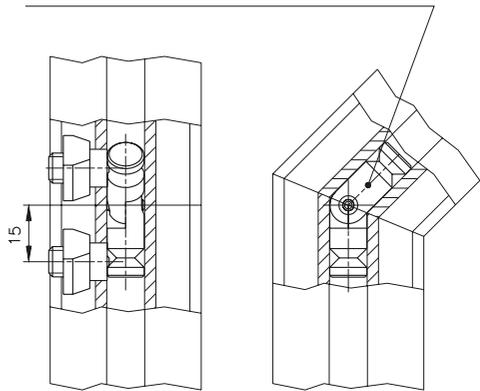
Hinge tension plug  
B51.03.010

$\pm 90^\circ$

( $\varnothing 5.8$  mm bore to centre, 15 mm distance)

### Fastening example

Series 40 hinge tension plug,  
galv. steel, B51.03.011



25|40|50|60



Hinge tension plug  
B51.03.011

$\pm 90^\circ$

( $\varnothing 10$  mm bore to centre, 15 mm distance)

## Tension Plugs, Front Side

The tension plugs displayed here create gap-free connections between the faces of Series 40 profiles. In contrast to plate fasteners, all slots on the profiles remain free.

Material: Galvanised steel

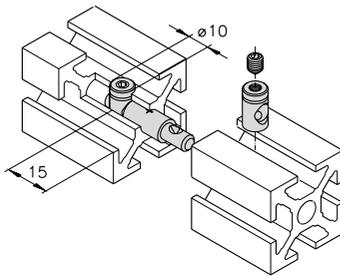
25 40 50 60



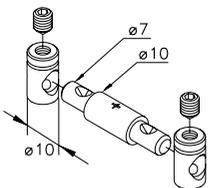
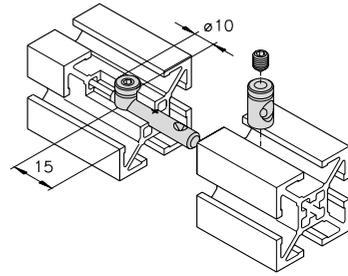
Tools starting on page 334

End services starting on page 16

### Fastening example

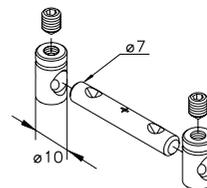


### Fastening example



Tension plug,  
 front side  
**B51.03.043**

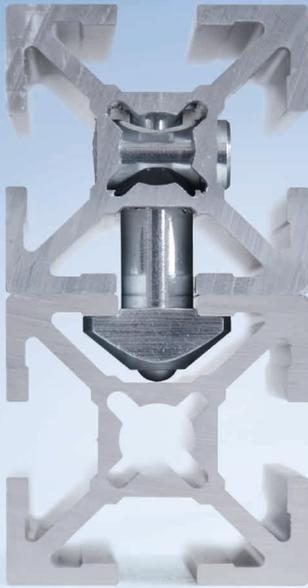
for series 40 profiles,  
 light duty and normal



Tension plug,  
 front side  
**B51.03.044**

for series 40 profiles,  
 extra light duty

(ø 10 mm through-bore)



## Internal Fasteners

### Parallel Connectors

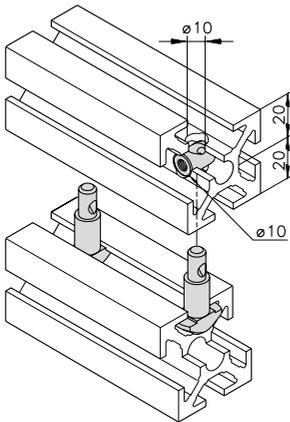
The tension plugs pictured here connect two profiles paraxially and seamlessly. The connector is fastened in the slot using the tension part (ball with spring), which eases mounting in a vertical position. To be able to use the parallel connector, you have to drill an additional bore that is 90° to the through-bore; see the fastening example. A second connector ensures protection against twisting. Generally, a tension plug should be set at least every 1,000 mm.

Material: Galvanised steel

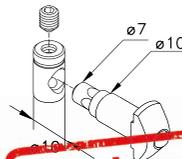
Tools starting on page 334  
End services starting on page 16



#### Fastening example



25 40 50 60



Tension plug,  
parallel  
B51.03.042

**no longer available**

( $\varnothing$  10 mm through-bore)



## Parallel Connectors

### ... Paraxial or Angled

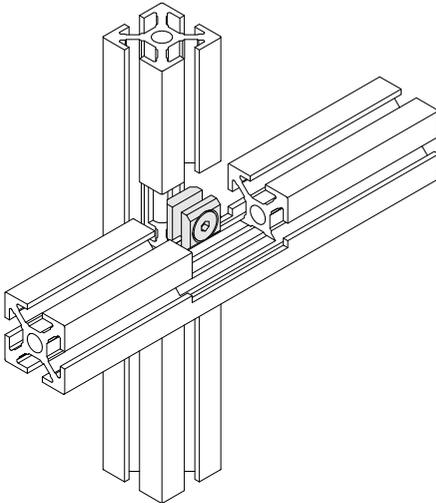
Parallel connectors made from a countersunk nut, screws and a standard nut can be used to create a gap-free connection between two profiles, either paraxial or at an angle of your choosing (single parallel connector only). In the profile to which you are connecting, one or two  $\varnothing 10$  mm bores are required at the spot of the connection to tighten the screw with an Allen key.

Material: Galvanised steel

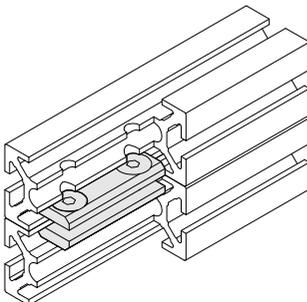
3

 Tools starting on page 334

Fastening example for B51.03.055

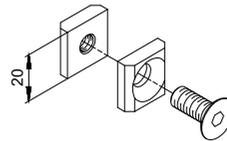


Fastening example for B51.03.056

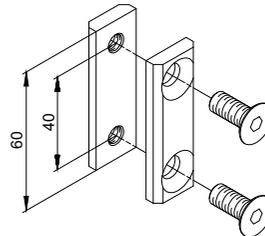


25 40 50 60

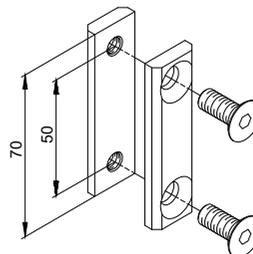
M8x20



Parallel connector 1 M8  
**B51.03.055\***



Parallel connector 2/40 M8  
**B51.03.056\***



Parallel connector 2/50 M8  
**B51.03.057\***

( $\varnothing 10$  mm through-bore)

\*With fastening accessories

# Corner Block Joints

## Corner Blocks

Corner blocks connect profile faces at corner joints. They produce smooth, aesthetically pleasing structures. The profile slots remain unobstructed on all sides. Open corner blocks are fastened using standard screws, while closed corner blocks are fastened with the included internal fastener.

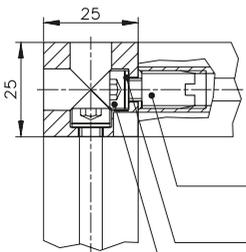
Material: Tumbled aluminium

**25** | **40** | **50** | **60**    **M6x16**



Tools starting on page 334  
End services starting on page 16

### Fastening example with open corner blocks

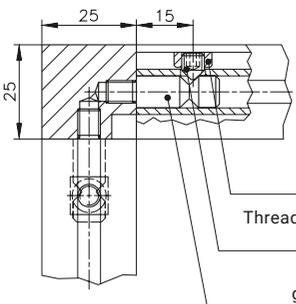


Threaded insert M6,  
9S20K, K112030006

Ribbed washer  $\varnothing$  6,  
galv. steel, K111010016

Cylinder head screw M6x16,  
DIN 6912, D6912616

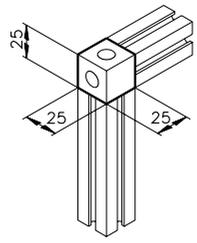
### Fastening example for closed corner blocks



Nut 1 M6, galv. steel,  
25.50.0512

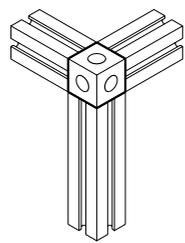
Threaded pin M6x8, DIN 914,  
galv. steel, D091468

Tension plug,  
galv. steel, 25.50.3321



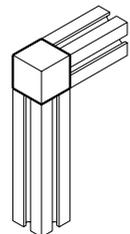
**Corner block 25**  
**25.50.3300**

Connects 2 x  
mk 2025.01 (25x25)  
profiles (example)



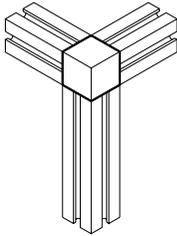
**Corner block 26**  
**25.50.3301**

Connects 3 x  
mk 2025.01 (25x25)  
profiles (example)



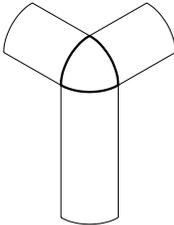
**Corner block 30**  
**B46.05.001\***

Connects 2 x  
mk 2025.01 (25x25)  
profiles (example)



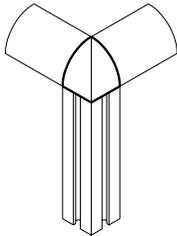
Corner block 31  
**B46.05.002\***

Connects 3 x mk 2025.01 (25x25) profiles (example)



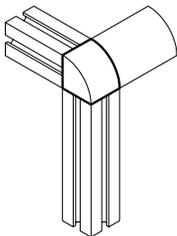
Corner block 32  
**B46.05.003\***

Connects 3 x mk 2025.37 profiles (example)



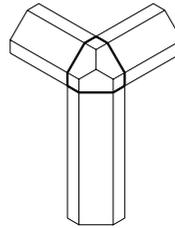
Corner block 33  
**B46.05.004\***

Connects 1 x mk 2025.01 (25x25) profile and 2 x mk 2025.37 profiles (examples)



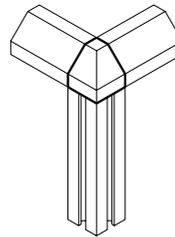
Corner block 34  
**B46.05.005\***

Connects 2 x mk 2025.01 (25x25) profiles and 1 x mk 2025.37 profile (examples)



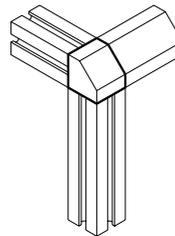
Corner block 35  
**B46.05.006\***

Connects 3 x mk 2025.38 profiles (example)



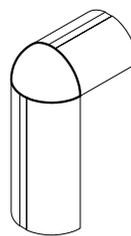
Corner block 36  
**B46.05.007\***

Connects 1 x mk 2025.01 (25x25) profile and 2 x mk 2025.38 profiles (examples)



Corner block 37  
**B46.05.008\***

Connects 2 x mk 2025.01 (25x25) profiles and 1 x mk 2025.38 profile (examples)



Corner block 38  
**B46.05.009\***

Connects 2 x mk 2025.39 profiles (example)

(∅ 5,8 mm bore to centre, 15 mm distance)

(∅ 5,8 mm bore to centre, 15 mm distance)

\*With fastening accessories

# Corner Block Joints

## Corner Blocks

Corner blocks connect profile faces at corner joints. They produce smooth, aesthetically pleasing structures. The profile slots remain unobstructed on all sides. Open corner blocks are fastened using standard screws, while closed corner blocks are fastened with the included internal fastener.

Material: Tumbled aluminium



**Assembly video open corner blocks**  
<https://youtu.be/aiMQ8mmSyNc>



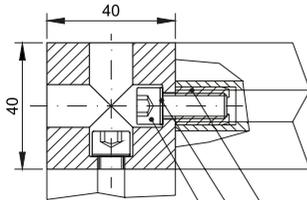
**Assembly video closed corner blocks**  
<https://youtu.be/9c9cS95ym04>

3



Tools starting on page 334  
 End services starting on page 16

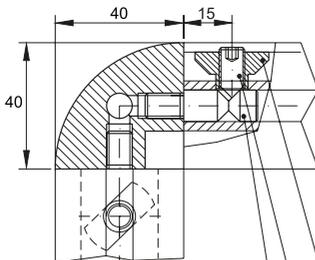
### Fastening example with open corner blocks



Cylinder head screw M8x20,  
 DIN 912, D0912820  
 Ribbed washer  $\varnothing$  8.4, galv. steel,  
 K111010017

Threaded insert M8, 9S20K, K112030008

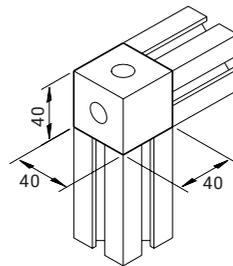
### Fastening example for closed corner blocks



Tension plug, galv. steel, 05.03.0004  
 Threaded pin M8x16, DIN 914,  
 galv. steel, D0914816

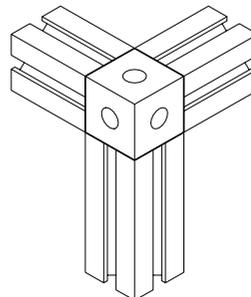
T-slot nut M8, galv. steel, 34.06.0003

25 40 50 60 M8x20



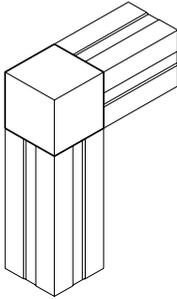
Corner block 6  
**79.01.0006**

Connects 2 x mk 2040.01  
 (40x40) profiles (example)



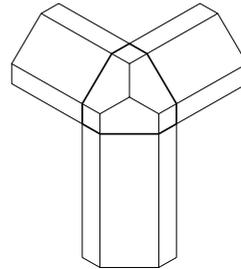
Corner block 5  
**79.01.0005**

Connects 3 x mk 2040.01  
 (40x40) profiles (example)



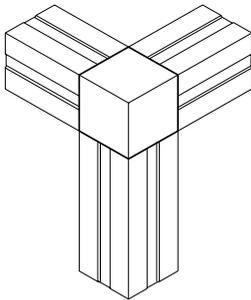
Corner block 40  
**B46.05.041\***

Connects 2 x mk 2040.11  
 (40x40) profiles (example)



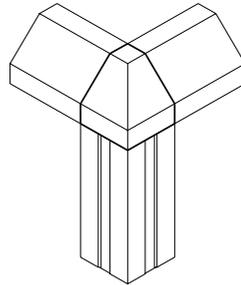
Corner block 43  
**B46.05.044\***

Connects 3 x  
 mk 2040.14 profiles



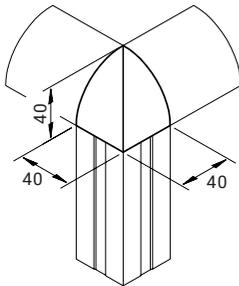
Corner block 39  
**B46.05.040\***

Connects 3 x mk 2040.11  
 (40x40) profiles



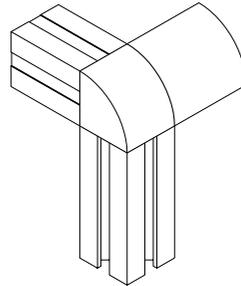
Corner block 44  
**B46.05.045\***

Connects  
 2 x mk 2040.14 profiles and  
 1 x mk 2040.01 (40x40)  
 profile (example)



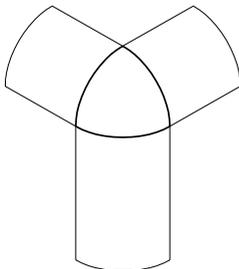
Corner block 42  
**B46.05.043\***

Connects  
 2 x mk 2040.15 profiles and  
 1 x mk 2040.01 (40x40)  
 profile (example)



Corner block 46  
**B46.05.039\***

Connects  
 2 x mk 2040.11 (40x40)  
 profiles and 1 x mk 2040.15  
 profile (example)



Corner block 41  
**B46.05.042\***

Connects 3 x  
 mk 2040.15 profiles

(ø 10 mm bore to centre, 15 mm distance)

(ø 10 mm bore to centre, 15 mm distance)

\*With fastening accessories



# Corner Block Joints

## Corner Blocks

Corner block 48 below can be connected to mk 2040.19 profiles to create aesthetically pleasing connections at 45° or 135° angles, allowing you to build even complex structures.

Material: Tumbled aluminium



Tools starting on page 334  
End services starting on page 16

25 | 40 | 50 | 60

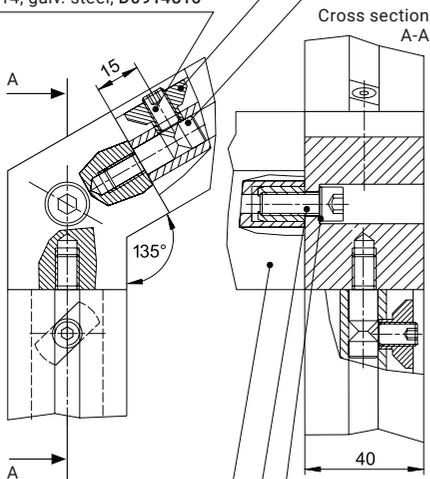
M8x20

### Fastening example

Tension plug, galv. steel, 05.03.0004

T-slot nut M8, galv. steel, 34.06.0003

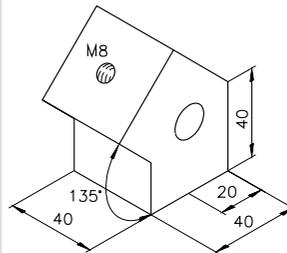
Threaded pin M8x16,  
DIN 914, galv. steel, D0914816



Profile 54.19. ....  
with 1 x M8 end service

Cylinder head screw M8x20,  
DIN 912, D0912820

Ribbed washer ø 8.4, K111010017



Corner block 48  
**B46.05.048\***

for mk 2040.19 profiles

(ø 10 mm bore to centre, 15 mm distance)



## Corner Blocks

Corner blocks connect profile faces at corner joints. They produce smooth, aesthetically pleasing structures. The profile slots remain unobstructed on all sides. To connect mk 2000 (50x50) profiles, holder 5 is also inserted in the profile and screwed in place; see the fastening example on page 126.

Material: Tumbled aluminium

3

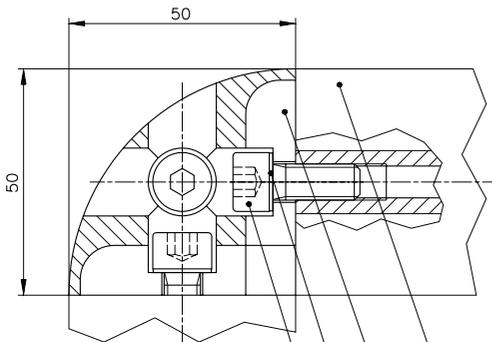


Tools starting on page 334  
 End services starting on page 16

25 40 50 60

M8x20

Fastening example for mk 2003 profiles

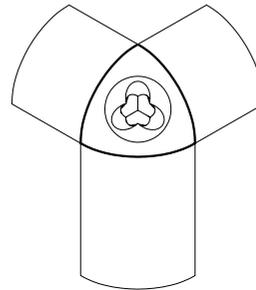


Cylinder head screw M8x20,  
 DIN 912, D0912820

Ribbed washer ø 8.4,  
 galv. steel, K111010017

Corner block 2, tumbled Al, 79.01.0002

5103AA. ....

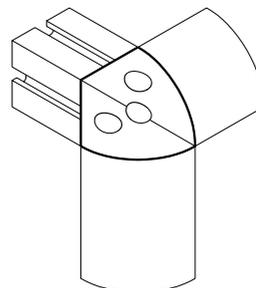


Corner block 1  
**79.01.0001**

Connects 3 x mk 2003  
 profiles

**B51.03.003**

with cap



Corner block 2  
**79.01.0002**

Connects 1 x mk 2000  
 (50x50) profile and  
 2 x mk 2003 profiles  
 (example)



# Corner Block Joints

## Corner Blocks

Corner blocks connect profile faces at corner joints. They produce smooth, aesthetically pleasing structures. The profile slots remain unobstructed on all sides. To connect mk 2000 (50x50) profiles, holder 5 is also inserted in the profile and screwed in place; see the fastening example.

Material: Tumbled aluminium

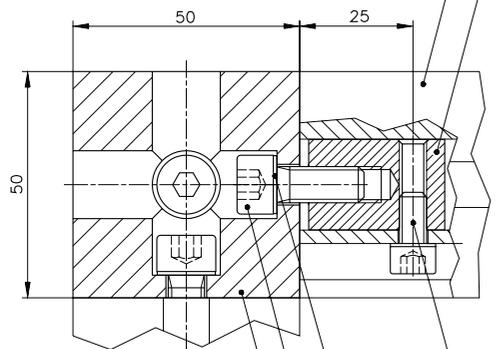


Tools starting on page 334  
End services starting on page 16

Fastening example for mk 2000 (50x50) profiles

Holder 5, 79.00.0001

5100BK. ....



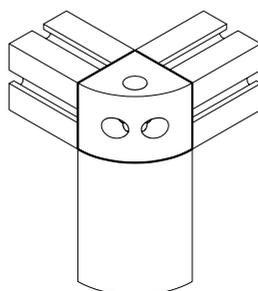
Corner block 4, tumbled Al, 79.01.0004

Cylinder head screw M8x20, DIN 912, D0912820

Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

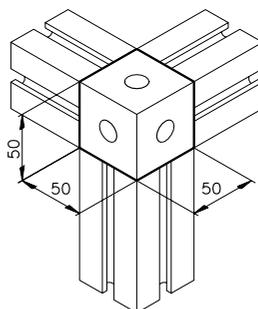
Cylinder head screw M6x12, DIN 912, D0912612

25 | 40 | 50 | 60    M8x20



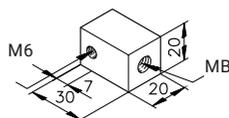
Corner block 3  
**79.01.0003**

Connects 2 x mk 2000 (50x50) profiles and 1 x mk 2003 profile (example)



Corner block 4  
**79.01.0004**

Connects 3 x mk 2000 (50x50) profiles (example)



Holder 5  
**79.00.0001**



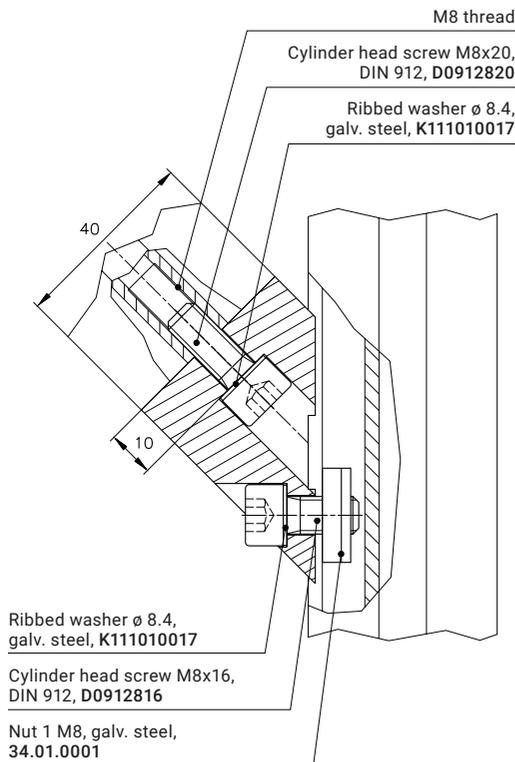
## Truss Blocks

Truss blocks were specially developed to reinforce frames, frame structures, substructures, platforms, etc. and eliminate the need to mitre-cut the profiles. A rectangular connection requires two 45° truss blocks or one 30° and one 60° truss block. Various profiles can be used, for example the mk 2040.01 (40x40).

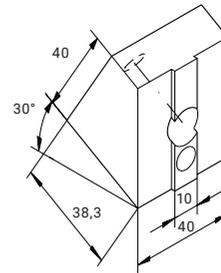
Material: Tumbled aluminium

3

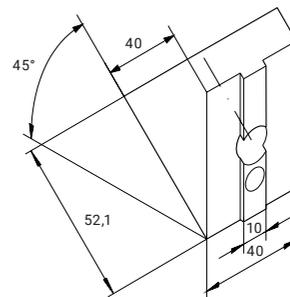
### Fastening example



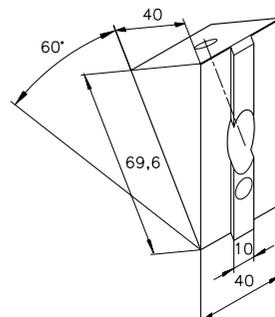
25 40 50 60



30° block  
**79.01.0062**



45° block  
**79.01.0066**



60° block  
**79.01.0068**



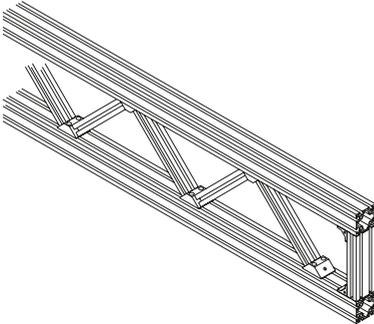
# Corner Block Joints

## Truss Blocks

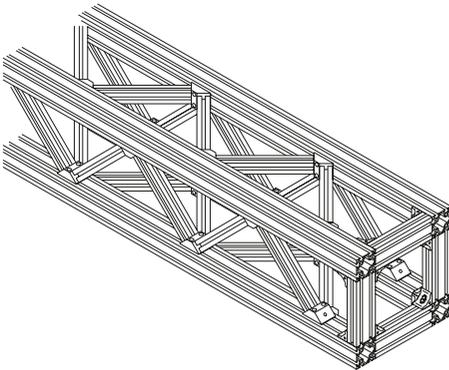
The truss blocks shown below allow you to create beam structures of any height and with combinations of different profiles. This allows large distances to be overcome and heavy loads to be carried. They can be used to build linear axis gantries, as well as for exhibit construction, etc. Describe your application to us and we'll supply you with the right truss along with the corresponding calculation.

Material: Tumbled aluminium

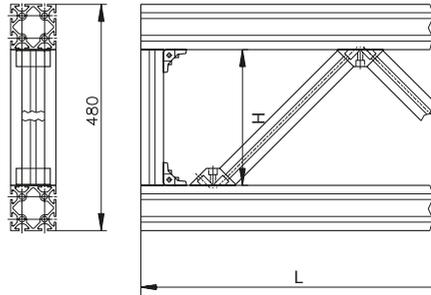
Truss beam



Box truss



Example:



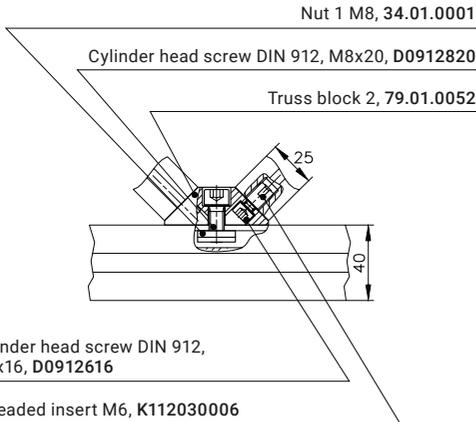
Top and bottom profiles    mk 2040.03 (80x80)  
 Strut profiles                mk 2040.01 (40x40)

Ix    16,794.00 cm<sup>4</sup>  
 Iy    643.00 cm<sup>4</sup>  
 Wx    705.00 cm<sup>3</sup>  
 Wy    87.00 cm<sup>3</sup>

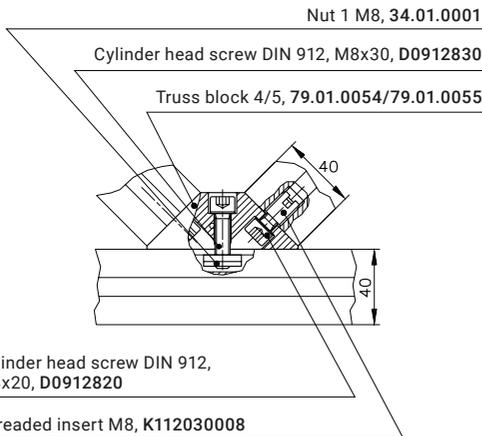
Strut length =  $\sqrt{2} \cdot (H - 31.7)$  for strut 40  
                   =  $\sqrt{2} \cdot (H - 22.3)$  for strut 25

Number of struts  $\approx \frac{L}{H}$

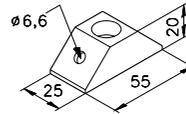
Fastening example 79.01.0052



Fastening example 79.01.0055



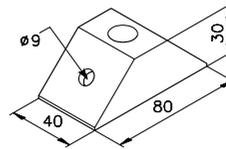
Truss blocks for adapting Series 25 profiles to Series 40/50 profiles



**25 40 50 60**

Truss block 2  
**79.01.0052**

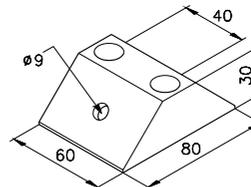
for 2 x profile  
 mk 2025.01 (25x25)



**25 40 50 60**

Truss block 4  
**79.01.0054**

for 2 x profile  
 mk 2040.01 (40x40)



**25 40 50 60**

Truss block 5  
**79.01.0055**

for 2 x profile  
 mk 2040.01 (40x40)

# Profile Clamps

mk clamps without a key can be used to connect profiles quickly, securely and at any angle. Clamps with a key ensure that the profiles remain rectangularly aligned. Arranging two clamps in opposite positions prevents the profiles from twisting.

Material: Tumbled aluminium

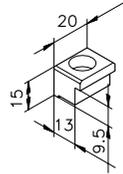
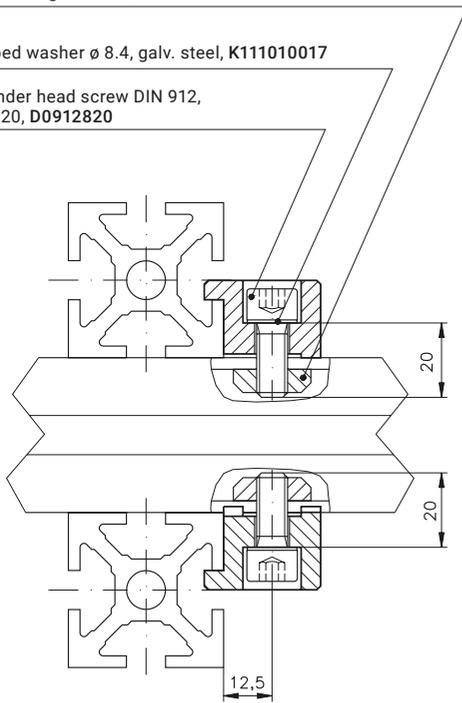
**25** | **40** | **50** | **60**    **M5x12**

## Fastening example

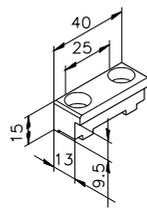
Nut 1 M8, galv. steel, 34.01.0001

Ribbed washer ø 8.4, galv. steel, K111010017

Cylinder head screw DIN 912, M8x20, D0912820

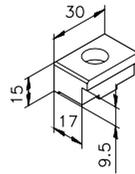


Clamp 25/0  
**25.50.7000**



Clamp 25/2  
**25.50.7002**  
6 mm key width

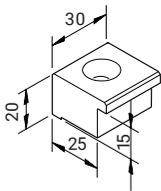
Adapter clamp for adapting Series 25 profiles to Series 40/50 profiles



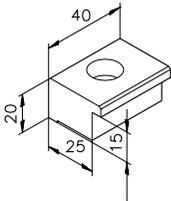
**25** | **40** | **50** | **60**    **M6x16**  
Clamp 40/25  
**30.00.0048**  
10 mm key width

25 40 50 60

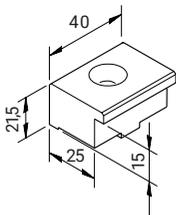
M8x20



Clamp 5/30  
**30.00.0033**



Clamp 5/40  
**30.00.0034**

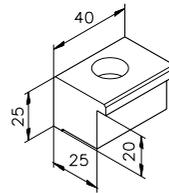


Clamp 6/40  
**30.00.0036**

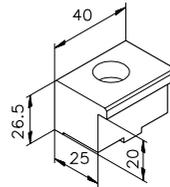
10 mm key width

25 40 50 60

M8x25



Clamp 1/40  
**30.00.0027**



Clamp 2/40  
**30.00.0029**

10 mm key width

## Series D28 Connectors

### D28 90° Angle Fasteners

The D28 T-connector consists of two pre-assembled half shells and is attached using a screw-clamp connection on the longitudinal key of the mk 2279 profile and face of the mk 2279/2280 profiles.

The D28 corner fastener consists of two pre-assembled half shells and is attached using a screw-clamp connection front side of the mk 2279/2280 profiles.

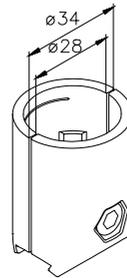
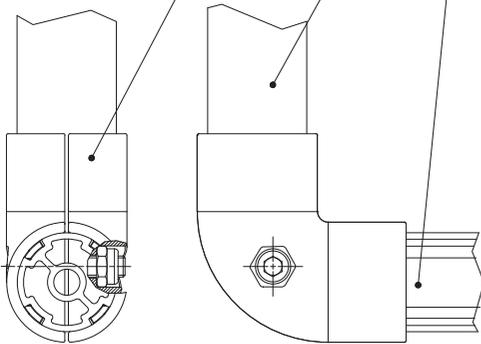
Material: die-cast aluminium

#### Fastening example

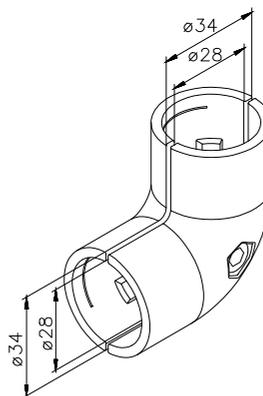
Profile mk 2279, Al

Profile mk 2280, Al

D28 Corner fastener, K112280003



D28 T-connector  
**K112280001**



D28 Corner fastener  
**K112280003**



## D28 Cross Connector

The D28 X cross connector provides a stable connection between two mk 2279 round tube profiles. The connector is attached to the longitudinal keys of the profiles using a screw-clamp connection at a 90° angle.

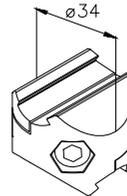
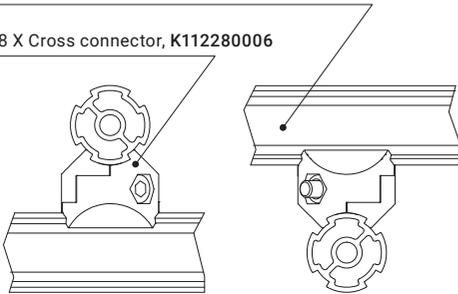
Material: die-cast aluminium

3

### Fastening example

Profile mk 2279, Al

D28 X Cross connector, K112280006



D28 X Cross connector  
**K112280006**

## Series D28 Connectors

### D28 Angle Fasteners

The D28 45° connector consists of two pre-assembled half shells and is attached using a screw-clamp connection on the longitudinal key of the mk 2279 profile and face of the mk 2279/2280 profiles.

The D28 angle brace stabilises the corner joints of the mk 2279 profile. The connector also consists of two pre-assembled half shells and is attached using a screw-clamp connection on the longitudinal keys of the profiles. Series 40 corner joints can also be stabilised using the adapter D28/40.

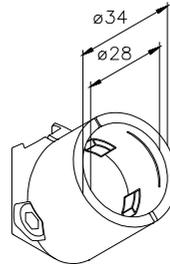
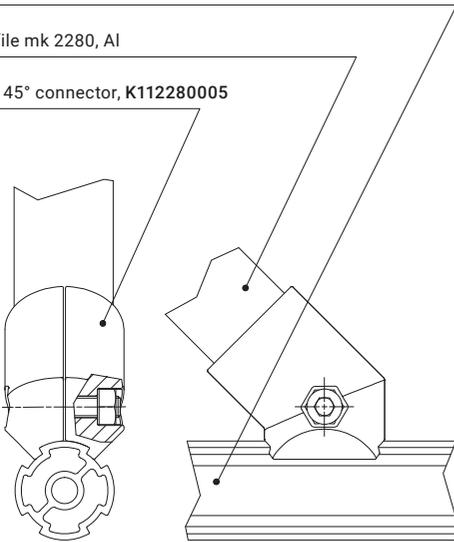
Material: die-cast aluminium

#### Fastening example

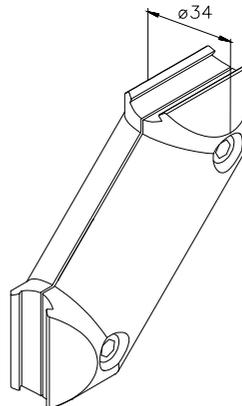
Profile mk 2279, Al

Profile mk 2280, Al

D28 45° connector, K112280005



D28 45° connector  
K112280005



D28 Angle brace  
K112280009



## D28 Ball Joint Connectors

The ball joint connectors are suitable for variable connections between two Series D28 round tube profiles. Each consists of two pre-assembled half shells. Angles up to 90° can be fixed by tightening the screws.

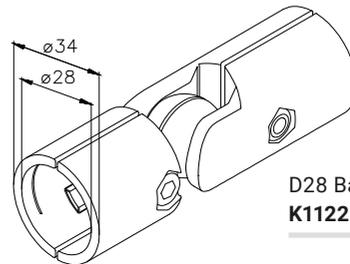
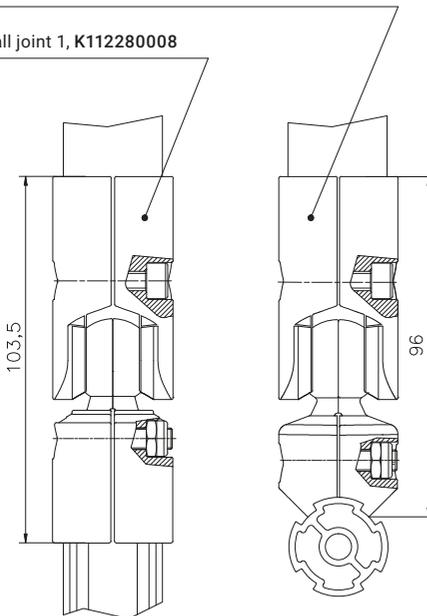
D28 Ball joint 1 is attached using a screw-clamp connection front side of the profiles. D28 Ball joint 2 consists of two pre-assembled half shells and is attached using a screw-clamp connection on the longitudinal key of the mk 2279 profile and face of the mk 2279/2280 profiles.

Material: die-cast aluminium

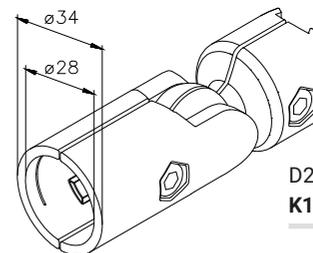
### Fastening example

D28 Ball joint 2, K112280010

D28 Ball joint 1, K112280008



D28 Ball joint 1  
**K112280008**



D28 Ball joint 2  
**K112280010**

## Series D28 Connectors

### D28 Parallel Connectors

The parallel connector shown here provides a stable connection between two Series D28 round tube profiles that run parallel to each other. They consist of two pre-assembled half shells.

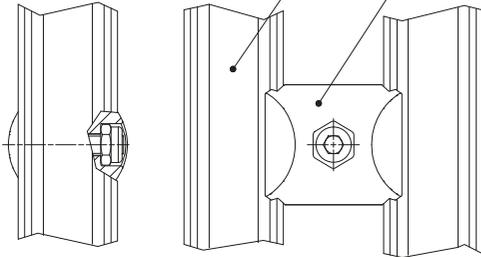
D28 parallel connector 1 is attached using a screw-clamp connection on the longitudinal key of the mk 2279 profile. D28 parallel connector 2 is attached using a screw-clamp connection on the longitudinal key of the mk 2279 profile and around the mk 2280 profile.

Material: die-cast aluminium

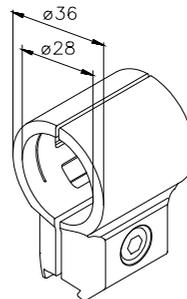
#### Fastening example

D28 Parallel connector 1, K112280007

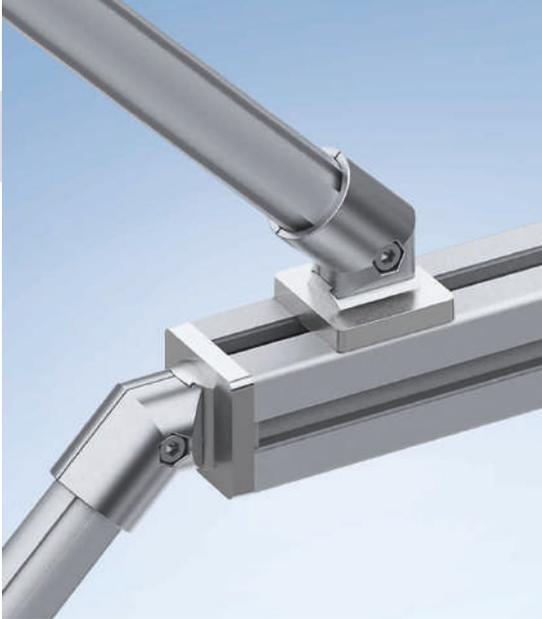
Profile mk 2279, Al



D28 Parallel connector 1  
**K112280007**



D28 Parallel connector 2  
**K112280011**



## D28 Adapter for Series 40 Profiles

The D28/40 adapter enables a Series 40 profile to be used with Series D28 connectors. The adapter plate is fixed in the slot or attached to the face of a Series 40 profile, which allows a Series 28 screw-clamp connection to be attached.

Material: die-cast aluminium

3

### Fastening example

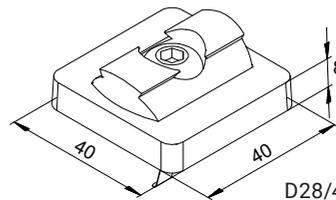
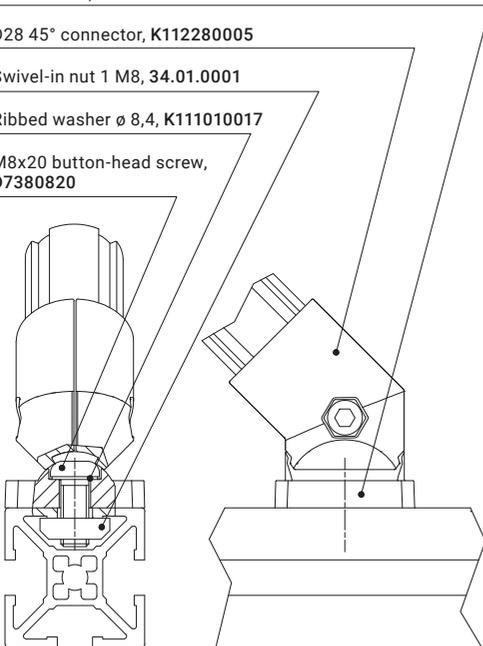
D28/40 Adapter, K112280004

D28 45° connector, K112280005

Swivel-in nut 1 M8, 34.01.0001

Ribbed washer  $\varnothing 8,4$ , K111010017

M8x20 button-head screw, D7380820



D28/40 Adapter  
**B46.08.028**

Set with fastening accessories

# Nuts/T-nuts

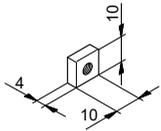
## Nuts

Nuts are mk's preferred mounting element for use with angles, plates and accessory components on the slot side. They can withstand heavy loads and are resistant to extraction. The version with an additional spring sheet lets you fix the nuts in the profile slot so they can no longer move. This makes it significantly easier to install angles and accessory components in vertical slots. The ESD version also ensures that the connection is conductive.

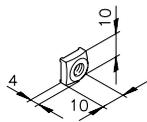
Material: Galvanised steel

 For tightening torques, see page 75

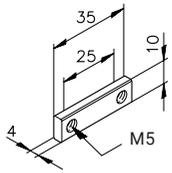
**25** 40 50 60



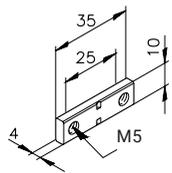
Nut 1 (Series 25)	
M4	<b>25.50.0540</b>
M5	<b>25.50.0500</b>
M6	<b>25.50.0512</b>



 Nut 1 ESD (Series 25)	
M5	<b>25.50.0508</b>
M6	<b>25.50.0518</b>

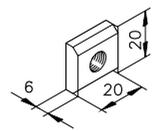


Nut 2/25 (Series 25)	
M5	<b>25.50.0504</b>
M6	<b>25.50.0513</b>



 Nut 2/25 ESD (Series 25)	
M5	<b>25.50.0505</b>

**25** 40 50 60



Nut 1	
M4	<b>34.08.0001</b>
M5	<b>34.12.0001</b>
M6	<b>34.02.0008</b>
M8	<b>34.01.0001</b>

 Nut 1 ESD	
M4	<b>34.08.0018</b>
M6	<b>34.02.0018</b>
M8	<b>34.01.0018</b>

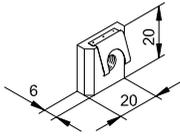
Nut 1 VA	
M4	<b>34.08.0004</b>
M5	<b>34.12.0004</b>
M6	<b>34.02.0012</b>
M8	<b>34.01.0024</b>

Stainless steel

 Nut 1 ESD VA	
M5	<b>34.12.0018</b>

Stainless steel

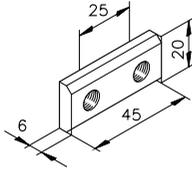
25 | 40 | 50 | 60



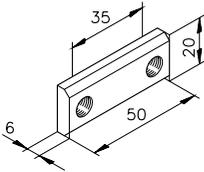
Nut 1  
 with spring sheet  
 M6 **34.02.0051**  
 M8 **34.01.0051**



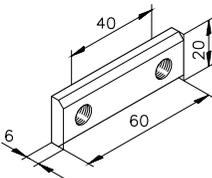
Nut 1 ESD  
 with spring sheet  
 M6 **34.02.0050**  
 M8 **34.01.0050**



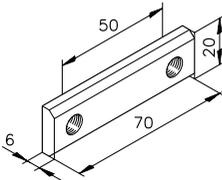
Nut 2/25  
 M6 **34.02.0010**  
 M8 **34.01.0002**



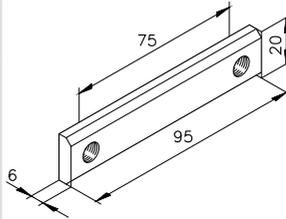
Nut 2/35  
 M8 **34.01.0011**



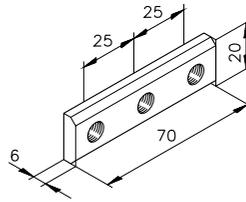
Nut 2/40  
 M8 **34.01.0019**



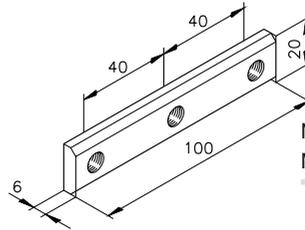
Nut 2/50  
 M8 **34.01.0003**



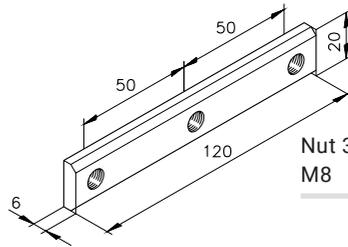
Nut 2/75  
 M8 **34.01.0005**



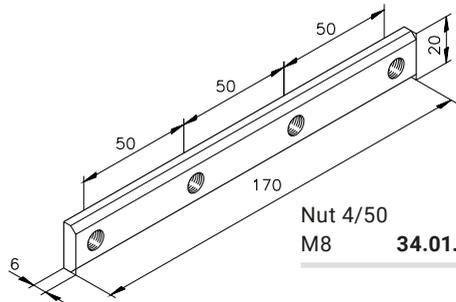
Nut 3/25  
 M8 **34.01.0004**



Nut 3/40  
 M8 **34.01.0022**



Nut 3/50  
 M8 **34.01.0006**



Nut 4/50  
 M8 **34.01.0007**

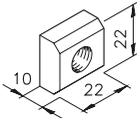
# Nuts/T-nuts

3

## Nuts

Material: Galvanised steel

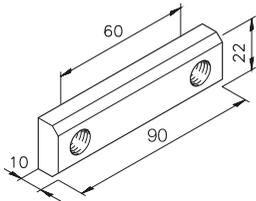
25 40 50 60



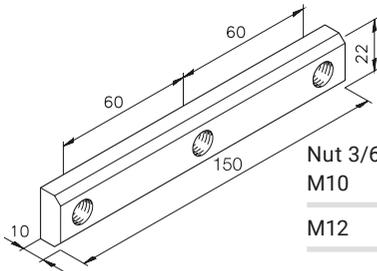
Nut 1 (Series 60)	
M8	<b>34.60.0101</b>
M10	<b>34.60.0201</b>
M12	<b>34.60.0301</b>

Nut 1 VA (Series 60)	
M12	<b>34.60.0321</b>

Stainless steel



Nut 2/60	
M10	<b>34.60.0203</b>
M12	<b>34.60.0303</b>

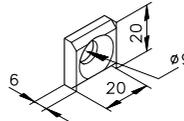


Nut 3/60	
M10	<b>34.60.0205</b>
M12	<b>34.60.0305</b>

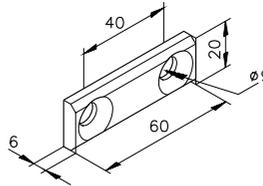
## Countersunk Nuts

Material: Galvanised steel

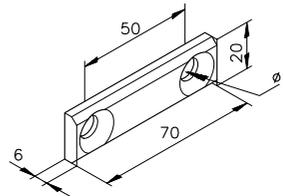
25 40 50 60



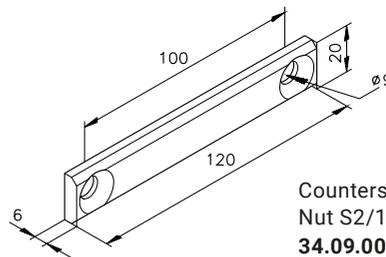
Countersunk Nut S1	
	<b>34.09.0001</b>



Countersunk Nut S2/40	
	<b>34.09.0007</b>



Countersunk Nut S2/50	
	<b>34.09.0002</b>



Countersunk Nut S2/100	
	<b>34.09.0006</b>



## T-slot Nuts

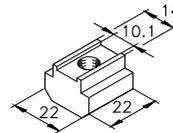
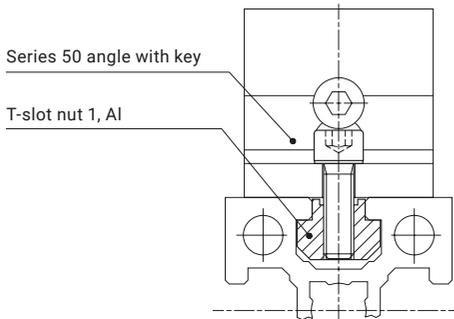
T-slot nut 1 allows you to connect Series 40/50 angles with a key to profiles from Series 60. Its geometry results in a precisely aligned connection that resists twisting in the Series 60 14 mm slot; see also the fastening example.

Material: Tumbled aluminium

3

25|40|50|60

### Fastening example



T-slot nut 1	
M6	<b>34.60.2001</b>
M8	<b>34.60.2101</b>

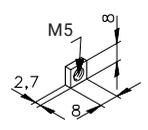


## Nuts/T-nuts

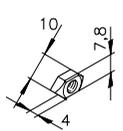
### Nuts for Later Mounting

Nuts for later mounting can be installed in the profile slot even if the profile's face is already sealed. In addition, they can be used for profiles with closed slots that are only open where the connection is located.

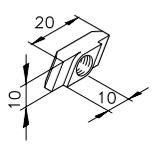
Material: Galvanised steel



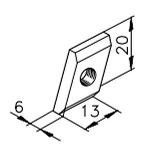
**25|40|50|60**  
 Square nut  
 M5 **D05625**



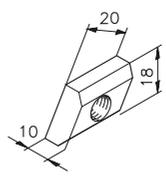
**25|40|50|60**  
 Swivel-in nut 1  
 (Series 25)  
 M4 **25.50.0541**  
 M5 **25.50.0501**



**25|40|50|60**  
 T-nut 1  
 M4 **34.07.0004**  
 M5 **34.07.0003**  
 M6 **34.07.0002**  
 M8 **34.06.0002**



**25|40|50|60**  
 Slot nut 1  
 M5 **34.04.0002**  
 M6 **34.04.0001**  
 M8 **34.03.0001**  
 Slot nut 1  
 M6 **34.04.0003**  
 M8 **34.03.0002**  
 Stainless steel

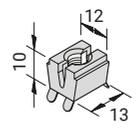


**25|40|50|60**  
 Slot nut 1  
 M8 **34.60.1101**  
 M10 **34.60.1201**  
 M12 **34.60.1301**

### Clip

The insulating plastic clip serves to attach light, small parts such as nameplates, signs, holders for cable ties, etc.

Material: Plastic, galvanised steel threaded insert



**25|40|50|60**  
 Clip (series 40)  
 M4 **K111020006**  
 M5 **K111020007**  
 M6 **K111020008**

**25|40|50|60**  
 Clip (series 50)  
 M4 **34.14.0006**  
 M5 **34.14.0007**  
 M6 **34.14.0008**



## Nuts for Later Mounting

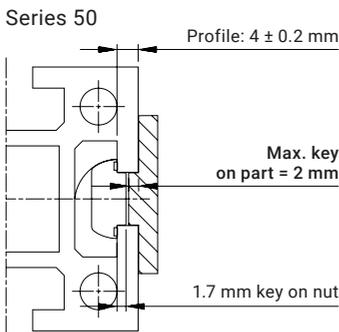
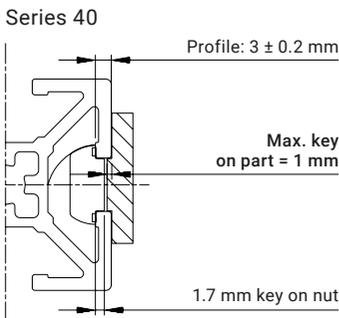
Swivel-in nuts with a spring sheet can be installed in the profile slot even if the profile's face is already sealed. The spring sheet fixes the nut in place, making it much easier to install attachment parts in a vertical position. The ESD function ensures that the connection is conductive.

Attention: Note the maximum key height on the part to be attached; see the fastening example.

Material: Galvanised steel

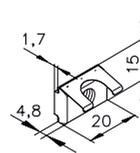
3

### Fastening example



The key height of the attached part, e.g. for an angle, may not exceed 1 mm for Series 40 and 2 mm for Series 50, otherwise there will be no traction between the profile and nut.

25 | 40 | 50 | 60



Swivel-in nut 1  
ESD with spring sheet  
M4 **34.16.0431**

M5 **34.16.0531**

M6 **34.16.0631**

M8 **34.16.0831**

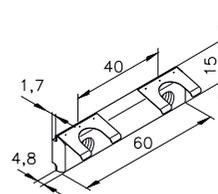


Swivel-in nut 1  
ESD with spring sheet  
M5 **34.16.0537**

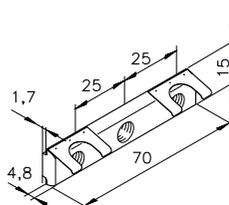
M6 **34.16.0637**

M8 **34.16.0837**

Stainless steel



Swivel-in nut 2/40  
ESD with spring sheet  
M8 **34.16.0834**



Swivel-in nut 3/25  
ESD with spring sheet  
M8 **34.16.0835**



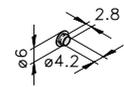
## Nuts/T-nuts

### Nut Fixture

#### ... with Retaining Plugs

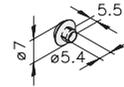
If nuts with a spring sheet are not available, retaining plugs can also be used to fix standard nuts. This makes mounting attachment parts much easier. The retaining plug is pressed into the nut's thread and then slid into the profile slot from the face. Unlike the nut with spring sheet, this type of attachment can only be used once because tightening the screws displaces the plastic on the retaining plug.

Material: PE plastic



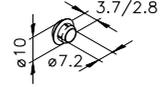
25 40 50 60

Retaining plug, green, M5  
mk 2553



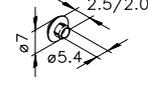
25 40 50 60

Retaining plug, white, M6  
mk 2554



25 40 50 60

Retaining plug, red, M8  
mk 2555



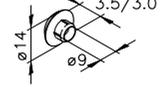
25 40 50 60

Retaining plug, yellow, M6  
mk 2556



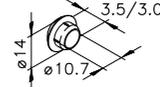
25 40 50 60

Retaining plug, blue, M8  
mk 2557



25 40 50 60

Retaining plug, orange, M10  
mk 2559



25 40 50 60

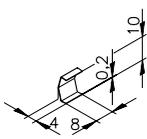
Retaining plug, purple, M12  
mk 2560

### Nut Fixture

#### ... with a Spring Clip

Series 25 nuts also offer the option of fixing them with a spring clip. Together with the nut, the clip is inserted into the profile slot from the face and fixes the nut in the desired position.

Material: Spring steel



25 40 50 60

Spring clip  
for M5/M6 nut  
07.13.0003

## Cylinder Head Screws



DIN EN ISO 4762	
8.8 galvanised steel	
M4x10	<b>D0912410</b>
M5x8	<b>D091258</b>
M5x10	<b>D0912510</b>
M5x12	<b>D0912512</b>
M5x16	<b>D0912516</b>
M6x10	<b>D0912610</b>
M6x12	<b>D0912612</b>
M6x16	<b>D0912616</b>
M6x20	<b>D0912620</b>
M8x12	<b>D0912812</b>
M8x16	<b>D0912816</b>
M8x20	<b>D0912820</b>
M8x25	<b>D0912825</b>
M8x30	<b>D0912830</b>
M8x35	<b>D0912835</b>
M8x40	<b>D0912840</b>
M12x20	<b>D09121220</b>
M12x25	<b>D09121225</b>

DIN EN ISO 4762	
A2-70 stainless steel	
M8x16	<b>D0912816A2</b>
M8x20	<b>D0912820A2</b>



DIN 6912	
8.8 galvanised steel	
M5x8	<b>D691258</b>
M5x10	<b>D6912510</b>
M5x12	<b>D6912512</b>
M5x20	<b>D6912520</b>
M6x16	<b>D6912616</b>
M6x20	<b>D6912620</b>
M8x16	<b>D6912816</b>
M8x20	<b>D6912820</b>
M8x25	<b>D6912825</b>
M8x30	<b>D6912830</b>
M10x25	<b>D69121025</b>
M12x30	<b>D69121230</b>

DIN 6912	
A2-70 stainless steel	
M8x16	<b>D6912816A2</b>
M8x20	<b>D6912820A2</b>

## Countersunk Head Screws



DIN EN ISO 10642	
8.8 galvanised steel	
M4x6	<b>D799146</b>
M4x10	<b>D7991410</b>
M4x12	<b>D7991412</b>
M4x16	<b>D7991416</b>
M5x8	<b>D799158</b>
M5x10	<b>D7991510</b>
M5x12	<b>D7991512</b>
M5x16	<b>D7991516</b>
M5x25	<b>D7991525</b>
M6x10	<b>D7991610</b>
M6x12	<b>D7991612</b>
M6x16	<b>D7991616</b>
M6x20	<b>D7991620</b>
M8x12	<b>D7991812</b>
M8x16	<b>D7991816</b>
M8x20	<b>D7991820</b>
M8x25	<b>D7991825</b>
M8x30	<b>D7991830</b>

DIN EN ISO 10642	
A2-70 stainless steel	
M4x10	<b>D7991410A2</b>
M4x16	<b>D7991416A2</b>
M4x35	<b>D7991435A2</b>
M5x8	<b>D799158A2</b>
M5x10	<b>D7991510A2</b>
M6x12	<b>D7991612A2</b>
M6x16	<b>D7991616A2</b>
M8x16	<b>D7991816A2</b>
M8x20	<b>D7991820A2</b>
M8x35	<b>D7991835A2</b>

# Standard Parts

3

## Flanged Button-Head Screws



DIN EN ISO 7380-2	
10.9 black, galvanised steel	
M5x8	<b>K112010028</b>
M5x10	<b>K112010021</b>
M5x12	<b>K112010022</b>
M6x8	<b>K112010010</b>
M6x10	<b>K112010011</b>
M6x12	<b>K112010012</b>
M6x16	<b>K112010013</b>
M8x12	<b>K112010002</b>
M8x16	<b>K112010003</b>
M8x20	<b>K112010004</b>

DIN EN ISO 7380-2	
A2 stainless steel	
M8x12	<b>K112010102</b>
M8x16	<b>K112010103</b>
M8x20	<b>K112010104</b>



Captive,	
10.9 black, galvanised steel	
M8x16	<b>71.01.0019</b>

Captive	
A2 stainless steel	
M8x16	<b>71.01.0019A2</b>

## Hexagon Head Screws



DIN EN ISO 4017	
8.8 galvanised steel	
M6x8	<b>D093368</b>
M6x16	<b>D0933616</b>
M6x20	<b>D0933620</b>
M6x25	<b>D0933625</b>
M6x30	<b>D0933630</b>
M6x35	<b>D0933635</b>
M8x12	<b>D0933812</b>
M8x16	<b>D0933816</b>
M8x20	<b>D0933820</b>
M8x25	<b>D0933825</b>
M8x30	<b>D0933830</b>
M8x35	<b>D0933835</b>
M8x40	<b>D0933840</b>
M10x20	<b>D09331020</b>
M10x25	<b>D09331025</b>
M10x30	<b>D09331030</b>
M12x30	<b>D09331230</b>

DIN EN ISO 4017	
A2-70 stainless steel	
M8x16	<b>D0933816A2</b>
M8x20	<b>D0933820A2</b>
M8x25	<b>D0933825A2</b>

## Threaded Insert



Galvanized steel, yellow chromated	
M3x6	<b>K112030002</b>
M5x10	<b>K112030005</b>
M6x12	<b>K112030006</b>
M8x15	<b>K112030008</b>
M12x22	<b>K112030010</b>

## Helicoil



A2 stainless steel	
M4x0,7x6	<b>K112030104</b>
M6x1x9	<b>K112030106</b>
M8x1.25x16	<b>K112030109</b>
M10x1.5x15	<b>K112030110</b>

## Threaded Pins



DIN EN ISO 4027  
 45H galvanized steel

M4x6	<b>D091446</b>
M4x8	<b>D091448</b>
M4x10	<b>D0914410</b>
M5x6	<b>D091456</b>
M5x8	<b>D091458</b>
M5x10	<b>D0914510</b>
M6x6	<b>D091466</b>
M6x8	<b>D091468</b>
M6x10	<b>D0914610</b>
M8x10	<b>D0914810</b>
M8x12	<b>D0914812</b>
M8x16	<b>D0914816</b>
M8x20	<b>D0914820</b>

DIN EN ISO 4027  
 A1 stainless steel

M6x6	<b>D091466A2</b>
M6x8	<b>D091468A2</b>
M6x10	<b>D0914610A2</b>
M8x10	<b>D0914810A2</b>
M8x16	<b>D0914816A2</b>

## Hexagon Nuts



DIN EN ISO 4032  
 8 galvanized steel

M5	<b>D09345</b>
M6	<b>D09346</b>
M8	<b>D09348</b>
M10	<b>D093410</b>
M12	<b>D093412</b>

DIN EN ISO 4032  
 A2-70 stainless steel

M5	<b>D09345A2</b>
M6	<b>D09346A2</b>
M8	<b>D09348A2</b>

## Ribbed Washers



Galvanised steel

ø 4.3	<b>K111010014</b>
ø 5.3	<b>K111010015</b>
ø 6.4	<b>K111010016</b>
ø 8.4	<b>K111010017</b>
ø 10.5	<b>K111010018</b>
ø 13	<b>K111010019</b>

Stainless steel

ø 4.3	<b>K111010020</b>
ø 5.3	<b>K111010021</b>
ø 6.4	<b>K111010022</b>
ø 8.4	<b>K111010023</b>
ø 10.5	<b>K111010024</b>
ø 13	<b>K111010025</b>



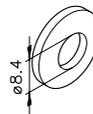
Galvanised steel

ø 7	<b>K111010046</b>
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Stainless steel

ø 7	<b>K111010047</b>
-----	-------------------

## Tension Washers



DIN6796-8

Galvanised steel

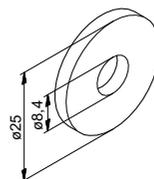
ø 8.4	<b>D67968</b>
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DIN6796-8

A2 stainless steel

ø 8.4	<b>D67968A2</b>
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## Wing repair washers



Galvanised steel

ø 8,4	<b>K111010002</b>
-------	-------------------

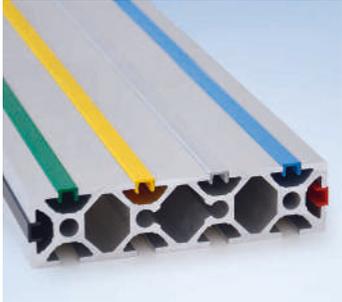
# Section 4 Covers/Wear Strips

4



**End Caps**

150



**Closure Strips**

156



**Cover Profiles**

157



**Wear Strips**

**Brush Strips**

162

Wear Strips	158
Wear Strips for Door Stops	160
Wear Strips for Sliding Elements	161

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



# End Caps

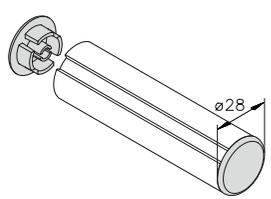
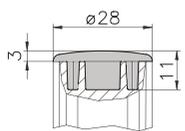
## End Caps

End caps are made from high-quality plastic provide dependable closure of profile faces. They protect against sharp surfaces and provide for a clean closure and high-quality look. The end caps are fastened to the profile simply by placing them on the end. Some end caps are created using 3D printing. Upon request, additional end caps can also be provided according to individual customer requirements (see 3D printing flyer).

Material: Plastic

25|40|50|60

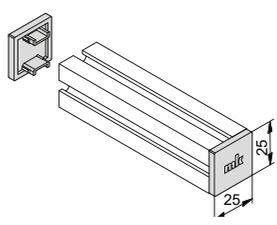
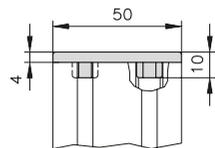
### Dimensional sketch



End cap for the D28 round tube profile  
**mk 2582**

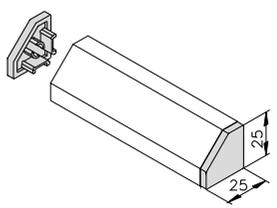
Black

### Dimensional sketch



End cap for mk 2025.01 profile (25x25)  
**25.50.8000**

Black



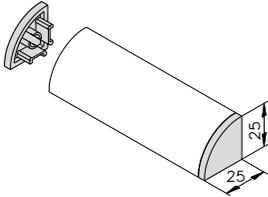
End cap for mk 2025.38 profile  
**25.50.8005**

Black

## End Caps

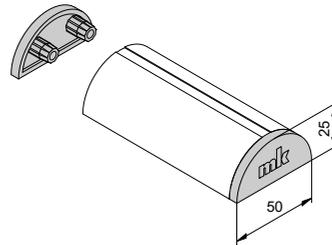
Material: Plastic

25 40 50 60



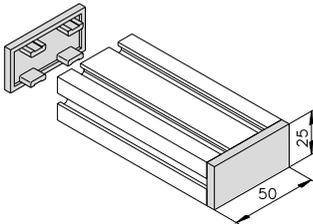
End cap for  
 mk 2025.37 profile  
**25.50.8004**

Black



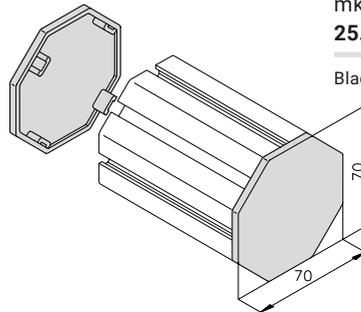
End cap for  
 mk 2025.39 profile  
**98.00.0015-G9005**

Black



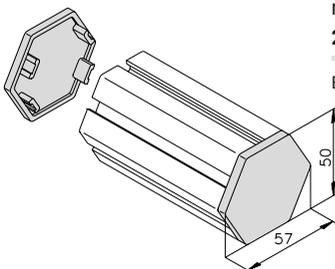
End cap for  
 mk 2025.02 profile  
 (25x50)  
**25.50.8001**

Black



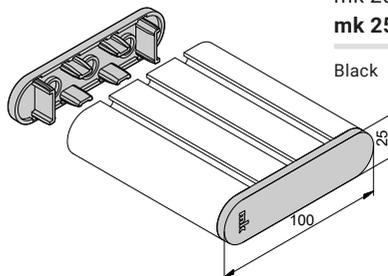
End cap for  
 mk 2025.21 profile  
**25.50.8003**

Black



End cap for  
 mk 2025.20 profile  
**25.50.8002**

Black



End cap for  
 mk 2025.22 profile  
**mk 2565**

Black

# End Caps

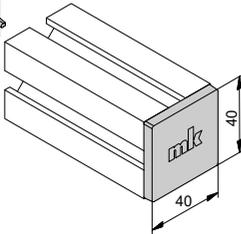
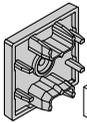
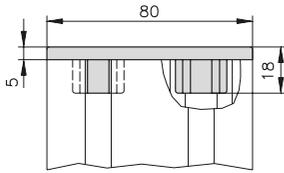
## End Caps

Material: Plastic

25 40 50 60

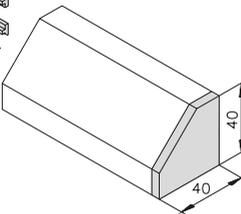
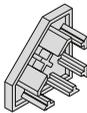
4

Dimensional sketch



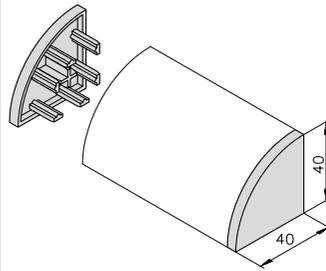
End cap for  
40x40 profiles  
**mk 2507**

Black  
**mk 2507SI\***  
Silver grey



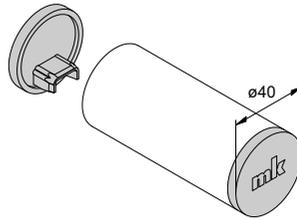
End cap for  
mk 2040.14 profile  
**mk 2523**

Black



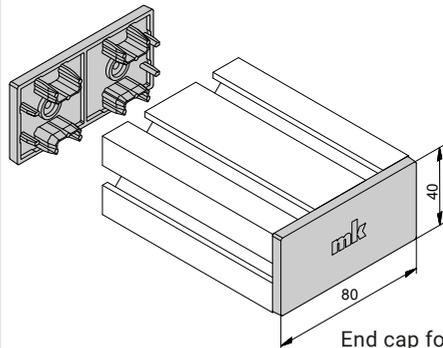
End cap for  
mk 2040.15 profile  
**mk 2524**

Black



End cap for  
mk 2040.16 profile  
**98.00.0012-G9005**

Black

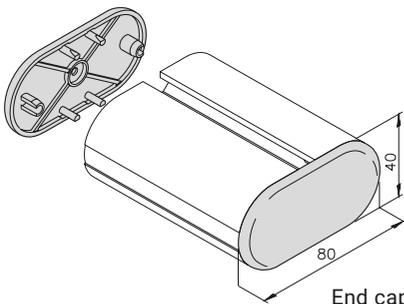
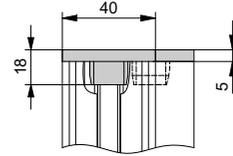


End cap for  
40x80 profiles  
**mk 2508**

Black  
**mk 2508SI\***

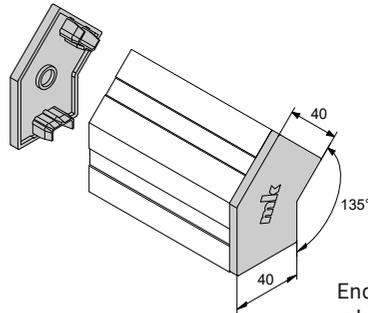
Silver grey

Dimensional sketch



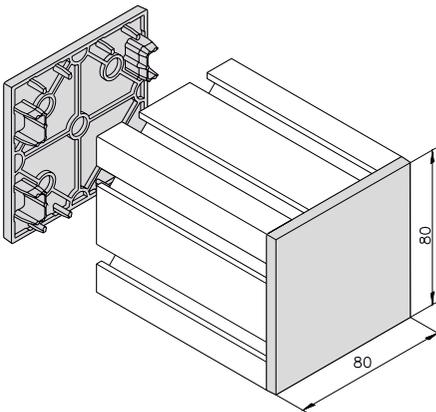
End cap for  
 mk 2040.23 profile  
**mk 2529**

Black



End cap for  
 mk 2040.19 profile  
**98.00.0006-G9005**

Black

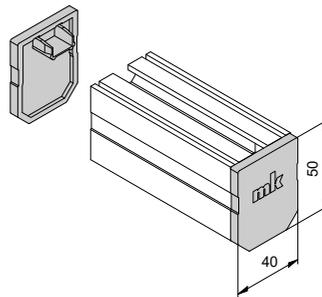


End cap for  
 80x80 profiles  
**mk 2502**

Black

**mk 2502SI\***

Silver grey



End cap for  
 mk 2245 profile  
**98.00.0011-G9005**

Black

# End Caps

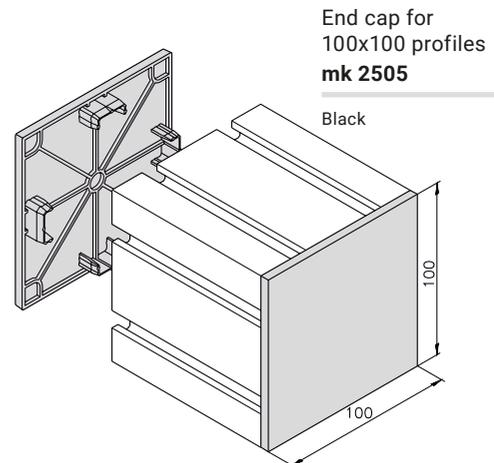
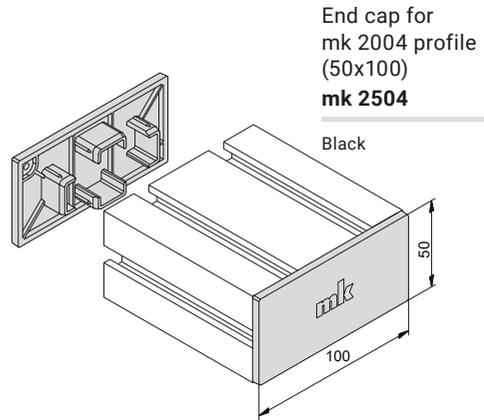
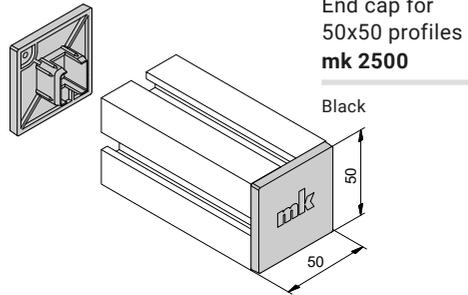
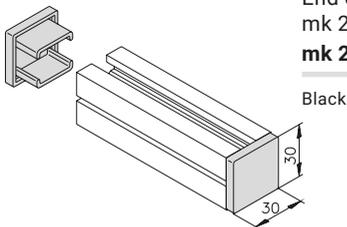
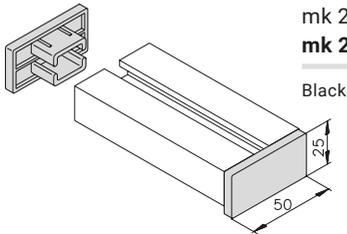
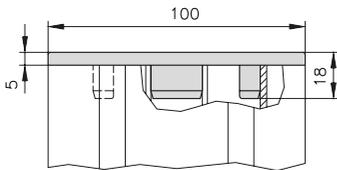
## End Caps

Material: Plastic

25 40 50 60

4

Dimensional sketch

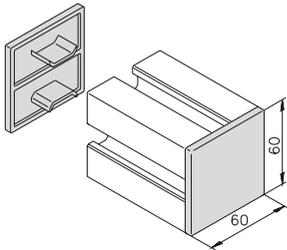
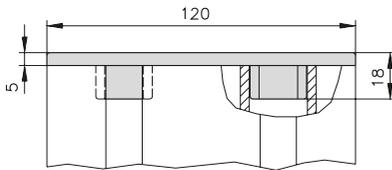


## End Caps

Material: Plastic

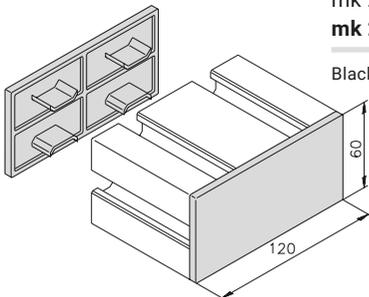
25 | 40 | 50 | 60

Dimensional sketch



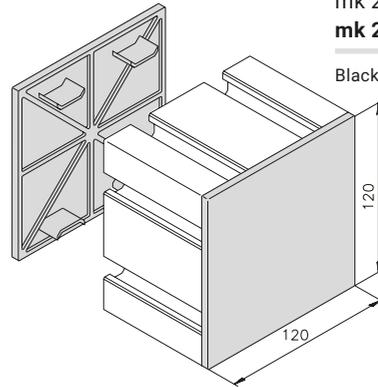
End cap for  
 mk 2060.01 profile  
**mk 2561**

Black



End cap for  
 mk 2060.02 profile  
**mk 2562**

Black

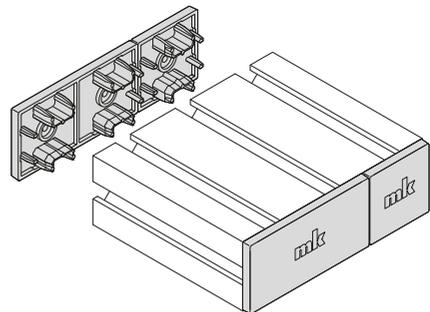


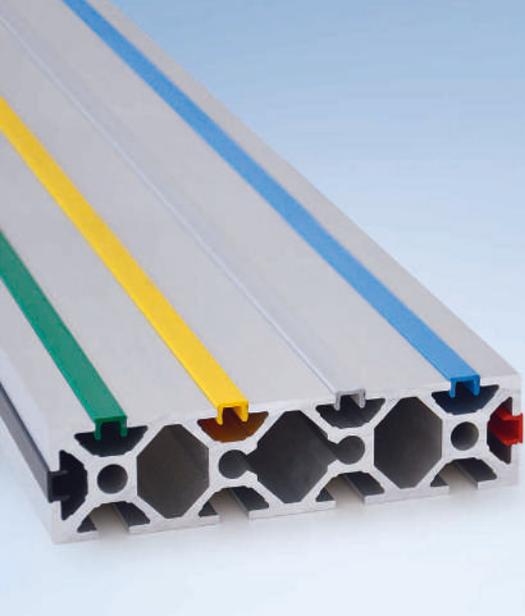
End cap for  
 mk 2060.05 profile  
**mk 2563**

Black

### Note:

For larger profiles, multiple end caps can be used to cover the profile. For the mk 2040.05 profile, for example, you can use mk 2507 and mk 2508 end caps.





# Closure Strips

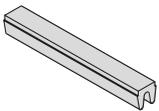
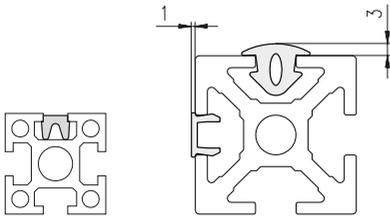
## Closure Strips

Closure strips prevent dirt from getting in the slots and provide for a high-quality look. Multi-coloured versions can be used to provide visual highlights and/or draw attention to the supply lines that might be located beneath it. Aluminium closure strips provide seamless closure of the slot but cannot be removed undamaged once they are hammered in.

### Information required for ordering

- Item number
- Length in mm

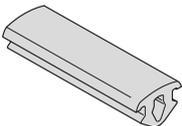
### Fastening example



25 40 50 60

Closure strip  
**mk 3026** black

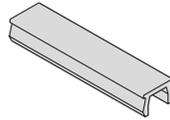
PVC-P plastic (soft)



25 40 50 60

Closure strip  
**mk 3010** black

PVC-P plastic (soft)



25 40 50 60

Closure strip  
**mk 3012** black

**mk 3013** grey

**mk 3014** blue

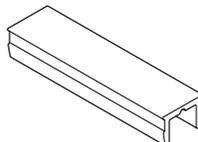
**mk 3015** yellow

**mk 3016** green

**mk 3017** red

**mk 3019\*** silver grey

PVC-U plastic (hard),  
2000 mm stock length



25 40 50 60

Profile **mk 2060.30**

0.14 kg/m

Stock length	<b>60.30.2000</b>
--------------	-------------------

Cut	<b>60.30. ....</b>
-----	--------------------

Anodised aluminium

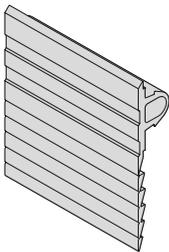
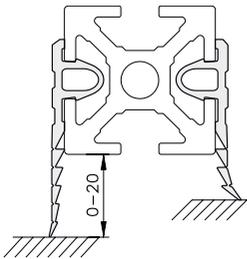


## Cover Profiles

The mk 3030 cover profile closes gaps between objects up to 20 mm wide, for example door gaps. The height of the profile can be adapted to the local conditions by simply separating the longitudinal segments. The mk 3025 and mk 3011 cover profiles are used to cover the 5 mm gap between doors/windows and the frame, and they also have a noise-damping and sealing effect. The mk 3032 cover profile is used to close T-slots that are left open when panelling is mounted, to prevent dirt from accumulating. The mk 3035 and mk 3036 cover profiles are used to close T-slots to prevent dirt from accumulating and can also serve as a stop (e.g. for sliding doors) or a non-slip support.

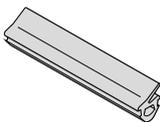
4

### Fastening example



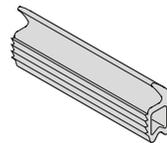
25 40 50 60  
 Cover profile  
**mk 3030** black

EPDM rubber



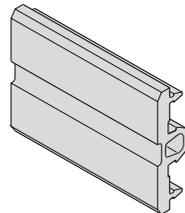
25 40 50 60  
 Cover profile  
**mk 3025** black

TPE rubber



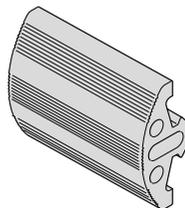
25 40 50 60  
 Cover profile  
**mk 3011** black

EPDM rubber



25 40 50 60  
 Cover profile  
**mk 3032** black

EPDM rubber,  
 for profiles to which  
 panelling is attached



25 40 50 60  
 Cover profile  
**mk 3035** black

**mk 3036** grey

PVC-P plastic (soft)



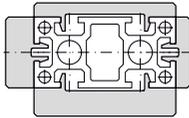
# Wear Strips

## Wear Strips

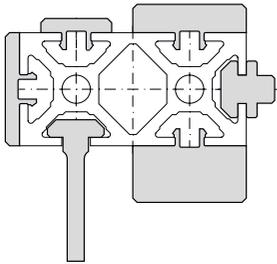
Wear and guide strips are low-wear plastic strips for various applications, for example transporting goods. They ensure low friction in a wide range of applications and protect the profile surface from abrasion. mk wear strips are available for all profile series in a stock length of 2000 mm. ESD (antistatic) designs and designs for high temperatures up to 60° C are also available on request.

Material: PE-1000 black

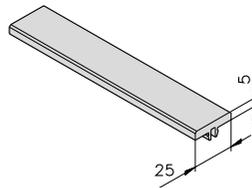
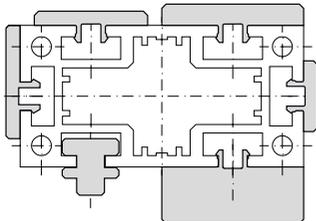
Series 25 fastening example



Series 40 fastening example

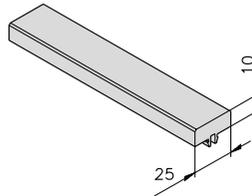


Series 50 fastening example



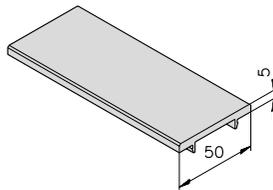
**25|40|50|60**

Wear strip  
mk 1025.71  
**25.71.2000**



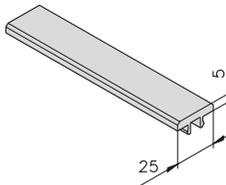
**25|40|50|60**

Wear strip  
mk 1025.72  
**25.72.2000**



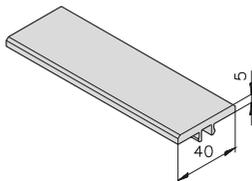
**25|40|50|60**

Wear strip  
mk 1025.73  
**25.73.2000**



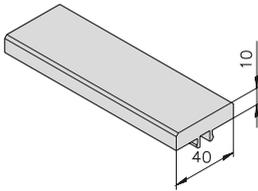
**25|40|50|60**

Wear strip  
mk 1000  
**22.00.2000**

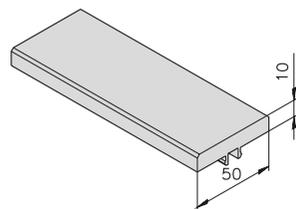


**25|40|50|60**

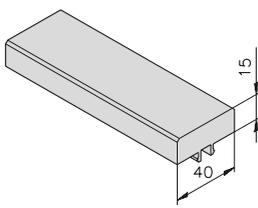
Wear strip  
mk 1040.01  
**21.01.2000**



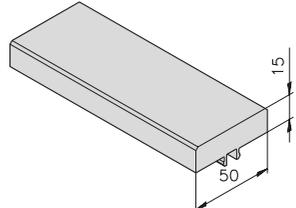
**25|40|50|60**  
 Wear strip  
 mk 1040.02  
**21.02.2000**



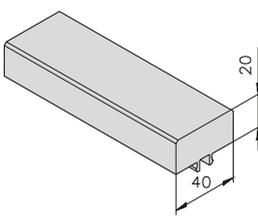
**25|40|50|60**  
 Wear strip  
 mk 1070  
**22.70.2000**



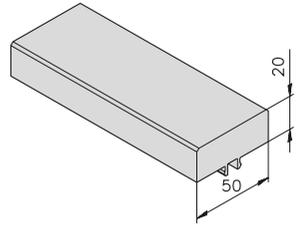
**25|40|50|60**  
 Wear strip  
 mk 1040.03  
**21.03.2000**



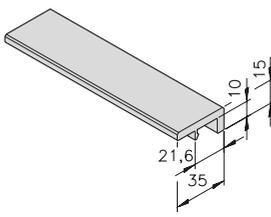
**25|40|50|60**  
 Wear strip  
 mk 1071  
**22.71.2000**



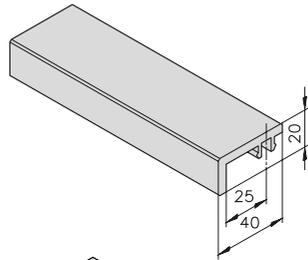
**25|40|50|60**  
 Wear strip  
 mk 1040.04  
**21.04.2000**



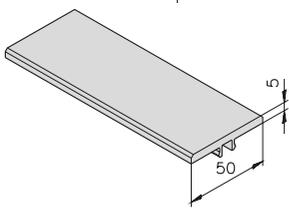
**25|40|50|60**  
 Wear strip  
 mk 1072  
**22.72.2000**



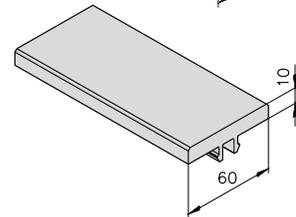
**25|40|50|60**  
 Wear strip  
 mk 1040.05  
**21.05.2000**



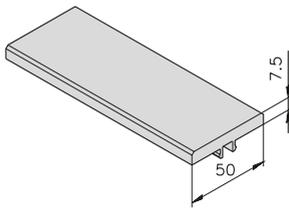
**25|40|50|60**  
 Wear strip  
 mk 1008  
**22.08.2000**



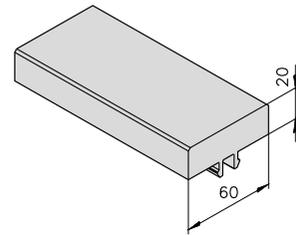
**25|40|50|60**  
 Wear strip  
 mk 1001  
**22.01.2000**



**25|40|50|60**  
 Wear strip  
 mk 1060.62  
**21.62.2000**



**25|40|50|60**  
 Wear strip  
 mk 1017  
**22.17.2000**



**25|40|50|60**  
 Wear strip  
 mk 1060.64  
**21.64.2000**



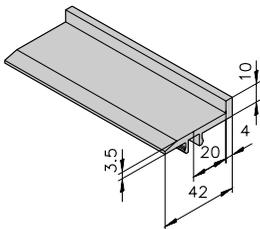
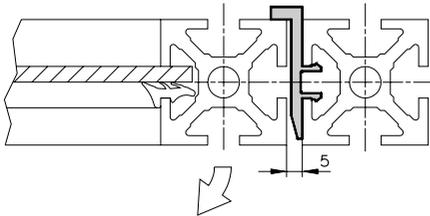
## Wear Strips

### Wear Strips for Door Stops

The mk 1090, mk 1091 and mk 1092 wear strips act as a gentle stop for sliding doors and swing doors.

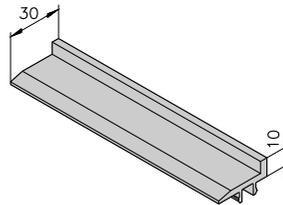
Material: PE-1000 black

#### Fastening example



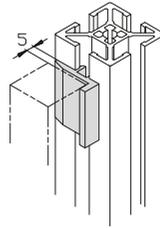
25 40 50 60

Wear strip  
mk 1090  
22.90.2000



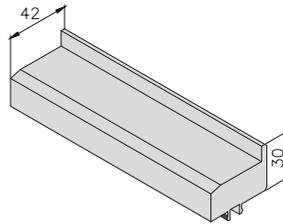
25 40 50 60

Wear strip  
mk 1091  
22.91.2000



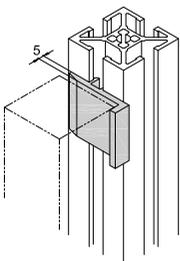
Stop for sheet  
metal doors  
22.91.0035

for 5 mm door gap



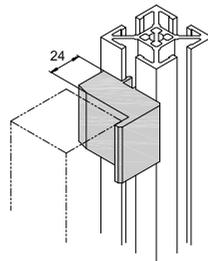
25 40 50 60

Wear strip  
mk 1092  
22.92.2000



Stop for  
swing doors  
22.90.0035

for 5 mm door gap



Stop for  
swing doors  
22.92.0035

for 24 mm door gap



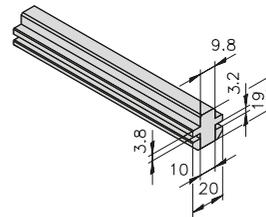
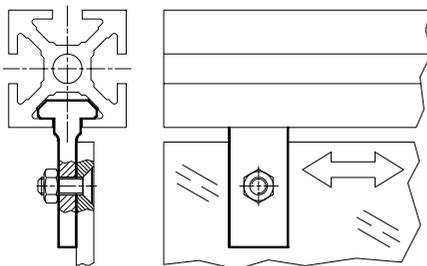
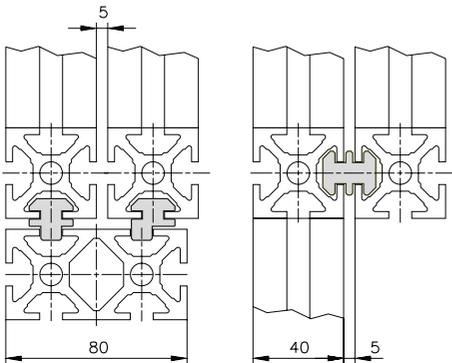
## Wear Strips for Sliding Elements

These wear strips fit in the T-slot and serve as low-wear guides for sliding elements such as manual carriages, sliding doors, lifting doors and drawer slides.

Material: PE-1000 black

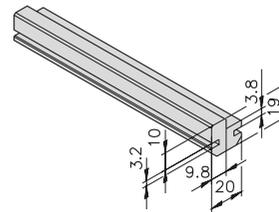
4

### Fastening examples



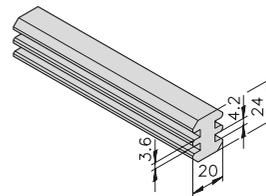
25 40 50 60

Wear strip  
 mk 1026  
**22.26.2000**



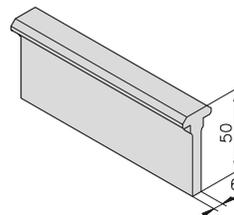
25 40 50 60

Wear strip  
 mk 1027  
**22.27.2000**



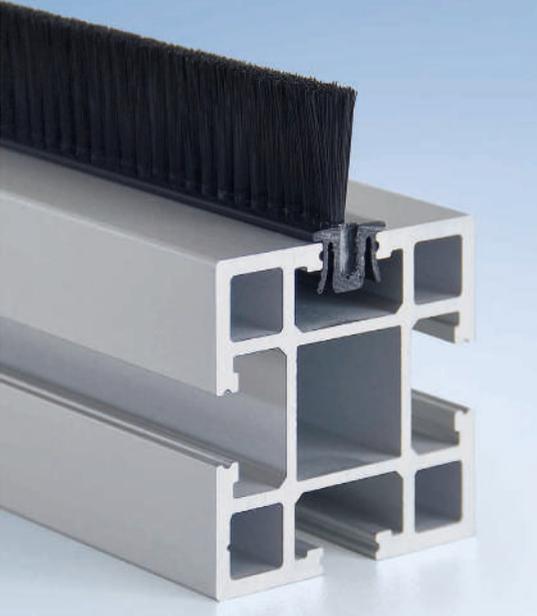
25 40 50 60

Wear strip  
 mk 1021  
**22.21.2000**



25 40 50 60

Wear strip  
 mk 1009  
**22.09.2000**



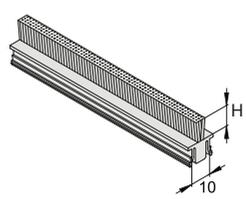
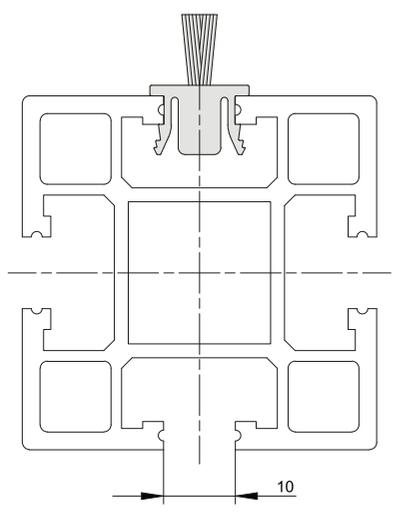
# Brush Strips

## Brush Strips

Brush strips provide an ideal solution for creating secure seals on machine housings, flaps, apertures or for guiding and carrying processes in conveyor technology. Their flexible fibres allow them to be used to reliably fasten fragile parts in charge carriers and countless other possible solutions. The brush strips can be integrated into new structures simply by sliding them in, or into existing structures by clipping them in once the structure is already built. The brush strips have a stock length of 1000 mm.

Material: PA6 plastic

Fastening example



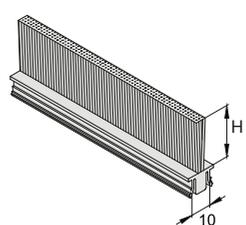
25 40 50 60

Brush strip  
H = 10 mm  
**K115030010**

H = 15 mm  
**K115030015**

H = 20 mm  
**K115030020**

ø 0.15 mm bristles



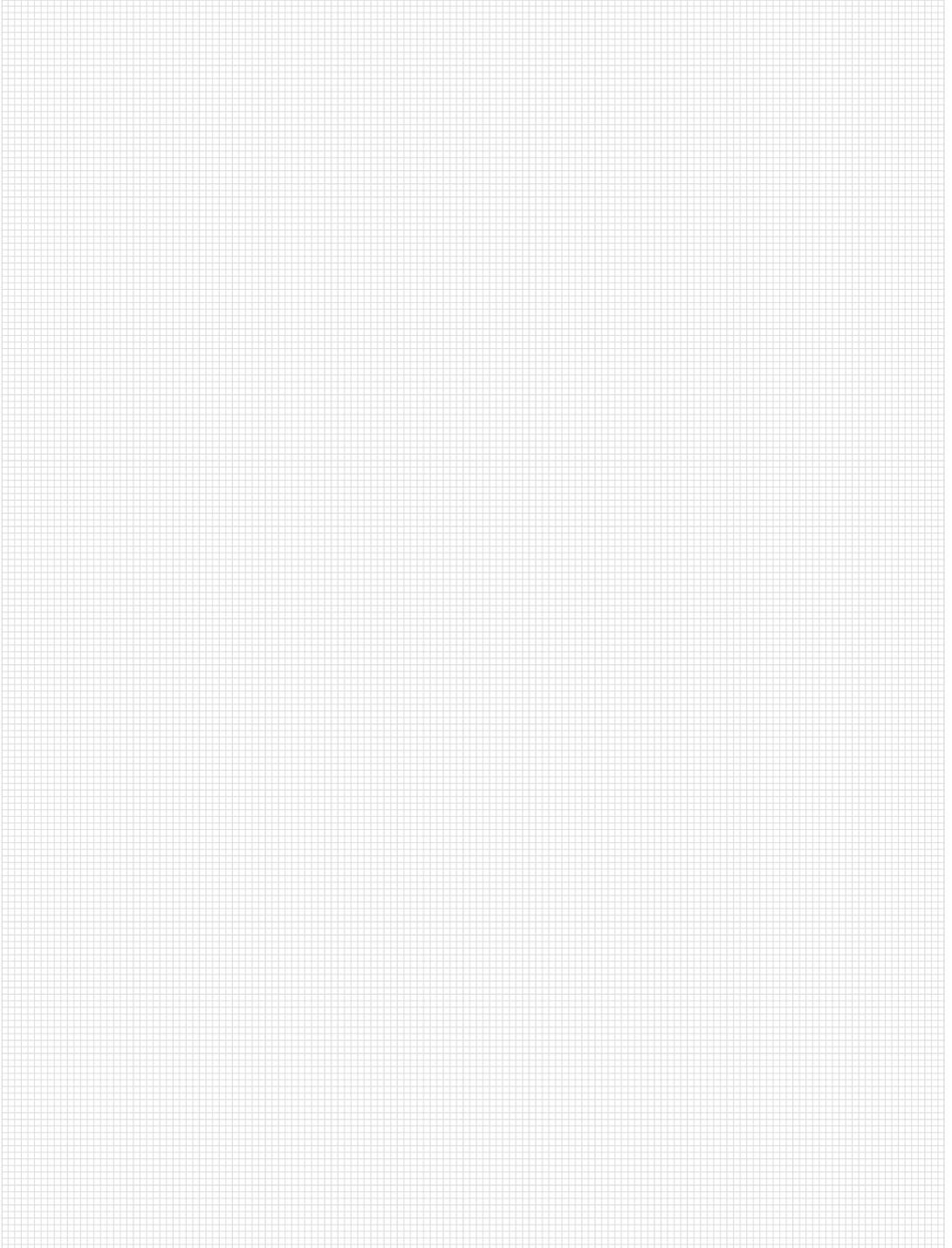
25 40 50 60

Brush strip  
H = 25 mm  
**K115030025**

H = 30 mm  
**K115030030**

ø 0.2 mm bristles

Note: Brush strips can accumulate static charge.



# Section 5 Floor Elements

5



## Levelling Feet

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180



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1
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3
4
<b>5</b>
6
7
8
9
10
11

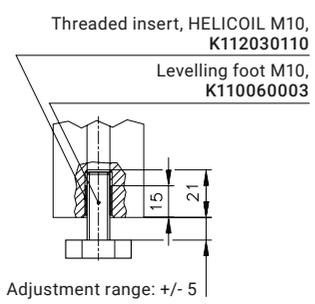
# Levelling Feet

## Levelling Feet

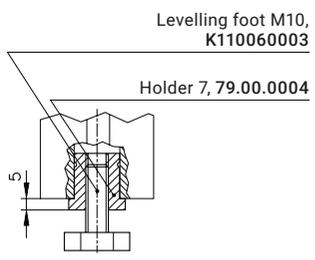
The M8 and M10 levelling feet are the simplest method of compensating for slightly uneven surfaces. They have an adjustment range of 10 mm. For Series 40 profiles, they are screwed into a threaded insert in the centre of the profile. For Series 50 profiles, e.g. the mk 2000 (50x50), they are threaded into holder 7, which is inserted into the centre of the profile.

Material: Galvanised steel spindle, PE plastic foot base

### Series 40 fastening example



### Series 50 fastening example

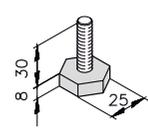


25|40|50|60

Levelling foot M8  
**K110060004**

Levelling foot M10  
**K110060003**

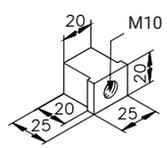
1,000 N load capacity

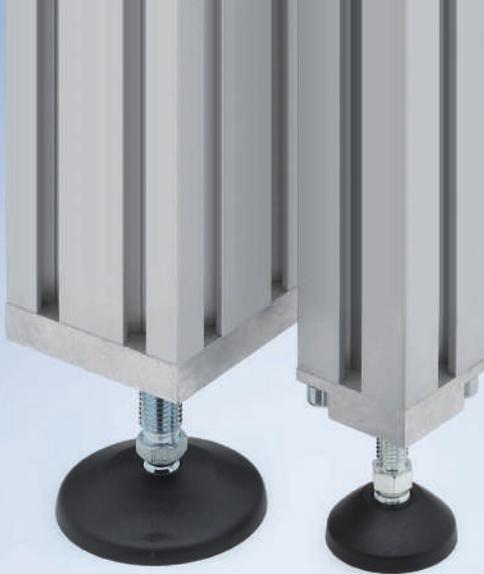


25|40|50|60

Holder 7  
**79.00.0004**

for mk 2000 (50x50) profile  
Tumbled aluminium



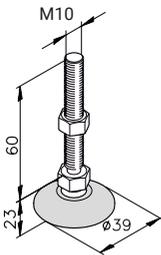


## Levelling Feet

Levelling feet serve to stabilize machine frames, belt conveyors, industrial workstations, etc. They are always fastened to the profile using the appropriate plate for levelling feet. All levelling feet have an adjustment range to compensate for height differences. Versions with a ball joint have a swivel range of about  $\pm 20^\circ$ , allowing them to compensate for slanted surfaces.

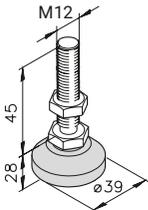
25 40 50 60

Material: Galvanised steel spindle,  
PA plastic foot base



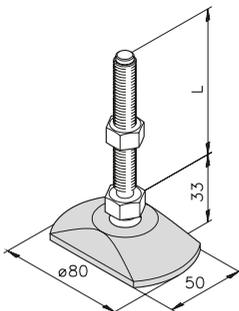
Levelling foot  $\varnothing 39$  M10  
**B67.02.057**

Adjustment range = 40 mm  
750 N load capacity  
with ball joint



Levelling foot  $\varnothing 39$  M12  
**B67.02.076**

Adjustment range = 20 mm  
1,000 N load capacity



Levelling foot  $\varnothing 80$  M12  
**B67.02.077**

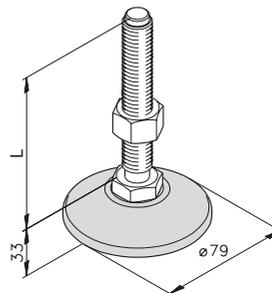
Spindle length L = 50 mm  
Adjustment range = 15 mm

Levelling foot  $\varnothing 80$  M12  
**B67.02.027**

Spindle length L = 75 mm  
Adjustment range = 40 mm

Levelling foot  $\varnothing 80$  M16  
**B67.02.028**

Spindle length L = 85 mm  
Adjustment range = 45 mm  
1,000 N load capacity  
with ball joint



Levelling foot  $\varnothing 79$  M12  
**B67.02.075**

Spindle length L = 50 mm  
Adjustment range = 15 mm

Levelling foot  $\varnothing 79$  M12  
**B67.02.001**

Spindle length L = 75 mm  
Adjustment range = 40 mm

Levelling foot  $\varnothing 79$  M16  
**B67.02.002**

Spindle length L = 85 mm  
Adjustment range = 45 mm

Glass fibre reinforced  
foot base,

1,500 N load capacity,  
with ball joint



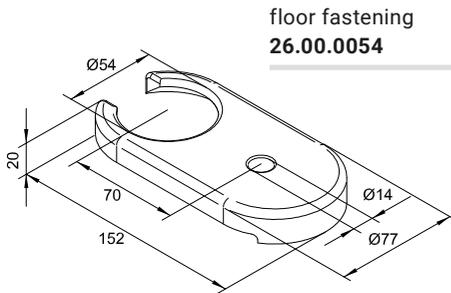
## Levelling Feet

### Levelling Feet

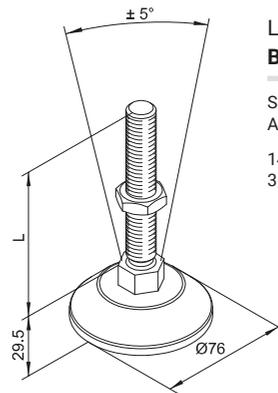
The  $\varnothing 76$  M16 levelling foot can be anchored to the floor using the floor fastener to prevent it from slipping or lifting off of the floor. With this levelling foot, the spindle is screwed in from underneath.

25 40 50 60

Material: Galvanised steel spindle,  
die-cast zinc foot base



floor fastening  
**26.00.0054**



Levelling foot  $\varnothing 76$  M16  
**B67.02.150**

Spindle length  $L = 100$  mm  
Adjustment range = 70 mm

14,500 N load capacity  
3,000 N tensile strength



## Levelling Feet

### ... with Ball Joints

Levelling feet with an anti-slip plate prevent the foot from slipping and provide a slight damping effect. The anti-slip plates are made from a thermoplastic elastomer and can be attached or removed later as needed. They are resistant to oil and water up to 60° C.

25 40 50 60

Material: Galvanised steel spindle,  
 die-cast zinc foot base

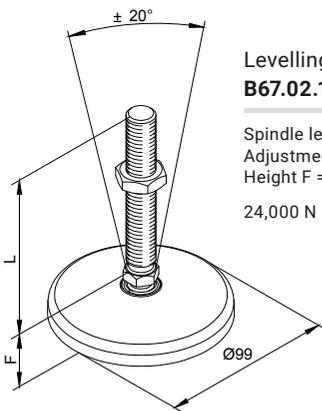
5

#### Levelling foot $\varnothing$ 99 M16 **B67.02.141**

Spindle length L = 100 mm  
 Adjustment range = 70 mm  
 Height F = 29.5 mm  
 14,500 N load capacity

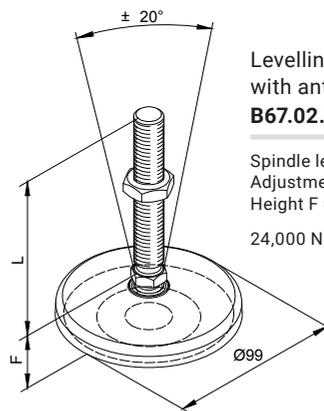
#### Levelling foot $\varnothing$ 99 M16 with anti-slip plate **B67.02.142**

Spindle length L = 100 mm  
 Adjustment range = 70 mm  
 Height F = 29.5 mm  
 14,500 N load capacity



#### Levelling foot $\varnothing$ 99 M20 **B67.02.144**

Spindle length L = 125 mm  
 Adjustment range = 90 mm  
 Height F = 32.5 mm  
 24,000 N load capacity



#### Levelling foot $\varnothing$ 99 M20 with anti-slip plate **B67.02.145**

Spindle length L = 125 mm  
 Adjustment range = 90 mm  
 Height F = 32.5 mm  
 24,000 N load capacity

## Levelling Feet

### Levelling Feet with Mounting Bores

#### ... with Ball Joints

Levelling feet serve to stabilize machine frames, belt conveyors, industrial workstations, etc. Levelling feet with mounting bores in their foot base can be anchored to the floor. Because of the ball joint, they can withstand a maximum tensile load of 200 N.

25 40 50 60

Material: Galvanised steel spindle, die-cast zinc foot base

#### Levelling foot $\varnothing$ 99 M16 B67.02.143

with  $\varnothing$  9 mm bore  
Spindle length L = 100 mm  
Adjustment range = 70 mm  
Height F = 29.5 mm

14,500 N load capacity

#### Levelling foot $\varnothing$ 119 M20 B67.02.147

with  $\varnothing$  9 mm bore  
Spindle length L = 100 mm  
Adjustment range = 65 mm

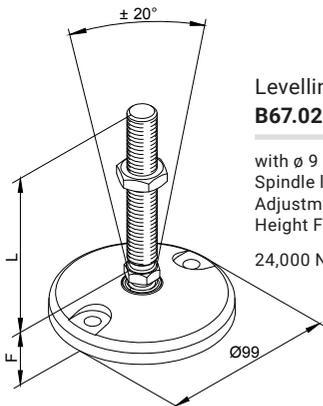
#### Levelling foot $\varnothing$ 119 M20 B67.02.148

with  $\varnothing$  9 mm bore  
Spindle length L = 125 mm  
Adjustment range = 90 mm

#### Levelling foot $\varnothing$ 119 M20 B67.02.149

with  $\varnothing$  9 mm bore  
Spindle length L = 150 mm  
Adjustment range = 115 mm

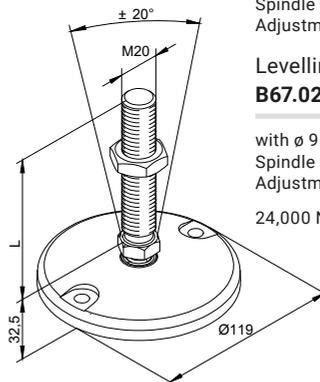
24,000 N load capacity



#### Levelling foot $\varnothing$ 99 M20 B67.02.146

with  $\varnothing$  9 mm bore  
Spindle length L = 125 mm  
Adjustment range = 90 mm  
Height F = 32.5 mm

24,000 N load capacity



## Stainless Steel Levelling Feet

### ... with Ball Joints

With stainless steel levelling feet, either the foot base or the entire levelling foot including the spindle and nut are made from stainless steel, making them ideal for use in cleanrooms and for meeting FDA requirements.

25 40 50 60

Material: Stainless steel foot base,  
 spindle and hexagon nut

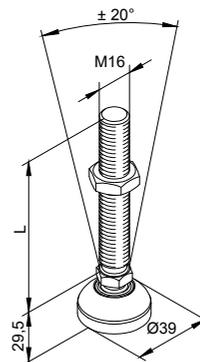
Levelling foot  $\varnothing$  39 M16  
**B67.02.135**

Spindle length L = 100 mm  
 Adjustment range = 70 mm

**B67.02.136**

Spindle length L = 200 mm  
 Adjustment range = 170 mm

14,500 N load capacity



# Levelling Feet

## Stainless Steel Levelling Feet

The levelling feet shown here are made entirely from stainless steel and are therefore ideal for use in cleanrooms or for meeting FDA requirements in food production applications. The foot's domed shape also ensures that liquids will run off. The height adjustment and swivel range allows the levelling foot to compensate for height differences and uneven surfaces. In addition, they can be anchored to the floor.

[25](#) [40](#) [50](#) [60](#)

Material: Stainless steel foot base, spindle and hexagon nut

Levelling foot  $\phi$  110 M16  
**B67.02.080**

Spindle length L = 50 mm  
Adjustment range = 16 mm

**B67.02.081**

Spindle length L = 100 mm  
Adjustment range = 66 mm

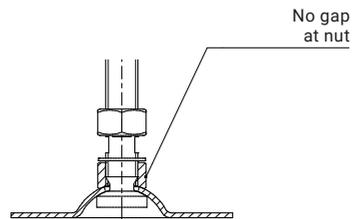
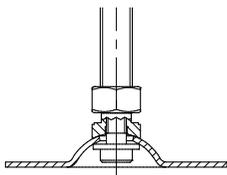
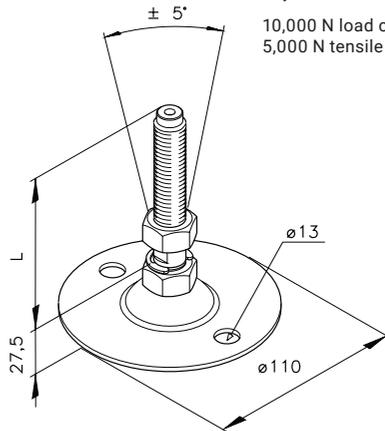
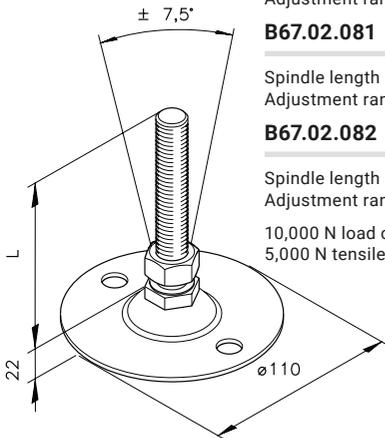
**B67.02.082**

Spindle length L = 150 mm  
Adjustment range = 116 mm  
10,000 N load capacity  
5,000 N tensile strength

Levelling foot  $\phi$  110 M16  
**B67.02.087**

Spindle length L = 90 mm  
Adjustment range = 40 mm

10,000 N load capacity  
5,000 N tensile strength





## Stainless Steel Levelling Feet

The levelling feet shown here rest atop a vulcanised rubber base that is permanently attached to the stainless steel foot base and that provides anti-slip, damping and sealing effects. The sanitary design has a thread that is completely covered by the adjusting sleeve.

5

25 40 50 60

Material: Stainless steel foot base, spindle and hexagon nut, NBR plastic damper

### Levelling foot $\varnothing$ 80 M16 **B67.02.090**

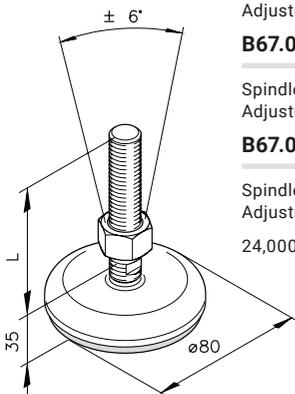
Spindle length L = 75 mm  
 Adjustment range = 45 mm

### **B67.02.091**

Spindle length L = 100 mm  
 Adjustment range = 70 mm

### **B67.02.092**

Spindle length L = 150 mm  
 Adjustment range = 120 mm  
 24,000 N load capacity

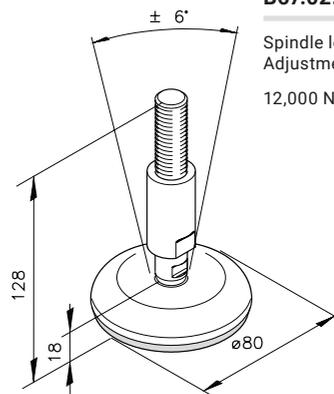


### Sanitary design

### Levelling foot $\varnothing$ 80 M16 **B67.02.097**

Spindle length L = 128 mm  
 Adjustment range = 32 mm

12,000 N load capacity





# Plates for Levelling Feet

## Holders for Levelling Feet

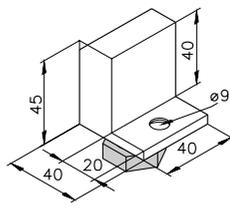
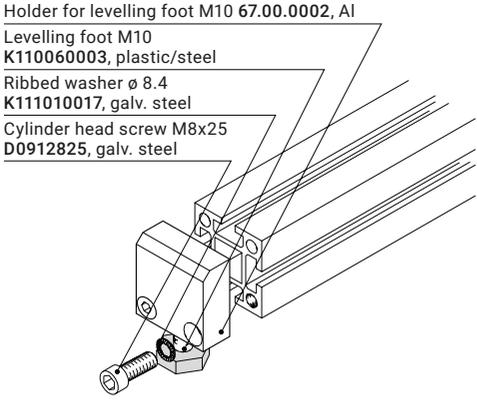
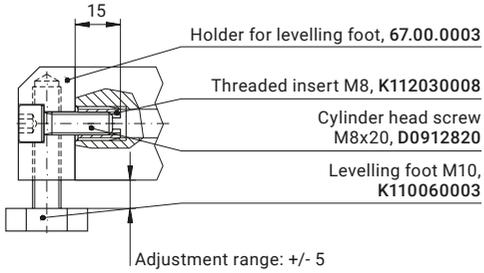
### ... for Horizontal Profiles

Holders for levelling feet are primarily used for securely attaching levelling feet, but they can also be used for fixed and swivel casters and for lifting devices. Holders are available for all standard profiles and levelling foot threads.

1,000 N load capacity

Material: Tumbled aluminium

### Fastening example

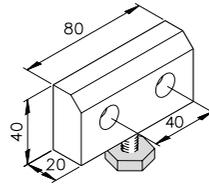


M8x16 DIN 7991

25|40|50|60

Holder for levelling foot M10 67.00.0010

without floor levelling screw for 40 x 40 profile

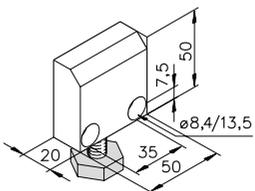


M8x20

25|40|50|60

Holder for levelling foot M10 67.00.0003

without floor levelling screw for 40 x 80 profile



M8x20

25|40|50|60

Holder for levelling foot M10 67.00.0002

without floor levelling screw for mk 2000 (50x50) profile



## Holders for Levelling Feet

### ... for Horizontal Profiles

Levelling foot angles act as holders for levelling feet, fixed/swivel casters and lifting devices. They can be attached quickly and without profile machining. They are suitable for retrofitting and provide additional stability.

Material: Galvanised steel

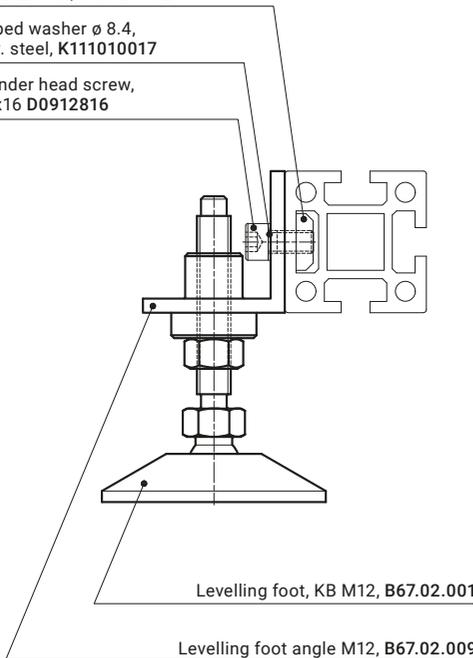
5

### Fastening example

Nut 2/25 M8, 34.01.0002

Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

Cylinder head screw, M8x16 D0912816



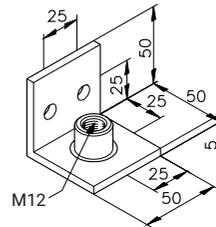
M8x16

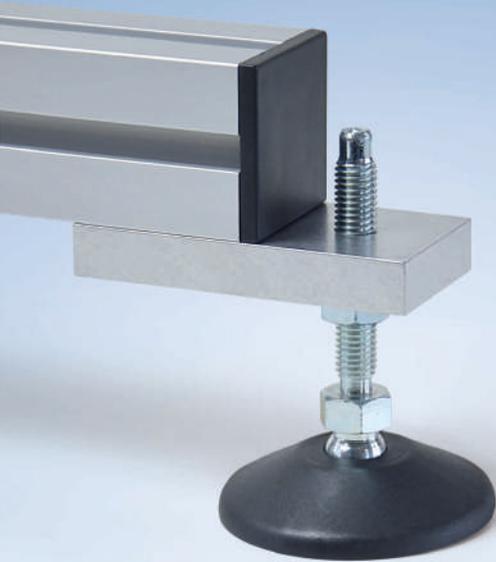
25 40 50 60

Levelling foot angle M12  
**B67.02.009**

Levelling foot angle M16  
**B67.02.010**

1,500 N load capacity





# Plates for Levelling Feet

## Holders for Levelling Feet

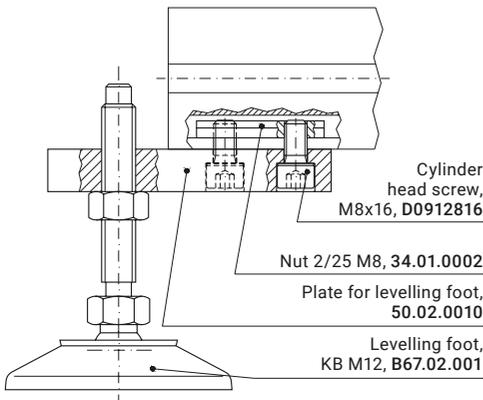
### ... for Horizontal Profiles

The following foot plates act as holders for leveling feet, fixed/swivel casters and lifting devices. They can be attached quickly and without profile services. Foot plate F M16 can also be anchored directly to the floor.

Material: Tumbled aluminium

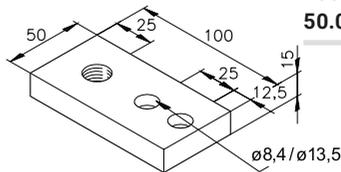
**25 | 40 | 50 | 60**    **M8x16**

Fastening example

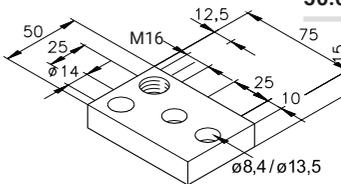


Foot plate D M12  
**50.02.0010**

Foot plate D M16  
**50.02.0011**

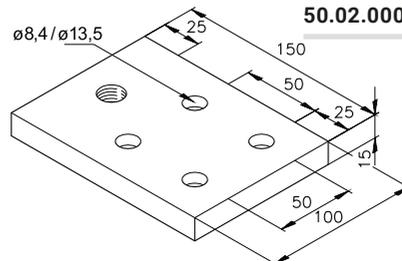


Foot plate F M16  
**50.02.0018**



Foot plate G M16  
**50.02.0007**

Foot plate G M20  
**50.02.0008**





## Foot Plates

### ... for Vertical Profiles

Foot plates act as holders for levelling feet, fixed/swivel casters and lifting devices. They are fastened to the face of a vertical profile.

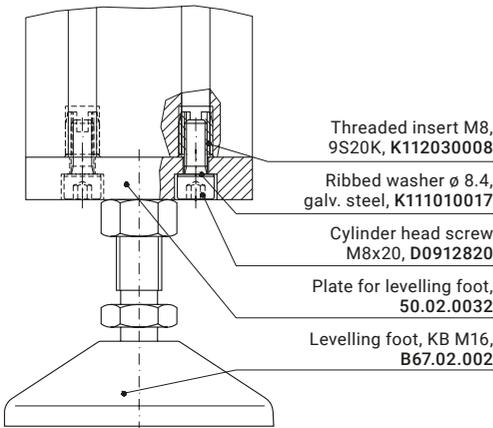
Material: Tumbled aluminium

5

25 40 50 60

M8x20

### Fastening example



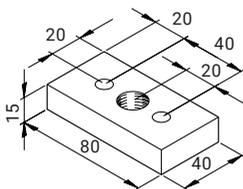
Threaded insert M8,  
9S20K, K112030008

Ribbed washer ø 8.4,  
galv. steel, K111010017

Cylinder head screw  
M8x20, D0912820

Plate for levelling foot,  
50.02.0032

Levelling foot, KB M16,  
B67.02.002

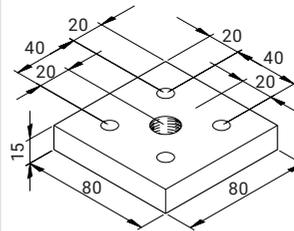


Foot plate I M10  
50.02.0041

Foot plate I M12  
50.02.0035

Foot plate I M16  
50.02.0030

for mk 2040.02 (40x80),  
mk 2040.41 (40x80),  
mk 2040.52 (40x80)  
profiles  
6,000 N load capacity



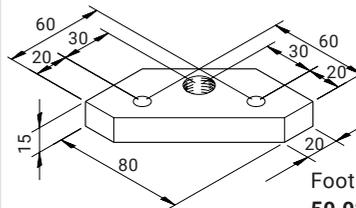
Foot plate J M10  
50.02.0042

Foot plate J M12  
50.02.0067

Foot plate J M16  
50.02.0032

Foot plate J M20  
50.02.0050

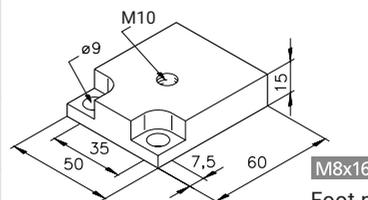
for mk 2040.03 (80x80),  
mk 2040.45 (80x80) profile



Foot plate K M10  
50.02.0043

Foot plate K M16  
50.02.0040

for mk 2040.04 profile



M8x16

Foot plate M10  
50.02.0068

for mk 2040.38 profile



## Plates for Levelling Feet

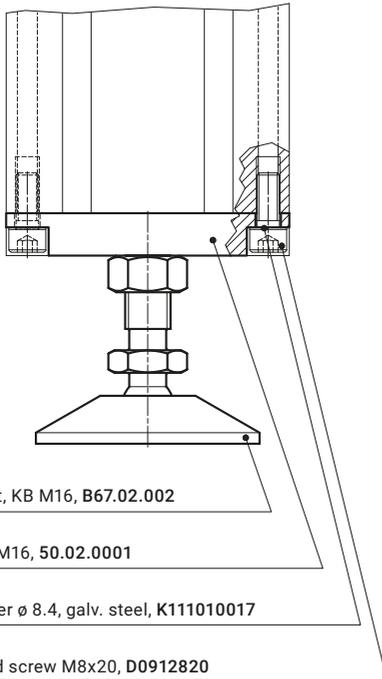
### Foot Plates

#### ... for Vertical Profiles

Foot plates act as holders for levelling feet, fixed/swivel casters and lifting devices. They are fastened to the face of a vertical profile.

25 40 50 60 M8x20

#### Fastening example

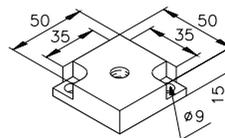


Levelling foot, KB M16, B67.02.002

Foot plate C M16, 50.02.0001

Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

Cylinder head screw M8x20, D0912820

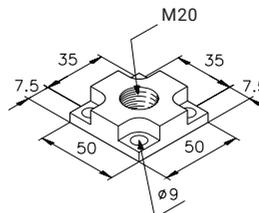


Foot plate A M10  
50.09.0013

Foot plate A M12  
50.09.0044

Foot plate A M16  
50.09.0045

for mk 2000 (50x50) profile  
Tumbled aluminium



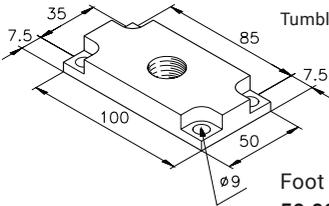
Foot plate 1 M20  
50.09.0037

for mk 2000 (50x50) profile  
Galvanised steel

Foot plate B M16  
**50.02.0003**

Foot plate B M20  
**50.02.0004**

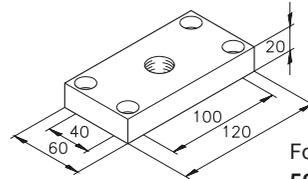
Tumbled aluminium



Foot plate 3 M20  
**50.09.0038**

for mk 2004 (50x100) profile  
 Galvanised steel

25 | 40 | 50 | 60 | M8x30



Foot plate 60/4 M16  
**50.02.6004**

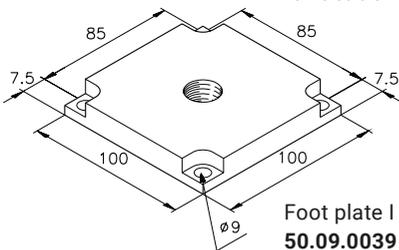
Foot plate 60/5 M20  
**50.02.6005**

for mk 2060.02  
 (60x120) profile  
 Tumbled aluminium

Foot plate C M16  
**50.02.0001**

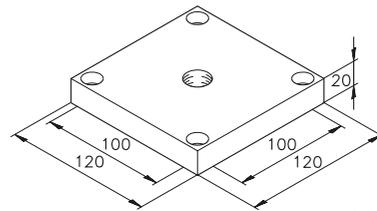
Foot plate C M20  
**50.02.0002**

Tumbled aluminium



Foot plate I M20  
**50.09.0039**

for mk 2005 (100x100),  
 mk 2011 (100x100) profile  
 Galvanised steel



Foot plate 60/8 M16  
**50.02.6008**

Foot plate 60/9 M20  
**50.02.6009**

for mk 2060.05  
 (120x120) profile  
 Tumbled aluminium



# Floor Plates

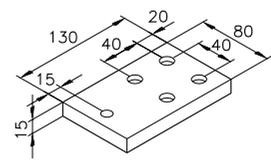
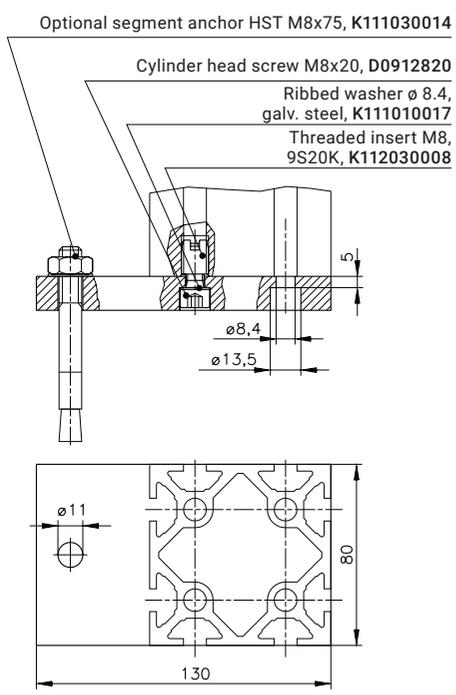
## Floor Plates

Floor plates, whether referred to as base plates or just plates, are used to fasten stands, protective panels, industrial workstations, machine frames, platforms and much more to the floor. They are installed front side of a vertical profile and anchored to the floor with a fastener, for example a segment anchor. They can also be used as flange on other profiles.

Material: Tumbled aluminium

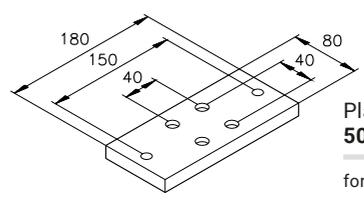
**25 40 50 60** **M8x20**

### Fastening example



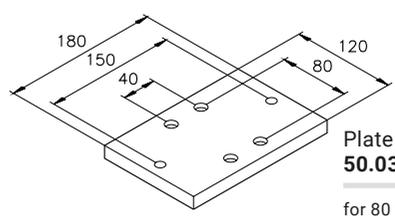
**Plate 40/17**  
**50.03.0025**

for 80 x 80 profiles



**Plate 40/18**  
**50.03.0026**

for 80 x 80 profiles



**Plate 40/20**  
**50.03.0028**

for 80 x 120 profiles



## Floor Plates

Material: Tumbled aluminium

25 40 50 60 M8x20

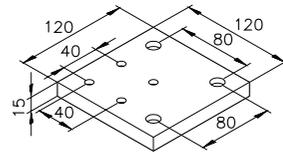
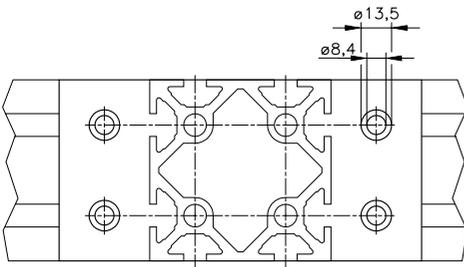
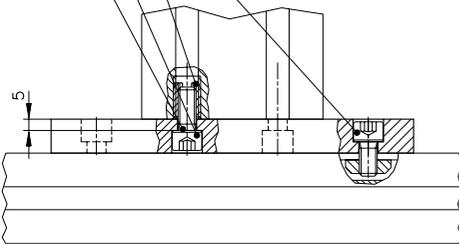
### Fastening example

Ribbed washer  $\varnothing$  8,4, galv. steel, K111010017

Cylinder head screw M8x20, D0912820

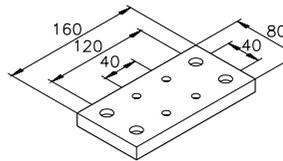
Threaded insert M8, 9S20K, K112030008

Cylinder head screw M8x16, D0912816



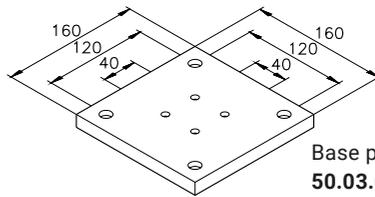
Base plate 40/1  
**50.03.0009**

for 80 x 80 profiles



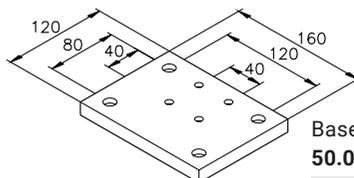
Base plate 40/2  
**50.03.0010**

for 80 x 80 profiles



Base plate 40/3  
**50.03.0011**

for 80 x 80 profiles



Base plate 40/4  
**50.03.0012**

for 80 x 80 profiles

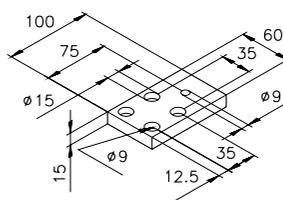


## Floor Plates

### Floor Plates

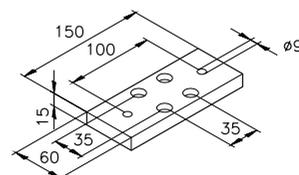
Material: Tumbled aluminium

25 40 50 60 M8x20



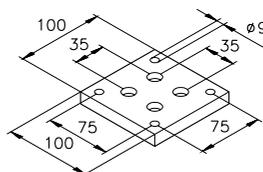
**Base plate 1**  
**50.03.0001**

for mk 2000 (50x50),  
mk 2017 (50x50),  
mk 2018 (50x50)  
and mk 2019 (50x50)  
profile



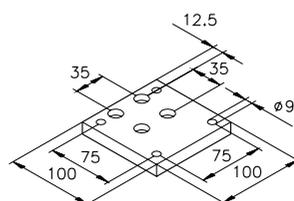
**Base plate 2**  
**50.03.0002**

for mk 2000 (50x50),  
mk 2017 (50x50),  
mk 2018 (50x50)  
and mk 2019 (50x50)  
profile



**Base plate 4**  
**50.03.0003**

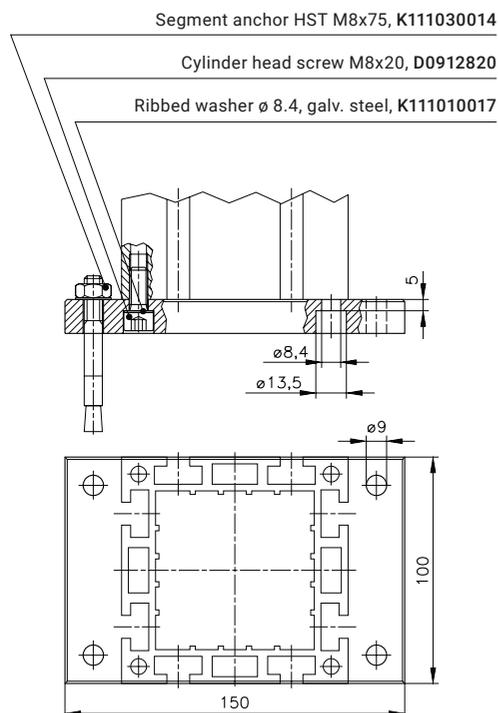
for mk 2000 (50x50),  
mk 2017 (50x50),  
mk 2018 (50x50)  
and mk 2019 (50x50)  
profile



**Base plate 4a**  
**50.03.0004**

for mk 2000 (50x50),  
mk 2017 (50x50),  
mk 2018 (50x50)  
and mk 2019 (50x50)  
profile

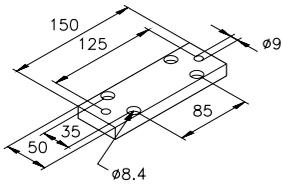
### Fastening example



## Floor Plates

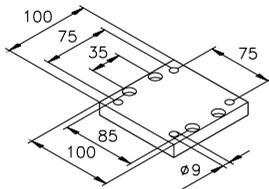
Material: Tumbled aluminium

25 | 40 | 50 | 60 | M8x20



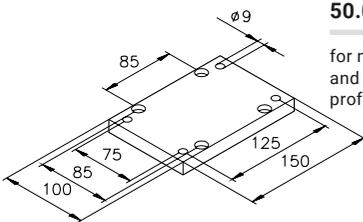
**Base plate 5**  
**50.03.0005**

for mk 2004 (50x100)  
 profile



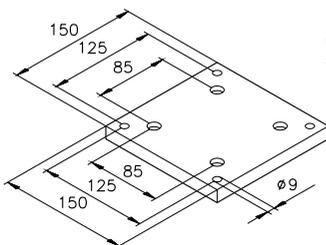
**Base plate 6**  
**50.03.0006**

for mk 2004 (50x100)  
 profile



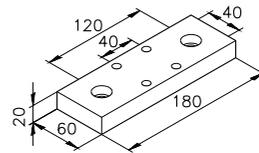
**Base plate 7**  
**50.03.0007**

for mk 2005 (100x100)  
 and mk 2011 (100x100)  
 profile



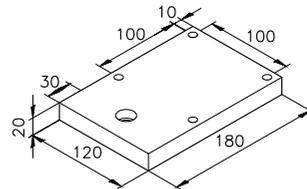
**Base plate 8**  
**50.03.0008**

for mk 2005 (100x100)  
 and mk 2011 (100x100)  
 profile



**Base plate 60/2**  
**50.03.6002**

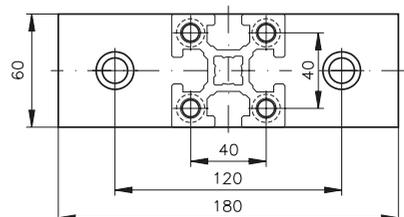
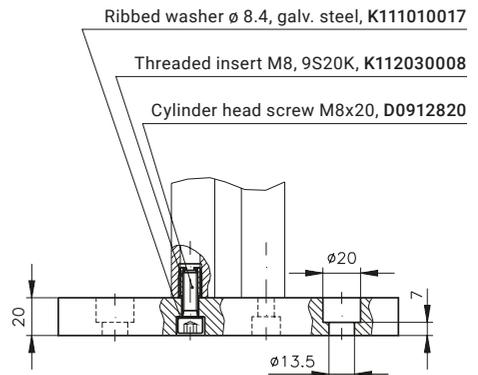
for mk 2060.01 (60x60)  
 profile



**Base plate 60/8**  
**50.03.6008**

for mk 2060.05 (120x120)  
 profile

### Fastening example





# Base Plates

## Base Plates

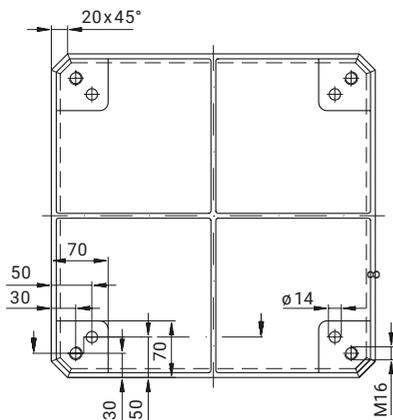
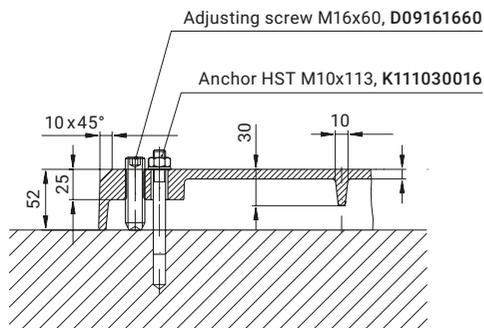
Base plates provide stability for machines, frames, stands, guarding or other equipment. On request, we will be happy to design a base plate for your particular application or manufacture it according to your drawing of the drilling pattern. It is also possible to insert threads or bores into the corners of the base plate.

The assembly kit for each plate (item numbers beginning with B) contains the necessary fastening accessories (segment anchors and adjusting screws).

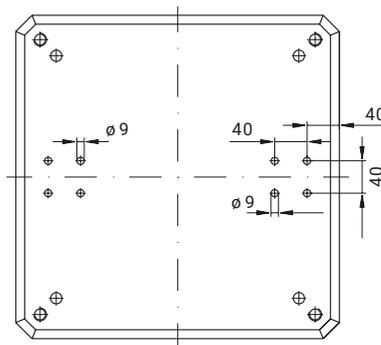
Material: Grey cast, painted black

[25](#) [40](#) [50](#) [60](#)

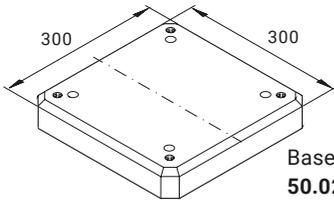
Fastening example



Sample drilling pattern



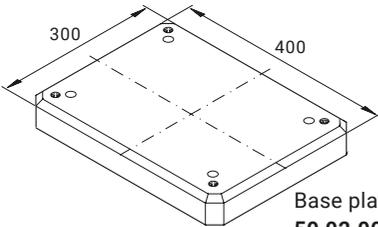
The middle lines indicate the path of the reinforcing bars on the underside of the base plates. Please note the paths of these bars when creating your drawing, as damaging the bars will significantly reduce the load capacity of the base plate.



Base plate 6  
**50.02.0088**

**B46.07.274\***

Weight: 10.5 kg



Base plate 7  
**50.02.0089**

**B46.07.275\***

Weight: 12.1 kg

\*With fastening accessories



## Base Plates

### Heavy-Duty Base Plates

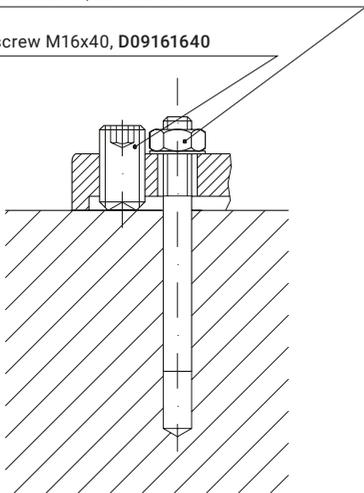
The following heavy-duty base plates ensure the stability of heavy machine frames, gantries and stands. They are painted black and pre-drilled for connecting certain basic profiles. Plates without a drilling pattern have only the threads and bores necessary for attaching it to the floor. On request, we will be happy to design a base plate for your particular application or manufacture it according to your drawing of the drilling pattern.

Material: Grey cast, painted black

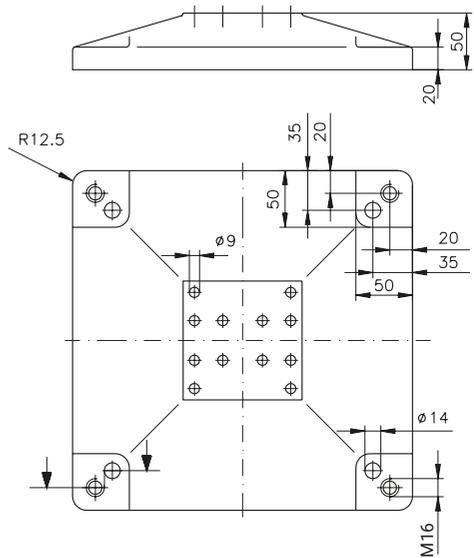
#### Fastening example

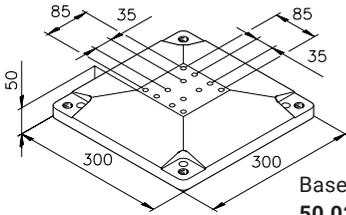
Anchor HST M10x113, K111030016

Adjusting screw M16x40, D09161640



25 | 40 | 50 | 60

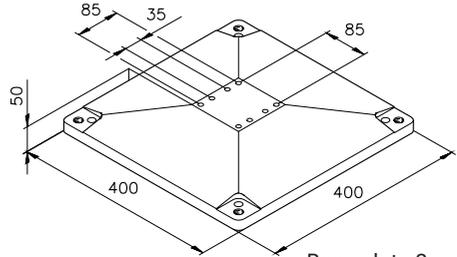




**Base plate 4**  
**50.02.0028**

Connection bores  
 for mk 2000 (50x50),  
 mk 2004 (50x100),  
 mk 2005 (100x100),  
 mk 2011 (100x100),  
 mk 2018 (50x50) and  
 mk 2019 (50x50) profile

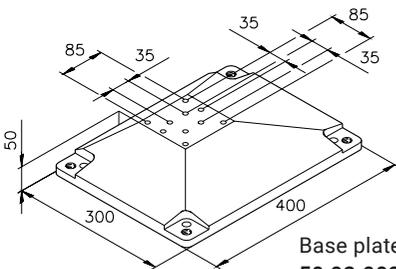
Weight: 6.8 kg



**Base plate 2**  
**50.02.0026**

Connection bores  
 for mk 2004 (50x100),  
 mk 2005 (100x100) and  
 mk 2011 (100x100)

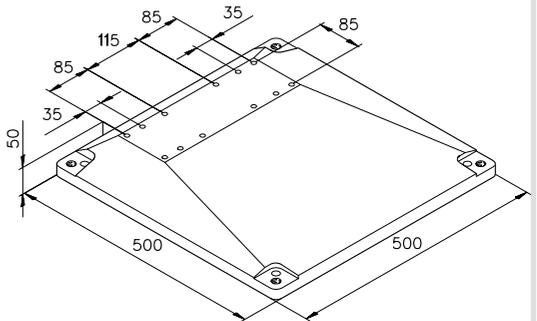
Weight: 11.5 kg



**Base plate 1**  
**50.02.0023**

Connection bores  
 for mk 2000 (50x50),  
 mk 2004 (50x100),  
 mk 2005 (100x100),  
 mk 2018 (50x50) and  
 mk 2019 (50x50) profile

Weight: 8 kg



**Base plate 5**  
**50.02.0029**

Connection bores  
 for 2 x mk 2004 (50x100),  
 mk 2005 (100x100) and  
 mk 2011 (100x100)

Weight: 16.6 kg



## Support Brackets

### Support Brackets

The support brackets for 40 x 40 mm profiles are frequently used to anchor guarding partitions to the floor. No end service is required on the profile itself. Height differences of up to 10 mm can be compensated by moving the profile.

Material: Tumbled aluminium

25 40 50 60 M8x16

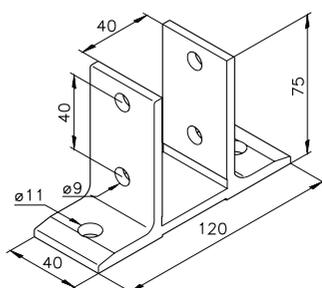
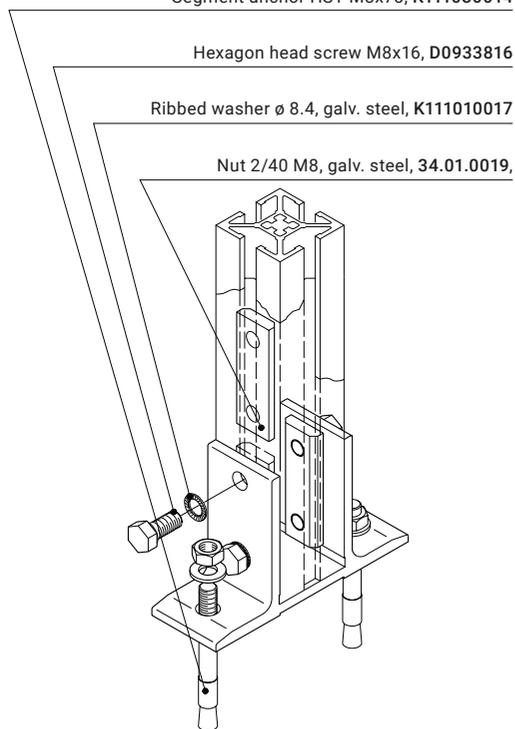
#### Fastening example

Segment anchor HST M8x75, K111030014

Hexagon head screw M8x16, D0933816

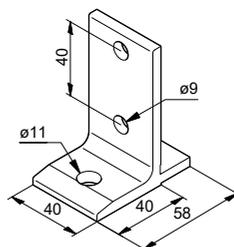
Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

Nut 2/40 M8, galv. steel, 34.01.0019,



Support bracket  
40/1  
**67.02.0004**

for 40 x 40 profile



Support bracket  
40/2  
**67.02.0009**

for 40 x 40 profile



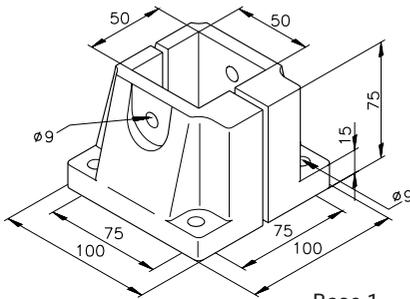
## Support Brackets

Support brackets (listed as "base" below) for 50 x 50 mm profiles are used to anchor stands or columns to the floor. No end service is required on the profile itself.

Material: Die-cast aluminium

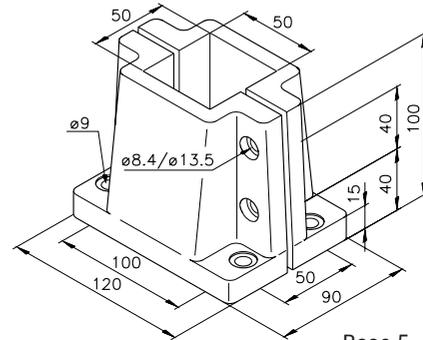
25 | 40 | 50 | 60

5



**Base 1**  
**65.00.0001**

for 50 x 50 profile



**Base 5**  
**65.00.0005**

for 50 x 50 profile



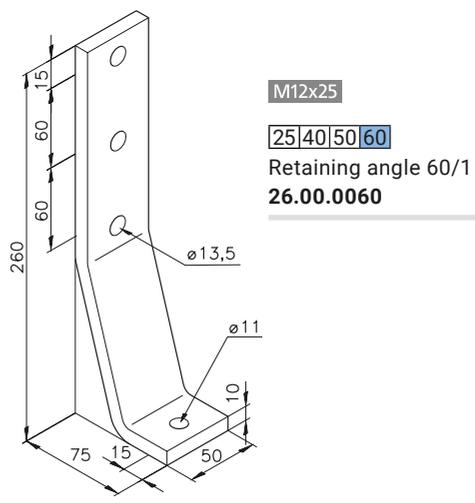
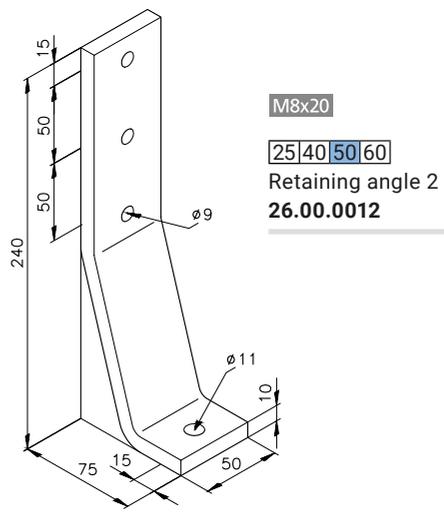
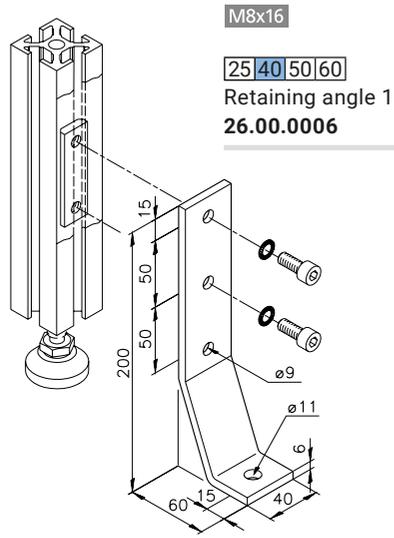
# Support Brackets

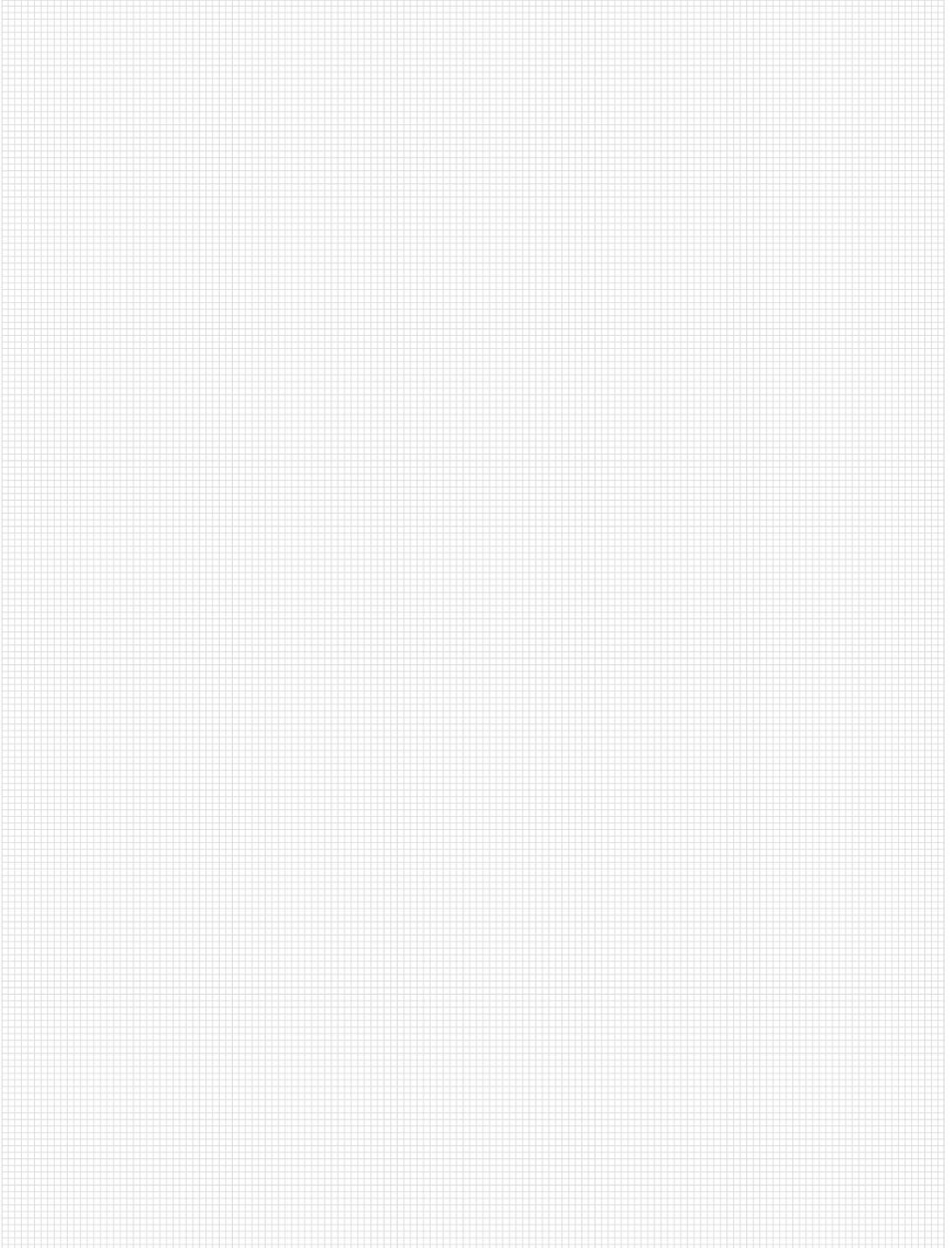
## Retaining Angles

Retaining angles can be retrofitted onto structures such as frames, belt conveyors or other structures with levelling feet in order to anchor and fix them to the floor. No end service is required on the profile itself.

Material: Galvanised steel

Fastening example



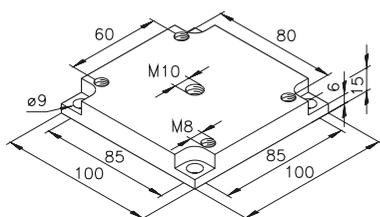




M8x16 25 40 50 60

Foot plate R3  
50.02.0093

Tumbled  
aluminium



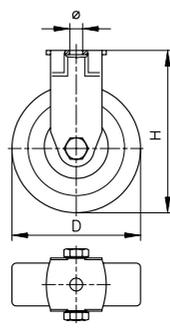
For mk 2005/mk 2011 and casters with  $\varnothing$  10.5 mm connection bores or 80/60 bore pattern

## Fixed and Swivel Casters

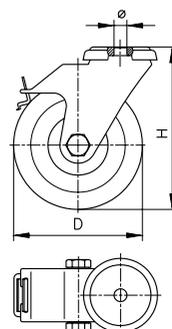
### Fixed and Swivel Casters, Type A

The casters are made from galvanised, chromated steel. The housings of the type A variety can be connected to either the face or the slot of a profile using a foot plate with an M10/M12 thread. The rubber tread on the wheels provides for very smooth operation. The wheels have ball bearings. All swivel casters are equipped with a total locking device.

Fixed casters (A)



Swivel casters (A) with locking device



Wheel $\varnothing$ D [mm]	Wheel width [mm]	Load capacity [N]	Total height H [mm]	Connection bore $\varnothing$ [mm]	Item no.
<b>Fixed casters (A)</b>					
50	18	400	69	10.5	K106001040
75	25	600	98	10.5	K106001041
100	32	900	133	10.5	K106001044
100	32	900	133	12.5	K106001042
125	25	800	158	12.5	K106001043
<b>Swivel casters (A) with locking device</b>					
50	18	400	69	10.5	K106000140
75	25	600	98	10.5	K106000141
100	32	900	133	10.5	K106000144
100	32	800	133	12.5	K106000142
125	25	800	158	12.5	K106000143



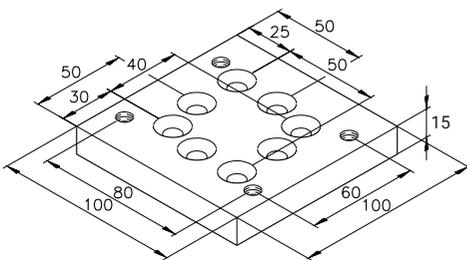
## Fixed and Swivel Casters, Type B

The casters are made from galvanised, chromated steel. The housings of the type B variety can be connected to a frame using the pad plates shown below. The wheels have ball bearings and feature a high load capacity. All swivel casters are equipped with a total locking device.

M8x25 **25 40 50 60**

Foot plate R1  
**50.02.0091**

Tumbled aluminium

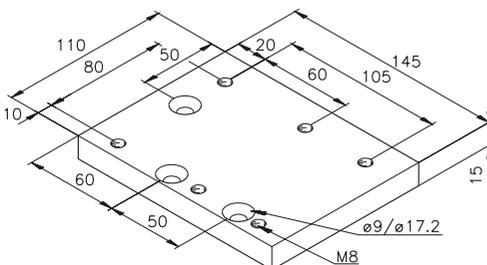


For attaching casters with an 80/60 bore pattern to the profile slot using two countersunk head screws

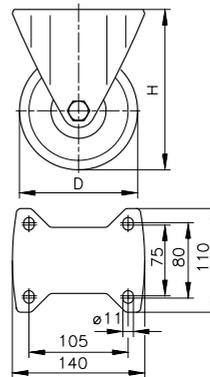
M8x25 **25 40 50 60**

Foot plate R4  
**50.02.0094**

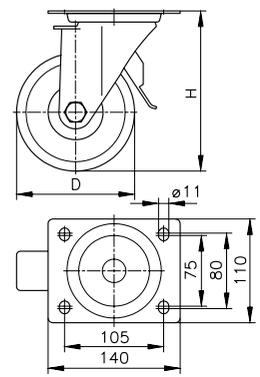
Tumbled aluminium



Fixed caster (B)



Swivel caster (B) with locking device



Wheel ø D [mm]	Wheel width [mm]	Load capacity [N]	Total height H [mm]	Bore pattern [mm]	Item no.
<b>Fixed caster (B)</b>					
125	40	7000	165	105/80	K106001045
125	40	7000	165	80/60	K106001048
<b>Swivel caster (B) with locking device</b>					
125	40	7000	165	105/80	K106000145
125	40	7000	165	80/60	K106000148

# Section 6 Accessory Components



**6 Cover Profiles**

196



**Hinges**

Hinges

198



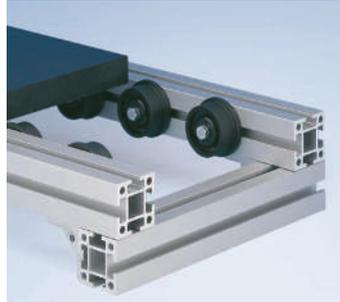
**Installation Elements**

Cable Ducts	202
Cable Clips	203
Sensor Holders	204
Pneumatic Components	205



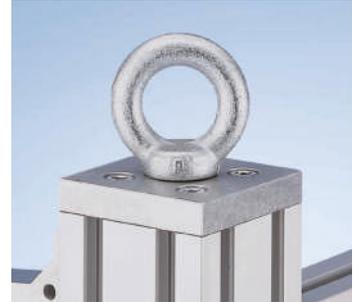
**Operating Elements**

- Handwheels 208
- Clamping Levers 209



**Conveying Elements**

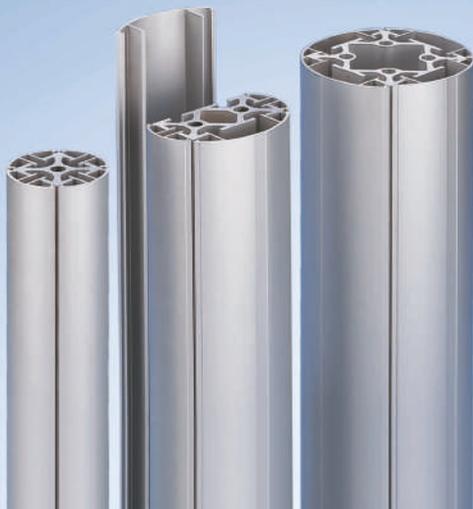
- Mini-Rollers 210
- Track Rollers 211



**Other Accessories**

- Bumpers 214
- Eye Bolts 215

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

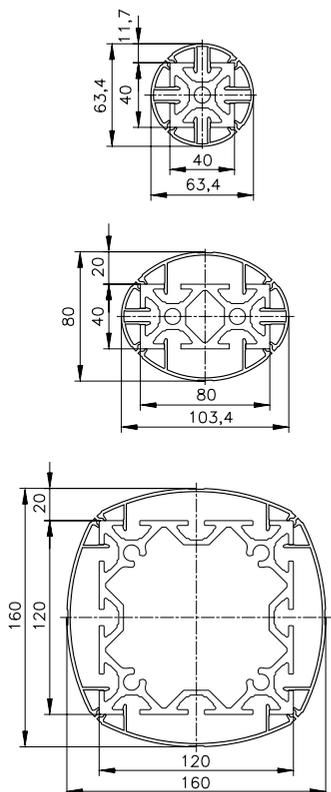


## Cover Profiles

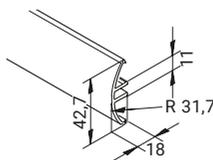
Cover profiles have a curved cross section and are used to cover Series 40 profiles. They close the slots to create an attractive appearance with round contours. The profile can be clipped into the T-slot without additional fasteners. The resulting hollow space is well suited for running cables. Classical applications include table legs, frames, power supply columns or trade fair exhibits with special design requirements.

Material: Anodised aluminium

### Fastening example



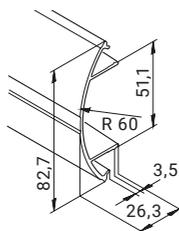
25 40 50 60



Profile mk 2040.43

0.41 kg/m

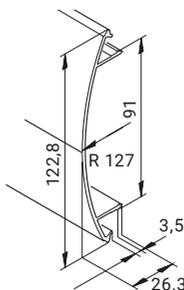
Stock length	<b>54.43.5100</b>
Cut	<b>54.43. ....</b>



Profile mk 2040.42

0.68 kg/m

Stock length	<b>54.42.5100</b>
Cut	<b>54.42. ....</b>



Profile mk 2040.44

0.85 kg/m

Stock length	<b>54.44.5100</b>
Cut	<b>54.44. ....</b>

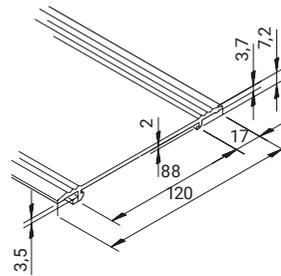
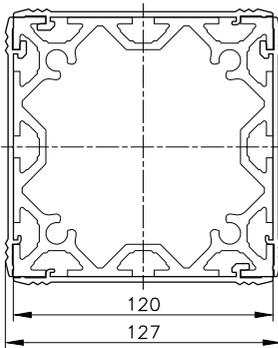


The mk 2040.85 cover profile has a flat cross section and is used to cover Series 40 profiles with an edge length of 120 mm. This closes the slots to prevent dirt from accumulating. When used as a tread surface, the structure also provides slip resistance. The profile does not require screws for attachment and can be clipped into the T-slots of existing structures without the need for additional fasteners.

Material: Anodised aluminium

Fastening example

25 40 50 60



Profile mk 2040.85

0.93 kg/m

Stock length	<b>54.85.5100</b>
cut	<b>54.85. ....</b>

# Hinges

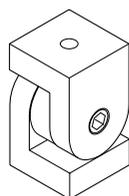
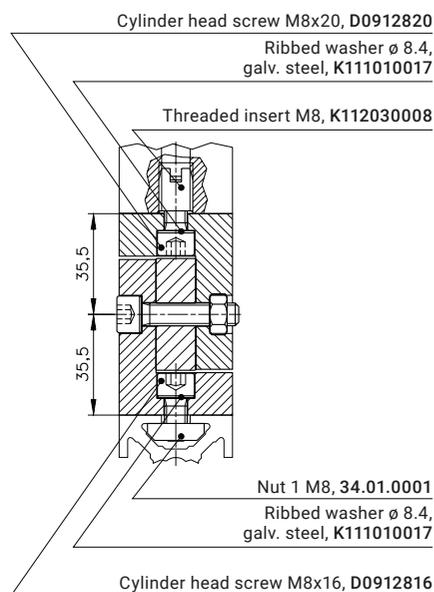
## Hinges

Hinges are used to connect profiles at an angle of your choosing (for limits, see the information provided for each item). The hinges are secured in place by tightening the cylinder head screw. The maximum load is 200 kg in the longitudinal direction of the profile. The hinge should be reinforced for use with high torque.

Material: Tumbled aluminium

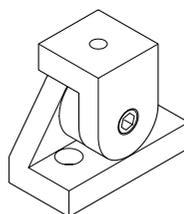
25 40 50 60

### Fastening example



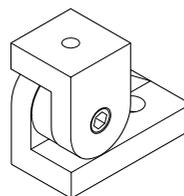
Hinge B21  
**B46.01.221**

Angle of rotation: + - 90°



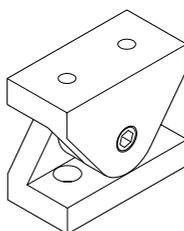
Hinge B22  
**B46.01.222**

Angle of rotation: + - 53°



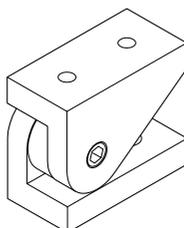
Hinge B23  
**B46.01.223**

Angle of rotation: + 90°/ - 37°



Hinge B24  
**B46.01.224**

Angle of rotation: + - 53°



Hinge B25  
**B46.01.225**

Angle of rotation: + 90°/ - 37°



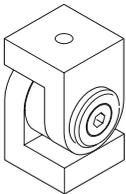
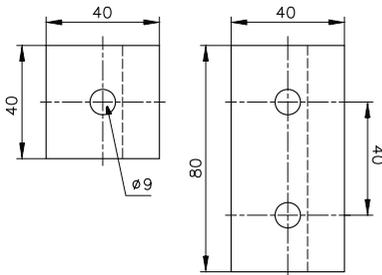
## Hinges

The following hinges have a slide bushing that allows you to adjust the angle even when the joint is tightened. The hinges are designed to bear radial loads.

Material: Tumbled aluminium

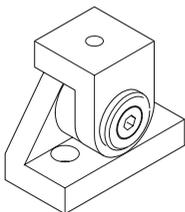
25 40 50 60

### Dimensional sketch



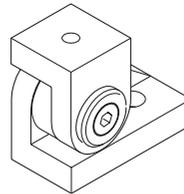
Hinge B01  
**B46.01.201**

Angle of rotation: + - 90°



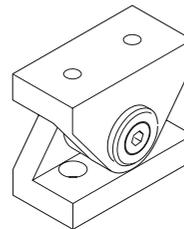
Hinge B02  
**B46.01.202**

Angle of rotation: + - 53°



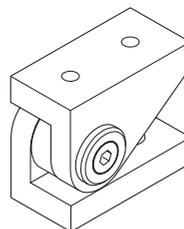
Hinge B03  
**B46.01.203**

Angle of rotation: + 90° / - 37°



Hinge B04  
**B46.01.204**

Angle of rotation: + - 53°



Hinge B05  
**B46.01.205**

Angle of rotation: + 90° / - 37°

# Hinges

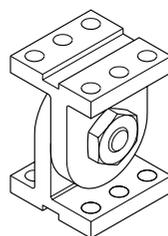
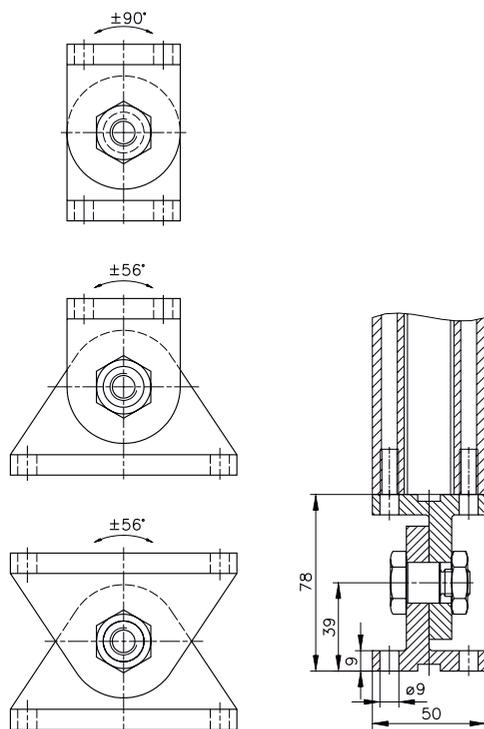
## Hinges

Hinges are used to connect profiles at an angle of your choosing (for limits, see the information in the fastening example). The hinges are secured in place by tightening the retaining bolt. The maximum load is 300 kg in the longitudinal direction of the profile. The hinge should be reinforced for use with high torque.

Material: Tumbled aluminium

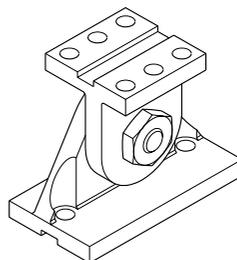
25 | 40 | 50 | 60 | M8x20

### Fastening example



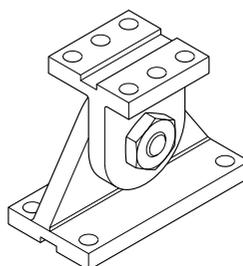
Hinge B50  
**B46.01.250**

for 2 x mk 2000  
(50x50) faces



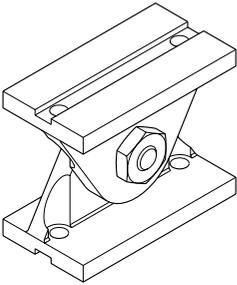
Hinge B51  
**B46.01.251**

for mk 2000 (50x50)  
face to Series 50 slot



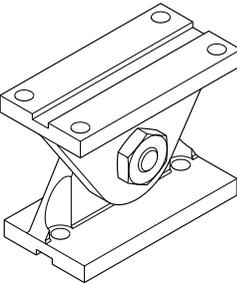
Hinge B52  
**B46.01.252**

for mk 2000 (50x50) face  
to mk 2004 (50x100) face



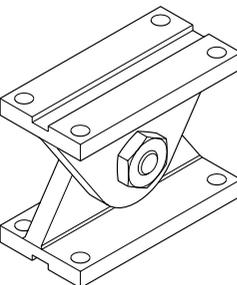
Hinge B53  
**B46.01.253**

for series 50 slot  
to Series 50 slot



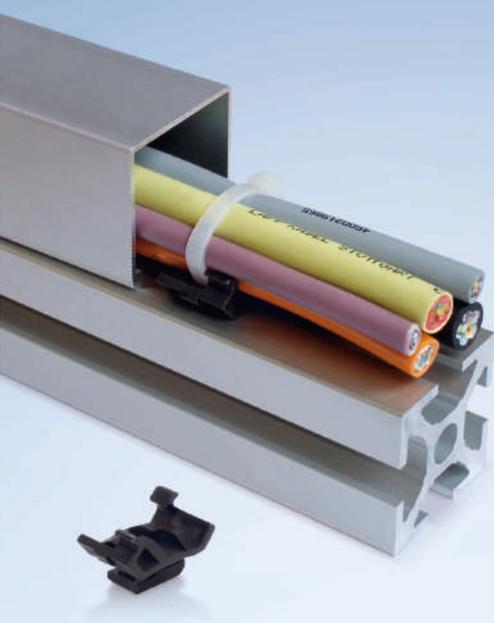
Hinge B54  
**B46.01.254**

for mk 2004 (50x100)  
face to Series 50 slot

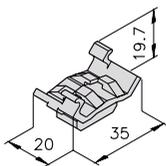


Hinge B55  
**B46.01.255**

for 2 x mk 2004  
(50x100) faces



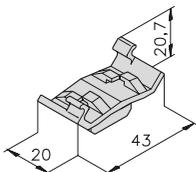
Clip material: PP plastic



25 40 50 60

Clip 40  
mk 2546

Clip material: PA6 plastic



25 40 50 60

Clip 50  
mk 2550

## Installation Elements

### Cable Ducts

Aluminium cable ducts are an attractive and functional alternative to conventional electrical and cable coverings. The ducts can be clipped in quickly and easily using the appropriate clip for the series. You can also attach the cables to the profile using conventional cable ties.

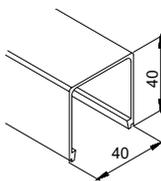
Material: Anodised aluminium

25 40 50 60

Profile mk 2040.50

0.51 kg/m

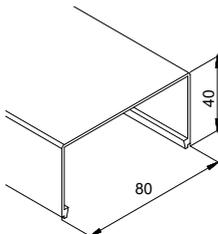
Stock length	54.50.5100
Cut	54.50. ....



Profile mk 2040.51

0.67 kg/m

Stock length	54.51.5100
Cut	54.51. ....

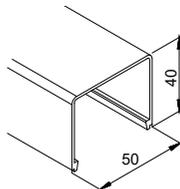


25 40 50 60

Profile mk 2051

0.56 kg/m

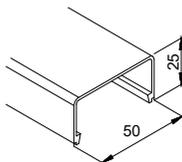
Stock length	51.51.5100
Cut	51.51. ....



Profile mk 2050

0.43 kg/m

Stock length	51.50.5100
Cut	51.50. ....





## Cable Clips

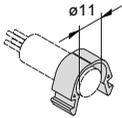
Cable clips for Series 40 and 50 profiles for different cable cross-sections and individual or multiple cables.

**A1 cable clips** are pushed into the T-slot together with the cable. The clip can then be released together with the cable.

**C1 cable clips** are inserted into the T-slot and fixed in place by rotating 90°. Individual cables or cable strands can be secured in the clip both lengthways and crossways to the profile using cable ties. In contrast to A1 clips, C1 clips can provide a certain degree of strain relief.

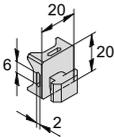
**D1 cable clips** are pushed into the T-slot. Individual cables can then be pushed into the clip. It is possible to remove the cable without removing the clip. If necessary, the cable can be additionally secured with a cable tie. The clip can be removed from the T-slot by rotating it 90°.

Material: plastic, black

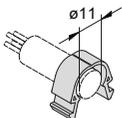


25 | 40 | 50 | 60

Clip A1 10.3,  $\phi 11$   
**98.01.1411-G9005**

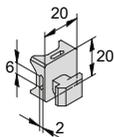


Clip C1 10.3, 20x20  
**98.01.5420-G9005**

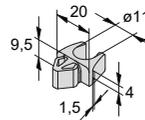


25 | 40 | 50 | 60

Clip A1 10.4,  $\phi 11$   
**98.01.1511-G9005**



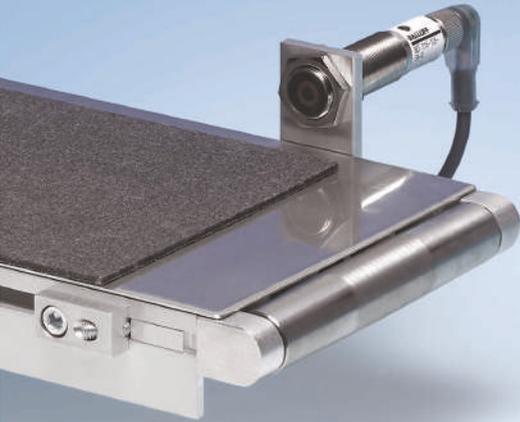
Clip C1 10.4, 20x20  
**98.01.5520-G9005**



25 | 40 | 50 | 60

Clip D1 10.3,  $\phi 11$   
**98.01.6411-G9005**

Further colours and cross sections available on request.



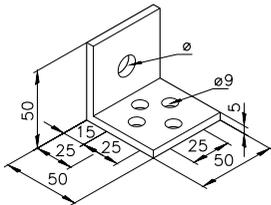
## Installation Elements

### Sensor Holders

Sensor holders are used to attach proximity switches. They can be attached quickly and flexibly without additional profile services.

Material: Tumbled aluminium

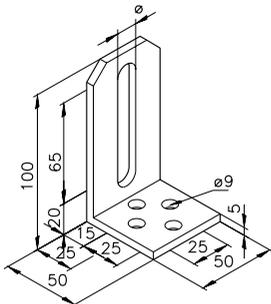
25 40 50 60 M8x16



Sensor holder A  
 $\varnothing 13 - 16.00.0000$

$\varnothing 19 - 16.00.0001$

R1/4" - 16.05.0011

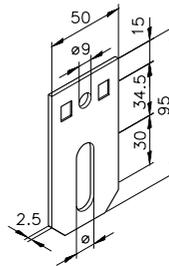


Sensor holder B  
 $\varnothing 13 - 16.00.0006$

$\varnothing 19 - 16.00.0007$

Material: Galvanised steel

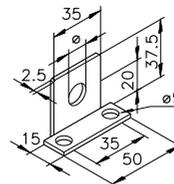
25 40 50 60 M8x12



Sensor holder D  
 $\varnothing 9 - 16.00.0016$

$\varnothing 13 - 16.00.0017$

$\varnothing 19 - 16.00.0018$



Sensor holder E  
 $\varnothing 9 - 16.00.0026$

$\varnothing 13 - 16.00.0027$

$\varnothing 19 - 16.00.0028$



➔ For drilling jigs,  
on page 340

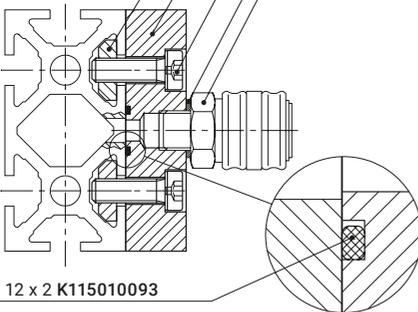
### Lateral fastening example

Coupling G1/4" K502050700

Polyamide gasket G1/4" K502050351  
Cylinder head screw M8x25 DIN 6912  
D6912825

Distributor plate A1 G1/4"  
53.00.0352, Al

Nut 1 ESD M8 34.01.0018



O-ring  $\varnothing$  12 x 2 K115010093

An O-ring is used to seal the connection when the distributor plate is fastened to the profile slot. It fits perfectly into a circular slot in the connection plate.

## Pneumatic Components

The following pneumatic components allow the mk 2040.02 (40x80) and mk 2040.03 (80x80) profiles to be used as a compressed air line, eliminating the need to install additional components. The system is designed for a maximum pressure of 6 bar.  $\varnothing$  8.4 mm bores must be drilled at the necessary locations to connect the components in the profile slot. The B46.03.007 drilling jig can be used to determine the exact positioning of the bores, or the connection plate can be used directly as a jig.

25 40 50 60

### Face fastening example

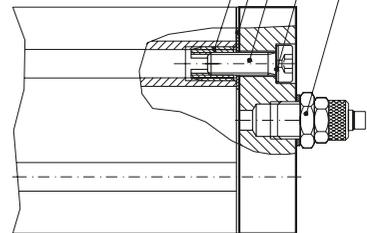
Hose connection

Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

Cylinder head screw M8x25, DIN 6912, D6912825

Flat seal A 53.01.0005

Threaded insert M8, 9S20K, K112030008



A flat seal is used to seal the connection when the distributor or connection plate is fastened to the profile's face.

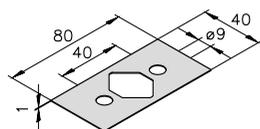
# Installation Elements

## Pneumatic Components

A flat seal is required when fastening the plates to the profile face; when fastening to the side of the profile, an O-ring is used to seal the joint between the profile and the plate. The coupling is threaded into the plate with a sealing ring. See also the fastening examples. The system is designed for a maximum pressure of 6 bar.

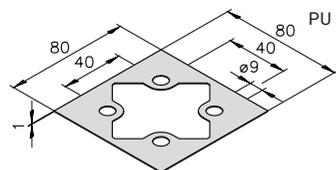


6



Flat seal A  
**53.01.0005**

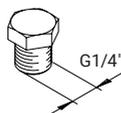
PU plastic, soft



Flat seal B  
**53.01.0006**

PU plastic, soft

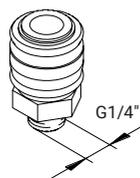
25 40 50 60



Plug screw  
G1/4"  
**K5BA100008**

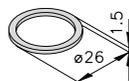
G1/2"  
**K5BA100007**

Brass



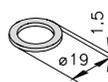
Coupling G1/4"  
**K5BA100078**

Brass



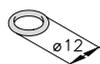
Polyamide sealing ring  
G1/2"  
**K5BB100018**

PA plastic



Polyamide sealing ring  
G1/4"  
**K5BB100016**

PA plastic



O-ring DIN3771  
ø 12 x 2 mm  
**K115010093**

NBR rubber

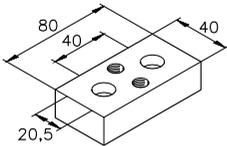
## Pneumatic Components

We offer various plates for creating a compressed air system, depending on your particular application and profiles.

Material: Tumbled aluminium

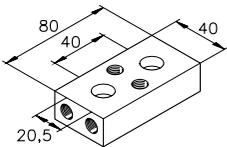
### Distributor plates

M8x25 DIN 6912



  
 Distributor plate A18  
 G1/8"  
**53.00.0300**

Distributor plate A14  
 G1/4"  
**53.00.0303**

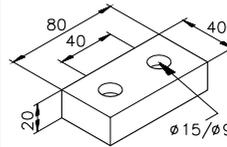


  
 Distributor plate A28  
 G1/8"  
**53.00.0301**

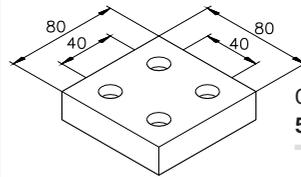
Distributor plate A24  
 G1/4"  
**53.00.0304**

### Closure plates

M8x25 DIN 6912



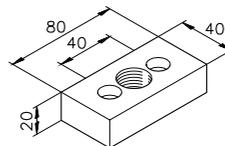
Closure plate A  
**53.00.0100**



Closure plate B  
**53.00.0101**

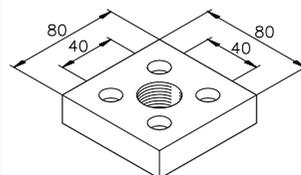
### Connection plates

M8x25 DIN 6912



  
 Connection plate A  
 G1/4"  
**53.00.0352**

Connection plate A  
 G1/2"  
**53.00.0200**



  
 Connection plate B  
 G1/2"  
**53.00.0201**

Connection plate C  
 G3/4"  
**53.00.0202**

# Operating Elements

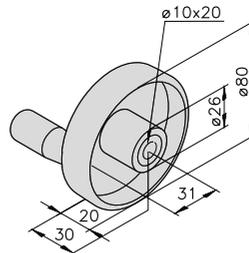
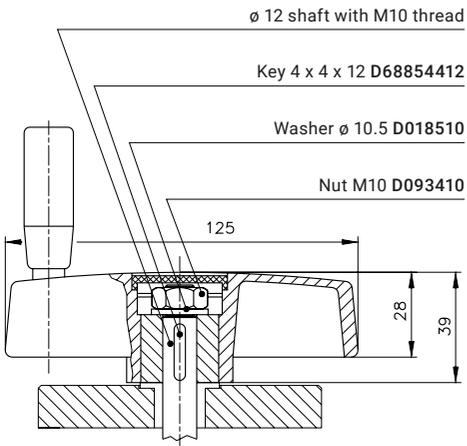
## Handwheels

Handwheels in various designs can be mounted on spindles in adjusting units, or used in conveyor technology to adjust the side rails. Handwheels with outer diameters of 100 mm or larger have handles that can be folded away and lowered.

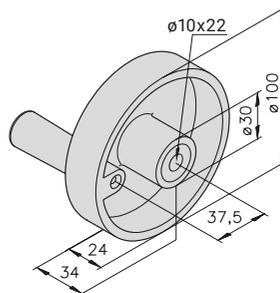
Material: PP plastic, matte black

6

### Fastening example

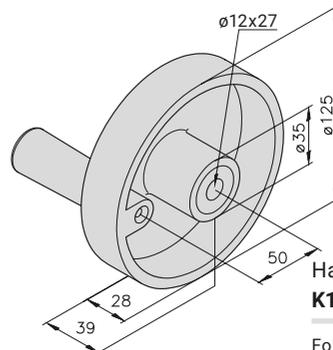


Handwheel Ø 80  
**K110020028**



Handwheel Ø 100  
**K110020030**

Folding handle



Handwheel Ø 120  
**K110020031**

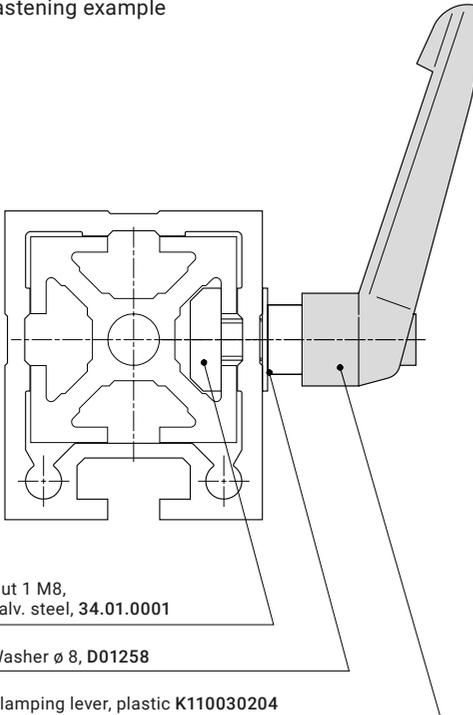
Folding handle



## Clamping Levers

Clamping levers can be used to manually adjust and lock attached components in any position. Applications include holders for side rails, slide carriages or telescoping profiles.

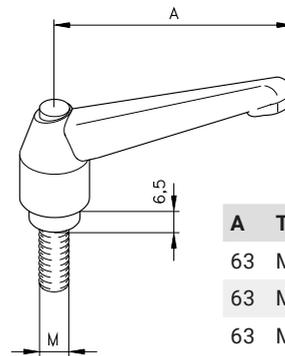
### Fastening example



Nut 1 M8,  
galv. steel, 34.01.0001

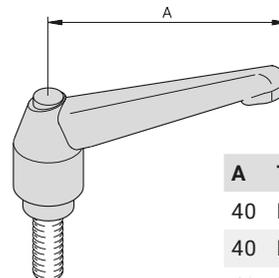
Washer  $\varnothing$  8, D01258

Clamping lever, plastic K110030204



Clamping lever,  
die-cast zinc

A	Thread	Item no.
63	M8x16	K110030055
63	M8x20	K110030056
63	M8x25	K110030057



Clamping lever,  
PA plastic

A	Thread	Item no.
40	M6x15	K110030200
40	M6x20	K110030201
40	M6x25	K110030202
63	M8x16	K110030204
63	M8x20	K110030205
63	M8x25	K110030206

# Conveying Elements

## Mini-Rollers

Mini-rollers are used for the manual transfer of workpiece carriers, among other applications. They can be used with Series 40 and Series 50 construction profiles. The roll distances depend on the size of the conveyed material.

25 | 40 | 50 | 60

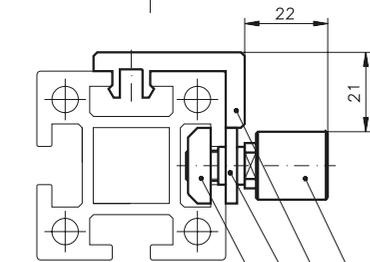
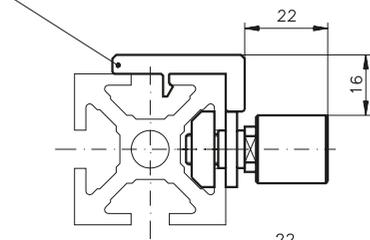
6



Wear strips  
Starting on page 158

### Fastening example

mk 1040.05 wear strip, 21.05. ....

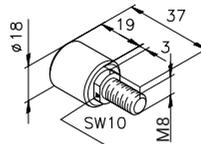


Nut 1 M8, 34.01.0001

Step washer, 63.00.0011

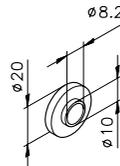
mk 1008 wear strip, 22.08. ....

mk mini-roller, K101120001



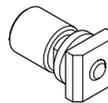
mk mini-roller  
**K101120001**

Blued steel



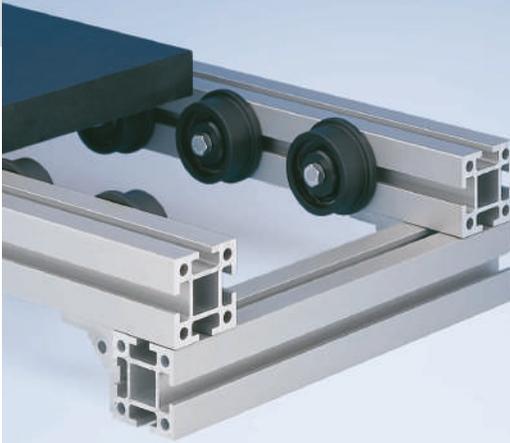
Step washer  
**63.00.0011**

Galvanised steel



mk mini-roller  
**B60.04.002**

with fastening accessories  
80 N max. radial load

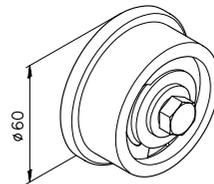
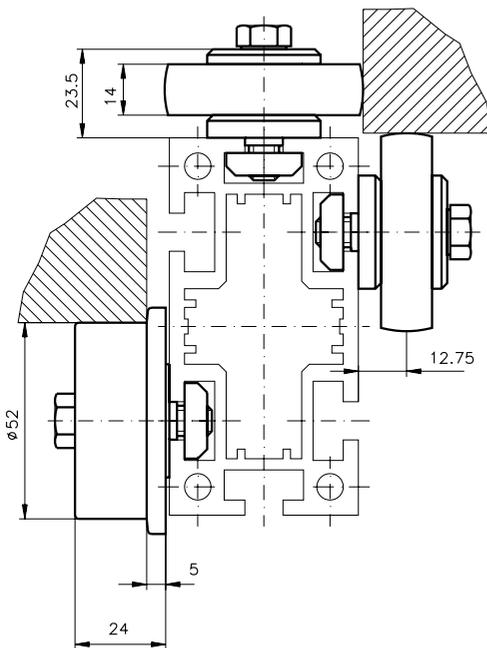


## Track Rollers

Track rollers are used for the manual transfer of workpiece carriers, among other applications. They are often used when frames or other system components need to be moved linearly. The following varieties of flange, track and guide rollers are available for various applications.

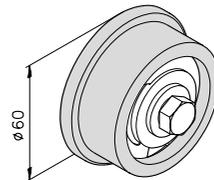
25 40 50 60

### Fastening example



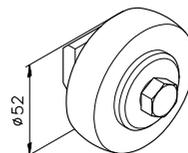
Flange roller 1  
**B60.00.001**

Blued steel roll,  
 500 N max. radial load



Flange roller 2  
**B60.00.002**

POM plastic roll,  
 200 N max. radial load

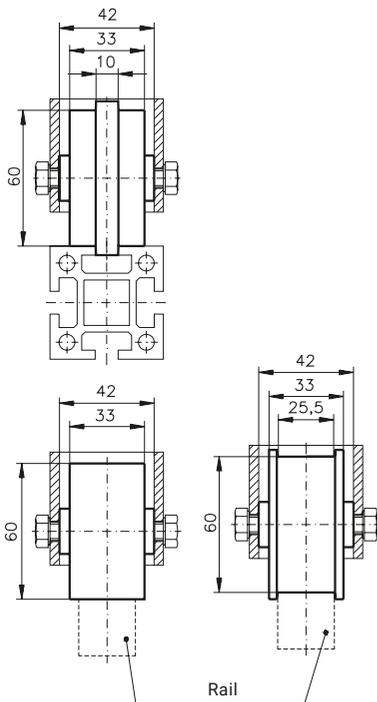


Track roller  
**B60.01.001**

Blued roller bearing  
 steel,  
 1000 N max. radial load

\*With fastening accessories

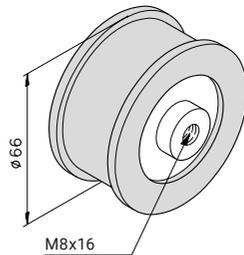
## Fastening example



## Conveying Elements

## Track Rollers

Track rollers are used for the manual transfer of workpiece carriers, among other applications. They are often used when frames or other system components need to be moved linearly. The rollers are available with a variety of flanges and designs for various applications.



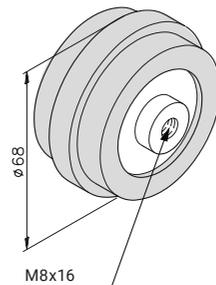
25|40|50|60

Flange roller A1  
**B60.00.004**

25|40|50|60

Flange roller A1  
**B60.00.003**

Steel roll,  
1,000 N max. radial load



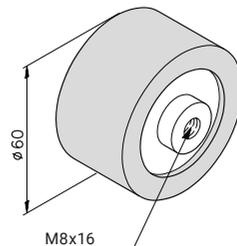
25|40|50|60

Guide roller A2  
**B60.02.019**

25|40|50|60

Guide roller A2  
**B60.02.002**

POM plastic roll,  
200 N max. radial load



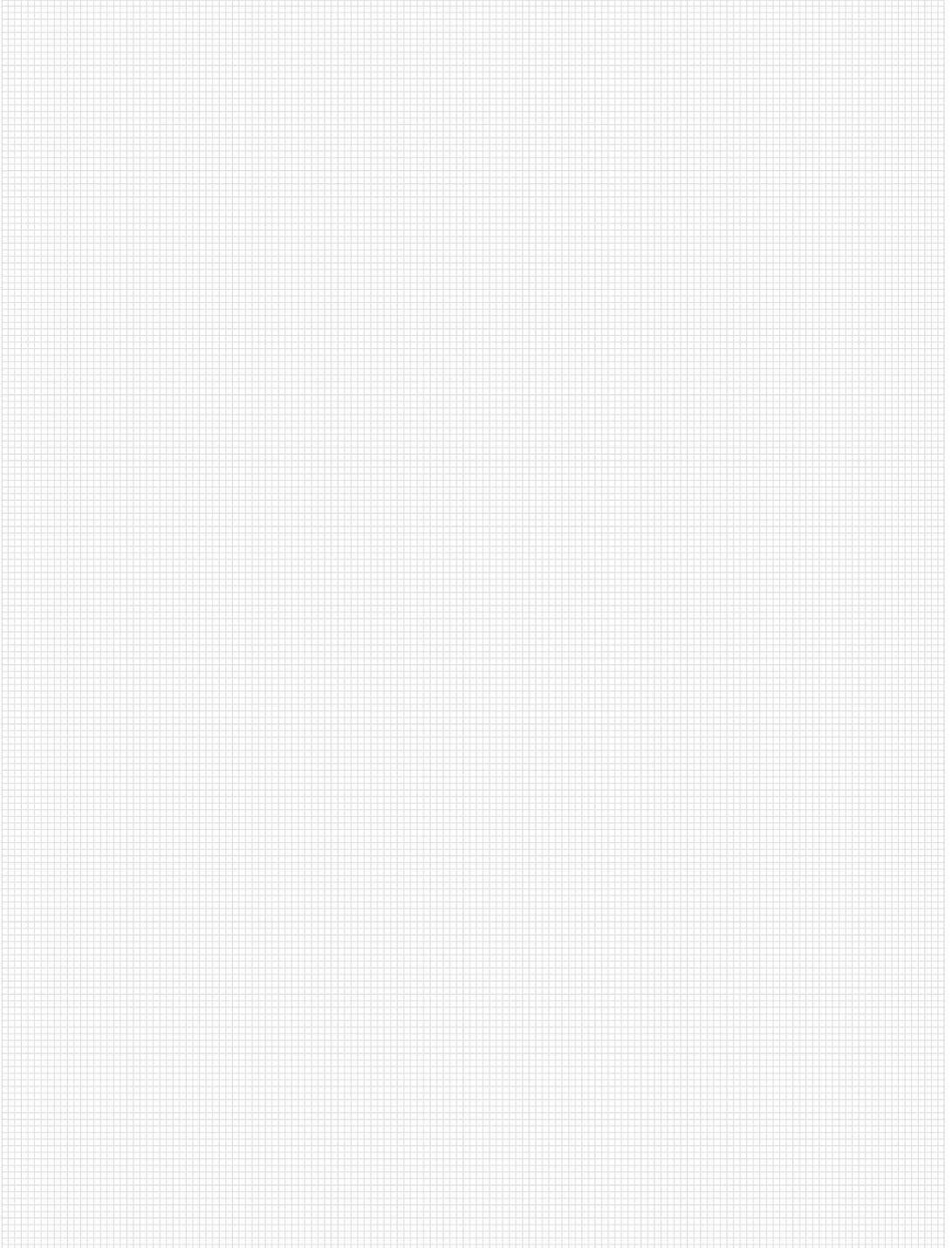
25|40|50|60

Track roller A4  
**B60.01.005**

25|40|50|60

Track roller A4  
**B60.01.003**

POM plastic roll,  
200 N max. radial load



## Other Accessories

### Bumpers

Bumpers are used to dampen shocks and noise in doors, flaps, caps, carriages and other applications.

Material: Rubber, Shore 55

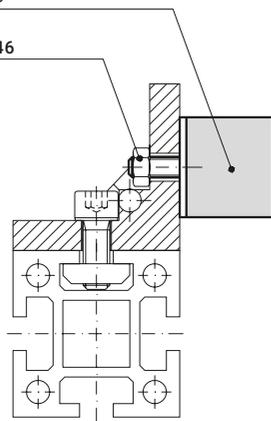


6

#### Fastening example

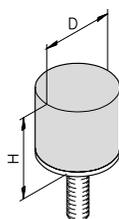
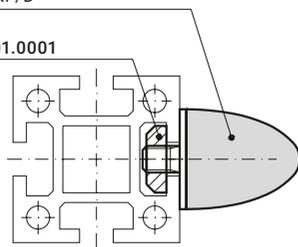
Bumper, type D

Nut M6, D09346



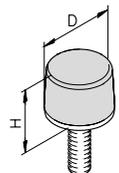
Bumper, type KP/D

Nut 1 M8, 34.01.0001



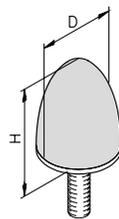
Bumper, type D

D	H	Thread	Item no.
20	12	M6x12	K113060004
20	15	M6x15	K113060001
30	28	M8x20	K113060002
50	21	M10x28	K113060003



Bumper, type K/D

D	H	Thread	Item no.
25	17	M6x18	K113060006
50	18	M10x28	K113060007



Bumper, type KP/D

D	H	Thread	Item no.
30	36	M8x10	K113060012
30	36	M8x20	K113060011



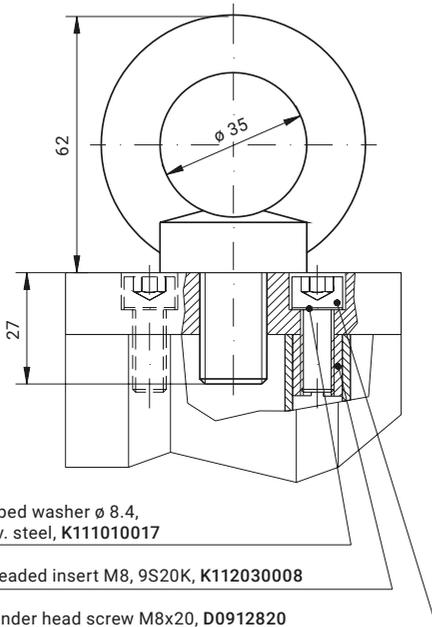
## Eye Bolts

Eye bolts for use as lifting devices can be attached to steel foot plates or to plates 4 and 5 shown here. The maximum load capacity refers to vertical loads.

Material: Galvanised steel

 Foot plates starting on page 177

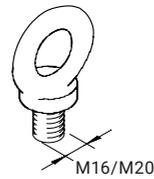
### Fastening example



Ribbed washer  $\varnothing$  8.4, galv. steel, K111010017

Threaded insert M8, 9S20K, K112030008

Cylinder head screw M8x20, D0912820

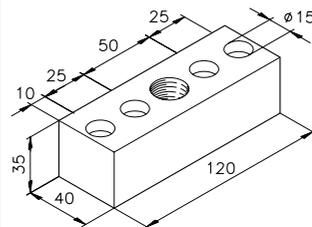


Eye bolt\*  
M16 DIN 580  
**D058016**

7,000 N load capacity

Eye bolt\*  
M20 DIN 580  
**D058020**

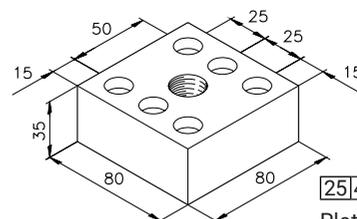
12,000 N load capacity



**25 40 50 60**

Plate 4 M20  
**50.09.0040**

12,000 N load capacity

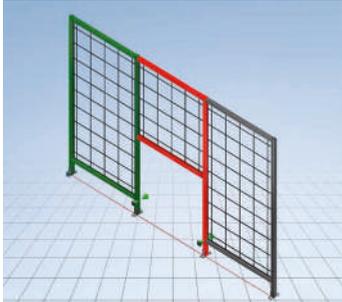


**25 40 50 60**

Plate 5 M20  
**50.09.0041**

12,000 N load capacity

# Section 7 Guarding



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## Partitions and Doors

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## Safety Accessories

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### Handles

Bracket Handles	274
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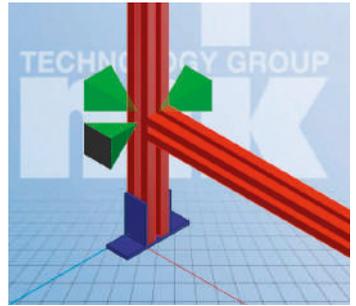
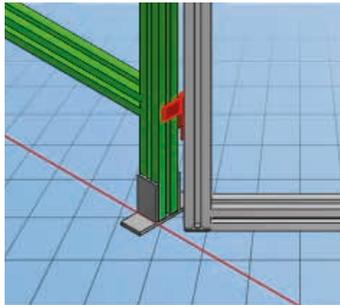
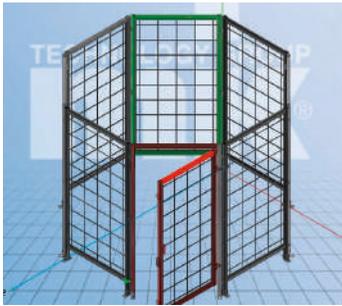
### Floor Elements → See Section 5

- 1
- 2
- 3
- 4
- 5
- 6
- 7**
- 8
- 9
- 10
- 11

# Notes on Guarding



## Guarding Configurator



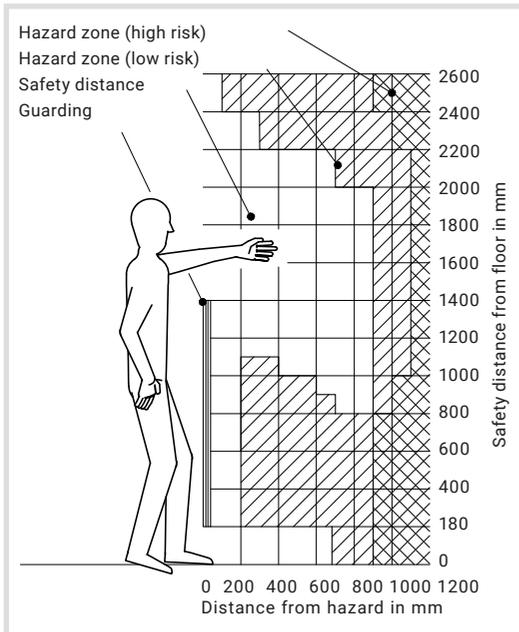
- Reduce your development and design time
- Large selection of panelling materials and door versions
- Standardised components for reduced costs
- No CAD system or CAD knowledge necessary
- Design in three dimensions with intuitive user guidance
- Option to import DXF layouts
- Export 3D drawings to IGES, STEP and JPEG format
- Automatically generate saw lists, weight estimates and bills of materials for individual parts and assemblies
- Choose your preferred degree of assembly (raw material/ assemblies/turnkey)
- Posts and partitions can be connected at variable angles from 0° bis 135°
- Automatic determination of support brackets
- Full/half support brackets and end caps can be manually selected and combined
- Pillar-panel solution: End cap options allows for quick disassembly using straight plate fasteners

## Safety Distances

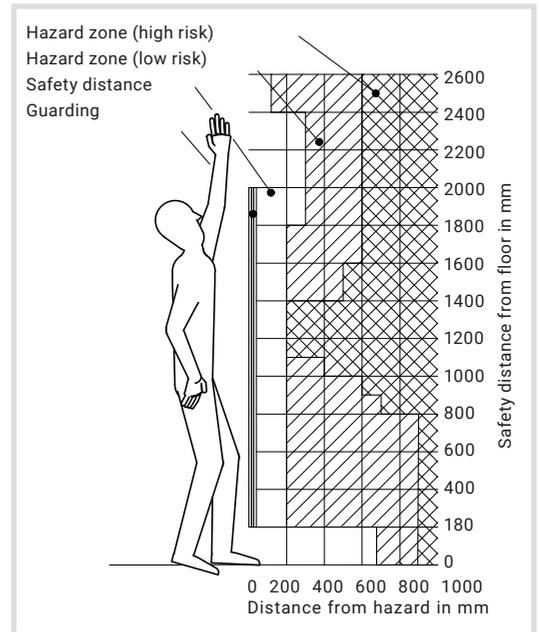
Our guarding has a flexible, modular design to allow you to protect your systems, machines and production areas effectively and economically. Choose from a wide range of machine housings, protective fences, panelling, doors and windows, all of which can be electronically secured if desired. It is also a cinch to connect pneumatically, hydraulically or electrically operated door elements to your machine control system. All mk guarding is designed and manufactured in accordance with the safety standards applicable in your country. You can be sure that you and your employees are always on the safe side.

Legally mandated safety distances to hazards are defined to ensure safety. Choose the appropriate panelling for your required safety distance. Closed panelling such as sheet metal, polycarbonate or glass have a required safety distance of 0 mm. Open panelling such as welded grids or wire meshes have a required safety distance of 200 mm (for 40 x 40 mm openings). With the preferred partition method, standard frame heights of 1400/2000 mm and 1460/2060 mm are available according to the height of your particular hazard. Custom heights are available on request.

### Distance from hazard for 1400 mm frame height



### Distance from hazard for 2000 mm frame height



These distances are in accordance with the DIN EN ISO 13857:2008-06 standard (Safety distances to prevent hazard zones being reached by upper and lower limbs).



» Machine housings and protective fences for increased occupational safety. «

Our guarding range is based on the mk profile system and offers functional machine housings, enclosures and protective fences. Their flexible, modular design ensures that systems, machines and production areas can be secured effectively and economically.

The System Selection section to the right shows the three possible versions. The partition method is the preferred method and the standard design used by mk. Therefore, the various modules are shown in full only for the partition method in the following section.

The various methods are based on the same grid dimensions. This ensures that all systems remain modular and compatible. mk also offers custom solutions tailored to our customers' specific needs.

The floor clearance of the guarding is 180 mm as standard, which allows for floor cleaning without compromising safety. The profile structure's favourable mass-to-strength ratio offer ergonomic benefits when handling and installing the elements.

## System Selection

### ECO Solution

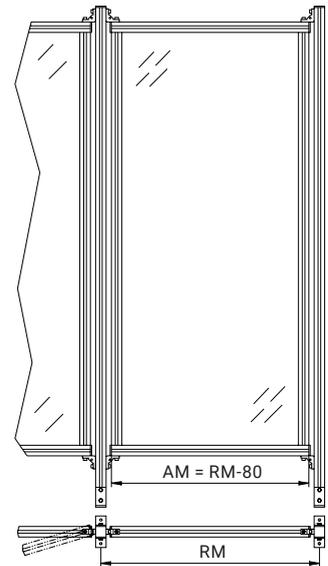
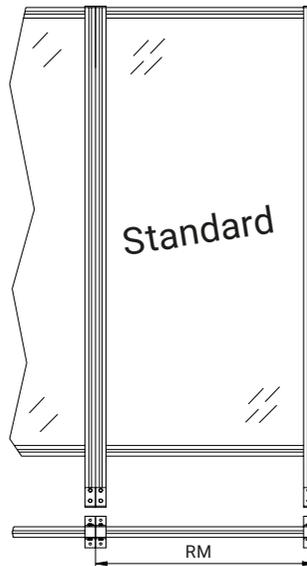
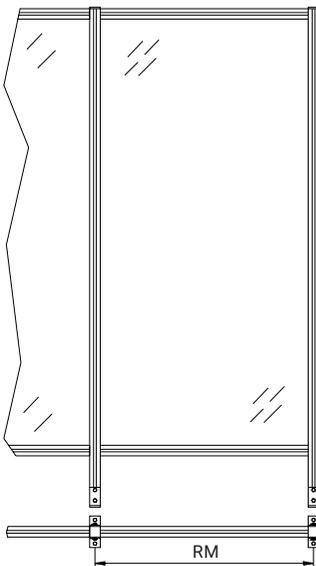
Because it requires less material, the ECO solution is the most cost-effective alternative, but it requires significantly more installation work. mk therefore prefers the partition method, since the individual partitions can be quickly and easily installed on site.

### Partition Method

The partition method, which is the standard at mk, is an economical, sturdy and easy-to-install type of guarding. Because of the flush connections between the partitions, this method is excellently suited for both long, straight paths and for designs with variable angles.

### Pillar-Panel Solution

The pillar-panel solution features separate panel frames that are mounted between posts anchored to the floor. This allows you to easily remove individual partitions, and the captive fastening system allows you to do so in accordance with the Machinery Directive.



AM = outer dimension RM = grid dimension

# Partitions and Doors

## Partitions

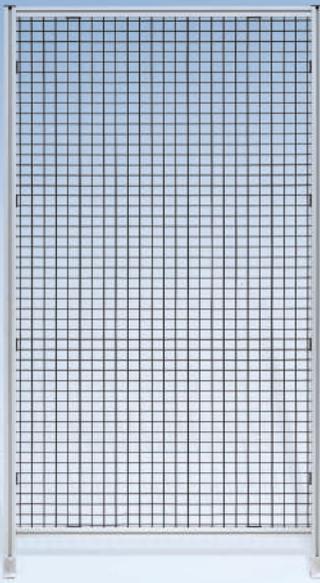
### ... for the Partition Method

Our standard partitions and doors for the partition method are presented on the following pages, each with a fastening example. Plate fastening is the preferred method for connecting a partition to the adjacent partitions. The heights and grid dimensions can be adapted to customer-specific requirements.

### Information required for ordering

- RM (500, 750, 1000, 1250 as standard, also 1500 and 2000 mm with vertical brace)
- H (2060 or 1460 mm as standard)
- H2 (180 mm as standard)
- H4 (optional for partitions with horizontal brace)
- Panelling

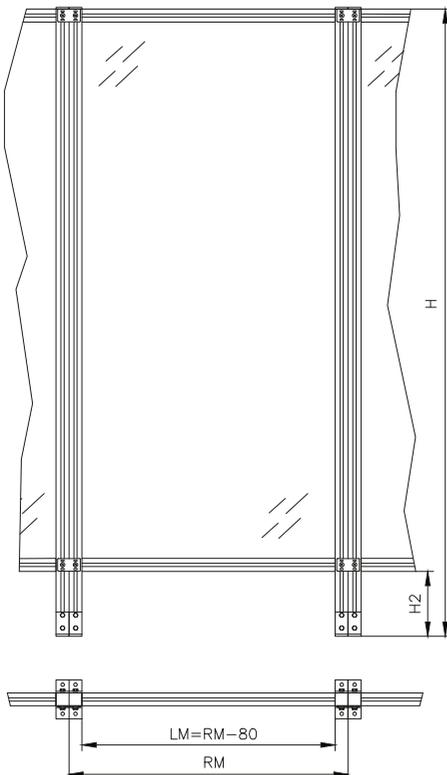
The panelling (e.g. polycarbonate) must be specified when ordering; otherwise the assemblies (B..) will be delivered without panelling.



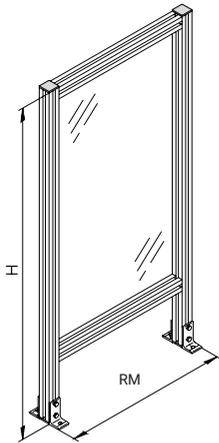
Panelling starting on page 240  
Corner blocks on page 97

7

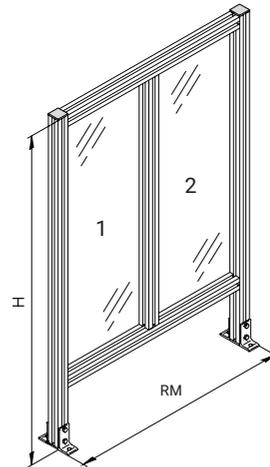
### Fastening example



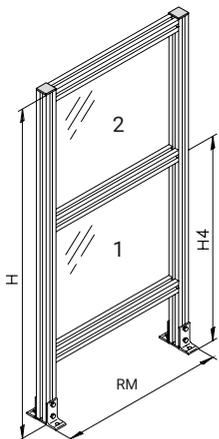
LM = clear dimension  
RM = grid dimension



Simple partition  
**B69.51.001**



Partition  
 with vertical brace  
**B69.51.003**



Partition  
 with horizontal brace  
**B69.51.002**

**Assemblies without panelling (B...):**

mk 2040.31 (40x40) profile, connecting elements,  
 support brackets, end caps

# Partitions and Doors

## Swing Doors

### ... for the Partition Method

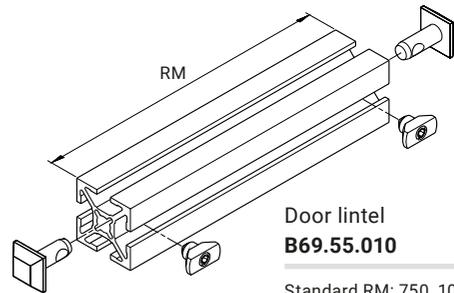
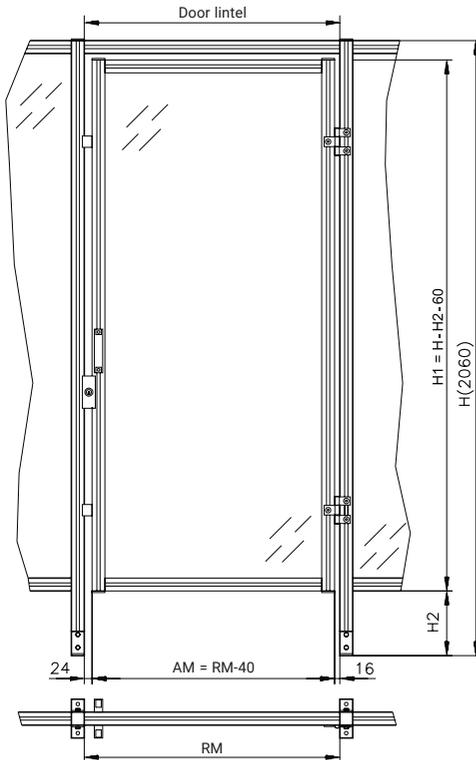
A swing door is connected to the sides of partitions using hinges. The door lintel that connects the partitions provides the necessary stability. It can be used for both single-leaf and double-leaf swing doors.

The dimensions of the doors can be selected freely. The standard height from floor level is 2000 mm; based on the standard floor clearance height of 180 mm, this means  $H1 = 1820$  mm. Various paneling, locks and safety interlocks are available and must be specified separately when ordering.



7  
Panelling starting on page 240  
Locks starting on page 262

### Fastening example



Door lintel  
**B69.55.010**

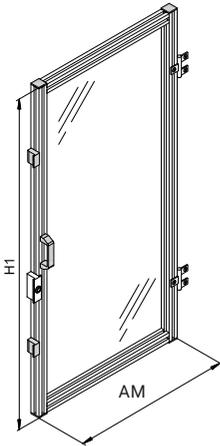
Standard RM: 750, 1000,  
1250, 1500, 2000 mm

AM = outer dimension of swing door  
RM = grid dimension between two partitions

### Assemblies (B...):

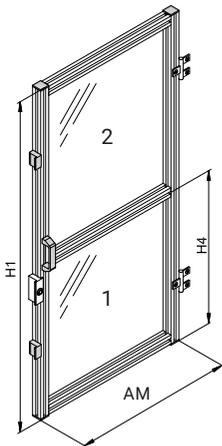
mk 204.40 (40x40) profile, connecting elements

## Single Swing Doors



Swing door,  
single-leaf  
DIN right  
**B69.60.001**

DIN left  
**B69.60.002**



Swing door,  
single-leaf  
with horizontal  
brace  
DIN right  
**B69.60.003**

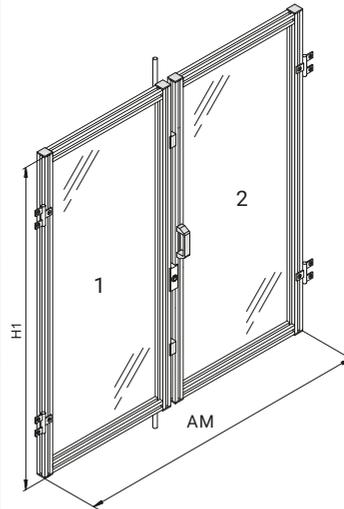
DIN left  
**B69.60.004**

### Assemblies without panelling (B...):

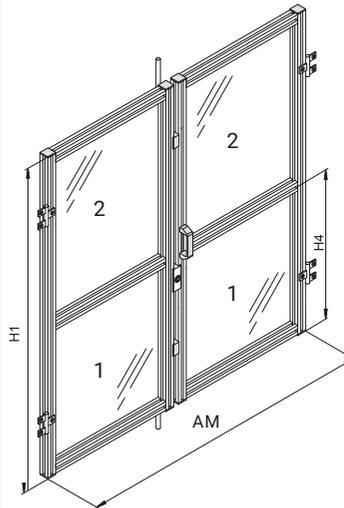
mk 2040.40 (40x40) profile, connecting elements, stops, handles, end caps, hinges, lock

## Double Swing Doors

Double swing doors are equipped with additional interlocks on the top and bottom.



Swing door,  
double-leaf  
**B69.60.005**



Swing door,  
double-leaf  
with horizontal  
brace  
**B69.60.006**

### Information required for ordering

■ RM, H1, H4 optional, panelling, lock type

# Partitions and Doors

## Sliding Doors

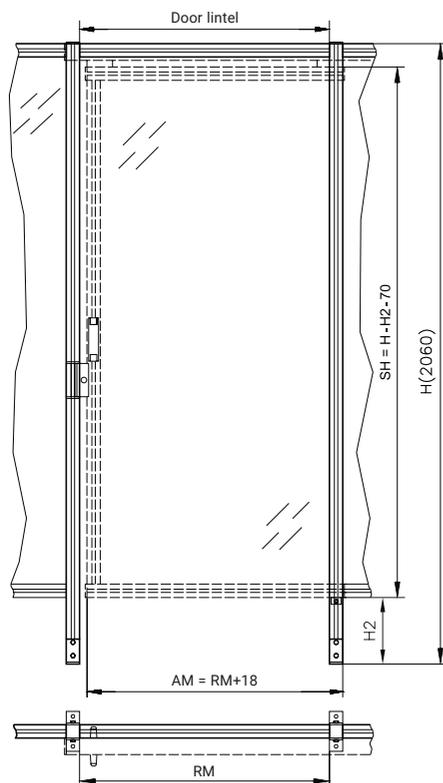
### ... for the Partition Method

The combination of track and B38.00.045 roller carriage provides an extremely sturdy sliding mechanism while also offering the benefits of a closed rail system. As with swing doors, sliding doors are mounted on the sides of two partitions, which are connected by the door lintel included in the assembly. Paneling is sold separate, do not forget it when ordering.

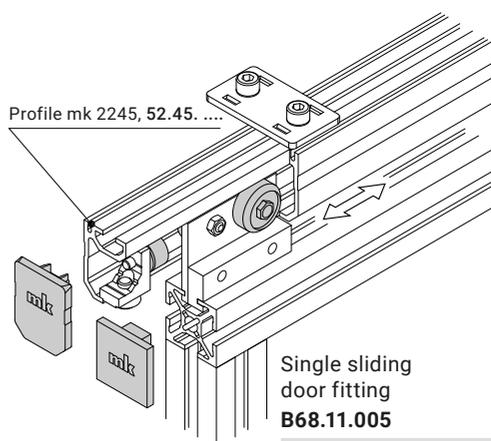


 Panelling starting on page 240  
Locks starting on page 262

### Fastening example



AM = outer dimension of sliding door  
RM = grid dimension  
SH = sliding door height



Single sliding door fitting  
**B68.11.005**

$L = 2 \times RM + 40$

Double sliding door fitting  
**B68.11.006**

$L = 4 \times RM + 40$

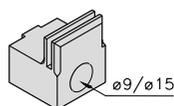
Sliding door roller carriage  
**B38.00.045**

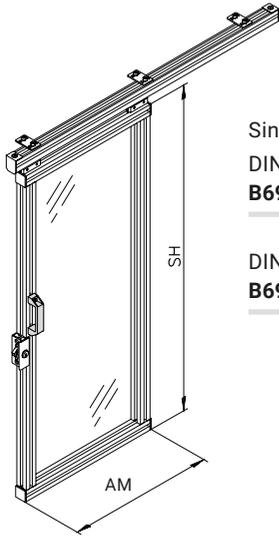
Max. 30 kg

**M8x25**

Guide piece  
**19.00.0005**

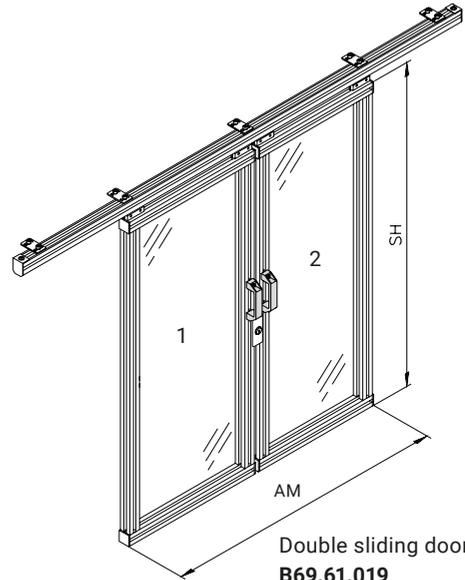
Black plastic



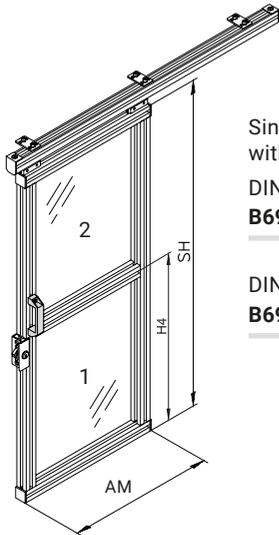


Single sliding door  
 DIN right  
**B69.61.015**

DIN left  
**B69.61.016**

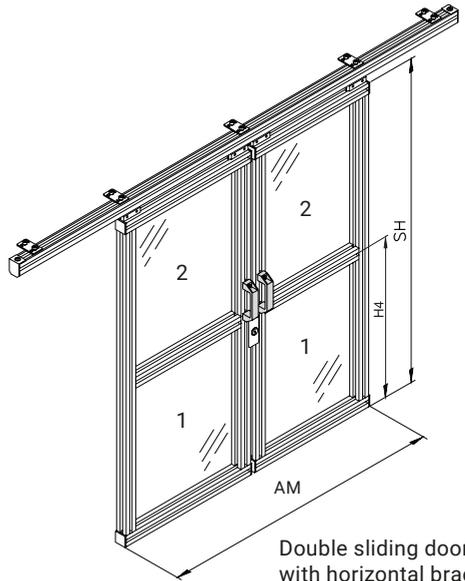


Double sliding door  
**B69.61.019**



Single sliding door  
 with horizontal brace  
 DIN right  
**B69.61.017**

DIN left  
**B69.61.018**



Double sliding door  
 with horizontal brace  
**B69.61.020**

**Assemblies without panelling (B...):**

mk 2040.31 (40x40) and mk 2245 profiles,  
 connecting elements, fitting set, handles,  
 end caps, buffer, lock

**Information required for ordering**

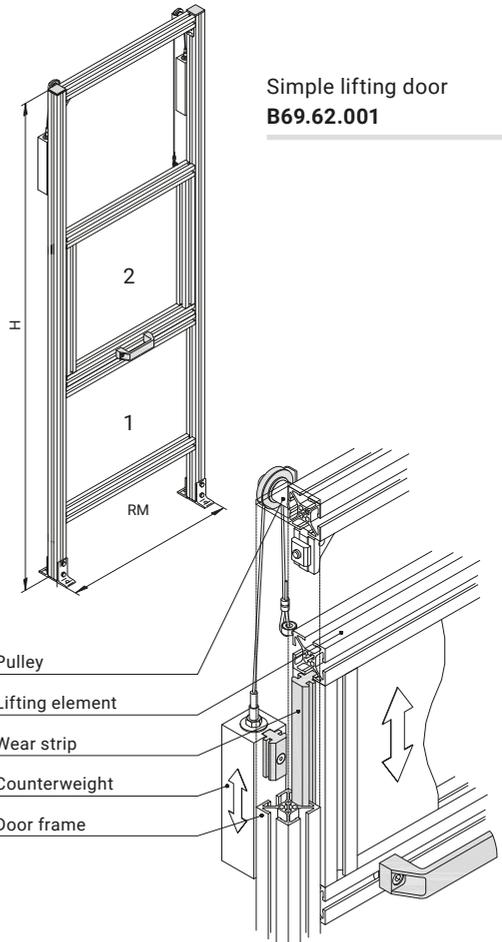
■ RM, SH, H4 optional, panelling, lock type

# Partitions and Doors

## Simple Lifting Doors

### ... for the Partition Method

Lifting doors consist of a solid partition and a lifting element, which is balanced using steel cables that are connected to counterweights via idler pulleys. This lets you easily lift and lower the door manually. Pneumatic or electronic activators are available on request. Paneling is sold separate, do not forget it when ordering.



### Information required for ordering

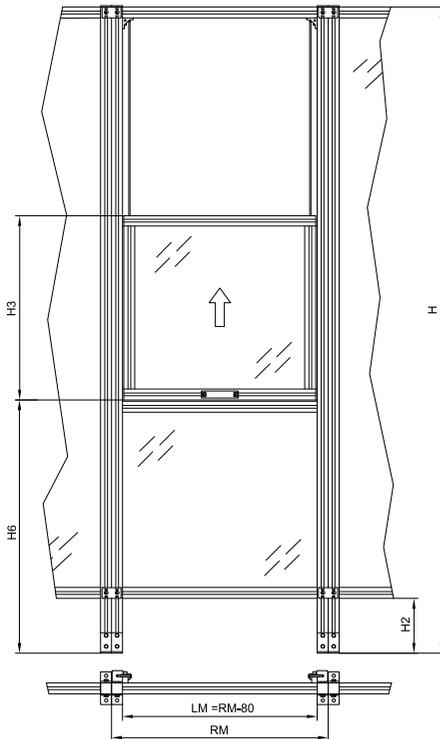
- RM, H, H2, H3, H6, Hub, panelling



Panelling starting on page 240

7

### Fastening example

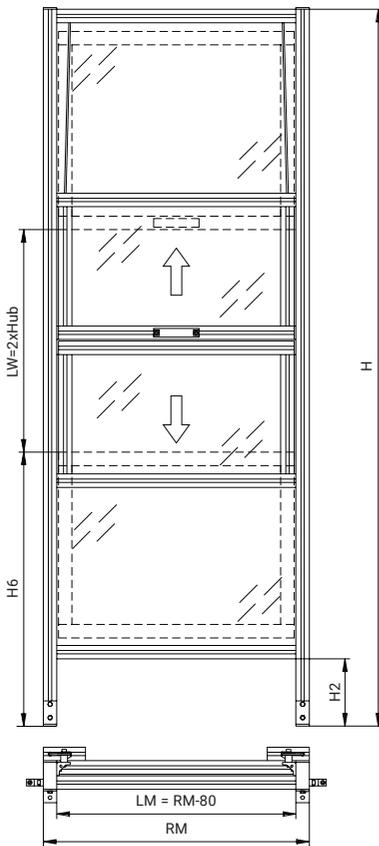


LM = clear dimension  
RM = grid dimension

## Scissor Doors

### ... for the Partition Method

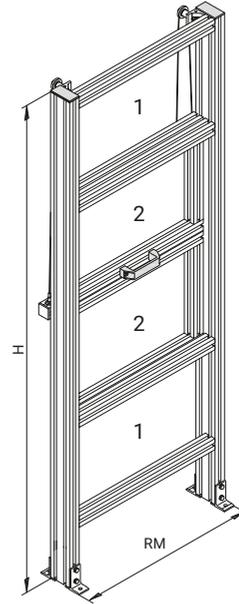
Scissor doors feature two lifting style doors, moving in opposing directions. The weigh balancing is provided by the other door. Pneumatic or electronic activators are available on request.



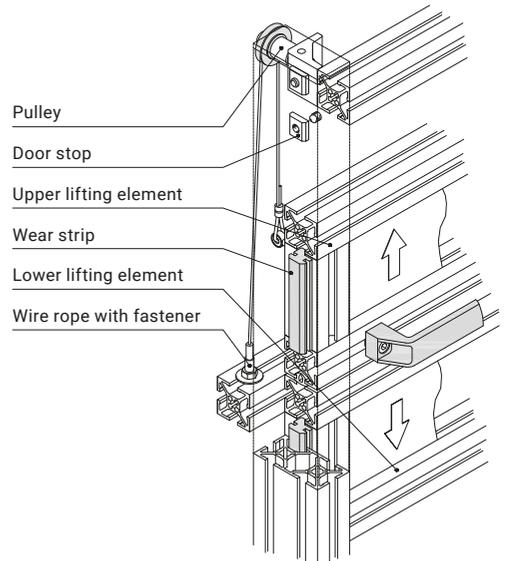
LM = clear dimension  
 RM = grid dimension

#### Assemblies without panelling (B...):

mk 2040.40 (40x40) and mk 2040.41 (40x80) profiles, connecting elements, support brackets, handle, wear strips, idler pulleys



Scissor door  
**B69.62.002**



#### Information required for ordering

■ RM, H, H<sub>2</sub>, LW, H<sub>6</sub>, panelling

# Partitions and Doors

## Posts

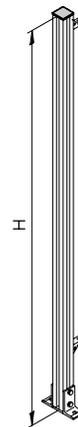
### ... for the Pillar-Panel Solution

The pillar-panel solution features separate panel frames that are mounted between posts anchored to the floor. This allows you to easily remove individual partitions, and the captive fastening system allows you to do so in accordance with the Machinery Directive. The angle mounting method allows them to be installed at various angular degrees. The heights and grid dimensions can be adapted to customer-specific requirements.

### Information required for panel frame orders

- RM (500, 750, 1000, 1250 as standard, also 1500 and 2000 mm with vertical brace)
- H (2060 as standard)
- H2 (180 mm as standard)
- H4 (optional for partitions with horizontal brace)
- Panelling

The panelling (e.g. polycarbonate) must be specified when ordering; otherwise the assemblies (B...) will be delivered without panelling.



Post 1  
**B69.65.001 H ....**

Post (without angle)  
**B69.65.000 H ....**

Not pictured

### Assemblies (B...):

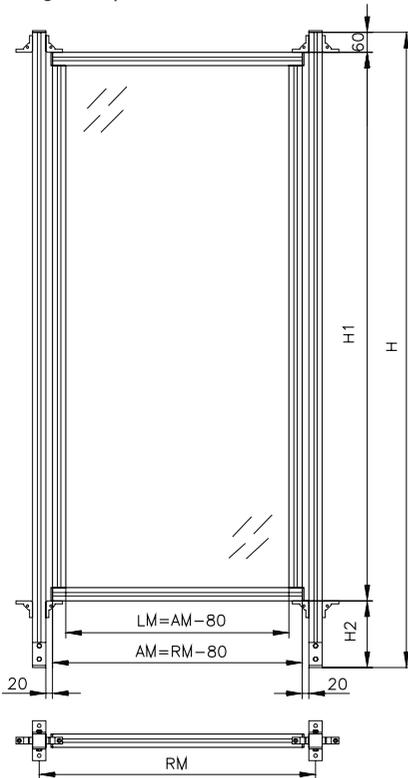
mk 2040.31 (40x40) profile, angle B20/40, nuts with screws, end cap, support bracket

7



Panelling starting on page 240  
Captive fastening system on page 232

### Fastening example

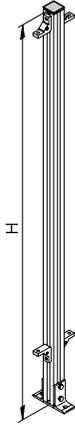


LM = clear dimension  
AM = outer dimension  
RM = grid dimension

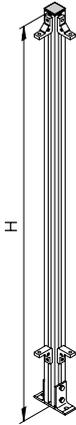
## Panel Frames

... for the Pillar-Panel Solution

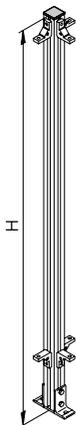
Outer dimension AM: RM - 80 mm  
 Standard height H1: 1820/1220 mm



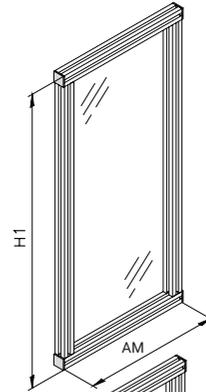
Post 2  
**B69.65.002 H ....**



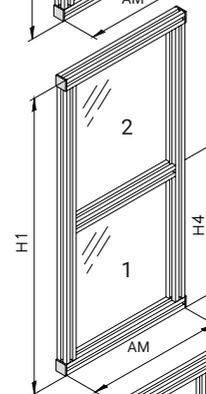
Post 3  
**B69.65.003 H ....**



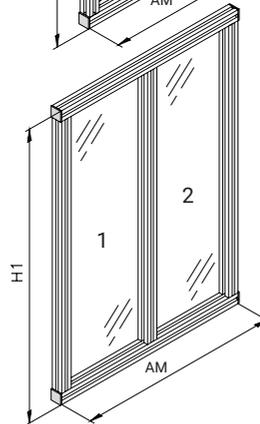
Post 4  
**B69.65.004 H ....**



Simple panel frame  
**B69.50.001**



Panel frame  
 with horizontal brace  
**B69.50.002**



Panel frame  
 with vertical brace  
**B69.50.003**

**Assemblies without panelling (B...):**

mk 2040.31 (40x40) profile, connecting elements,  
 end caps

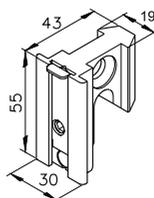
# Partitions and Doors

## Captive Fastening System

### ... for the Pillar-Panel Solution

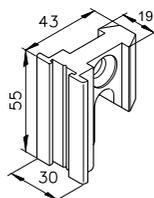
The captive fastening system allows you to quickly and conveniently install and remove partitions, for instance during maintenance work. In accordance with the Machinery Directive, the parts to be undone for removing the partition are designed so that they cannot be detached from the machine. The guarding features a robust construction, can be attached and detached using widely available tools. You can choose between two different versions based on your particular application.

25 40 50 60



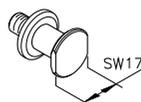
Holder, captive  
**B46.00.243**

Complete, including bolts and fastening accessories



Holder, open  
**B46.00.245**

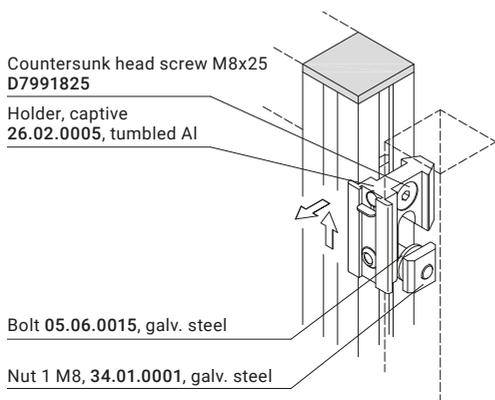
Complete, including bolts and fastening accessories



Bolt  
**05.06.0015**

Galv. steel

### Fastening example



Countersunk head screw M8x25  
**D7991825**

Holder, captive  
**26.02.0005, tumbled Al**

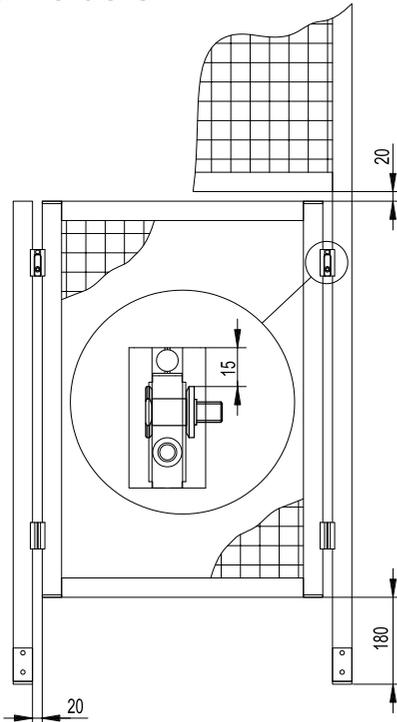
Bolt **05.06.0015, galv. steel**

Nut 1 M8, **34.01.0001, galv. steel**

The following is required to mount a partition:

- If captive fastening is required: 2 x B46.00.243 (top) and 2 x B46.00.245 (bottom)
- If locking is not required: 4 x B46.00.245 (top and bottom)

## Installing the Bolts and Holders



- Attach two (top) holders to both sides of the partition to be removed using a countersunk head screw and a nut. Make sure they are the same height.
- Screw two bolts into the profiles to the left and right of the partition to be removed using nut 1 M8. The distance from the top edge of the holder to the top edge of the bolt should be 15 mm.
- Attach two (bottom) holders as described above. Make sure they are the same height. Measure the distance between the top and bottom holders.
- Screw in two bolts as described above. Make sure the distances from top to bottom bolt are equal.
- If you need the partition to fall out when the guarding is unlocked (caution: risk of injury!), the bolts must be fastened to the partition and the holders fastened to the posts.

## Installing the Partitions

■ For installation, the cover sheet must be in the upper position and the threaded pin must be unscrewed from the opening in the sheet (against the retaining sheet). The red marking is now visible.



■ Place the lower holder on the lower bolts. Tip the partition slightly to do so.

■ Swivel the partition so that the upper holders lean against the upper bolts, then lift by about 20 mm and swivel to vertical.



■ Lower the partition and allow all four holders to lock into the bolts.



■ Tighten the threaded pins integrated in the holders to lock the partition. If using captive holders, the cover sheet falls to its lower position, thereby covering the red marking and exposing the green one. This way you can always tell whether the partition is secured.

■ Perform the same procedure in reverse to remove the partition.

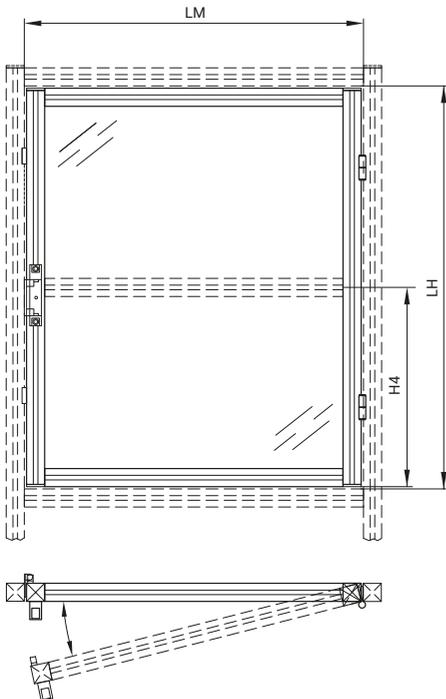
# Windows

## Windows, Single-leaf with Ball Latch

The ball latch ensures that the window can be reliably and securely locked in the profile frame. Safety interlocks should be used in openings that are critical for safety. Panelling is sold separate, do not forget it when ordering.

 Panelling starting on page 240  
Locks starting on page 262

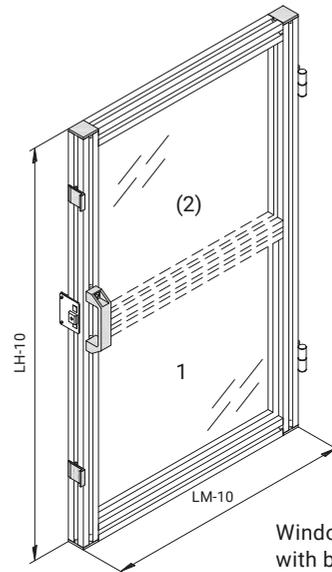
### Fastening example



5 mm gap along the perimeter

### Assemblies without panelling (B...):

mk 2040.31 (40x40) profile, connecting elements, handle, end caps, hinges, stops and ball latches



Window, single-leaf with ball latch  
**B68.07.001**

Cross brace optional

### Information required for ordering

■ LM, LH, H4 optional, panelling



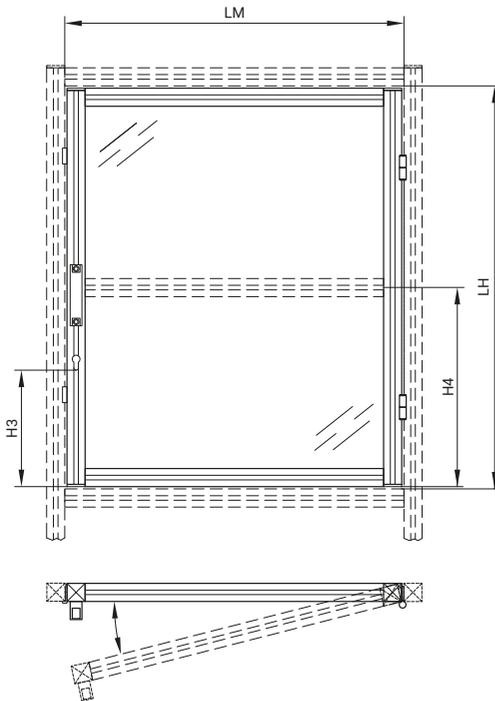
## Windows, Single-leaf with Cylinder Lock

The design with an internal lock (cylinder lock) ensures that the window locks in the profile frame. Panelling is sold separate, do not forget it when ordering.



Panelling starting on page 240  
 Locks starting on page 262

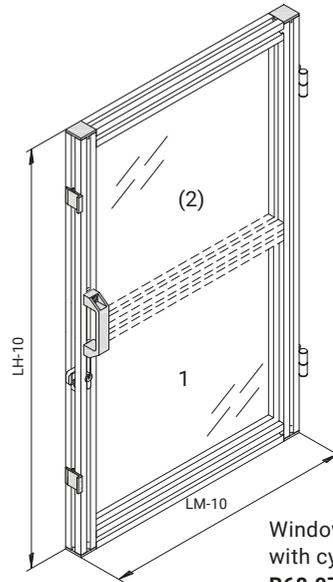
### Fastening example



5 mm gap along the perimeter

### Assemblies without panelling (B...):

mk 2040.31 (40x40) profile, connecting elements, handle, end caps, hinges, stops, cylinder lock



Window, single-leaf with cylinder lock  
**B68.07.002**

Cross brace optional

### Information required for ordering

■ LM, LH, H3, H4 optional, panelling

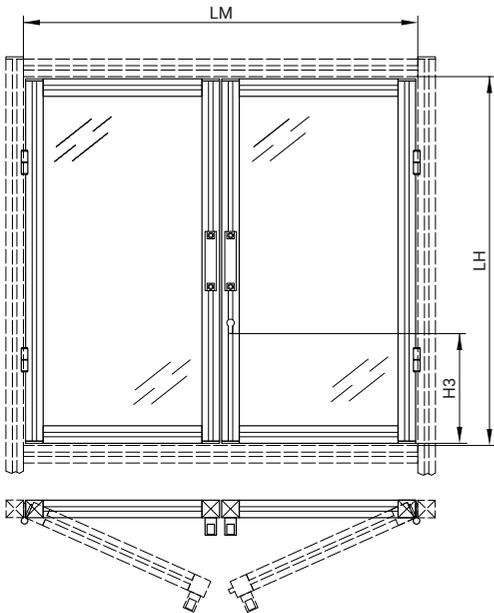
## Windows

### Windows, Double-leaf

The double-leaf window saves space compared to the single-leaf design. Panelling is sold separately, do not forget it when ordering.

 Panelling starting on page 240  
Locks starting on page 262

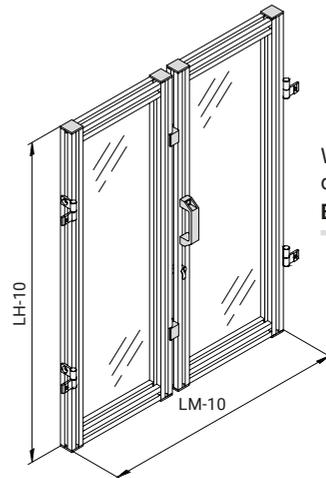
#### Fastening example



Max. clear dimension (LM) = 1200 mm  
Max. clear height (LH) = 1800 mm

#### Assemblies without panelling (B...):

mk 2040.31 (40x40) profile, connecting elements, handle, end caps, hinges, lock



Window,  
double-leaf  
**B68.07.003**

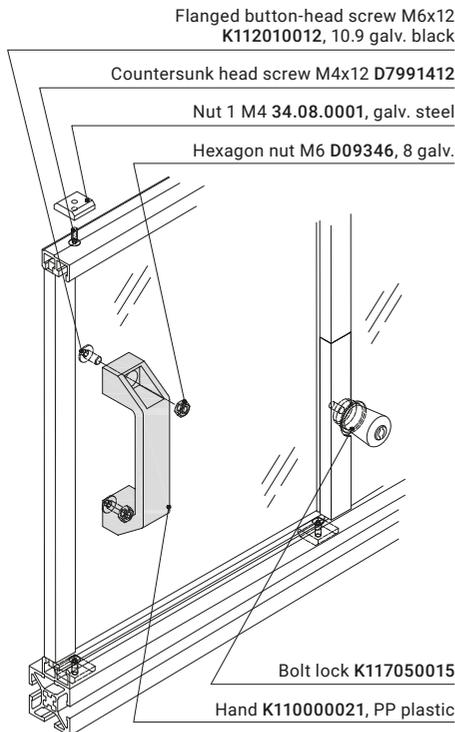
#### Information required for ordering

■ LM, LH, H3, panelling

## Sliding Windows

Sliding windows can be designed with two or three panes. The mk 2240 or mk 2241 profiles serve as the tracks and are compatible with Series 40 and Series 50 profiles. When the window is not completely closed, the sliding elements can be installed or removed as needed. When closed, they can be locked using a bolt lock.

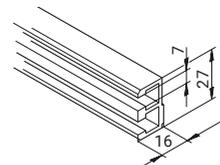
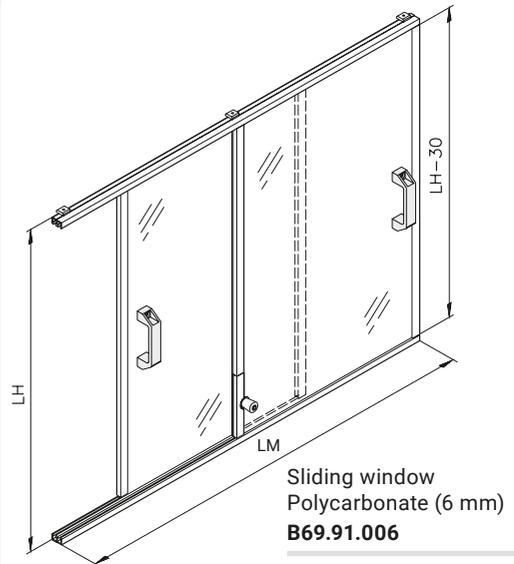
### Fastening example



Max. clear dimension (LM) = 1200 mm  
 Max. clear height (LH) = 1000 mm

### Assemblies (B...):

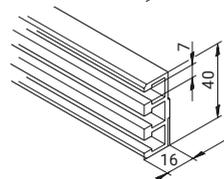
mk 2240, mk 2207 profiles, connecting elements, handle, stops, lock and panelling.



### Profile mk 2240

0.47 kg/m

Stock length	<b>52.40.5100</b>
Cut	<b>52.40. ....</b>



### Profile mk 2241

0.67 kg/m

Stock length	<b>52.41.5100</b>
Cut	<b>52.41. ....</b>

### Information required for ordering

■ LM, LH

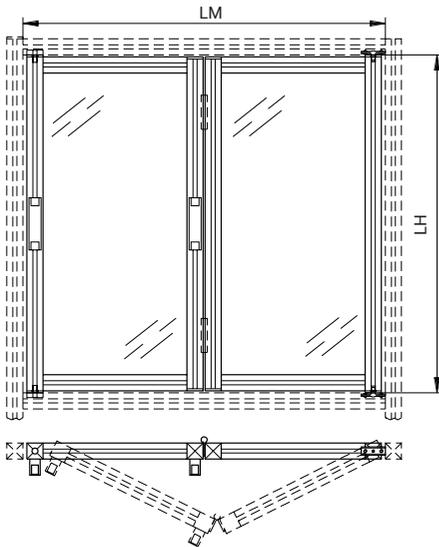
# Windows

## Folding Windows

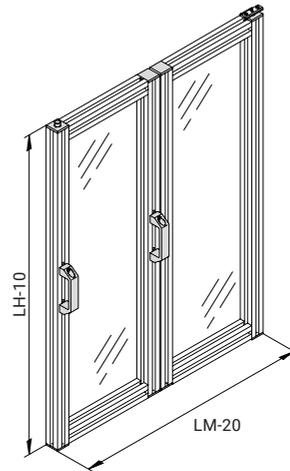
Folding windows require a smaller swivel range than casement windows and are therefore a space-saving alternative. Panelling is sold separate, do not forget it when ordering.

 Panelling starting on page 240

### Fastening example



Max. LM = 1200 mm  
Max. LH = 1000 mm



Folding window  
Acrylic glass  
**B69.91.004**

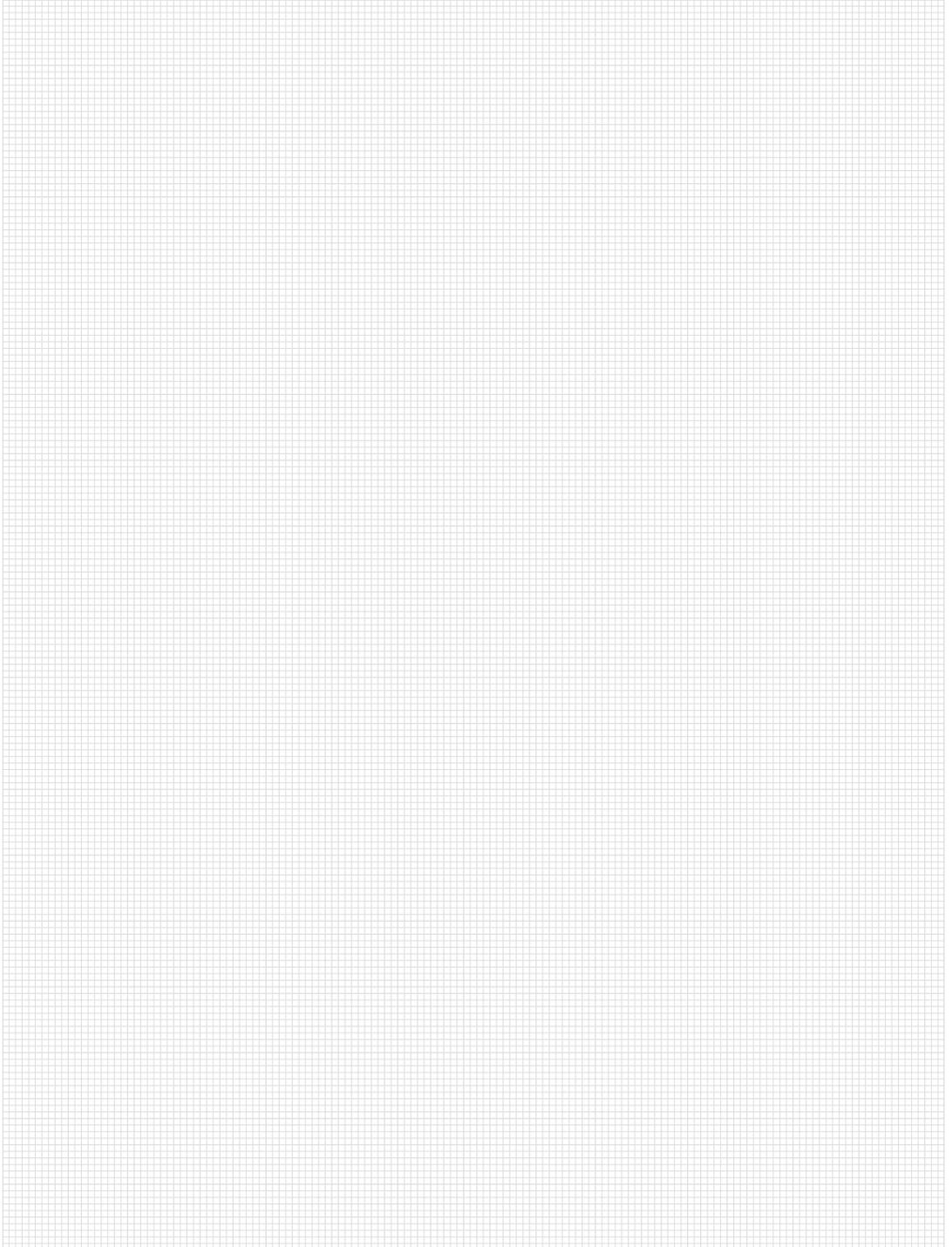
Folding window  
Polycarbonate  
**B69.91.005**

### Information required for ordering

■ LM, LH, panelling

### Assemblies without panelling (B...):

mk 2040.31 (40x40) profile, connecting elements, handle, end caps, hinges



## Panelling

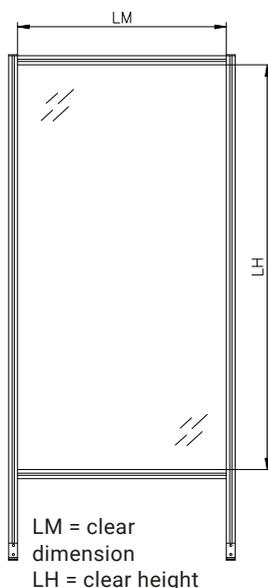
### Information about Panelling

The panelling listed below can be used in partitions, frames and both door and window elements. Fastening accessories for mounting the panelling in a profile frame are presented on the following pages. You will also find order information for the corresponding assemblies, which contain both the panelling and the appropriate fastening accessories. Other panelling, such as safety glass, is available on request.

#### Information required for ordering

- Whole sheet panelling: material item no.
- Cut panelling: item no. for cut section along with width, height and colour (clear, tinted grey or RAL colour)

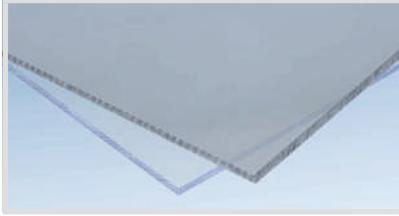
If the panelling is to be mounting in a profile frame, the width and height will vary according to the mounting method and the panelling, as shown in the table below.



### Cut Lengths by Fastening Method

Fastening method	Width	Height
... with holders	LM	LH
... with panel clamp	LM - 31 mm	LH - 31 mm
... with angles	LM	LH
... with clamping profile	LM + 10 mm	LH + 10 mm
... with fence clip	LM + 20 mm	LH + 20 mm
... with sealing strip	LM + 20 mm	LH + 20 mm

## Closed Panels



### Clear or Grey-Tinted Polycarbonate

Polycarbonate (PC), also known under the brand name Makrolon, is an impact-resistant and rigid thermoplastic material. Its durability and sturdiness makes it the most used type of transparent panelling.

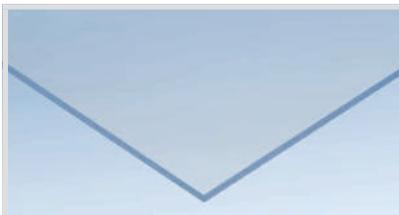
Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
<b>Clear</b>				
K01B211004	2050x3050	4	4.80	50.15.6009
K01B211005	2050x3050	5	6.00	50.15.6002
K01B211006	2050x3050	6	7.20	50.15.6003
<b>Tinted grey</b>				
K01B231004	2050x3050	4	5.50	50.15.6009
K01B231005	2050x3050	5	7.30	50.15.6002



### Clear Acrylic Glass

Acrylic glass (PMMA) is a thermoplastic material, also known under the brand name Plexiglas. It exhibits high strength, hardness and transparency. It is more resistant to breakage than traditional glass, but more sensitive to breakage and impacts than polycarbonate.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K01D211004	2050x3050	4	4.76	50.15.6014
K01D211005	2050x3050	5	5.96	50.15.6000
K01D211006	2050x3050	6	7.14	50.15.6001



### Clear PETG

PETG is a modified, transparent PET plastic that exhibits higher impact resistance than acrylic glass and is easier to work with. PETG offers better optical properties and higher chemical resistance than polycarbonate.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K01P211005	2050x3050	5	6.35	50.15.6019
K01P211006	2050x3050	6	7.62	50.15.6017

# Panelling

## Closed Panels

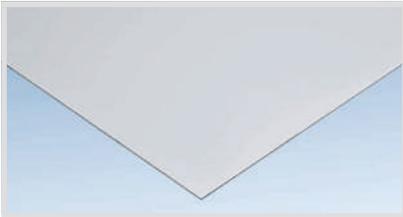


### Silver Anodised Alucobond®

Alucobond® plates consist of two silver-anodised aluminium covering sheets with a black plastic core. This type of panelling provides slight damping and an attractive design.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K00316223004	1500x3000	4	5.50	50.15.4001
K00316223006	1500x3000	6	7.30	50.15.4002

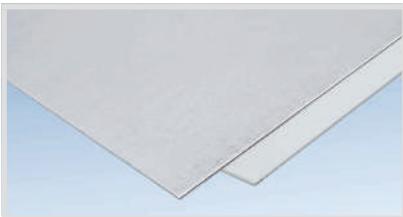
7



### Silver Anodised Aluminium Sheet

Silver anodised aluminium sheet is easy to machine and provides an attractive look that matches the aluminium profiles. It is easy to clean and resists corrosion.

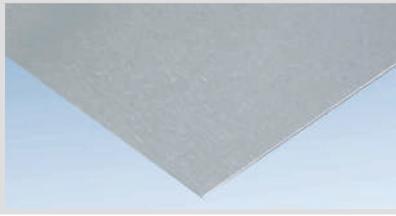
Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K00305321150	1000x2000	1.5	4.05	07.30.
K00305321200	1000x2000	2	5.40	07.33.
K00305321250	1000x2000	2.5	6.75	07.36.



### Galvanised or Painted Steel

Steel is available in a galvanised or painted design, and all cut sections are delivered deburred. Please note that the cut edges are not galvanised. Please specify the RAL colour when ordering painted steel.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
<b>Galvanised</b>				
K00112121150	1000x2000	1.5	10.65	07.28.
<b>Painted</b>				
K00112131150	1000x2000	1.5	10.65	07.28.



### Ground Stainless Steel Sheet

Ground V2A stainless steel sheet is resistant to corrosion and suitable for use in food production applications.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K00205121150	1000x2000	1.5	11.85	07.29.
K00205121200	1000x2000	2	15.80	07.32.



### Duet Chequer Sheet

Aluminium chequer sheets with a slip-resistant Duet chequer pattern are used primarily as stepping surfaces for platforms and steps.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K0030641125	1000x2000	2.5/4	7.55	07.21.1125
K0030641135	1000x2000	3.5/5	10.25	07.21.1135
K0030641150	1000x2000	5/6.5	14.30	07.21.1150

# Panelling

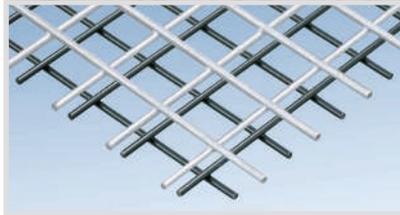
## Grid Panels



### Aluminium or Galvanised Steel Wire Mesh

Wire mesh is suitable for guarding intended to separate areas and is easy to work with. The wire is 4 mm thick, and the mesh size is 40 x 40 mm.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
<b>Aluminium</b>				
K00315121.40	1000x2000	4	1.63	24.00.
K00315122.40	2000x3000	4	1.63	24.00.
<b>Galvanised steel</b>				
K00128221.40	1000x2000	4	4.70	24.02.
K00128222.40	2000x3000	4	4.70	24.02.

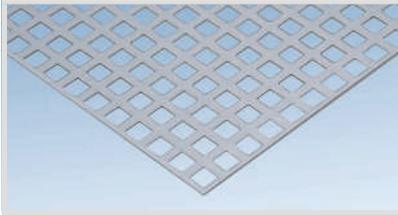


### Welded Steel Grids, Powder-Coated or Galvanised

Welded grids are suitable for guarding intended to separate areas. They are sturdy, easy to work with and exhibit high load capacity. The wire is 4 mm thick, and the mesh size is 40 x 40 mm. You can select from galvanised steel and black powder-coated steel versions.

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
<b>Black powder coated</b>				
K00128321.40	1000x2000	4	4.80	24.05.
K00128323.40	1250x2000	4	4.80	24.05.
K00128324.40	1500x2000	4	4.80	24.05.
<b>Galvanised</b>				
K00128421.40	1000x2000	4	4.80	24.06.

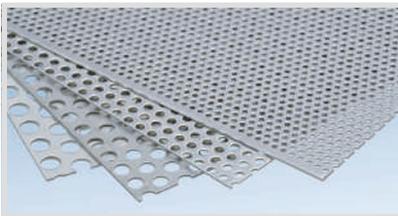
## Perforated Sheets



### Square Hole Perforated Sheets

Galvanised steel perforated sheets with square holes serve as a protective guard while also ensuring good ventilation. They can also be used as grates for draining liquids or for hanging tools. 10 x 10 mm square holes, 15 mm spacing (Qg 10-15).

Material item no.	Size [mm]	Thickness [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
<b>Galvanised steel</b>				
K0011312121510	1250x2500	1.5	13.33	07.19.2110
K0011312122010	1250x2500	2	17.78	07.19.2210
<b>Stainless steel</b>				
K002061211150	1000x2000	1.5	13.33	07.45.0000



### Galvanised Round Hole Perforated Sheet

Galvanised steel perforated sheets with round holes in various diameters and offset rows serve as protective guards while also ensuring good ventilation. They can also be used as grates for draining liquids or for hanging tools.

Material item no.	Ro* [mm]	Size [mm]	Thickn. [mm]	Weight [kg/m <sup>2</sup> ]	Cut item no.
K0011311121503	3-5	1250x2500	1.5	16.60	07.19.1103
K0011311121505	5-8	1250x2500	1.5	15.50	07.19.1105
K0011311121508	8-12	1250x2500	1.5	14.33	07.19.1108
K0011311121510	10-15	1250x2500	1.5	14.33	07.19.1110
K0011311122003	3-5	1250x2500	2	21.55	07.19.1203
K0011311122005	5-8	1250x2500	2	20.66	07.19.1205
K0011311122008	8-12	1250x2500	2	19.10	07.19.1208
K0011311122010	10-15	1250x2500	2	19.10	07.19.1210

\* Offset round holes (Ro) = hole  $\phi$  - spacing

# Panelling

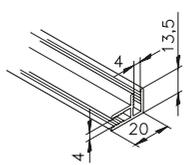
## Edge Profiles

Edge profiles provide seamless closure for panelling. They protect against sharp cut edges and increase stability. They allow you to create simple contours, as shown at left. Simply place the edge profiles on the panelling and the teeth will fix them in place.

Material: Anodised aluminium



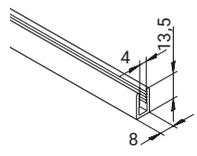
7



Profile mk 2210

0.25 kg/m

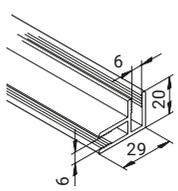
Stock length	<b>52.10.6000</b>
Cut	<b>52.10. ....</b>



Profile mk 2206

0.14 kg/m

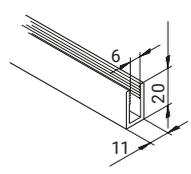
Stock length	<b>52.06.6000</b>
Cut	<b>52.06. ....</b>



Profile mk 2211

0.47 kg/m

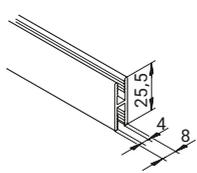
Stock length	<b>52.11.6000</b>
Cut	<b>52.11. ....</b>



Profile mk 2207

0.27 kg/m

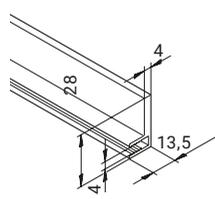
Stock length	<b>52.07.6000</b>
Cut	<b>52.07. ....</b>



Profile mk 2214

0.25 kg/m

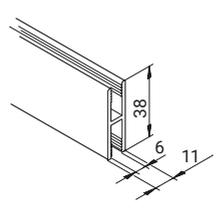
Stock length	<b>52.14.6000</b>
Cut	<b>52.14. ....</b>



Profile mk 2203

0.35 kg/m

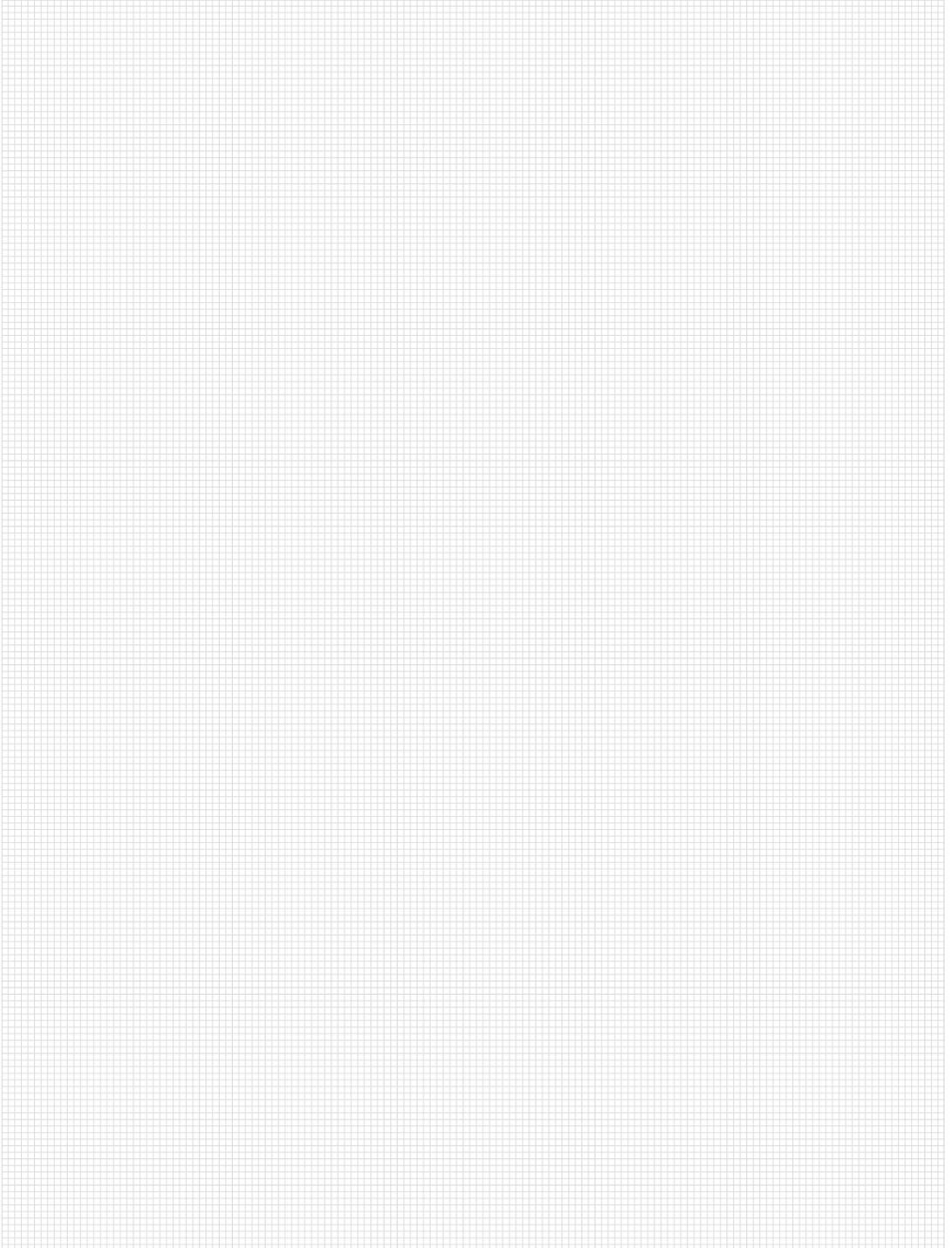
Stock length	<b>52.03.6000</b>
Cut	<b>52.03. ....</b>



Profile mk 2215

0.47 kg/m

Stock length	<b>52.15.6000</b>
Cut	<b>52.15. ....</b>



## Panelling

### Panelling with Fastening Accessories

#### ... with Holder

The holder for fastening panelling into existing structures in accordance with the Machinery Directive. The holder is available in two designs: with a simple flanged button-head screw, or as a captive connection with an undercut flanged button-head screw and a ribbed washer. The holder is closed by snapping on the cover, and the nut is secured so that it cannot be slid out.

Material: Fibre-reinforced plastic

25 40 50 60

Holder with cover

**B34.01.003**

without fastening accessories

**B34.01.004**

with fastening accessories

**B34.01.004A2**

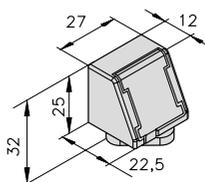
with VA fastening accessories

**B34.01.005**

with captive fastening accessories

**B34.01.005A2**

with captive VA fastening accessories

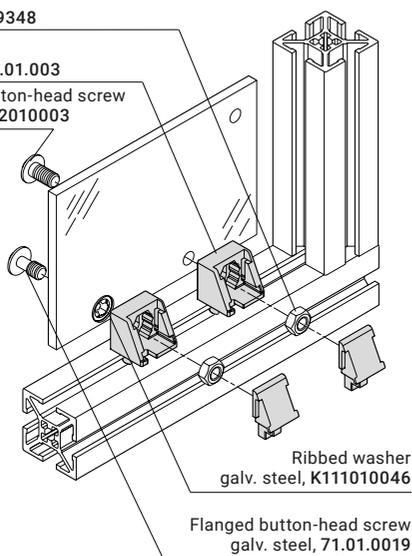


#### Fastening example

Nut M8, D09348

Holder, B34.01.003

Flanged button-head screw  
M8x16, K112010003



Ribbed washer  
galv. steel, K111010046

Flanged button-head screw  
galv. steel, 71.01.0019

LM and LH represent the clear dimensions of the profile frame.

#### Polycarbonate

Clear or tinted grey

5 mm **B69.90.206** LM ... LH ...

6 mm **B69.90.207** LM ... LH ...

Panelling requires  $\varnothing$  9 mm bores at a distance of 10 to 15 mm from the profile frame.



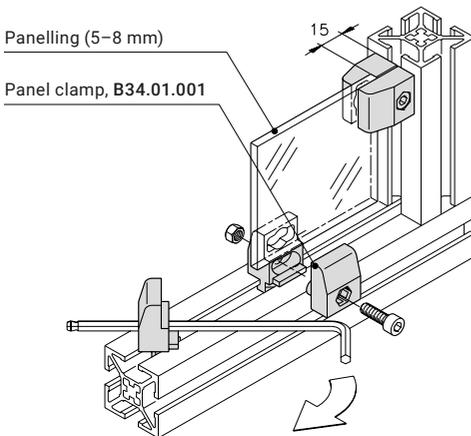
## Panelling with Fastening Accessories

### ... with Panel Clamp

Panel clamps are used to fasten unmachined panelling from 5 to 8 mm in thickness. There is a gap of 15 mm all around between the profile frame and panelling. Suitable for retrofitting in closed profile frames.

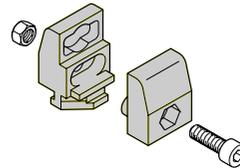
Material: Fibre-reinforced plastic

#### Fastening example



25 | 40 | 50 | 60

Panel clamp 40  
**B34.01.001**



25 | 40 | 50 | 60

Panel clamp 50  
**B34.01.002**

#### Acrylic glass

Clear

5 mm	<b>B69.90.103</b>	<b>LM ....</b>	<b>LH ....</b>
6 mm	<b>B69.90.104</b>	<b>LM ....</b>	<b>LH ....</b>

#### Polycarbonate

Clear or tinted grey

5 mm	<b>B69.90.204</b>	<b>LM ....</b>	<b>LH ....</b>
6 mm	<b>B69.90.205</b>	<b>LM ....</b>	<b>LH ....</b>

LM and LH represent the clear dimensions of the profile frame.

# Panelling

## Panelling with Fastening Accessories

### ... with Angle

Fasteners for attaching steel panelling. Suitable for retrofitting in closed profile frames. Threads for inserting panelling are tapped into the angles' lateral bore. Angles E25 and E25s are the preferred angles. A holder can be used to support larger side lengths. Please specify the RAL colour when ordering painted steel.

Material: Tumbled aluminium

### Fastening example

Nut 1 M8 34.01.0001, galv. steel

Flanged button-head screw M8x16, K112010003

Shim 07.01.0005, galv. steel, black

Angle with M8 thread

Steel sheet (1.5–2 mm)

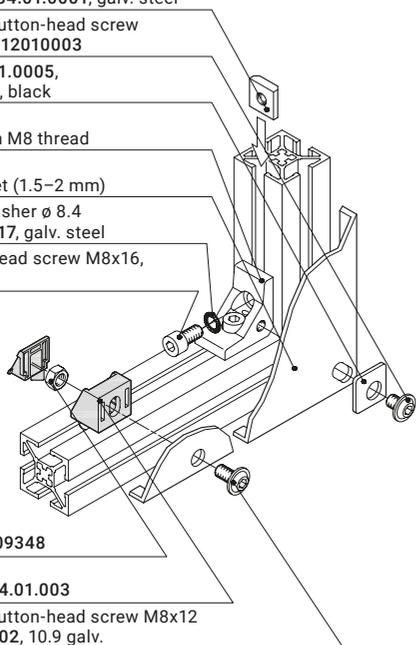
Ribbed washer  $\varnothing$  8.4 K111010017, galv. steel

Cylinder head screw M8x16, D0912816

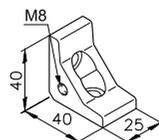
Nut M8 D09348

Holder B34.01.003

Flanged button-head screw M8x12 K112010002, 10.9 galv.



LM and LH represent the clear dimensions of the profile frame.

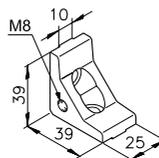


25|40|50|60

Angle, E25, M8

**82.40.0721**

with M8 thread

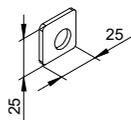


25|40|50|60

Angle, E25s, M8

**82.40.0761**

with M8 thread



Shim

**07.01.0005**

Galv. steel, black

### Steel sheet

Galvanised or painted

1.5 mm **B69.90.310** LM > 300 LH < 300

1.5 mm **B69.90.311** LM .... LH ....

For side lengths up to 1200 mm

2 mm **B69.90.312** LM .... LH ....

With additional B34.01.003 holders for side lengths over 1200 mm



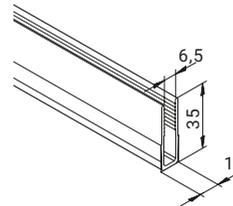
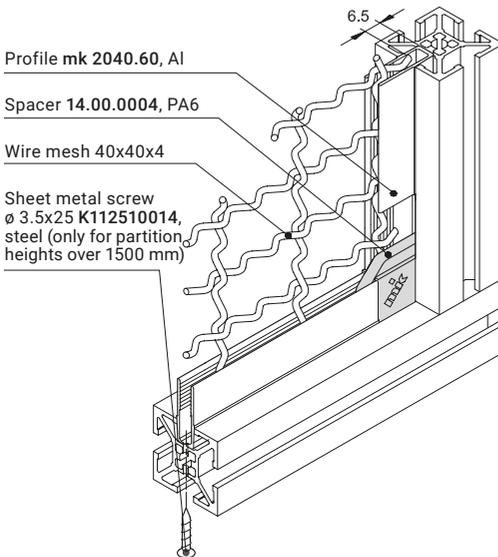
## Panelling with Fastening Accessories

### ... with Clamping Profile

The mk 2040.60 profile is used to fasten wire mesh in a 10 mm T-slot. It is installed when assembling the profile frame. An additional screw is needed to secure the profile when the side is longer than 1500 mm; see the fastening example. The spacer part eliminates the need for time-consuming mitre cuts.

Material: Anodised aluminium

#### Fastening example



Profile mk 2040.60

0.30 kg/m

Stock length	<b>54.60.6100</b>
Cut	<b>54.60. ....</b>



Spacer part  
**14.00.0004**

PA6 plastic

#### Wire mesh

Aluminium

40x40x4 mm    **B69.90.001**    LM ....    LH ....

#### Wire mesh

Galvanised steel

40x40x4 mm    **B69.90.002**    LM ....    LH ....

LM and LH represent the clear dimensions of the profile frame.

## Panelling

### Panelling with Fastening Accessories

#### ... with Fence Clip

Fence clips can be used to fasten welded grids easily, quickly and cheaply. The fence clip is simply hammered into the profile slot, which fixes the protective grate in the frame. The terminal is designed for 4 mm thick welded grids.

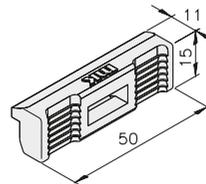
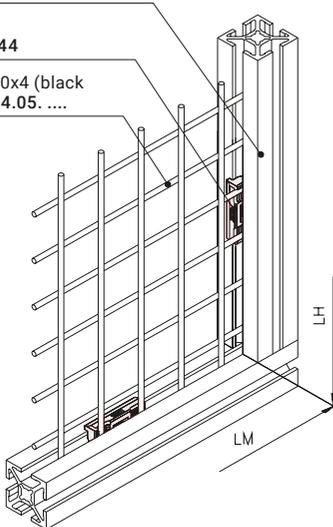
Material: ABS plastic

#### Fastening example

Profile 40x40 mm 54.31. ....

Fence clip mk 2544

Welded grid 40x40x4 (black powder coated) 24.05. ....



25 40 50 60

Fence clip  
mk 2544

#### Welded grid

Black powder coated

40x40x4 mm	24.05.	LM ....	LH ....
complete with fence clips	<b>B69.90.003</b>	LM ....	LH ....

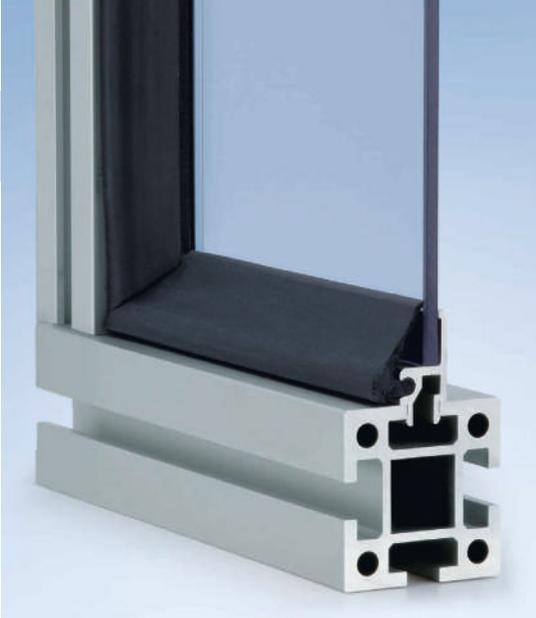
#### Welded grid

Galvanised steel\*

40x40x4 mm	24.06.	LM ....	LH ....
complete with fence clips	<b>B69.90.005</b>	LM ....	LH ....

\*Special RAL paint colours optional

LM and LH represent the clear dimensions of the profile frame.



## Panelling with Fastening Accessories

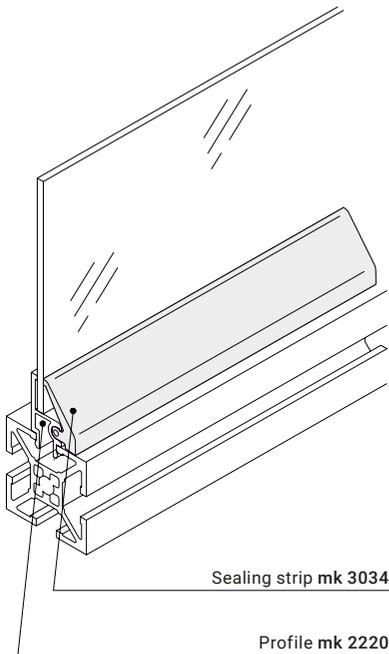
### ... with Sealing Strip

The combination of mk 2220 profile with mk 3034 sealing strip is a universal holder for panelling from 2 to 8 mm in thickness. All Series 40 and 50 construction profiles are suitable for use as the mounting profile. Not permitted for guarding intended to separate areas. **Not permitted for guarding intended to separate areas.**

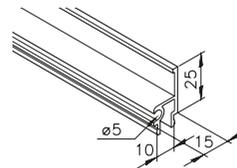
#### Information required for ordering

- Item number
- Length in mm

#### Fastening example



LM and LH represent the clear dimensions of the profile frame.



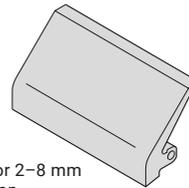
Profile mk 2220

0.32 kg/m

Stock length **52.20.6100**

Cut **52.20. ....**

Anodised aluminium



for 2-8 mm gap

**25 40 50 60**

Sealing strip  
**mk 3034**

Black EPDM rubber

#### Polycarbonate

Clear or tinted grey

4 mm **B69.90.701** LM .... LH ....

6 mm **B69.90.702** LM .... LH ....

#### Acrylic glass

Clear

5 mm **B69.90.710** LM .... LH ....

6 mm **B69.90.711** LM .... LH ....

#### Steel sheet

Galvanised or painted

2 mm **B69.90.720** LM .... LH ....

# Panelling

## Panelling with Fastening Accessories

### ... with Sealing Strip

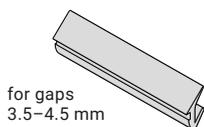
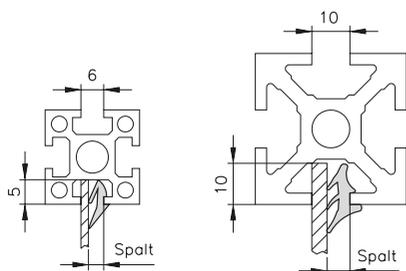
Sealing strips are used to fix panelling from 1.5 to 6.5 mm thick in the T-slot. They seal the T-slot to produce a seamless transition. Sealing strips can also be used in cleanroom conditions.

#### Information required for ordering

- Item number
- Length in mm



### Fastening example

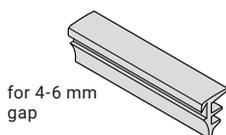


for gaps  
3.5–4.5 mm

25 40 50 60

Sealing strip  
**mk 3027** black

TPE-V rubber

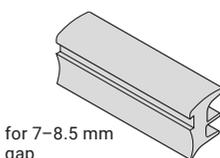


for 4–6 mm  
gap

25 40 50 60

Sealing strip  
**mk 3020** black

TPE-V rubber



for 7–8.5 mm  
gap

25 40 50 60

Sealing strip  
**mk 3021** black

TPE-V rubber

### Alucobond®

Silver anodised

4 mm	<b>B69.90.501</b>	<b>LM ....</b>	<b>LH ....</b>
6 mm	<b>B69.90.502</b>	<b>LM ....</b>	<b>LH ....</b>

### Acrylic glass

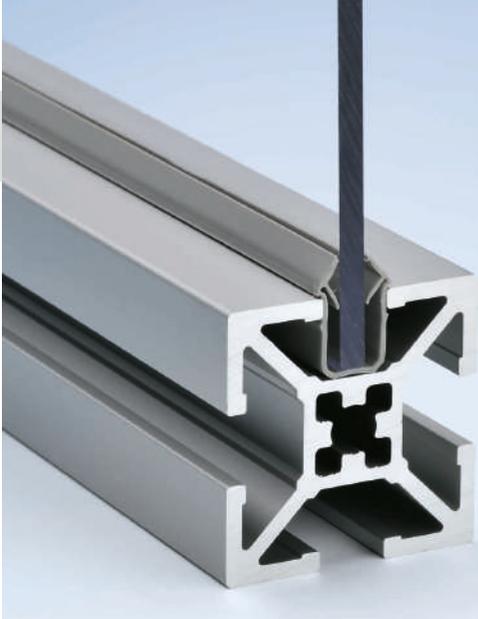
Clear

5 mm	<b>B69.90.101</b>	<b>LM ....</b>	<b>LH ....</b>
6 mm	<b>B69.90.102</b>	<b>LM ....</b>	<b>LH ....</b>

### Polycarbonate

Clear or tinted grey

4 mm	<b>B69.90.201</b>	<b>LM ....</b>	<b>LH ....</b>
5 mm	<b>B69.90.202</b>	<b>LM ....</b>	<b>LH ....</b>
6 mm	<b>B69.90.203</b>	<b>LM ....</b>	<b>LH ....</b>



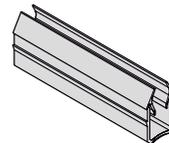
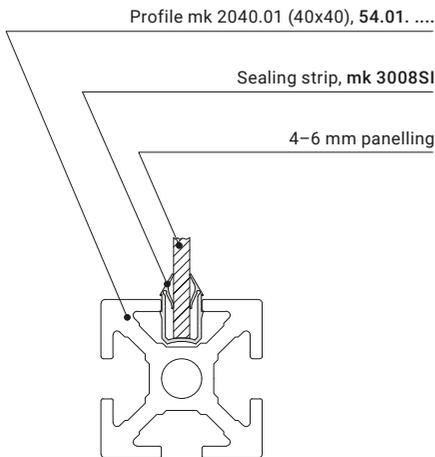
## Panelling with Fastening Accessories

### ... with Sealing Strip

Sealing strip is suitable for holding panelling from 4 to 6 mm in thickness. During mounting, the sealing strip together with the panelling is pressed into the slot of the profile. Due to the geometry, the side flanks are pressed against the panelling. This produces a seamless transition.

Material: PP plastic

### Fastening example



for 4-6 mm  
panelling

25 40 50 60

Sealing strip  
**mk 3008**

Black

**mk 3008SI**

Silver grey

2000 mm stock length

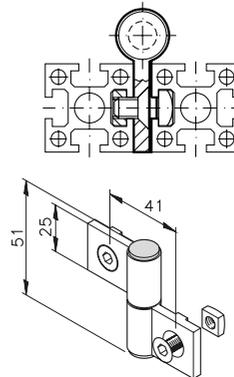
# Door and Window Components

## Hinges

The various hinge leaves allow you to combine profiles from different series. You can, for example, install a door built from Series 25 profiles into a structure built from Series 50. You can use two-leaf or three-leaf hinges, depending on whether you want to be able to unhinge the door later. A slide bushing can be inserted in the three-leaf hinges to allow for frequent opening even under high loads.

Material: Tumbled aluminium

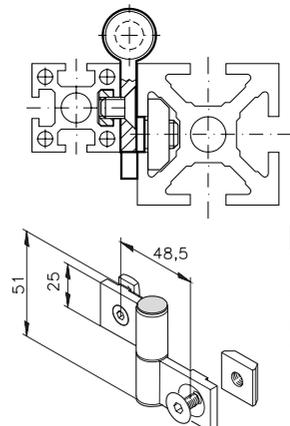
### Hinge combination 25-1/25-1



**25 40 50 60**

Hinge  
25-1/25-1  
**B46.01.012\***

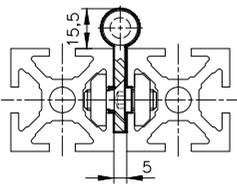
### Hinge combination 25-1/40-1



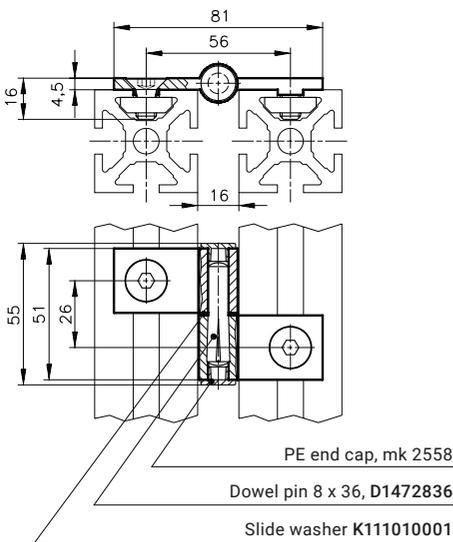
**25 40 50 60**

Hinge  
25-1/40-1  
**B46.01.013\***

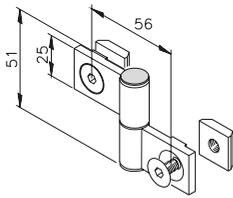
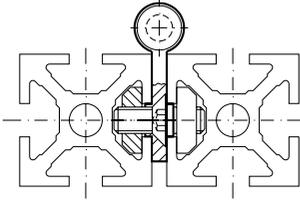
### Example of installation position A



### Example of installation position B

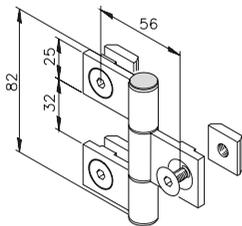


Hinge combination 40-1/40-1  
 and 40-1/40-7/40-1



25 40 50 60

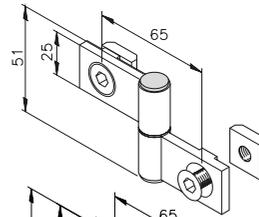
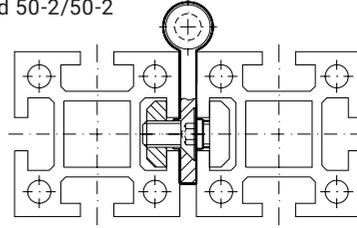
Hinge  
 40-1/40-1  
**B46.01.010\***



25 40 50 60

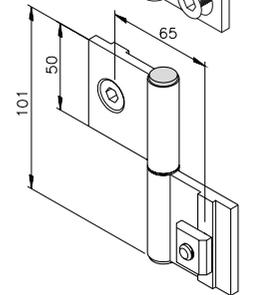
Hinge  
 40-1/40-7/40-1  
**B46.01.030\***

Hinge combination 50-1/50-1  
 and 50-2/50-2



25 40 50 60

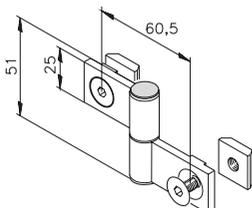
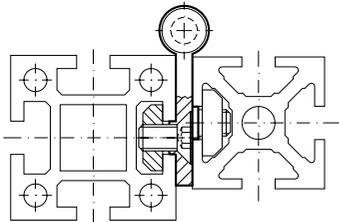
Hinge  
 50-1/50-1  
**B46.01.001\***



25 40 50 60

Hinge  
 50-2/50-2  
**B46.01.002\***

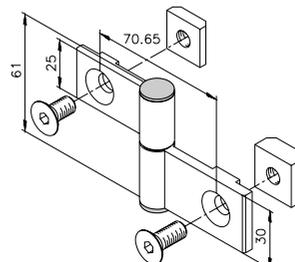
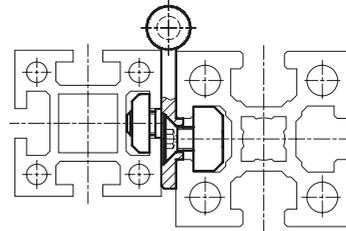
Hinge combination 40-1/50-1



25 40 50 60

Hinge  
 40-1/50-1  
**B46.01.011\***

Hinge combination 50-1/60-1



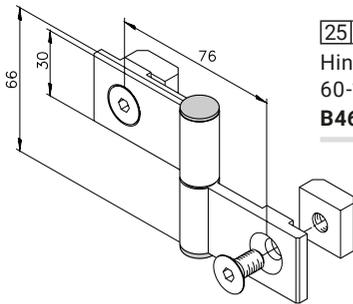
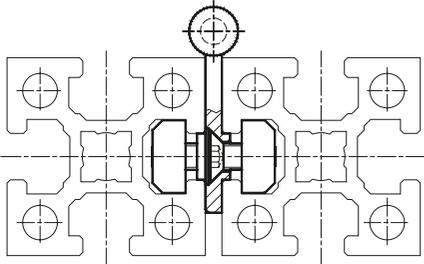
25 40 50 60

Hinge  
 50-1/60-1  
**B46.01.064\***

# Door and Window Components

## Hinges

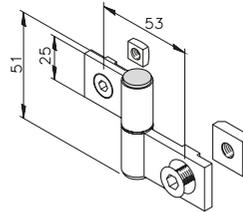
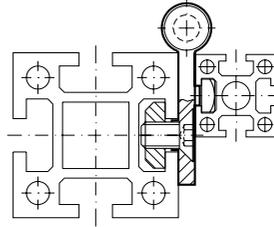
Hinge combination 60-1/60-1  
and 60-1/60-7/60-1



25|40|50|60

Hinge  
60-1/60-1  
**B46.01.058\***

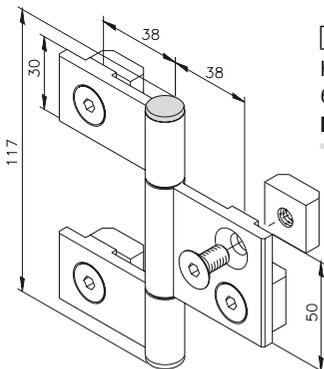
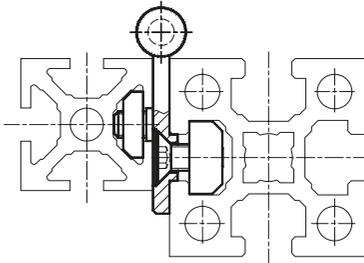
Hinge combination 25-1/50-1



25|40|50|60

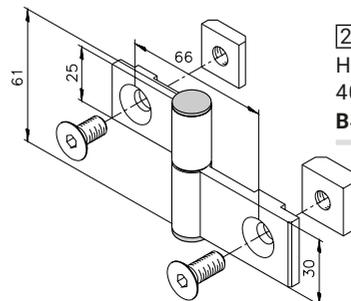
Hinge  
25-1/50-1  
**B46.01.014\***

Hinge combination 40-1/60-1



25|40|50|60

Hinge  
60-1/60-2/60-1  
**B46.01.059\***



25|40|50|60

Hinge  
40-1/60-1  
**B46.01.063\***



## Hinges

The following hinges have been designed exclusively for mounting on Series 25 profiles for small doors and flaps.

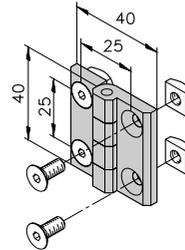
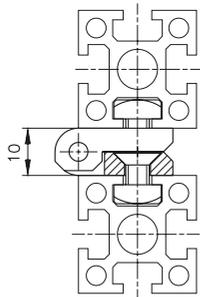
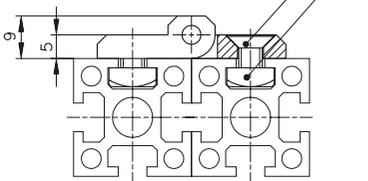
Material hinge leaf: black powder-coated die-cast zinc

25 | 40 | 50 | 60

### Fastening example

Countersunk head screw M5x10, D7991510

Nut 1 M5, 25.50.0500



Hinge series 25  
**B46.01.033\***

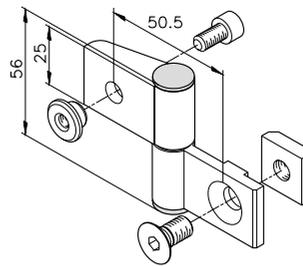
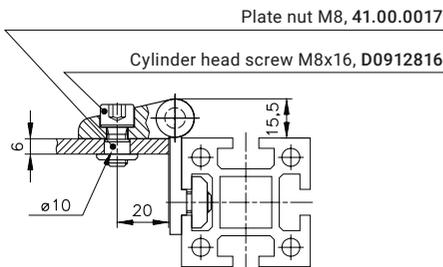
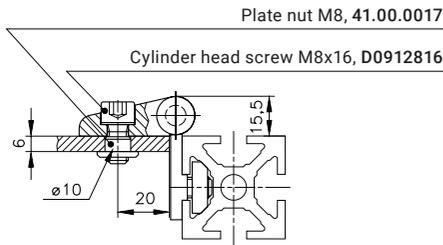
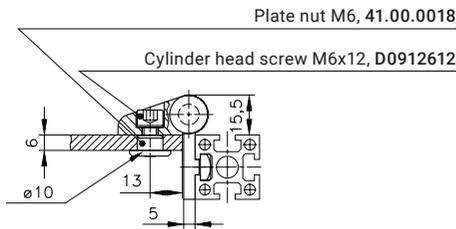
## Hinges for Panelling

The following hinges can be used to attach panelling directly without an additional frame structure. The hinge can be used for both right-hand and left-hand connections and reaches an opening angle of 180°.

Material: Tumbled aluminium

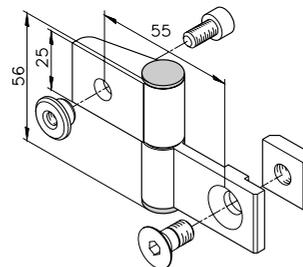
7

### Fastening example



25 40 50 60

Hinge  
40-1/40-3  
**B46.01.050\***



25 40 50 60

Hinge  
50-1/40-3  
**B46.01.055\***



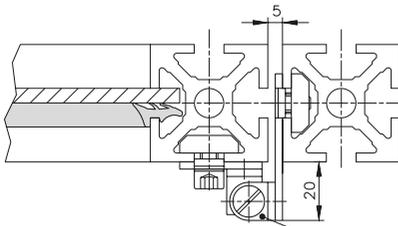
## Ball Latch

The ball latch is a low-wear, quick-release fastener. It locks by clicking into place between the spring-loaded balls.

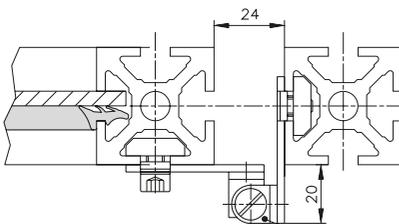
Material: Brass

25 40 50 60

### Fastening example



Ball latch for 5 mm door gap,  
**B68.02.101**



Ball latch for 24 mm door gap,  
**B68.02.102**

Ball latch for 5 mm door gap  
**B68.02.101\***

Ball latch for 24 mm door gap  
**B68.02.102\***

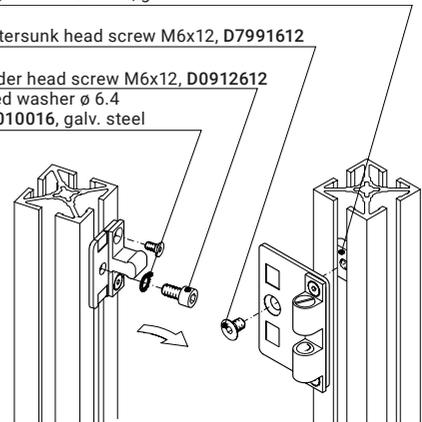
Nut 1, M6 34.02.0008, galv. steel

Countersunk head screw M6x12, D7991612

Cylinder head screw M6x12, D0912612

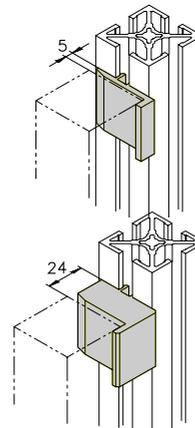
Ribbed washer  $\varnothing$  6.4

K111010016, galv. steel



## Door stop

Material: PE-1000 plastic



Stop profile  
 for swing doors  
**22.90.0035**

for 5 mm door gap

Stop profile  
 for swing doors  
**22.92.0035**

for 24 mm door gap

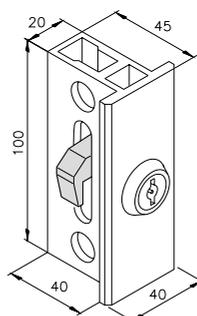
# Door and Window Components

## External Locks

External locks are attached to the side of the profile. The distance between the frame and door must be 24 mm. They can be used for sliding doors and hinged doors.

Material: Tumbled aluminium

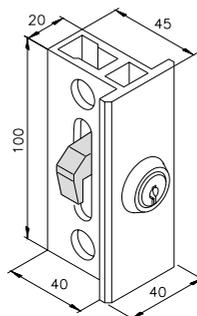
25 40 50 60



External double-bit lock  
DIN right  
**B68.02.017**

DIN left  
**B68.02.018**

Key  
**K117050006**



External cylinder lock  
DIN right  
**B68.02.019**

DIN left  
**B68.02.020**

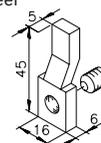
incl. key

Frame extender  
for sliding door  
**B68.06.005**

with latch

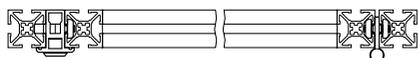
Latch  
**B68.02.007**

Galv. steel

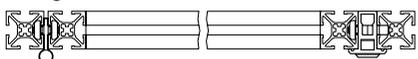


### Fastening example

Swing door, DIN right



Swing door, DIN left



Spacer 14.05.0010, Al

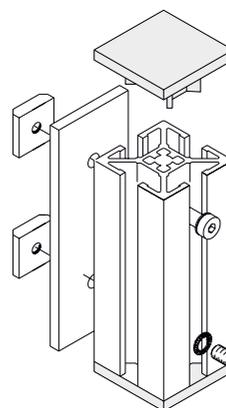
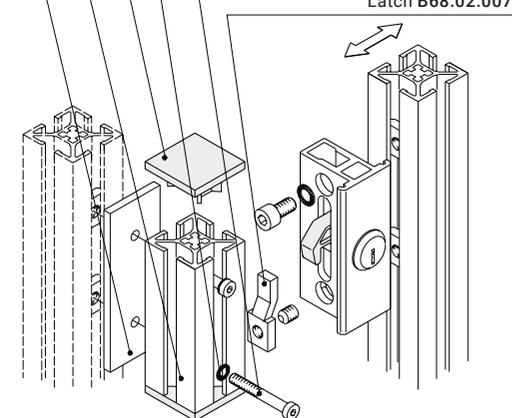
mk 2040.31 (40x40) profile, L=100 mm 5431BN0100, Al

End cap, mk 2507, PPN

Ribbed washer  $\varnothing$  6.4 K111010016, galv. steel

Cylinder head screw M6x45 D0912645

Latch B68.02.007

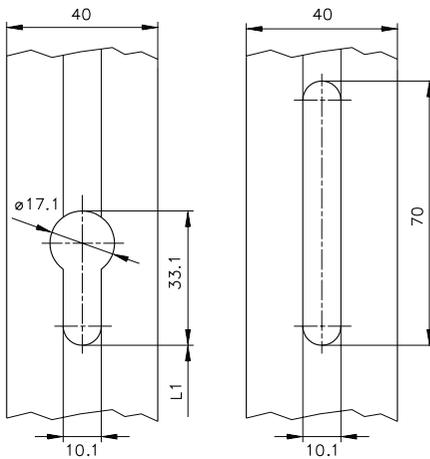




## Internal Locks

Internal locks are cylinder locks that are installed directly in the door profile. The distance between the frame and door must be 5 mm. For left-hand and right-hand closing.

### Drilling pattern for cylinder lock



Profile service for mk 2040.01 (40x40) profile  
**5401BC ....**

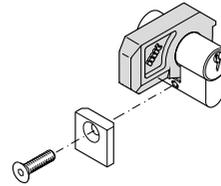
Profile service for mk 2040.40 (40x40) profile  
**5440BC ....**

Profile service for mk 2040.31 (40x40) profile  
**5431BI ....**

Please specify L1 when ordering

7

25 40 50 60

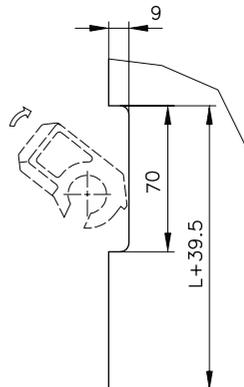


Cylinder lock, complete  
**B68.02.051**

L = 42 mm

incl. key

### Removal of panelling material for the cylinder lock



# Door and Window Components

## Tower Bolts

For locking swing doors at the top frame profile and/or at the floor. A guide angle must be attached to the top frame profile, while a bolt strike plate is used on the floor. When fastening to the floor, you must form-tap an M8 thread into the mk 2040.31 (40x40) vertical strut. 360 mm standard length.

Material: Tumbled aluminium

25 40 50 60

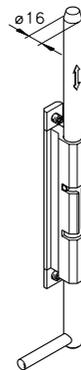
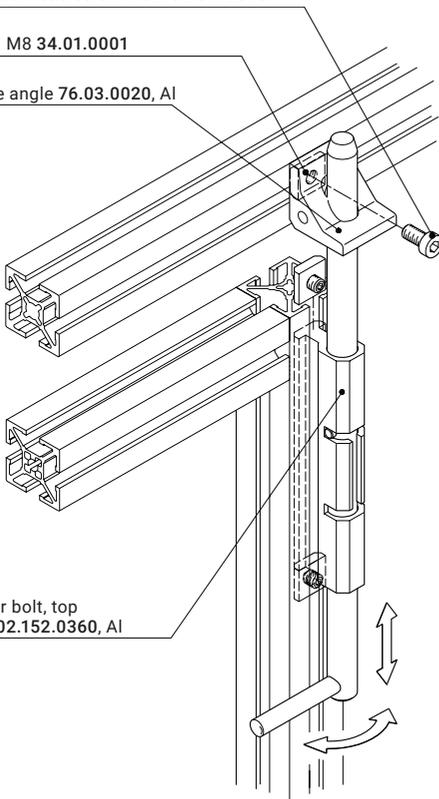
### Fastening example

Cylinder head screw M8x16 D6912816

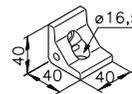
Nut 1 M8 34.01.0001

Guide angle 76.03.0020, Al

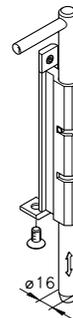
Tower bolt, top  
B68.02.152.0360, Al



Tower bolt, top  
B68.02.152.0360



Guide angle  
76.03.0020



Tower bolt, bottom  
B68.02.151.0360

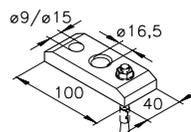


Plate for tower bolt  
76.03.0018

Anchor

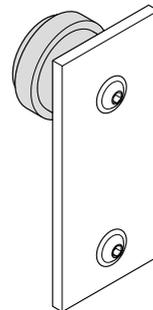
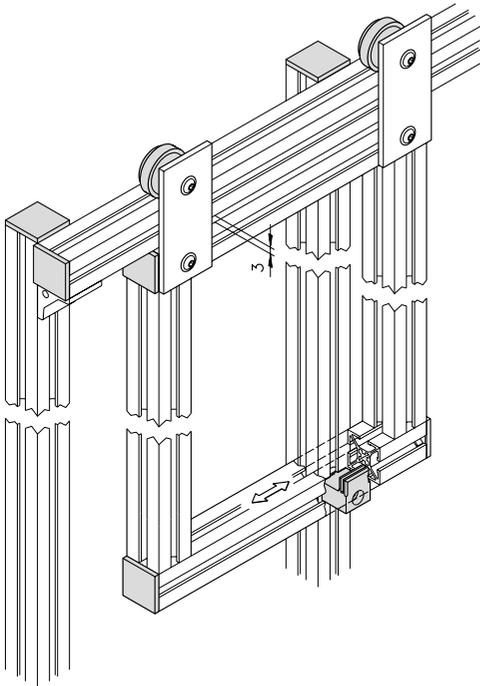


## Roller Unit

This sliding mechanism is a cost-effective and easy-to-install version. The plastic guide roller is simply guided through a collar in the profile slot. The roller unit assembly consists of a plate, roller, bolt, extra-wide washer, flanged button-head screw and nut.

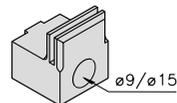
25 40 50 60

### Fastening example



Roller unit  
**B68.11.003**

Roller: POM  
 Plate: Tumbled Al



M8x25

Guide piece  
**19.00.0005**

Black plastic

# Safety Accessories

## Hinged Safety Interlocks

The hinged safety interlock is suitable for swing doors that must be closed to ensure the required operational safety.

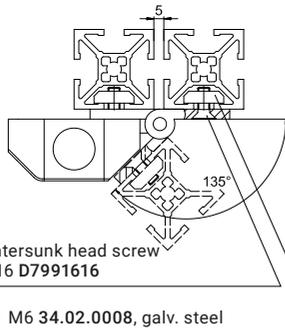
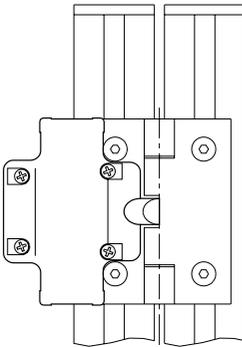
### Properties

- Plastic housing
- Protective earthing
- High resistance to oil and petrol
- Dimensions: 111.5 mm x 92 mm x 36 mm
- Easy installation, especially on 40 mm profiles
- Universal installation in guarding with hinges on the left or right
- Mounting bores for M6 countersunk head screws according to DIN 965
- Two M20x1.5 cable openings



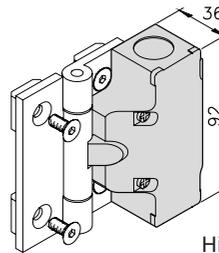
7

### Fastening example



Countersunk head screw  
M6x16 D7991616

Nut 1 M6 34.02.0008, galv. steel

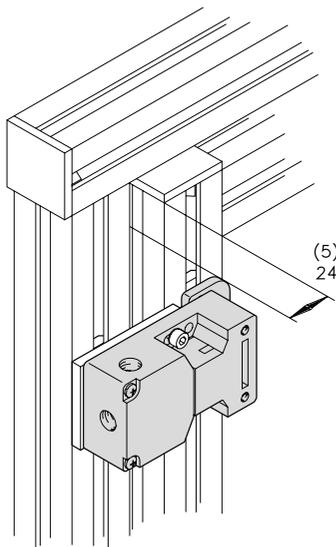


Hinged safety interlock  
TESZ1102/S  
**K370000030**

Max. safety category/ performance level:	Without 2nd switch: max. SC 4, PL "e"
Contacts:	1 normally open, 2 normally closed
Degree of protection:	IP 65
Control voltage:	24 V DC



The switching element and actuating keys for the safety interlocks are not connected to each other, but are functionally combined or separated when switching. The actuating key is separated from the basic device when the guarding is opened. In doing so, the normally closed contacts are opened and the normally open contacts are closed in the safety interlock.

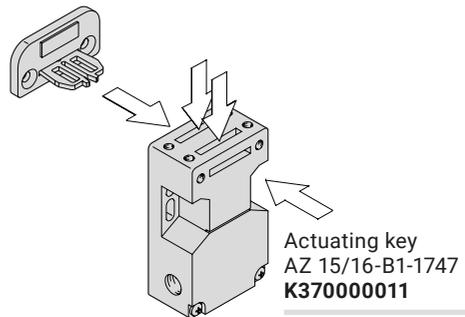


## Safety Interlocks with Separate Actuating Key

The safety interlock with separate actuating key is suitable for guarding that is laterally adjustable and/or rotatable, and especially for removable guarding that has to be shut in order to ensure the necessary operational safety.

### Properties

- Plastic housing
- Protective earthing
- Large space for connecting cables
- Dimensions: 52 mm x 90 mm x 30 mm
- Multiple coding
- Long service life
- High contact reliability at low currents
- Oblong bores for adjusting, round bores for fixing
- Three M16x1.5 cable openings



Actuating key  
 AZ 15/16-B1-1747  
**K370000011**

Safety interlock  
 AZ 16ZVRK – M16  
**K370000010**

Max. safety category/ performance level:	Without 2nd switch: max. SC 3, PL "d"
Contacts:	1 normally open, 1 normally closed
Degree of protection:	IP 67
Retaining force:	30 N
Control voltage:	24 V DC

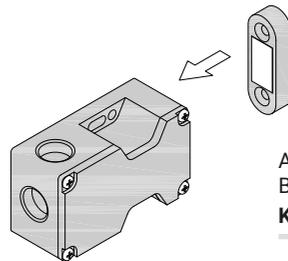
## Safety Accessories

### Magnetic Safety Interlocks

The safety interlock with separate actuating key is suitable for guarding that is laterally adjustable and/or rotatable, and especially for removable guarding that has to be shut in order to ensure the necessary operational safety.

#### Properties

- Plastic housing
- Suitable for food production
- Concealed installation possible
- Dimensions: 52 mm x 90 mm x 39 mm
- Long service life
- Resists lateral misalignment
- No mechanical wear
- Resistant to dirt
- Three M20x1.5 cable openings
- Cable connection space
- Max. 6 mm locking distance



Actuating key  
BPS 16 magnet  
**K370000013**

Safety interlock  
BNS 16-12ZV  
**K370000012**

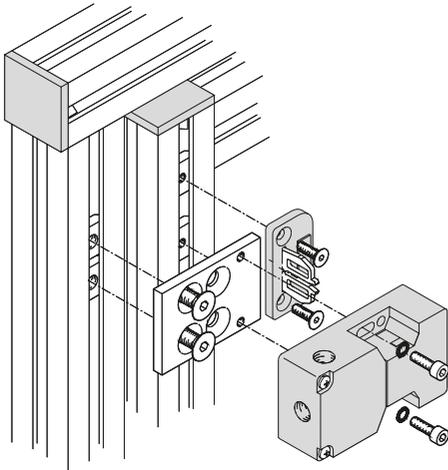
The switching element and actuating keys for the safety interlocks are not connected to each other, but are functionally combined or separated when switching. The actuating key is separated from the basic device when the guarding is opened. In doing so, the normally closed contacts are opened and the normally open contacts are closed in the safety interlock.

Max. safety category/ performance level:	Without 2nd switch: max. SC 3, PL "d"
Contacts:	1 normally open, 2 normally closed
Degree of protection:	IP 67
Control voltage:	24 V DC

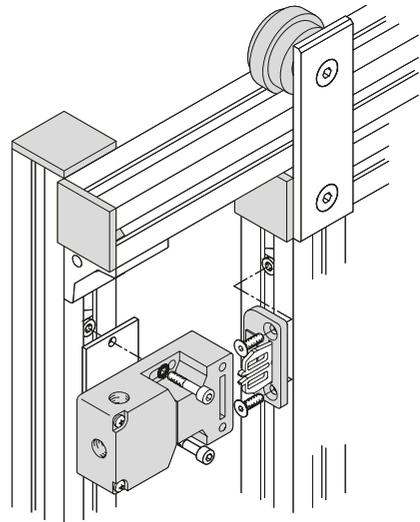
## Fasteners for Safety Interlocks

The fastener set for safety interlocks can be used on swing doors with a gap of 5 to 24 mm.

Material: Tumbled aluminium plate



Safety interlock fastener  
 set for swing doors  
**B16.03.001**



Safety interlock fastener  
 set for sliding doors  
**B16.03.002**

## Safety Accessories

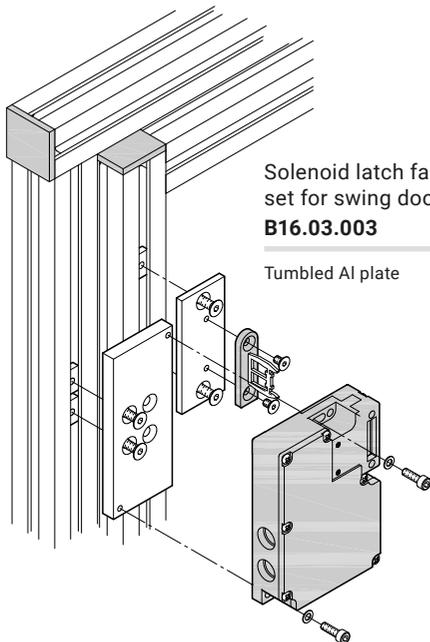
### Mechanical Solenoid Latches

The solenoid latch ensures that sliding, rotating or removable guarding cannot be opened until the hazardous situation, e.g. coasting motion, has ended.

#### Properties

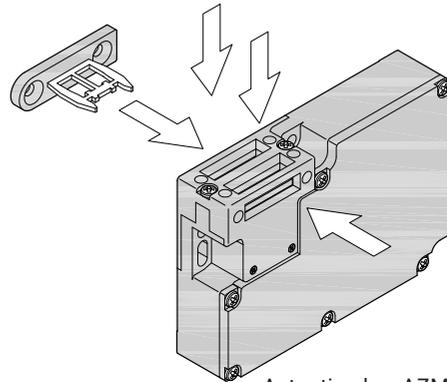
- Plastic housing
- Protective earthing
- Failsafe locking
- Dimensions: 130 mm x 90 mm x 30 mm
- Six contacts
- Long service life
- Large space for connecting cables
- Manual release
- Four M16x1.5 cable openings
- De-energise to trip

Protective doors that are secured with solenoid latches are generally only opened in exceptional cases. Solenoid latches use electric magnets to activate an interlock, which blocks or triggers the actuating key of the switch.



Solenoid latch fastener set for swing doors  
**B16.03.003**

Tumbled Al plate



Actuating key AZM 161-B1  
**K370000021**

Solenoid latch  
AZM 161SK-12/12RK-024  
**K370000020**

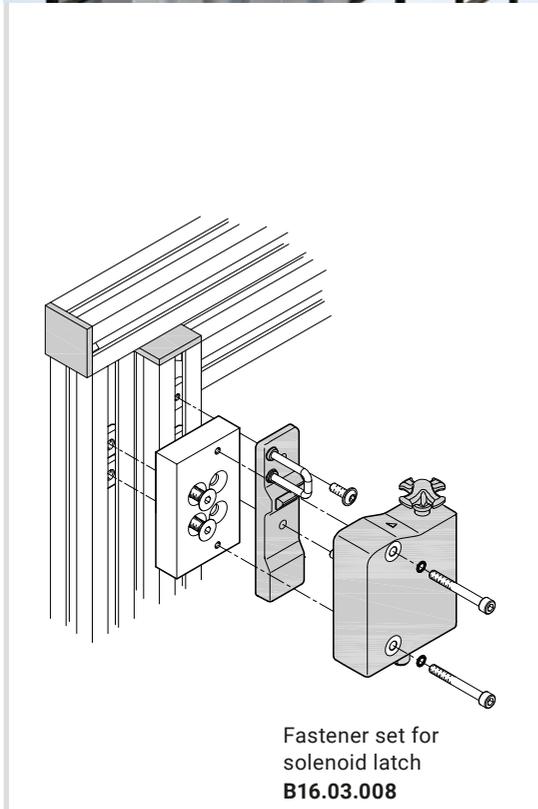
Max. safety category/ performance level:	Without 2nd switch: max. SC 3, PL "d"
Contacts:	2 normally open, 4 normally closed
Degree of protection:	IP 67
Retaining force:	2000 N
Control voltage:	24 V DC



## Electronic Solenoid Latches

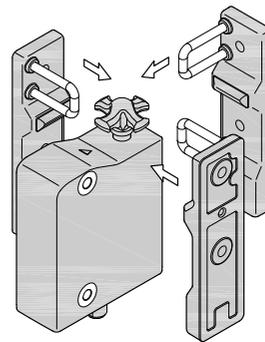
### Properties

- Plastic housing
- Three different actuation directions
- Compact design
- Non-contact, coded electronic system
- Three LEDs for displaying operating states
- Resistant to cleaning agents
- Suitable for hinged and sliding doors
- Series circuit
- Manual release
- M12, eight-pin plug connector
- De-energise to trip
- Lock monitoring
- Diagnostics output



Fastener set for  
solenoid latch  
**B16.03.008**

Tumbled Al plate



Actuating key  
AZ/AZM 300-B1  
**K370000023**

Electronic  
solenoid latch  
AZM 300Z-ST-1P2P  
**K370000022**

with lock monitoring

Performance level:	max. PL "e"
Contacts:	1 sourcing diagnostic output (Out), 2 sourcing safety outputs Out: guarding closed/ guarding closed and locked
Degree of protection:	IP66, IP67, IP69
Retaining force:	1000 N
Locking force:	25 N/50 N, set using rotating cross
Control voltage:	24 V DC

# Safety Accessories

## Slam Latches

Slam latches are multi-functional door handles for securing and monitoring guarding. They consist of a handle and an interlock module. The PROe lock has additional transponder-coded safety technology according to EN ISO 13849-1 (Cat. 4/PL e).

- Can be installed without machining
- For use with left-hinged and right-hinged doors
- Lockable to prevent unwanted shutdowns
- Secured against disassembly in closed state

Material: Black power-coated die-cast aluminium

### Fastening example

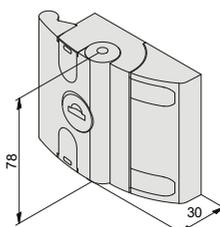
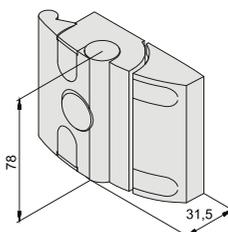
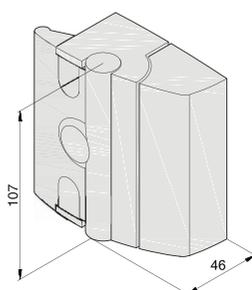
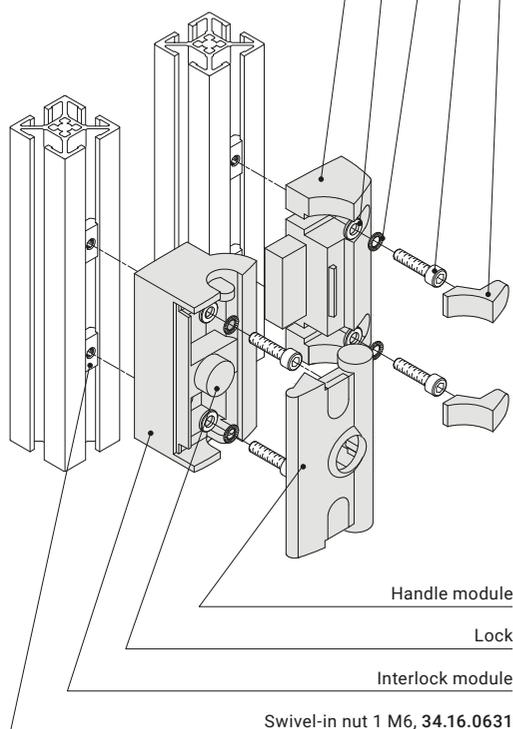
Sealing cap

Cylinder head screw M6x25, D0912625

Ribbed washer  $\varnothing$  6, K111010016

Washer  $\varnothing$  6.4 M6, D01256

Holder with catch



## Emergency Opener for Slam Latch

For rear emergency release of the PRO and Compact slam latches. Works even when the latch is locked. When the emergency opener is engaged, the door cannot be locked.

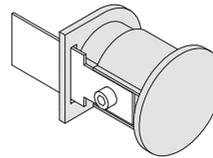
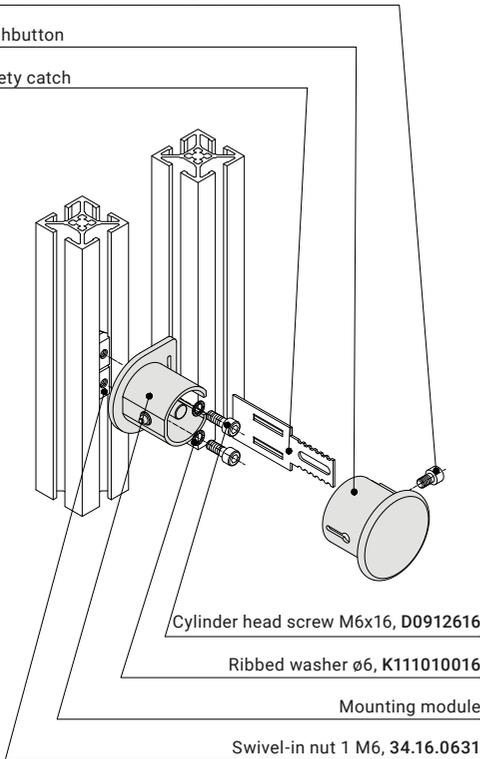
Material: PA 6 plastic, glass fibre reinforced



Cylinder head screw M6x10, D0912610

Pushbutton

Safety catch



Emergency opener  
**B68.02.033**

with fastening accessories

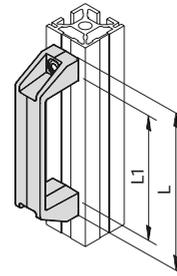
# Handles

## Bracket Handles

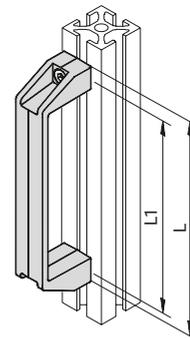
The bracket handles shown here can be used in any application and are made from sturdy plastic. The bracket handle is simply screwed into a 10 mm T-slot. It is used for opening/closing doors, windows, covers, flaps and various other components.

Material: PA plastic

25 40 50 60

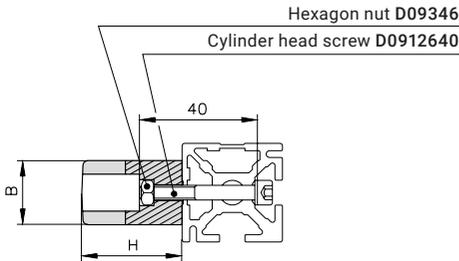


Bracket handle	Width L [mm]	Hole distance L1 [mm]	Width [mm]	Height [mm]
<b>K110000021</b>	142	122	26	41
<b>K110000020</b>	170	152	28	60

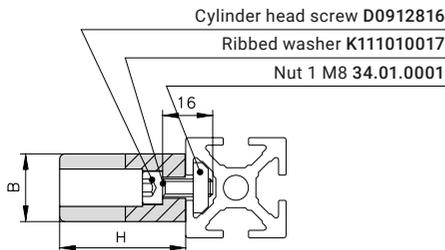


Bracket handle	Width L [mm]	Hole distance L1 [mm]	Width [mm]	Height [mm]
<b>K110000009</b>	135	117	26	41
<b>K110000010</b>	195	179	28	50

Fastening example for **K110000021** and **K110000020**



Fastening example for **K110000009** and **K110000010**





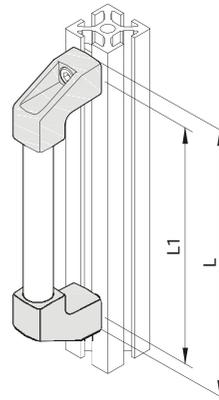
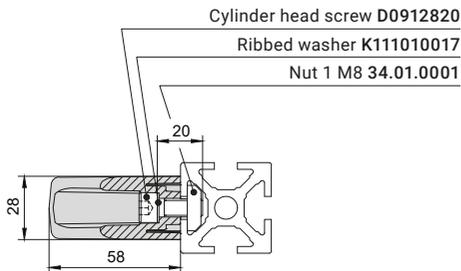
## Bracket Handles

This sturdy bracket handle can be used in any application. The grip area is made from anodized aluminium. The bracket handle is simply screwed into a 10 mm T-slot. It is used for opening/closing doors, windows, covers, flaps and various other components.

Material: PA6 plastic end pieces, anodised aluminium tube

25 40 50 60

### Fastening example for K11000011



Bracket handle	Width L [mm]	Hole distance L1 [mm]	Width [mm]	Height [mm]
<b>K11000011</b>	217	200	28	58
<b>K11000012</b>	317	300	28	58
<b>K11000013</b>	417	400	28	58

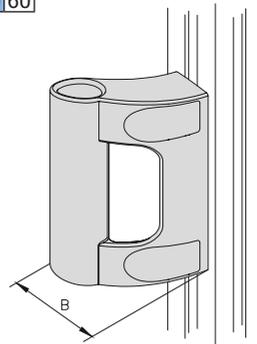
# Handles

## Bracket Handles

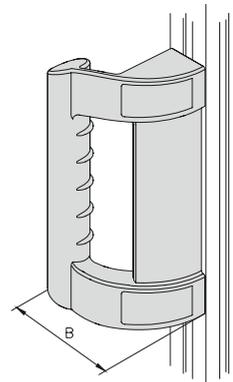
This ergonomic bracket handle with reach-through protection is used for opening/closing doors, windows, guarding covers, guarding flaps and other components. The curved bracket handle minimises the risk of crushing injuries. The bracket handle is simply screwed into a 10 mm T-slot. You can cover the screws with the provided caps.

Material: PA plastic

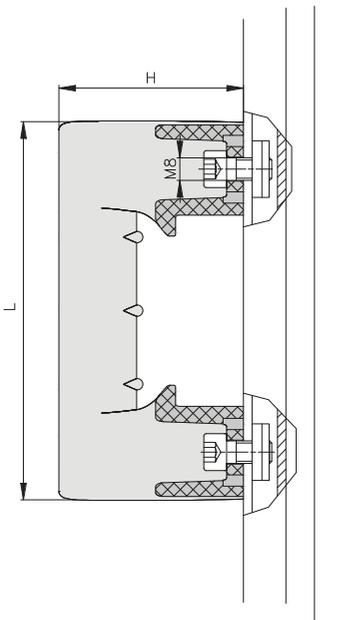
25 40 50 60



Bracket handle	Length [mm]	Width [mm]	Height [mm]
<b>K11000023</b>	135	65	72



Bracket handle	Length [mm]	Width [mm]	Height [mm]
<b>K11000025</b>	240	80	100



7 Fastening example for **K11000023**

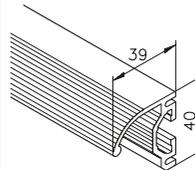
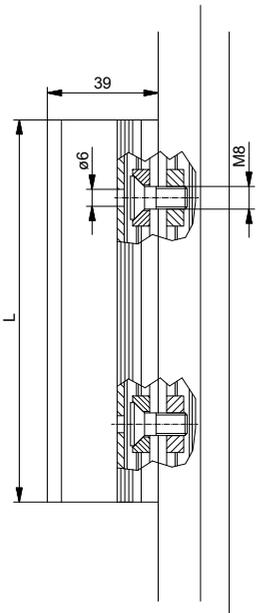
## Profile for Strip Handles

The mk 2244 application profile can be used as a strip handle, with the recess in the profile providing a comfortable grip. The ribbing provides the perfect structured surface for easily opening and closing drawers, sliding doors or other components. You can use any length of profile.

Material: Anodised aluminium

25 40 50 60

Fastening example for profile mk 2244



Profile mk 2244

0.87 kg/m

Stock length	<b>52.44.5100</b>
Cut	<b>52.44. ....</b>

# Section 8 Industrial Workstations



## Notes on Industrial Workstations

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## Table Frames

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Support Brackets	314
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**Application Profiles for Workstations**

Profiles for Telescoping	316
Profiles for Table/ Machine Frames	318
Profile for Support Brackets	319

- 1
- 2
- 3
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- 6
- 7
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- 9
- 10
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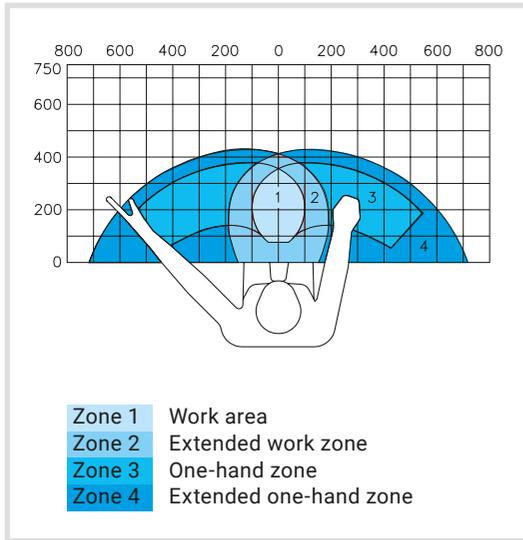


## Benefits of mk Industrial Workstations

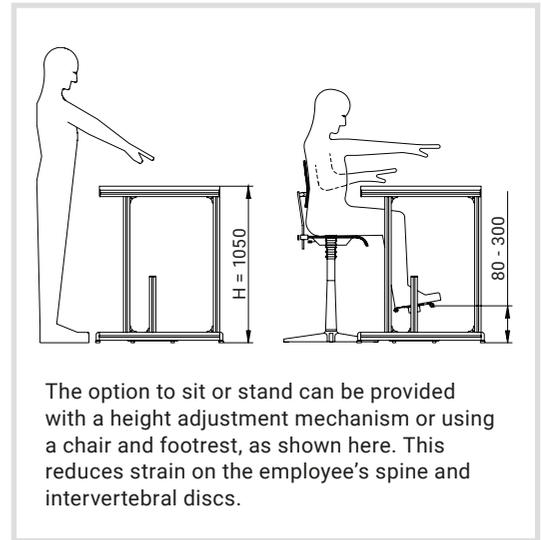
- Ergonomic and highly functional industrial workstations for optimal productivity
- Aluminium profile construction for ultimate flexibility to expand and make changes
- Table frame with an adjustable height and variable material provision systems allow the workstation to be adapted to the employee
- Extensively customisable, with gantries, shelving systems, electrical and pneumatic supply options, tool hangers and drawer cabinets
- mk's extensive experience in expanding these stations into complete assembly lines, including workstation interlinking
- Custom solutions to fit existing processes, including requirements relating to lean production, kanban, ESD or cleanroom processes

# Workstation Ergonomics

## Ergonomic Reach Zones



## Ergonomic Sit-to-Stand Workstation



The word "ergonomics" comes from Greek and translates roughly to the study of human work. Having ergonomically designed industrial workstations not only increases productivity and reduces the rate of mistakes, but also improves employee health and therefore improves morale and the working environment. mk industrial workstations can be quickly and easily adjusted each employee's particular physical

needs. This includes a height adjustment mechanism and a design that allows the workpiece, the tools and the bins for providing materials to be optimally positioned within the employee's reach for the particular task. This helps employees avoid unhealthy postures and optimises productivity. Providing optimal lighting for the particular task is another critical factor that mk has incorporated with its variable lighting system.

# Notes on Industrial Workstations

## Standards and Regulations

In designing its industrial workstations, mk has followed all applicable standards and regulations, for example DIN EN ISO 6385 (Ergonomics principles in the design of work systems).

## Earthing and Protective Conductors

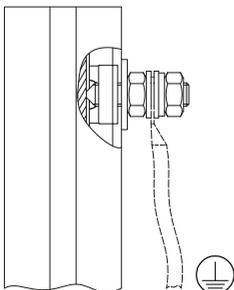
If industrial workstations are electrified (e.g. lighting, electrical sockets, etc.), DIN VDE 0100- 410 specifies that all of a workstation's conductive components must be connected together and with the protective conductor of the supply line so that protection against electric shock is ensured in the event of a fault.

8

Connecting the profiles with angles and ESD nuts, sometimes known as PE nuts, ensures conductivity throughout the entire workstation. If the workstation is electrified after construction, this means that the protective conductor has to be connected to the workstation in only one location to provide earthing.

## Earth Terminal

The earth terminal is used to connect the protective conductor to the industrial workstation to ensure protection against electric shock. This also protects sensitive components against electrostatic discharge.



Earth terminal  
**B02.99.151**

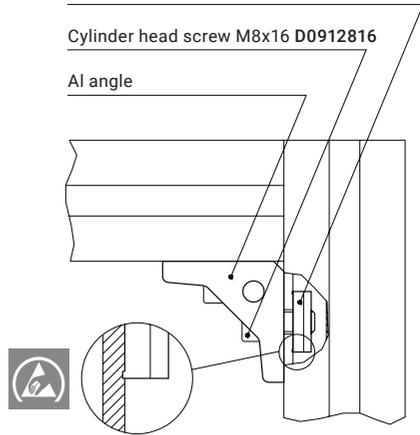
## Angle Fastener with ESD Nuts

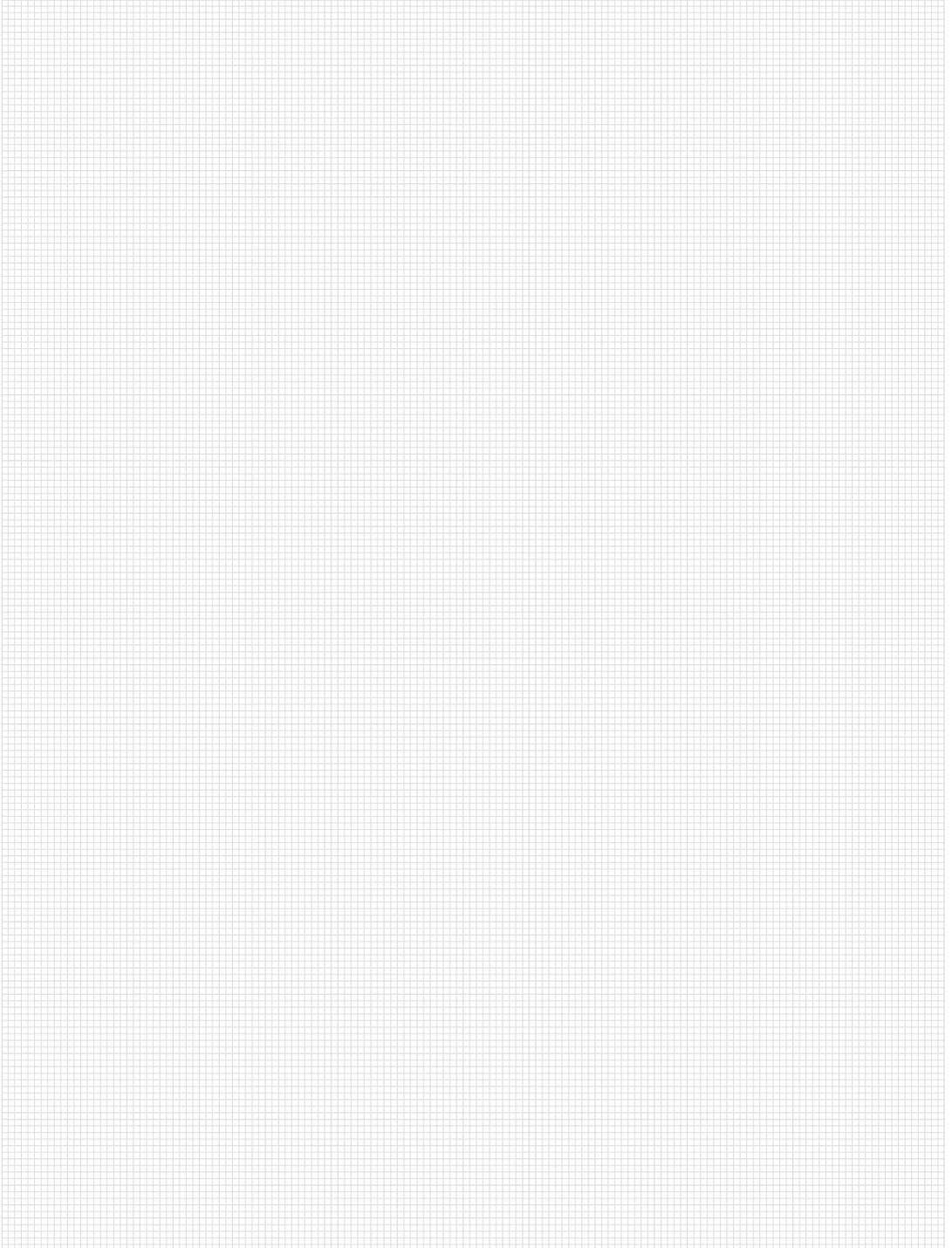
The pressed protrusion on the nut penetrates the profile's insulating anodised coating and ensures that the connection is conductive through the screw connection.

Nut 1 M8 ESD 34.01.0018

Cylinder head screw M8x16 D0912816

Al angle





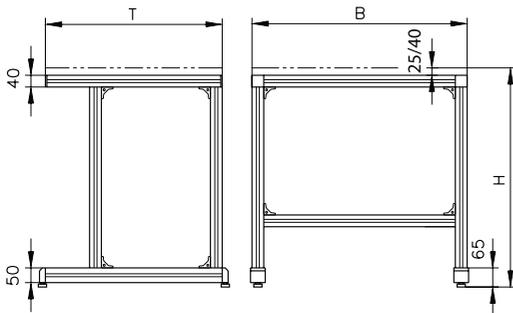
## Table Frames

### Fixed Working Height

Our table frames with a fixed working height are made from mk's Series 40 profiles and feature a sturdy pedestal design. The standard dimensions shown here allow it to be used as a sit-to-stand workstation. Custom dimensions can also be implemented, although our standard range complies with ergonomics recommendations from the applicable standards.



For table tops,  
on page 290



### Table frame C1

B02.13.030

#### Loads

Load scenario	Top thickness	Surface load	Total load
Static load	< 35 mm	2000 N/m <sup>2</sup>	2000 N
Static load	> 35 mm	2500 N/m <sup>2</sup>	4000 N

#### Standard dimensions (mm)

Height H*	Depth T	Width B
850	600	1200
1050	750	1400
		1600

\*Including 25 mm table top

Other dimensions possible. Heavy-duty design for high loads available on request. Steel privacy panelling in various RAL colours available.

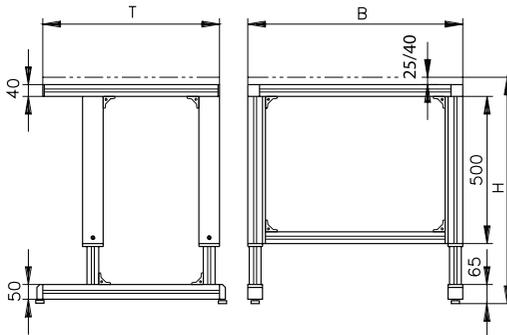


## Manual Height Adjustment

Our table frames with an adjustable working height are made from mk's Series 40 profiles and feature a sturdy pedestal design. In this table design, the height is adjusted using telescoping profiles with a fastening screw. This allows the working height to be easily adjusted while maintaining stability and load capacity.



For telescoping profiles, on page 316  
 For table tops, on page 290



### Table frame D1

B02.13.040

#### Loads

Load scenario	Top thickness	Surface load	Total load
Static load	< 35 mm	2000 N/m <sup>2</sup>	2000 N
Static load	> 35 mm	2500 N/m <sup>2</sup>	4000 N

#### Standard dimensions (mm)

Height H*	Depth T	Width B
680 to 1070	600	1200
	750	1400
		1600

\*Including 25 mm table top

Other dimensions possible. Heavy-duty design for high loads available on request. Steel privacy panelling in various RAL colours available.

## Table Frames

### Manual-Hydraulic Height Adjustment

Our table frames with an adjustable working height are made from mk's Series 40 profiles and feature a sturdy pedestal design. In this table design, the height is adjusted using telescoping profiles with a matching gliding assembly and a hand crank. This allows you to quickly adapt the working height to the user or the workpiece. The employee can also switch between sitting and standing. The required driving torque of about 6 Nm is within the boundaries of the ergonomics requirements for the design of control actuators, DIN EN 894-3, for manual actuation. 5 mm stroke per crank rotation.

 For telescoping profiles, on page 316  
 For table tops, on page 290

### Table frame D4

B02.13.043

#### Loads

Load scenario	Top thickness	Surface load	Total load
Static load	< 35 mm	2000 N/m <sup>2</sup>	2000 N
	> 35 mm	2500 N/m <sup>2</sup>	2800 N
Dynamic load*	< 35 mm	1600 N/m <sup>2</sup>	1600 N
	> 35 mm	1600 N/m <sup>2</sup>	1600 N

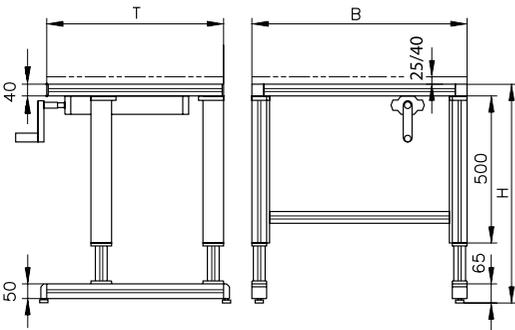
\*Maximum load under which the table can still be moved

#### Standard dimensions (mm)

Height H*	Depth T	Width B
680 to 1070	750	1200
	800	1400
		1600

\*Including 25 mm table top

Other dimensions possible. Heavy-duty design for high loads available on request. Steel privacy panelling in various RAL colours available.





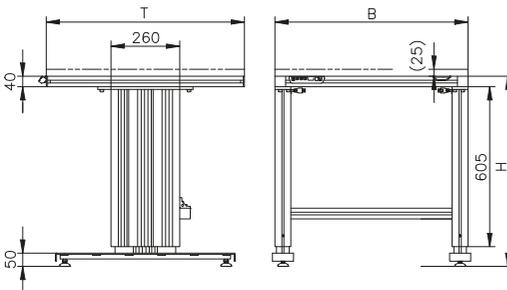
For table tops, on page 290

## Electrical Height Adjustment

Our table frames with electrical height adjustment made from mk's Series 40 profiles are suitable for both sitting and standing. A button with an optional memory function is used to adjust the height of the workbench within a 400 mm range. A selection of different table tops, accessory components and additions such as gantries are presented on the following pages.

### Technical data

Travel speed	v = 12 mm/s
Voltage/frequency	230 V/50 Hz
Operating voltage (secondary)	24 V DC
Controller protection class	IP20
Motor/remote control protection class	IP30
Turnkey system with 3 m mains cable	



## Table frame J1

B02.13.090

### Loads

Load scenario	Top thickness	Surface load	Total load
Static load	25-40 mm	2000 N/m <sup>2</sup>	3000 N

### Standard dimensions (mm)

Height H	Depth T	Width B
720 to 1120	700	1200
+ table top thickness	750	1600
	800	2000

Other dimensions possible.

## Table Frames

### Electrical Height Adjustment Heavy-Duty

The heavy-duty version of the workbench with electrical height adjustment features a table frame made from mk 2040.02 (40x80) profiles that goes around the entire table and a maximum load capacity of 4500 N. A button with an optional memory function is used to adjust the height of the workbench within a 400 mm range. A selection of different table tops, accessory components and additions such as gantries are presented on the following pages.

#### Technical data

Travel speed	v = 9 mm/s
Voltage/frequency	230 V/50 Hz
Operating voltage (secondary)	24 V DC
Controller protection class	IP20
Motor/remote control protection class	IP30
Turnkey system with 3 m mains cable	

#### Table frame K1 (heavy duty) B02.13.100

#### Loads

Load scenario	Top thickness	Surface load	Total load
Static load	40 mm	3000 N/m <sup>2</sup>	4500 N

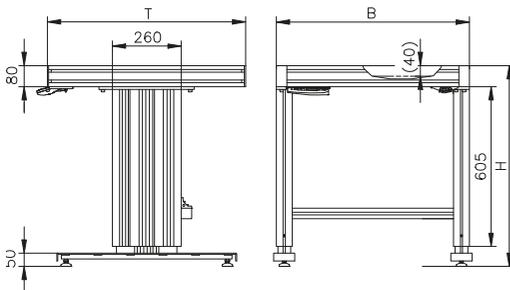
#### Standard dimensions (mm)

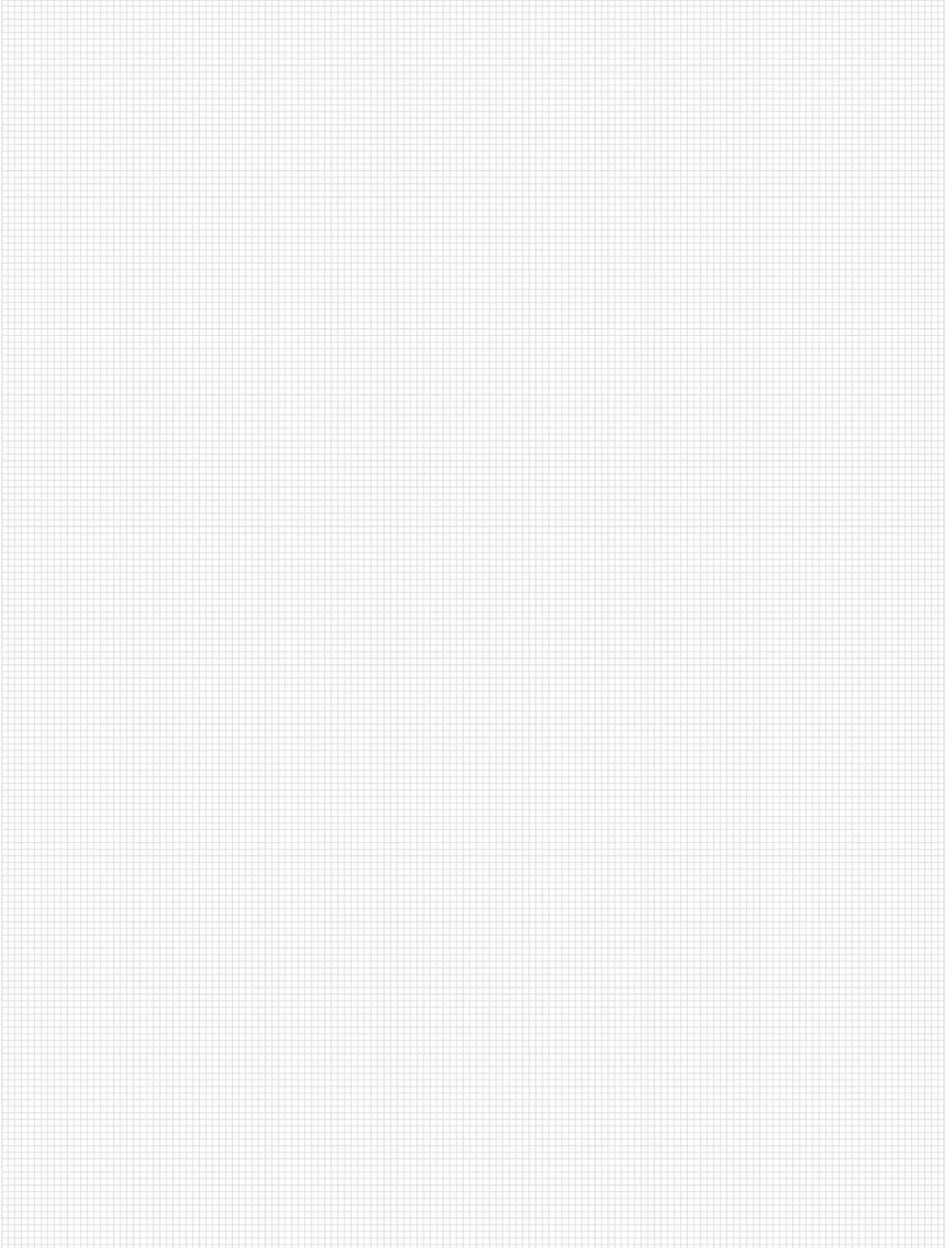
Height H	Depth T	Width B
760 to 1160	700	1200
	750	1600
	800	2000

Other dimensions possible.



For table tops,  
on page 290





# Table Tops

## Table Top Materials

Potential factors for choosing a table top material include the stability and material of the workpiece and the wear resistance of the table top. Environmental conditions such as moisture or high temperatures can also influence the choice of material. On request, other surface materials such as stainless steel sheet or laminated wood can be used. ESD-compatible tops are also available on request.



8

### Beechwood Multiplex Tops

- Multi-bonded beechwood
- Resistant to warping
- Jointless
- Ground natural surface, waterproofed on request

Thickness [mm]	Mass [kg/m <sup>2</sup> ]	Item no.
25	19	<b>50.13.5005</b>
40	30	<b>50.13.5008</b>

Painted surfaces on request.

### Laminated Particleboard

- Light grey standard colour
- Black edge band with rounded edges (grey on request)
- High resistance to shocks and impacts

Thickness [mm]	Mass [kg/m <sup>2</sup> ]	Item no.
19,0	15	<b>50.13.6006</b>
25,0	19	<b>50.13.6007</b>
39,6	29	<b>50.13.6008</b>

Conductive design (ESD) on request.



## Table Top Fasteners

The table tops can be mounted using angles or with the fastener set shown here. Holders such as angles can be used for both multiplex and laminated tops in any thickness offered.



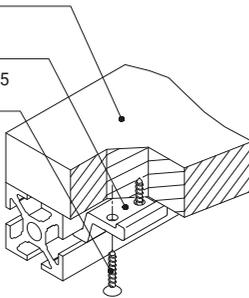
Angles  
 starting on page 78

### Fastening example

Table top

Holder 26.00.0052, Al

Chipboard screw  $\varnothing$  4x25  
 K112510020



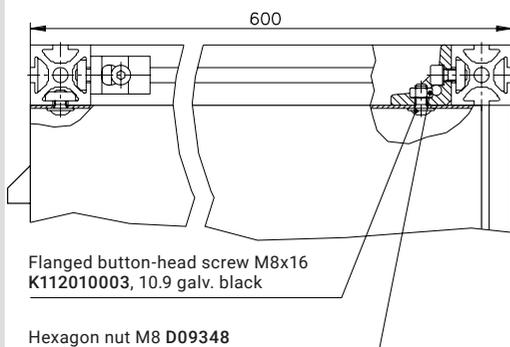
Fastener set  
 for 20 to 40 mm table tops  
**B02.99.050**

Consists of:  
 6 x holders **26.00.0052**  
 12 x chipboard screws  $\varnothing$  4x25 **K112510020**

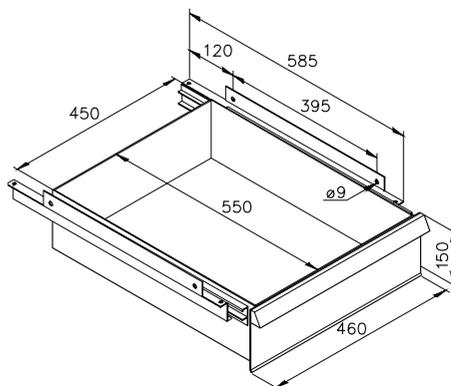
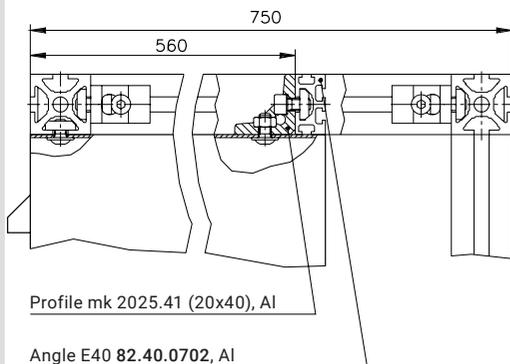
## Drawer Cabinets

Drawer cabinets provide sufficient storage space for items needed at the workstation. They keep the workstation professionally organised without encroaching on the work space. The casing is made of a large, reinforced sheet steel structure. It can withstand loads up to 200 kg. All drawer cabinets are equipped with a cylinder lock and painted in RAL 7035. All base cabinets can be installed on either the right or the left side.

Fastening example for table depth T = 600



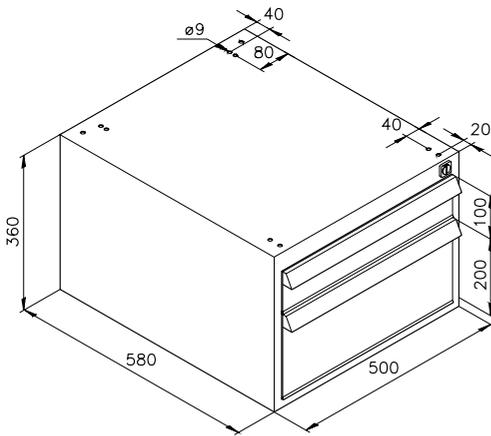
Fastening example for table depth T = 750



Drawer  
**B02.23.903**

m = 8 kg

Fastener set  
**B02.99.004**

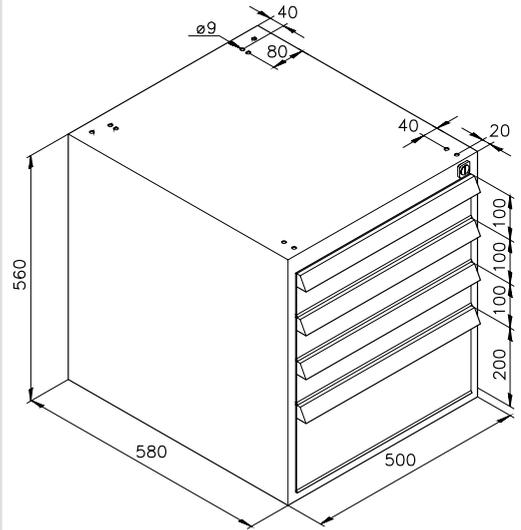


Drawer cabinet, two drawers  
**B02.23.902**

m = 23 kg

Fastener set  
 Table depth T = 600 mm  
**B02.99.001**

Fastener set  
 Table depth T > 600 mm  
**B02.99.002**



Drawer cabinet, four drawers  
**B02.23.901**

m = 35 kg

Fastener set  
 Table depth T = 600 mm  
**B02.99.001**

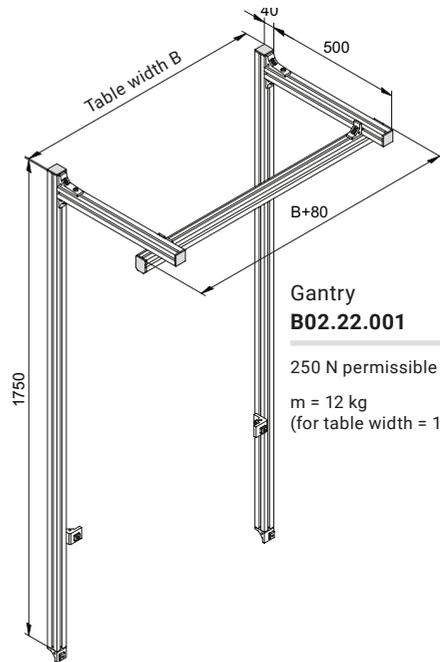
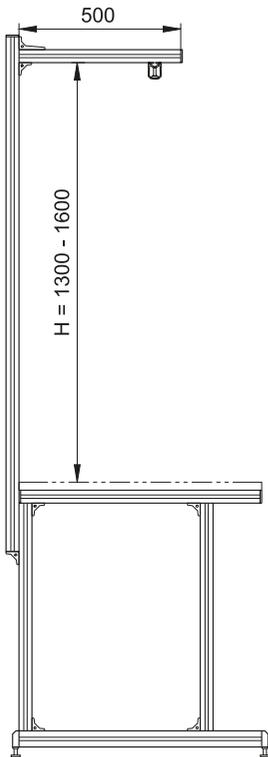
Fastener set  
 Table depth T > 600 mm  
**B02.99.002**

## Gantries

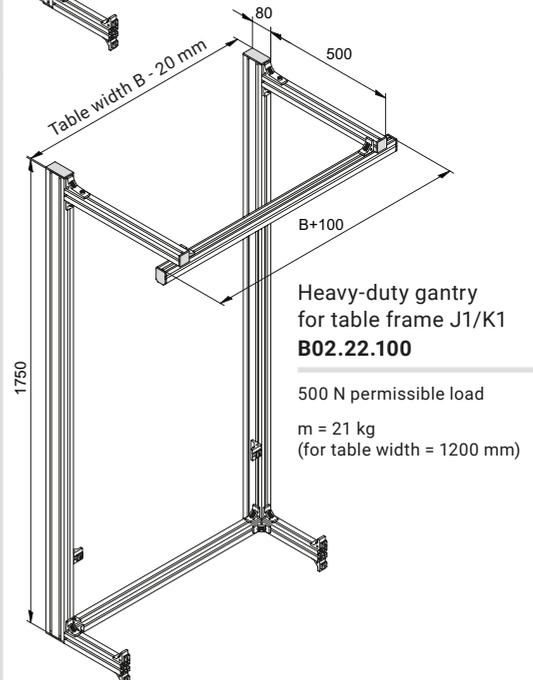
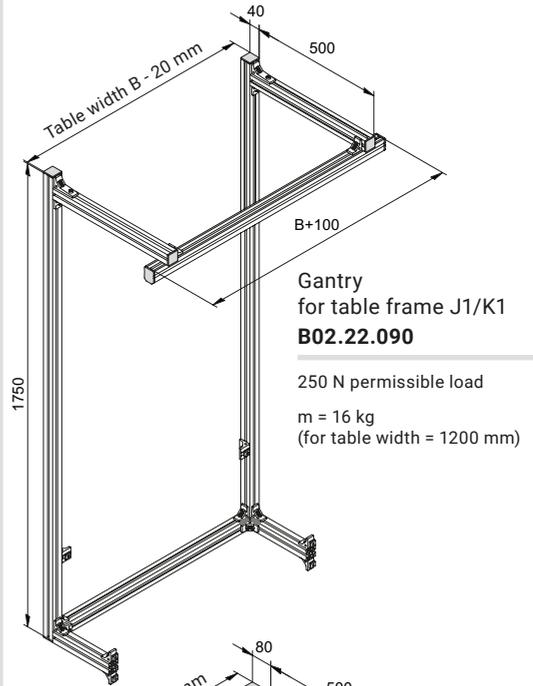
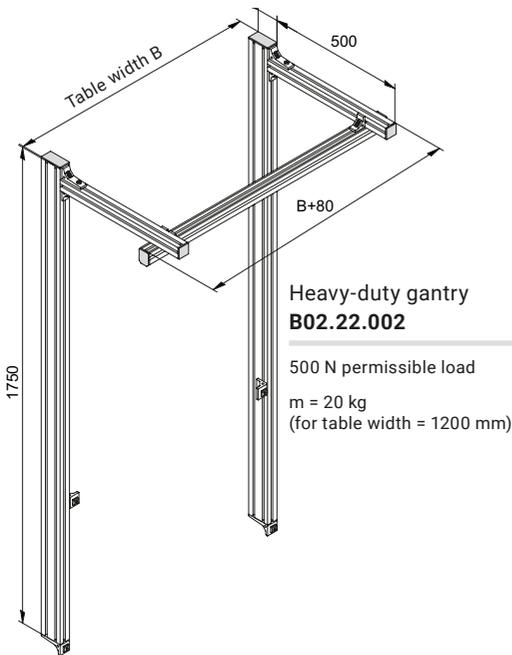
Gantries can be used to attach mounted parts in order to provide process-specific equipment in an ergonomic configuration. For example, you can install shelves, electrical and pneumatic supply lines, tools, shelves for informational media and accessories. Gantries come equipped with a C-rail as standard for attaching tool sliders. The heights of the gantry's beams and cantilevers can be adjusted. We offer a heavy duty gantry for higher load requirements.



For table tops,  
on page 290



Please specify the table width and table depth when ordering.

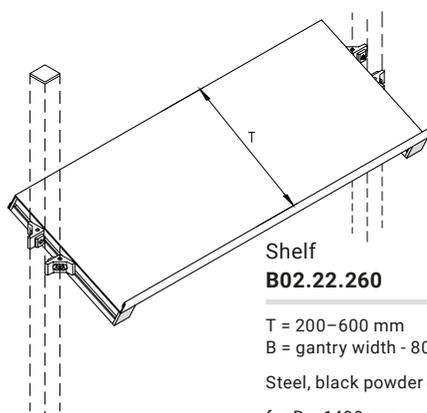
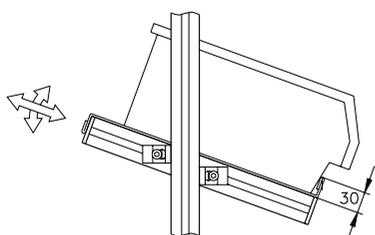


# Provision of Material

## Rack Systems

Rack systems are used to hold bins, tools, measuring instruments or components to be mounted. The steel shelf can be tilted at any angle from  $-30^\circ$  to  $+30^\circ$  by adjusting the angled fasteners. The sturdy chipboard shelf is suitable for heavier loads. Both rack systems have angled fasteners that allow you to adjust the depth and height of the shelves for optimal positioning.

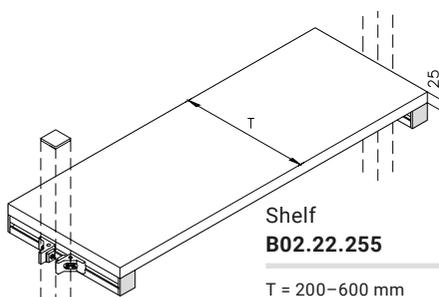
Please specify the width and depth when ordering.



Shelf  
**B02.22.260**

T = 200–600 mm  
B = gantry width - 80 mm  
Steel, black powder coated

for B = 1400 mm  
m = 8 kg  
 $F_s = 800$  N  
 $F_p = 500$  N



Shelf  
**B02.22.255**

T = 200–600 mm  
B = gantry width - 80 mm  
Laminated particleboard

for B = 1400 mm  
m = 14 kg  
 $F_s = 1200$  N  
 $F_p = 800$  N

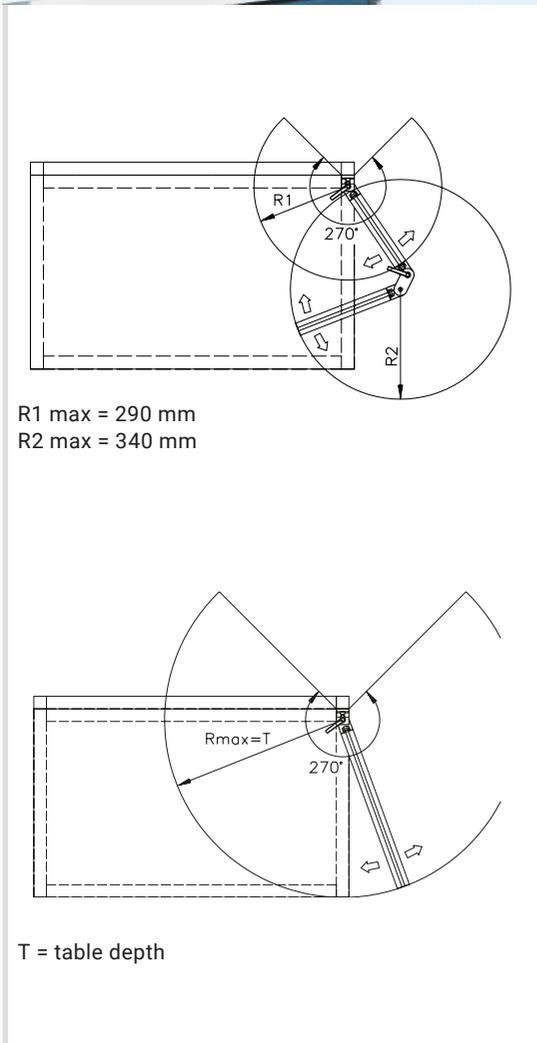
$F_s$  = surface load

$F_p$  = point load (max. load on a surface of at least 200 x 200 mm)



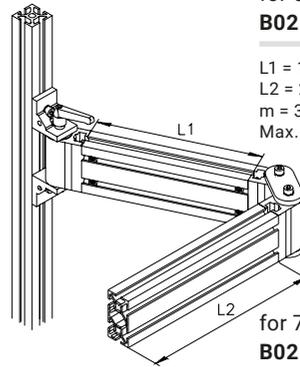
## Swivel Arms

Uses for swivel arms range from holding shelves, to holding containers for small parts, to connecting monitors. In addition to creating additional work space, they can be adjusted to provide an ergonomically optimal layout for the worker. The clamping lever or cylinder head screw can be used for attachment.



Double swivel arm  
 for 600 mm table depth  
**B02.24.360**

L1 = 150 mm  
 L2 = 200 mm  
 m = 3.6 kg  
 Max. load = 300 N

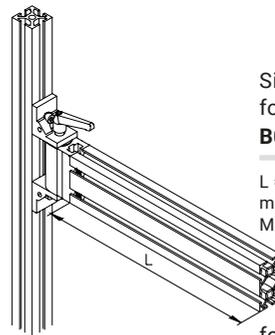


for 750 mm table depth  
**B02.24.361**

L1 = 200 mm  
 L2 = 300 mm  
 m = 4 kg  
 Max. load = 300 N

Single swivel arm  
 for 600 mm table depth  
**B02.24.362**

L = 250 mm  
 m = 1.7 kg  
 Max. load = 300 N



for 750 mm table depth  
**B02.24.363**

L = 400 mm  
 m = 2.2 kg  
 Max. load = 300 N

# Provision of Material

## Kanban components

### RBS-P 2065/2066 roller conveyor

Our RBS-P 2065/2066 gravity roller conveyor is well suited for ensuring efficient material flows at picking stations or kanban shelves. You can select rolls between  $\varnothing 20$  and 50 mm depending on your total load and required spacing. An inclination of 1 to 2° is usually sufficient for reliable feeding. Please note that high speeds can be reached with long lines and/or steeper slopes. This kinetic energy will require dampened deceleration.

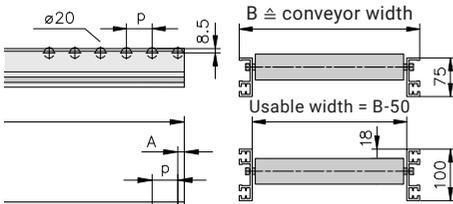
The RBS-P 2065/2066 roller conveyor is available both with and without ESD protection.



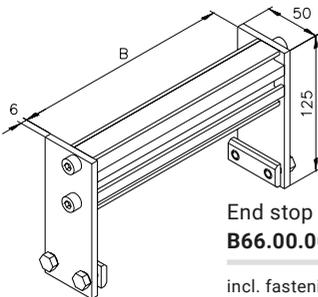
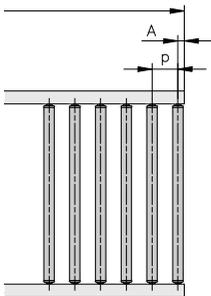
For further information, see the conveyor technology (CT) catalogue

8

mk 2065



mk 2066



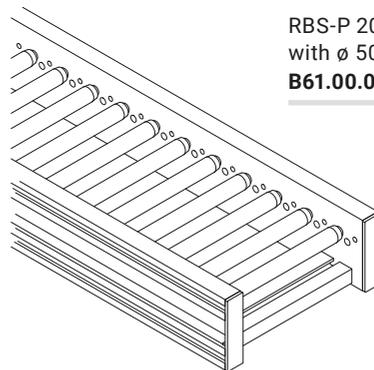
End stop RBS-P 2065/66  
**B66.00.003**

incl. fastening accessories

RBS-P 2065/2066  
with  $\varnothing 20$  rolls  
**B61.00.001**

RBS-P 2065/2066  
with  $\varnothing 40$  rolls  
**B61.00.002**

RBS-P 2065/2066  
with  $\varnothing 50$  rolls  
**B61.00.003**





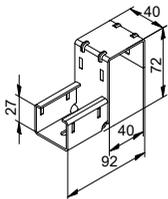
## Kanban components

### Roller strips

Roller strips are used in carton flow racks to ensure smooth movement of transport boxes and cardboard boxes. They can be delivered in lengths up to 4500 mm. The roller spacing is either 33 mm or 49.5 mm. If using long roller strips or heavy loads, we recommend installing parallel or perpendicular profiles underneath the strips for support. The rollers are mounted on steel axles and are available with and without flanges.

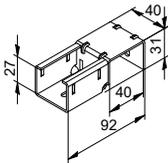
Materials: galvanised steel U-rails, yellow plastic rollers

➔ See Series D28 round tube profiles on page 40



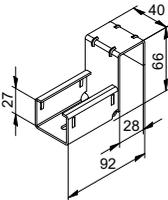
35/40 L holder for roller strip  
**K12005Z0004**

for series 40 profiles



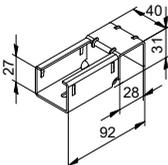
35/40 H holder for roller strip  
**K12005Z0003**

for series 40 profiles



35/28 L holder for roller strip  
**K12005Z0002**

for series D28 round tube profiles

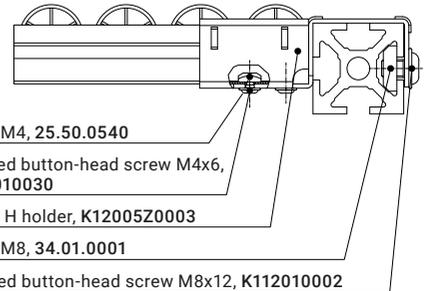


35/28 H holder for roller strip  
**K12005Z0001**

for series D28 round tube profiles

Roller strips with L holders hang lower than the profile, which means the profile can act as a stop. Roller strips with H holders hang at the same height as the profile, meaning you can simply push a box over the profile, for example.

### Mounting example with 35/40 L holder



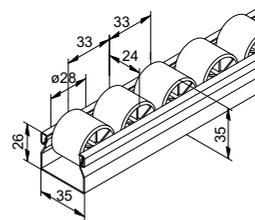
Nut 1 M4, 25.50.0540

Flanged button-head screw M4x6, K112010030

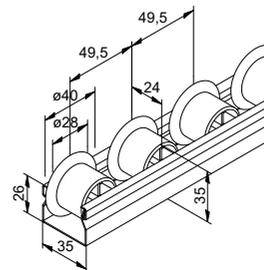
35/40 H holder, K12005Z0003

Nut 1 M8, 34.01.0001

Flanged button-head screw M8x12, K112010002



Roller strip  
**K1200535CGE. ....**



Roller strip with flanged rollers  
**K1200535FGE. ....**

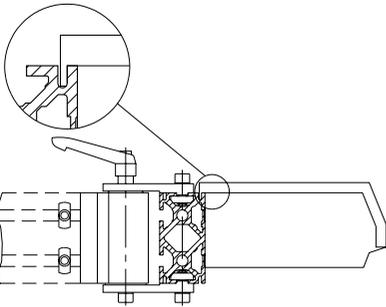
# Provision of Material

## Bin Mounts

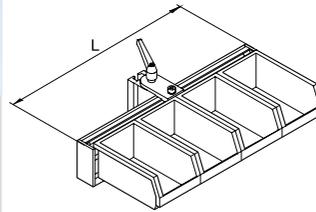
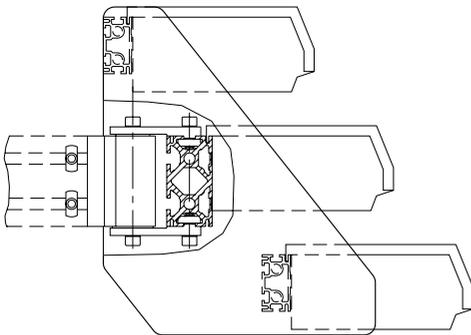
Bins can be used with bin holders or a rack and attached to a swivel arm to save space and allow for optimal ergonomic positioning. Alternatively, you can hook bins into the T-slot of an mk 2040.22 profile (40x80).



Series 40, 2.75 mm slot width, for bin LF211/LF221

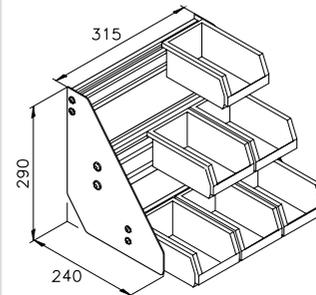


Series 25, 2.75 mm slot width, for bin LF211 only



Bin holder  
**B02.24.366**

$L = (\text{bin width} + 1 \text{ mm}) \times N$

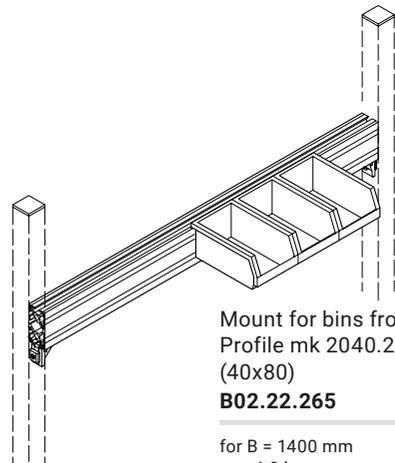


Rack  
**B02.24.367**

with swivel arm connection  
 $m = 3.4 \text{ kg}$

Rack  
**B02.24.356**

without swivel arm connection  
 $m = 2.5 \text{ kg}$



Mount for bins from Profile mk 2040.22 (40x80)  
**B02.22.265**

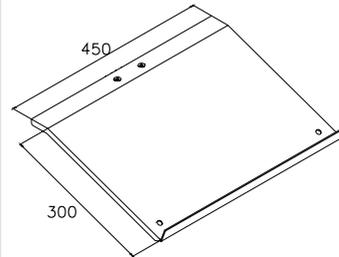
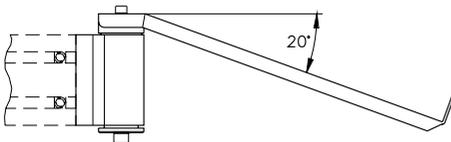
for  $B = 1400 \text{ mm}$   
 $m = 4.8 \text{ kg}$



## Shelves

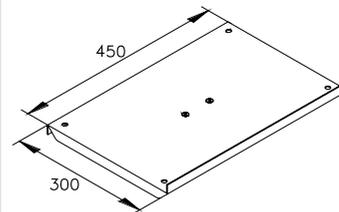
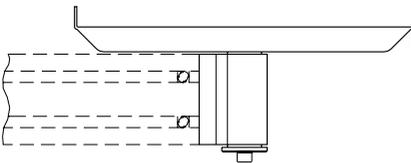
Angled or straight shelves are connected to a swivel arm, which allows you to provide informational media or other media in the optimal ergonomic position.

8



Angled shelf  
**B02.24.364**

m = 3.6 kg



Straight shelf  
**B02.24.365**

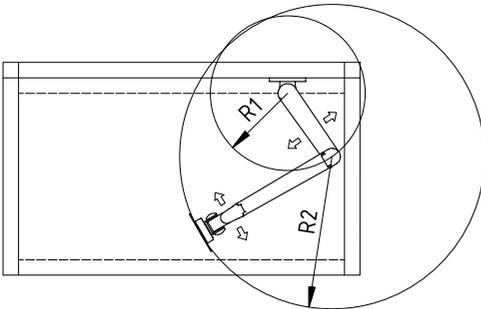
m = 3.4 kg

## Provision of Material

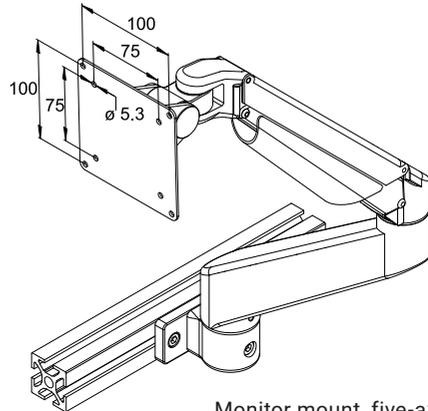
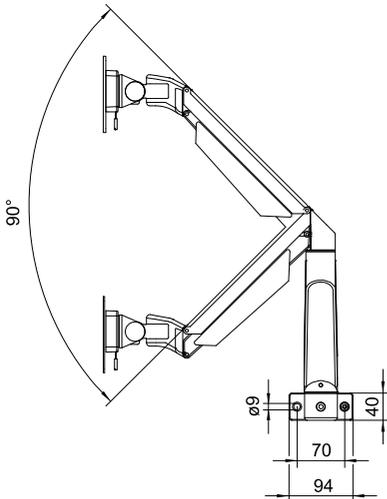
### Monitor Mount

The monitor mount with included mounting plate and flange can be attached to vertical or horizontal profiles or to surfaces. It is extremely flexible, with five axes, height adjustment, and 360-degree monitor swivel. It is suitable for VESA-compatible monitors (VESA 75 and 100).

Material: monitor mount made of die-cast aluminium, mounting material steel



R1 = 200 mm  
R2 max = 390 mm



Monitor mount, five-axis,  
height adjustable  
**K120000118**

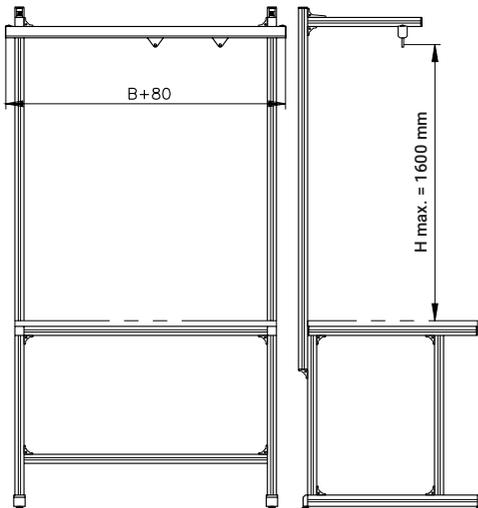
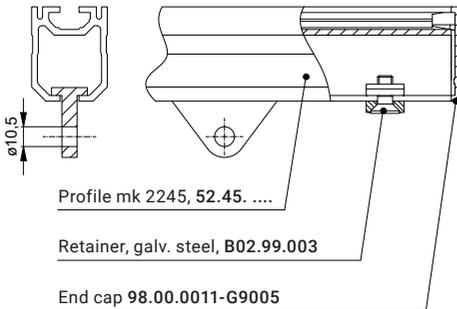
configurable load: 2-10 kg  
with fastening accessories



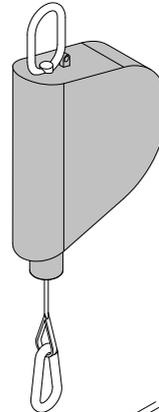
## Tool Hangers

The tool hanger components shown here are just our standard selection. Custom components are also available on request. Tools hangers improve organisation and safety at the workstation. They also make tools available without encroaching on the work space. The adjustable spring tension system reduces strain and improves ergonomics for the user.

➔ End cap, on page 153



Snap hook  
**K120010003**

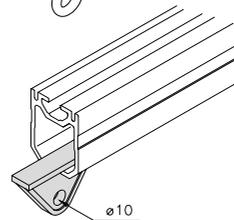


Spring balancer F2  
 DIN 15112  
**K120010006**

Load capacity: 0.5–2.0 kg  
 Max. rope extension: 2.5 m  
 Min. installation length: 0.36 m

Spring balancer F3  
 DIN 15112  
**K120010005**

Load capacity: 1.5–3.0 kg  
 Max. rope extension: 2.5 m  
 Min. installation length: 0.36 m



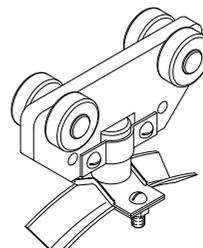
Sliding piece  
**K120010004**

PAGF plastic



Retainer for sliding piece  
**B02.99.003**

Galv. steel

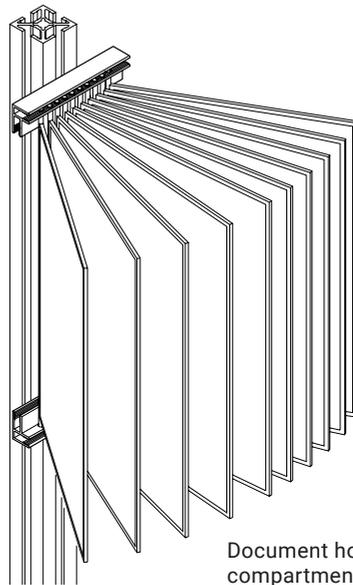
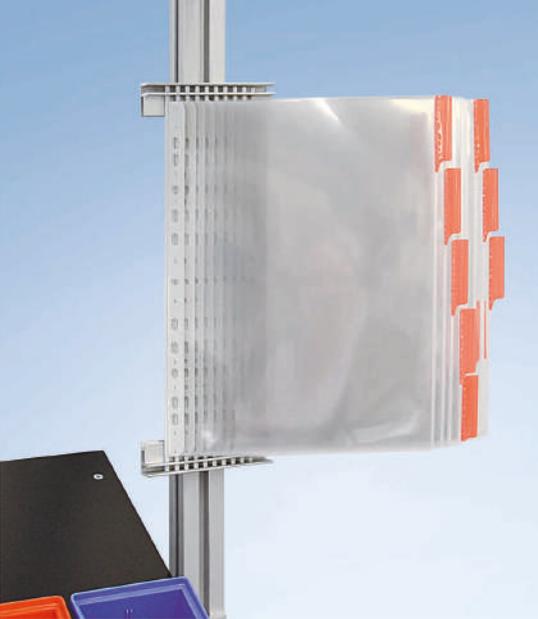


Roller unit for carrying cables and hoses  
**K120010001**

## Provision of Material

### Document Holders

Document holders allow you to protect and store documents, such as instructions for mounting or inspection logs, at the workstation in an orderly manner. Simply screw them to the gantry at the desired height.



Document holder, 10 compartments, A4 height  
**B02.99.041**



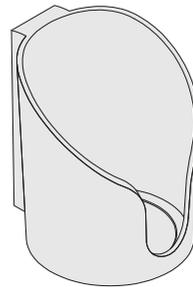
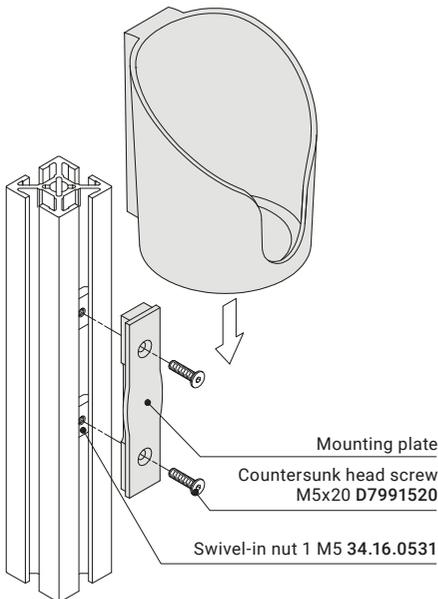
## Bottle Holders

Bottle holders have a diameter of 100 mm and are designed for the secure storage of all common beverage bottles, cans, cups and drink boxes. The cut-out at the front makes the holders suitable for cups with a handle. The version with an open bottom can also be used to store a screwdriver or other such equipment. Simply screw it to the gantry at the desired height using the mounting plate.

Material: PA plastic

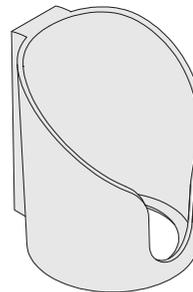
25 40 50 60

### Fastening example



Bottle holder  
 with closed bottom  
**K120000120**

Including mounting plate  
 Total load = max. 5 kg



Bottle holder  
 with open bottom  
**K120000121**

Including mounting plate  
 Total load = max. 5 kg

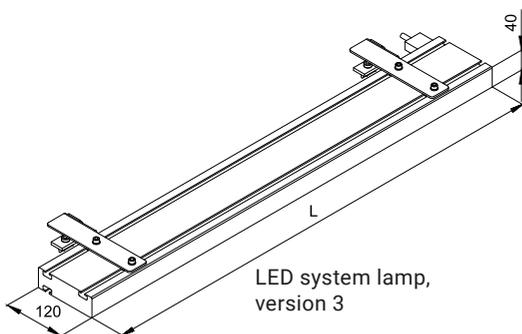
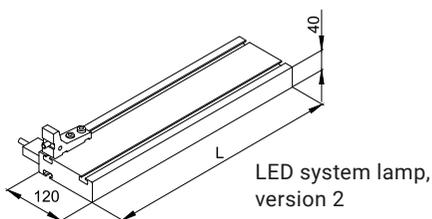
# Lighting

## LED System Lamps

mk's LED system lamps provide bright, even lighting of the work space without glare. The colour temperature is 5000K at a power of 15 to 64 watts, depending on the version. The lamps are CE certified, designed for operation with a 230V main voltage and delivered with a three-metre connection cable. They can be rigidly mounted or can be made to swivel using a flexible holder set. The swivel range is from 25° backwards to 90° forwards. Versions 1 and 2 function as swivelling side lighting and are attached on the right or left side using angles.

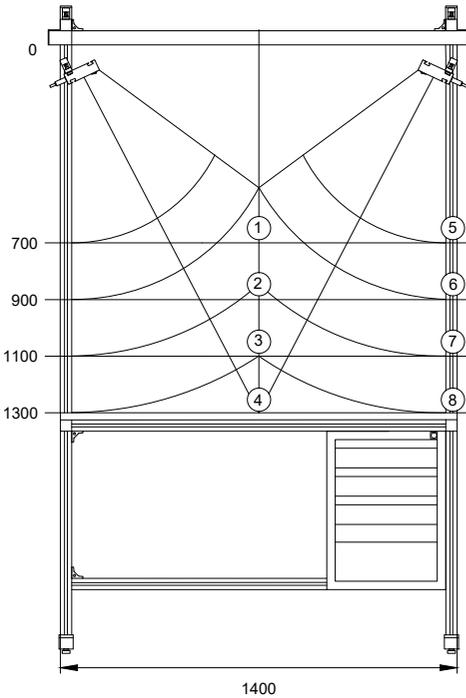
### LED

#### 8 Dimensional sketches

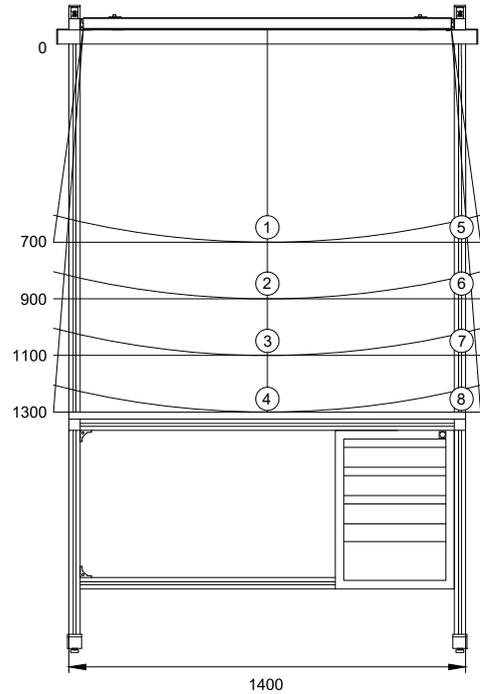


Ver-sions	Item no.	L [mm]	Power [W]	Mounting
1	<b>B02.23.808</b>	450	15	left/ swivelling
2	<b>B02.23.809</b>	450	15	right/ swivelling
3	<b>B02.23.810</b>	900	35	swivelling
4	<b>B02.23.811</b>	1200	40	swivelling
5	<b>B02.23.812</b>	1500	64	swivelling
6	<b>B02.23.813</b>	2x900	2x35	swivelling

Measurement points for versions 1 + 2



Measurement points for versions 3 to 5



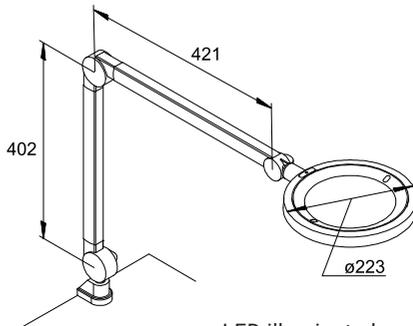
## Illuminance

Measurement point	Version 1 + 2 (lux)	Version 3 (lux)	Version 4 (lux)	Version 5 (lux)
1	500	1550	1650	2000
2	450	1350	1450	1800
3	380	1150	1250	1600
4	300	1000	1100	1400
5	400	700	700	1000
6	350	650	650	820
7	300	580	600	750
8	250	500	550	700

## Lighting

### LED Illuminated Magnifying Glass

The LED illuminated magnifying glass provides the perfect combination of ideal magnification and excellent illumination. The illuminated magnifying glass is intended for use wherever unaided human eyes come up against their limits. A field of view perfectly adjusted to the distance between the eyes ensures distortion-free vision and ergonomic work. A well-balanced articulated arm and stepless dimming make the LED illuminated magnifying glass an indispensable tool for all manner of industrial applications.



LED illuminated magnifying glass  
**B02.23.807**

with fastening accessories

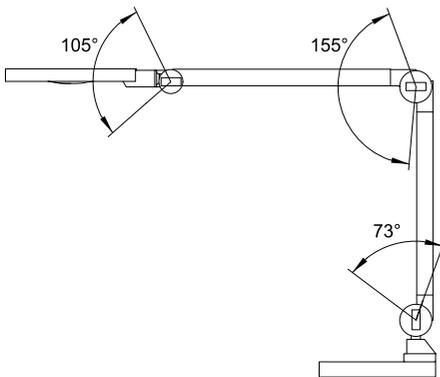
Watts [W]	Em [lx]	Emin [lx]	Emax [lx]
15 W	5176	1784	7457

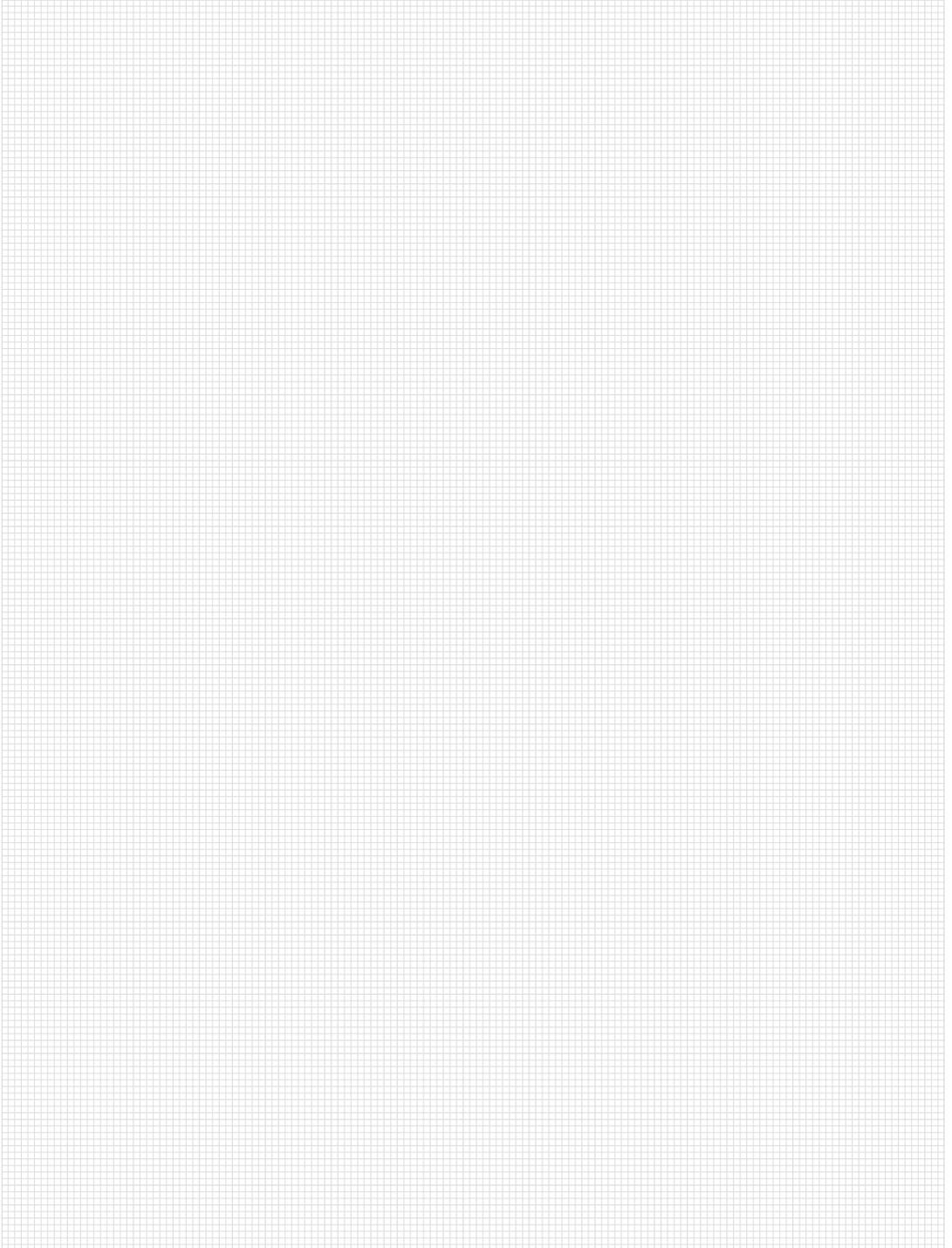
Em = average illumination strength  
Emax = maximum illumination strength  
Measuring field for the illumination strength 30x30 cm  
Measuring distance 15 cm



LED

8





## Power Supply

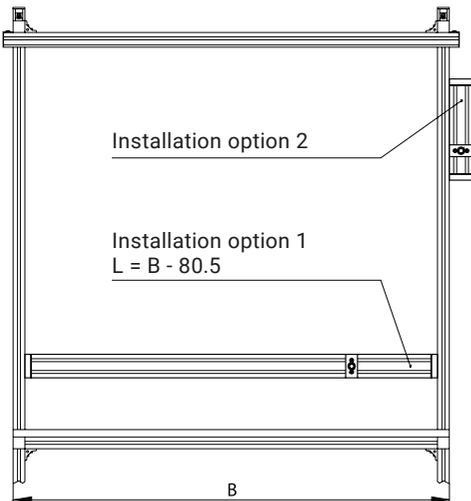
### Pneumatic Units

Compressed air is distributed through the pneumatic unit, which consists of mk 2040.02 (40x80) profiles along with connectors and fasteners. A major advantage of using profiles to supply the air is that it allows for great flexibility in the position and quantity of connection/distributor plates. The Pneumatic unit is designed for a maximum operating pressure of 6 bar.

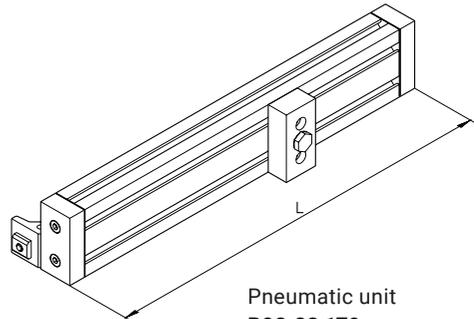


Pneumatic components starting on page 205

8



Base unit with connection plates, assembly available in various configurations



for B = 1400 mm  
m = approx. 5.5 kg



## Electrical Supply

The simplest way to supply electricity is using power strips in two different designs. The strips have an illuminated 16 A rocker switch, which has a 2-pole switch-off. The supply lines are 1.75 m long. They contain a longitudinal slot and eyelet for fastening them in various positions on the profile.

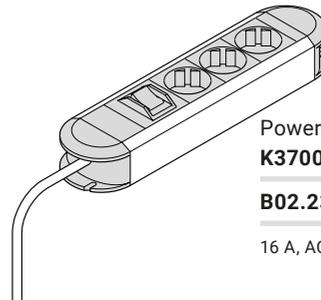
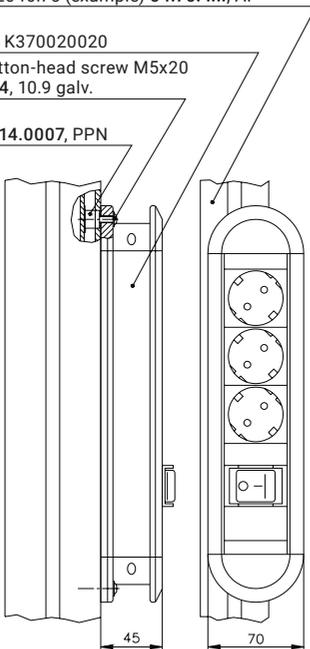
### Fastening example

Profile mk 2040.75 (example) 54.75. ...., Al

Power strip K370020020

Flanged button-head screw M5x20  
 K112010024, 10.9 galv.

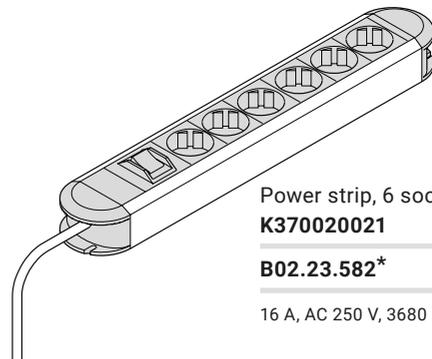
Clip M5 34.14.0007, PPN



Power strip, 3 sockets  
**K370020020**

**B02.23.581\***

16 A, AC 250 V, 3680 W



Power strip, 6 sockets  
**K370020021**

**B02.23.582\***

16 A, AC 250 V, 3680 W

\*With fastening accessories

# Power Supply

## Electrical Supply

The standard electrical supply system is a combination of mk 2040.41 (40x80) and mk 2069 profiles. The unit features exceptional stability and a closed design. Various sockets and switch combinations can be freely positioned along the entire working width. A major advantage of this system is that you can change or add equipment very easily, even custom components. The power supply system is tested in accordance with DIN VDE 0100-410 and includes a circuit diagram. The unit is delivered with a 3 m cable and plug.

Material: Anodised aluminium

### Fastening example

Cylinder head screw M8x16 D0912816

Countersunk head screw M8x20 D7991820

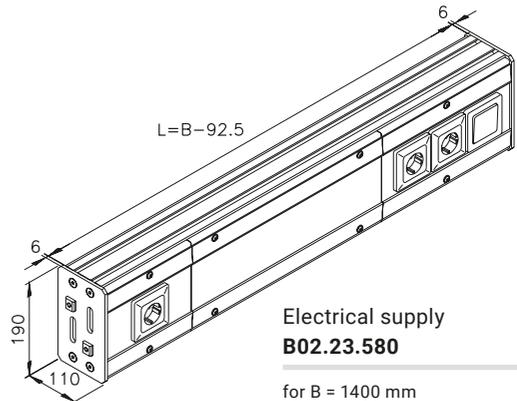
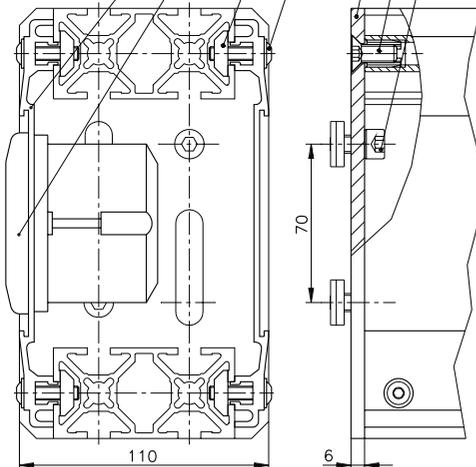
Head plate 50.12.0005, Al

Flanged button-head screw M6x25  
K112010015, 10.9 galv.

Nut 1 M6 34.02.0008, galv. steel

Socket K303000004

Profile mk 2069  
51.69..... Al



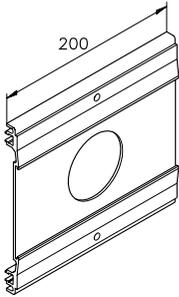
Electrical supply  
**B02.23.580**

for B = 1400 mm

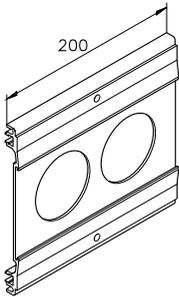
m = 11 kg

Permitted up to max. 16 A

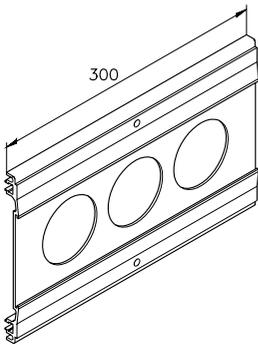
Choice of equipment  
on the strip



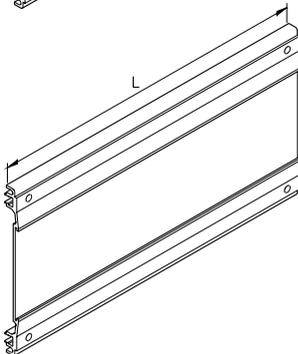
Single module  
 profile mk 2069  
**5169BB0200**



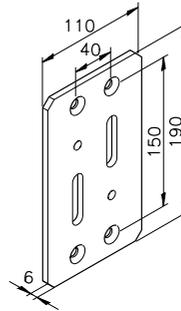
Double module  
 profile mk 2069  
**5169BC0200**



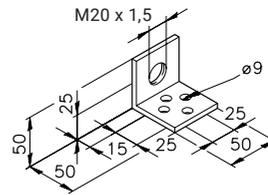
Triple module  
 profile mk 2069  
**5169BD0300**



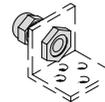
Cover module  
 profile mk 2069  
**5169BA ....**



Head plate  
**50.12.0005**



Tension relief angle  
**16.05.0030**

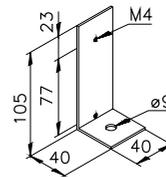


Cable gland  
 consisting of:  
 Nut M20  
**K310.000.015.003**

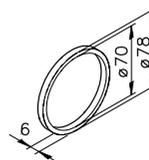
Screw connection  
**K310.000.018.007**

plastic, grey

for 7 to 13 mm  
 cable diameter



Angle for  
 junction box  
**82.01.0007**



Spacer ring  
 for hollow wall box  
**16.01.0038**

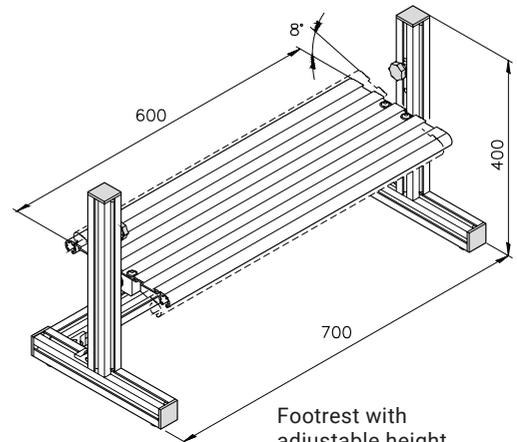
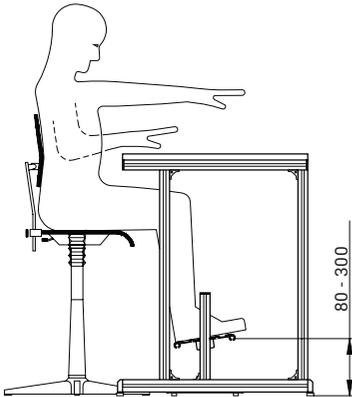
## Accessories

### Support Brackets

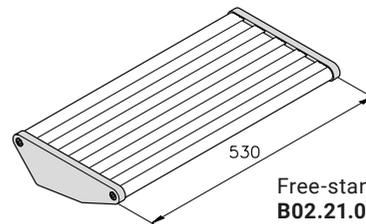
The correct seat height adjustment is an important prerequisite for low-stress work at the workbench. This is correct when the forearms/upper arms are parallel to the table surface, the upper and lower leg are at an angle of at least 90° and the feet are resting completely on the floor. If the workbench is too high, a footrest can compensate for the distance between the feet and the floor. The infinitely adjustable footrest ensures the most comfortable foot position and relieves the legs ensuring pleasant working conditions.



See profile for footrests on page 319



Footrest with adjustable height  
H min - 83 mm  
H max - 300 mm  
**B02.21.030**



Free-standing footrest  
**B02.21.020**



## Floor Mats

Floor mats made from black TPE-V ensure that workers do not slip at industrial workstations while also reducing strain on their musculature and skeletal systems.

### Benefits:

- Hollow spaces reduce strain on the musculature and joints
- Anti-slip
- Oil resistant
- Various dimensions up to 1.2 m wide and 15 m long with 3 mm thickness
- Highly flame-resistant version available

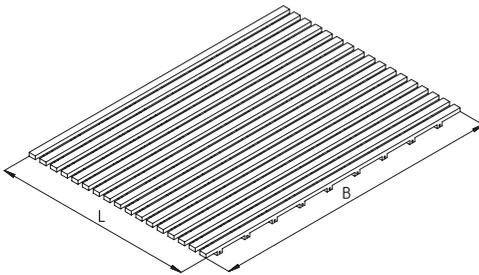
### Floor mat

Item no.	Width B [mm]	Length L [m]
K12002.0600	600	max. 15
K12002.0800	800	max. 15
K12002.1000	1000	max. 15
K12002.1200	1200	max. 15

### Floor mat B1

(highly flame resistant according to DIN 4102-1 B1)

Item no.	Width B [mm]	Length L [m]
K12003.0600	600	max. 15
K12003.0800	800	max. 15
K12003.1000	1000	max. 15
K12003.1200	1200	max. 15



# Application Profiles for Workstations

## Profiles for Telescoping

The components shown below enable you to create manual or manual-hydraulic telescoping profiles with continuous height adjustment. This allows you to adapt table frames or other base frames to the individual user.

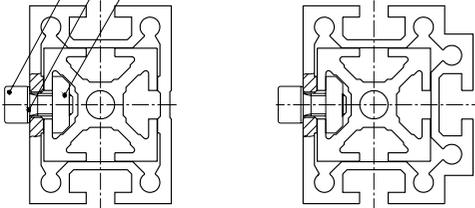
Material: Anodised aluminium

### Telescoping profiles for manual height adjustment

Cylinder head screw M8x16, D0912816

Ribbed washer  $\phi$  8.4, K111010017, galv. steel

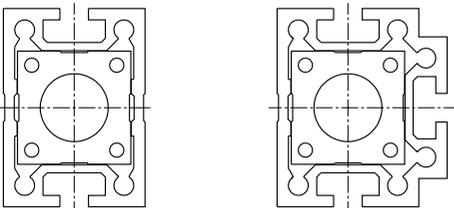
Nut 1 ESD M8 34.01.0018



mk 2040.75 and mk 2040.01 (40x40) profiles

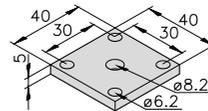
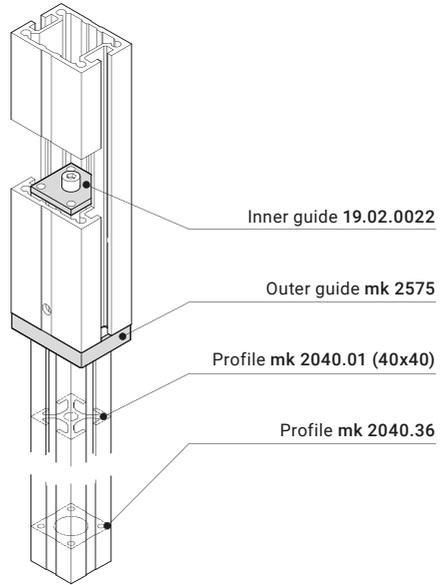
mk 2040.74 and mk 2040.01 (40x40) profiles

### Telescoping profiles for hydraulic height adjustment



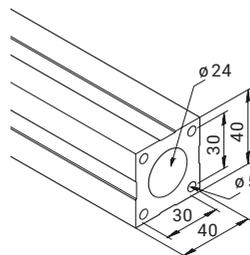
mk 2040.75 and mk 2040.36 profiles

mk 2040.74 and mk 2040.36 profiles



Inner guide  
**19.02.0022**

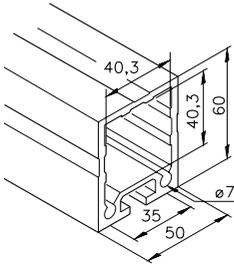
PA plastic



Profile mk 2040.36

2.83 kg/m

Stock length	<b>54.36.5100</b>
Cut	<b>54.36. ....</b>



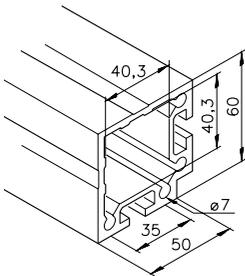
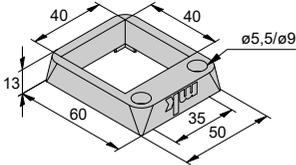
Profile mk 2040.38

2.52 kg/m

Stock length	<b>54.38.5100</b>
Cut	<b>54.38. ....</b>

Guide  
**mk 2538**

3D-plastic



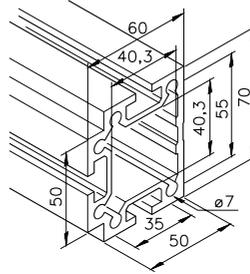
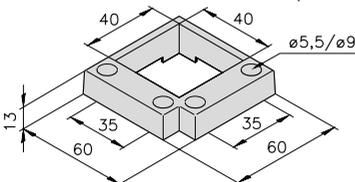
Profile mk 2040.39

3.00 kg/m

Stock length	<b>54.39.5100</b>
Cut	<b>54.39. ....</b>

Guide  
**mk 2539**

PP-plastic



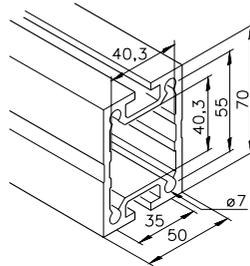
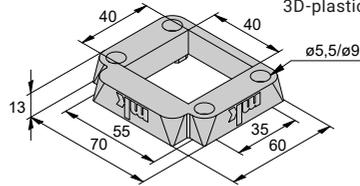
Profile mk 2040.74

3.50 kg/m

Stock length	<b>54.74.5100</b>
Cut	<b>54.74. ....</b>

Guide mk 2040.74  
**98.03.0010-G9005**

3D-plastic



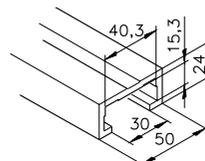
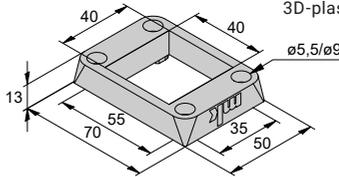
Profile mk 2040.75

3.01 kg/m

Stock length	<b>54.75.5100</b>
Cut	<b>54.75. ....</b>

Guide  
**mk 2575**

3D-plastic



Profile mk 2040.37

1.17 kg/m

Stock length	<b>54.37.5100</b>
Cut	<b>54.37. ....</b>

- Profil-, Tisch-, Linear- und Betriebsanordnungen aus einer Hand
- Komplettfertigung durch mk Werkstoffgenosse

### Unsere Profilserien

<p><b>Serie 25</b></p> 	<ul style="list-style-type: none"> <li>• Profile aus stranggepresstem Aluminium, Standardlänge 5100 mm oder auf Maß zugeschnitten</li> <li>• mk Profitechnik basiert auf zwei Werkstoffen: Serie 25 und 40, AlMgSi 0,5F25, Serie 50 und 60, AlMgSi 0,7F25 (läuft zu einer 10% höheren Steifigkeit)</li> </ul>	<p><b>Serie 50</b></p> 
<p><b>Serie 40</b></p> 	<ul style="list-style-type: none"> <li>• Oberflächenveredelung der Profile mit Elowaren 10 µm im Farbton C0 (naturfarben)</li> <li>• Alle Profil-Oberflächen sind chemisch vorbehandelt (keine Oberflächenriefen und keine Aufrauungen)</li> </ul>	<p><b>Serie 60</b></p> 

## Application Profiles for Workstations

### Profiles for Table and Machine Frames

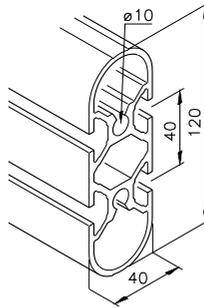
The following profiles can be used to build frames for tables, signs, presentation stands, desks, etc.

Material: Anodised aluminium

Profile mk 2040.34

3.56 kg/m

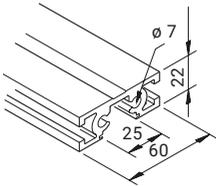
Stock length	<b>54.34.7100</b>
Cut	<b>54.34. ....</b>



Profile mk 2040.35

1.61 kg/m

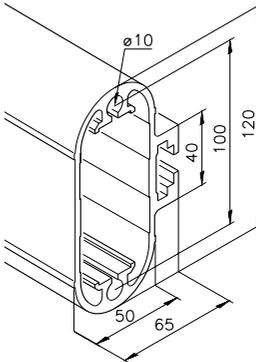
Stock length	<b>54.35.5100</b>
Cut	<b>54.35. ....</b>



Profile mk 2040.30

4.29 kg/m

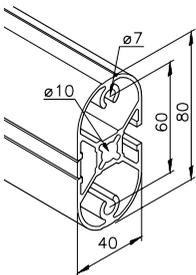
Stock length	<b>54.30.5100</b>
Cut	<b>54.30. ....</b>



Profile mk 2040.23

2.12 kg/m

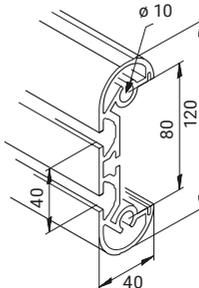
Stock length	<b>54.23.5100</b>
Cut	<b>54.23. ....</b>



Profile mk 2040.33

3.16 kg/m

Stock length	<b>54.33.5100</b>
Cut	<b>54.33. ....</b>

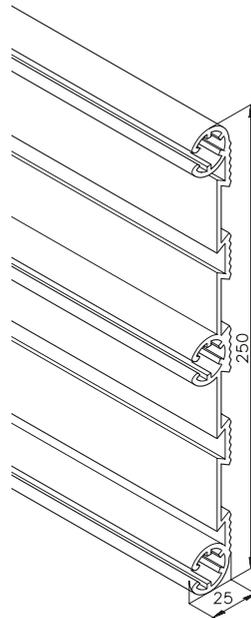




## Profile for Footrests

The following profile is used to build footrests and can also be used as a stepping surface. The surface of the 2040.70 profile has an anti-slip structure that was specially designed for this purpose.

Material: Anodised aluminium



Profile mk 2040.70

3.53 kg/m

Stock length	<b>54.70.5100</b>
Cut	<b>54.70. ....</b>

# Section 9 Stairs and Platforms



**Notes on Stairs and Platforms**

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**Stairs**

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**Platforms**

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### Guardrails

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# Notes on Stairs and Platforms



» Safe access  
for safe work. «

With our platforms, we offer custom solutions for safely accessing work areas and performing work on vehicles, machines and systems. The platforms we offer include custom assembly and maintenance platforms, simple standard platforms, and footbridges for use in production areas.

mk platforms are planned and manufactured to order. We take into account the specific conditions on site, such as large heights or the need for extended reach. Appropriate functions are then planned, such as height adjustment, mobile capabilities or integrated rotary joints. By utilising the mk profile system, we can fulfil virtually any requirement in terms of effective area, travel distance or minimum clearance, depending on the specific application.

The size of the platforms can vary from simple footbridges to assembly platforms that are 15 m long and 6 m high. You can construct free-standing bridges of up to 6 m.

## Benefits of Stairs and Platforms

- Variety of designs and options that fulfil safety requirements and improve workstation ergonomics
- Modular design allows for easy assembly and disassembly using standard tools
- Large selection of configurations provided by the profile system gives us maximum flexibility to implement customer-specific functions
- High material quality, sturdy connection technology and high-quality accessories ensure high load capacities and long service lives
- Compatible modules and removable connection technology allow for easy modifications and additions
- High-quality aluminium profiles for an attractive design
- Mobile designs available with fixed or swivel casters or air cushions

### Ergonomics



### Safety



### Flexibility



# Stairs

## Notes/Technical Data

Stairs are made from mk 2040.68, mk 2040.69 and mk 2040.06 (40x160) profiles. The profiles used in the stairs have a slip-reducing surface structure. The screw connections in the T-slots eliminate the need for machining components.

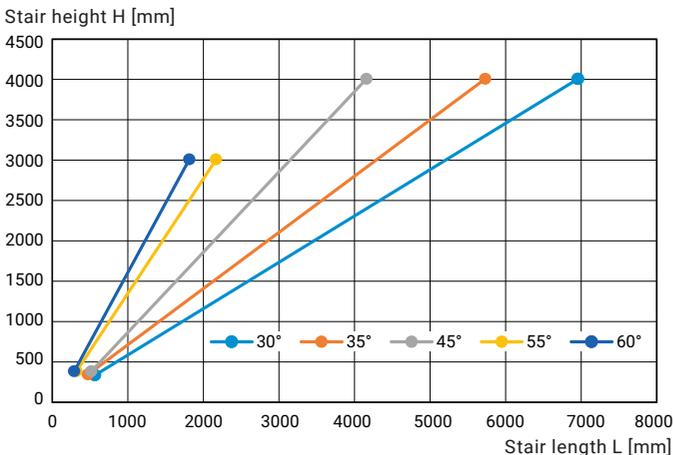
The incline angle and the number of steps are determined according to DIN EN ISO 14122-3. For stairs, the going (g) must be between 210 mm and 310 mm, and the rise (h) and going (g) must satisfy the formula  $600 \leq g + 2h \leq 660$ . For stepladders, the going (g) must be at least 80 mm and the rise (h) must be between 150 mm and 200 mm for a pitch ( $\alpha$ )  $\leq 60^\circ$ .

For stairs, the rise of the first step ( $h_1$ ) may be reduced by 15% relative to the general rise (h). For stepladders, the rise of the first step ( $h_1$ ) may be reduced by up to 50% of the general rise (h) and raised by 15 mm. For stairs, the going width should be at least 800 mm. For infrequently used stairs, the going width may be reduced to 600 mm; for stair heights up to 1500 mm, the going width may be reduced to 500 mm. For stepladders, the going width (string to string) must be between 500 mm and 800 mm; the preferred going width is 600 mm.

### Pitch

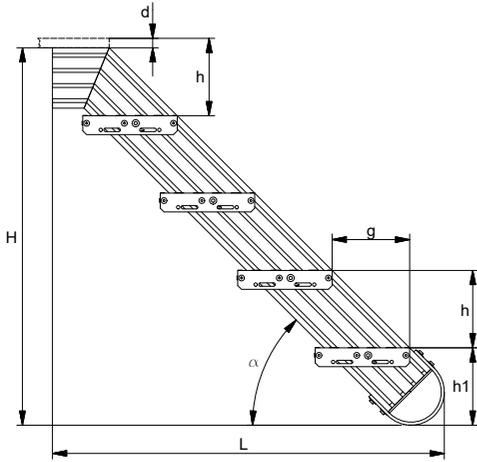
Stairs and stepladders can be designed with various pitches depending on the intended function or available space. If the pitch is between  $20^\circ$  and  $45^\circ$  inclusive, it is called stairs; if the pitch is between  $45^\circ$  and  $75^\circ$  inclusive, it is called a stepladder.

The recommended pitch to ensure comfortable stairs is between  $30^\circ$  and  $38^\circ$ . If the available space is limited, you can choose  $45^\circ$  stairs or a  $55^\circ$  or  $60^\circ$  stepladder.

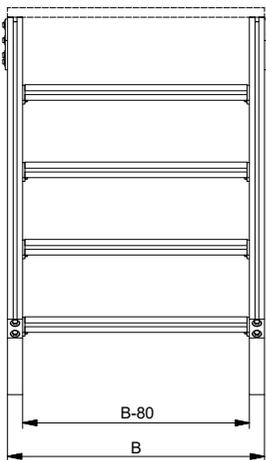


### Sample order:

Stair height (H) = 2490 mm  
Height of floor structure (d) = 10 mm  
Stair width (B) = 880 mm  
Pitch ( $\alpha$ ) =  $35^\circ$



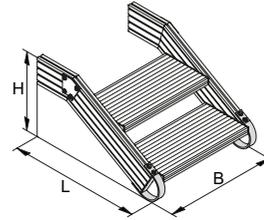
H = stair height (without floor structure)  
 L = stair length  
 $\alpha$  = pitch  
 g = going  
 h = rise  
 h1 = rise of first tread  
 d = height of floor structure



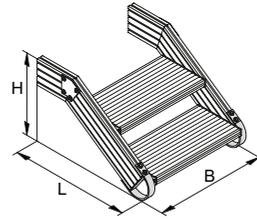
B = stair width  
 B-80 = going width (string to string)

## Stairs

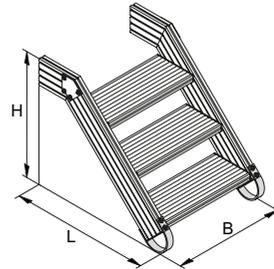
H+d max. = 4000 mm  
 B max. = 1280 mm



Stairs 30°  
**B02.31.005**



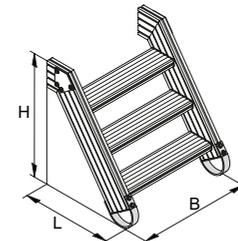
Stairs 35°  
**B02.31.006**



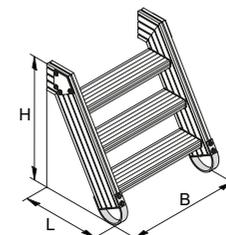
Stairs 45°  
**B02.31.007**

## Stepladders

H+d max. = 3000 mm  
 B max. = 880 mm

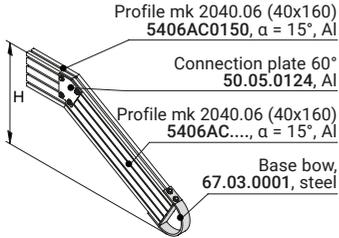


Stepladder 55°  
**B02.31.008**

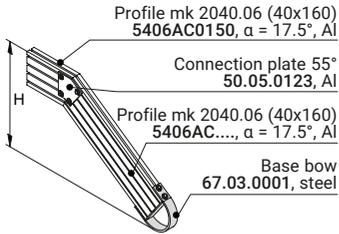


Stepladder 60°  
**B02.31.009**

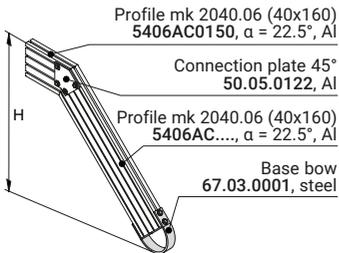
## Side Walls



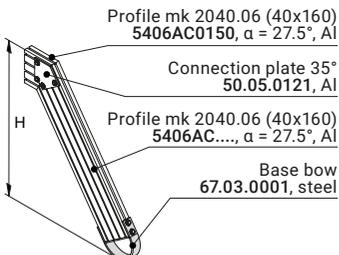
Side wall 40/30°  
**B02.34.006**



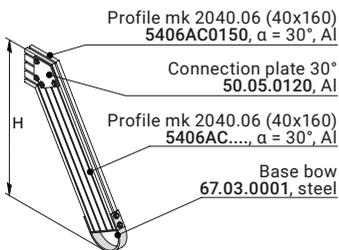
Side wall 40/35°  
**B02.34.007**



Side wall 40/45°  
**B02.34.008**

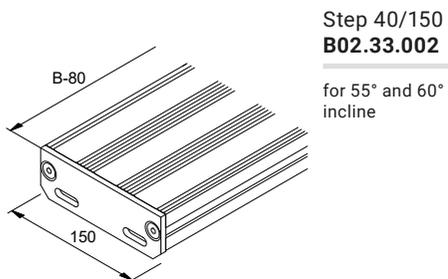
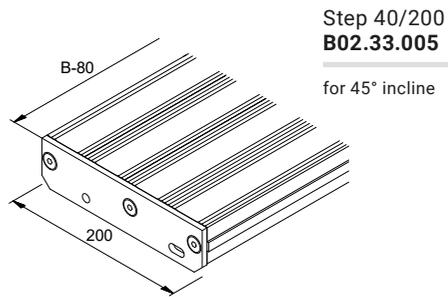
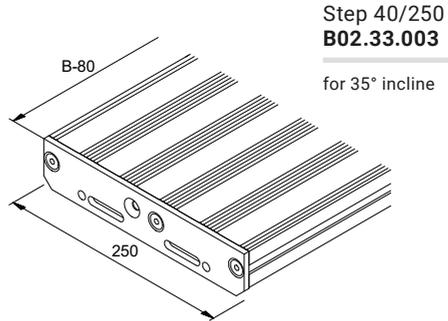
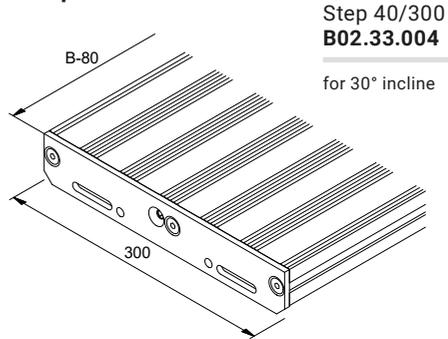


Side wall 40/55°  
**B02.34.009**



Side wall 40/60°  
**B02.34.010**

## Steps



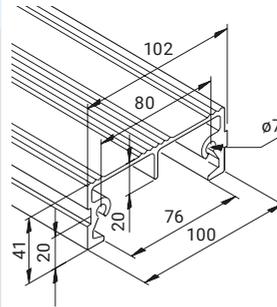
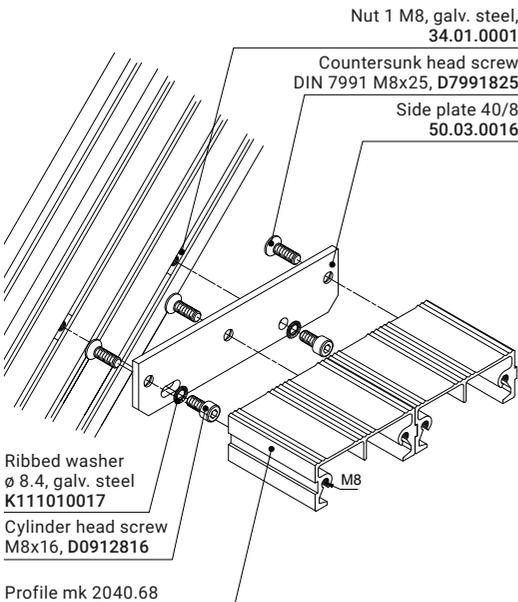


## Profiles for Steps

Special profiles for building steps, machine platforms, walkways and platforms. The profiles can be connected side to side to create large stepping surfaces.

Material: Anodised aluminium

### Fastening example



Profile mk 2040.68

2.37 kg/m

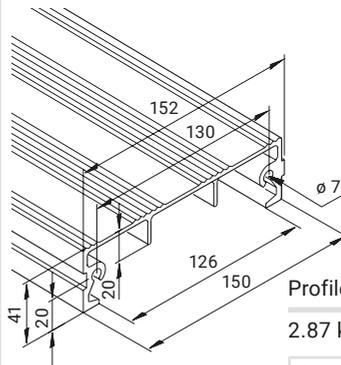
Stock length	54.68.6100
Cut	54.68. ....

### End service

### Item no.

2 x M8

5468AB....



Profile mk 2040.69

2.87 kg/m

Stock length	54.69.6100
Cut	54.69. ....

### End service

### Item no.

2 x M8

5469AB....

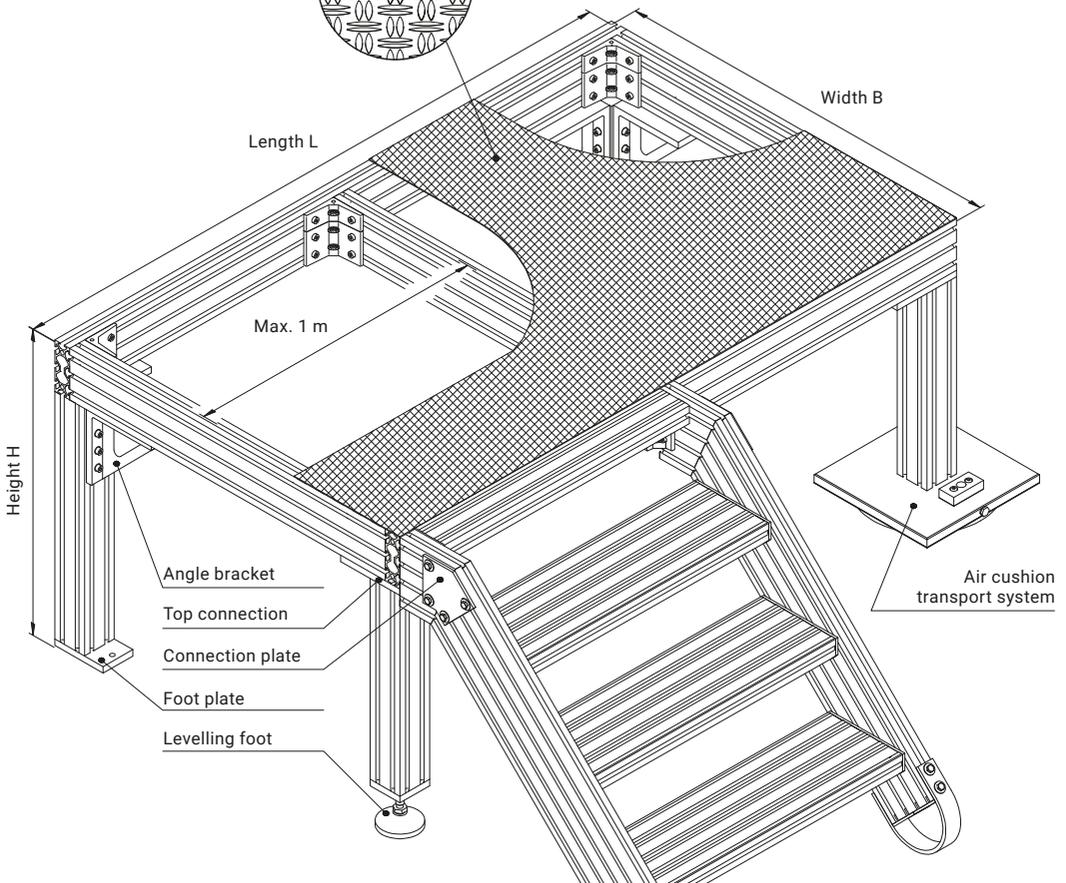
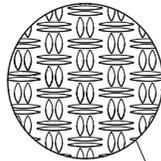
# Platforms

## Notes/Technical Data

With its four series of profiles, the mk profile system offers nearly endless combinations for constructing platforms. You can achieve span widths of up to 6 m. The components listed below are only our basic components.

Platforms are covered with chequer sheets as standard or with profiles on request. For industrial applications, the platform's outer contours are equipped with toe kicks (100 mm minimum height) in accordance with DIN EN ISO 14122-2. Platforms can also have a mobile design, for example with fixed or swivel casters or with an air cushion transport system.

 **Panelling**  
Starting on page 240



## Connection Details

### Base plate connection

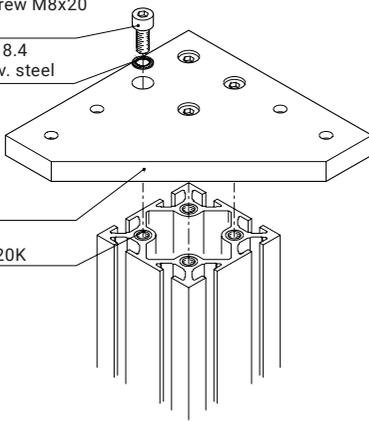
A base plate is a safe and simple option for connecting the stairs. Three profiles are connected with single element.

Cylinder head screw M8x20  
 D0912820

Ribbed washer  $\phi$  8.4  
 K111010017, galv. steel

Base plate 40/5  
 50.03.0013

Threaded insert  
 K112030008, 9S20K



### Angle bracket connection

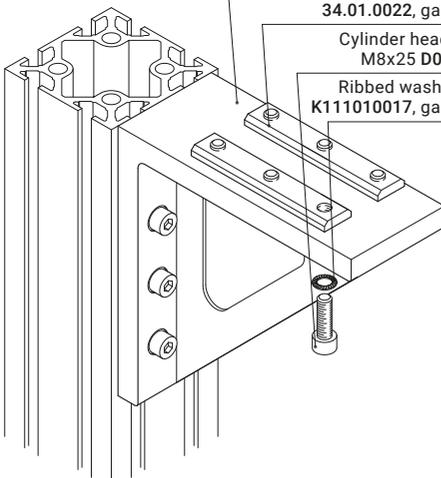
The angle bracket connection option is intended for the most demanding stability requirements. The die-cast aluminium angle brackets have 12 mounting bores and are designed for large span widths.

Angle bracket 31.40.0016, die-cast Al

Nut 3/40 M8  
 34.01.0022, galv. steel

Cylinder head screw  
 M8x25 D0912825

Ribbed washer  $\phi$  8.4  
 K111010017, galv. steel



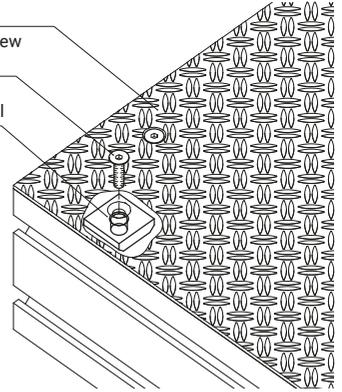
### Floor fastening

The Duet chequer sheet can be used as the floor surface as an alternative to floor profiles. It is easily screwed onto the base structure.

Chequer sheet  
 K0030641150, Al

Countersunk head screw  
 M8x16 D7991816

Nut 1 M8  
 34.01.0001, galv. steel



### Side wall fastening

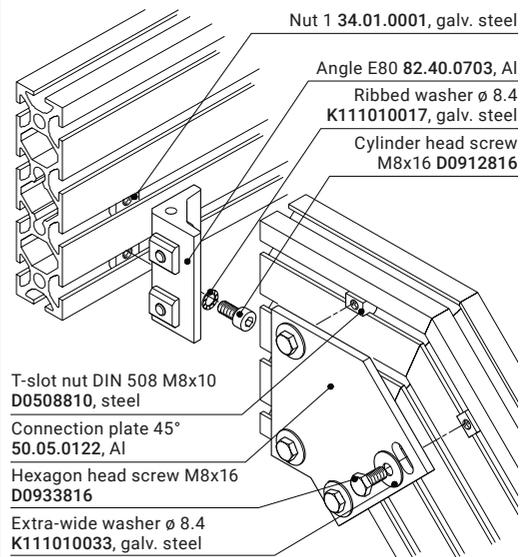
The stair's side walls consist of two cut profile sections each that are connected at their mitre-cut ends with a connection plate, allowing the horizontal profile section to be screwed to the platform using angle E80.

Nut 1 34.01.0001, galv. steel

Angle E80 82.40.0703, Al

Ribbed washer  $\phi$  8.4  
 K111010017, galv. steel

Cylinder head screw  
 M8x16 D0912816



T-slot nut DIN 508 M8x10  
 D0508810, steel

Connection plate 45°  
 50.05.0122, Al

Hexagon head screw M8x16  
 D0933816

Extra-wide washer  $\phi$  8.4  
 K111010033, galv. steel

# Guardrails

## Notes/Technical Data

Guardrails have many applications, such as stairs, work platforms and other platforms. Stairs with four or more steps must have a guardrail.

For steps up to 1500 mm in width, the guardrail must be mounted on the right side in the descending direction. Steps wider than this require a guardrail on both sides.

### Hand rail

The mk 2040.16 profile has a diameter of 40 mm that complies with the requirements of the DIN EN ISO 14122-3 standard. Both the connection equipment and the end caps of the hand rails have large radii to prevent injuries.

### Rail height

Legal regulations specify various minimum heights for guardrails. Guardrails on stairs must be at least 900 mm height, and guardrails on platforms must be 1100 mm.

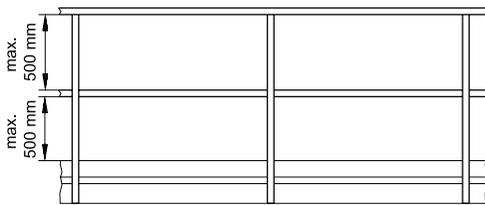
### Toe kicks

Min. height = 100 mm



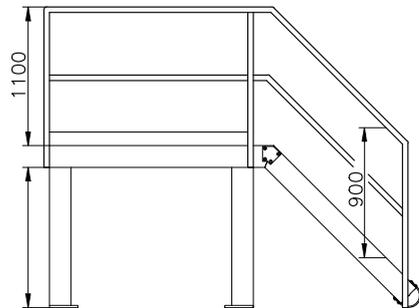
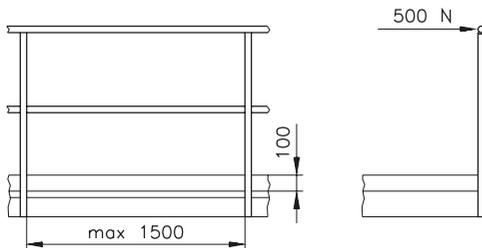
### Knee braces

Guardrails are always equipped with knee braces (cross struts between two rail posts). The distance from the knee brace to the platform floor can be 500 mm at maximum.



### Post spacing

The distance between the posts must be less than 1500 mm. The distance must be chosen so that the guardrail can support a lateral force of 500 N/m.



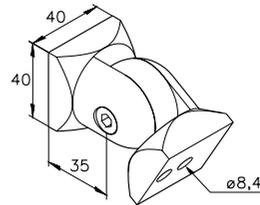
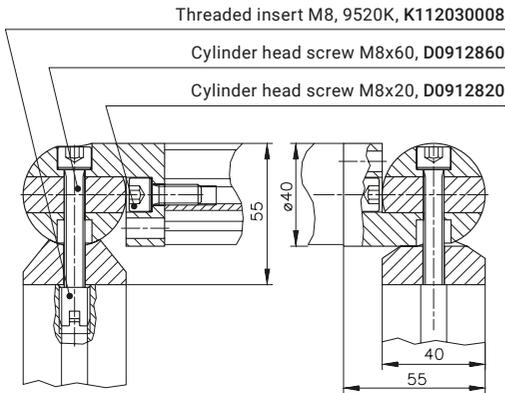


## Hinges for Hand Rails

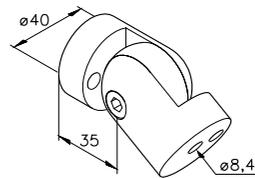
Our lightweight and sturdy hinges for hand rails are always used in combination with mk 2040.01 (40x40) and mk 2040.16 profiles. The hinges are also available in optional surface variants, such as anodised or painted in various RAL colours.

Material: Tumbled aluminium

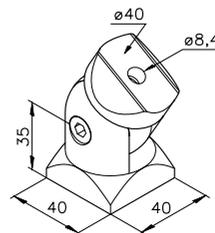
### Fastening example with hinge 40/H5 **B46.01.026**



Hinge 40/H1  
**B46.01.022\***



Hinge 40/H2  
**B46.01.023\***



Hinge 40/H4  
**B46.01.025\***

\*With fastening accessories

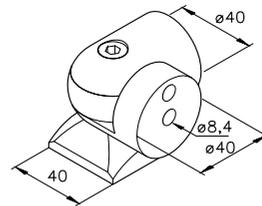
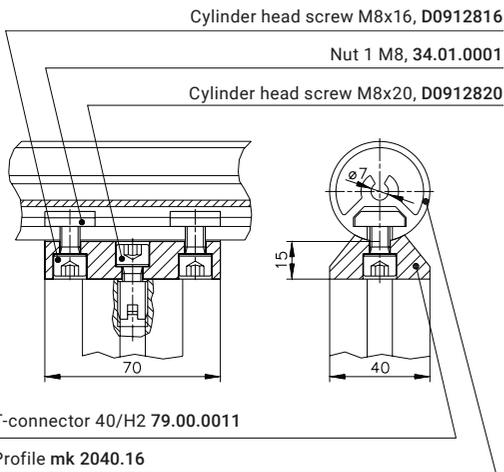
# Guardrails

## Hinges for Hand Rails

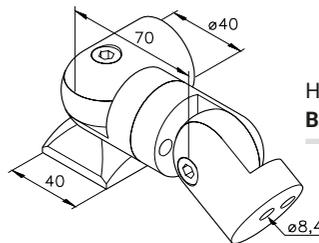
Material: Tumbled aluminium



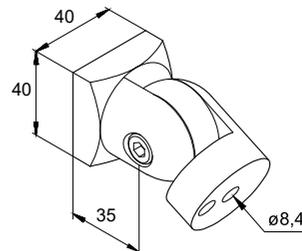
Fastening example with T-connector



Hinge 40/H5  
**B46.01.026\***



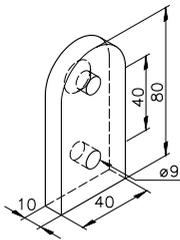
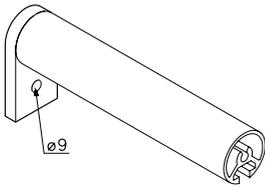
Hinge 40/H3  
**B46.01.024\***



Hinge 40/H6  
**B46.01.027\***

## Wall Joint

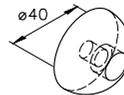
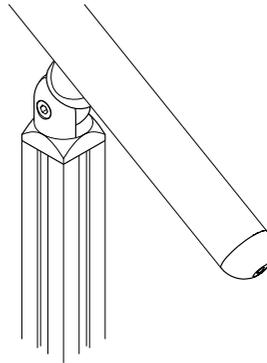
Material: Tumbled aluminium



Wall joint  
**50.03.0034**

## Cap

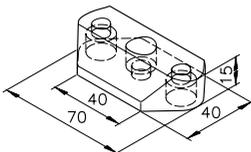
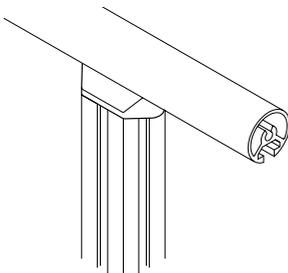
Material: Tumbled aluminium



End cap for  
 mk 2040.16 profile  
**76.01.0002**

## T-connection

Material: Tumbled aluminium



T-connector 40/H2  
**79.00.0011**

# Section 10 Tools



## Drills

Twist Drills

336



## Taps and Forming Taps

Taps

336

Forming Taps

336

HELICOIL Taps

336



## Installation Tools

Installation Tool for  
Threaded Insert

336

Installation Tool for  
HELICOIL

336

10



## Allen Wrench Set

337



## Magnetic Holders for Nuts

337



## Parting Tool for Cleanroom Profiles

337



**Sanding Sponge**

337



**Drilling Jigs**

Drilling Jigs for  
Tension Plugs 338

Drilling Jigs for  
Cleanroom Profiles 339

Drilling Jigs for  
Pneumatic Components 340

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

# Tools

## Drill



Order no.	Type
<b>K903000058</b>	Twist drill, ø 5.8
<b>K903000070</b>	Twist drill, ø 7
<b>K903000080</b>	Twist drill, ø 8
<b>K903000090</b>	Twist drill, ø 9

## Taps and Forming Taps



Order no.	Type
<b>K903060005</b>	Tap, M5
<b>K903060105</b>	Tap, M5x0.5
<b>K903070008</b>	Forming tap, M8
<b>K903060008</b>	Tap, M8
<b>K903060108</b>	Tap, M8x1
<b>K903060109</b>	Tap, M9x1
<b>K903060010</b>	Tap, M10
<b>K903060012</b>	Tap, M12
<b>K903060113</b>	Tap, M12x1.5
<b>K903060016</b>	Tap, M16
<b>K903060116</b>	Tap, M16x1.5

Order no.	Type
<b>K903060204</b>	Tap, (HELICOIL) M4
<b>K903060206</b>	Tap, (HELICOIL) M6
<b>K903060208</b>	Tap, (HELICOIL) M8
<b>K903060210</b>	Tap, (HELICOIL) M10

10

## Installation Tool for Threaded Insert



Order no.	Type	Thread	Length
<b>K902010004</b>	H	M3	58 mm
<b>K902010005</b>	M	M3	82 mm
<b>K902010008</b>	H	M5	69 mm
<b>K902010009</b>	M	M5	101 mm
<b>K902010010</b>	H	M6	74 mm

Order no.	Type	Thread	Length
<b>K902010011</b>	M	M6	102 mm
<b>K902010012</b>	H	M8	81 mm
<b>K902010013</b>	M	M8	105 mm
<b>K902010016</b>	H	M12	95 mm
<b>K902010017</b>	M	M12	118 mm

Type H = manual, type M = automatic

## Installation Tool for HELICOIL



Order number	Type	Thread
<b>K902010204</b>	H	M4
<b>K902010206</b>	H	M6

Order number	Type	Thread
<b>K902010208</b>	H	M8
<b>K902010210</b>	H	M10

Type H = manual

## Allen Wrench Set, long version



The ball side is used for quick and easy turning of the screw. When tightening, the long key side provides the necessary tightening torque. The wrenches are made of high-quality chromium-vanadium steel.

Order number	Type
<b>K902005050</b>	Wrench set, 9 pieces

## Magnetic Holders for Nuts



Strong magnetic lifting device with flexible brass hose and black plastic handle, chrome-plated surface, for holding nuts in inaccessible vertical slots.

Order number	Type
<b>K901130001</b>	Magnetic lifting device

## Parting Tool for Cleanroom Profiles



For cutting or exposing slots (10 mm) in cleanroom profiles.

Order number	Type
<b>B46.03.102</b>	Parting tool

## Sanding Sponge



For smoothing the sharp edges of the exposed slots created by the parting tool.

Order number	Type
<b>K902030001</b>	Sanding sponge

## Tools

### Drilling Jigs for Tension Plugs

Drilling jigs are used to precisely drill bores for tension plugs. The  $\varnothing 6$  drilling jig is used for B51.03.009 tension plugs and the  $\varnothing 10$  drilling jig is used for B51.03.004, B51.03.040 and B51.03.041 tension plugs.

Material: Hardened steel

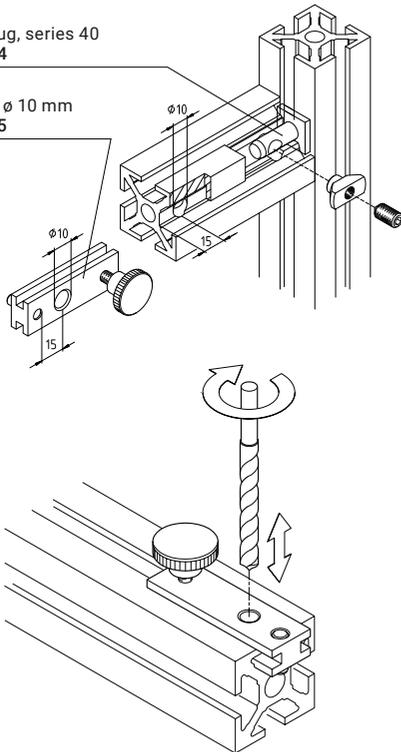


 For internal fasteners, see from page 106

#### Fastening example

Tension plug, series 40  
B51.03.004

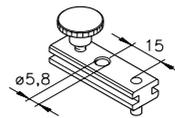
Drilling jig,  $\varnothing 10$  mm  
B51.03.005



25|40|50|60

Drilling jig  
B46.03.003

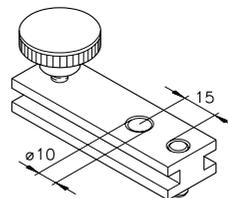
$\varnothing 6$  mm  
A=15 mm



25|40|50|60

Drilling jig  
B51.03.005

$\varnothing 10$  mm  
A=15 mm



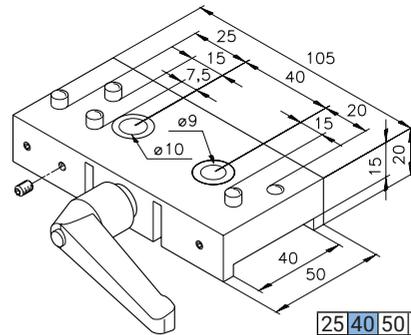
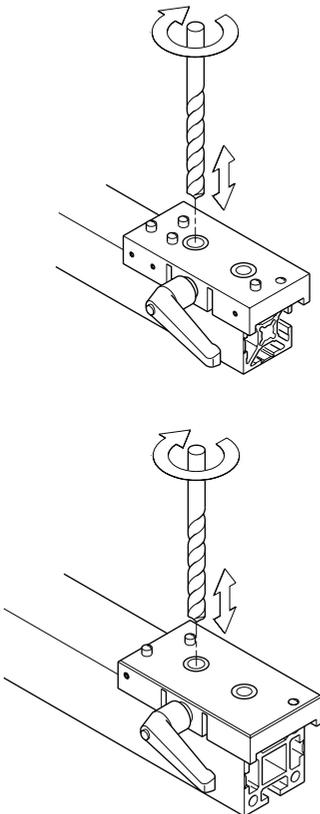


## Drilling Jigs for Cleanroom Profiles

Drilling jigs with hardened steel bushings are used to drill bores in the closed slot of cleanroom profiles so that they can be mounted with the standard connectors.

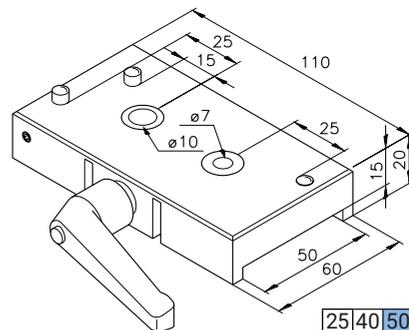
Material: Tumbled aluminium

➔ For cleanroom profiles, see from page 56 (Series 40) and page 66 (Series 50)



25 40 50 60

Drilling jig  
 Cleanroom 40  
**B51.03.020**



25 40 50 60

Drilling jig  
 Cleanroom 50  
**B51.03.035**

## Tools

### Drilling Jigs for Pneumatic Components

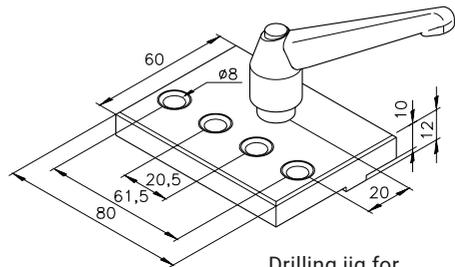
Drilling jigs with hardened steel bushings are used to drill bores in the mk 2040.02 and mk 2040.03 profiles for attaching pneumatic connections. This allows the profiles to be used as a compressed air line together with pneumatic components.

Material: Tumbled aluminium

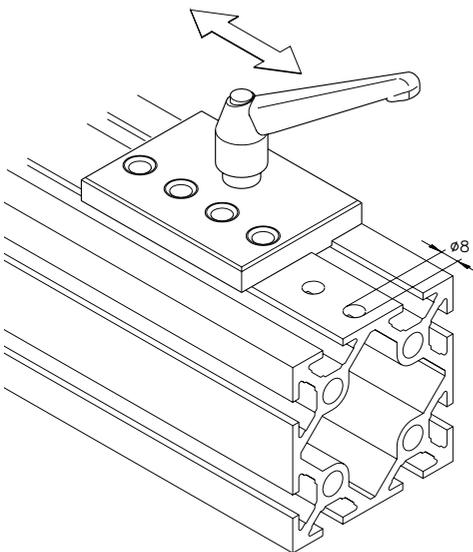


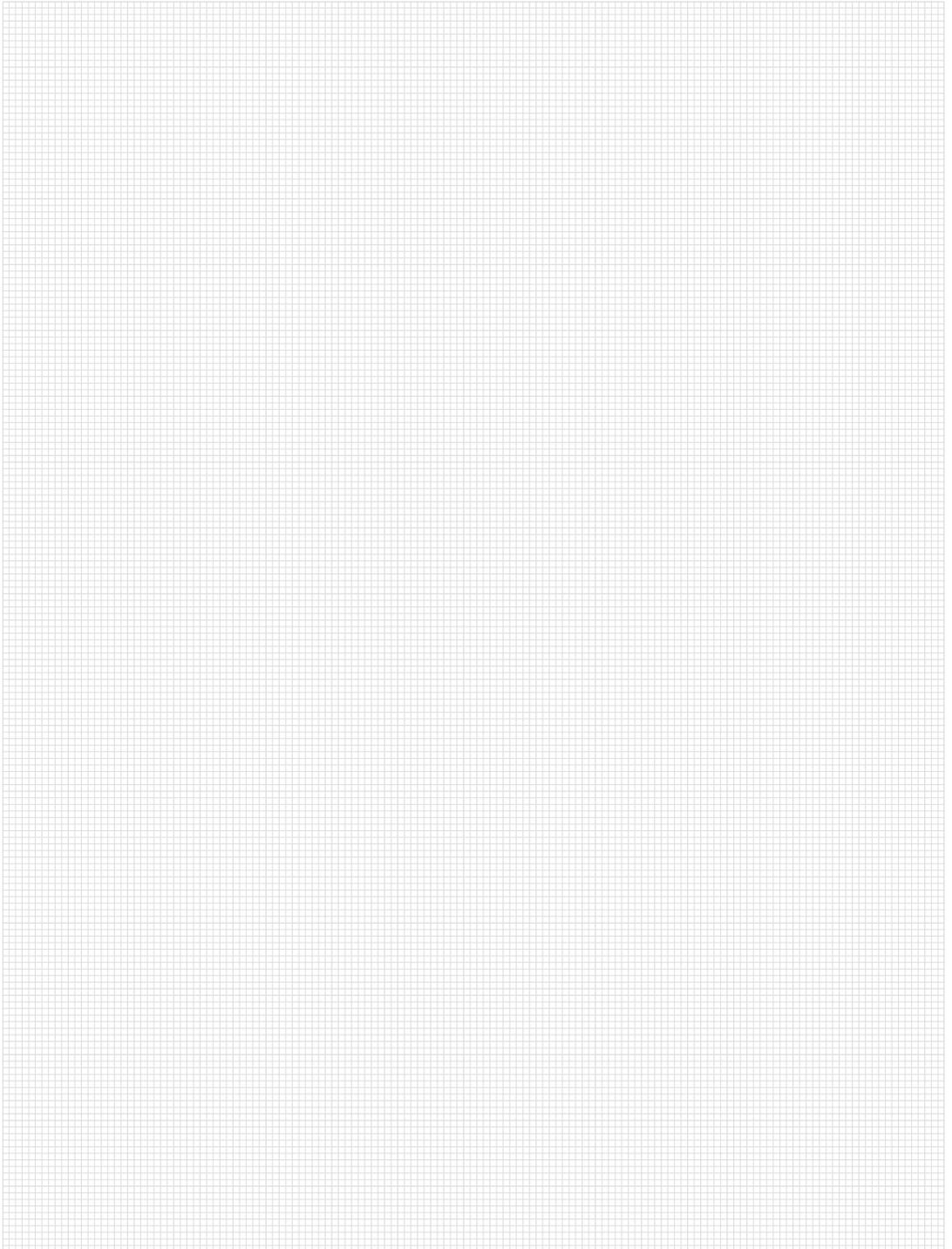
Pneumatic components  
starting on page 205

25 40 50 60

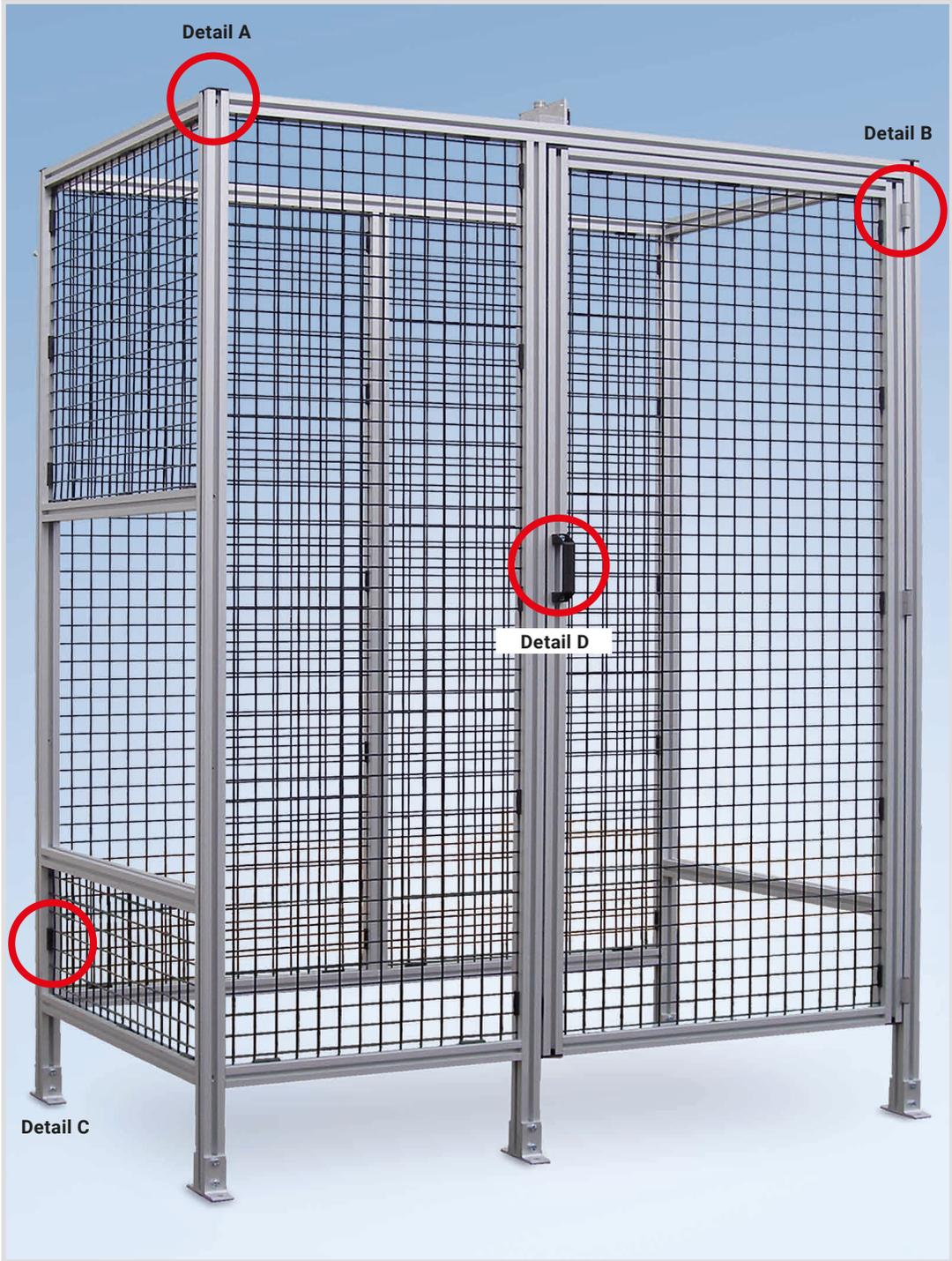


Drilling jig for  
pneumatic components  
**B46.03.007**





# Application Examples with Instructions for Mounting



Detail A

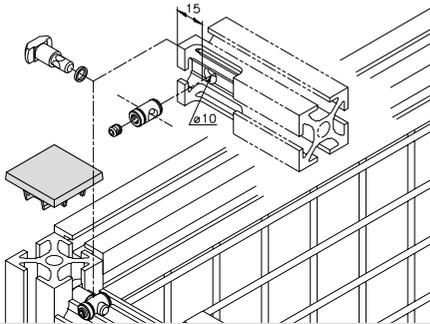
Detail B

Detail D

Detail C

**Detail A**

→ Page 110



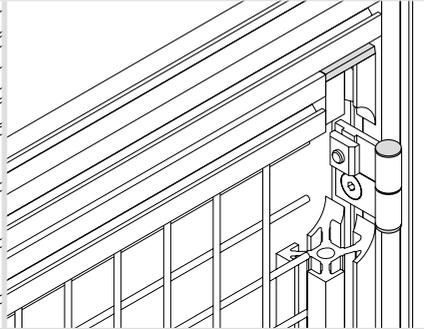
**Tension plug**

**B51.03.040**

This connection requires a  $\varnothing 10$  mm through-bore 15 mm from the edge. Use the Series 40 drilling jig B51.03.005. After you insert the bolt in the bore, guide the tension plug into the profile's face and secure it by gently tightening the set screw. The traverse can now be connected to another profile in any position you wish.

**Detail B**

→ Page 257



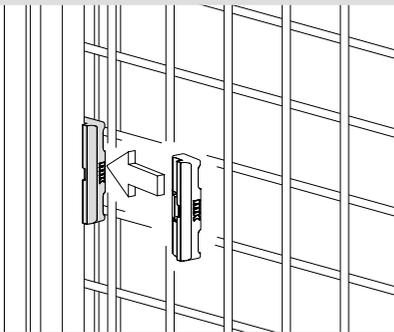
**Hinge 40-1/40-1**

**B46.01.010**

A hinge is mounted between two profiles using countersunk head screws and nuts that fit the particular profiles series. The fastening accessories you need are included in the set. The keys on the hinge leaves ensure that the components are parallel.

**Detail C**

→ Page 252



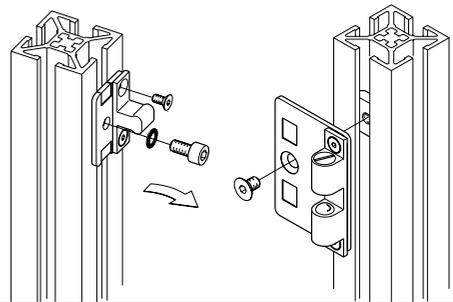
**Fence clip**

**mk 2544**

Fence clips can be used to quickly mount welded grids onto Series 40 profiles. You simply hammer the clip into the profile slot. To adequately secure the welded grid in the profile frame, the fence clips should be a maximum of 200 mm from the corners and 520 mm from each other.

**Detail D**

→ Page 261



**Ball latch**

**B68.02.101 for 5 mm door gap and  
 B68.02.102 for 24 mm door gap**

Ball latches are a simple and affordable option for locking doors that do not require safety interlocking. They are easily installed with screws and nuts.

# Application Examples with Instructions for Mounting

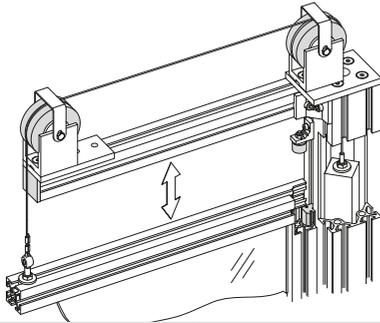
## Protective Device Guard with Lifting Door



11

**Detail A**

→ Page 228



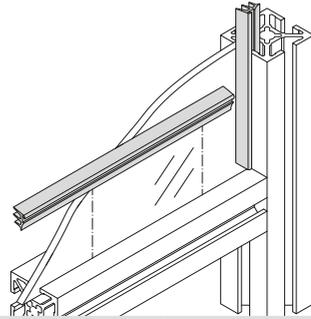
**Simple lifting door**

**B69.62.001**

Simple lifting doors consist of a solid partition and a lifting element, which is balanced using steel cables that are connected to counterweights via idler pulleys. This lets you easily lift and lower the door manually. In this example, the lifting door is designed as a corner element. The counterweight disappears elegantly inside the post.

**Detail B**

→ Page 254



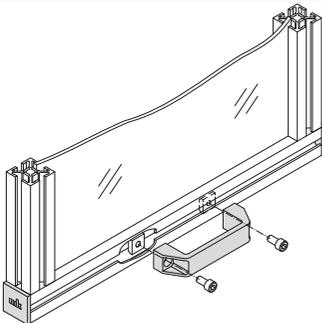
**Panelling with sealing strip**

**mk 3020**

An acrylic glass pane was used as panelling here. It serves as separating guarding and is fitted with a positive connection in the T-slot. To fix the pane, a sealing strip is subsequently pressed into the gap between the profile and the panelling from above. It can be cut easily using scissors.

**Detail C**

→ Page 274

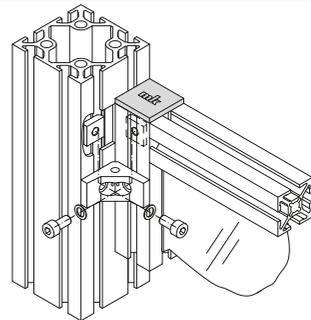


**Handle**

The universal and robust plastic handle shown here is simply screwed into the 10 mm T-slot. It can be moved in the slot such that the lifting door can be opened and closed easily. This short handle is used in particular for one-handed operation.

**Detail D**

→ Page 80



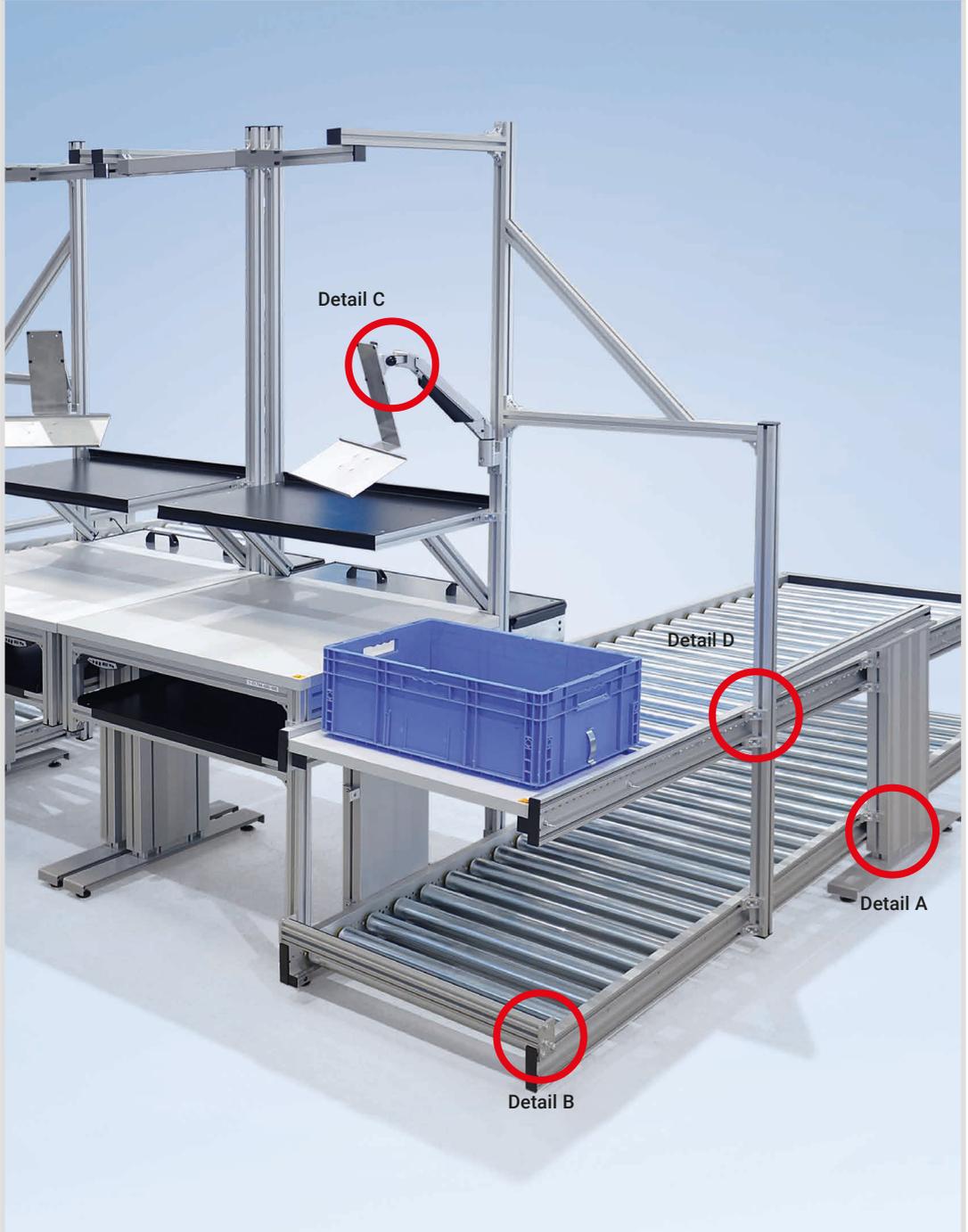
**Angle E25**

**82.40.0701**

The Eco solution (p. 221) was used here. The Eco partition was screwed directly to the support post using an angle. The Eco solution is suitable for short partitions and on-site adjustment.

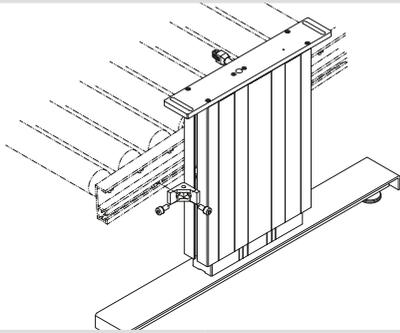
# Application Examples with Instructions for Mounting

Workbenches with roller conveyors for material feed and removal



**Detail A**

→ Page 287

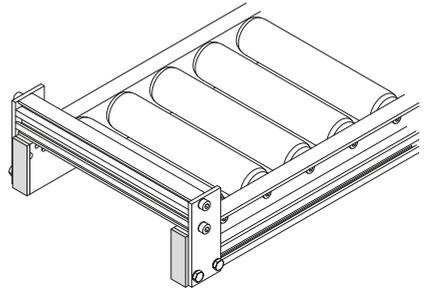


**Electrical height adjustment**

In this case, the electrical height adjustment of the table frame J1, consisting of Series 40 mk profiles, was screwed to a gravity roller conveyor. This means that the height of the workbench and roller conveyor can be adjusted together electrically. This allows the ergonomic working height to be easily adjusted using a button, with an additional memory function available as an option.

**Detail B**

→ Page 298



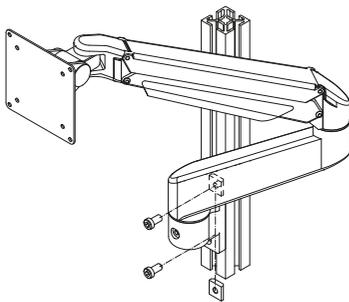
**Gravity roller conveyor RBS-P 2065/2066 with end stop**

**B61.00.003 and B66.00.003**

At this picking station, the empty boxes are fed to the lower level via the gravity roller conveyor. They run against the end stop from which the boxes can be removed and placed on the loading rack on the upper level. The loaded box continues over the inclined plane until it reaches the end stop for removal.

**Detail C**

→ Page 302

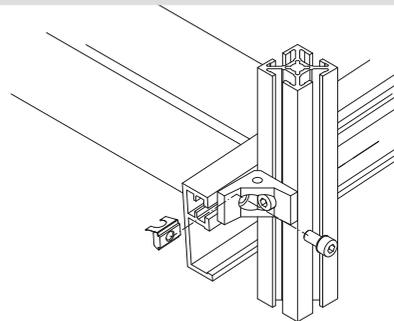


**Monitor mount, five-axis, height adjustable K120000118**

The monitor mount with included mounting plate and flange can be attached to vertical or horizontal profiles or to surfaces. It is extremely flexible, with five axes, height adjustment, and 360-degree monitor swivel. It is suitable for VESA-compatible monitors (VESA 75 and 100).

**Detail D**

→ Page 143



**Angle with ESD swivel-in nut 1 M8 34.16.0831**

The swivel-in nut 1 is suitable for retrofitting. The spring sheet holds the nut in position even in the vertical installation position. It is also suitable for use as an ESD protection component, thereby meeting the ESD protection concept required in this application.

# Application Examples with Instructions for Mounting

## Protective Device Guard for Cleanroom



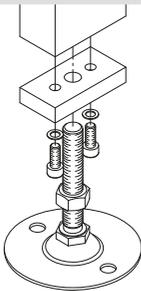
Protective device guard for applications in the cosmetics industry. Because of the stringent sanitary requirements, the machine housing was built from Series 40 cleanroom profiles with closed profile slots. Scratch-resistant Makrolon was used as the panelling material to provide an unobstructed view of the packaging station. Stainless steel levelling feet were also used, which are ideal for the conditions mandated by the sanitary regulations.

**Detail A**

→ Page 172

**Detail B**

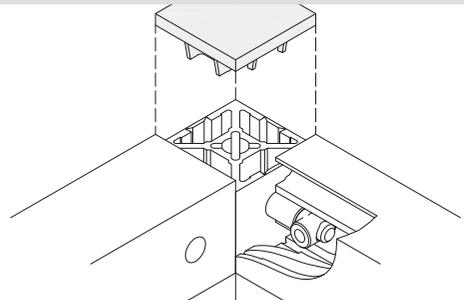
→ Page 57



### Stainless steel levelling feet

**B67.02.081**

Stainless steel levelling feet are ideal for use in cleanrooms or for meeting FDA requirements. The foot's domed shape also ensures that liquids will run off. The height adjustment and swivel range allows the levelling foot to compensate for height differences and uneven surfaces. In addition, they can be anchored to the floor.



### Cleanroom profiles with silver end caps

**mk 2040.96 (40x40) profile with mk 2507SI end cap**

The caps match the matte silver colour of the anodised profiles to fit discretely into your overall structure. They are made of sturdy injection-moulded plastic and close the profiles' faces to protect against damage and provide seamless transitions at the edges.

## Protective Device Guard for Measuring Station

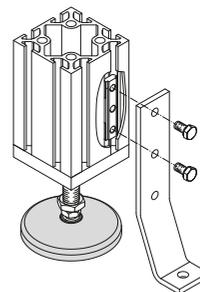
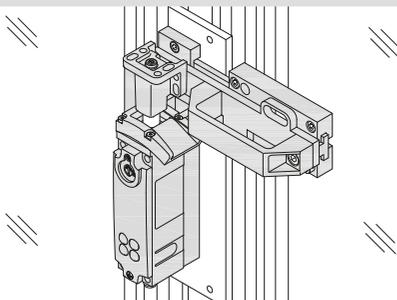


The system's gripping and transfer station is safeguarded using panel frames with welded grids in a custom RAL colour all around the station. The in-feed area and the measuring cell are protected by panel frames with polycarbonate and cover panels. A space-saving folding door is installed in addition to the swing door.

**Detail A**

**Detail B**

→ Page 190



### Safety interlock

Safety interlock with tower bolt, folding door locking device, reliable lock monitoring and integrated CES-AP electronics. This interlock does not require a special evaluation unit. The interlock meets safety category 4 and PL e according to EN ISO 13849-1 when installed horizontally, i.e. with the top facing downwards. It has two failsafe semiconductor outputs and an OUT signal output, in addition to clocked safety outputs.

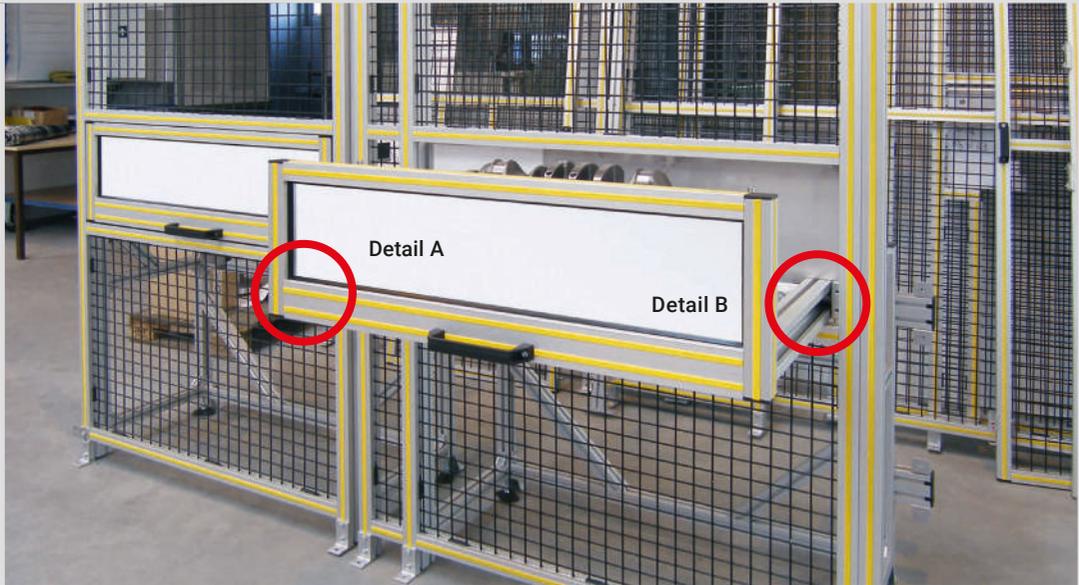
### Levelling foot with retaining angle 1

**26.00.0006**

The retaining angle is used to securely fix the frame to the floor. It is particularly suitable for use with floor anchors. The double swivel-in nut is used for retrofitting. No end machining is required on the profile itself for fastening.

# Application Examples with Instructions for Mounting

## Protective Device Guard with Drawers for Manual Removal



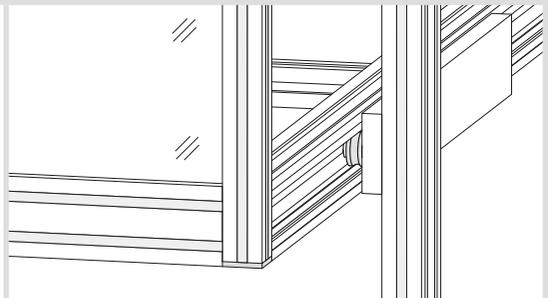
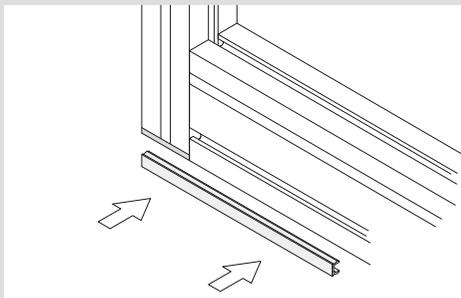
Protective device guard around a measuring station for crankshafts, built using partitions with welded grids. The front partitions are equipped with a drawer with full extension for manual removal of the parts. The back side of the drawer therefore closes off the protected area while the part is being removed, which means the process does not have to stop.

11

Detail A

→ Page 156

Detail B



### Closure strips

#### mk 3015

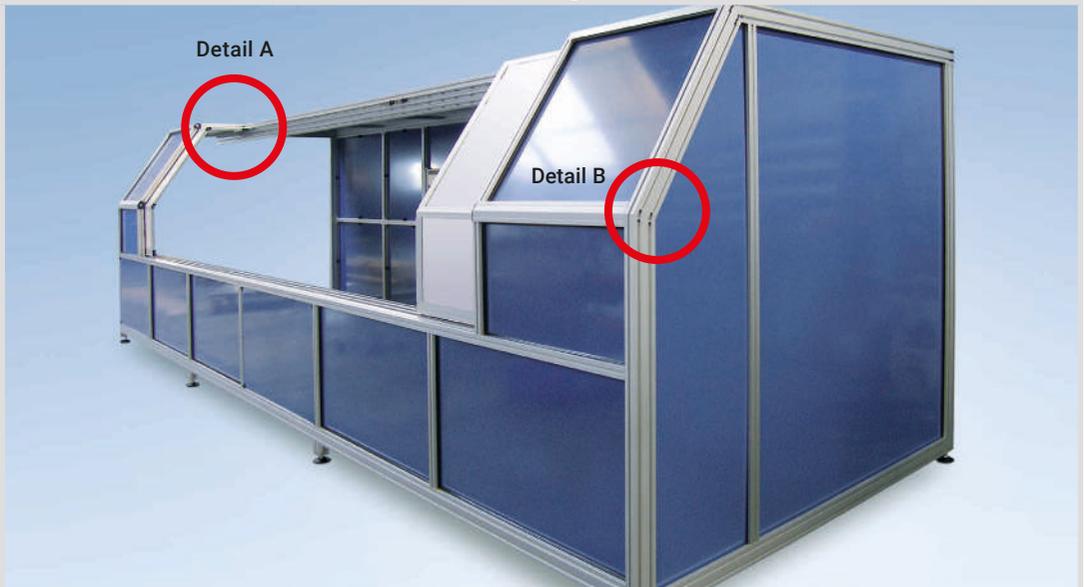
The open slots in the mk 2040.40 (40 x 40 mm), mk 2040.41 (40 x 80 mm) and mk 2040.45 (80 x 80 mm) profiles are closed using closure strips in a custom yellow colour in use at the customer's factory. The closure strips prevent dirt from getting in the slots. Various colour standards from mk allow for accents that are adapted to the customer's requirements.

### Drawer with track roller assembly

#### Profile guide B51.04.142

The drawer's track roller assembly is built from an interior profile guide (PF-10-38.77) with a  $\varnothing$  10 mm guide rod. The roller carriage (LW 38.77-44) is fixed to the frame. Low rolling resistance allows easy opening and closing. The simple and sturdy design requires low maintenance and exhibits low wear.

## Protective Device Guard with Sliding Doors

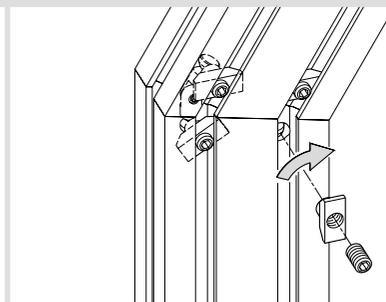
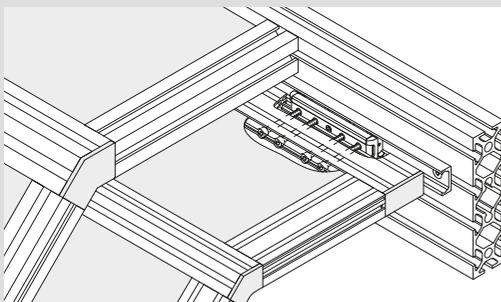


A machine housing was built for a manual lathe. The shape and appearance of the guarding needed to be adapted to the lathe. The housing was completely closed off using sheet panels to prevent chips and drilling fluid from getting into the production hall. Two separately controlled sliding doors allow easy access and operation of the machine. Optionally, the sliding doors can be driven electrically using a timing belt.

**Detail A**

**Detail B**

→ Page 116



### Sliding door with guide rail

The cover can be moved telescopically like a sliding door. To ensure that the cover can be moved easily, it is mounted on rollers at the top and bottom that run in a guide.

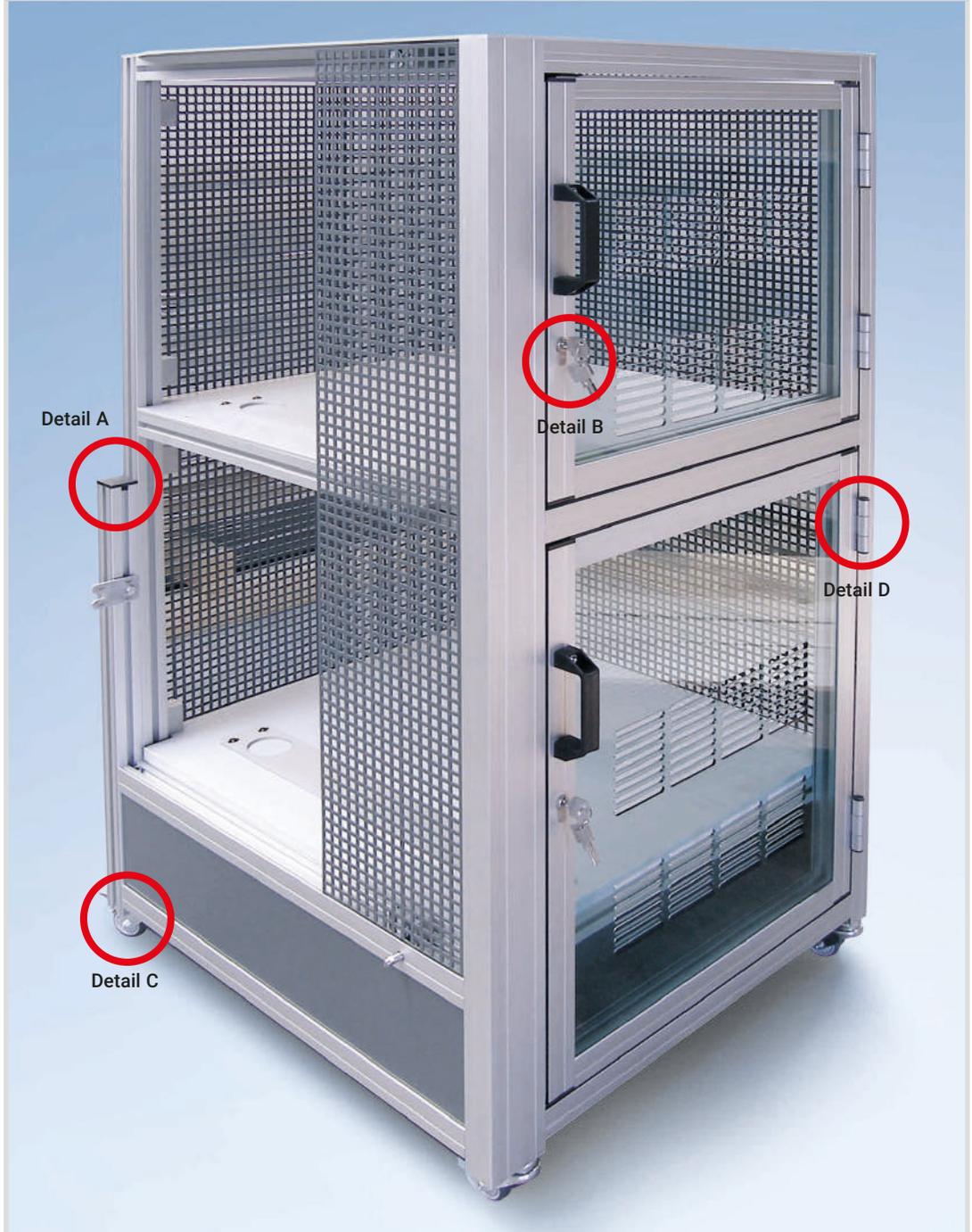
### Swivel clamp connector

#### B51.03.011

Hinge tension plugs allow the connection of mitre-cut Series 40 profiles. All connection angles from 0° to 90° are possible. The connection requires a single-sided  $\varnothing$  10 mm bore in both profiles on the chamfered side, 15 mm from the centre of the cut edge.

# Application Examples with Instructions for Mounting

## Protective Enclosure with Swing Doors



Detail A

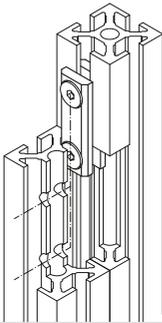
Detail B

Detail D

Detail C

**Detail A**

→ Page 119



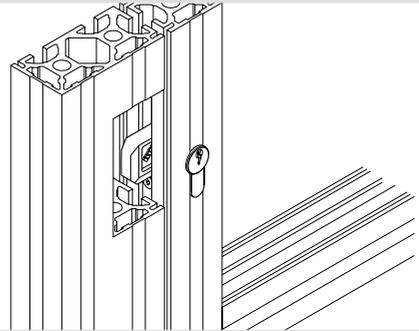
**Parallel connector 2/40**

**B51.03.056**

Parallel connectors made from a countersunk nut, screws and a standard nut can be used to create a gap-free connection between two profiles. The swivel-in nut with spring sheet is beneficial for vertical mounting or retrofitting. As an alternative method of fastening, two M8x35 cylinder head screws can be screwed through the profile from the outside – with the appropriate end machining.

**Detail B**

→ Page 263



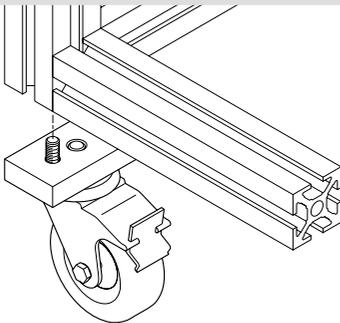
**Cylinder lock**

**B68.02.051**

The lock is designed for installation in the mk 2040.01 (40x40) and mk 2040.40 (40x40) profiles. This requires profile services 5401BC or 5440BC. Both the total length of the profile and the distance from the bottom end of the profile to the bottom edge of the lock must be specified. To install the lock, the profile cylinder is pressed through the profile opening into the swivel bolt and then secured using a screw and nut connection.

**Detail C**

→ Page 192



**Fixed and swivel casters**

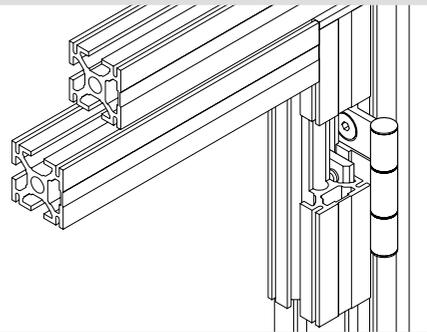
**K106001041 and K106000141**

The casters are attached in the centre of the foot plate that matches the profile (foot plate I M10 in this case) using an M10 hexagon head screw. The casters have a load capacity of 600 N. The swivel casters have a locking device.

50.02.0041 foot plate I M10

**Detail D**

→ Page 257



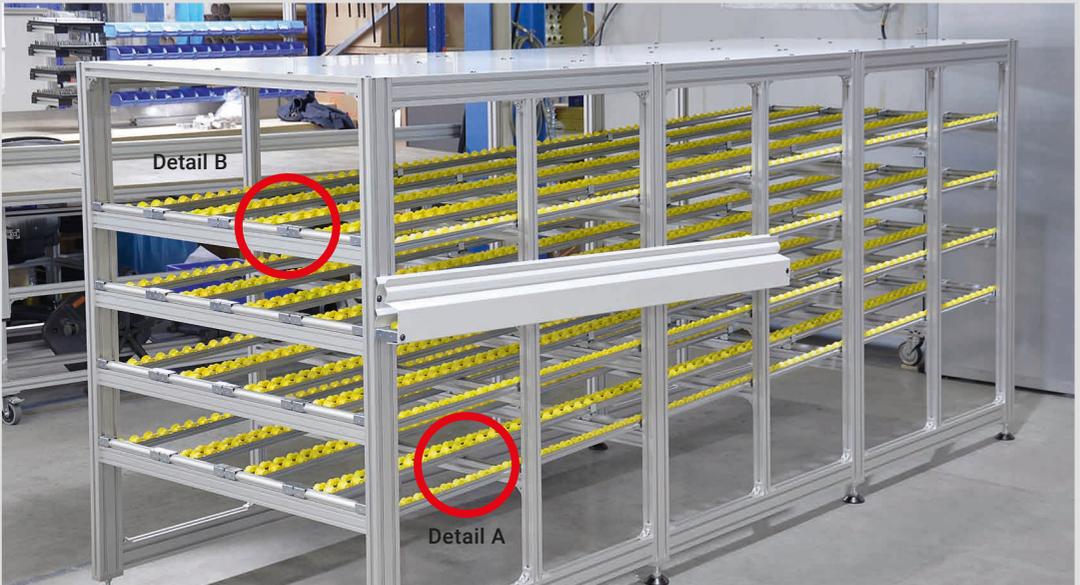
**Hinge 40-1/40-7/40-1**

**B46.01.030**

The hinge is mounted between two profiles using countersunk head screws and nuts that fit the particular profiles series. The fastening accessories you need are included in the set. The keys on the hinge leaves ensure that the components are parallel. The use of three hinge leaves means that the door cannot be unhinged and removed without removing the hinge.

# Application Examples with Instructions for Mounting

## Customer-specific kanban shelf



Here, support plates are removed from the kanban shelf according to the first-in-first-out principle. The empty support plates are returned vertically to save space. This kanban shelf is extra long to achieve the required storage volume. The frame is extremely solid so that it can safely hold the relatively high loads.

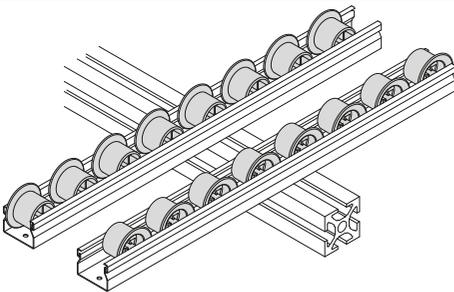
11

Detail A

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Detail B

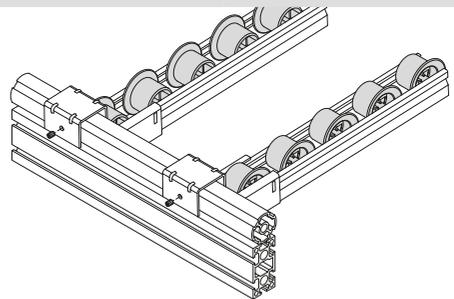
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### Roller strips with flanged rollers

K1200535FGE. ....

Roller strips are mainly used in carton flow racks to reliably transport boxes. The rollers are made from a thermoplastic material that is resistant to impacts and breakage. Empty boxes are removed, and gravity causes full boxes to slide into place automatically so that the supply of materials is not interrupted.

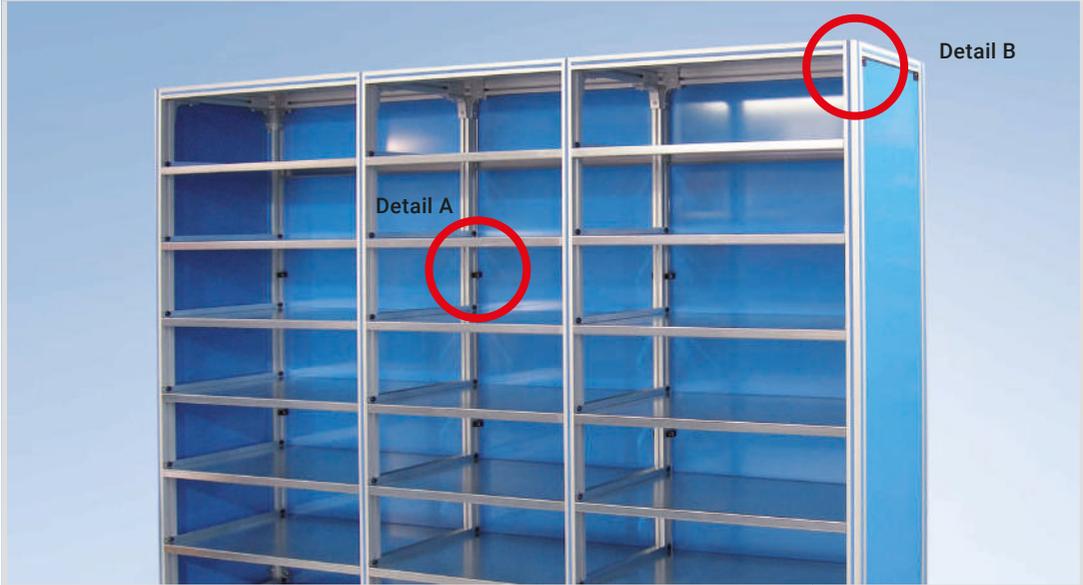


### Series D28 round tube profiles with 35/28 L holder for roller strip

Profile mk 2279 and K12005Z0002

The 35/28 L holder for the roller strip was combined with the D28 round tube profile for this application. This allows the angle to be freely adjusted. The rollers are positioned lower here so that the round tube profile serves as a retainer.

## Kanban Shelf – for Manual Product Removal



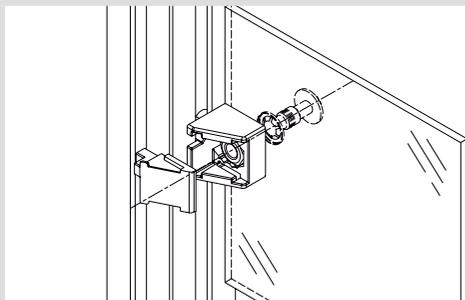
Each kanban system also uses kanban shelves that do not require constant restocking. Stocking from the rear side was therefore not required. The shelf is for items that are used infrequently during the assembly process, which are best stored in this shelf with plenty of storage space.

### Detail A

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### Detail B

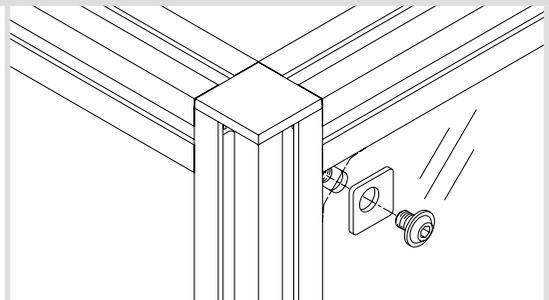
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### Captive fasteners

#### B34.01.003

The captive fasteners, together with a undercut flanged button-head screw and ribbed washer, are used to retrofit panelling into existing structures in accordance with the Machinery Directive. The panelling requires  $\varnothing 9$  mm bores at a distance of 10 to 15 mm from the profile frame.

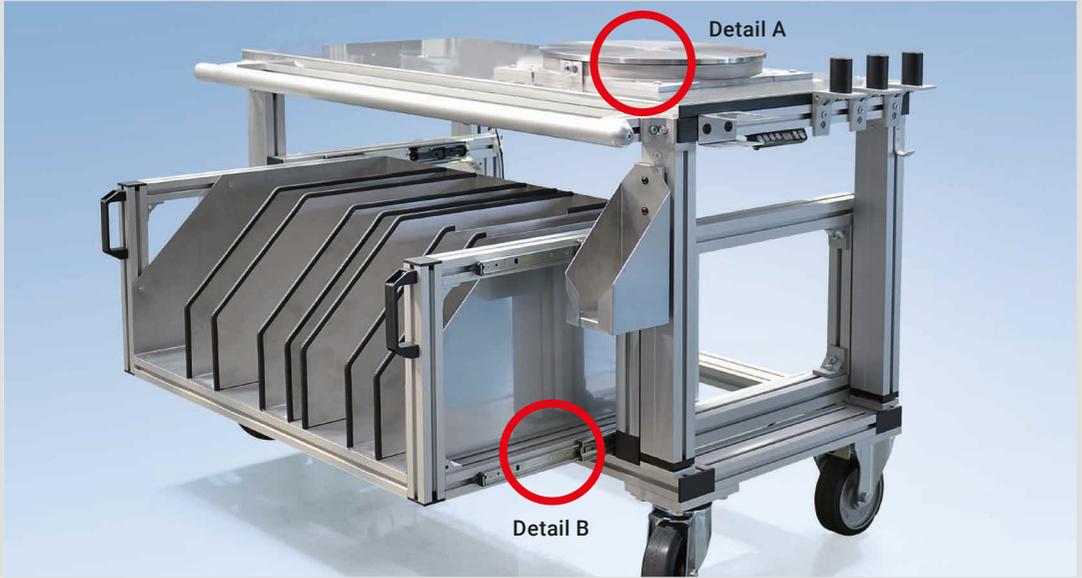


### Fastening with angle and shim

This type of fastening is suitable for sheets 1.52 mm thick. The edge bending around the sheet provides the necessary stiffness up to side lengths of 1200 mm. For lengths greater than this, an additional mk 2578 holder is required. The angles must have an M8 thread on the side. A shim (07.01.0005) is used to cover the oblong hole, and the sheets are screwed on using flanged button-head screws.

# Application Examples with Instructions for Mounting

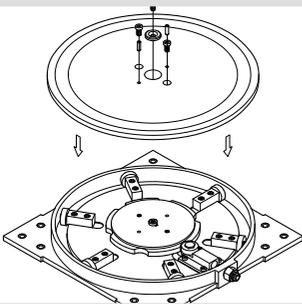
## Custom Supply Trolley



Assembly and supply trolley with electrical height adjustment for assembling a drive unit. To ensure continuous assembly flows in production, the trolley can be moved to various assembly stations and docked using magnets. The trolley's lower level contains customised storage compartments, which can be slid out to allow for easier removal of the components to be assembled.

11

### Detail A

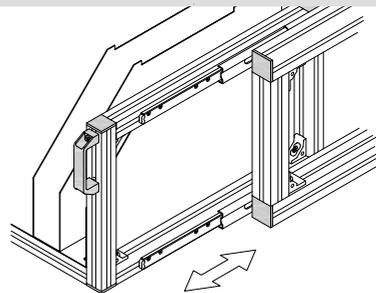


### Rotary disk

#### B12.00.001

The rotary disk is ideally suited for the manual assembly process. Heavy loads can be quickly and easily positioned to facilitate assembly. The rotary disk has an incremental function, in this case  $6 \times 60^\circ$ , which allows the disk to be fixed in pre-defined positions. It can support a maximum load of 100 kg.

### Detail B



### Sliding compartment

The sliding compartment runs on a ball guide, which is attached at the sides (top and bottom) and has a load capacity of 150 kg. The guide retracts automatically and locks in the closed position, and it features damping at the end positions.

## Custom stair crossover



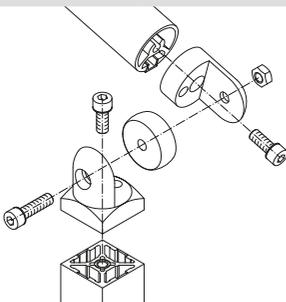
This stair crossover is a typical solution for creating crossings over transport routes, e.g. as a fire protection solution. The step plate on the platform is angled upwards so that dirt does not drop down. In this application, the transition is used in a technically clean area. Therefore, the outer surfaces were designed with closed cleanroom profiles to avoid open gaps.

**Detail A**

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**Detail B**

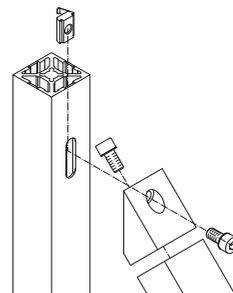
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### Hinge 40/H6

**B46.01.027**

The hinge connects the mk 2040.01 and mk 2040.16 profiles at any angle. First the two halves of the joint are screwed to the profiles using cylinder head screws, and then the entire assembly is assembled and locked using an additional cylinder head screw. The assembly contains all fastening accessories.



### Truss block with cleanroom profiles

**45° block 79.01.0066**

The block is used to connect two profiles at an angle of 45°. The corner block is screwed to the face of a 40 x 40 profile and fastened to the other profile using a screw and nut connection. The truss block ensures that no mitre cuts need to be made in the profiles. The slot in the closed cleanroom profile is completely covered by the corner block.

# Customer-Specific Applications – General Profile Technology



System frame built from Series 25 profiles

11



System frame built from mk 2025.02 profiles



Fire engine interior built from Series 25 profiles



Cleanroom warehouse with storage and retrieval device and transfer stations built from mk's Series 40 cleanroom profiles



Mobile support frame built from Series 40 cleanroom profiles



Frame built from Series 40 profiles for a system that monitors plant growth

# Customer-Specific Applications – General Profile Technology



Flexible light-duty frame made from Series 40 profiles for desalination plant

11



Frame and suspension for conveying path at a height of 5 m below the hall ceiling



Overhead structure built from Series 40 profiles to support supply lines for assembly workstations



Mobile frame with double swing door and integrated belt conveyor made from Series 40 profiles



Base frame with levelling feet and holders for workpiece carriers

# Customer-Specific Applications – General Profile Technology



Testing and storage frame for fuel tanks  
made from Series 40 profiles

11



Machine frame made from Series 50 profiles



Frame for hopper conveyor  
made from Series 50 profiles



Base structure built from Series 40 and Series 60 profiles

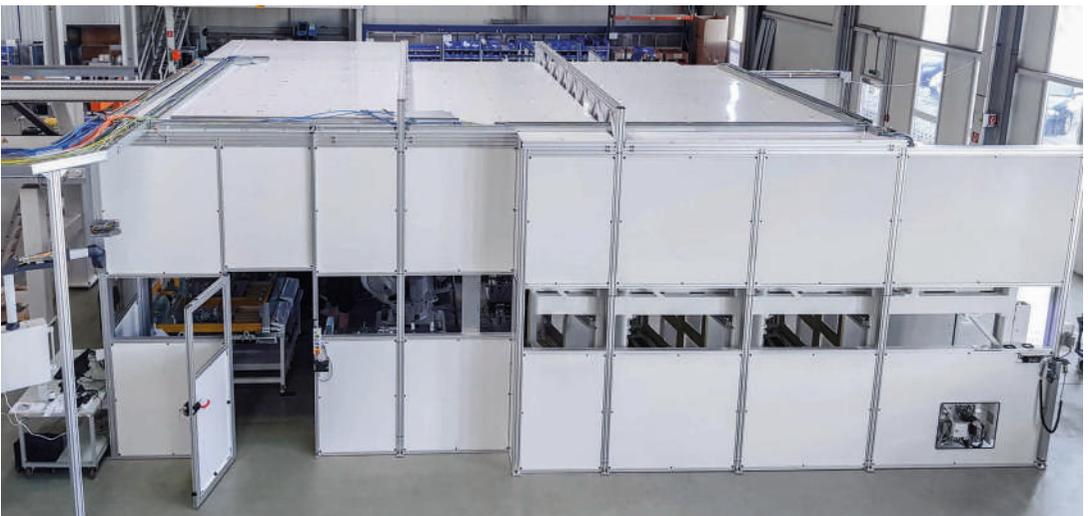


Solid gantry frame for beverage sorting system made from Series 60 profiles

## Customer-Specific Applications – Guarding



Protective laser enclosure with labyrinth seals for automation line



Cleanroom for a fully automated testing system with reinforcement by truss struts for ceiling and walls to support heavy interior components



Extendible guarding elements; sections mounted on rollers can be moved manually over the first section



Protective device guard with interlocked swing doors for removal and inspection of the component



Retrofitting of a production line with protective device guards

## Customer-Specific Applications – Guarding



Custom guarding for production machine

11



Protective device guard with Alucobond® and polycarbonate panelling material



Scanning enclosure with double swing doors



Cabinet with swing doors and ball latches, powder-coated cover panels, table top and removable shelves



Container with double swing door, rod-locking cabinet latch and tower bolt



Custom guarding with lifting swing door operated by pneumatic springs

# Customer-Specific Applications – Guarding



Protective laser enclosure with separate housing for operating elements and maintenance flap

11



Frame with housing for fully automatic ice machine; the dispensing tray is operated by a pneumatic spring



Measuring chamber made of black anodised profiles with automated feed and removal



Mobile machine housing using Series 50 profiles for strip rolling line



Charging unit for non-woven fabric production with maintenance door and extraction hood



Protective housing for balancing stand, access via swing door with safety interlock and safety controller for the balancing stand

# Customer-Specific Applications – Guarding



Soundproof enclosure with double swing doors and with convoluted foam cover for coin transport system

11



Guarding with swing doors made from cleanroom profiles



Cabinet with swing doors and sliding shelves



Protective housing for 45 metre long assembly system with passages and bridges for maintenance



Manual lifting doors with counterweights in the profile, connected by cable and idler pulleys, capable of balancing



Custom protective device guard made from partitions with powder-coated perforated sheets and sliding doors with solenoid latches

## Customer-Specific Applications – Guarding



Custom guarding for pram test bench

11



Guarding with welded grids (partition method)  
for tray transport system



Swing door mounted in panel frame with black powder-coated welded grid



Guarding for transfer station with cantilevers for mounting an overhead conveyor



Telescopic guarding on casters

# Customer-Specific Applications – Industrial Workstations



Workbench for manual inspection in the grading area for smartphones

11



Assembly workstation with crank-operated manual height adjustment, 600 kg load capacity



Assembly workstation with integrated press and document holder



ESD-compliant assembly and test line with integrated conveying path for analysis units



Test station made from Series 50 profiles, base cabinet with drawers and swing door, gantry with steel and perforated sheet panelling



Assembly workstation with lowering mechanism based on electrically driven hydraulic cylinders

# Customer-Specific Applications – Industrial Workstations



Height-adjustable workstation with monitor, magnifying lamp and a separate supply trolley for providing materials

11



Workstation with tall gantry and separate steel container for cables



J1 workbench with integrated electrical supply, footrest and custom monitor holder



Ergonomic workbench with roller conveyors for material feed and removal, complete with hydraulic height adjustment and ESD protection



Workstation with electro-hydraulic height adjustment and base cabinet



Workstation with hydraulic height adjustment and swivelling steel shelves with adjustable depth

# Customer-Specific Applications – Industrial Workstations



Stable assembly workstations with profile racks and shelves

11



Workbench with swing doors and swivelling device for work surface



Custom test station with 19 inch rack and monitor mount



Service and assembly units



Industrial workstation in DFT flow line  
for manufacturing vacuum pumps



Workstation with protective  
cover and manually  
adjustable sliding element



Test station for pumps with perforated sheet  
panelling, sliding door and keyboard shelves

# Customer-Specific Applications – Industrial Workstations



Mobile base cabinet for medical laboratory with cabinet for internal computer and control equipment

11



Assembly line for pumps built from Series 50 profiles with profile slots closed using red closure strips



Rolling workbench made from Series 50 profiles with three drawers for storing tools



ESD-compliant loading and unloading station  
for feeding of small load carriers



Material trolley for picking in narrow  
aisles with carousel concept



Kanban shelf with mini roller conveyors for  
material feed and empty crate return

# Customer-Specific Applications – Industrial Workstations



Kanban workstation for increasing productivity by decoupling assembly and supply logistics

11



Supply shelf with shelves made of laminated plates



Customised supply trolley for laboratory



Kanban system workstation for manual removal and picking of products



FiFo supply shelf (first in – first out) with roller strips

# Customer-Specific Applications – Industrial Workstations



Custom material provision station for bar stock and individual parts



Kanban material provision station with rollers strips

11



Light duty supply trolley made of round tube profiles with smooth-running castors



Supply trolley made from Series 40 profiles painted red



Assembly trolley with hydraulic cylinder and central locking device



Transport trolley in which the spring-loaded floor lowers when weight is applied and rises again when the weight is removed



Sturdy supply trolley for heavy products



Material supply trolleys made from Series 40 cleanroom profiles with acrylic shelves

## Customer-Specific Applications – Stairs and Platforms



Assembly platform made from Series 40 profiles with levelling feet



Mobile assembly platform for helicopters with different levels and multiple access points



The T-slots are suitable for attaching components, such as the electrical supply



Free-standing assembly platform, 15 metres long, with high-load stairs for secure grip when carrying heavy loads



Free-standing bridge for bridging a conveying path in accordance with the regulations of the occupational health and safety directive (traffic routes)

# Customer-Specific Applications – Stairs and Platforms



Platform made of Series 40 profiles with welded grid panelling

11



Stair crossover for confined spaces



Mobile platform for inspecting stacked overseas containers



Bridge structure consisting of stair and guardrail elements with Series 40 closed cleanroom profiles



Platform with retractable welded grid frame



Posts connected to platform and toe kick using angles

# Customer-Specific Applications – Stairs and Platforms



Free-standing assembly platform with 45° stairs

11



T-connector 40/H2 for hand rail



Hinge 40/H3 for the intersection between stairs and platform



Guardrail corner with hinge 40/H2



Assembly flap in platform floor  
with anti-slip covering



Extremely sturdy connections consisting of die-cast angle brackets, standard angle brackets and beam profiles are available for all profile series



Platform support with air cushion transport system



Platform for performing maintenance and assembly work on helicopters safely and with ease

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K1200535FGE. ....	Roller strip with flanged rollers	299	K903060012	Tap M12	336
K12005Z0001	35/28 H holder	299	K903060016	Tap M16	336
K12005Z0002	35/28 L holder	299	K903060105	Tap M5x0.5	336
K12005Z0003	35/40 H holder	299	K903060108	Tap M8x1	336
K12005Z0004	35/40 L holder	299	K903060109	Tap M9x1	336
K310.000.015.003	Cable gland, nut	313	K903060113	Tap M12x1.5	336
K310.000.018.007	Cable gland	313	K903060116	Tap M16x1.5	336
K370000010	Safety interlock AZ 16ZVRK	267	K903060204	Tap (Helicoil) M4	336
K370000011	Actuating key AZ 15/16-B1-1747	267	K903060206	Tap (Helicoil) M6	336
K370000012	Safety interlock BNS 16-12ZV	268	K903060208	Tap (Helicoil) M8	336
K370000013	Actuating key BPS 16 Magnet	268	K903060210	Tap (Helicoil) M10	336
K370000020	Solenoid latch AZM	270	K903070008	Forming tap M8	336
K370000021	Actuating key AZM 161-B1	270	mk 2500	End cap, black 50x50 mm	154
K370000022	Electronic solenoid latch	271	mk 2501	End cap mk 2001	154
K370000023	Actuating key AZ/AZM 300-B1	271	mk 2502	End cap 80x80 mm	153
K370000030	Hinged safety interlock	266	mk 2502SI	End cap 80x80 mm	153
K370020020	Power strip, 3 outlets	311	mk 2503	End cap mk 2030	154
K370020021	Power strip, 6 outlets	311	mk 2504	End cap mk 2004	154
K5BA100007	Plug screw G1/2"	206	mk 2505	End cap 100x100 mm	154
K5BA100008	Plug screw G1/4"	206	mk 2507	End cap 40x40 mm	152
K5BA100078	Coupling G1/4"	206	mk 2507SI	End cap, silver 40x40 mm	152
K5BB100016	Polyamide sealing ring G1/4"	206	mk 2508	End cap 40x80 mm	152

mk 2508SI	End cap 40x80 mm		152	T25.50.1020	Angle A25/15/2	Set	78
mk 2523	End cap mk 2040.14		152	T25.50.1021	Angle A25/40/2	Set	78
mk 2524	End cap mk 2040.15		152	T25.50.3000	Straight plate 01	Set	96
mk 2529	End cap mk 2040.23		153	T25.50.3001	Straight plate 02	Set	96
mk 2538	Guide		317	T25.50.3002	Angle plate 01	Set	96
mk 2539	Guide		317	T25.50.3006	T-plate 01	Set	96
mk 2544	Fence clip mk 2544		252	T50.05.0045	Angle plate 03	Set	99
mk 2546	Clip 40		202	T50.05.0046	T-plate 03	Set	99
mk 2550	Clip 50		202	T50.05.0047	Straight plate 07	Set	98
mk 2553	Retaining plug, green	M5	144	T50.05.0051	Angle plate 13	Set	99
mk 2554	Retaining plug, white	M6	144	T50.05.0052	Straight plate 03	Set	98
mk 2555	Retaining plug, red	M8	144	T50.05.0053	Straight plate 05	Set	97
mk 2556	Retaining plug, yellow	M6	144	T50.05.0070	Straight plate 09	Set	98
mk 2557	Retaining plug, blue	M8	144	T50.05.0077	Straight plate 04	Set	98
mk 2559	Retaining plug, orange	M10	144	T82.00.0023	Angle P1	Set	80
mk 2560	Retaining plug, purple	M12	144	T82.00.0024	Angle P3	Set	80
mk 2561	End cap mk 2060.01		155	T82.02.0001	Angle A1	Set	83
mk 2562	End cap mk 2060.02		155	T82.03.0001	Angle A3	Set	83
mk 2563	End cap mk 2060.05		155	T82.05.0003	Angle B25	Set	83
mk 2565	End cap mk 2025.22		151	T82.05.0004	Angle B50	Set	84
mk 2575	Guide		317	T82.05.0006	Angle B100	Set	84
mk 2582	End cap D28 round tube profile		150	T82.05.0012	Angle B150	Set	84
mk 3008	Sealing strip, black		255	T82.05.0013	Angle B40	Set	83
mk 3008SI	Sealing strip, silver-grey		255	T82.05.0022	Angle B90	Set	84
mk 3010	Closure strip, black		156	T82.05.0026	Angle B20/40	Set	84
mk 3011	Cover profile, black		157	T82.05.0051	Angle B50s1	Set	84
mk 3012	Closure strip, black		156	T82.05.0052	Angle B50s2	Set	84
mk 3013	Closure strip, grey		156	T82.05.0053	Angle B50s3	Set	84
mk 3014	Closure strip, blue		156	T82.05.0055	Angle B40s2	Set	84
mk 3015	Closure strip, yellow		156	T82.06.0001	Angle C25	Set	85
mk 3016	Closure strip, green		156	T82.06.0003	Angle C90	Set	85
mk 3017	Closure strip, red		156	T82.06.0009	Angle C90/2	Set	85
mk 3019	Closure strip, silver-grey		156	T82.06.0010	Angle C140/2	Set	85
mk 3020	Sealing strip		254	T82.06.0014	Angle C40/3	Set	85
mk 3021	Sealing strip		254	T82.06.0040	Angle C25s	Set	85
mk 3025	Cover profile, black		157	T82.06.0041	Angle C40s	Set	85
mk 3026	Closure strip, black		156	T82.06.0042	Angle C90s	Set	85
mk 3027	Sealing strip		254	T82.07.0001	Angle D25	Set	86
mk 3030	Cover profile, black		157	T82.07.0003	Angle D90	Set	86
mk 3032	Cover profile, black		157	T82.07.0009	Angle D90/2	Set	86
mk 3034	Sealing strip		253	T82.07.0010	Angle D140/2	Set	86
mk 3035	Cover profile, black		157	T82.07.0013	Angle D40/3	Set	86
mk 3036	Cover profile, grey		157	T82.07.0040	Angle D25s	Set	86
T25.50.1000	Angle 15	Set	78	T82.07.0041	Angle D40s	Set	86
T25.50.1001	Angle 40	Set	78	T82.07.0042	Angle D90s	Set	86
T25.50.1010	Angle S15	Set	79	T82.07.0043	Angle D140s	Set	86
T25.50.1012	Angle S40	Set	79	T82.40.0701	Angle E25	Set	80



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