

**OPERATING INSTRUCTIONS**  
**MOUNTING SYSTEM QUICK-SET**

Mounting Elements  
QUICK-SET®  
QS-40

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## 1 Important information

### 1.1 Manufacturer's declaration

**As per Art.4, para.2 of the machinery guidelines 89/392/EC.**

#### **Manufacturer**

Montech AG

Gewerbestrasse 12

CH-4552 Derendingen

Phone +41 (0) 32 681 55 00

Fax. +41 (0) 32 682 19 77

### 1.2 Description of product and use

QUICK-SET<sup>®</sup> mounting elements are used in general mechanical engineering, for laboratory equipments, office applications, multimedia systems and the construction of installations as a means of producing modular structures.

The load limits specified for the various elements must be taken into account under all circumstances.

### 1.3 Risks

The use of QUICK-SET<sup>®</sup> mounting components is harmless when they are used for the purpose intended.

**QUICK-SET<sup>®</sup> MOUNTING COMPONENTS MUST NOT BE USED FOR STRUCTURES THROUGH WHICH PEOPLE CAN WALK.**

If energy-carrying electric cables are led on QUICK-SET<sup>®</sup> profiles, earthing elements must be used.

Commissioning of the above-mentioned mounting components is prohibited until it has been confirmed that the machine in which the components are mounted complies with the stipulations of the machinery guidelines.

MONTECH AG  
Management



U. D. Wagner



Gianluca Aloisi

## **1.4 Scope of these instructions**

The range of QUICK-SET® mounting elements that can be supplied is constantly being adapted to meet the needs of users. Consequently the contents of these instructions are also subject to change.

Should the description of an element not be found in your copy of the instructions, please ask the manufacturer to send it.

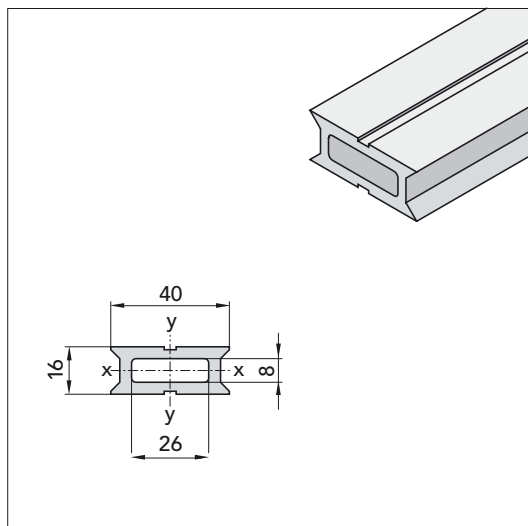
## **2 Maintenance**

QUICK-SET® mounting elements do not require any maintenance.

### 3 Profile and accessoires

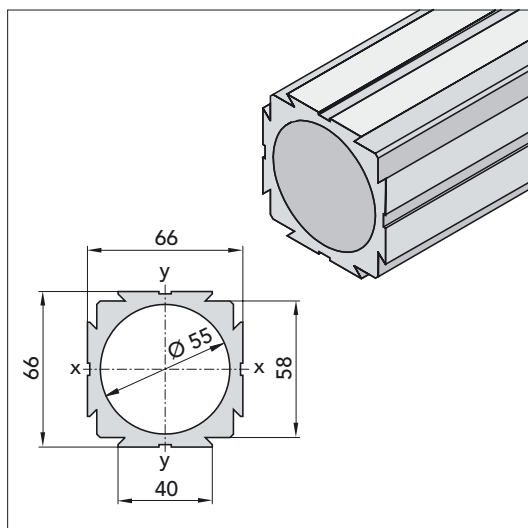
#### 3.1 Supporting profiles

##### 3.1.1 Supporting profile TP-16-40



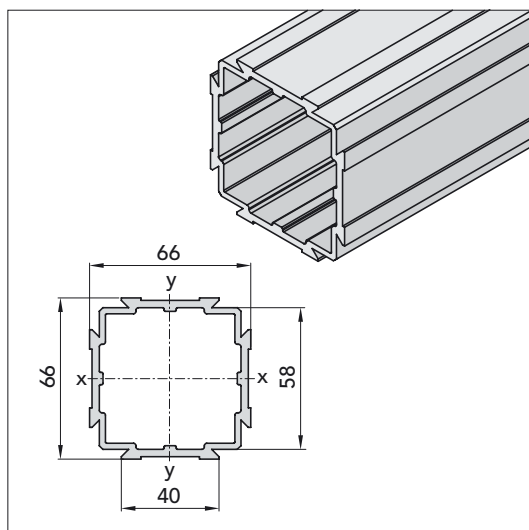
|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 0.980 kg/m                 |
| Profile area      |                | 368 mm <sup>2</sup>        |
| Section modulus   | W <sub>x</sub> | 1.025 cm <sup>3</sup>      |
|                   | W <sub>y</sub> | 1.640 cm <sup>3</sup>      |
| Moment of inertia | J <sub>x</sub> | 0.820 cm <sup>4</sup>      |
|                   | J <sub>y</sub> | 3.280 cm <sup>4</sup>      |
| Article number    |                | 44207N / length<br>natural |

##### 3.1.2 Supporting profile TP-66-40



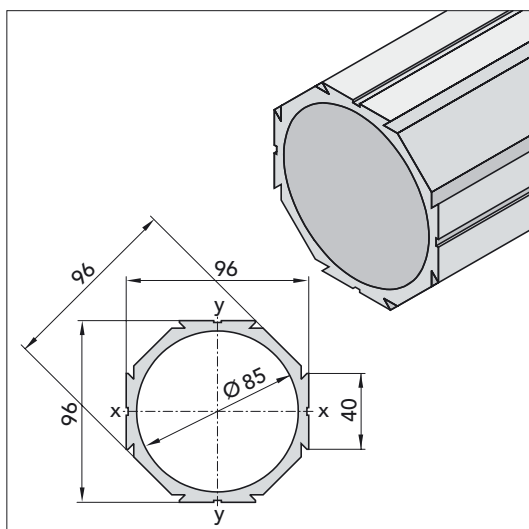
|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 3.996 kg/m                 |
| Profile area      |                | 1480 mm <sup>2</sup>       |
| Section modulus   | W <sub>x</sub> | 23 cm <sup>3</sup>         |
|                   | W <sub>y</sub> | 23 cm <sup>3</sup>         |
| Moment of inertia | J <sub>x</sub> | 76 cm <sup>4</sup>         |
|                   | J <sub>y</sub> | 76 cm <sup>4</sup>         |
| Article number    |                | 42852n / length<br>natural |

### 3.1.3 Natural Profile LP-66-40



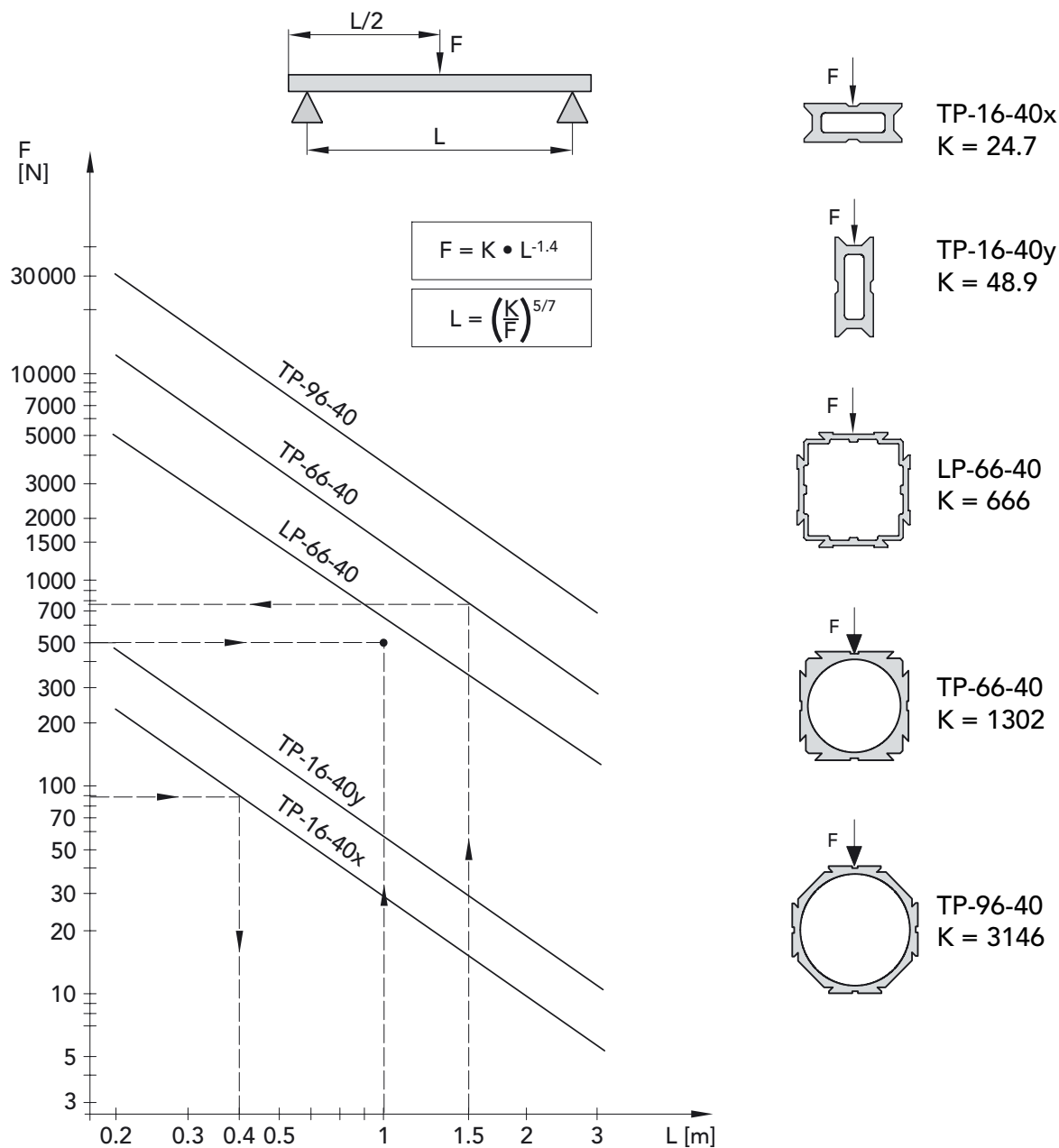
|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 2.186 kg/m                 |
| Profile area      |                | 809 mm <sup>2</sup>        |
| Section modulus   | W <sub>x</sub> | 13 cm <sup>3</sup>         |
|                   | W <sub>y</sub> | 13 cm <sup>3</sup>         |
| Moment of inertia | J <sub>x</sub> | 45 cm <sup>4</sup>         |
|                   | J <sub>y</sub> | 45 cm <sup>4</sup>         |
| Article number    |                | 49260N / length<br>natural |

### 3.1.4 Supporting profile TP-96-40



|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 4.77 kg/m                  |
| Profile area      |                | 1767 mm <sup>2</sup>       |
| Section modulus   | W <sub>x</sub> | 37.82 cm <sup>3</sup>      |
|                   | W <sub>y</sub> | 37.82 cm <sup>3</sup>      |
| Moment of inertia | J <sub>x</sub> | 181.53 cm <sup>4</sup>     |
|                   | J <sub>y</sub> | 181.53 cm <sup>4</sup>     |
| Article number    |                | 43207N / length<br>natural |



**Load diagram**

**Example 1:**

Given: TP-66-40      L = 1.5 m  
 Result: F max. = 738 N

**Example 2:**

Given: TP-34-20      F = 90 N  
 Result: L max. = 0,4 m

**Example 3:**

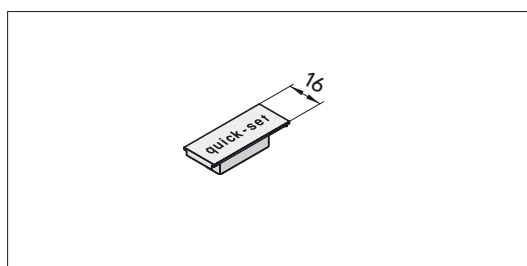
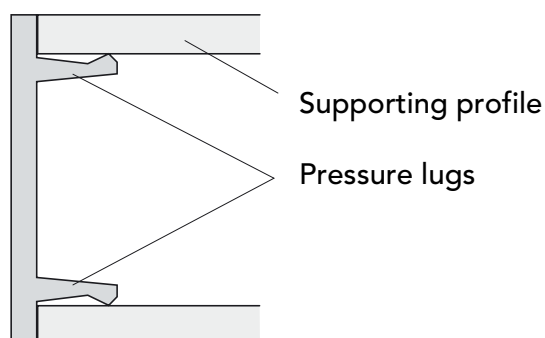
Given: F = 500 N      L = 1 m  
 Result: LP-66-40

### 3.2 Caps AK-16-40 / AK-66-40 / AK-96-40 for covering the supporting profile

#### Mounting the cap

The cap is pushed on to the profile so that it is flush. The pressure lugs ensure that it is held firmly inside the profile (Fig. 3.2-1).

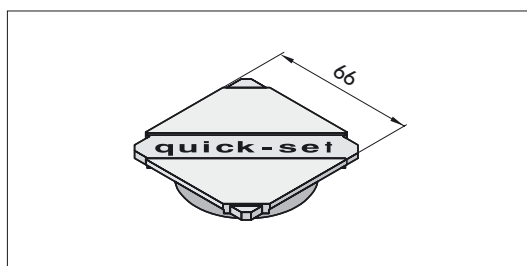
#### Mounting the cap



#### 3.2.1 AK-16-40

Article number (green turquoise): 44871

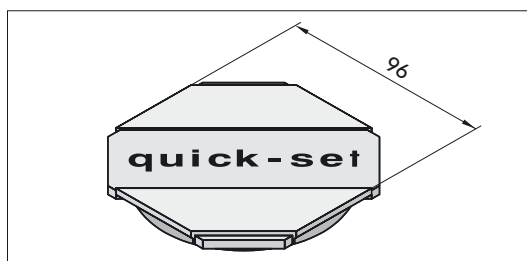
Article number (grey natural): 48619



#### 3.2.2 AK-66-40

Article number (green turquoise): 44869

Article number (grey natural): 48617



#### 3.2.3 AK-96-40

Article number (green turquoise): 44870

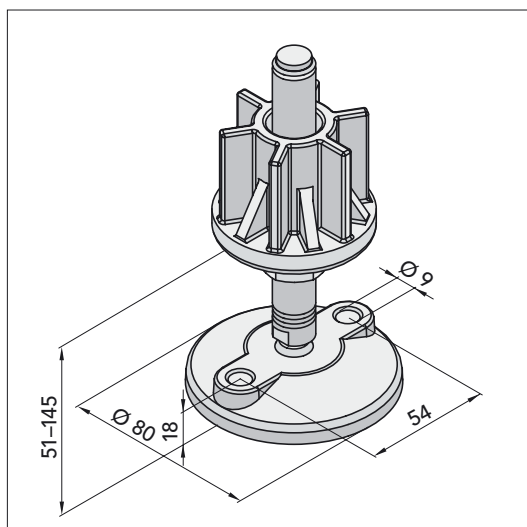
Article number (grey natural): 48618

### 3.3 Articulated foot GF for supporting profile

#### Assembly

Press threaded journals (1) without screwed-in joint base (2) into the profile TP-66-40 / LP-66-40. Then mount the joint base. The height is adjusted by loosening the lock nut (3) and by turning the threaded bolt (4). After the adjustment, the lock nut (3) must be tightened again (Fig. 3.3-2).

#### 3.3.1 Articulated foot GFTP-66-40

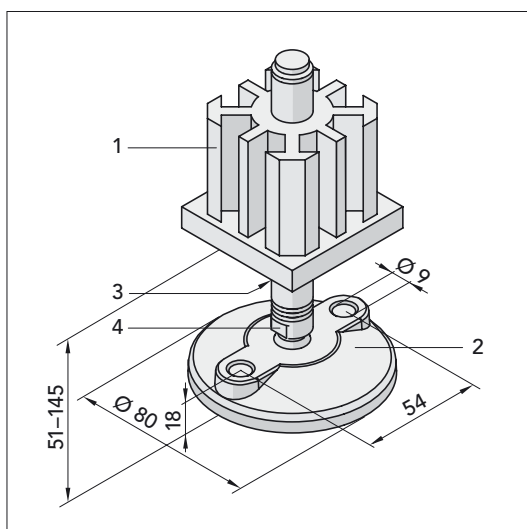


Max. axial load 5 kN

Weight 0.350 kg

Article number 54295

#### 3.3.2 Articulated foot GFLP-66-40



Max. axial load 5 kN

Weight 0.400 kg

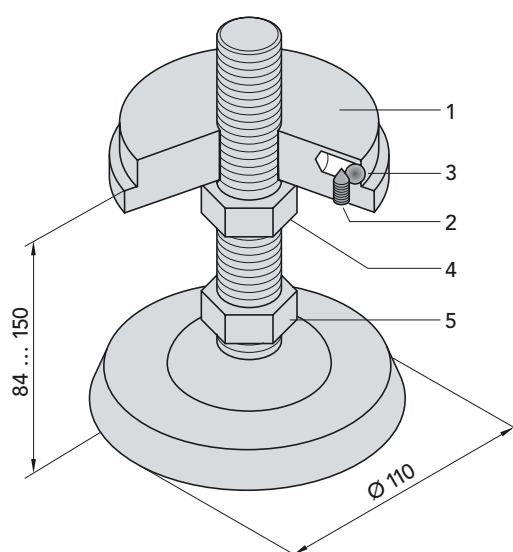
Article number 49397

### 3.3.3 Articulated foot GF-96-40

#### Assembly

The articulated foot, together with the adaptor plate (1), is inserted in the appropriate supporting profile. Allocation is according to the corresponding size designation (GF-66 for TP-66 and GF-96 for TP-96).

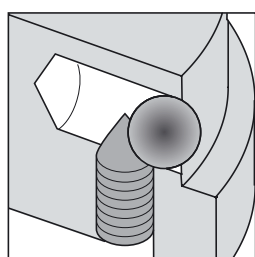
When the set-screw (2) is tightened in, the ball (3) is pressed against the inside of the profile; this results in a connection locked by friction. The height is adjusted by slackening the lock-nut (4) and turning the stud (5). When the desired height is reached, the lock-nut (4) has to be retightened. (Fig.3.3-3).



Max. axial load                      12 kN

Weight                                      0.865 kg

Article number                      44019

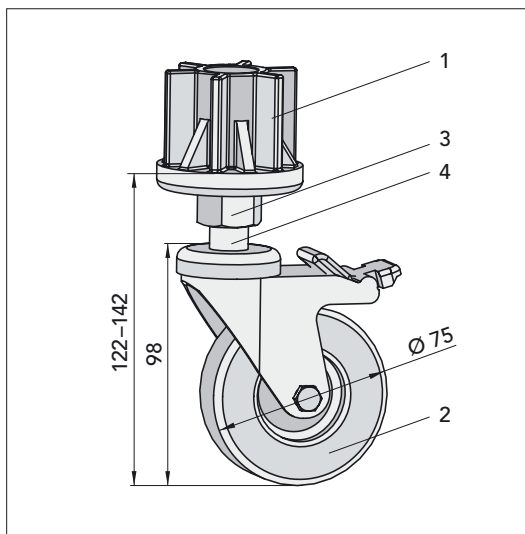


### 3.4 Casters LR / BR for profile

#### Assembly

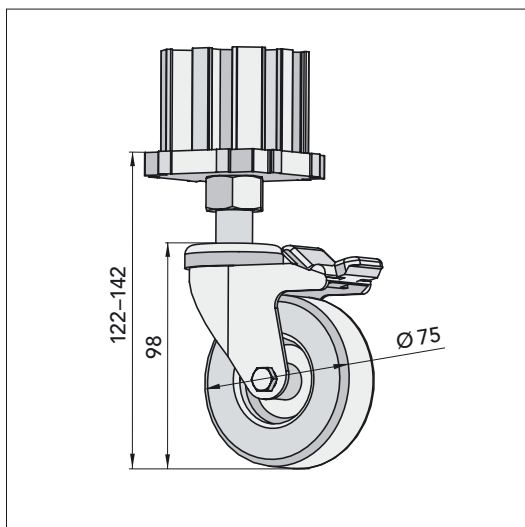
Press threaded journals (1) without screwed-in joint base (2) into the profile TP-66-40 / LP-66-40. Then mount the joint base. The height is adjusted by loosening the lock nut (3) and by turning the threaded bolt (4). After the adjustment, the lock nut (3) must be tightened again (Fig. 3.4-1).

#### 3.4.1 Caster LRTP-75 with turntable brake



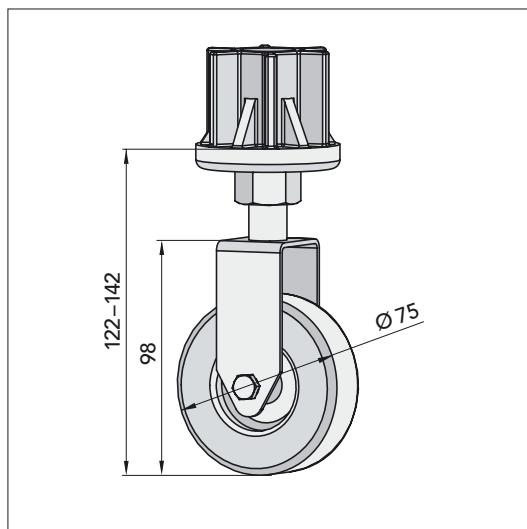
|                 |          |
|-----------------|----------|
| Max. axial load | 580 N    |
| Weight          | 0.465 kg |
| Article number  | 54267    |

#### 3.4.2 Caster LRLP-75 with turntable brake



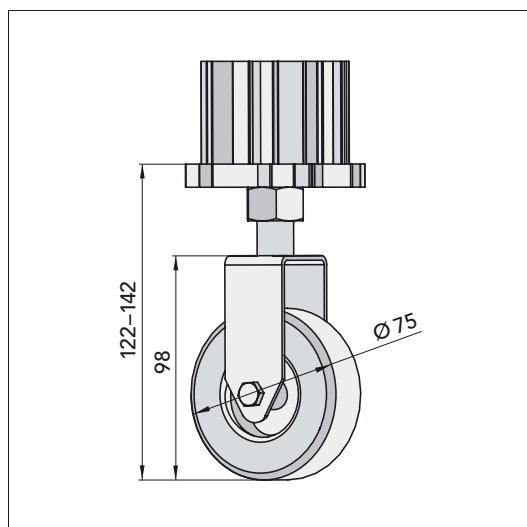
|                 |          |
|-----------------|----------|
| Max. axial load | 580 N    |
| Weight          | 0.510 kg |
| Article number  | 54269    |

### 3.4.3 Fixed roller BRTP-75



|                 |          |
|-----------------|----------|
| Max. axial load | 580 N    |
| Weight          | 0.375 kg |
| Article number  | 54268    |

### 3.4.4 Fixed roller BRLP-75

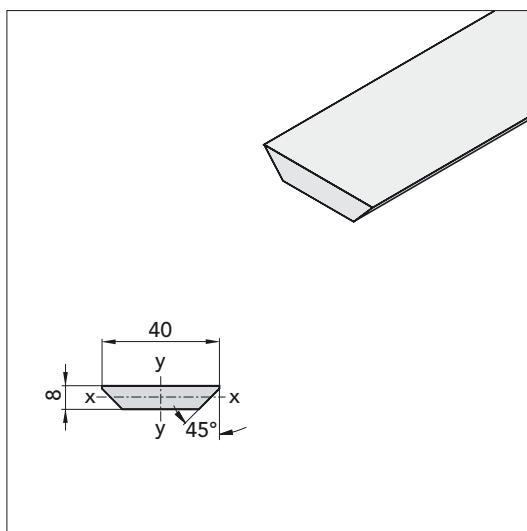


|                 |          |
|-----------------|----------|
| Max. axial load | 580 N    |
| Weight          | 0.420 kg |
| Article number  | 54270    |

### 3.5 Adaptor profiles AP

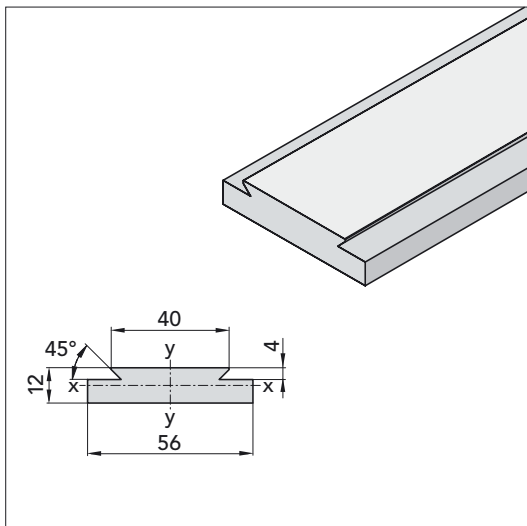
Used to connect non "QUICK-SET®" components to the "QUICK-SET®" system.

#### 3.5.1 Adaptor profile AP-40-40



|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 0.732 kg/m                 |
| Profile area      |                | 271 mm <sup>2</sup>        |
| Section modulus   | W <sub>x</sub> | 0.32 cm <sup>3</sup>       |
|                   | W <sub>y</sub> | 1.3 cm <sup>3</sup>        |
| Moment of inertia | J <sub>x</sub> | 0.14 cm <sup>4</sup>       |
|                   | J <sub>y</sub> | 2.72 cm <sup>4</sup>       |
| Article number    |                | 41258N / length<br>natural |

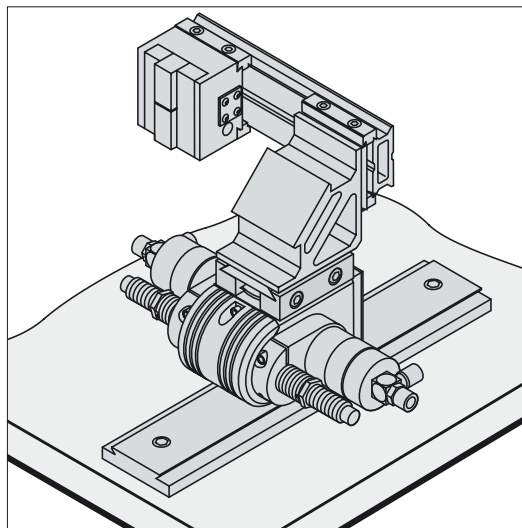
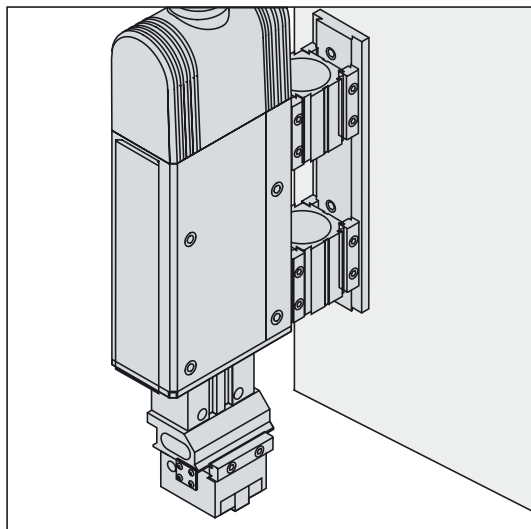
#### 3.5.2 Adaptor profile AP-56-40



|                   |                |                            |
|-------------------|----------------|----------------------------|
| Weight            |                | 1.620 kg/m                 |
| Profile area      |                | 600 mm <sup>2</sup>        |
| Section modulus   | W <sub>x</sub> | 1.04 cm <sup>3</sup>       |
|                   | W <sub>y</sub> | 4.83 cm <sup>3</sup>       |
| Moment of inertia | J <sub>x</sub> | 0.67 cm <sup>4</sup>       |
|                   | J <sub>y</sub> | 13.53 cm <sup>4</sup>      |
| Article number    |                | 46253N / length<br>natural |

### Typical applications:

When clamping elements types SLL-... and SLR-... are used, or the corner-pieces EV-..., it is advisable to use screws size M6 for fixing and to countersink the screw heads.

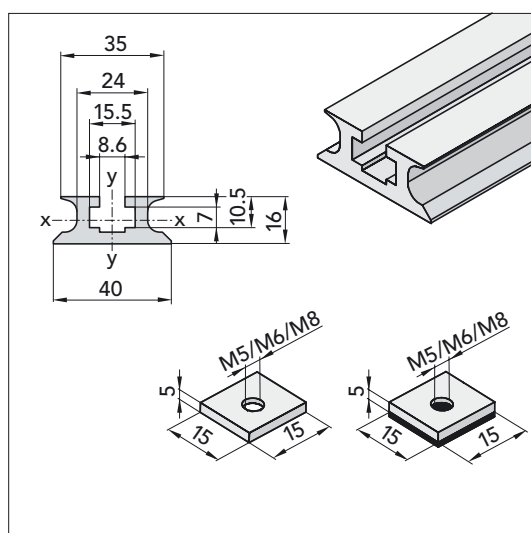




### 3.6 DIN-Profile Rail DP

The DIN profile rail can be joined with the clamping elements to any dovetail.

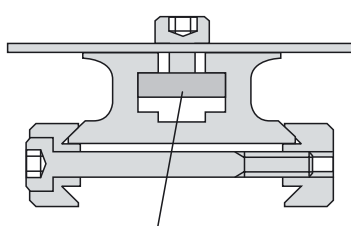
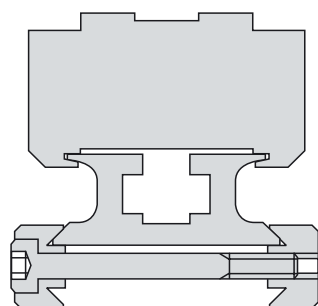
#### 3.6.1 DIN-Profile Rail (TS-35) DP-40



|                 |                |                       |
|-----------------|----------------|-----------------------|
| Weight          |                | 0.854 kg/m            |
| Section modulus | W <sub>x</sub> | 1.346 cm <sup>3</sup> |
|                 | W <sub>y</sub> | 1.746 cm <sup>3</sup> |
| Article number  |                | 45088N / length       |
|                 |                | natural               |

The opposite side of the profile is shaped like a supporting rail profile TS-35. Electric terminal blocks or the like can be attached to it (Fig.3.6.2). The profile also contains a T-slot for square nuts (Fig. 3.6-2).

#### Typical applications:



Slot inserts M5/M6/M8

#### Slot inserts for DIN-Profile Rail DP-40:

| Thread size | Article number |          |
|-------------|----------------|----------|
| M5          | 45089          | 45089/F* |
| M6          | 21913          | 45090/F* |
| M8          | 45091          | 45091/F* |

\* non slip (self-locking)

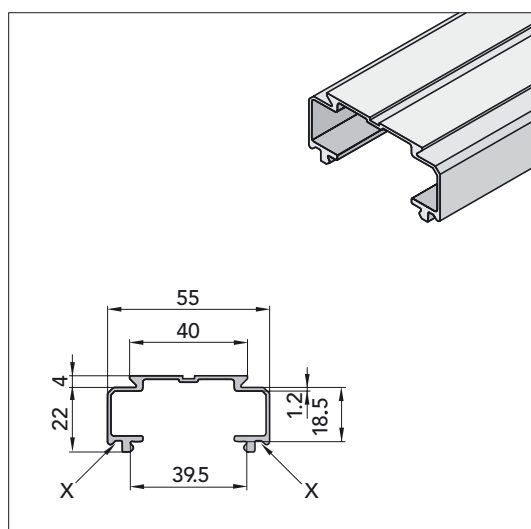
### 3.7 Cable duct KFM

#### Assembly

The cable duct is mounted by clipping it on to a TP profile or the dovetail of an AP or KFM profile.

To dismantle lever up with a screwdriver or the like at one of the two projections "X"

#### 3.7.1 Cable duct multiple KFM-40

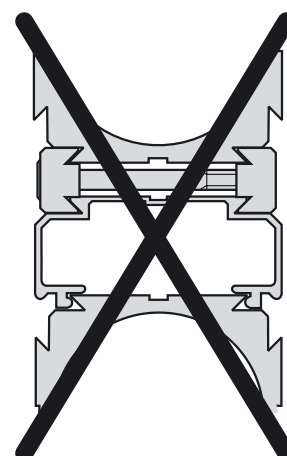
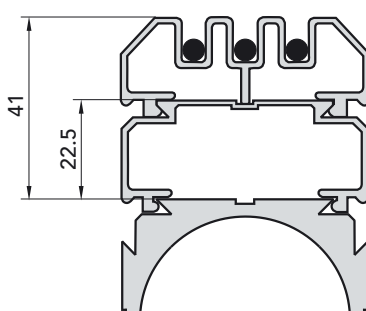
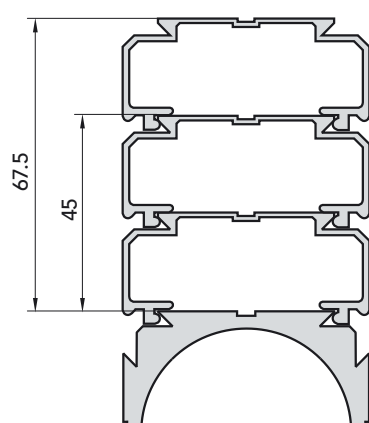


Weight 0.549 kg/m

Article number 45229N / length

natural

#### Variants for mounting:

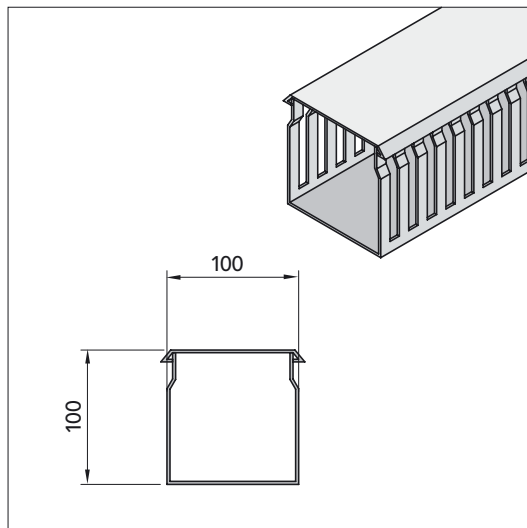


- The KFM profile may not be used as load-carrying element (Fig. 3.7-2 on the right).

### 3.8 Wiring duct VK

For the orderly laying of pneumatic hoses and electric cables.

#### 3.8.1 Wiring duct VK-40

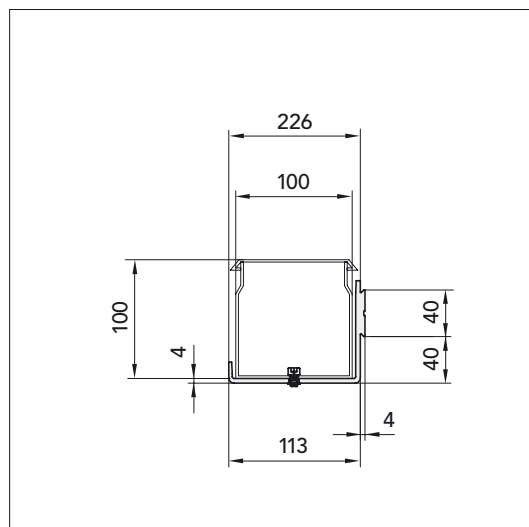
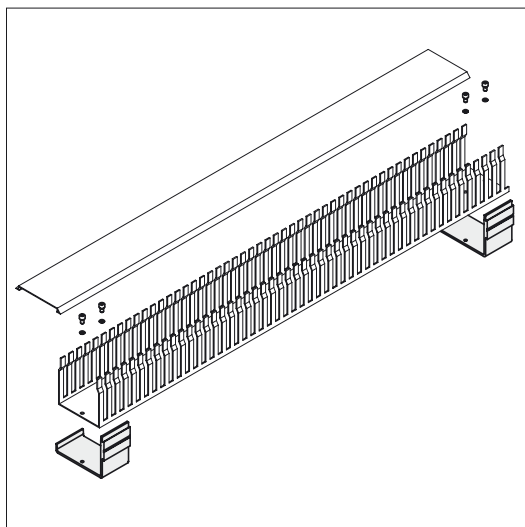


|                |            |
|----------------|------------|
| Weight         | 1.300 kg/m |
| length         | 2 m        |
| Article number | 507867     |
|                | grey       |

#### 3.8.2 Optional accessory to wiring duct VK-40

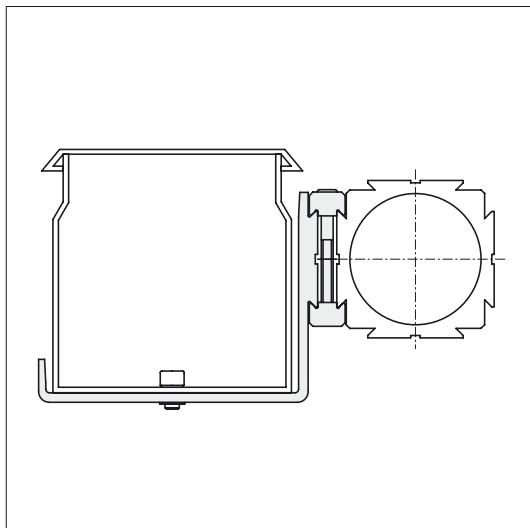
##### Assembly

The cable duct can be fastened to any available dovetail using fastening brackets VBW-40. One fastening bracket per wiring duct end and three further fastening brackets per additional linear meter are required.



### 3.8.3 Fastening bracket VBW-40, horizontal

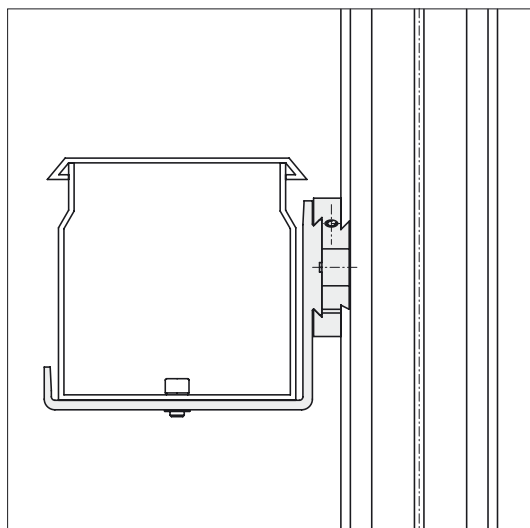
Fastening of the VK-40 to parallel support profiles.



|                |            |
|----------------|------------|
| Weight         | 0.225 kg/m |
| length         | 0.064 m    |
| Article number | 51134      |
|                | natural    |

### 3.8.4 Fastening bracket VBW-40, vertical

Fastening of the VK-40 to perpendicular support profiles.

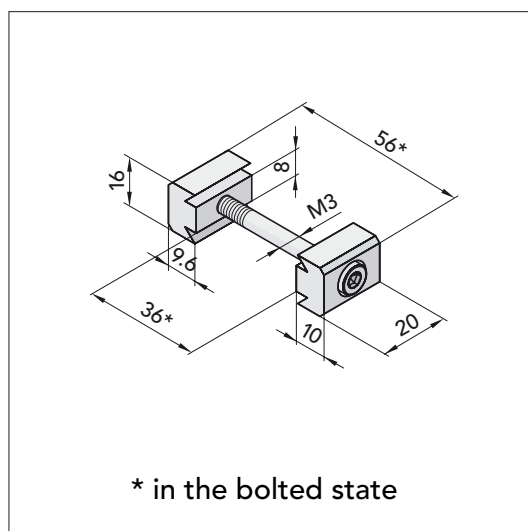


|                |            |
|----------------|------------|
| Weight         | 0.235 kg/m |
| length         | 0.064 m    |
| Article number | 51135      |
|                | natural    |



#### 4.1.2 Clamping element SLL-20-40

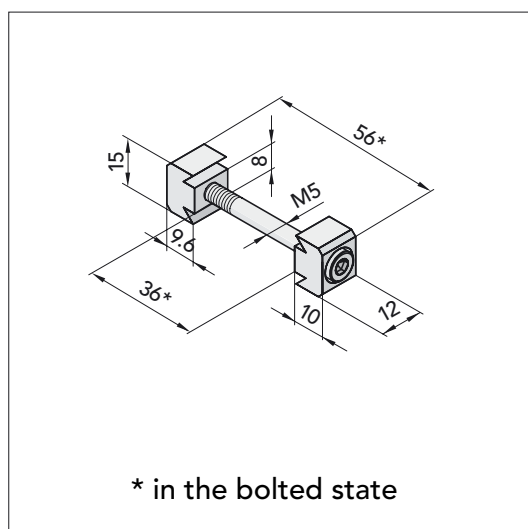
Standard connector for middle loads.



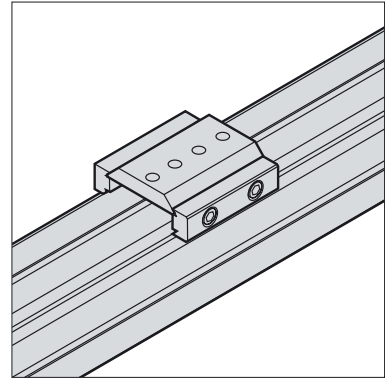
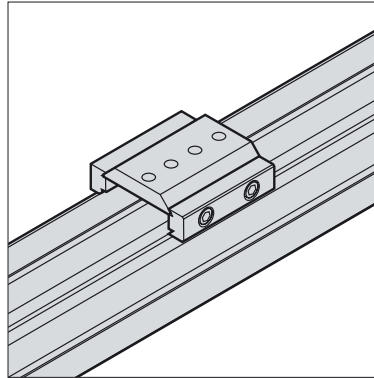
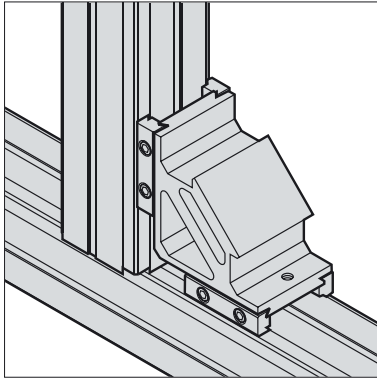
|   |           |
|---|-----------|
| Weight  | 0.020 kg  |
| Screw tightening torque                                     | 6 Nm      |
| Resistance to displacement<br>(two profiles to one another) | 1350 N    |
| Parallelism of the clamped surfaces                         | ± 0.02 mm |
| Article number  | 41190N    |
|   | natural   |

#### 4.1.3 Clamping element SLL-12-40

Connector for natural loads and very short external dovetails.

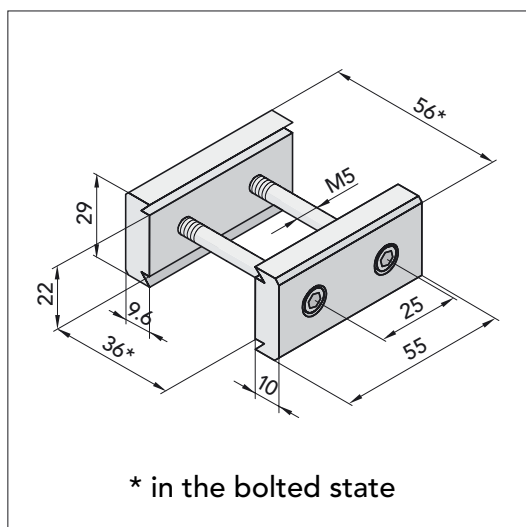


|   |           |
|---|-----------|
| Weight  | 0.016 kg  |
| Screw tightening torque                                     | 6 Nm      |
| Resistance to displacement<br>(two profiles to one another) | 750 N     |
| Parallelism of the clamped surfaces                         | ± 0.02 mm |
| Article number  | 44568N    |
|   | natural   |

**Typical applications:**

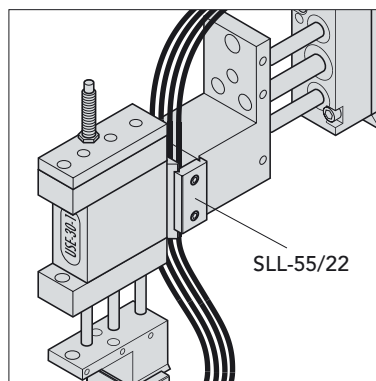
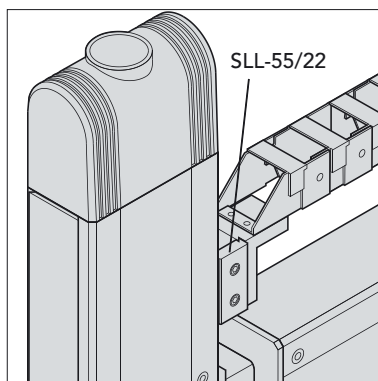
#### 4.1.4 Clamping element SLL-55/22-40

Standard connectors for heavy loads and increased distance.



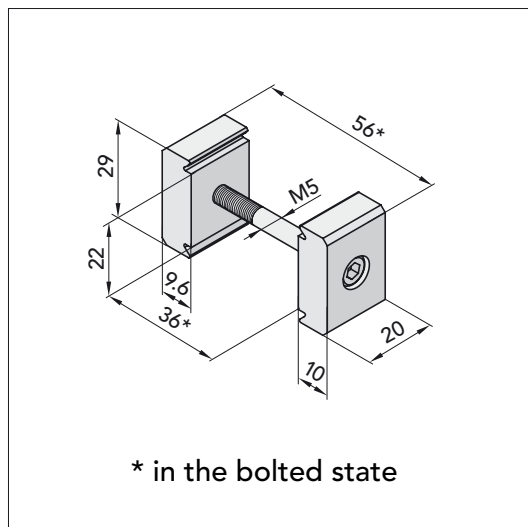
|   |               |
|---|---------------|
| Weight  | 0.096 kg      |
| Screw tightening torque                                     | 6 Nm          |
| Resistance to displacement<br>(two profiles to one another) | 3000 N        |
| Parallelism of the clamped surfaces                         | $\pm 0.02$ mm |
| Article number  | 45942N        |
|   | natural       |

#### Typical applications:



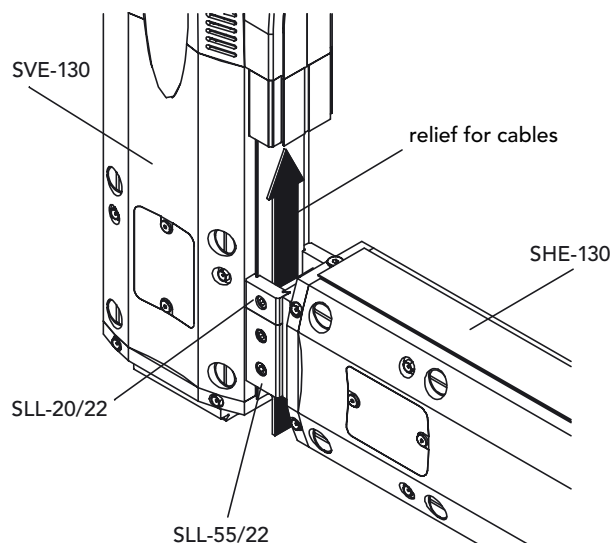


#### 4.1.5 Clamping element SLL-20/22-40



|   |           |
|---|-----------|
| Weight  | 0.022 kg  |
| Screw tightening torque                                     | 6 Nm      |
| Resistance to displacement<br>(two profiles to one another) | 1350 N    |
| Parallelism of the clamped surfaces                         | ± 0.02 mm |
| Article number  | 49458N    |
|   | natural   |

#### Typical application:

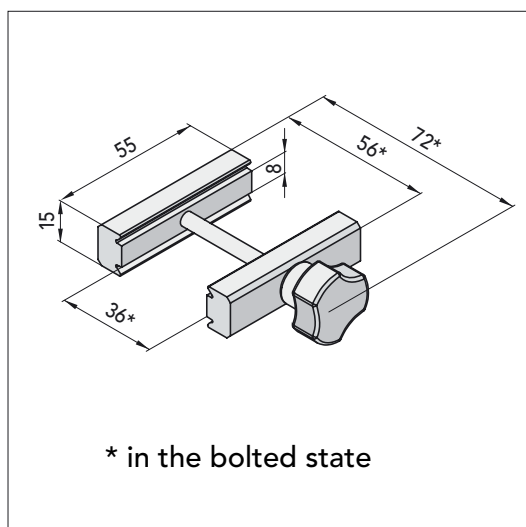


#### 4.1.6 Clamping element SLL-55-40N with lobe knob

Connector for very natural loads, displaceable by hand.

##### Assembly

The SLL-55-40N with lobe knob is a rapidly displaceable SLL. By loosening the lobe knob manually, the tension element SLL-55-40 with lobe knob is brought into the desired position on an outer dovetail and **tightened by hand**.



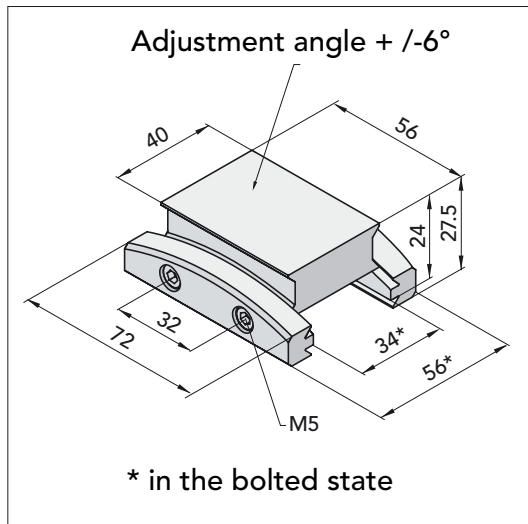
|                                     |               |
|-------------------------------------|---------------|
| Weight                              | 0.060 kg      |
| Parallelism of the clamped surfaces | $\pm 0.02$ mm |
| Article number                      | 54598N        |
|                                     | natural       |



- The SLL-55-40 with lobe knob must not be used as a supporting element.

#### 4.1.7 Pivot clamping element SSE-55/+/-6°-40N

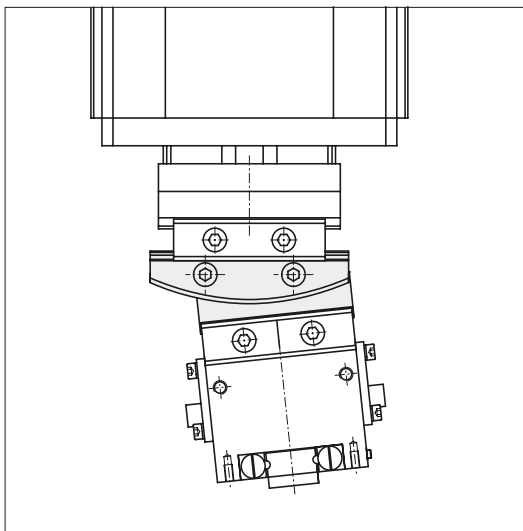
For angle adjustment of grippers or profiles on handling units.



|                         |          |
|-------------------------|----------|
| Weight                  | 0.140 kg |
| Screw tightening torque | 6 Nm     |
| Article number          | 54638N   |
|                         | natural  |

#### Typical application:

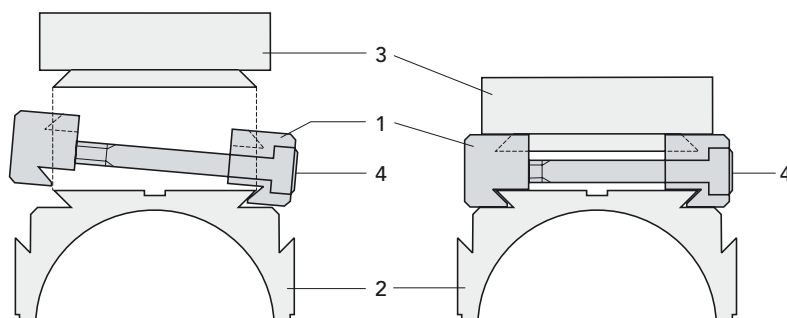
*Typical application SSE-55/+/-6°-40*



## 4.2 Clamping element longitudinal-round SLR

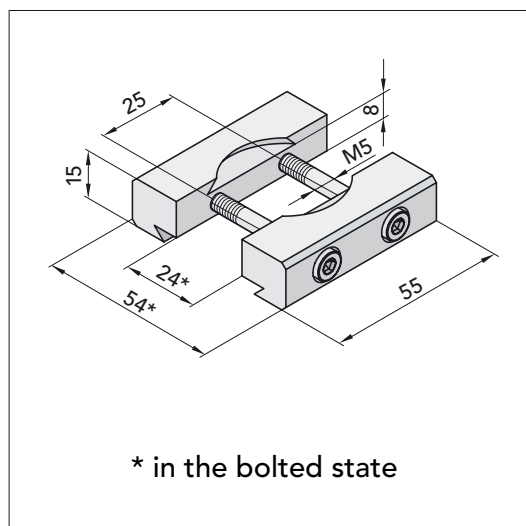
Connection between a truncated cone and an external dovetail.

### Assembly



- Unscrew the bolts (4) until the truncated cone of element (3) and the dovetail of element (2) can be inserted.
- Screw in the bolts (4) until the parts can just be displaced.
- Adjust the positions of parts (3) and (2) relative to one another and tighten the bolts (4) with the appropriate torque.

### 4.2.1 Clamping element SLR-15-40



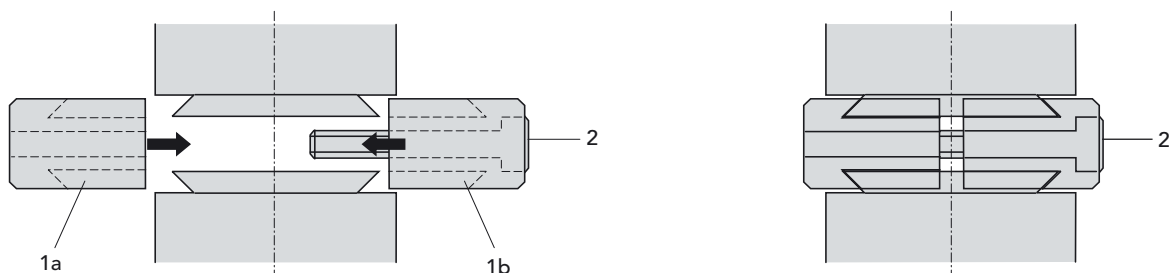
|                                     |           |
|-------------------------------------|-----------|
| Weight                              | 0.070 kg  |
| Screw tightening torque             | 6 Nm      |
| Resistance to displacement          | 3000 N    |
| Resistance to twisting              | 90 Nm     |
| Parallelism of the clamped surfaces | ± 0.03 mm |
| Article number                      | 40202N    |
|                                     | natural   |

### 4.3 Clamping element round-round SRR

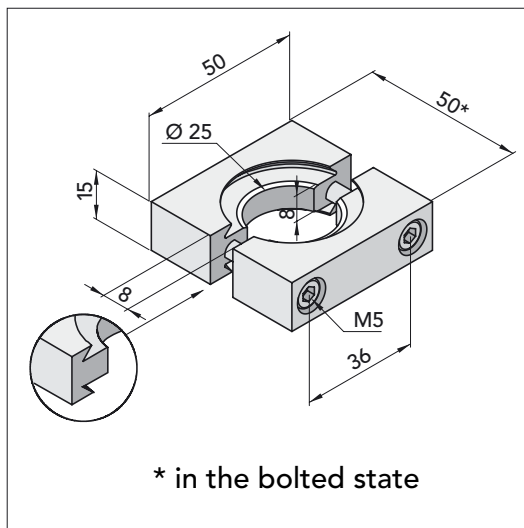
Connector between two truncated cones. As a rule for joining elements with internal compressed air supply, e.g. rotary units DAPI with gripper G...1, DAPI with linear adaptor LA, DAPI with angle adaptor WA, WA with G...1.

#### Assembly

Place the clamping jaws (1a and 1b) against the two truncated cones as per Fig.4.3.3 and turn in the screws (2) until the cones can just be turned. After aligning in the desired position, tighten the screws with the appropriate torque.



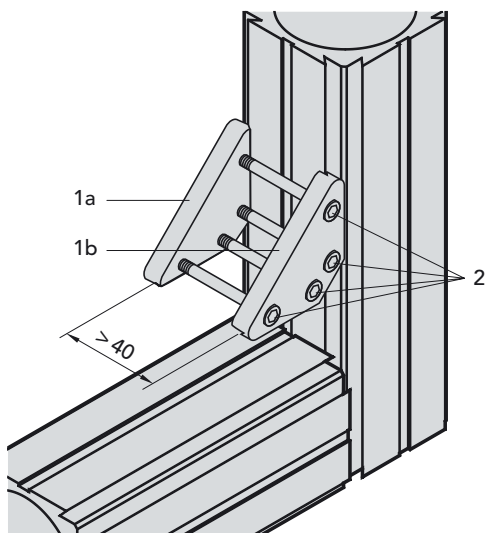
#### 4.3.1 Clamping element SRR-40



|                                     |           |
|-------------------------------------|-----------|
| Weight                              | 0.070 kg  |
| Screw tightening torque             | 6 Nm      |
| Resistance to twisting              | 90 Nm     |
| Parallelism of the clamped surfaces | ± 0.03 mm |
| Article number                      | 40200N    |
|                                     | natural   |

## 4.4 Corner-piece EV

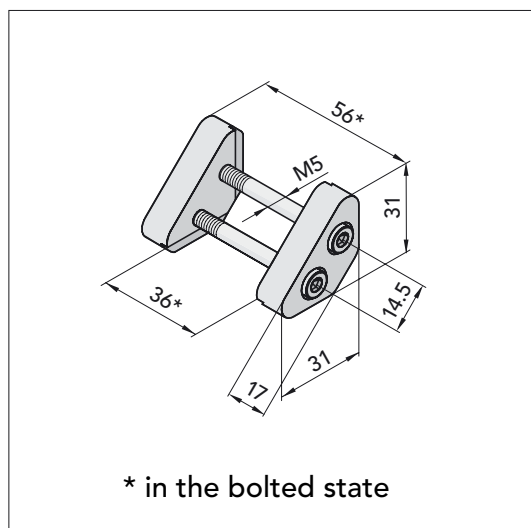
### Assembly



- Screw bolts (2) in until a distance of > 40 mm remains between the sides of the corner-piece (1a and 1b).
- Place the corner-piece on the profiles to be joined so that when the bolts are screwed in, both sides grip the external dovetail. Tighten the bolts far enough to allow the parts to have a snatural movement.
- Having determined the final position tighten the bolts with the appropriate torque.

### 4.4.1 Corner-piece EV-2-40

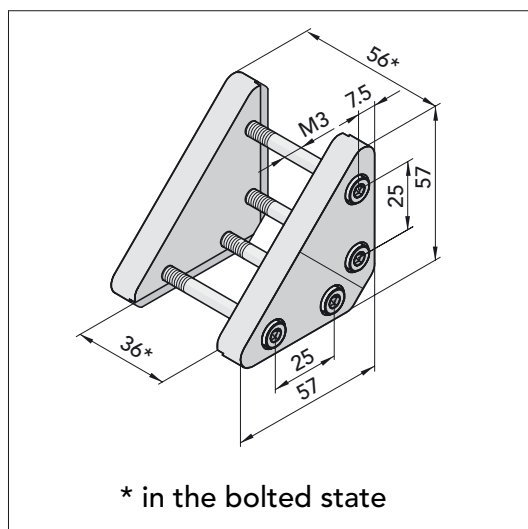
Connector for 90° joints with natural loads.



|   |           |
|---|-----------|
| Weight  | 0.050 kg  |
| Screw tightening torque   | 6 Nm      |
| Resistance to displacement  | 1500 N    |
| Perpendicularity of the clamping grooves (on the length of 19 mm) | ± 0.02 mm |
| Article number  | 44607N    |
|   | natural   |

#### 4.4.2 4 Corner-pieces EV-3-40 pre-assembled and packaged

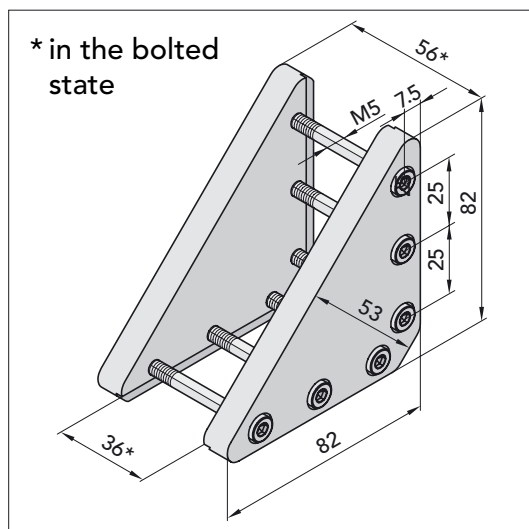
Connector for 90° joints with middle loads.



|   |           |
|---|-----------|
| Weight  | 0.130 kg  |
| Screw tightening torque   | 6 Nm      |
| Resistance to displacement  | 3000 N    |
| Perpendicularity of the clamping grooves (on the length of 45 mm) | ± 0.02 mm |
| Article number  | 59296N    |
|   | natural   |

#### 4.4.3 4 Corner-pieces EV-4-40 pre-assembled and packaged

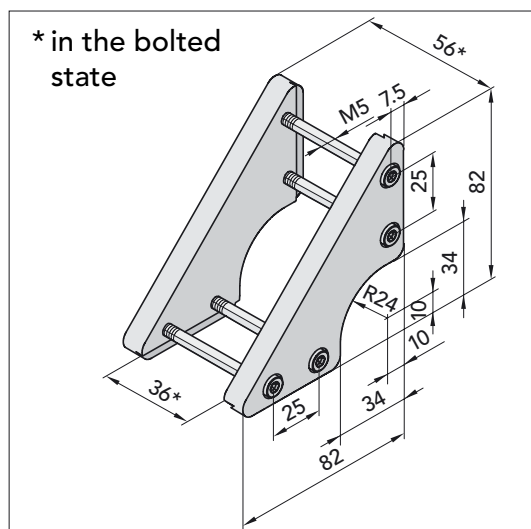
Connector for 90° joints with heavy loads.



|   |           |
|---|-----------|
| Weight  | 0.250 kg  |
| Screw tightening torque   | 6 Nm      |
| Resistance to displacement  | 4500 N    |
| Perpendicularity of the clamping grooves (on the length of 70 mm) | ± 0.04 mm |
| Article number  | 59297N    |
|   | natural   |

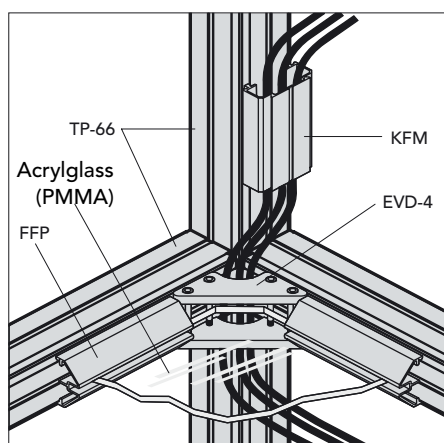
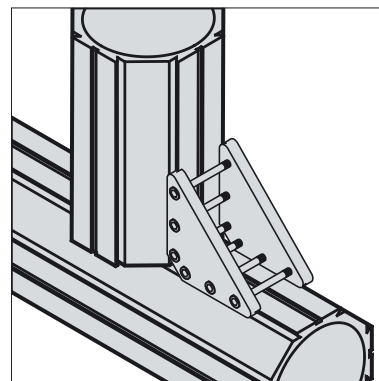
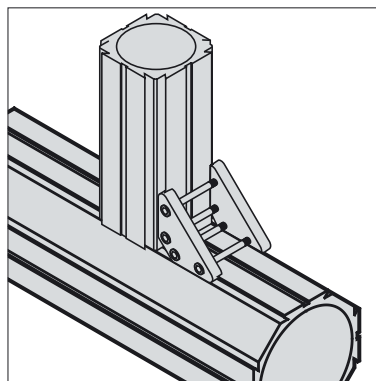
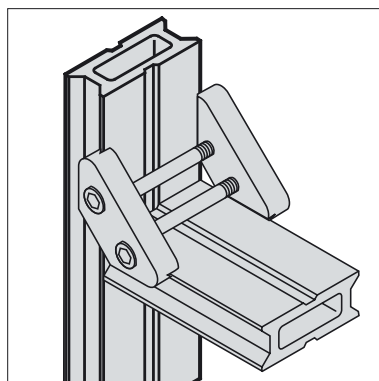
#### 4.4.4 Corner-piece EVD-4-40

Connector for 90° joints with relief for cables.



|   |           |
|---|-----------|
| Weight  | 0.200 kg  |
| Screw tightening torque   | 6 Nm      |
| Resistance to displacement  | 3000 N    |
| Perpendicularity of the clamping grooves (on the length of 70 mm) | ± 0.04 mm |
| Article number  | 46565N    |
|   | natural   |

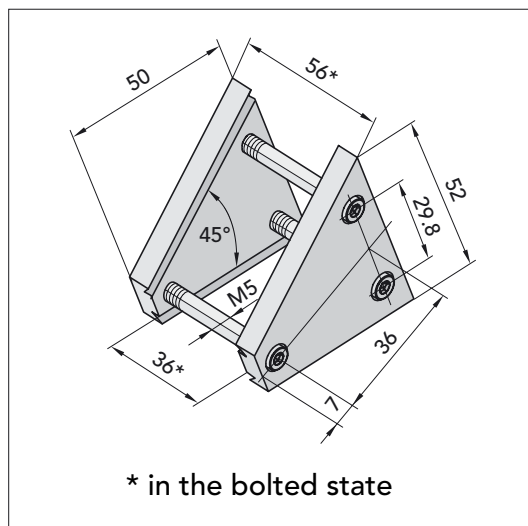
#### Typical applications:





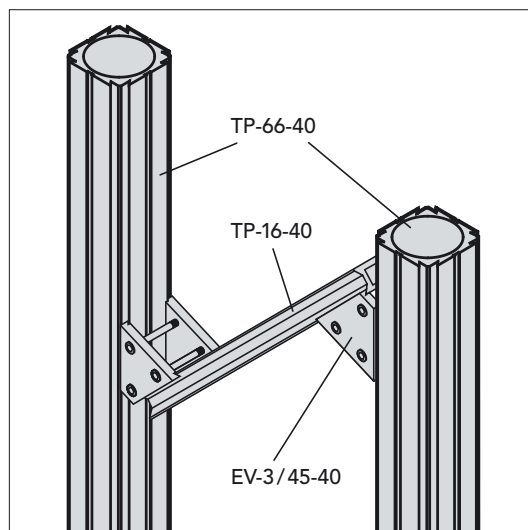
#### 4.4.5 Corner-piece EV-3/45-40

Connector for 45° joints.



|                            |          |
|----------------------------|----------|
| Weight                     | 0.100 kg |
| Screw tightening torque    | 6 Nm     |
| Resistance to displacement | 3000 N   |
| Article number             | 45241N   |
|                            | natural  |

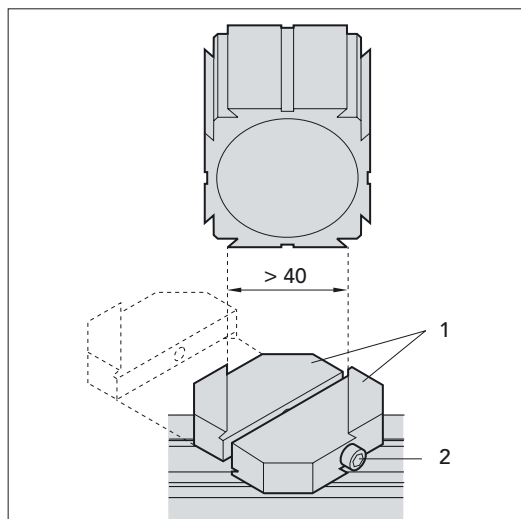
#### Typical application:



## 4.5 Cross-connector KV

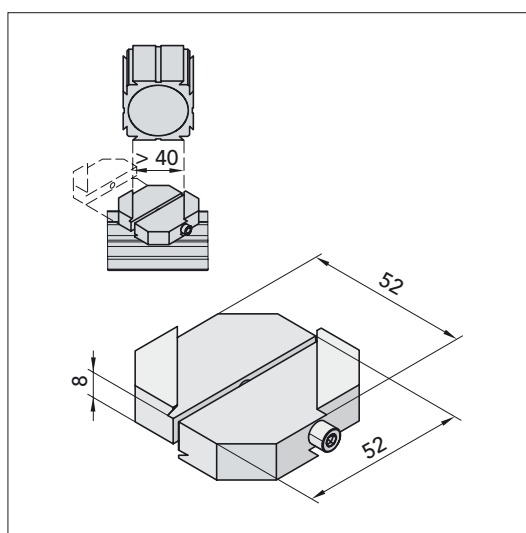
For joining two external dovetails crossing at right-angles.

### Assembly



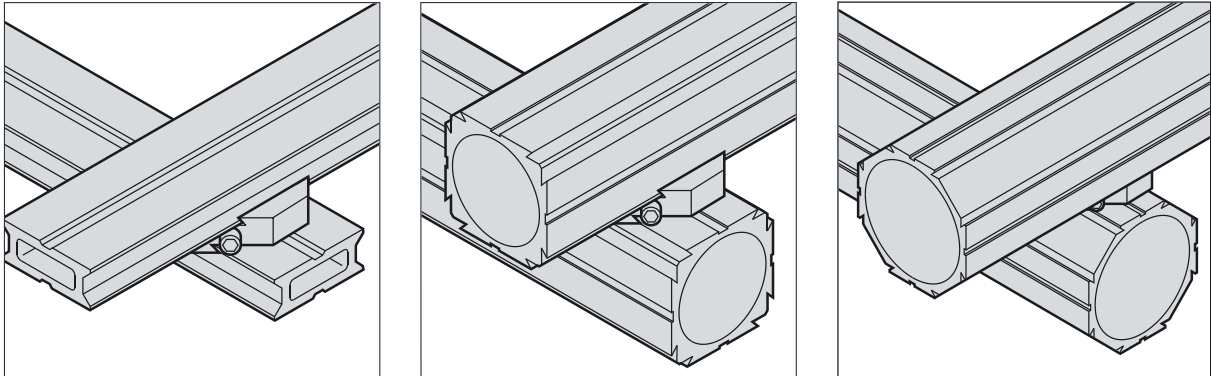
- Turn in screw (2) only so far that the distance between the clamping jaws of the connector (1) is  $> 40$  mm.
- Place the connector between the profiles to be joined so that when screw (2) is turned in, the two jaws engage in the respective external dovetails. Only tighten far enough for the parts to be just movable.
- When the final position has been determined, tighten the screw with the appropriate torque.

### 4.5.1 Cross-connector KV-40



|                            |          |
|----------------------------|----------|
| Weight                     | 0.060 kg |
| Screw tightening torque    | 6 Nm     |
| Resistance to displacement | 1500 N   |
| Article number             | 44984N   |
|                            | natural  |

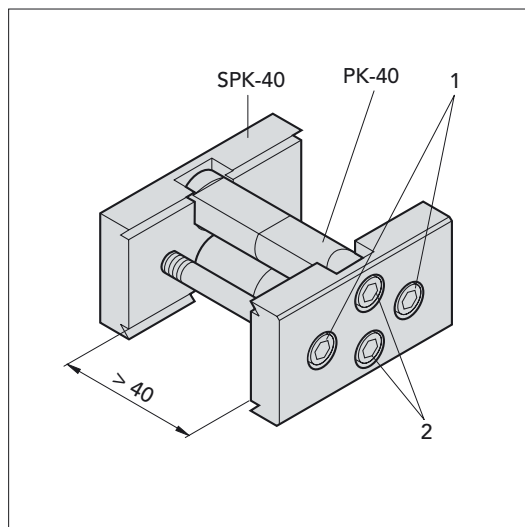
### Typical applications:



## 4.6 Positioning clamp PK

A connector which performs the function of "pinning".

### Assembly

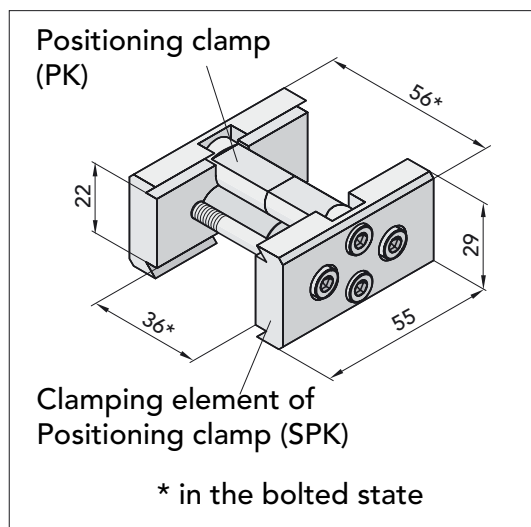


- Place the positioning clamp PK in the slots provided on clamping element SPK, making sure that the clamping projections of the PKs and SPKs are > 40 mm apart.
- Attach the clamping elements to the external dovetails to be joined and tighten the two screws (1) until the parts are just movable.
- Determine the final position and then tighten screws (1) and afterwards screws (2) with the appropriate torque. Now the screws (2) may not be released, otherwise the set final position will be lost.

By releasing the screws (1) the SPK can be lifted over the heads of screws (2) and the positioned part removed. The positioning clamp PK remains on the equipment.

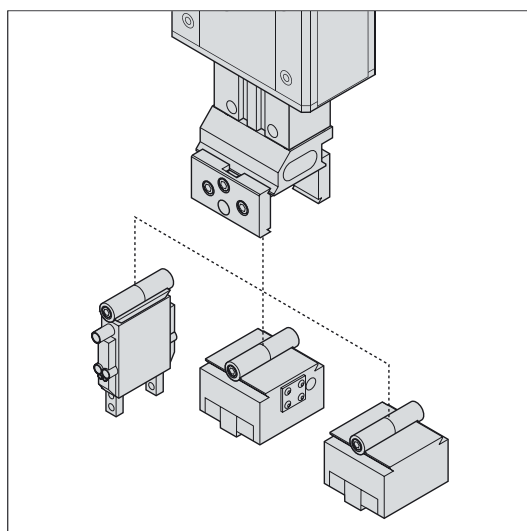
Thus devices can be exchanged at will and always regain their exact position (Fig.4.6-1) if, as described above, fitted with a PK. Please note thereby that in the example illustrated in Fig. 4.6-3, the adjustment of the base PK on the linear unit may not be changed.

#### 4.6.1 Clamping element SPK-40 with positioning clamp PK-40



|  |               |
|--|---------------|
| Weight   | 0.156 kg      |
| Screw tightening torque SPK  | 6 Nm          |
| Screw tightening torque PK   | 2 Nm          |
| Resistance to displacement<br>(two profiles relative to one another) | 5250 N        |
| Parallelism of the clamped surfaces                                  | $\pm 0.02$ mm |
| Article number PK-40   | 44419         |
| Article number SPK-40  | 44420         |
|  | black         |

#### Typical application:



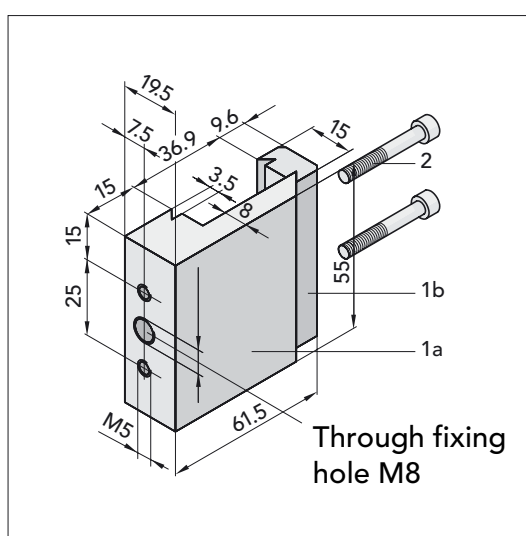
## 4.7 Connector for plate VP

For fixing plates on/in the structure of supporting profiles.

### Assembly

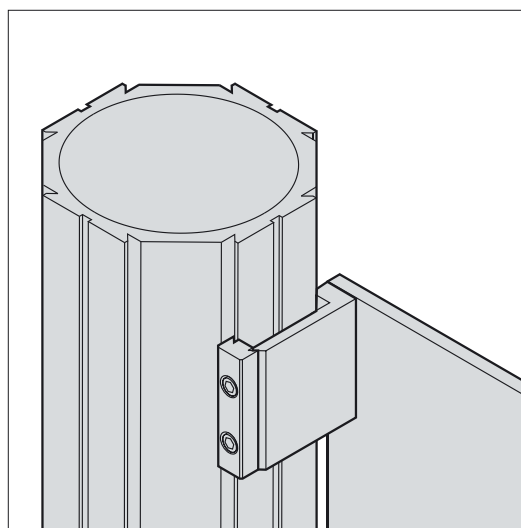
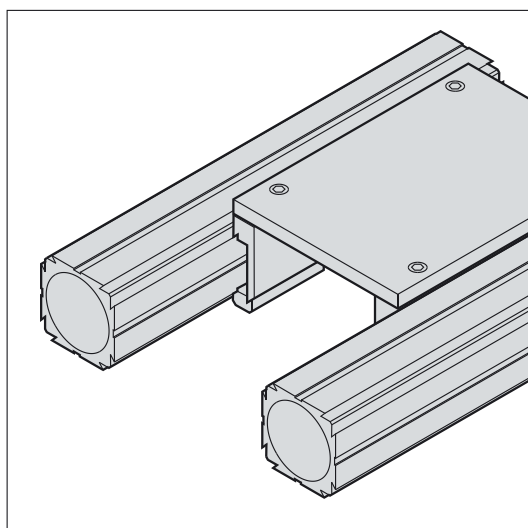
Attach the connector (1a) to an external dovetail and place the clamping jaw (1b) on it. Tighten screws (2) with the appropriate torque. (Fig. 4.7-1).

### 4.7.1 Connector for plate VP-40



|                            |          |
|----------------------------|----------|
| Weight                     | 0.120 kg |
| Screw tightening torque    | 6 Nm     |
| Resistance to displacement | 1875 N   |
| Article number             | 44603N   |
|                            | natural  |

### Typical applications:



## 4.8 Front-side adapter SA-40

Dovetail profile for front-side fastening of an LP-66-40 or TP-66-40 profile.

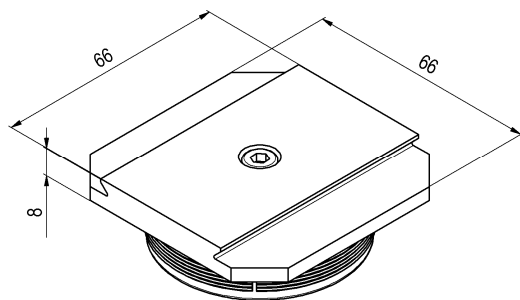
### Assembly

Insert and align front-side adapter in LP-66-40 or TP-66-40. Then tighten the cylinder screw (M5) to 6 Nm.



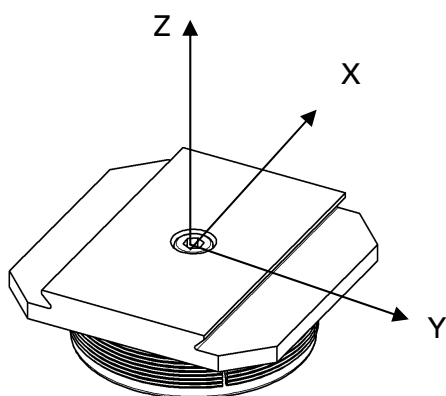
- When mounting, make sure that the slit of the cone ring is at a 45° angle to the dovetail of the LP-66-40-profile!

### 4.8.1 Front-side adapter SA-40



|                                 |           |
|---------------------------------|-----------|
| Weight                          | 0.230 kg  |
| Tightening torque of the screws | 6 Nm      |
| Article no.                     | 57637     |
|                                 | colorless |

### Load limits:

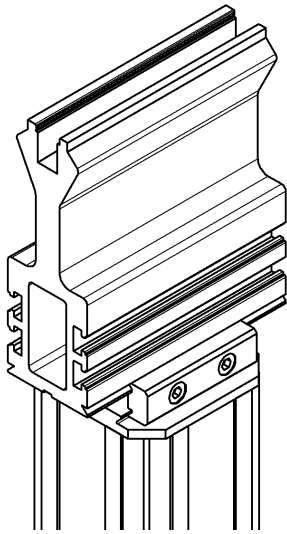


|                 |       |
|-----------------|-------|
| Mx<br>permitted | 50 Nm |
| My<br>permitted | 50 Nm |
| Mz<br>permitted | 0 Nm  |
| Fz              | 900 N |


7



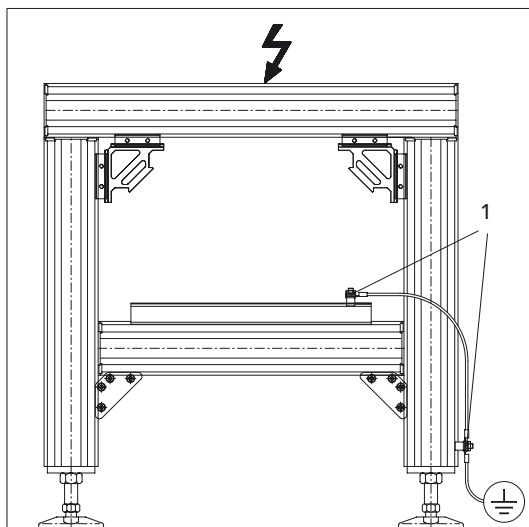
- Note that the front-side adapter can take no torque around the Z axis!

**Application examples:**

## 5 Earthing elements

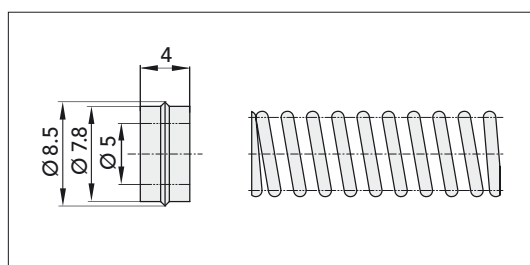
If energy-carrying, electric cables with voltages >50 VAC or 75 VDC are laid or led directly on QUICK-SET® profiles, the profiles must be conductively connected to the earthing element ERE-40 N (Item 1) and electrically conductive SLLs and EVs and connected to at least one earthing connection to earth (  ) (Fig. 5.1-1).

### 5.1 Typical applications Earthing elements



### 5.2 Contact element for earthing

Conversion kit for electrically conductive tension elements SLL and corner connectors EV. Contact element for earthing consisting of clamp and spring.



Weight 0.005 kg

Article number 55105



The conversion kit is applicable to the following tension element and corner connector types.

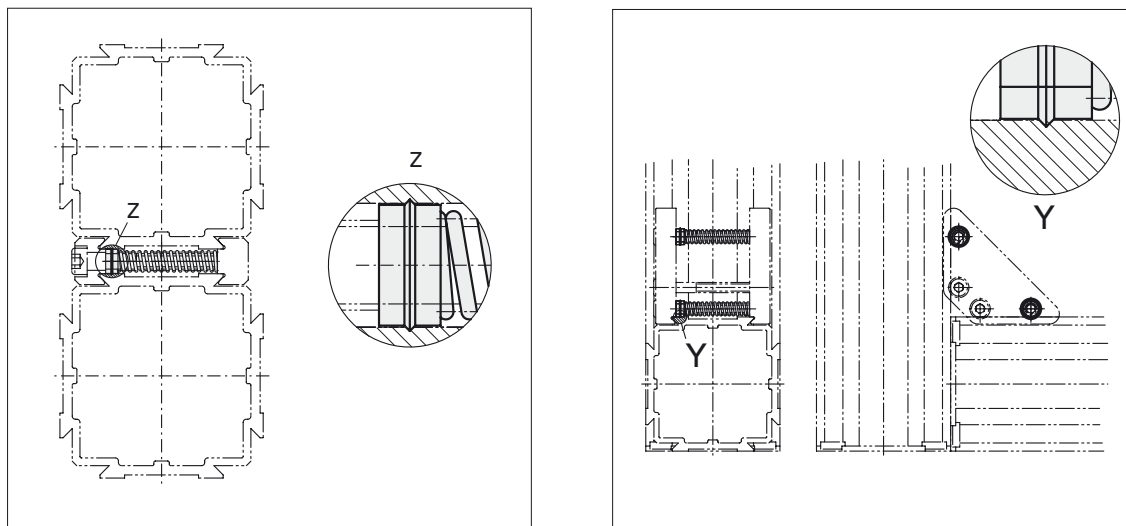
| Article number | Designation | Article number | Designation |
|----------------|-------------|----------------|-------------|
| 44568N         | SLL-12-40   | 44607N         | EV-2-40     |
| 41190N         | SLL-20-40   | 44608N         | EV-3-40     |
| 40201N         | SLL-55-40   | 44609N         | EV-4-40     |
|                |             | 46565N         | EVD-4-40    |
|                |             | 45241N         | EV-3/45-40  |

### Mounting the tension elements and corner a connectors with contact element for earthing

- Completely unscrew the screws (Fig. 5.2-2).
- Invert first the clamp and then the spring over the screws.
- Screw in the screws again until the parts can still just be moved.
- Bring the parts into the desired position relative to one another and tighten screws with the corresponding tightening torque (6 Nm).

By mounting the tension elements and corner connectors, the cupping point is pressed into the upper and lower profile surface. The anodized aluminium layers are partially destroyed and the two profiles are electrically connected to one another (Fig. 5.2-2, details Z and Y).

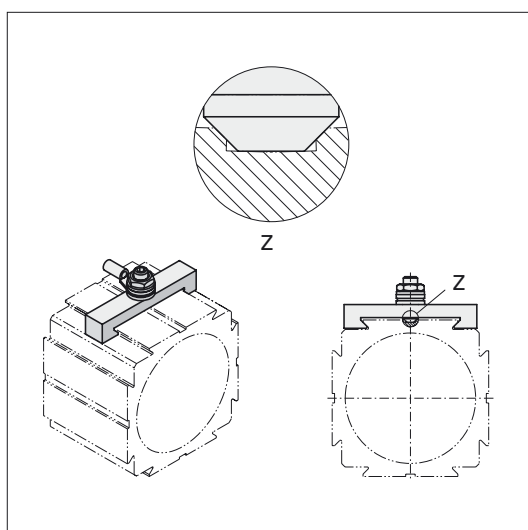
### Typical applications:



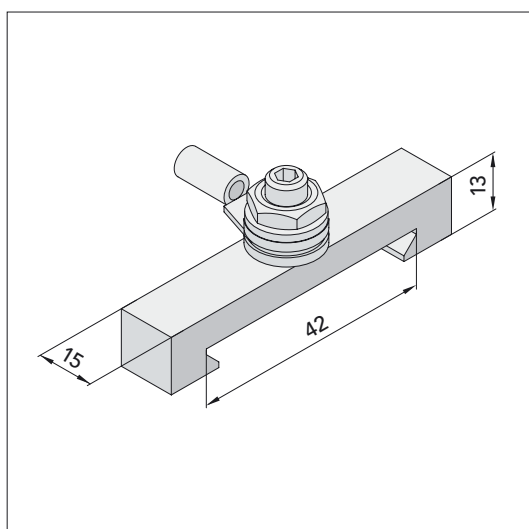
### 5.3 Earthing element ERE

#### Assembly

Push earthing element onto an outer dovetail and position, and screw in the grub screw until the tip has advanced sufficiently to produce electrical contact with the profile underneath (penetration of the anodized aluminium layer). The eye of the earthing cable is fastened to the projecting threaded shaft by means of the hexagon nut. At least one earthing element must be connected with a sufficiently dimensioned earthing cable to earth ( $\perp$ ) (Fig. 5.3-1).



#### 5.3.1 Earthing element ERE-40

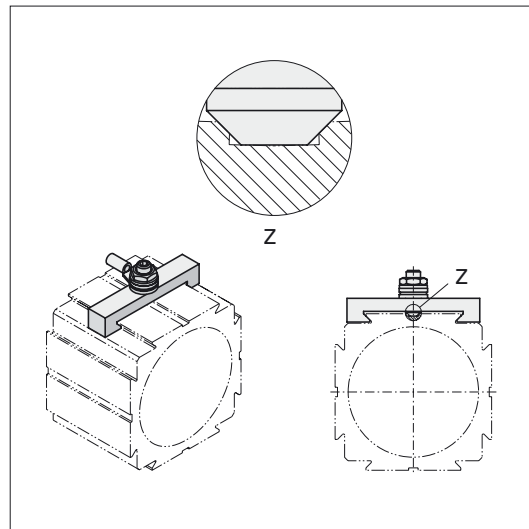
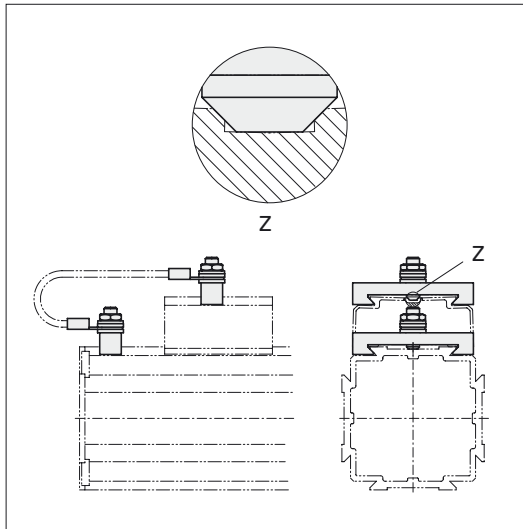


Weight 0.030 kg

Article number 54960N

natural

## Typical applications

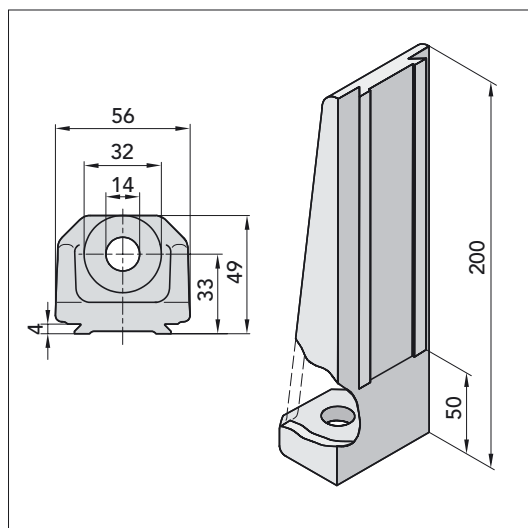


## 6 Clamped connecting elements

### 6.1 Floor bracket FW

For fixing to the floor and connections to structures not compatible with Quick-Set®.

#### 6.1.1 Floor bracket FW-40



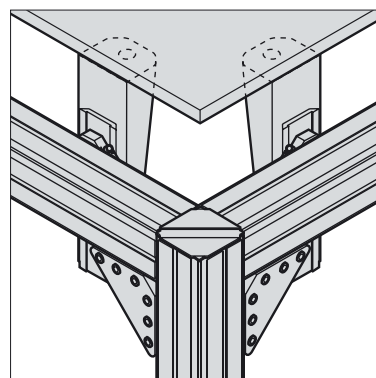
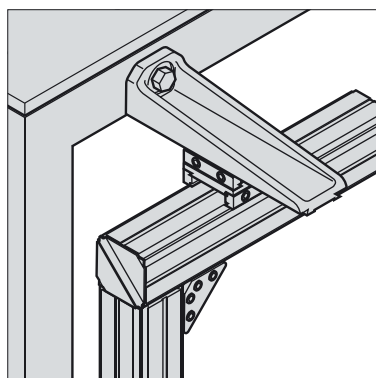
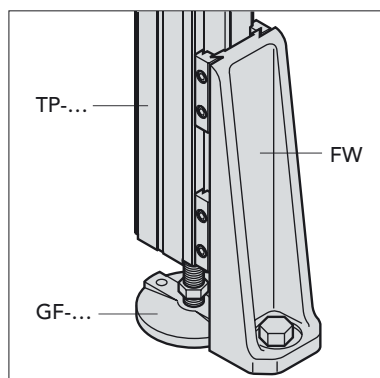
Weight 0.440 kg

Perpendicularity between base surface and dovetail, referred to a length of 49 mm.  $\pm 0.1$  mm

Article number 46201N

natural

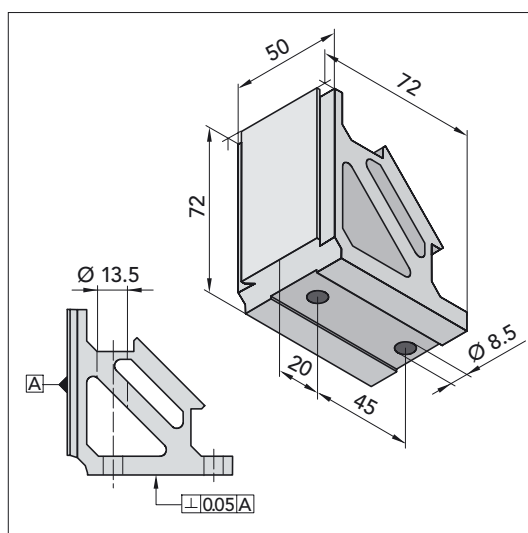
#### Typical applications:



## 6.2 Base bracket BW

Connection to the floor or table-top.

### 6.2.1 Base bracket BW-40



Weight

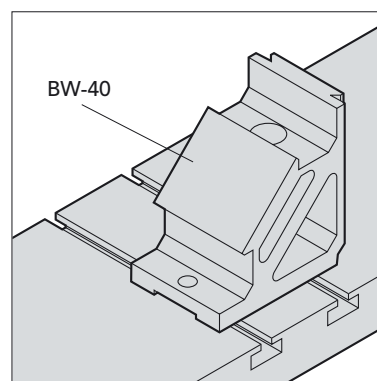
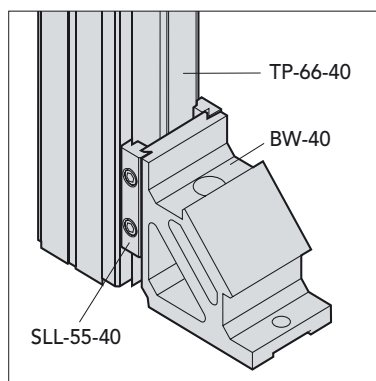
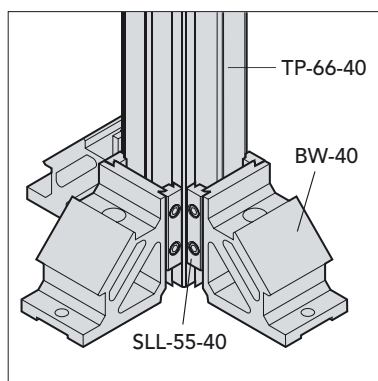
0.360 kg

Article number

45715N

natural

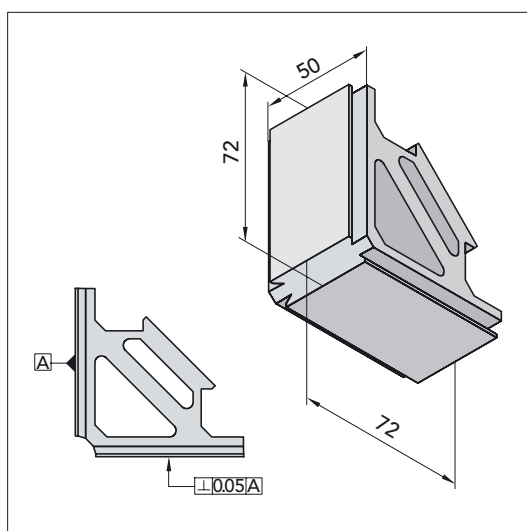
### Typical applications:



## 6.3 Bracket angle KW

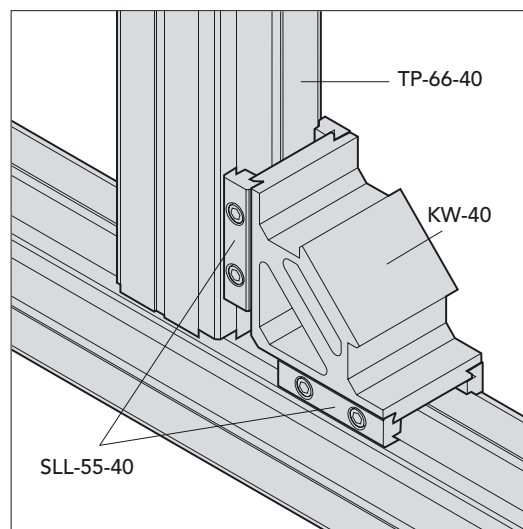
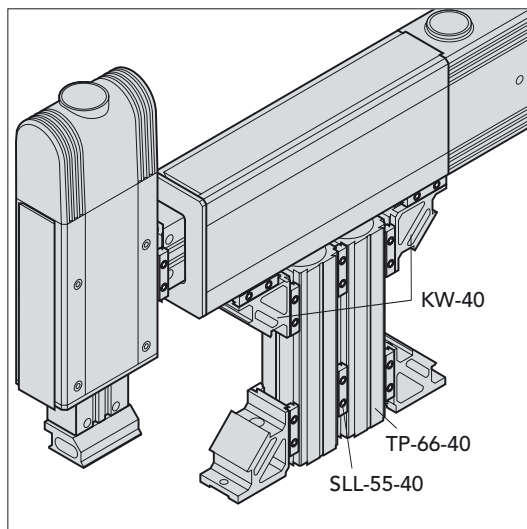
For joining two perpendicular components; each individually adjustable.

### 6.3.1 Bracket angle KW-40



|                |          |
|----------------|----------|
| Weight         | 0.220 kg |
| Article number | 45716N   |
|                | natural  |

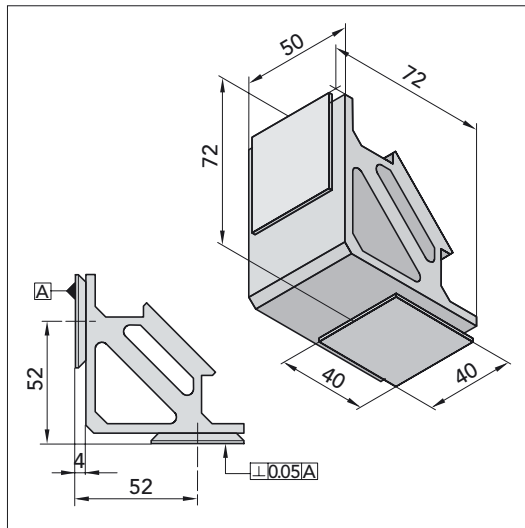
### Typical applications:



## 6.4 Adjusting bracket EW

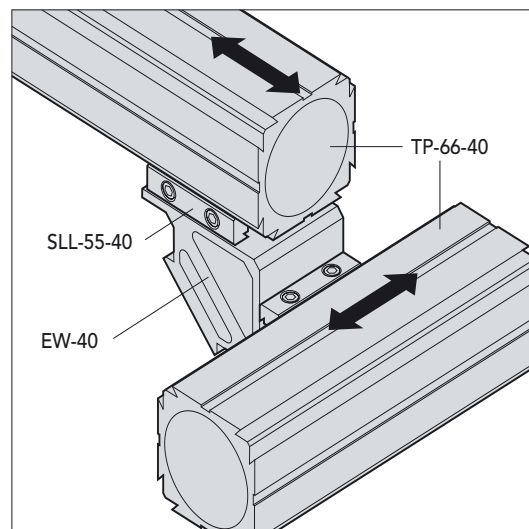
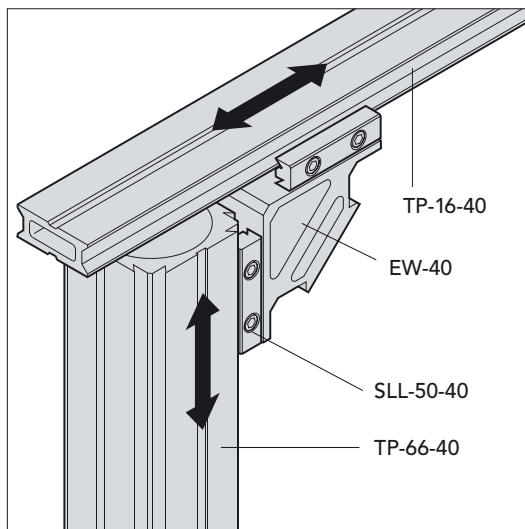
For joining two perpendicular components; each individually adjustable.

### 6.4.1 Adjusting bracket EW-40



|                |          |
|----------------|----------|
| Weight         | 0.204 kg |
| Article number | 45851N   |
|                | natural  |

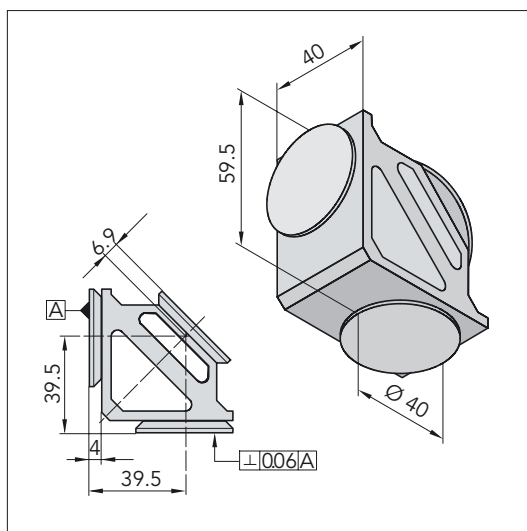
### Typical applications:



## 6.5 Adjusting bracket round EWR

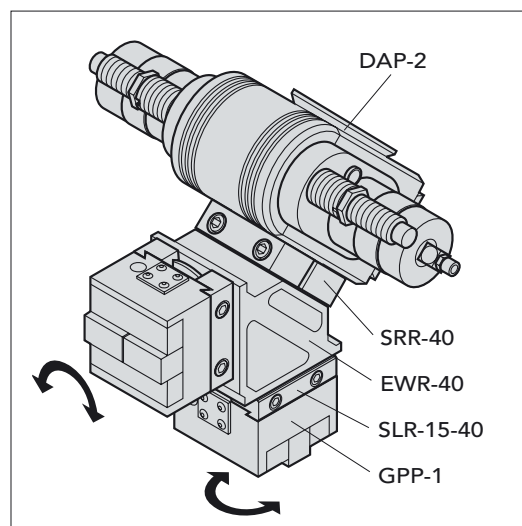
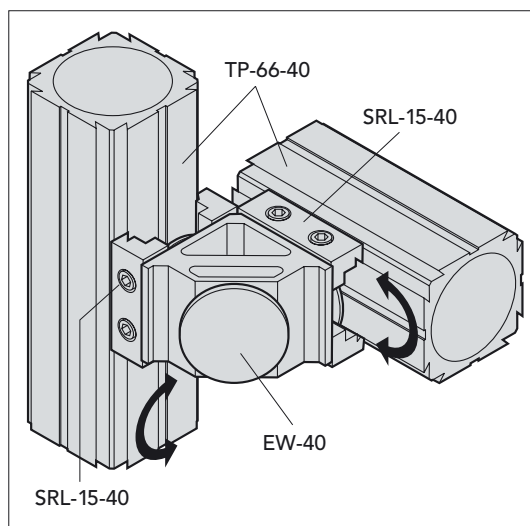
Bracket for turnable connections.

### 6.5.1 Adjusting bracket round EWR-40



|                |          |
|----------------|----------|
| Weight         | 0.172 kg |
| Article number | 45852N   |
|                | natural  |

### Typical applications:

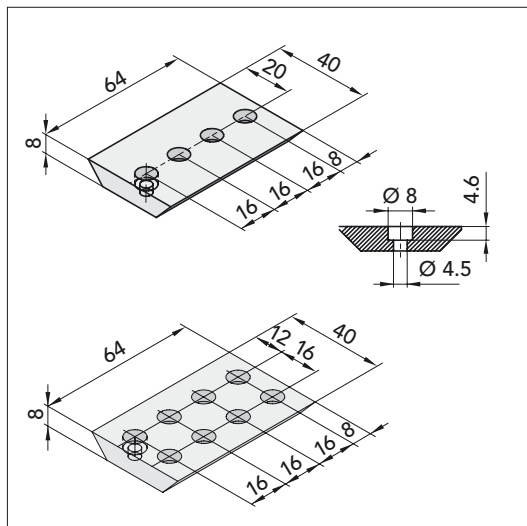




## 6.6 Clamping profile SP

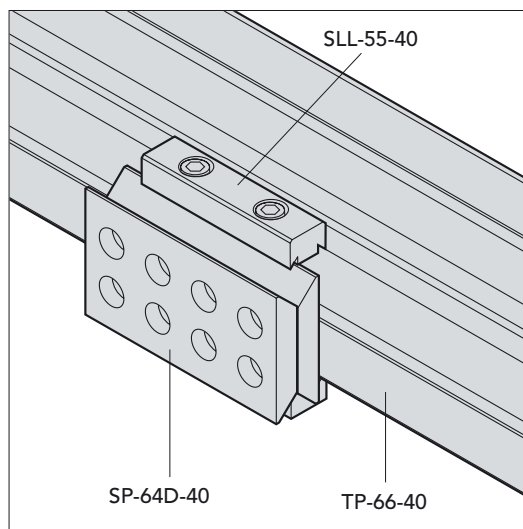
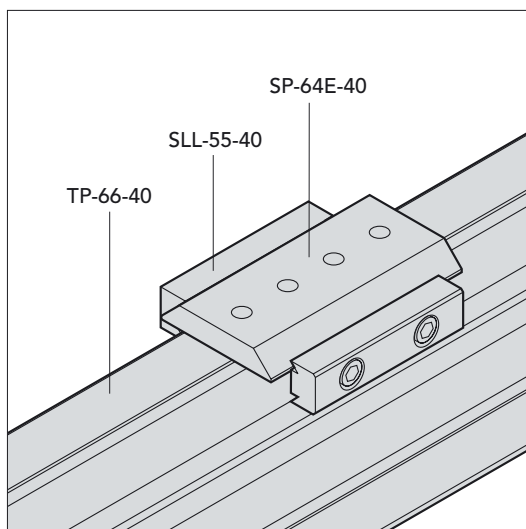
Clamping profile with hole pattern one or two-row.

### 6.6.1 Clamping profile SP-40



| Length | Hole pattern<br>one row | Designation | Article<br>number | Hole pattern<br>two rows | Designation | Article<br>number |
|--------|-------------------------|-------------|-------------------|--------------------------|-------------|-------------------|
| 20     | —                       | —           | —                 | 2 holes                  | SP-20 D-40  | 41131N            |
| 32     | 2 holes                 | SP-32 E-40  | 41134N            | 4 holes                  | SP-32 D-40  | 41132N            |
| 64     | 4 holes                 | SP-64 E-40  | 41135N            | 8 holes                  | SP-64 D-40  | 41133N            |

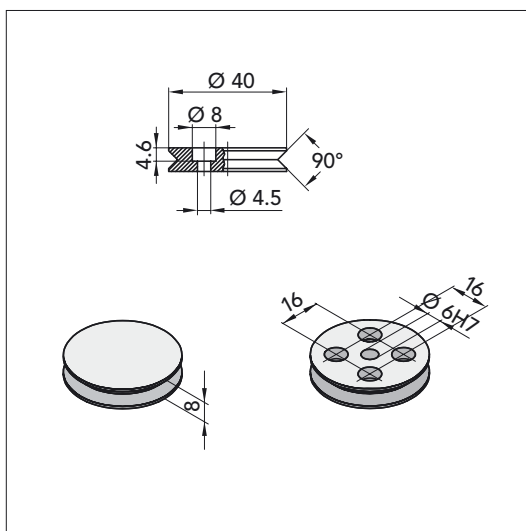
### Typical applications:



## 6.7 Turntable DS

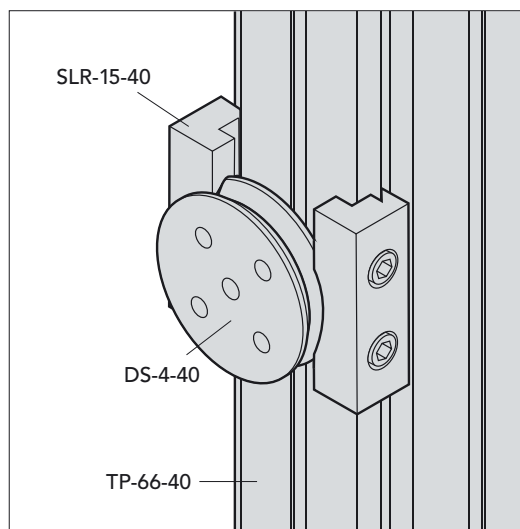
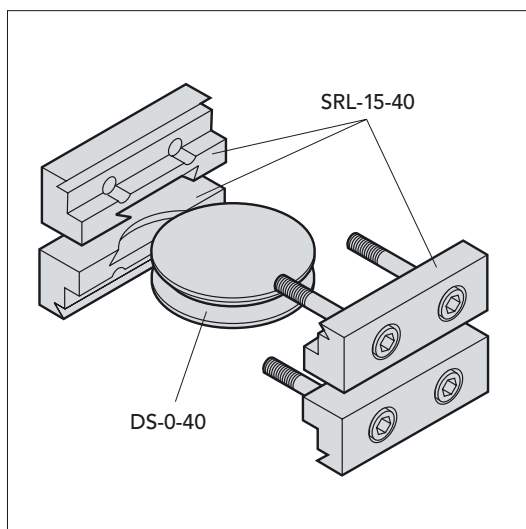
For mounting two opposing dovetails at a definite angle relative to one another.

### 6.7.1 Turntable DS-40



|                      |          |
|----------------------|----------|
| Weight               | 0.024 kg |
| Without hole DS-0-40 | 40857N   |
| Article number       |          |
| With 4 Holes DS-4-40 | 42386N   |
| Article number       |          |
|                      | natural  |

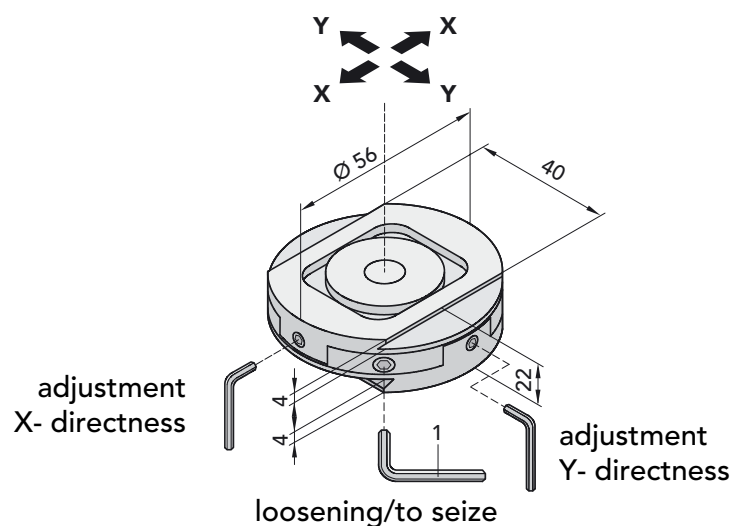
### Typical applications:



## 6.8 Adjustable cross connector KVV, KVVK, KVV L

For precise positioning of grippers on handling units.

### 6.8.1 Adjustable cross connector KVV-40



Before the cross connector can be adjusted in the Y or X direction, the screw (Item 1) must be loosened and, after adjustment, must be tightened again.

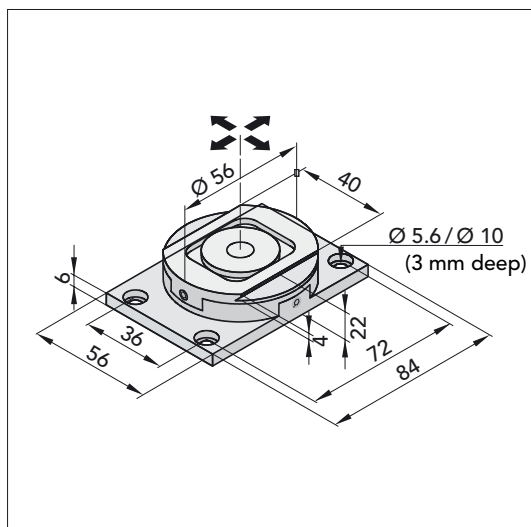
Adjustable stroke to X- and Y- directness      je 6 mm

Weight      0.160 kg

Article number      45835

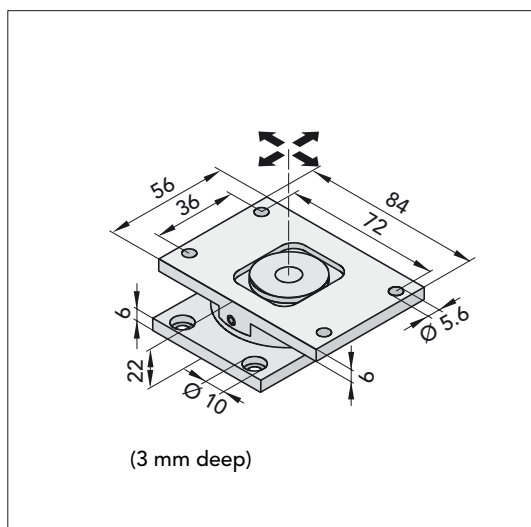
natural

### 6.8.2 Adjustable cross combined KVVK-40



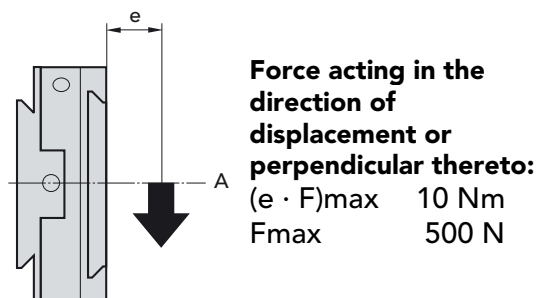
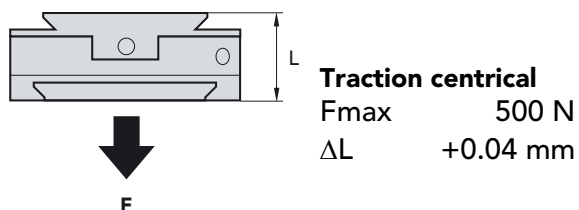
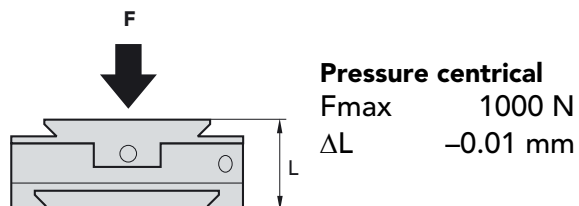
|                |          |
|----------------|----------|
| Weight         | 0.195 kg |
| Article number | 46643    |
|                | natural  |

### 6.8.3 Adjustable cross with hole pattern KVVV-40



|                |          |
|----------------|----------|
| Weight         | 0.230 kg |
| Article number | 46350    |
|                | natural  |

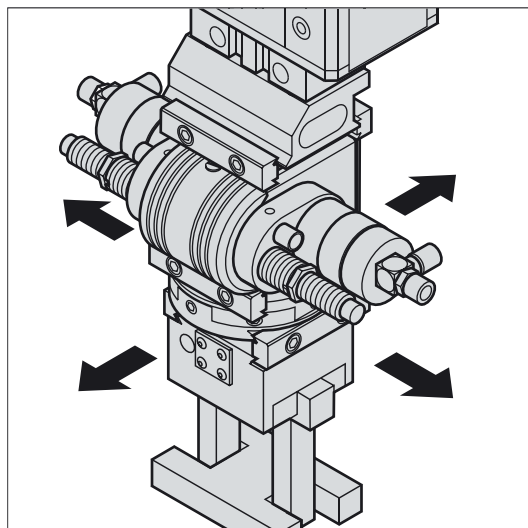
Load limits:



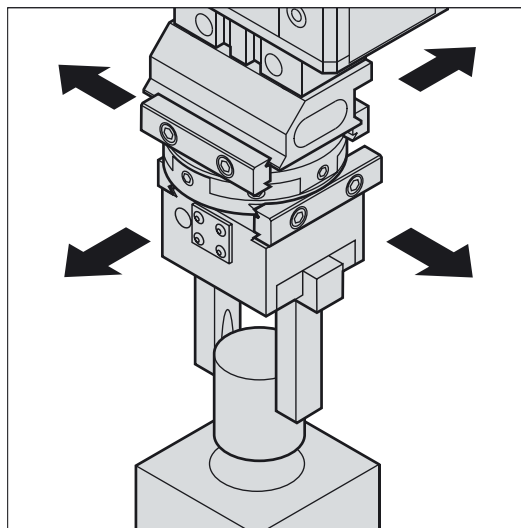
Deformation: At a load of 10 Nm the axis "A" deviates from the unloaded position by 0.08 mm\*, measured by the distance  $e = 200$  mm.

a\* When the distance of adjustment in the X and Y directions is fully travelled, this value increases by 30%.

### Typical applications:



Adjustment of gripper centerline to DAP rotary centerline (only DAP-version).

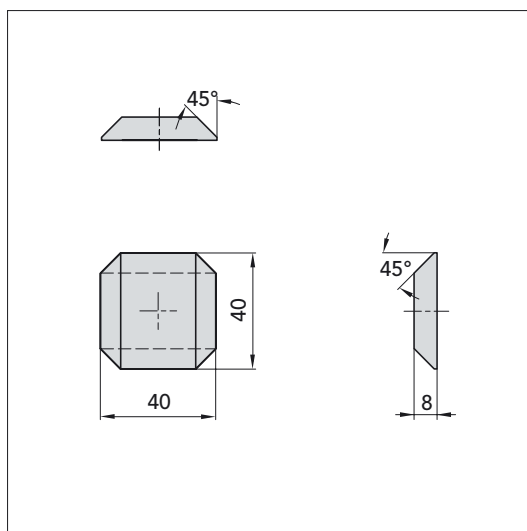


Adjustment of gripper centerline on LEP linear unit

## 6.9 Cross element KE

For joining two dovetails crossing at right-angles for natural loads.

### 6.9.1 Cross element KE-40

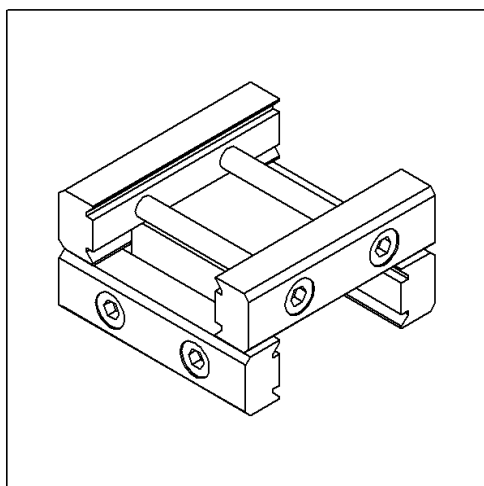


Weight 0.030 kg

Article number 40779N

natural

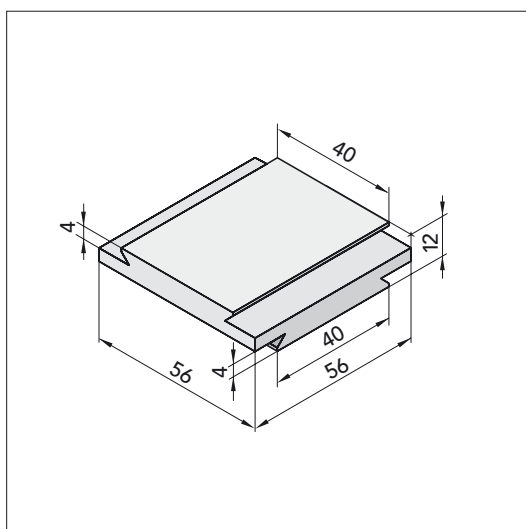
### Typical application:



## 6.10 Cross element reinforced KEV

For joining two dovetails crossing at right-angles for heavy loads.

### 6.10.1 Cross element, reinforced KEV-40

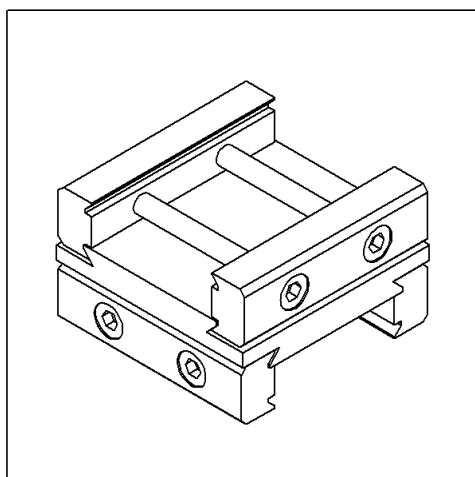


Weight 0.077 kg

Article number 46199N

natural

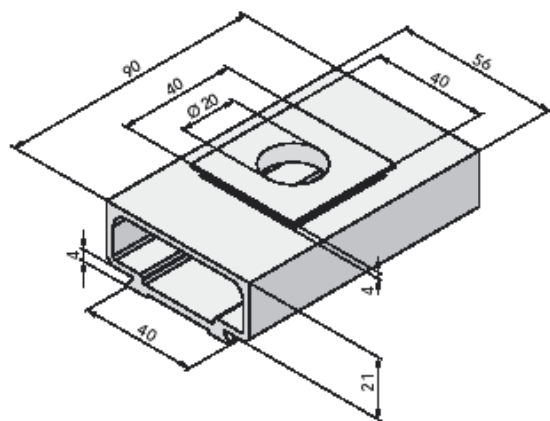
### Typical application:



## 6.11 Spacer element long

For joining two dovetails for mean loads.

### 6.11.1 Spacer element long

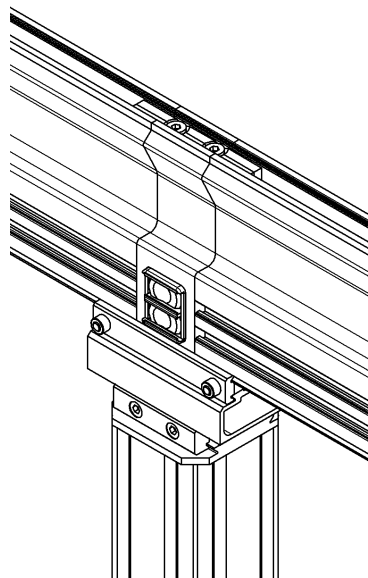


Weight 0.110 kg

Article number 57446

natural

### Typical application:

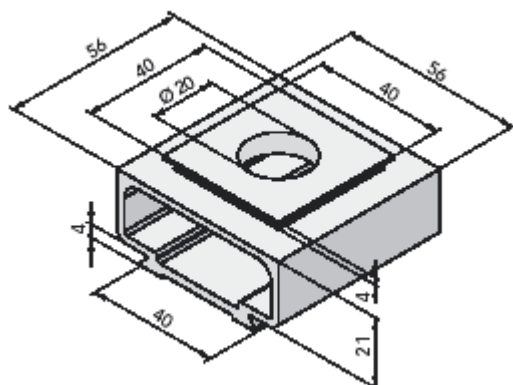




## 6.12 Spacer element short

For joining two dovetails for mean loads.

### 6.12.1 Spacer element short

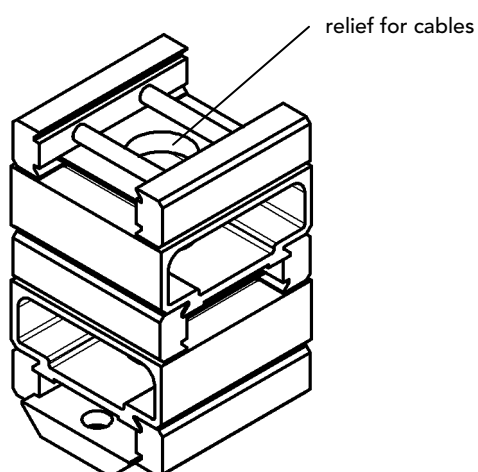


Weight 0.080 kg

Article number 57447

natural

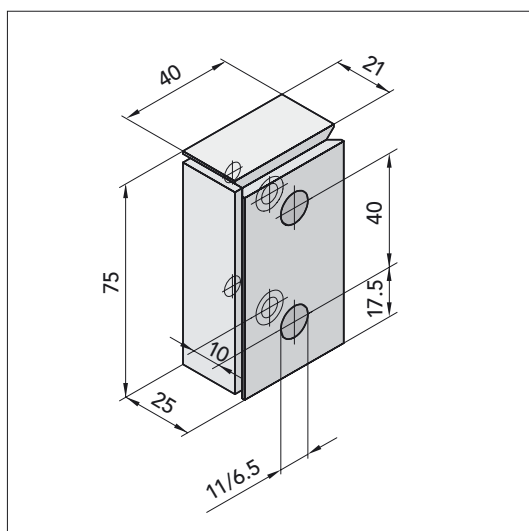
### Typical application:



### 6.13 Connector 90° V-90

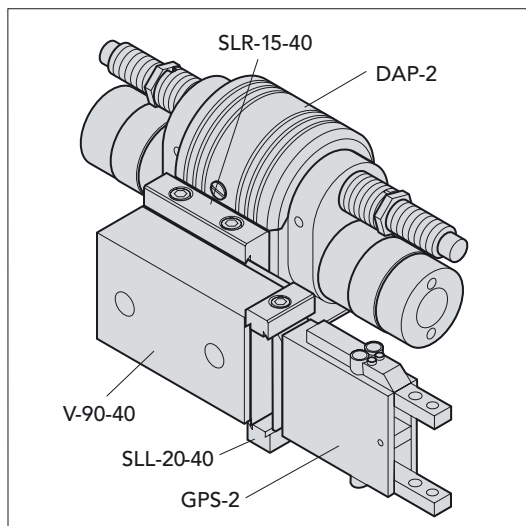
For joining two components which have to be perpendicular to one another.

#### 6.13.1 Connector 90° V-90-40



|  |           |
|--|-----------|
| Weight   | 0.224 kg  |
| Perpendicularity of clamped surfaces referred to a length of 75 mm | ± 0.02 mm |
| Article number   | 42397N    |
|  | natural   |

#### Typical application:



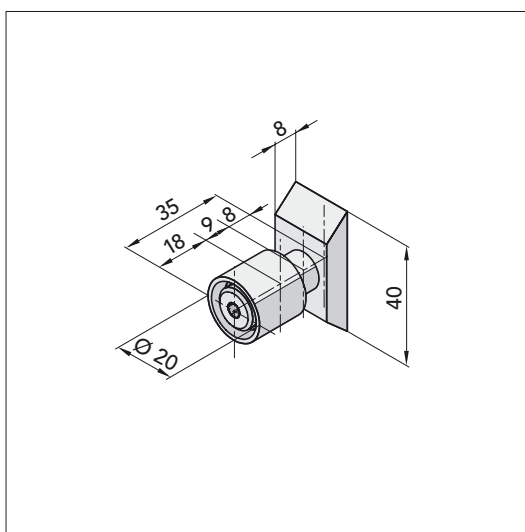
## 6.14 Supporting roller SR

For dynamic support of projecting parts.

### Assembly

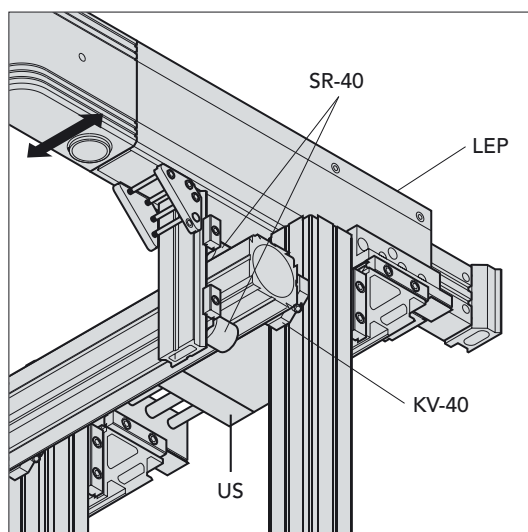
Fix the supporting roller SR with the clamping element SLL-20 (supplied with the roller) to an external dovetail running in the direction of support. Note: the roller can be adjusted in the direction of support (Fig. 6.14-2).

### 6.14.1 Supporting roller SR-40



|                |          |
|----------------|----------|
| Weight         | 0.045 kg |
| Article number | 42410    |
|                | black    |

### Typical application:



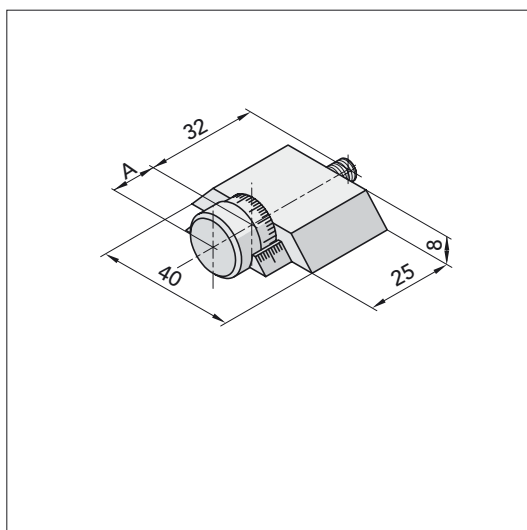
## 7 Tools

### 7.1 Adjusting element EE

Knurled screw with micrometer scale for precise adjustment of components.

#### Assembly

Fix with clamping element SLL-20-40 (supplied with the element) on an external dovetail.



Weight

0.044 kg

Article number

41253

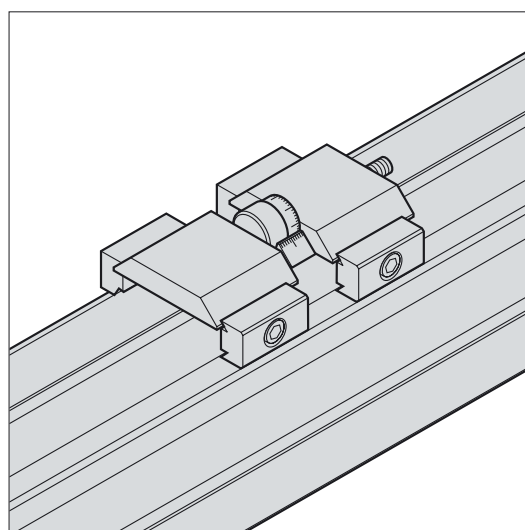
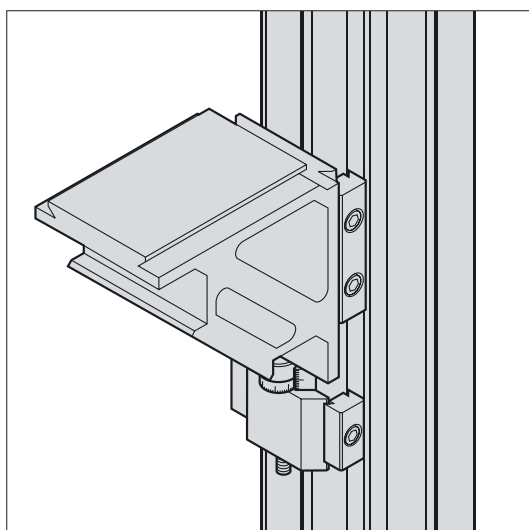
black

1 division of the scale represents  $\Delta A = 0.02$  mm

$A_{min} = 13$  mm

$A_{max} = 23$  mm

#### Typical applications:



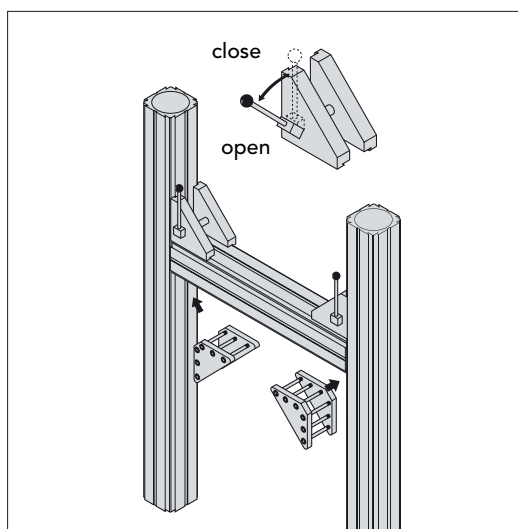
## 7.2 Assembly gauge ML

To simplify alignment of profiles.

### Assembly:

- Place the gauge with the lever in the "open" position on the external dovetails of the profiles to be connected and then swing the lever to the "closed" position
- With a pair of corner-pieces join the profiles, held perpendicular to each other.
- Turn the lever of the gauge to the "open" position and remove the gauge.

### 7.2.1 Assembly gauge ML-40



Weight

1.280 kg

black

44991

black

## **8 General notes**

### **8.1 Environmental Compatibility**

#### **Materials used**

- Aluminum
- Steel
- ABS Acrylonitrile-butadiene-styrene

#### **Surface finish**

- Anodic oxidation of aluminum
- Blackening of steel
- Galvanizing of steel

#### **Shaping processes**

- Profile extrusion of aluminum
- Cutting treatment of aluminum and steel
- Injection moulding of plastics

#### **Emissions while in operation**

- None

#### **Disposal**

Mounting elements (QUICK-SET) which are no longer fit for service should not be disposed of as complete units, but stripped down to their components, which can then be recycled according to the material they contain. Materials which cannot be recycled should be disposed of appropriately.





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