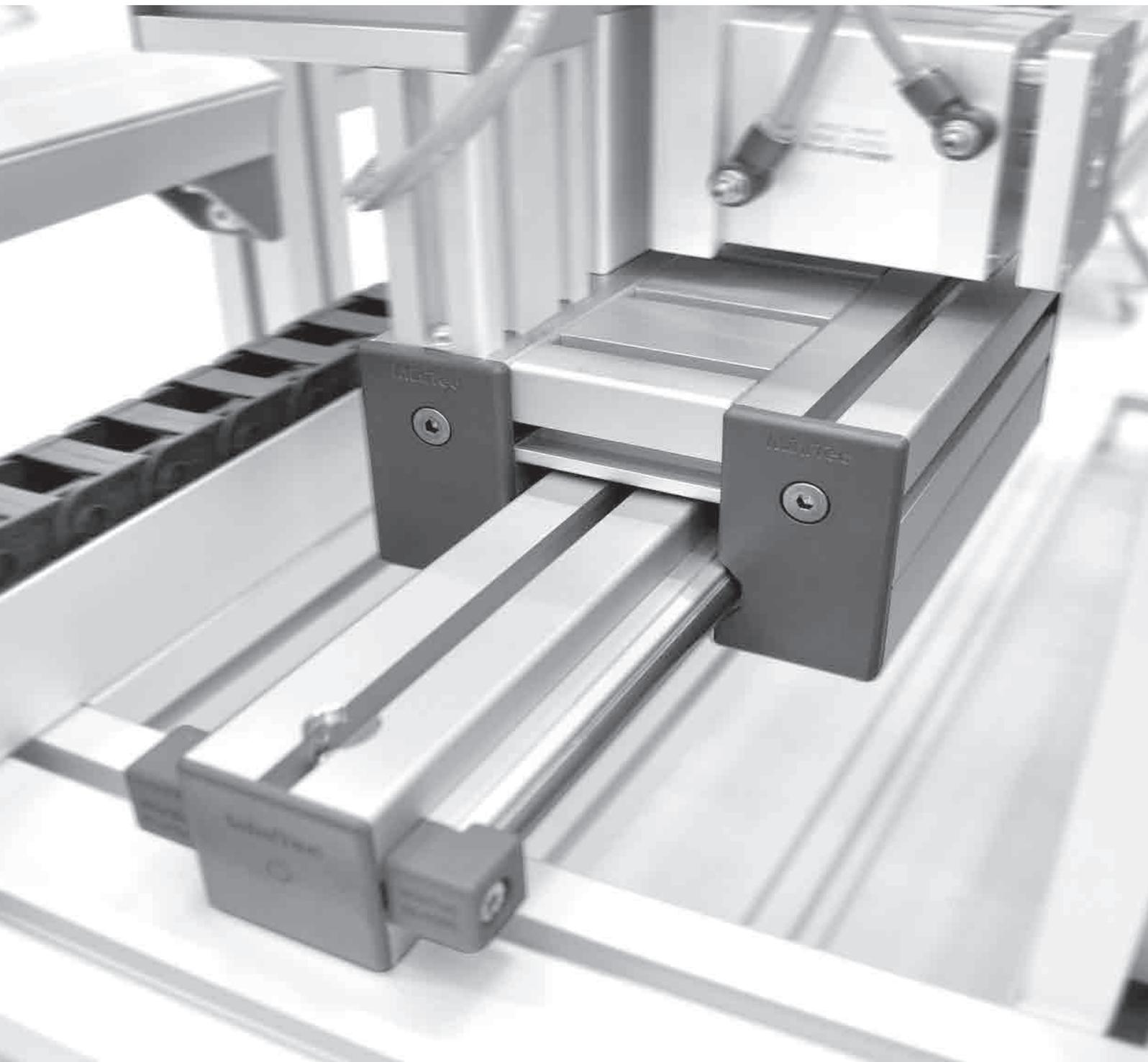


## READY-TO-INSTALL MODULES - LINEAR SYSTEM LR

**On the following pages you will find our ready-to-install LR modules. For an order, only the stroke/total length and the desired deflection must be defined.**

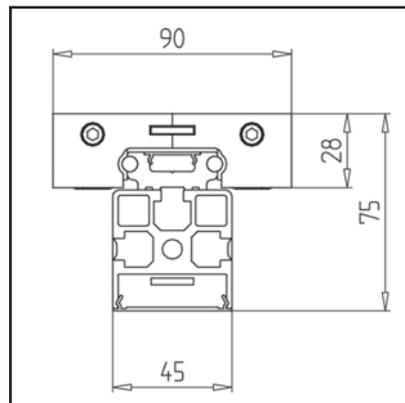
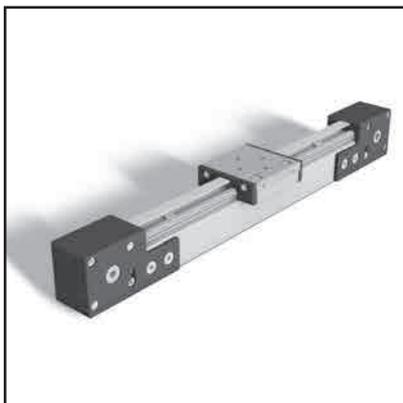
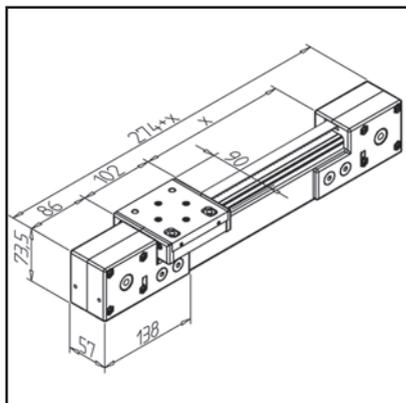
This system is based on double-row profiled rollers made of ball bearing steel and hardened precision shafts made of material 1.1214 (Cf 53). Our carriages are equipped with 2-row profiled rollers whose shaft tracks are designed as Gothic arches. For very high loads, the trolleys can be equipped with any number of track rollers. The profiled rollers are fastened directly to

the carriage plate with steel strips. No special roller profiles are required for the construction of the trolleys. This gives the construction maximum rigidity. The carriages are completely encapsulated, scraper felts are integrated in the cover caps, which simultaneously remove coarse dirt and supply the shafts with lubricant. The felts can be replaced quickly and easily after loosening the lateral screw connection. This advantage has an extremely positive effect, especially in dirty or rough operating conditions.



## LINEAR AXIS LR 6 Z-45X45R

Part no. 28.0500/0



### TECHN. DATA / ITEMS SUPPLIED

- Linear guide, ready for use, consisting of:
- 1x rail LR 6 with precision steel shafts h6,  $\varnothing$  6 mm, on carrier profile 45 x 45 R
- 1x slide LR 6 Z with integrated timing belt admission
- 2x timing belt pulleys
- 1x timing belt 16 AT 5, steel reinforced
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0500/1**
- Weight = (basic weight) 2.25 kg
- Extra weight = 0.322 kg / 100 mm stroke

### APPLICATIONS

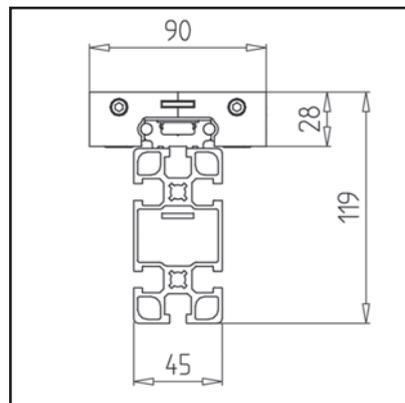
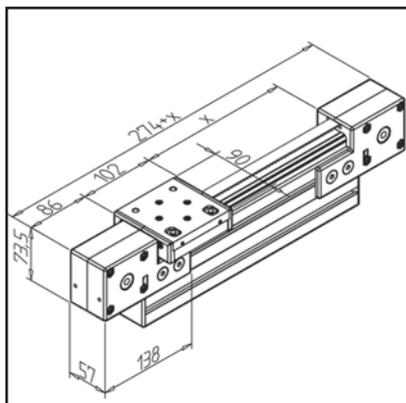
- Handling devices
- Measuring devices
- Calibration devices
- Precise guidance of doors or large extracts

### ASSEMBLY

- Strap is tensioned over the reversing unit

## LINEAR AXIS Z LR 6 - 45X90

Part no. 28.0501/0



### TECHN. DATA / ITEMS SUPPLIED

- Linear guide, ready for use, consisting of:
- 1x rail LR 6 S with precision steel shafts h6,  $\varnothing$  6 mm, on carrier profile 45 x 90 F
- 1x carriage LR 6 Z with integrated timing belt mounting
- 2x timing belt deflectors
- 1x timing belt 16 AT 5, steel reinforced
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0501/1**
- Weight = (basic weight) 2.25 kg
- Extra weight = 0.453 kg / 100 mm stroke

### APPLICATIONS

- Handling devices
- Measuring devices
- Calibration devices
- Precise guidance of doors or large extracts

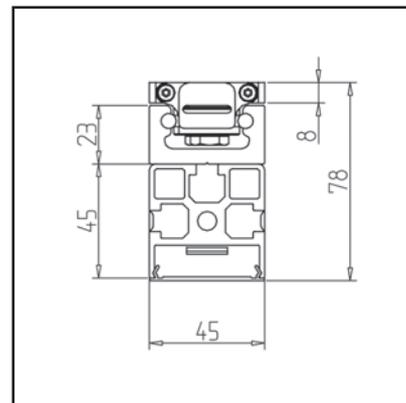
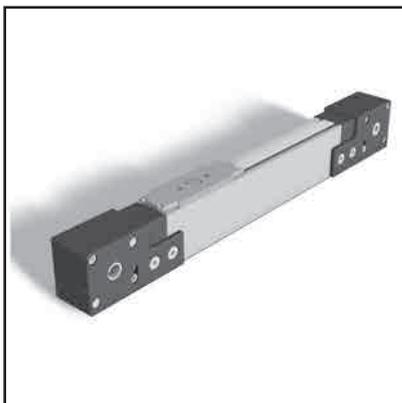
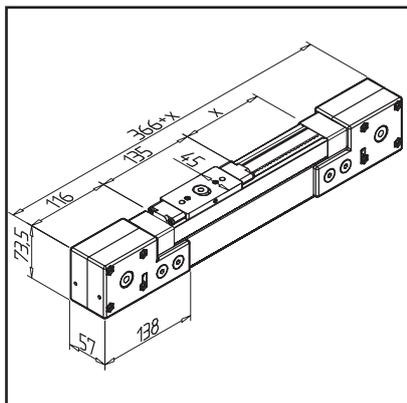
### ASSEMBLY

- Strap is tensioned over the reversing unit

**LINEAR AXIS LR 6 Z COMPACT - 45X45R**

Part no.

28.0503/0

**TECHN. DATA / ITEMS SUPPLIED**

- Linear guide, ready for use, consisting of:
- 1x rail LR 6 compact with precision steel shafts h6, Ø 6 mm, on support profile 45 x 45 R
- 1x carriage LR 6 Z compact with integrated timing belt mount
- 2x timing belt deflectors
- 1x timing belt 16 AT 5, reinforced steel
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0503/1**
- Weight = (basic weight) 2.977 kg
- Extra weight = 0.407 kg / 100 mm stroke

**APPLICATIONS**

- Handling devices
- Measuring devices
- Calibration devices

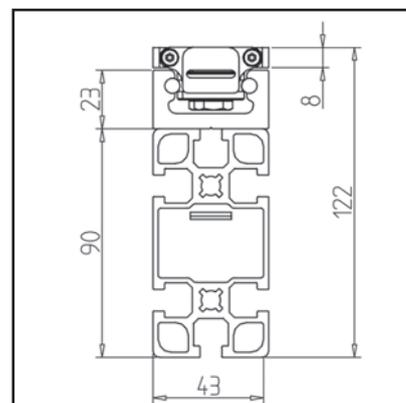
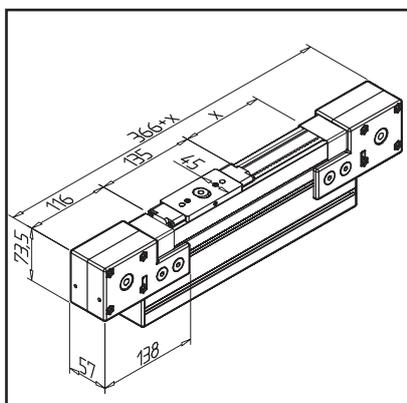
**ASSEMBLY**

- Strap is tensioned over the reversing unit

**LINEAR AXIS LR 6 Z COMPACT - 45X90**

Part no.

28.0504/0

**TECHN. DATA / ITEMS SUPPLIED**

- Linear guide, ready for use, consisting of:
- 1x rail LR 6 with precision steel shafts h6, Ø 6 mm, on carrier profile 45 x 90, 1 Slide LW 6 Z with integrated timing belt admission, 2x timing belt pulleys 1 tooth belt 16 AT 5, steel reinforced
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0504/1**
- Weight = (basic weight) 3.305 kg
- Extra weight = 0.547 kg / 100 mm stroke

**APPLICATIONS**

- Handling devices
- Measuring devices
- Calibration devices

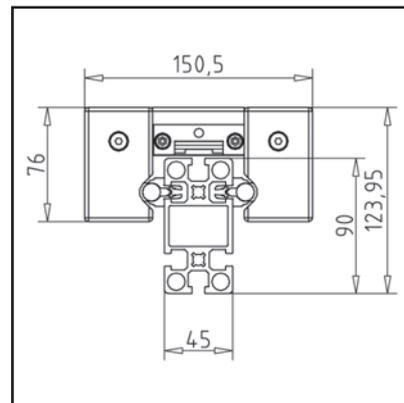
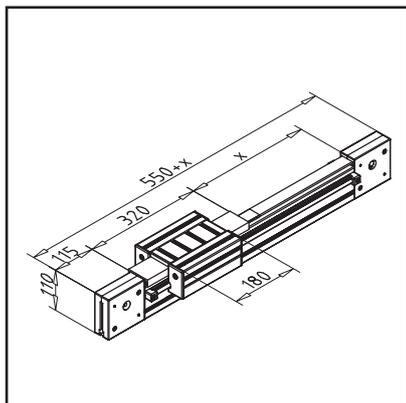
**ASSEMBLY**

- Strap is tensioned over the reversing unit

## LINEAR AXIS LR 12 - 45X90

Part no.

28.0600/0



### TECHN. DATA / ITEMS SUPPLIED

### APPLICATIONS

### ASSEMBLY

- Linear guide, ready for use, consisting of:
- 1x rail 45 x 90 H with shaft fixation
- 2x timing belt pulley T45
- 2x timing belt tensioner
- 1x slide LW 45
- 1x timing belt 32AT10
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0600/1**
- Weight = (basic weight) 7.37 kg
- Extra weight = 0.656 kg / 100 mm stroke

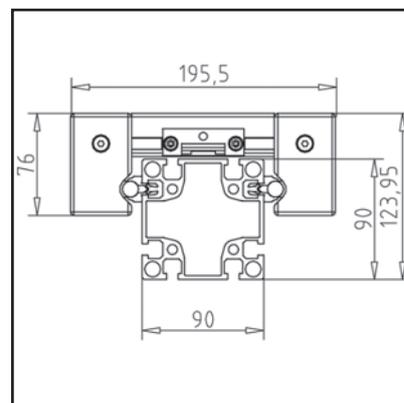
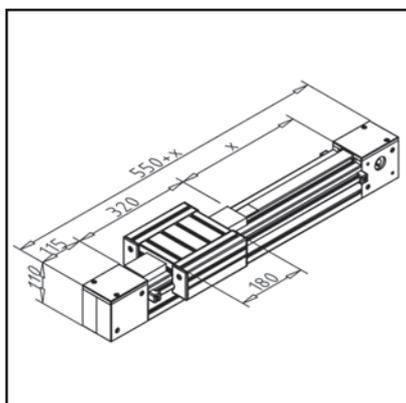
- Handling devices
- Measuring devices
- Calibration devices

- Belt is fastened and tensioned with the aid of timing belt tensioner

## LINEAR AXIS LR 12 - 90X90

Part no.

28.0601/0



### TECHN. DATA / ITEMS SUPPLIED

### APPLICATIONS

### ASSEMBLY

- Linear guide, ready for use, consisting of:
- 1x rail LR 12 - 90 with shaft fixation
- 2x timing belt pulley T90
- 2x timing belt tensioner
- 1x slide LW 90
- 1x timing belt 32AT10
- **Please specify stroke length X and reverse unit**
- Stainless version **part no. 28.0601/1**
- Weight = (basic weight) 11.65 kg
- Extra weight = 0.827 kg / 100 mm stroke

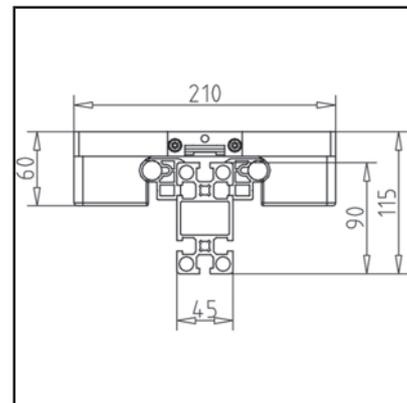
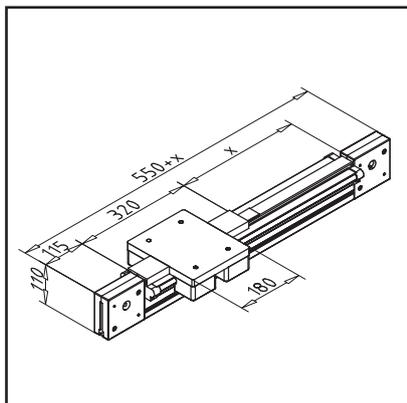
- Handling devices
- Measuring devices
- Calibration devices

- Belt is fastened and tensioned with the aid of timing belt tensioner

**LINEAR AXIS LR 16 - 45X90**

Part no.

28.0802/0

**TECHN. DATA / ITEMS SUPPLIED**

- Linear guide, ready for use, consisting of:
- 1x rail LR 16 - 45x90 with shaft fixation
- 2x timing belt pulley T90
- 2x timing belt tensioner
- 1x slide LR16-45
- 1x timing belt 32AT10
- **Please specify stroke length X and reverse unit**
- Weight = (basic weight) 10.19 kg
- Extra weight = 0.908 kg / 100 mm stroke

**APPLICATIONS**

- Handling devices
- Measuring devices
- Calibration devices

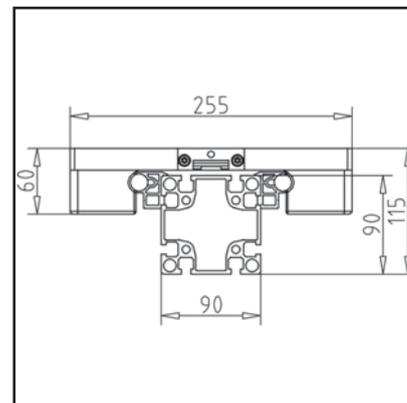
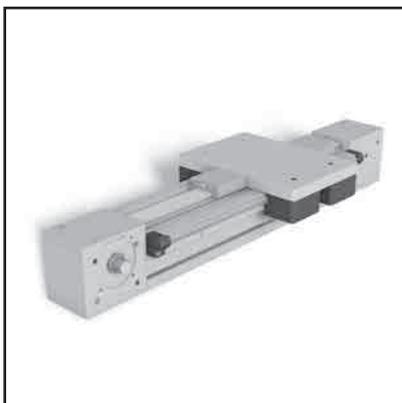
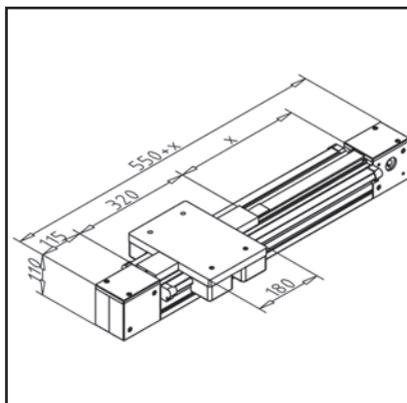
**ASSEMBLY**

- Belt is fastened and tensioned with the aid of timing belt tensioner

**LINEAR AXIS LR 16 - 90X90**

Part no.

28.0800/0

**TECHN. DATA / ITEMS SUPPLIED**

- Linear guide, ready for use, consisting of:
- 1x rail LR 16 - 90 with shaft fixation
- 2x timing belt pulley T90
- 2x timing belt tensioner
- 1x slide LR16-90
- 1x timing belt 32AT10
- **Please specify stroke length X and reverse unit**
- Weight = (basic weight) 14.45 kg
- Extra weight = 1.08 kg / 100 mm stroke

**APPLICATIONS**

- Handling devices
- Measuring devices
- Calibration devices

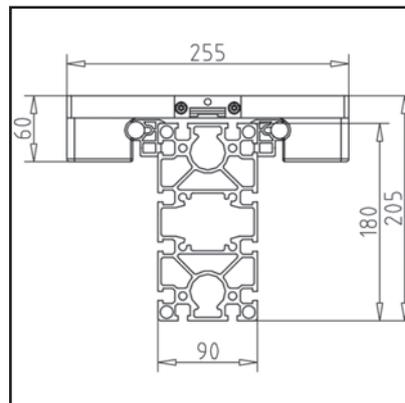
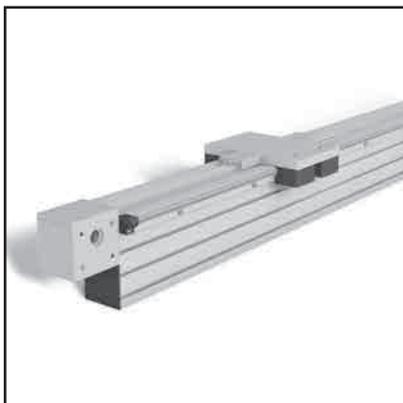
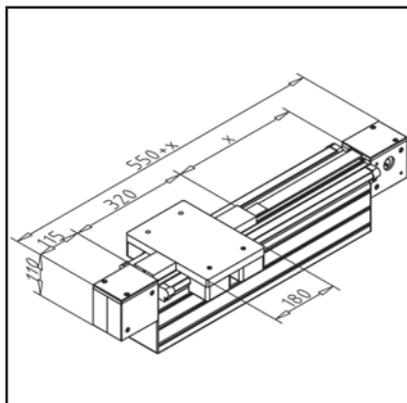
**ASSEMBLY**

- Belt is fastened and tensioned with the aid of timing belt tensioner

## LINEAR AXIS LR 16 - 90X180

Part no.

28.0801/0



### TECHN. DATA / ITEMS SUPPLIED

- Linear guide, ready for use, consisting of:
- 1x rail LR 16 - 90x180 with shaft fixation
- 2x timing belt pulley T90
- 2x timing belt tensioner
- 1x slide LR16-90
- 1x timing belt 32AT10
- **Please specify stroke length X and reverse unit**
- Weight = (basic weight) 17.51 kg
- Extra weight = 1.741 kg / 100 mm stroke

### APPLICATIONS

- Handling devices
- Measuring devices
- Calibration devices

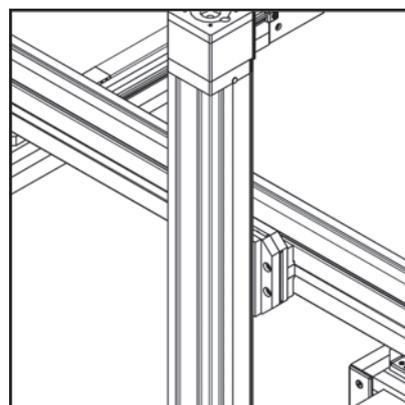
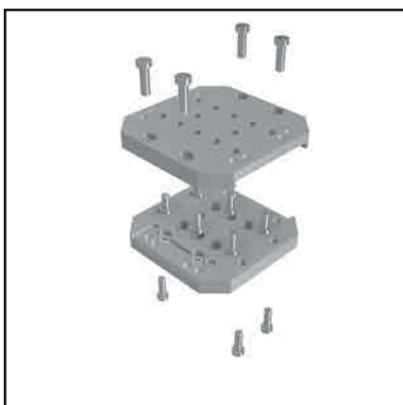
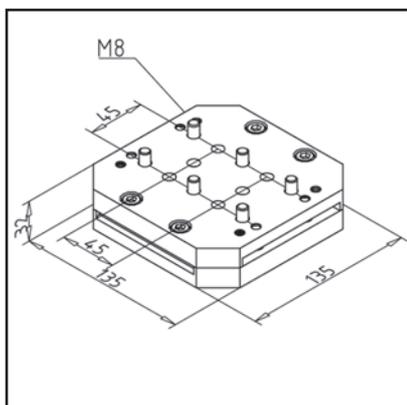
### ASSEMBLY

- Belt is fastened and tensioned with the aid of timing belt tensioner

## FASTENING KIT 90 S-S

Part no.

28.0264/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Adapter plate 90
- With fastening material steel, zinc plated
- Weight = 1.487 kg/piece

### APPLICATIONS

- For connection of 2 axes under 90°

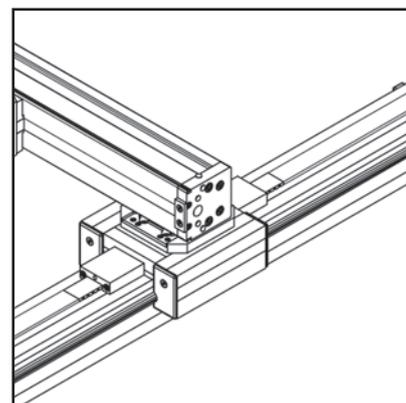
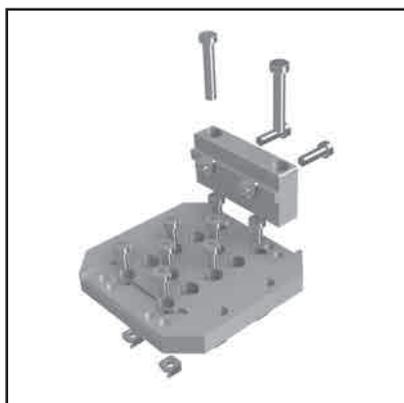
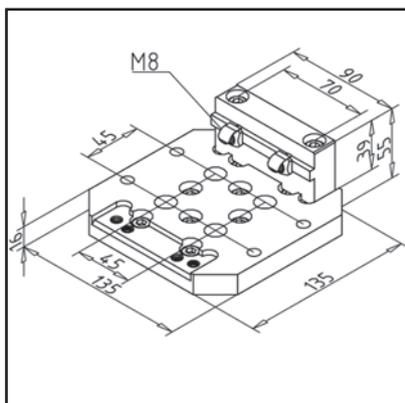
### ASSEMBLY

- Both slide-mounted plates are connected:
- LMS with LMS / LMZ or
- LMZ with LMZ / LMS or
- LR12 with LMS / LMZ

**FASTENING KIT 90 S-A 90°**

Part no.

28.0173/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Adapter plate 90
- With fastening material steel, zinc plated
- Weight = 1.039 kg/piece

**APPLICATIONS**

- For connection of 2 axes under 90°

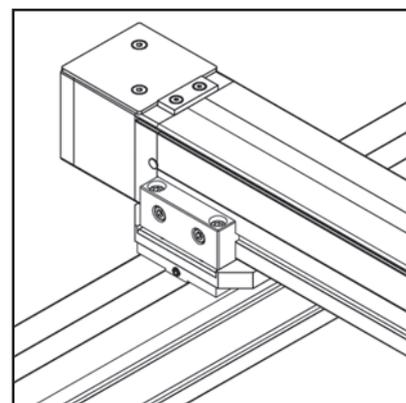
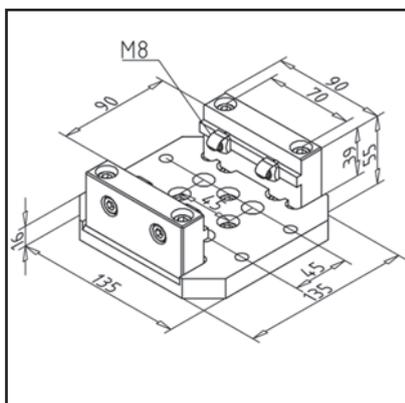
**ASSEMBLY**

- Large plate is mounted on slide of:
  - LR6 or
  - LR6 compact or
  - LMS or- LMZ or
  - LR12 z.B. LW 45 / LW 90 or
  - slide of adjusting units
- No plate is mounted on: Carrier profile of the cross-sectional axis

**FASTENING KIT 90 S-A 180°**

Part no.

28.0265/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Adapter plate 90
- With fastening material steel, zinc plated
- Weight = 1.359 kg/piece

**APPLICATIONS**

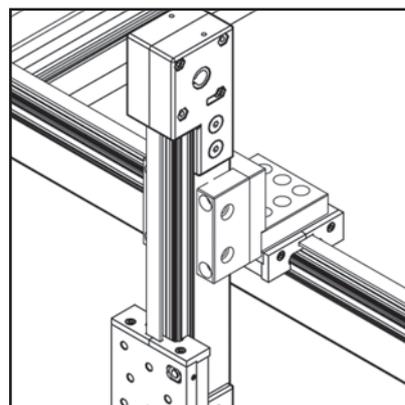
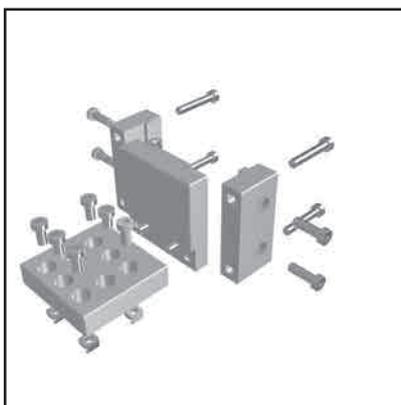
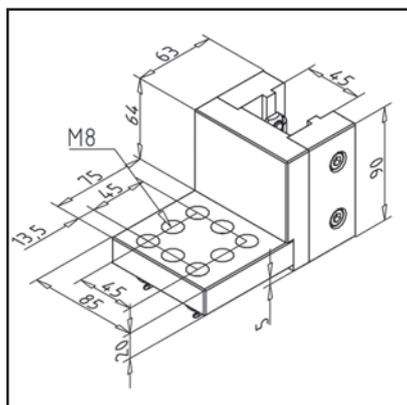
- For connection of 2 axes under 90°

**ASSEMBLY**

- Large plate is mounted on slide of:
  - LR6 or
  - LR6 compact or
  - LMS or- LMZ or
  - LR12 z.B. LW 45 / LW 90 or
  - slide of adjusting units
- Small plates are mounted on: Carrier profile of the cross-sectional axis

## FASTENING KIT 45 S-A 90°

Part no. 28.0174/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Adapter plate 90
- With fastening material steel, zinc plated
- Weight = 1.548 kg/piece

### APPLICATIONS

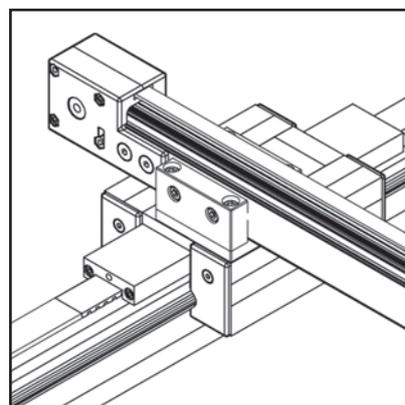
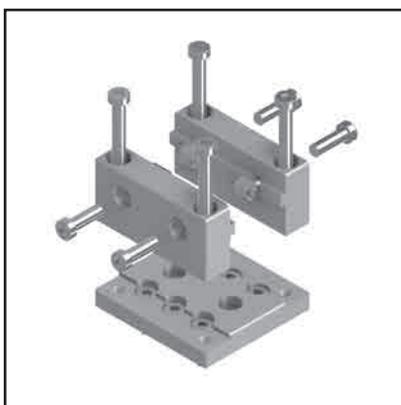
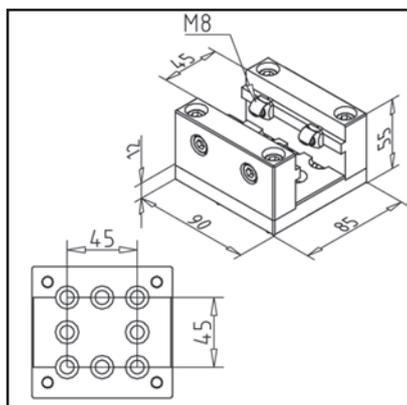
- For connection of 2 axes under 90°

### ASSEMBLY

- Large plate is mounted on slides of:
  - LR6 or
  - LR6 compact
- Small plates are mounted on: Carrier profile of the cross-sectional axis

## FASTENING KIT 45 S-A 180°

Part no. 28.0175/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Adapter plate 90
- With fastening material steel, zinc plated
- Weight = 0.938 kg/piece

### APPLICATIONS

- For connection of 2 axes under 90°

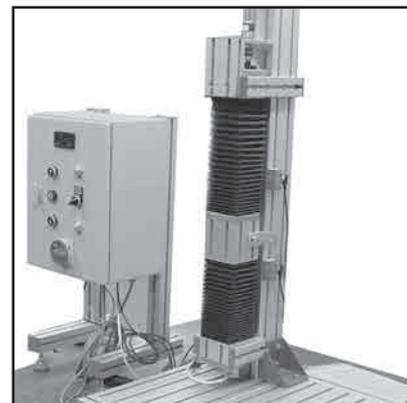
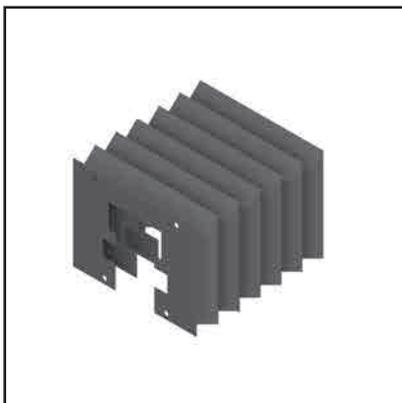
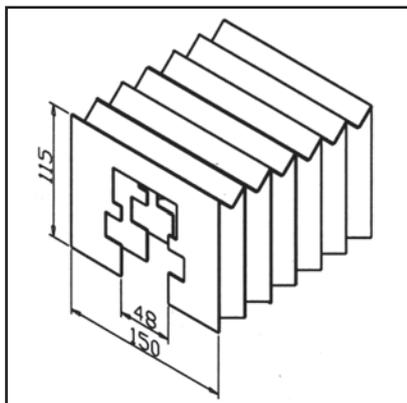
### ASSEMBLY

- Large plate is mounted on slide of:
  - LR6 or
  - LR6 compact or
  - LMS or- LMZ or
  - LR12 z.B. LW 45 / LW 90 or
  - slide of adjusting units
- Small plates are mounted on: Carrier profile of the cross-sectional axis

**BELLOW LR 45**

Part no.

33.3007/0

**TECHN. DATA / ITEMS SUPPLIED**

- Plastic, black with plastic frame
- Without fastening kit
- max. length 6 m
- Length when pushed together for 1 m travel:
  - 130 mm
- Temperature resistant(-30° to +90°C)
- Resistant to most acids and oils
- Weight = 0.650 kg/m

**APPLICATIONS**

- Cover of MiniTec linear guides LR 45
- Rough working conditions, dust, chips

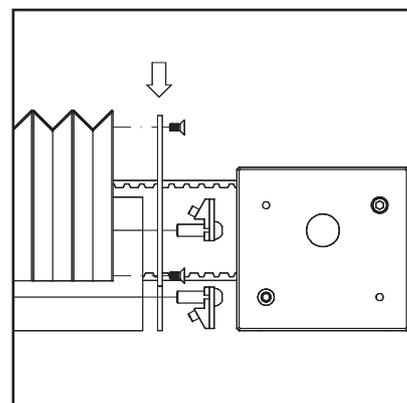
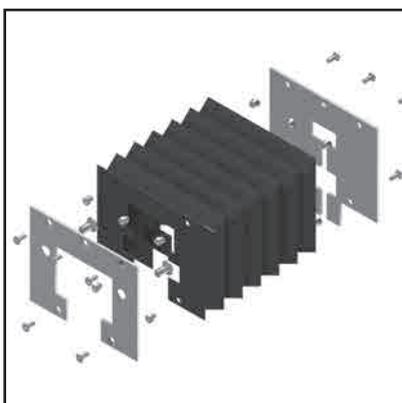
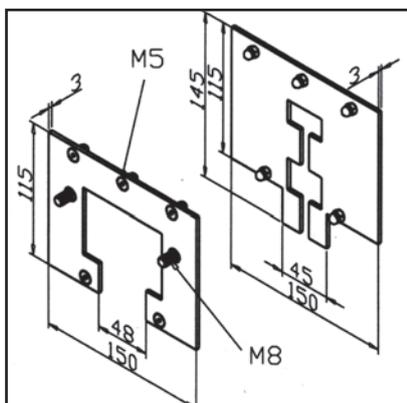
**ASSEMBLY**

- Push bellow onto rail
- Fasten to slide or pulley with fastening kit for bellow **part no. 33.3010/0**
- Bellow is supplied without perforation
- Due to the bellows, the usable travel distance is reduced by approx. 22%
- Caution: Consider higher friction moment when dimensioning drive unit!

**FASTENING FOR BELLOW LR 45**

Part no.

33.3010/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- 1 End frame slide
- 1 End frame pulley
- Fastening kit for frame and bellow
- Weight = 0.275 kg/piece

**APPLICATIONS**

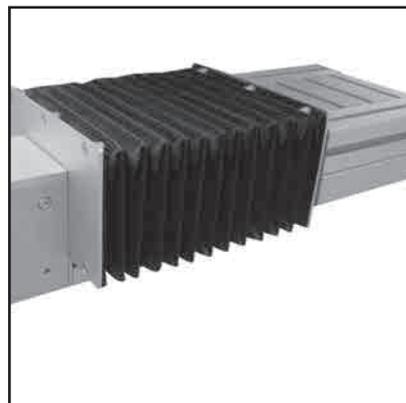
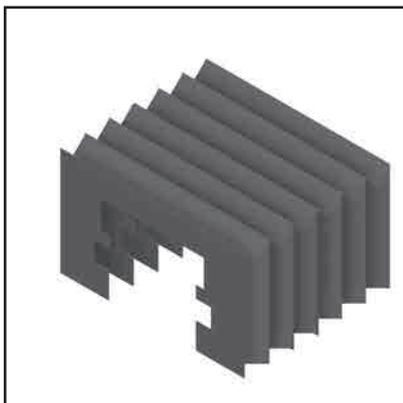
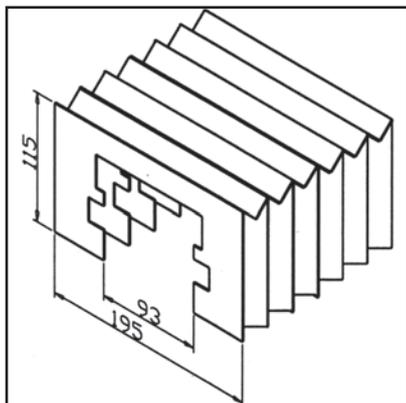
- Fastening bellows LR 45 to carriages LW 45
- Fastening bellows LR 45 to timing belt reversing unit LW 45

**ASSEMBLY**

- Fasten end frame on slide
- Push bellow onto rail
- Loosen power-lock fastener on the pulley side and insert end frame pulley between rail and timing belt pulley; tighten power-lock fastener
- Fasten protective bellow by means of the supplied screws on the end frame

## BELLOW LR 90

Part no. 33.3008/0



### TECHN. DATA / ITEMS SUPPLIED

- Plastic, black with plastic frame
- Without fastening kit
- Length when pushed together for 1 m travel:
  - 130 mm
- max. length 6 m
- Temperature resistant (-30° to +90°C)
- Resistant to most acids and oils
- Weight = 0.750 kg/m

### APPLICATIONS

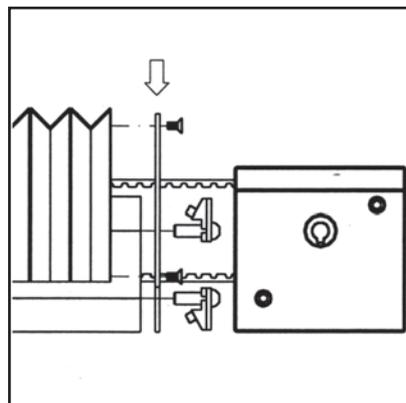
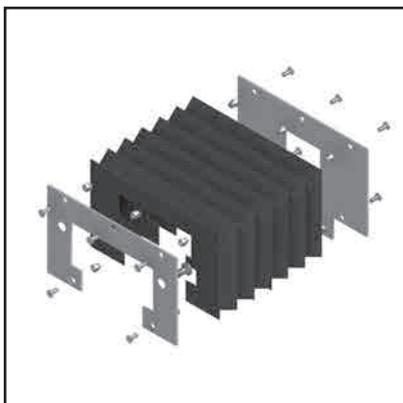
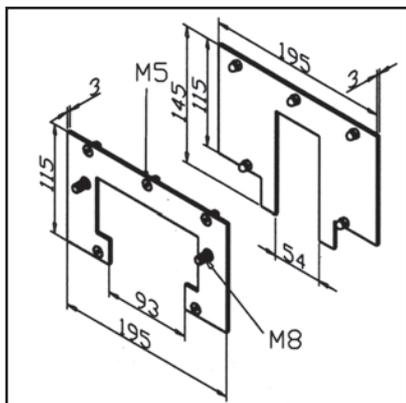
- Cover of MiniTec linear guides LR 90
- Rough working conditions, dust, chips

### ASSEMBLY

- Push bellow onto rail
- Fasten ends with attachment for bellows **part no. 33.3011/0** to carriages or reverse unit
- Bellow is supplied without perforation
- Due to the bellows, the usable travel distance is reduced by approx. 22%
- Caution: Consider higher friction moment when dimensioning drive unit!

## FASTENING FOR BELLOW LR 90

Part no. 33.3011/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 1 End frame slide
- 1 End frame pulley
- Fastening kit for frame and bellow
- Weight = 0.750 kg/piece

### APPLICATIONS

- Fastening bellows LR 90 to carriages LW 90
- Fastening bellows LR 90 to timing belt reversing unit LW 90

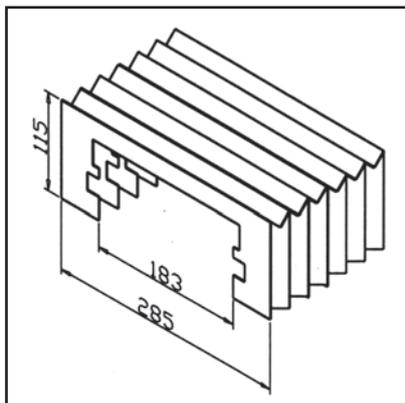
### ASSEMBLY

- Fasten end frame on slide
- Push bellow onto rail
- Loosen power-lock fastener on the pulley side and insert end frame pulley between rail and timing belt pulley; tighten power-lock fastener
- Fasten protective bellow by means of the supplied screws on the end frame

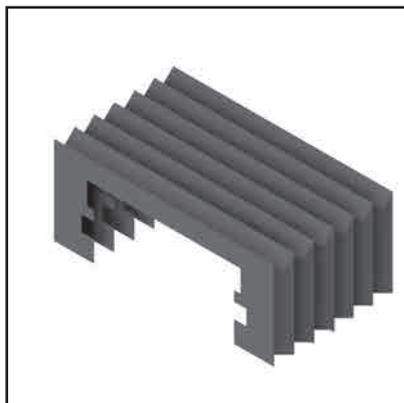
**BELLOW LR 180**

Part no.

33.3009/0

**TECHN. DATA / ITEMS SUPPLIED**

- Plastic, black with plastic frame
- Without fastening kit
- Length when pushed together for 1 m travel:
  - 130 mm
- max. length 6 m
- Temperature resistant (-30° to +90°C)
- Resistant to most acids and oils
- Weight = 0.950 kg/m

**APPLICATIONS**

- Cover of MiniTec linear guides LR 180
- Rough working conditions, dust, chips

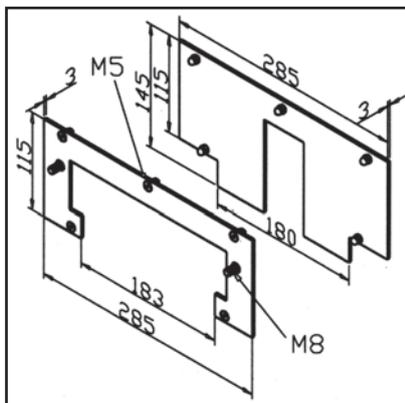
**ASSEMBLY**

- Push bellow onto rail
- Fasten ends with attachment for bellows **part no. 33.3012/0** to carriage or reverse unit
- Bellow is supplied without perforation
- Due to the bellows, the usable travel distance is reduced by approx. 22%
- Caution: Consider higher friction moment when dimensioning drive unit!

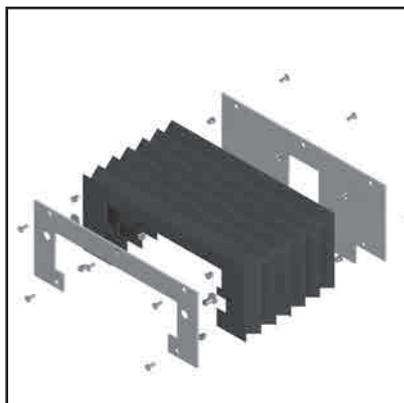
**FASTENING FOR BELLOW LR 180**

Part no.

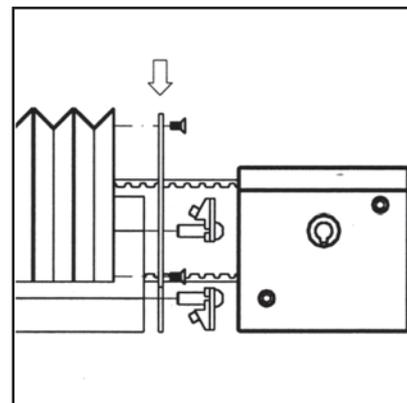
33.3012/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- 1 End frame slide
- 1 End frame pulley
- Fastening kit for frame and bellow
- Weight = 0.463 kg/piece

**APPLICATIONS**

- Fastening bellows LR 180 to carriages LW 180

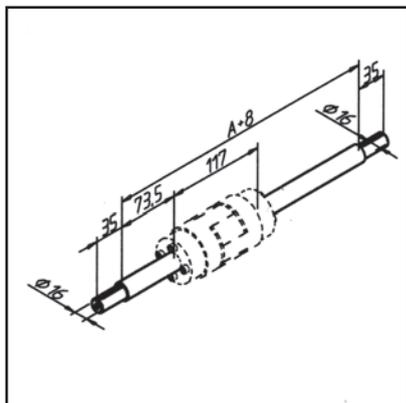
**ASSEMBLY**

- Fasten end frame on slide
- Push bellow onto rail
- Loosen power-lock fastener on the pulley side and insert end frame pulley between rail and timing belt pulley; tighten power-lock fastener
- Fasten protective bellow by means of the supplied screws on the end frame

## CONNECTING SHAFT 45

Part no.

17.1706/0



### TECHN. DATA / ITEMS SUPPLIED

### APPLICATIONS

### ASSEMBLY

- Steel shaft  $\varnothing$  20 mm
- 2 pieces, clutch not included
- With fastening material and feather key
- Length A = light distance between timing belt pulleys
- **Please indicate distance A**
- Other lengths and finishes available upon customer request
- Weight = 2,47 kg/m

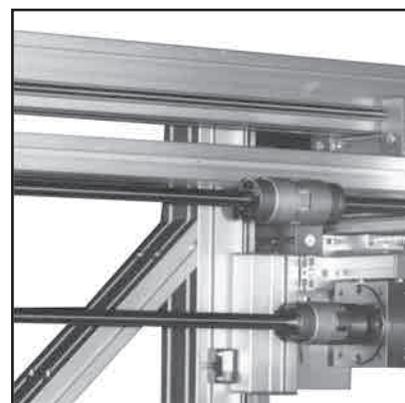
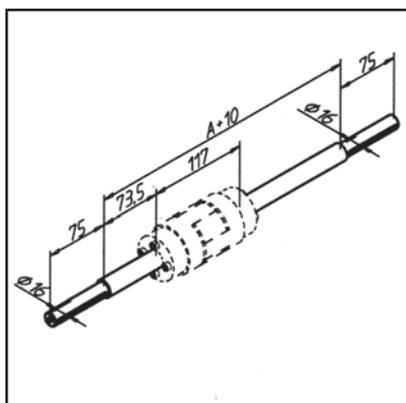
- Simultaneous transmission of 2 parallel linear guides
- Install support bearing for longer shafts

- Push the shafts with the feather key and the pressure plate into the timing belt reverse unit and secure with the pressure plate and the countersunk screw included
- Connect both shaft pieces with clutch **part no. 28.0180/0**

## CONNECTING SHAFT 90

Part no.

17.1706/1



### TECHN. DATA / ITEMS SUPPLIED

### APPLICATIONS

### ASSEMBLY

- Steel shaft  $\varnothing$  20 mm
- 2 pieces, clutch not included
- With fastening material and feather key
- Length A = light distance between timing belt pulleys
- **Please indicate distance A**
- Other lengths and finishes available upon customer request
- Weight = 2,47 kg/m

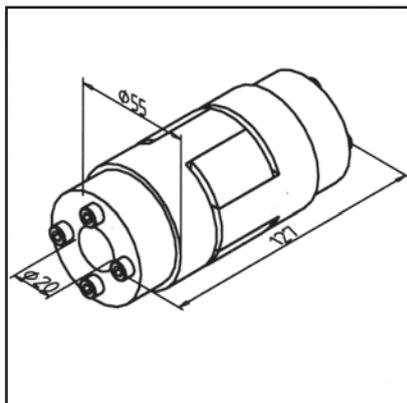
- Simultaneous transmission of 2 parallel linear guides
- Install support bearing for longer shafts

- Push the shafts with the feather key and the pressure plate into the timing belt reverse unit and secure with the pressure plate and the countersunk screw included
- Connect both shaft pieces with clutch **part no. 28.0180/0**

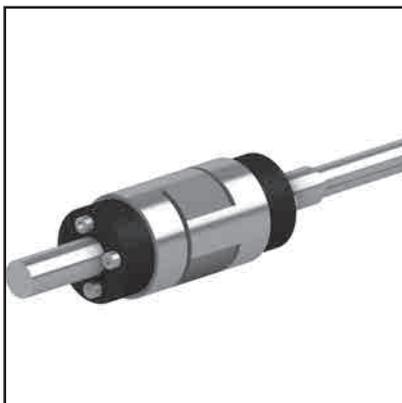
**CLUTCH 20**

Part no.

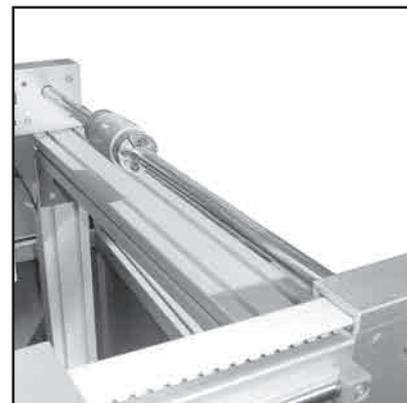
28.0180/0

**TECHN. DATA / ITEMS SUPPLIED**

- Clutch, steel with plastic inlay
- 2 tensioning sets, steel
- max. torque 30Nm
- Weight = 0.984 kg/piece

**APPLICATIONS**

- Connection of motors to reverse unit
- Misalignment compensation with simultaneous drive of 2 parallel linear axes with connection shaft 45 **part no. 17.1706/0** or 90 **part no. 17.1706/1**

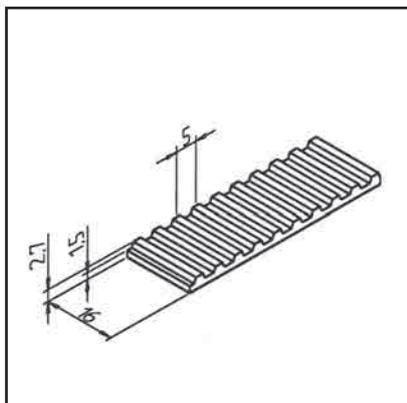
**ASSEMBLY**

- Attachment with integrated tensioning device
- Adjust the axes synchronously and fasten clamping sets

**TIMING BELT 16 AT 5**

Part no.

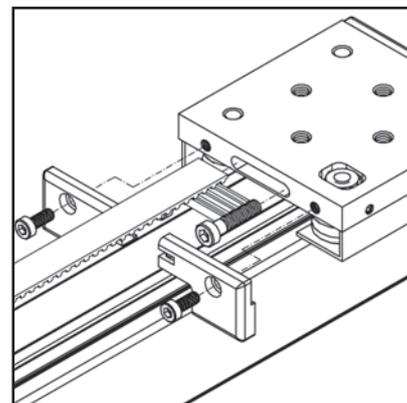
28.0502/0

**TECHN. DATA / ITEMS SUPPLIED**

- PUR white, steel-wire reinforced
- Type 16 AT 5
- load capacity up to 1260 N
- Weight = 0.053 kg/m

**APPLICATIONS**

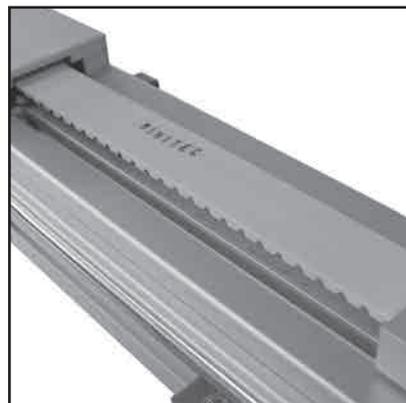
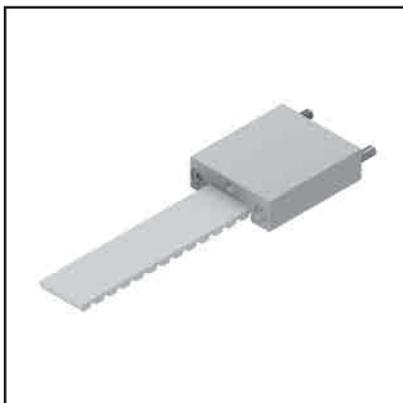
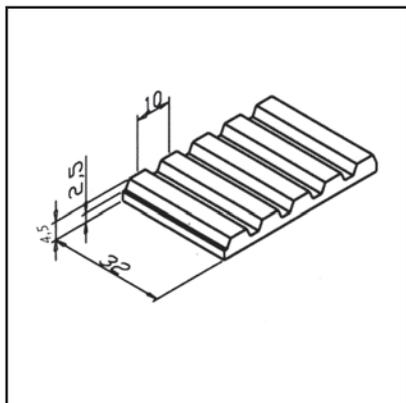
- For MiniTec linear guides LR 6 Z

**ASSEMBLY**

- Insert timing belt of corresponding length into the carriage LR 6 Z
- Length determination: 2x rail length + 260 mm

## TIMING BELT 32 AT 10

Part no. 28.0093/0



### TECHN. DATA / ITEMS SUPPLIED

- PUR white, steel-wire reinforced
- Type 32 AT 10
- load capacity up to 4750 N
- Weight = 0.190 kg/m

### APPLICATIONS

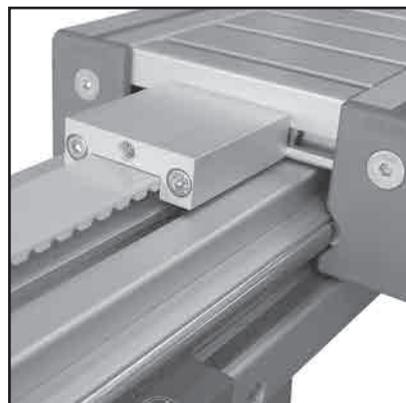
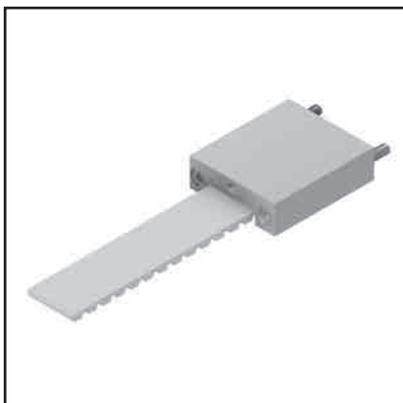
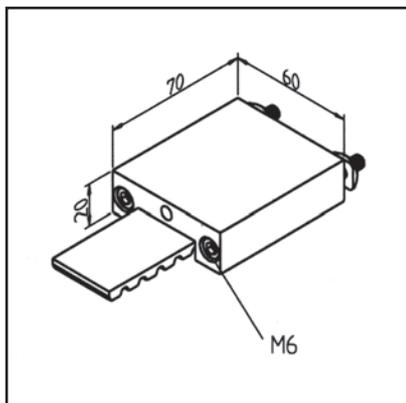
- For MiniTec-Linear guides LR 12 and LR 16
- Belt conveyors

### ASSEMBLY

- Attach the timing belt in the appropriate length to the belt tensioner

## TIMING BELT TENSIONER

Part no. 28.0090/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Housing Aluminum natural anodized
- Tension slide steel, galvanized, with inserted counterpart with 3 teeth
- For timing belt 32 AT 10
- Stainless version **part no. 28.0090/1**
- Weight = 0.244 kg/piece

### APPLICATIONS

- For MiniTec-Linear guides LR 12 and LR 16
- For MiniTec belt drive

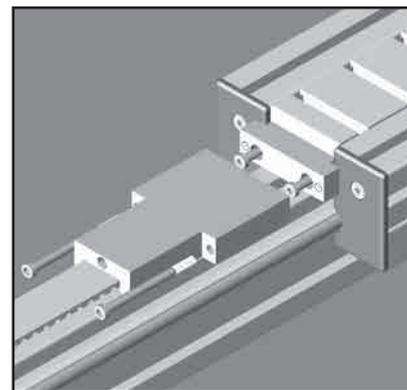
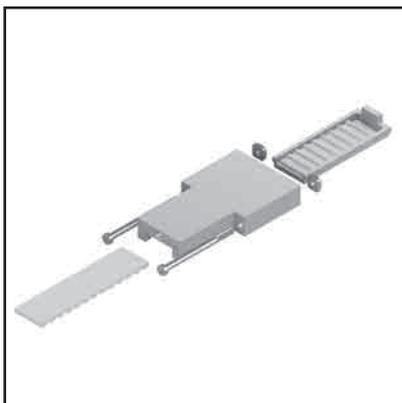
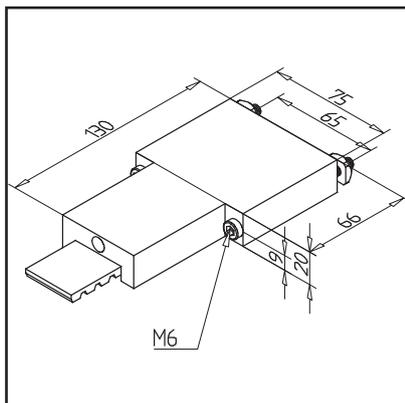
### ASSEMBLY

- Screw tight on the front of the carriage with supplied hardware
- After fixing on slide face, tension the belt central tensioning screw M8, 5 A/F
- Recommended voltage: according to design
- 1 timing belt tensioner requested per belt end

## TIMING BELT TENSIONER REINFORCED TO CARRIAGE LW90

Part no.

28.0386/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Cocking slide steel, galvanized, with inlaid counterpart with 9 teeth
- For attachment to carriage LW 45 please use the timing belt tensioner with adapter **part no. 28.0386/1**
- Weight = 0.473 kg/piece

### APPLICATIONS

- For linear axes with higher safety requirements
- For vertically arranged axles (lifting axles) it is usually sufficient to use the upper timing belt tensioner in reinforced version

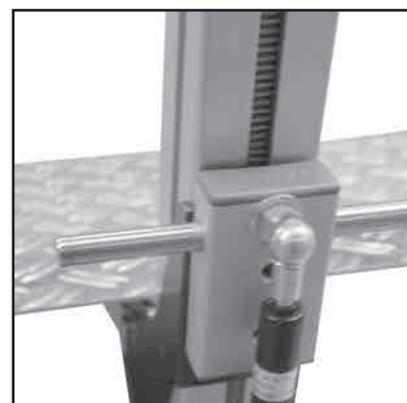
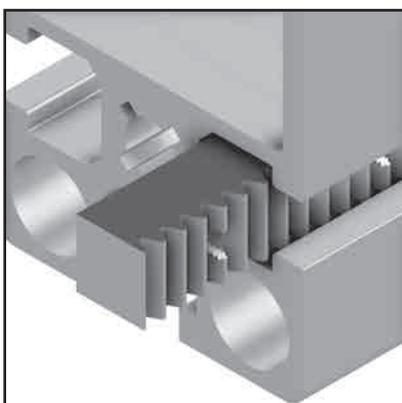
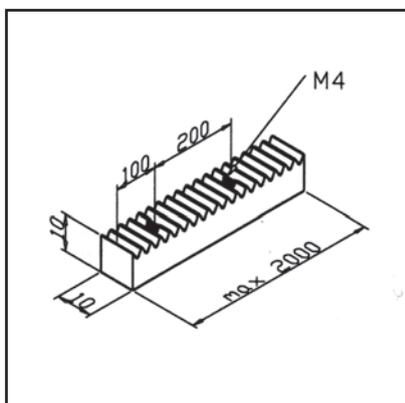
### ASSEMBLY

- Screw tight on the front of the carriage with supplied hardware
- After fixing on slide face, tension the belt central tensioning screw M8, 5 A/F
- Recommended voltage: according to design

## TOOTHED RACK 8

Part no.

28.0051/0



### TECHN. DATA / ITEMS SUPPLIED

- Steel, bright
- Modul 1
- Weight = 0,785 kg/m
- Bar length = 2 m

### APPLICATIONS

- Linear guides with very long travels
- Linear guides for short building room
- Repeated height and length settings in grid 3.14 mm (for ex. sorting frame)

### ASSEMBLY

- Insert timing rack into profile groove
- Secure with setscrew from delivery scope - Grid 200 mm

## CONNECTION OF MOTORS

**Timing belt pulley LR 6 & LR 6 compact**

Three-phase, stepper or servo motors with drive pins up to a maximum  $\varnothing$  14 mm are fastened directly to the deflection. The bore of the pulley with keyway and the adapter plate are also made to customer specification.

**Timing belt pulley T 45**

Three-phase, stepper or servo motors with drive pins up to a maximum  $\varnothing$  16 mm are fastened directly to the deflection. The bore of the pulley with keyway and the adapter plate are also made to customer specification.

**Timing belt pulley T 90**

Three-phase, stepper or servo motors with drive pins up to a maximum  $\varnothing$  24 mm are fastened directly to the deflection. The bore of the pulley with keyway and the adapter plate are also made to customer specification.

**Determination of the timing belt length****When using T45 and T90**

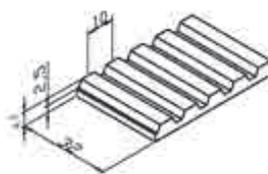
$2 \times \text{rail length} + 2 \times 210 \text{ mm (redirection)}$   
 $- \text{Carriage length} - 2 \times 20 \text{ mm (timing belt tensioner)}$   
 $= 2 \times \text{rail length} - \text{carriage length} + 380 \text{ mm}$

**When using LR6**

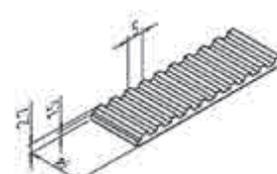
$2 \times \text{rail length} + 260 \text{ mm}$

**When using LR6 compact (timing belt 16 AT 5)**

$2 \times \text{rail length} + 220 \text{ mm}$



**Timing belt 32 AT 10**  
**Part no. 28.0093/0**



**Timing belt 16 AT 5**  
**Part no. 28.0502/0**

**Specifications of the pulleys in the timing belt deflection**

Timing belt-redirection	LR 6	T 45 (LR 12 & LR 16)	T 90 (LR 12 & LR 16)
Effective diameter	57,3 mm	60,48 mm	60,48 mm
Width of timing belt	16 mm	32 mm	32 mm
Number of teeth	36	19	19
Drill hole for drive shaft	10 mm	8 mm	8 mm
rillable to max.	14 mm	16 mm	30 mm
Travel distance (1 turn)	180 mm	190 mm	190 mm
TIMING BELT	16AT5	32AT10	32AT10
Belt length in deflection	160 mm	210 mm	210 mm
Maximum torque	30 Nm	70 Nm	130 Nm

## COMPONENTS – LINEAR SYSTEM LR

This system is based on double-row profiled rollers made of ball bearing steel and hardened precision shafts made of material 1.1213 (CF 53). Guides of any length can be produced with this system. The carriages are equipped with 2-row profiled rollers whose shaft raceway is designed as a Gothic arch. For very high loads, the trolleys can be equipped with any number of track rollers. The profiled rollers are fastened directly to the carriage plate with steel strips. No special roller profiles are required for the construction of the trolleys. This gives the construction maximum rigidity. The backlash-free adjustment of the guides is carried out with eccentric bushes.

The carriages are completely encapsulated, scraper felts are integrated into the cover caps, which simultaneously remove coarse dirt from the shafts and supply them with lubricant. The felts can be replaced quickly and easily after loosening the lateral screw connection. This advantage has an extremely positive effect, especially in dirty or rough operating conditions. Both closed and open-frame trolleys in any length and width are possible. Please indicate the desired dimensions A and B

when ordering.

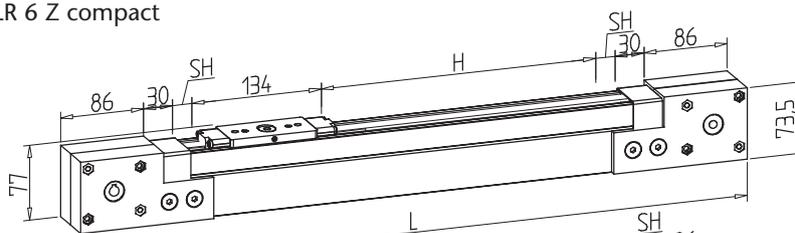
(see special versions on page XXX above).

X/Y tables can be produced simply by attaching 4 castors to the top of the trolley. In this configuration, the running rail of the Y-axis is made of profile 45 x 32. Cover caps LR and cover profile LR fit for the Y-axis.



X/Y-Table

## LR 6 Z compact

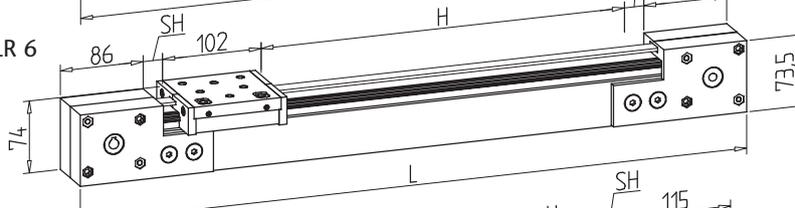


## LR 6 Z compact

## Calculation of the total length L:

Required traverse H  
 + Car length (134)  
 + 2 x Timing belt pulley (172)  
 + 2 x Trap guard (60)  
 = Traverse + 366 mm \*

## LR 6

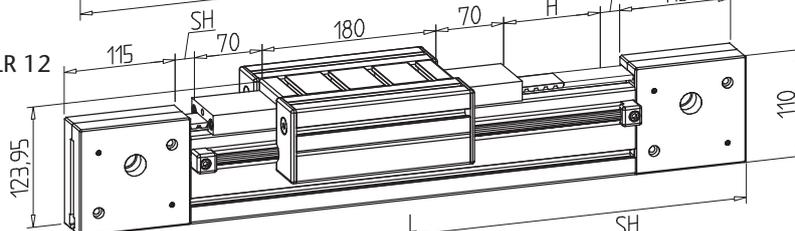


## LR 6

## Calculation of the total length L:

Required traverse H  
 + Car length (102)  
 + 2 x Timing belt pulley (172)  
 = Traverse + 274 mm \*

## LR 12

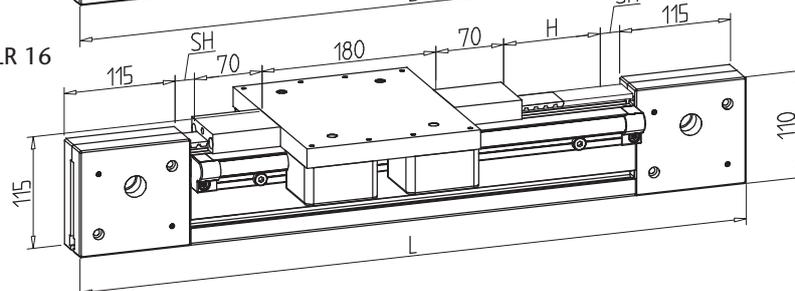


## LR 12 + LR 16

## Calculation of the total length L:

Required traverse H  
 + Car length (180)  
 + 2 x Timing belt pulley (230)  
 + 2 x Timing belt tensioner (140)  
 = Traverse + 550 mm

## LR 16



\*Since the belt tension is applied via the timing belt deflection, this is only an indication!

Safety distances „SH“ if necessary, additionally calculate and specify!

RAILS



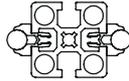
**LR 6 compact**  
Part no. 28.0119/0



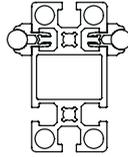
**LR 6 S**  
Part no. 28.0525/0



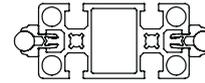
**LR 12**  
**Rail 19**  
Part no. 28.0009/0



**LR 12**  
**Rail 32**  
Part no. 28.0010/0

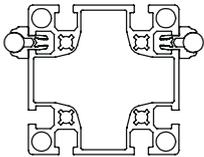


**LR 12**  
**Rail 45**  
Part no. 28.0006/0

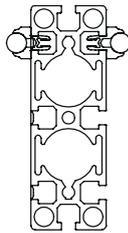


**LR 12**  
**Rail 45 x 90 H**  
Part no. 28.0007/2

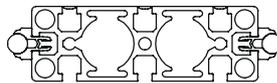
**LR 12**  
**Rail 45 x 90 F**  
Part no. 28.0007/1



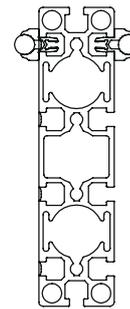
**LR 12**  
**Rail 90**  
Part no. 28.0008/0



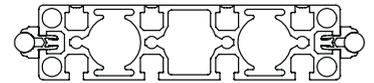
**LR 12**  
**Rail 135 H**  
Part no. 28.0012/2



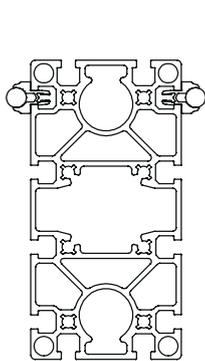
**LR 12**  
**Rail 135 F**  
Part no. 28.0012/1



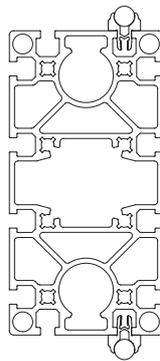
**LR 12**  
**Rail 45 x 180 H**  
Part no. 28.0013/2



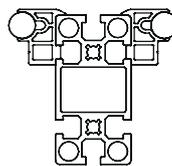
**LR 12**  
**Rail 45 x 180 F**  
Part no. 28.0013/1



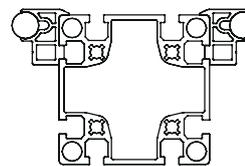
**LR 12**  
**Rail 180 H**  
Part no. 28.0011/2



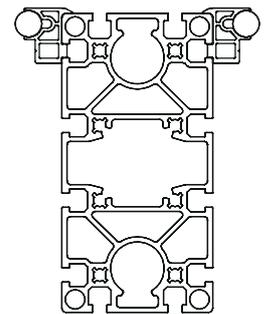
**LR 12**  
**Rail 180 F**  
Part no. 28.0011/1



**LR 16**  
**Rail LR16 - 45 x 90H**  
Part no. 28.0820/0

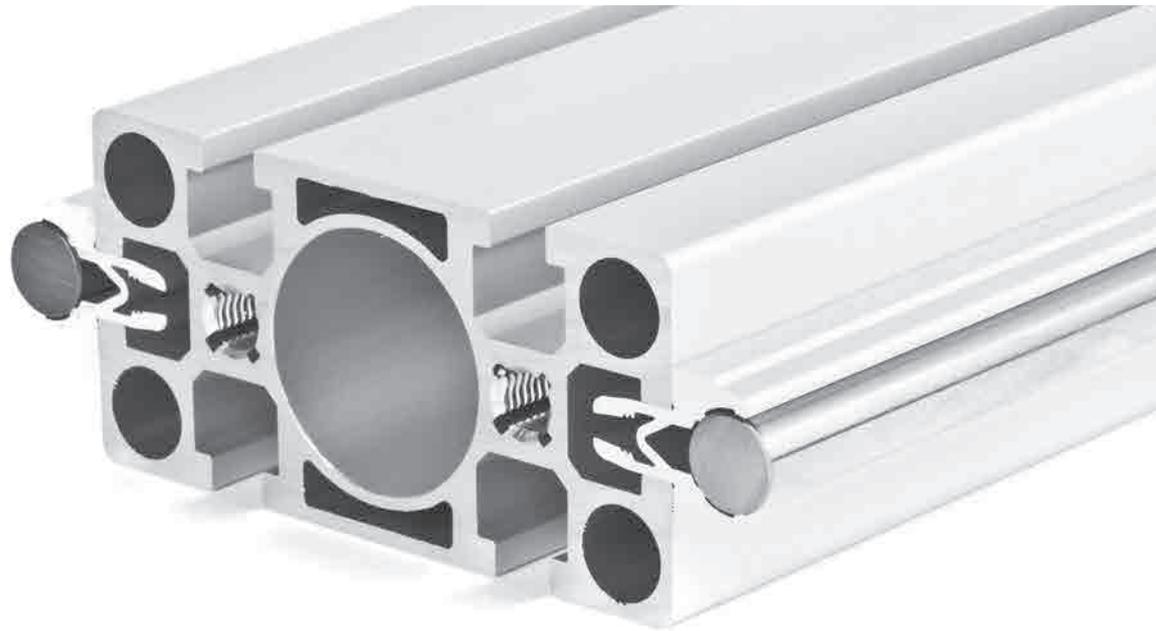


**LR 16**  
**Rail LR16 - 90**  
Part no. 28.0821/0

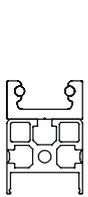


**LR 16**  
**Rail LR16 - 90 x 180H**  
Part no. 28.0822/0

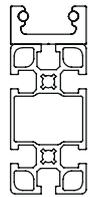
RAILS



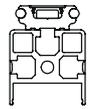
LR 6 compact and LR 6 S - further combination possibilities:



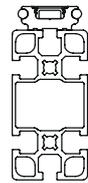
Profile 45 x 45 R  
LR 6 compact



Profile 45 x 90 F  
LR 6 compact



Profile 45 x 45 R  
LR 6 S



Profile 45 x 90 F  
LR 6 S



Rail of Profile 19 x 45



Rail of Profile 45 x 32 F



Rail of Profile 19 x 32



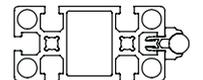
Rail of Profile 45 x 45



Rail of Profile 32 x 32 F



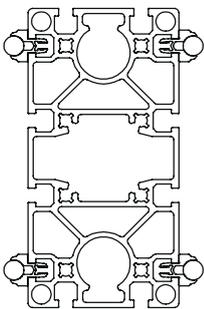
Rail of Profile 45 x 32 F



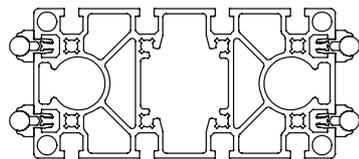
Rail of Profile 45 x 90

LR 12 - further combination possibilities:

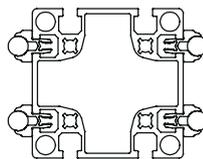
LR 12 - further combination possibilities:



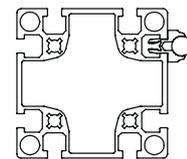
Rail of Profile 90 x 180 S



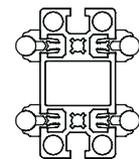
Rail of Profile 90 x 180 S



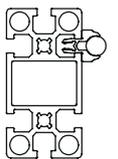
Rail of Profile 90 x 90 L



Rail of Profile 90 x 90 L

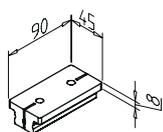


Rail of Profile 45 x 90

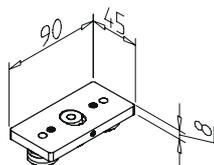


Rail of Profile 45 x 90

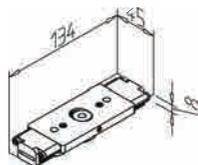
CARRIAGE MODELS



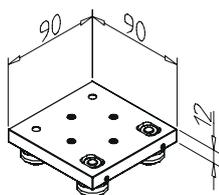
**Sliding carriage**  
**LR 6 compact**  
Part no. 28.0127/0



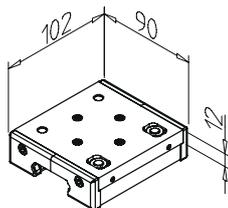
**LR 6 compact**  
Part no. 28.0140/0



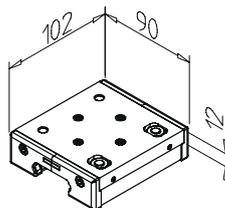
**LR 6 Z compact**  
Part no. 28.0520/0



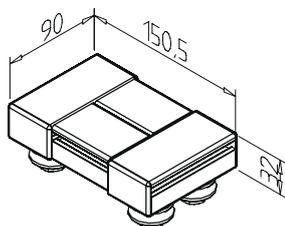
**LR 6**  
Part no. 28.0138/0



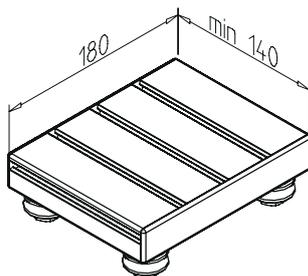
**LR 6 with cover**  
Part no. 28.0138/1



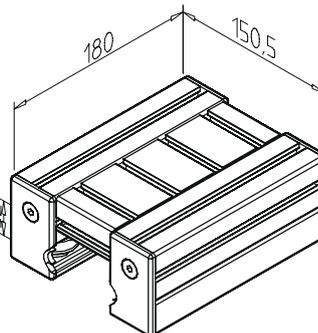
**LR 6 Z**  
Part no. 28.0138/2



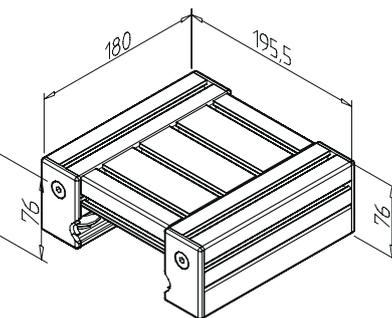
**LW 32**  
Part no. 28.0088/0



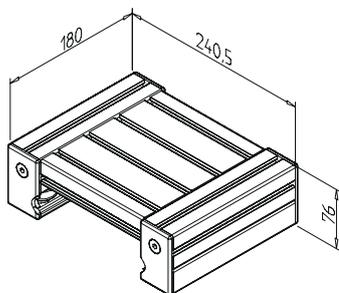
**LW 32 E**  
Part no. 28.0089/0



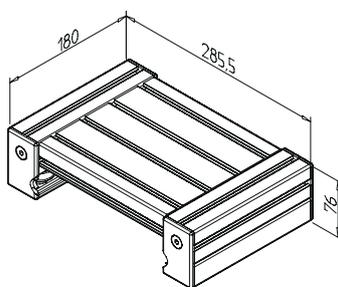
**LW 45**  
Part no. 28.0091/0



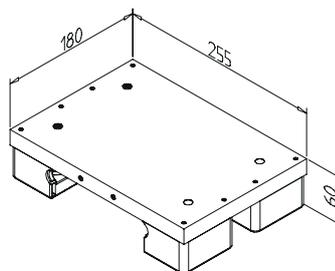
**LW 90**  
Part no. 28.0092/0



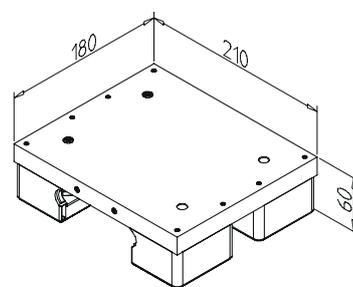
**LW 135**  
Part no. 28.0084/0



**LW 180**  
Part no. 28.0087/0



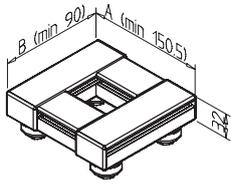
**LR 16 - 90**  
Part no. 28.0811/0



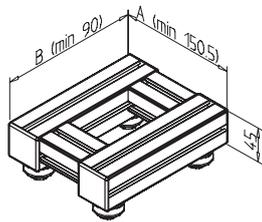
**LR 16 - 45**  
Part no. 28.0810/0

## CARRIAGE MODELS

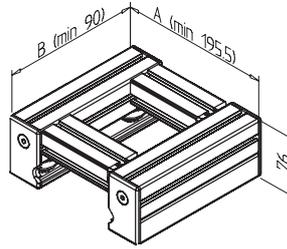
## Carriage special versions



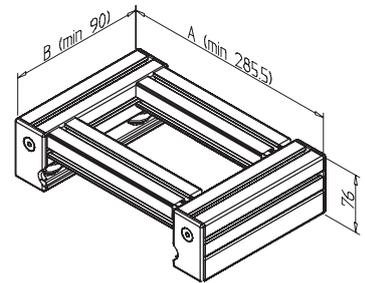
LW 32 Special version  
(Open Frame)  
Part no. 28.0089/2



LW 45 Special version  
(Open Frame)  
Part no. 28.0091/4



LW 90 Special version  
(Open Frame)  
Part no. 28.0092/3



LW 180 Special version  
(Open Frame)  
Part no. 28.0087/2



CARRIAGE MODELS

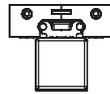
COMBINATION POSSIBILITIES CARRIAGES AND RAILS



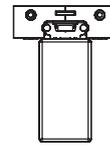
LW LR 6 compact  
Rail LR 6 compact



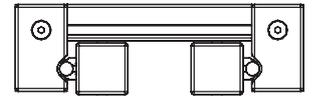
LW LR 6 compact  
Rail made of profile  
45x90F



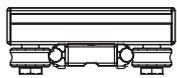
Carriage LR 6  
Rail LR 6 S/45



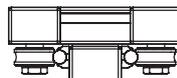
Carriage LR 6  
Rail LR 6 S/90



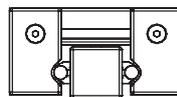
Carriage LW 135  
2x Special rail made of  
profile 45 x 45



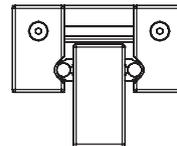
LW 32 E  
Rail 19



LW 32  
Rail 32



LW 45  
Rail 45



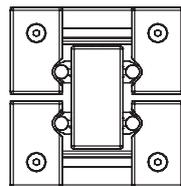
LW 45  
Rail 45 x 90H



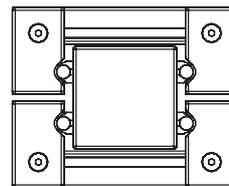
Special carriages  
2x Special rail made of profile 45x90



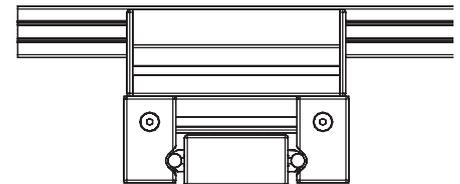
LW 90  
Rail 45 x 90 F



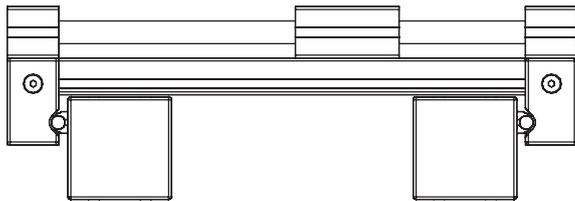
2x LW 45  
Special rail made of  
profile 45 x 90



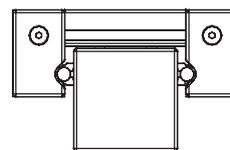
2x LW 90  
Special rail made of  
profile 90 x 90 L



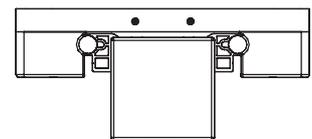
2x LW 90  
Rail 45 x 90 F



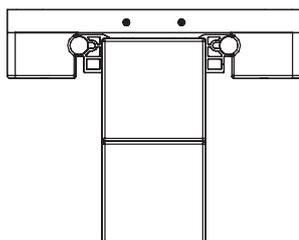
Special carriage  
2x Special rail made of profile 90 x 90 L



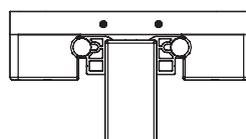
LW 90  
Rail 90



LR 16-90  
Rail LR 16 - 90



LR 16 - 90  
Rail LR 16 - 90 x 180H



LR 16 - 45  
Rail LR 16 - 45

PERMITTED LOADS

Linear-system	LR 6			LR 12				LR 16	
Car	LR 6 COMPACT	Car LR 6 with 4 Bearing L = 90 mm	Car 45 with 4 Bearing L = 180 mm	Car 90 with 4 Bearing L = 180 mm	Car 135 with 4 Bearing L = 180 mm	Car 180 with 4 Bearing L = 180 mm	Car 180 with 8 Bearing L = 360 mm	Car LR 16-45	Car LR 16-90
Mx max.	40 Nm	30 Nm	79 Nm	107 Nm	130 Nm	165 Nm	240 Nm	158 Nm	214 Nm
My max.	40 Nm	75 Nm	120 Nm	120 Nm	120 Nm	120 Nm	275 Nm	288 Nm	288 Nm
Mz max.	40 Nm	40 Nm	202 Nm	202 Nm	202 Nm	202 Nm	470 Nm	323 Nm	323 Nm
Fy max.	700 N	800 N	3500 N	3500 N	3500 N	3500 N	7000 N	7000 N	7000 N
Fz max.	1100 N	640 N	1500 N	1500 N	1500 N	1500 N	3000 N	3000 N	3000 N

Maximum traverse

Car 45 - 180: 10 m/sec

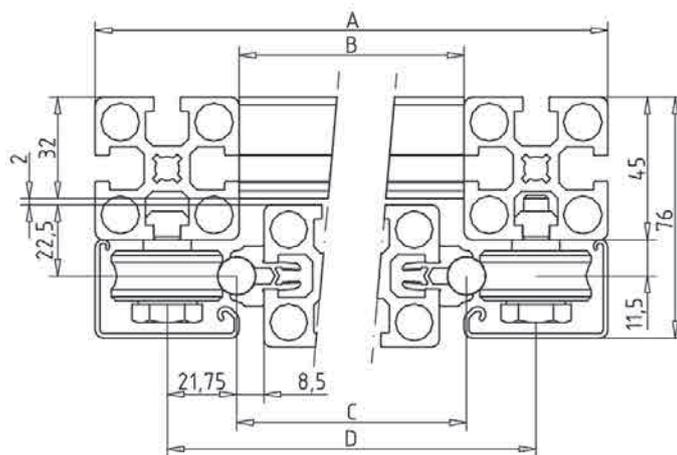
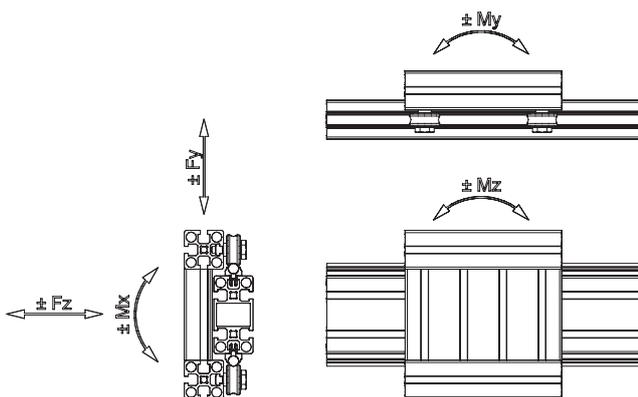
Car LR 6: 5 m/sec

Calculation of the permissible moment load depending on the car length, at 4 Bearing:

$M_y \text{ max.} = 0,89 \times (L-45) \text{ Nm}$

$M_z \text{ max.} = 1,50 \times (L-45) \text{ Nm}$

L = Car length



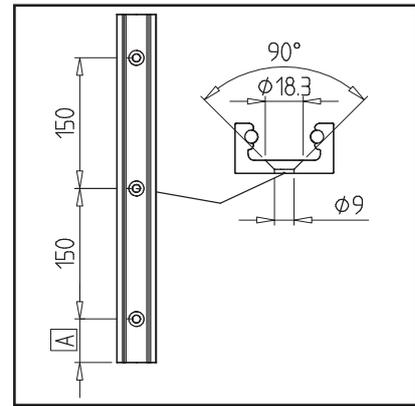
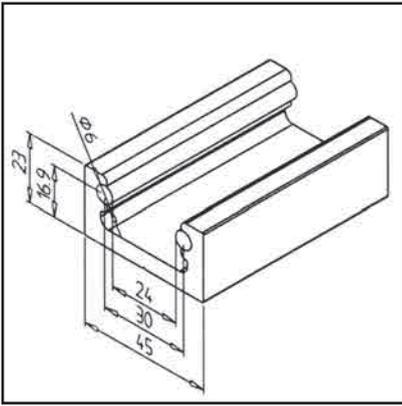
Command variable

Car type	LR 6 compact	LR 6	LW 45	LW 90	LW 135	LW 180	LR 16-45	LR 16-90
MEASURE								
A	45	90	150,5	195,5	240,5	285,5	210	255
B	-	-	60,5	105,5	150,5	195,5	-	-
C	30	32	62	107	152	197	85	130
D	2	60	105,5	150,5	195,5	240,5	149,5	194,5

## RAIL LR 6 COMPACT

Part no.

28.0119/0



## TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 2 shafts  $\varnothing 6$  h6 steel
- Drilled ready for assembly  $\varnothing 8$  mm, Division 150 mm
- Stainless version **part no. 28.0149/0**
- Weight = 1.781 kg/m
- Bar length = 6 m

## APPLICATIONS

- Handling devices
- Guide large drawers
- Doors

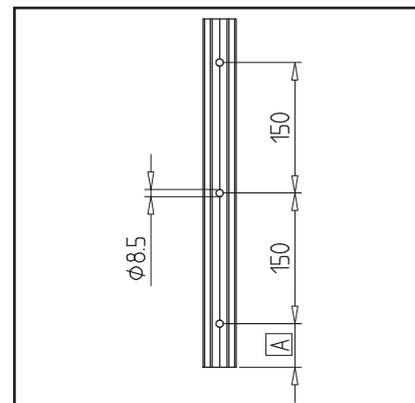
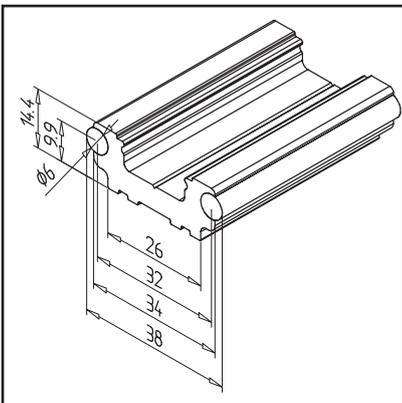
## ASSEMBLY

- Fasten the rail with the countersunk screw M8 x 20 and the square nut M8 to the MiniTec profile
- The hole pattern is cut to size centrally. If a different edge distance is required, please specify dimension A.
- Additional hole spacing is also possible.

## RAIL LR 6 S

Part no.

28.0525/0



## TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 2 shafts  $\varnothing 6$  h6 steel
- Drilled ready for assembly  $\varnothing 8$  mm, Division 150 mm
- Stainless version **part no. 28.0526/0**
- Weight = 0.959 kg/m
- Bar length = 6 m

## APPLICATIONS

- MiniTec linear guide systems LR 6
- Handling devices
- Guide large drawers
- Doors

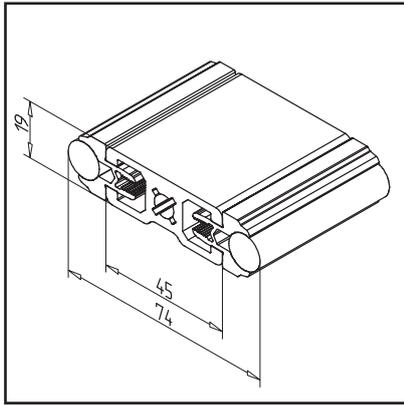
## ASSEMBLY

- Fasten the rail with the countersunk screw M8 x 20 and the square nut M8 to the MiniTec profile
- Optional cover profile, **part no. 22.1160/0**
- The hole pattern is cut to size centrally. If a different edge distance is required, please specify dimension A.
- Additional hole spacing is also possible.

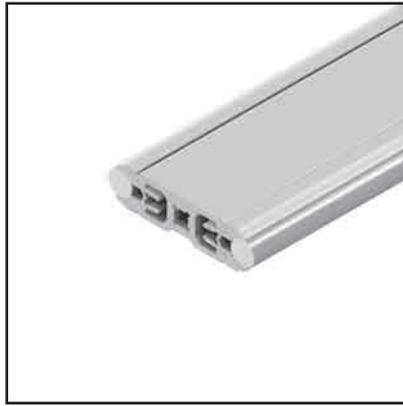
**RAIL 19**

Part no.

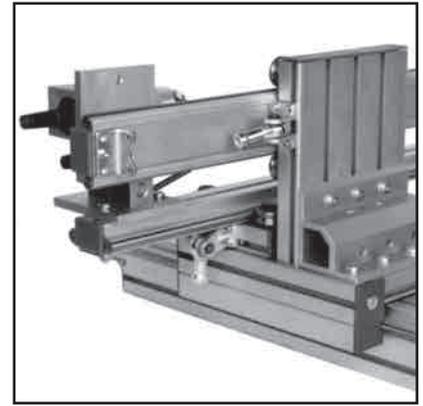
28.0009/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 19 x 45
- On both sides with shaft supporting profile and shafts  $\varnothing 12$  h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0009/3**
- Weight = 3,666 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides
- Longer rails with composite shafts possible

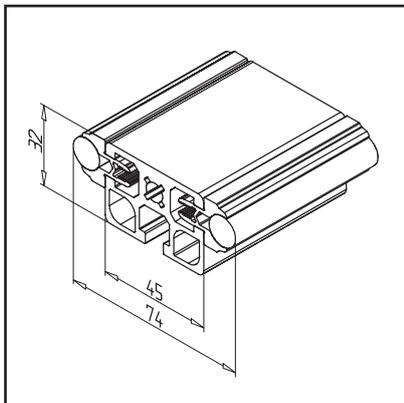
**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

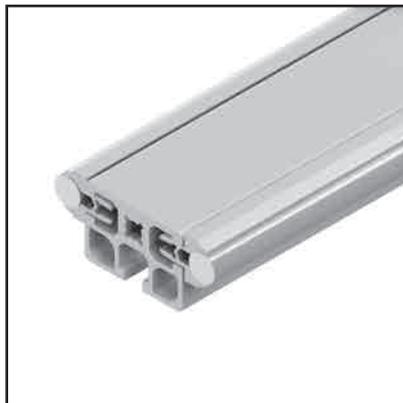
**RAIL 32**

Part no.

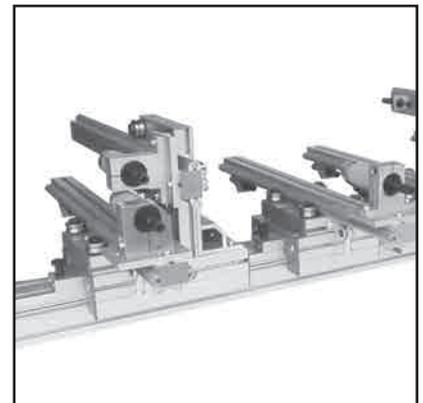
28.0010/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 45 x 32 F
- On both sides with shaft supporting profile and shafts  $\varnothing 12$  h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0010/3**
- Weight = 4,161 kg/m
- Bar length = 6 m

**APPLICATIONS**

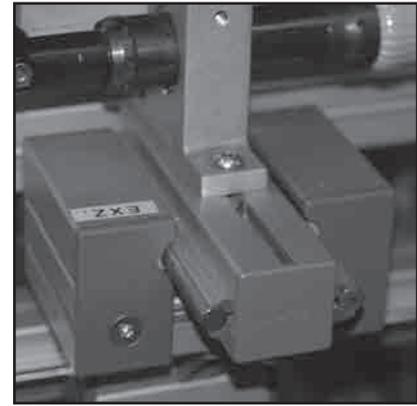
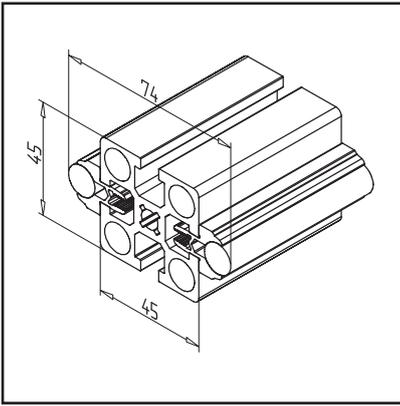
- Linear and column guides
- Longer rails with composite shafts possible

**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 45

Part no. 28.0006/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0006/3**
- Weight = 4,796 kg/m
- Bar length = 6 m

### APPLICATIONS

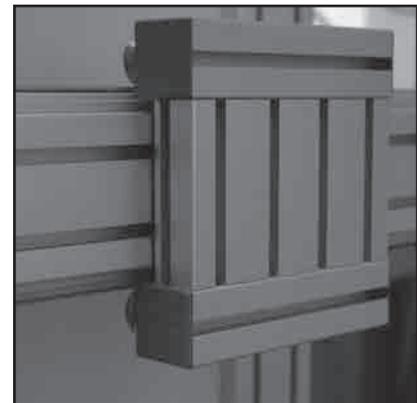
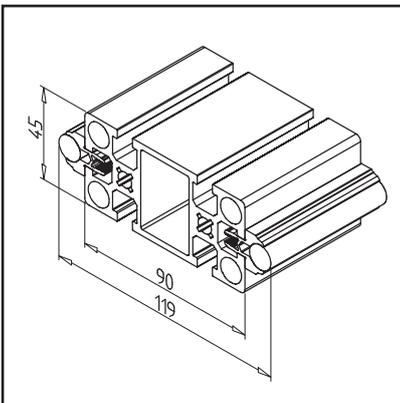
- Linear and column guides
- Longer rails with composite shafts possible

### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 45X90 F

Part no. 28.0007/1



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Profile 45 x 90
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0007/3**
- Weight = 6,190 kg/m
- Bar length = 6 m

### APPLICATIONS

- Linear and column guides
- Longer rails with composite shafts possible

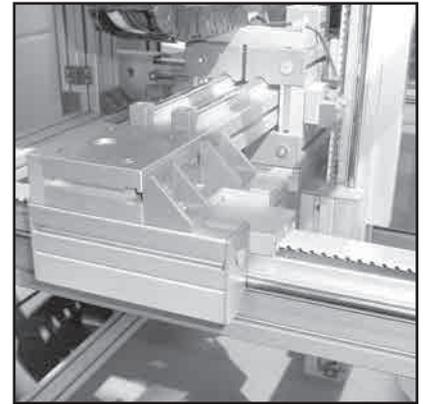
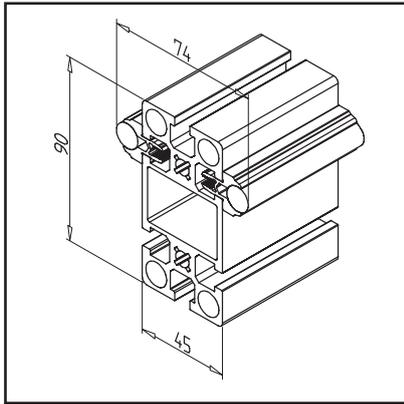
### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL 45X90 H**

Part no.

28.0007/2

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 45 x 90
- On both sides with shaft supporting profile and shafts  $\varnothing 12$  h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0007/4**
- Weight = 6,190 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides
- Belt return in profile
- Longer rails with composite shafts possible

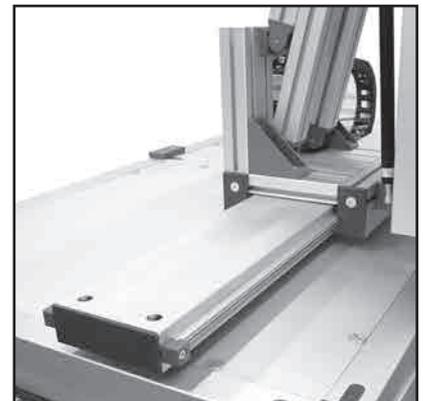
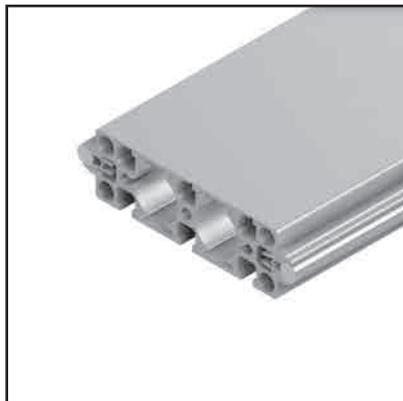
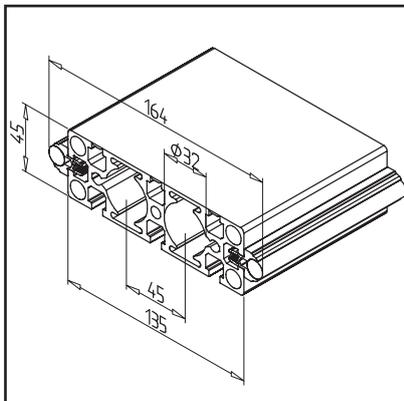
**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL 135 F**

Part no.

28.0012/1

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 45 X 135 1G
- On both sides with shaft supporting profile and shafts  $\varnothing 12$  h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0012/3**
- Weight = 8,09 kg/m
- Bar length = 6 m

**APPLICATIONS**

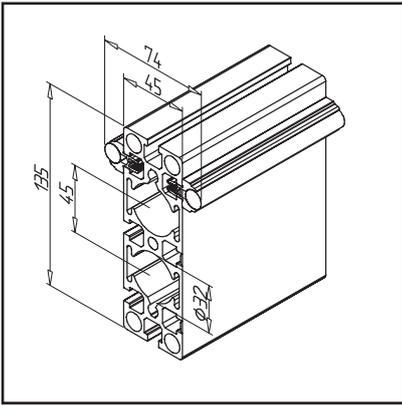
- Linear and column guides
- Longer rails with composite shafts possible

**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 135 H

Part no. 28.0012/2



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Profile 45 X 135 1G
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0012/4**
- Weight = 8,09 kg/m
- Bar length = 6 m

### APPLICATIONS

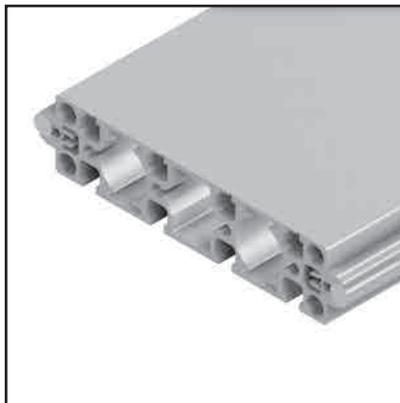
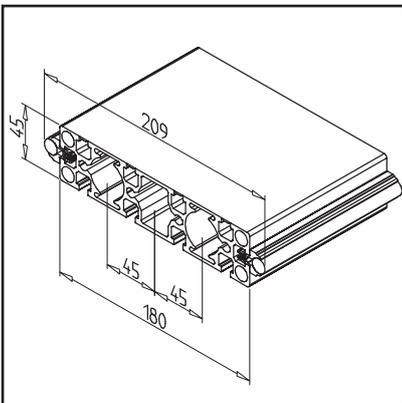
- Linear and column guides
- Longer rails with composite shafts possible

### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 45X180 F

Part no. 28.0013/1



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Profile 45 X 180 1G
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0013/3**
- Weight = 9,466 kg/m
- Bar length = 6 m

### APPLICATIONS

- Linear and column guides
- Longer rails with composite shafts possible

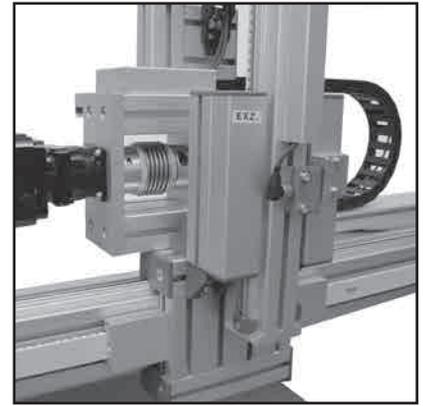
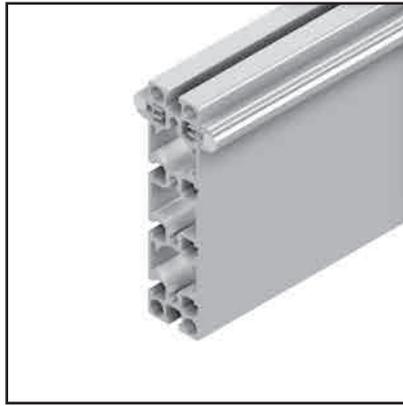
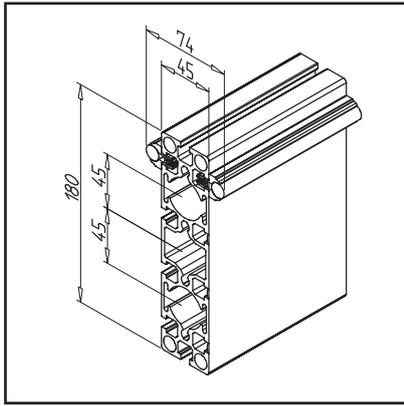
### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL 45X180 H**

Part no.

28.0013/2

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 45 X 180 1G
- On both sides with shaft supporting profile and shafts  $\varnothing$  12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0013/4**
- Weight = 9,466 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides
- Longer rails with composite shafts possible

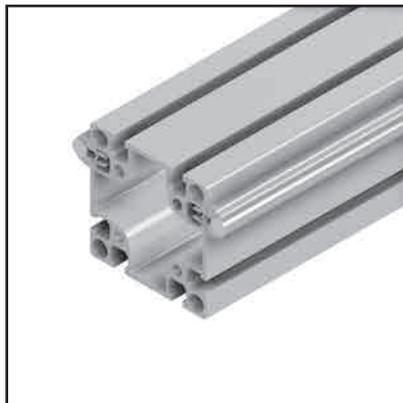
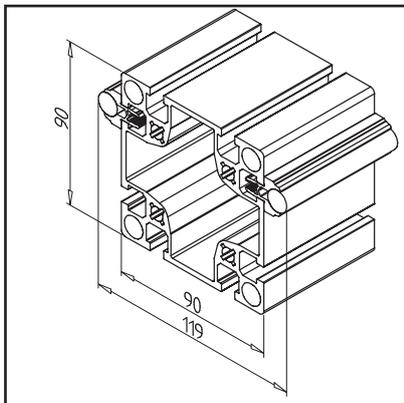
**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL 90**

Part no.

28.0008/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 90 x 90 L
- On both sides with shaft supporting profile and shafts  $\varnothing$  12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0008/3**
- Weight = 7,88 kg/m
- Bar length = 6 m

**APPLICATIONS**

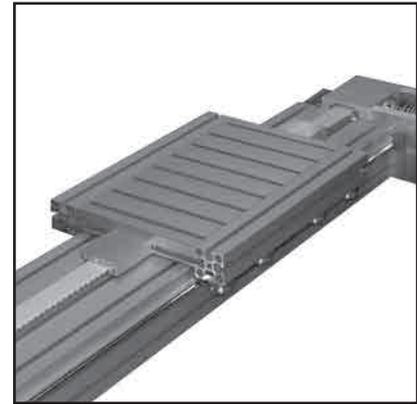
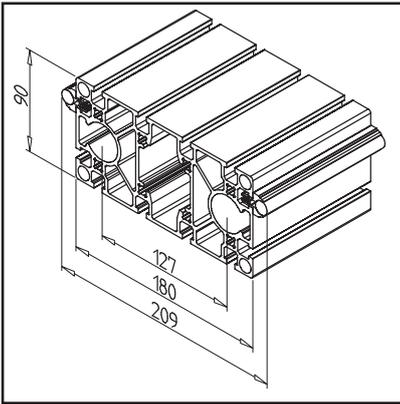
- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

**ASSEMBLY**

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 180 F

Part no. 28.0011/1



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Profile 90 X 180 S
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0011/3**
- Weight = 14,516 kg/m
- Bar length = 6 m

### APPLICATIONS

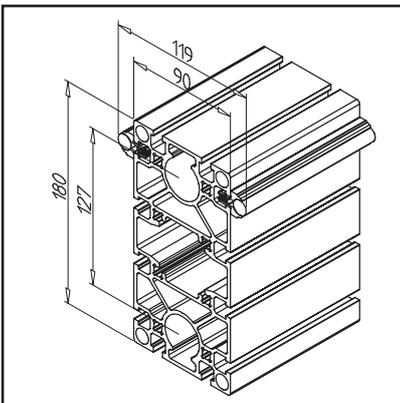
- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

## RAIL 180 H

Part no. 28.0011/2



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Profile 90 X 180 S
- On both sides with shaft supporting profile and shafts Ø 12 h6, pre-finished installed
- Without end caps
- Stainless version **part no. 28.0011/4**
- Weight = 14,516 kg/m
- Bar length = 6 m

### APPLICATIONS

- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

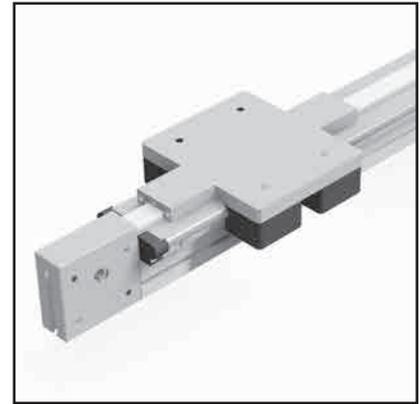
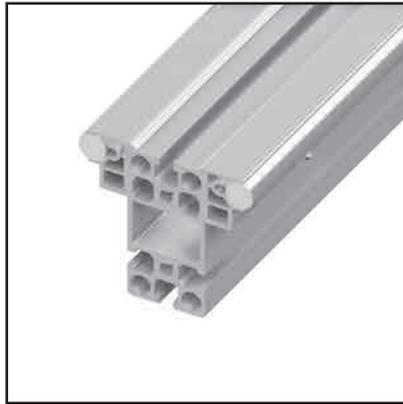
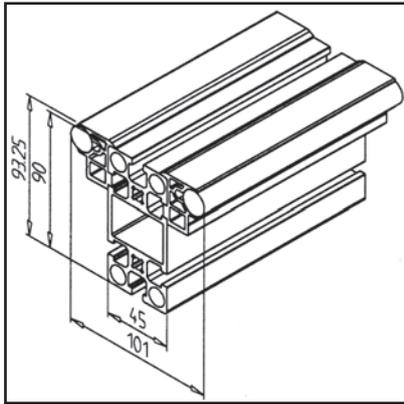
### ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **part no. 28.0052/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL LR16 - 45X90H**

Part no.

28.0820/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 45 x 90
- On both sides with shaft carrier profile LR 16 and shafts  $\varnothing$  16 h6, installed pre-assembled
- Without end caps
- Weight = 7,979 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

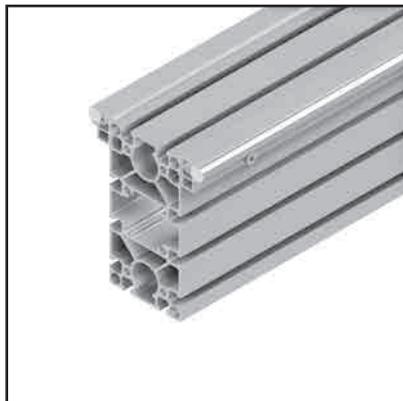
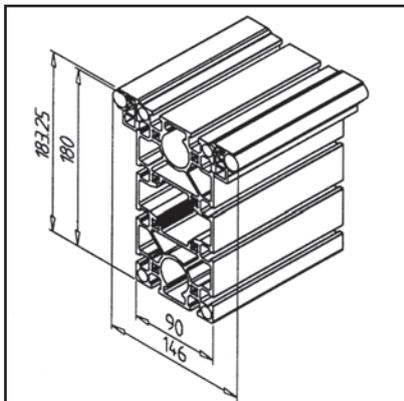
**ASSEMBLY**

- For vertical use or high speed applications we recommend the use of shaft retention device LR 16 **part no. 28.0808/0** and **part no. 28.0809/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL LR16 - 90X180H**

Part no.

28.0822/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 90 X 180 S
- On both sides with shaft carrier profile LR 16 and shafts  $\varnothing$  16 h6, installed pre-assembled
- Without end caps
- Weight = 16,278 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

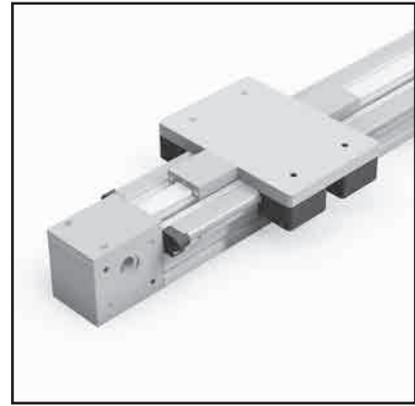
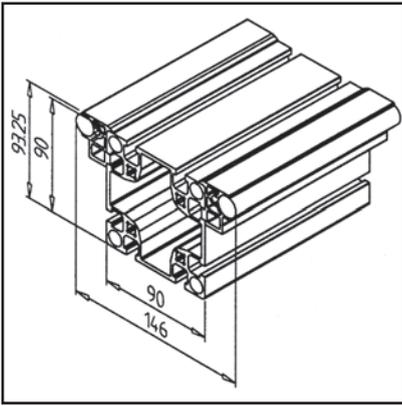
**ASSEMBLY**

- For vertical use or high speed applications we recommend the use of shaft retention device LR 16 **part no. 28.0808/0** and **part no. 28.0809/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**RAIL LR16 - 90**

Part no.

28.0821/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Profile 90 x 90 L
- On both sides with shaft carrier profile LR 16 and shafts  $\varnothing 16$  h6, installed pre-assembled
- Without end caps
- Weight = 10,067 kg/m
- Bar length = 6 m

**APPLICATIONS**

- Linear and column guides for high load
- Belt return in profile
- Longer rails with composite shafts possible

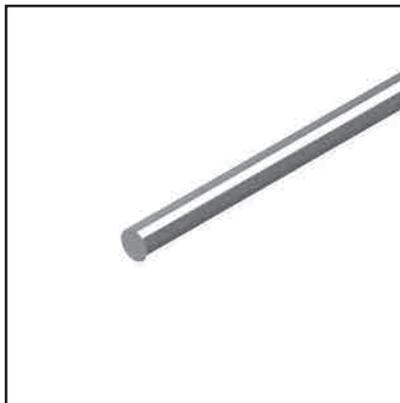
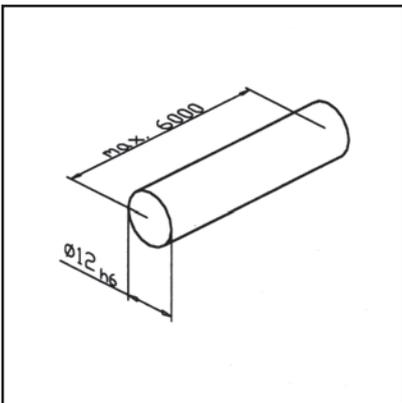
**ASSEMBLY**

- For vertical use or high speed applications we recommend the use of shaft retention device LR 16 **part no. 28.0808/0** and **part no. 28.0809/0**
- To use shaft locking devices on both sides, the shaft and shaft carrier should be at least 30 mm shorter than the total length.

**SHAFT 12**

Part no.

17.1741/0

**TECHN. DATA / ITEMS SUPPLIED**

- Steel, pulled, hardened, polished
- Cf.53, hardened to  $62 \pm 4$  HRC, polished h6
- Stainless version **part no. 17.1741/1**
- Weight = 0.888 kg/m
- Bar length = 6 m

**APPLICATIONS**

- All MiniTec-linear guides LR 12

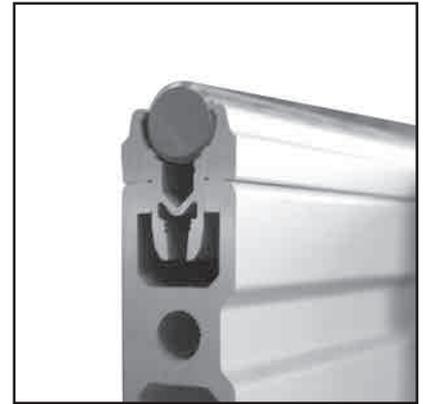
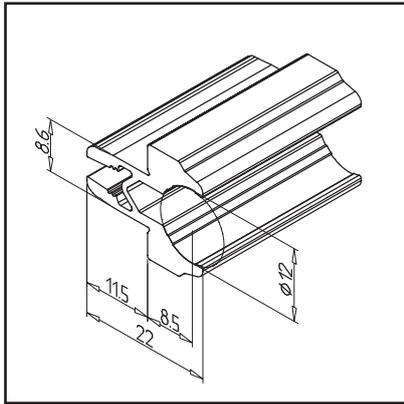
**ASSEMBLY**

- Press shaft into supporting profile with appropriate tool (plastic mallet)
- For guides  $L > 6000$  mm assemble shaft with offset joints

**SHAFT SUPPORTING PROFILE LR 12**

Part no.

28.0002/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, extruded, anodized E6/EV1
- Weight = 0.370 kg/m
- Bar length = 6 m

**APPLICATIONS**

- MiniTec linear guides LR/LG

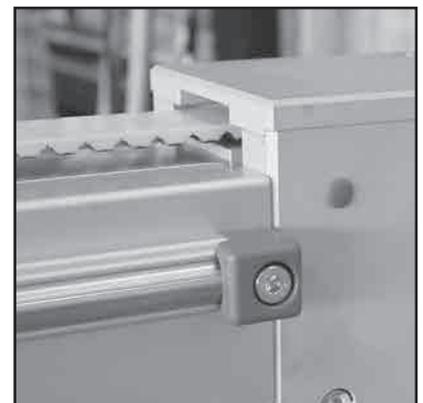
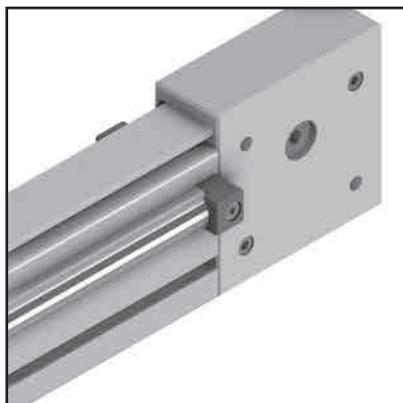
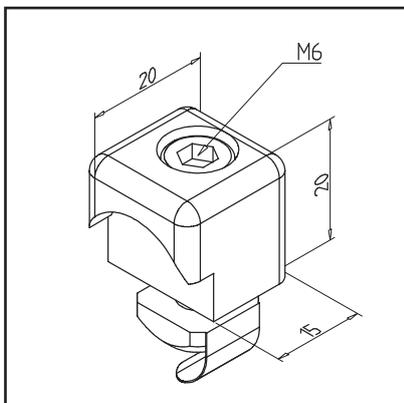
**ASSEMBLY**

- Press into the groove of rail profile
- If necessary clamp with set screw M5 x 10 in position
- Hammer the shaft into the rod holder profile with a plastic hammer

**SHAFT LOCKING CLIP**

Part no.

28.0052/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, Pressure die-casting, powder-coated, grey
- With fastening material steel, zinc plated
- Stainless version **part no. 28.0053/0**
- Weight = 0.026 kg/piece

**APPLICATIONS**

- Axial fastening of shafts in dynamically stressed linear guides

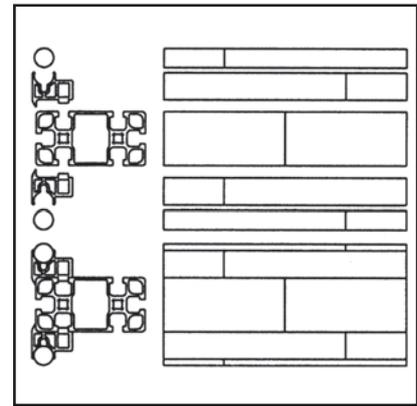
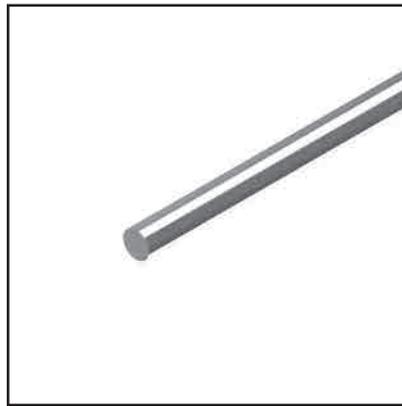
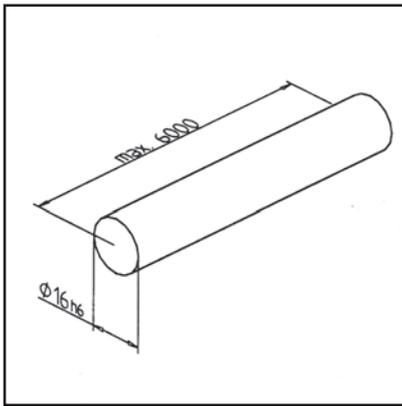
**ASSEMBLY**

- Fasten the retention device at both shaft ends with fastening kit
- No machining required
- The shaft carrier profile and shafts must be 15 mm shorter than the carrier profile

## SHAFT 16

Part no.

17.1743/0



### TECHN. DATA / ITEMS SUPPLIED

- Steel, pulled, hardened, polished
- Cf.53, hardened to  $62 \pm 4$  HRC, polished h6
- Weight = 1.587 kg/m
- Bar length = 6 m

### APPLICATIONS

- MiniTec linear guide LR 16

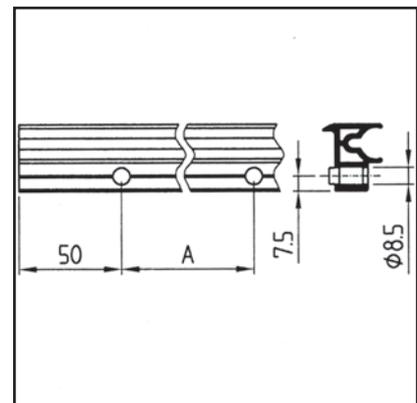
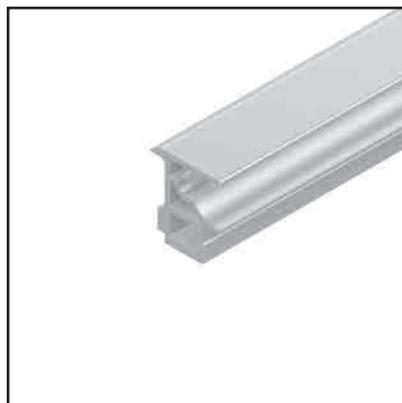
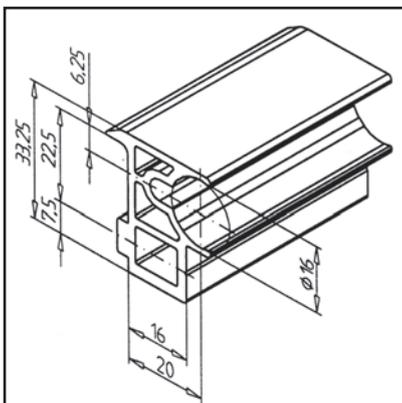
### ASSEMBLY

- Press shaft into supporting profile with appropriate tool (plastic mallet)
- For guides  $L > 6000$  mm assemble shaft with offset joints

## SHAFT SUPPORTING PROFILE LR 16 WITHOUT BORE

Part no.

28.0019/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, extruded, anodized E6/EV1
- Please order design with bore at **part no. 28.0019/1**  
grid dimension  $A = 250$  mm
- Weight = 0.845 kg/m
- Bar length = 6 m

### APPLICATIONS

- MiniTec linear guide LR16

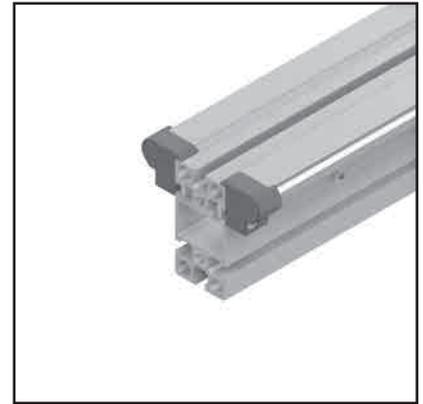
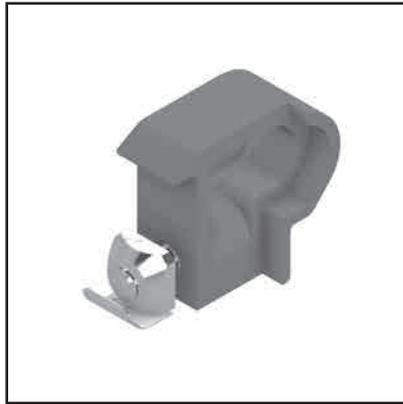
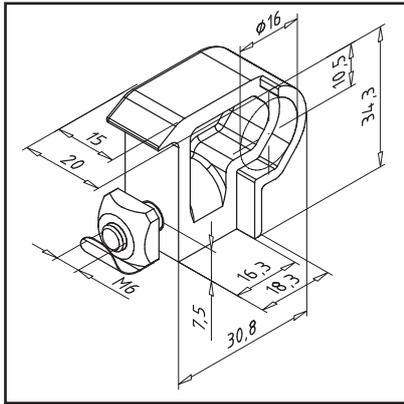
### ASSEMBLY

- Bore  $\phi 8.5$  in the shaft supporting profile
- Recommended distance: 50 mm from the edge, then approximately every 200 - 300 mm
- Fasten to the support profile using cylinder screw M8 x 30 and sliding nut M8.
- Hammer the shaft into the rod holder profile with a plastic hammer

**SHAFT LOCK LEFT LR16**

Part no.

28.0809/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, Pressure die-casting, powder-coated, grey
- With fastening material steel, zinc plated
- Weight = 0.037 kg/piece

**APPLICATIONS**

- Axial fastening of shafts in dynamically stressed linear guides

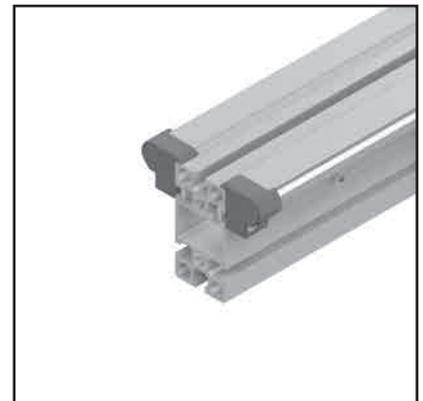
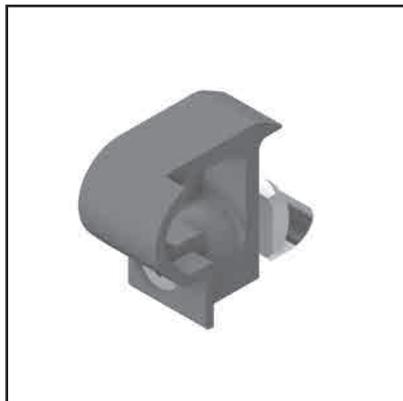
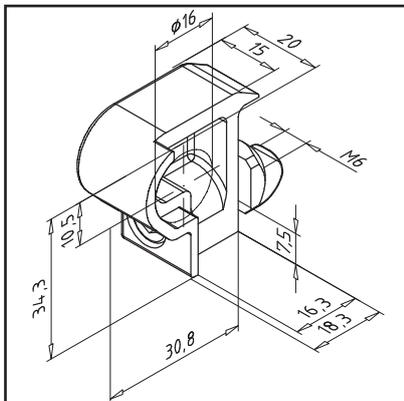
**ASSEMBLY**

- Fasten the retention device at both shaft ends with fastening kit
- No machining required
- The shaft carrier profile and shafts must be 15 mm shorter than the carrier profile

**SHAFT LOCK RIGHT LR16**

Part no.

28.0808/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, Pressure die-casting, powder-coated, grey
- With fastening material steel, zinc plated
- Weight = 0.037 kg/piece

**APPLICATIONS**

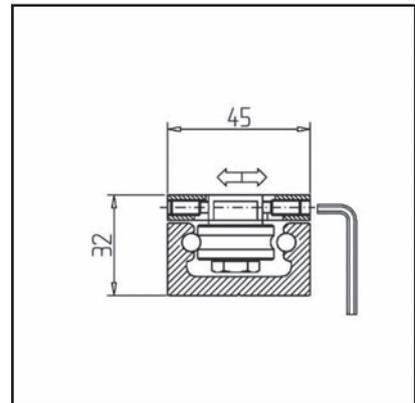
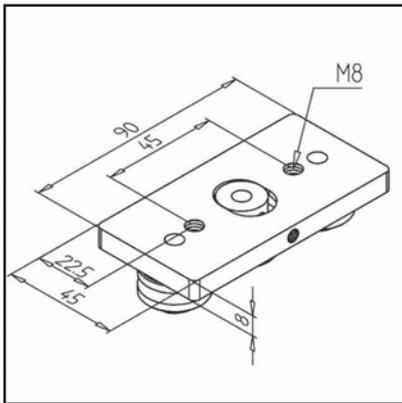
- Axial fastening of shafts in dynamically stressed linear guides

**ASSEMBLY**

- Fasten the retention device at both shaft ends with fastening kit
- No machining required
- The shaft carrier profile and shafts must be 15 mm shorter than the carrier profile

## SLIDE LR 6 COMPACT

Part no. 28.0140/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 3 double row casters LR 6
- Installed with concentric mounting bolts
- Stainless version **part no. 28.0148/0**
- Weight = 0.194 kg/piece

### APPLICATIONS

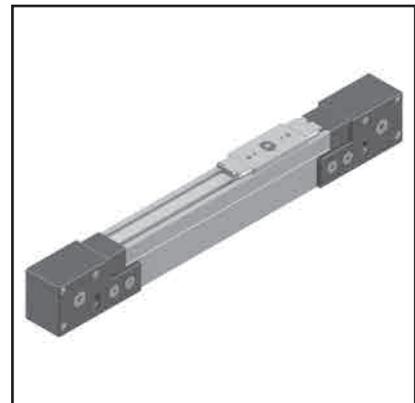
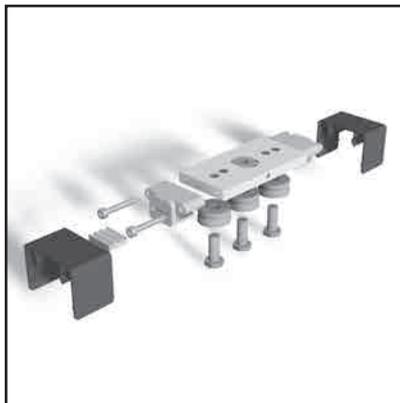
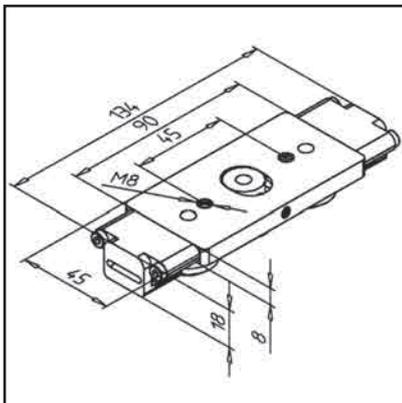
- MiniTec linear guide systems LR 6
- Handling devices
- Guide large drawers
- Doors
- Rail **part no. 28.0119/0**

### ASSEMBLY

- Slip slide onto rail
- Adjust casters with an Allen wrench SW 2.5 free play

## SLIDE LR 6 Z COMPACT

Part no. 28.0520/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Aluminum carriage plate, machined on all sides
- 3 double row casters LR 6
- Installed with concentric mounting bolts
- Stainless version **part no. 28.0524/0**
- Weight = 0.192 kg/piece

### APPLICATIONS

- MiniTec linear guide systems LR 6
- material-handling in areas with shortage of space
- Fitting rail LR6 compact **part no. 28.0119/0** and Timing belt pulley LR6

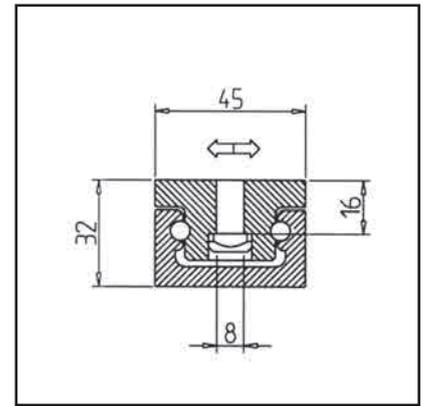
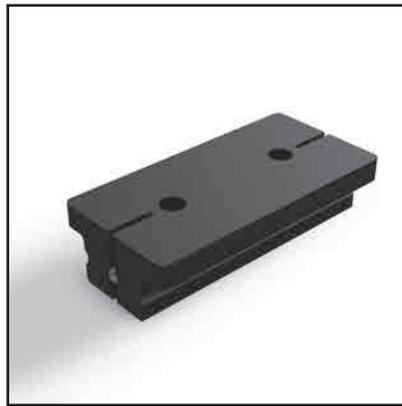
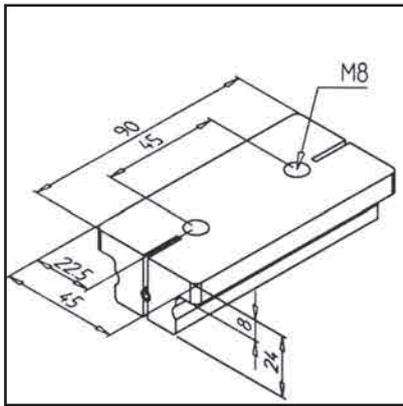
### ASSEMBLY

- Slip slide onto rail
- Set the caster wheel with Allen wrench SW2 SW2.5 without play
- Set up the load to be carried on existing threads M8

**SLIDE LR 6 COMPACT**

Part no.

28.0127/0

**TECHN. DATA / ITEMS SUPPLIED**

- PE-UHMW, black
- With square nut M8, steel zinc plated
- Weight = 0.068 kg/piece

**APPLICATIONS**

- Handling devices
- Guide large drawers
- Doors
- Rail **part no. 28.0119/0**

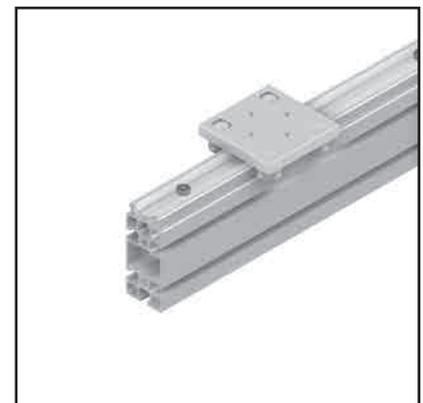
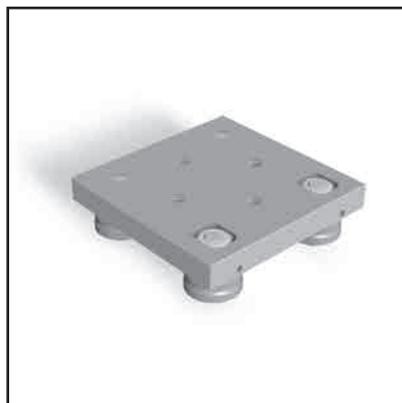
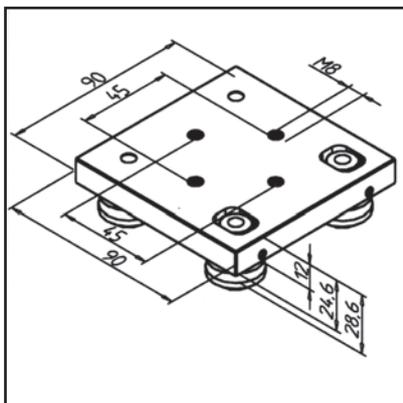
**ASSEMBLY**

- Slip slide onto rail
- Adjust slide clearance with hexagon key

**SLIDE LR 6**

Part no.

28.0138/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- 4 double row casters LR 6
- Installed with concentric mounting bolts
- Stainless version **part no. 28.0139/0**
- Weight = 0.400 kg/piece

**APPLICATIONS**

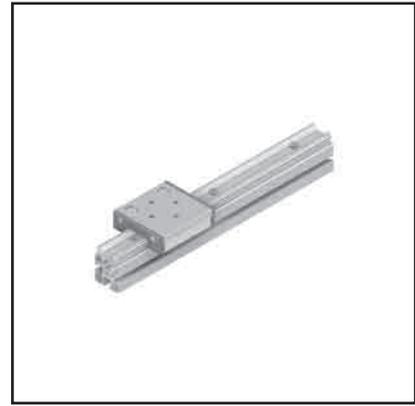
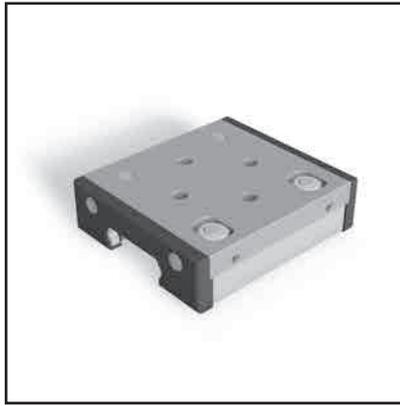
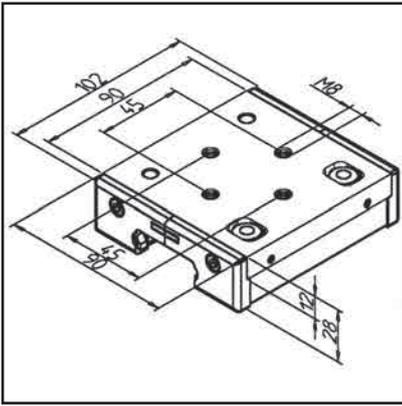
- MiniTec linear guide systems LR 6
- Handling devices
- Doors
- For rail **part no. 28.0119/0**

**ASSEMBLY**

- Slip slide onto rail
- Adjust casters with an Allen wrench SW 2.5 free play
- Tighten casters with 15 Nm
- When used in extreme environment, use slide LR6 with cover, **part no. 28.0138/1**

## SLIDE LR 6 WITH COVER

Part no. 28.0138/1



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 4 double row casters LR 6
- Installed with concentric mounting bolts
- Covers with lubricating felt
- Stainless version **part no. 28.0139/1**
- Weight = 0.458 kg/piece

### APPLICATIONS

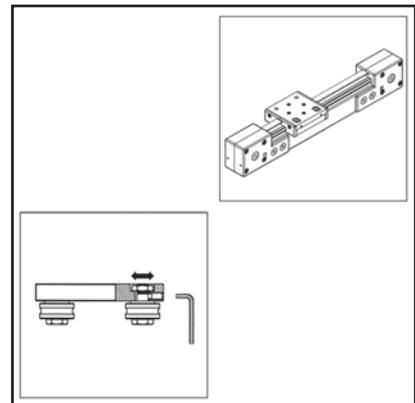
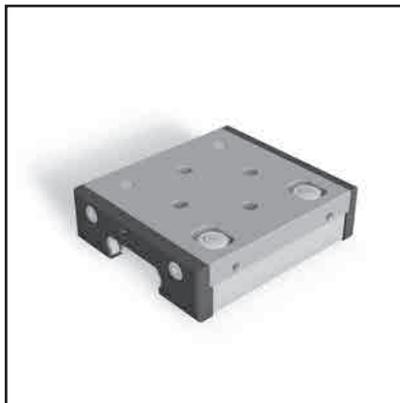
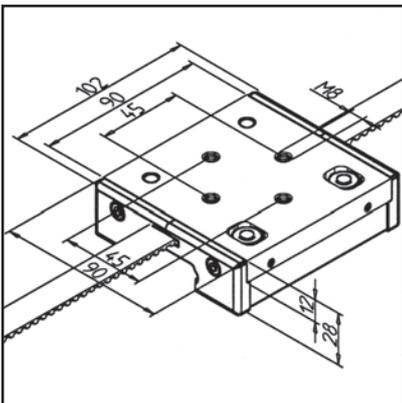
- MiniTec linear guide systems LR 6
- Handling devices
- Guide large drawers
- Doors
- For rail **part no. 28.0119/0**

### ASSEMBLY

- Slip slide onto rail
- Adjust casters with an Allen wrench SW 2.5 free play
- Tighten casters with 15 Nm
- Saturate greasing felts with appropriate oil

## SLIDE LR 6 Z

Part no. 28.0138/2



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 4 double row casters LR 6
- Installed with concentric mounting bolts
- Covers with lubricating felt
- Integrated admission for timing belts
- Stainless version **part no. 28.0139/2**
- Weight = 0.502 kg/piece

### APPLICATIONS

- MiniTec linear guide systems LR 6
- Handling devices
- For rail **part no. 28.0119/0**

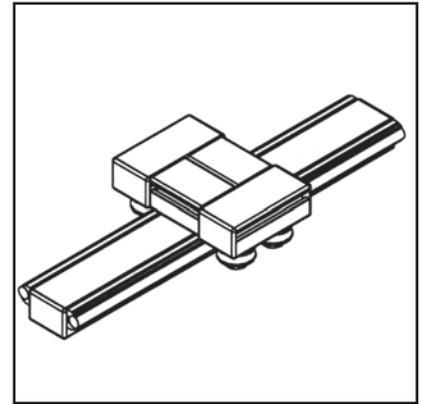
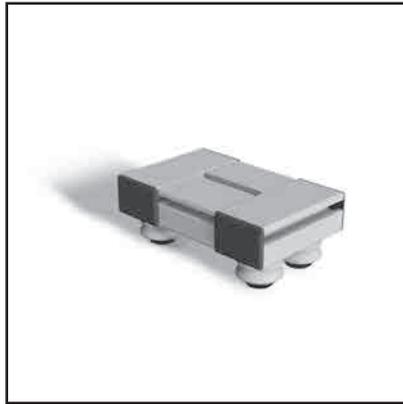
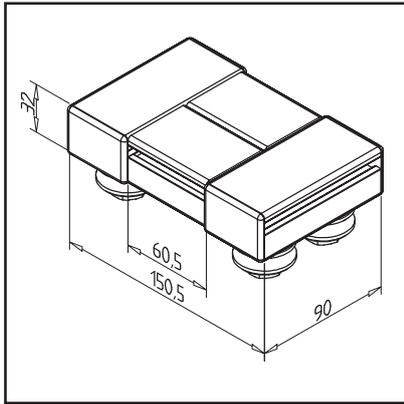
### ASSEMBLY

- Slip slide onto rail
- Adjust casters with an Allen wrench SW 2.5 free play
- Tighten casters with 15 Nm
- Insert the timing belt into the vehicle and fasten it
- Installed cover caps

**SLIDE LW 32**

Part no.

28.0088/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps
- Stainless version **part no. 28.0088/1**
- Weight = 1.060 kg/piece

**APPLICATIONS**

- Handling devices
- Measuring devices
- Slide units
- For rails 19 and 32

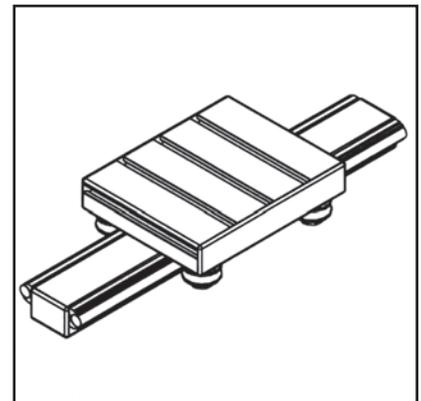
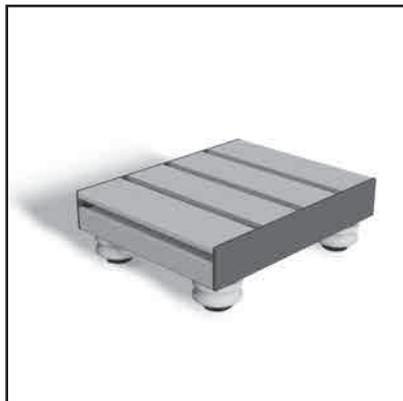
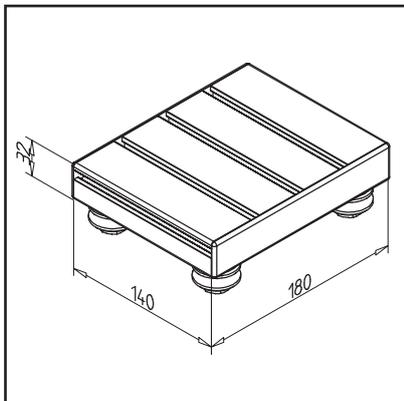
**ASSEMBLY**

- Slip slide on rail 19 or 32; adjust clearance with eccentric bush

**SLIDE LW 32 E**

Part no.

28.0089/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps
- Stainless version **part no. 28.0089/1**
- Weight = 1.920 kg/piece

**APPLICATIONS**

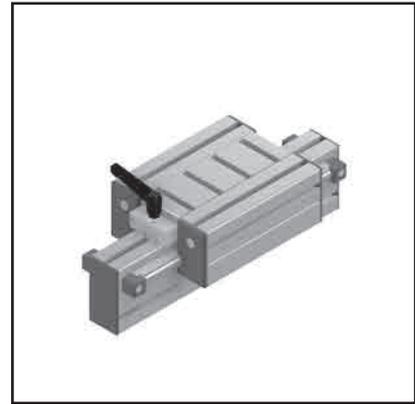
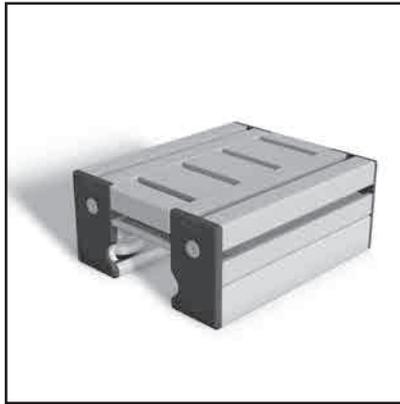
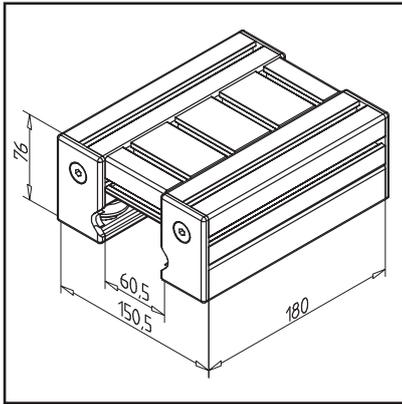
- 1- or multi-axis guides
- Handling devices
- Measuring devices
- For rails 19 and 32

**ASSEMBLY**

- Slip slide on rail 19 or 32; adjust clearance with eccentric bush

## SLIDE LW 45

Part no. 28.0091/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps LR and 2 cover profiles LR
- Stainless version **part no. 28.0091/3**
- Weight = 2.260 kg/piece

### APPLICATIONS

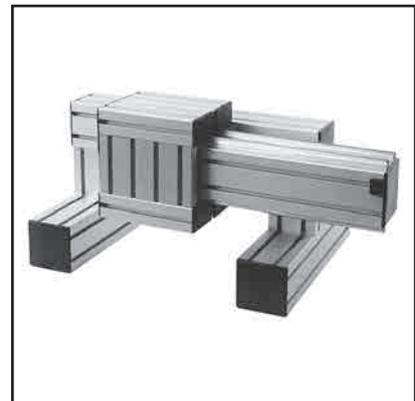
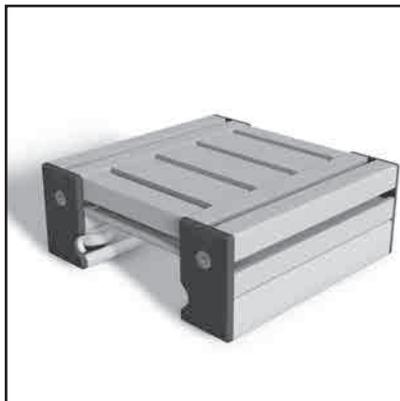
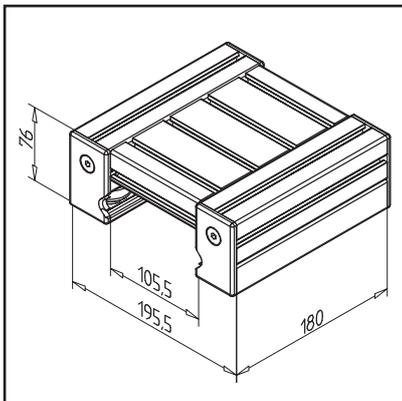
- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rails 45, 45 x 90 H, 45 x 180 H and 135 H

### ASSEMBLY

- Assemble slide on rail 45 or 45 x 90 H, adjust clearance with eccentric bush
- Install the cover and lubrication system
- Slide clamping unit **part no. 28.0270/0**

## SLIDE LW 90

Part no. 28.0092/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps LR and Cover profiles LR
- **Stainless version part no. 28.0092/2**
- Weight = 2.720 kg/piece

### APPLICATIONS

- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rails 45 x 90 F, 90 x 90, 90 x 180 H

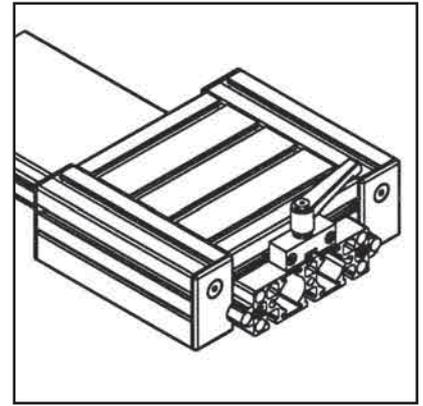
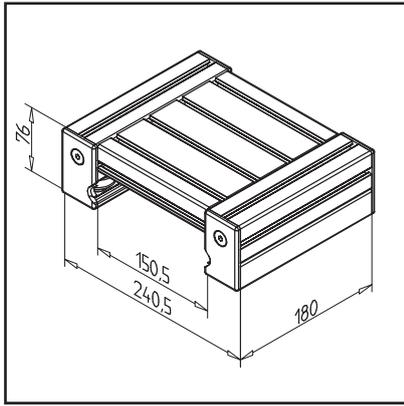
### ASSEMBLY

- Assemble slide on rail 45 x 90 F, rail 90 or rail 90 x 180 H; adjust clearance with eccentric bush
- Install the cover and lubrication system
- Slide clamping unit **part no. 28.0270/0**

**SLIDE LW 135**

Part no.

28.0084/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps LR and Cover profiles LR
- Stainless version **part no. 28.0084/1**
- Weight = 3.150 kg/piece

**APPLICATIONS**

- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rails 135 F

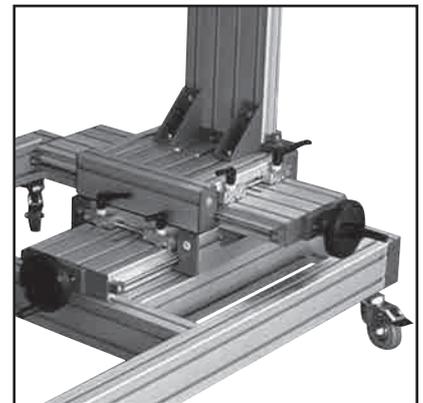
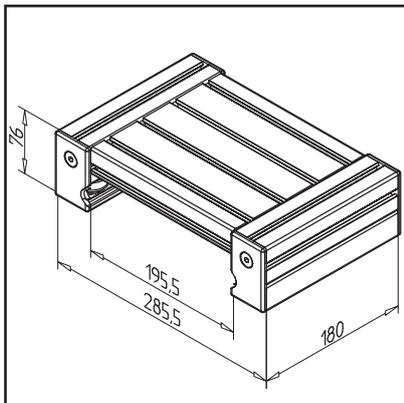
**ASSEMBLY**

- Assemble slide on rail 45 x 135; adjust clearance with eccentric bush
- Install the cover and lubrication system
- Slide clamping unit **part no. 28.0270/0**

**SLIDE LW 180**

Part no.

28.0087/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- End caps LR and Cover profiles LR
- Stainless version **part no. 28.0087/1**
- Weight = 3.590 kg/piece

**APPLICATIONS**

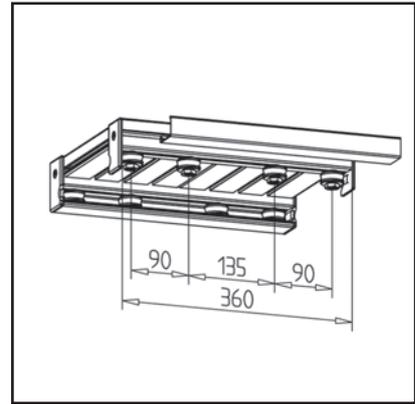
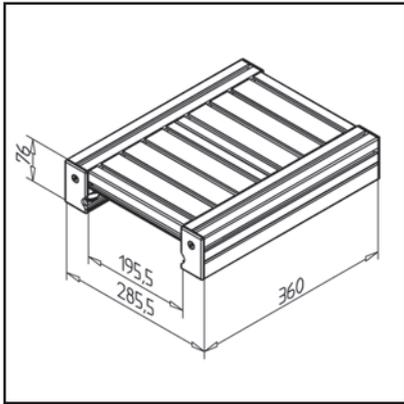
- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rails 45 x 180 F and 90 x 180 F

**ASSEMBLY**

- Assemble slide on rail 90 x 180; adjust clearance with eccentric bush
- Install the cover and lubrication system
- Slide clamping unit **part no. 28.0270/0**

## SLIDE LW 180 WITH 8 BEARINGS

Part no. 28.0087/3



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- With 8 concentric and 8 eccentric bearing units
- End caps LR and Cover profiles LR
- Stainless version **part no. 28.0087/1**
- Weight = 7.379 kg/piece

### APPLICATIONS

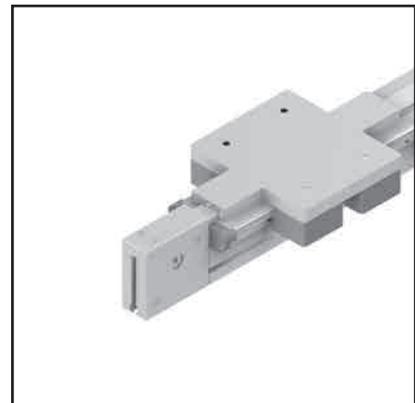
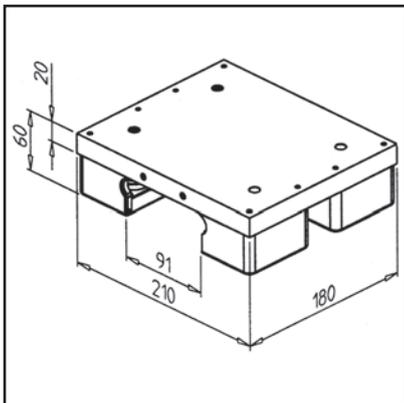
- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rails 45 x 180 F and 90 x 180 F

### ASSEMBLY

- Assemble slide on rail 90 x 180; adjust clearance with eccentric bush
- Install the cover and lubrication system
- Slide clamping unit **part no. 28.0270/0**

## SLIDE LR 16 - 45

Part no. 28.0810/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- 2 concentric and 2 eccentric bearing units
- Weight = 3.638 kg/piece

### APPLICATIONS

- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rail LR16 45 x 90 H

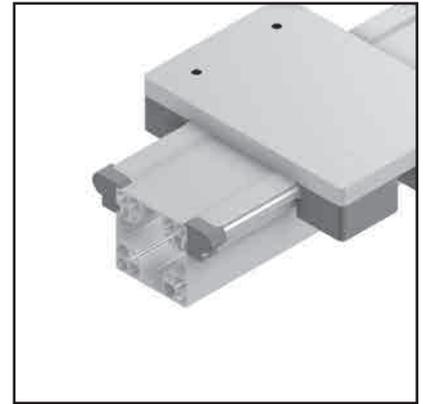
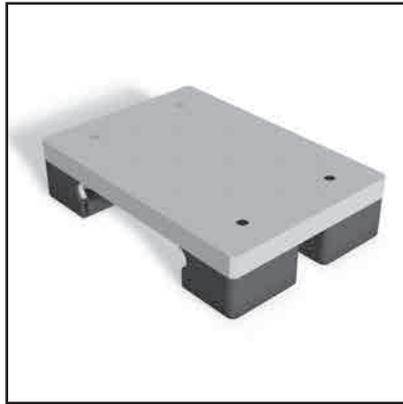
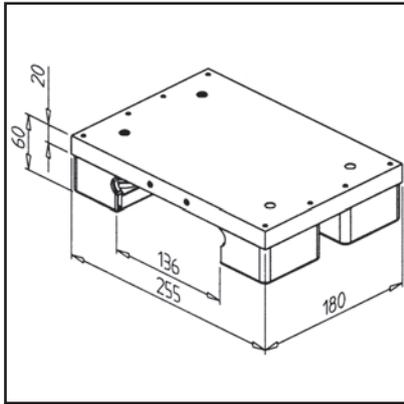
### ASSEMBLY

- Push the trolley onto the rails, adjust for zero play with eccentric fastening set
- Install the cover and lubrication system

**SLIDE LR 16 - 90**

Part no.

28.0811/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Fully mounted carriage
- 2 concentric and 2 eccentric bearing units
- Weight = 4.076 kg/piece

**APPLICATIONS**

- 1- or multi-axis guides
- Linear robots
- Handling devices
- Measuring devices
- For rail LR16 90 and LR16 90x180 H

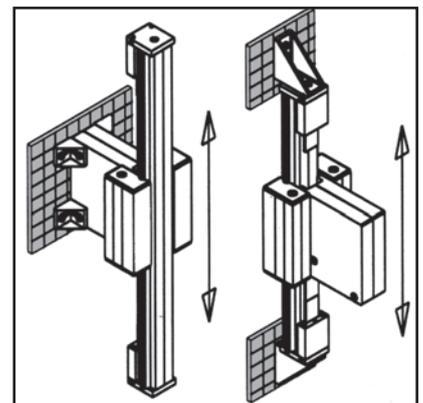
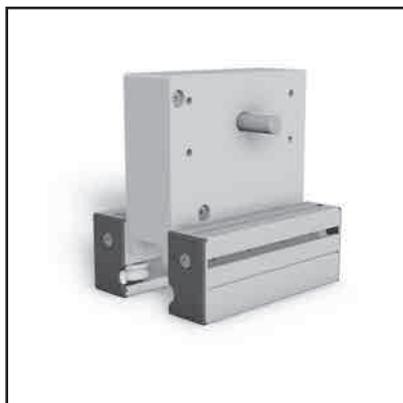
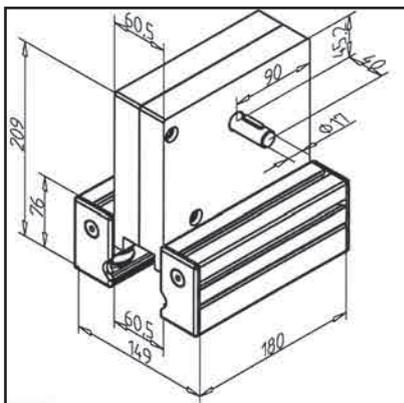
**ASSEMBLY**

- Push the trolley onto the rails, adjust for zero play with eccentric fastening set
- Install the cover and lubrication system

**BELT DRIVE 45**

Part no.

28.0248/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Shaft end  $\varnothing 17$  for motor connection
- 2 idler pulleys aluminium, integrated in linear slide LW 45
- Weight = 6.320 kg/piece

**APPLICATIONS**

- MiniTec linear guides LR with extremely long travels, z-axis
- Use with rail 45, 45 x 90 H, 45 x 135 H and 45 x 180 H

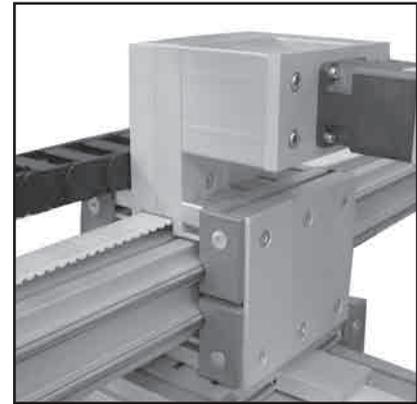
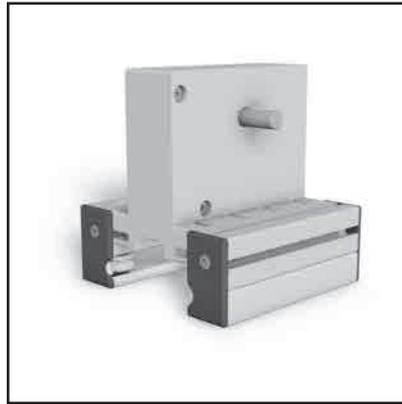
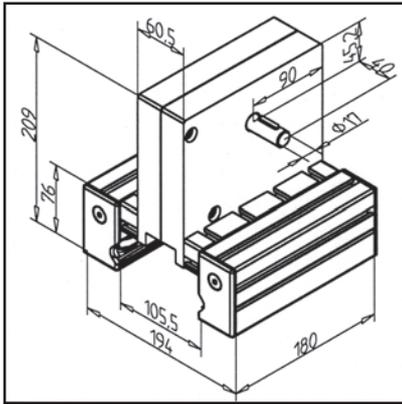
**ASSEMBLY**

- Guide the timing belt through the timing belt drive, slide it onto the rail and adjust it without play
- Fix timing belt end to rail end with timing belt tensioner **part no. 28.0090/0** and fastening plate for rail 45 **part no. 28.0054/0** or for rail 45 x 90 H **part no. 28.0056/0**
- Tighten the timing belt
- Belt length: Rail length + 212 mm

## BELT DRIVE 90

Part no.

28.0249/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- Shaft end  $\varnothing 17$  for motor connection
- 2 idler pulleys aluminium, integrated in linear slide LW 90
- Weight = 6.789 kg/piece

### APPLICATIONS

- MiniTec linear guides LR with extremely long travels, z-axis
- Use with rail 45 x 90 F, rail 90 or 90 x 180 H

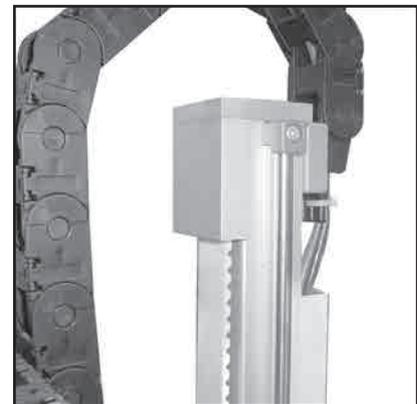
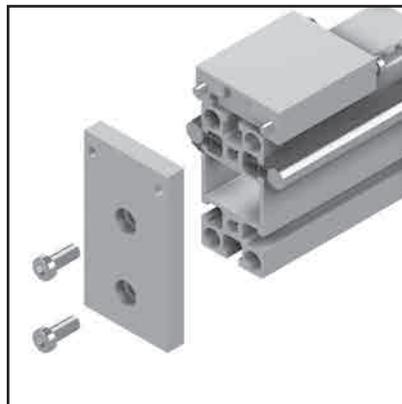
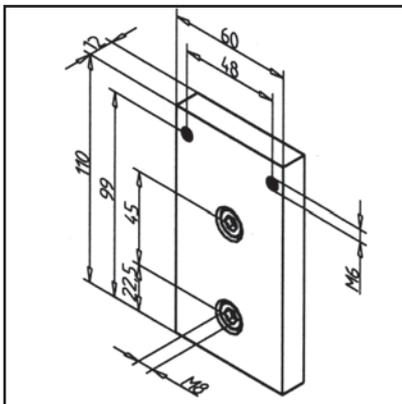
### ASSEMBLY

- Guide the timing belt through the timing belt drive, slide it onto the rail and adjust it without play
- Fix timing belt end to rail end with timing belt tensioner **part no. 28.0090/0** and fastening plate for rail 90 **part no. 28.0057/0** or for rail 45 x 90 F **part no. 28.0055/0**
- Tighten the timing belt
- Belt length: Rail length + 212 mm

## FASTENING KIT FOR TIMING BELT TENSIONER 45 X 90 H

Part no.

28.0056/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Weight = 0.090 kg/piece

### APPLICATIONS

- For each timing belt tensioner one fastening kit is necessary
- Connection of timing belt tensioner to rail 45 x 90 H in connection with timing belt drive

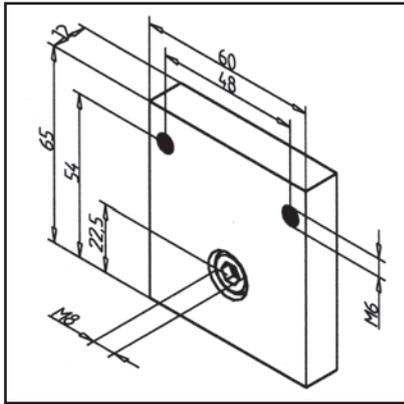
### ASSEMBLY

- Fasten with supplied hardware to the end of the rail, then introduce thread M8
- Install timing belt tensioner

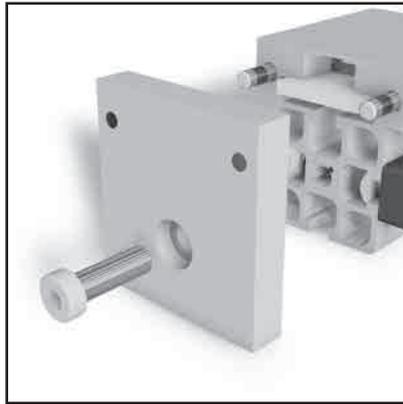
**FASTENING KIT FOR TIMING BELT TENSIONER 45**

Part no.

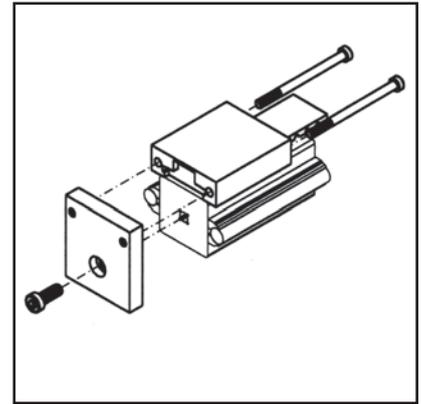
28.0054/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Weight = 0.090 kg/piece

**APPLICATIONS**

- **In connection with belt drive**
- For each timing belt tensioner one fastening kit is necessary
- Connection of timing belt tensioner to rail 45

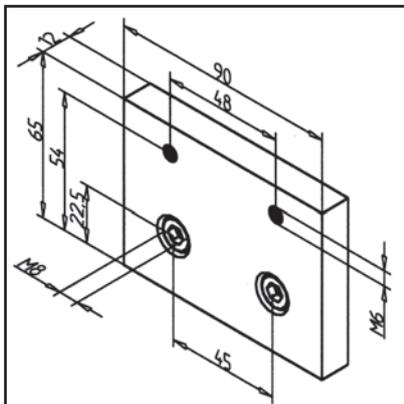
**ASSEMBLY**

- Fasten with supplied hardware to the end of the rail, then introduce thread M8
- Install timing belt tensioner

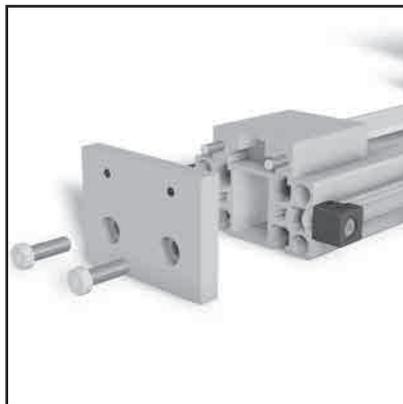
**FASTENING KIT FOR TIMING BELT TENSIONER 45 X 90 F**

Part no.

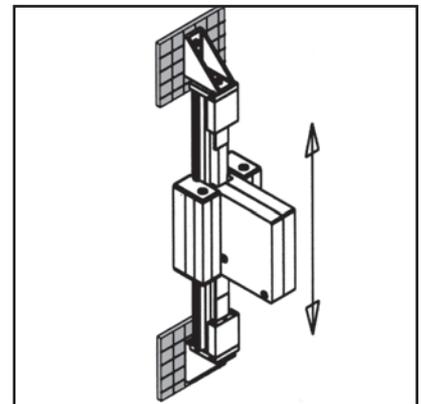
28.0055/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Weight = 0.090 kg/piece

**APPLICATIONS**

- For each timing belt tensioner one fastening kit is necessary
- Connection of timing belt tensioner to rail 45 x 90 F in conjunction with timing belt drive

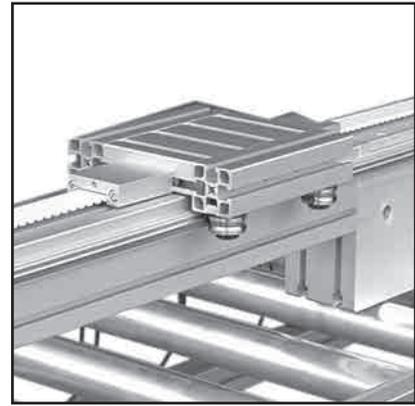
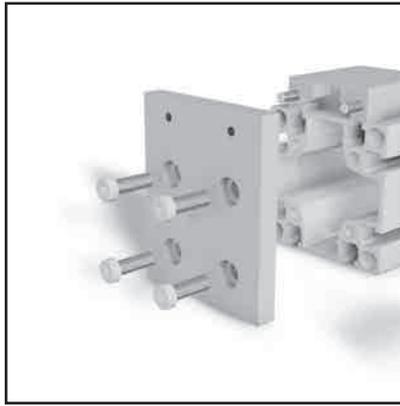
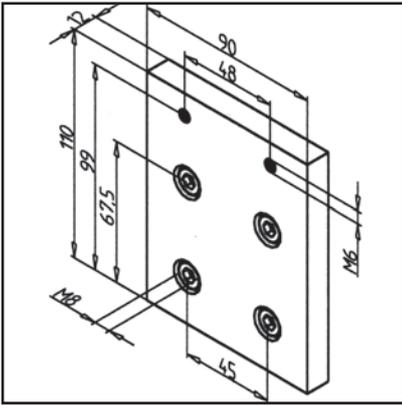
**ASSEMBLY**

- Fasten with supplied hardware to the end of the rail, then introduce thread M8
- Install timing belt tensioner

## FASTENING KIT FOR TIMING BELT TENSIONER 90

Part no.

28.0057/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- Weight = 0.090 kg/piece

### APPLICATIONS

- For each timing belt tensioner one fastening kit is necessary
- Connection of timing belt tensioner to rail 90 in conjunction with timing belt drive

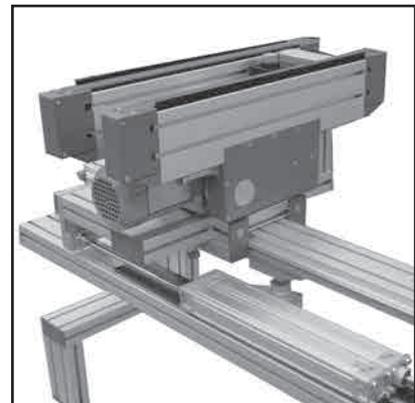
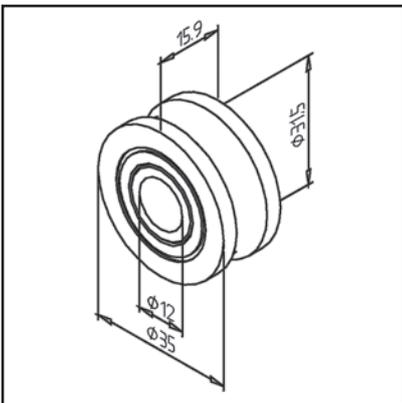
### ASSEMBLY

- Fasten with supplied hardware to the end of the rail, then introduce thread M8
- Install timing belt tensioner

## BALL BEARING LR 12

Part no.

28.0001/0



### TECHN. DATA / ITEMS SUPPLIED

- Steel, hardened, polished
- 2-row angular ball bearing, wave groove executed as Gothic arch
- For shaft  $\varnothing 12$
- Load capacity:
  - dyn.  $C = 10,5 \text{ kN}$
  - stat.  $C_0 = 6,0 \text{ kN}$
- Stainless version **part no. 28.0001/1**
- Weight = 0.068 kg/piece

### APPLICATIONS

- All MiniTec-linear guides LR 12

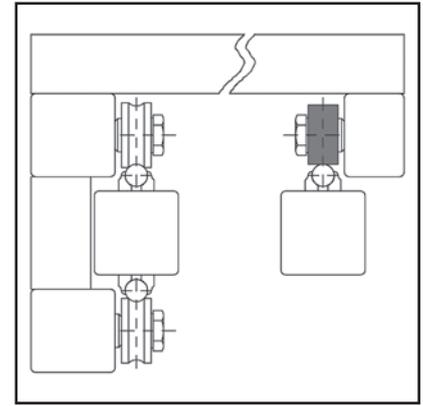
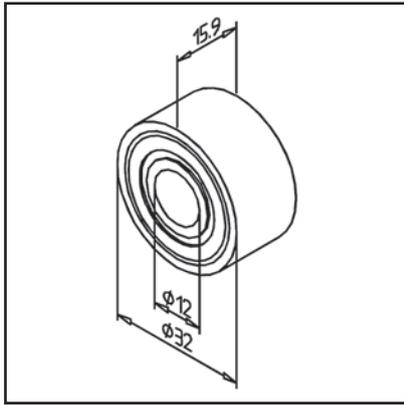
### ASSEMBLY

- Fastening kit LRK **part no. 28.0021/0** or LRE **part no. 28.0022/0**

**BALL BEARING LR 12 L**

Part no.

28.0005/0

**TECHN. DATA / ITEMS SUPPLIED**

- Steel, hardened, polished
- Double-row angular contact bearing
- Load capacity:
- dyn. C = 8,6 kN
- stat. C<sub>0</sub> = 5,1 kN
- Weight = 0.053 kg/piece

**APPLICATIONS**

- Construction of MiniTec linear guidance systems with fixed and floating bearing block
- Compensation of distance deviations in parallel linear systems

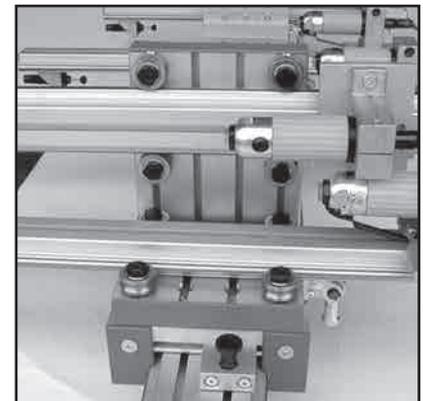
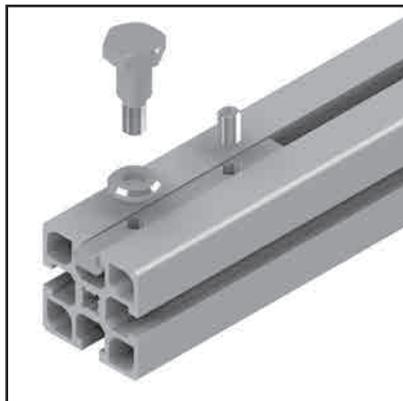
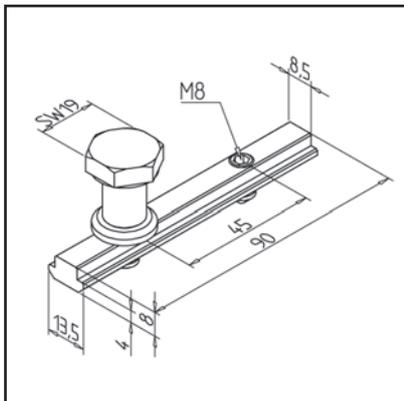
**ASSEMBLY**

- Fastening kit LRK **part no. 28.0021/0** or LRE **part no. 28.0022/0**

**FASTENING KIT LRK**

Part no.

28.0021/0

**TECHN. DATA / ITEMS SUPPLIED**

- 1 T-slot bar, steel, zinc plated with set screw
- Bolt M8 concentric, steel, black bronze finish
- Spacer 3.5 mm, polished, steel, black bronze finish
- Stainless version **part no. 28.0021/1**
- Weight = 0.100 kg/piece

**APPLICATIONS**

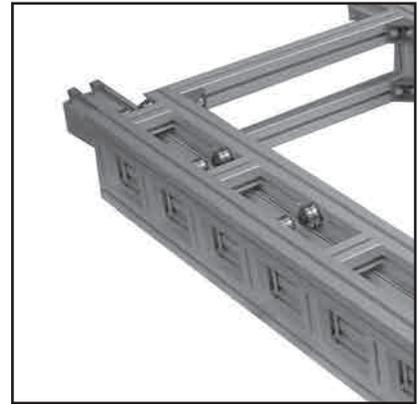
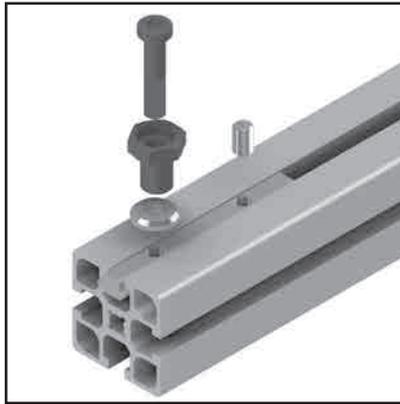
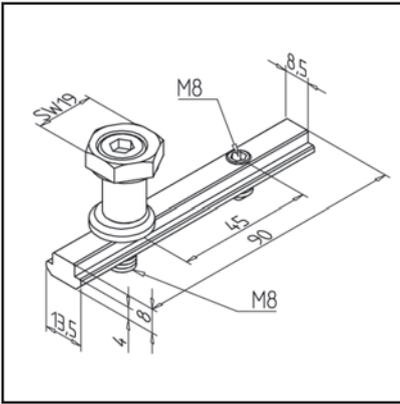
- MiniTec-linear guides LR 12
- Concentric attachment of ball bearings LR 12

**ASSEMBLY**

- Fit the clamping strips into the underside of the profile of the carriage plate, the threaded pins being fastened into the center of the carriage
- The two threaded holes M8 without threaded pins are designed to receive the mounting bolts
- Pass the bolt through the bearing hole, place the spacer washer, and tighten with key SW 19 to the clamping strip
- Recommended torque: 25 Nm

## FASTENING KIT LRE

Part no. 28.0022/0



### TECHN. DATA / ITEMS SUPPLIED

- 1 T-slot bar, steel, zinc plated with set screw
- Eccentric bushing, steel, black bronze finish
- Bolt M8 concentric, steel, black bronze finish
- Spacer 3.5 mm, polished, steel, black bronze finish
- Stainless version **part no. 28.0022/1**
- Weight = 0.100 kg/piece

### APPLICATIONS

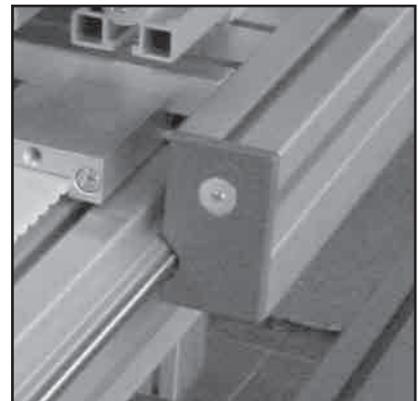
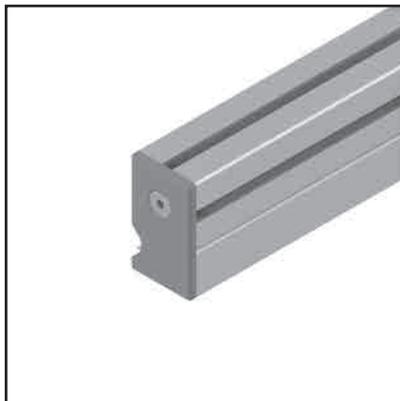
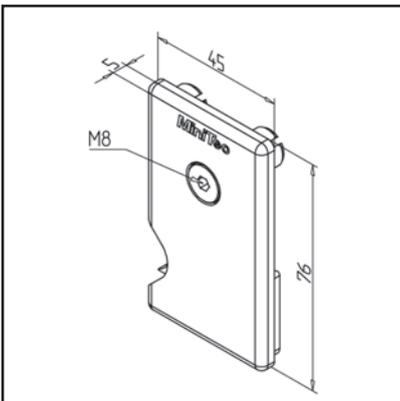
- MiniTec-linear guides LR 12
- Concentric attachment of ball bearings LR 12

### ASSEMBLY

- Fit the clamping strip similar to LRK
- Insert bolt M8 into the eccentric bushing pre-installed in the bearing bore and place the spacer washer. Pre-tighten the bolt with the Allen wrench SW4 onto the clamping bar
- Adjust bush with ring spanner width 19 mm (turn for freedom from clearance with 0,9 - 1 Nm) and fix bolt
- Recommended torque: 25 Nm

## END CAP LR (RIGHT)

Part no. 28.0004/1



### TECHN. DATA / ITEMS SUPPLIED

- ABS, Injection Mould, grey
- With integrated, sprung wiping and lubrication felt
- Fastening kit
- Also available in black, **part no. 28.0004/0**
- Weight = 0.031 kg/piece

### APPLICATIONS

- All MiniTec-linear guides LR 12

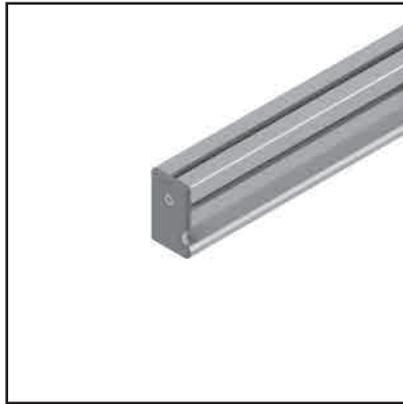
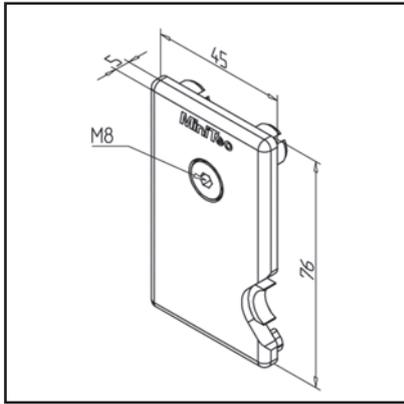
### ASSEMBLY

- Insert the lubricated felts and press fastening peg in profile 45 x 45 of the slide plate
- Fasten with supplied hardware
- Insert cover profile between the end caps
- Clean and soak felt according to implementation conditions or use a spare felt **part no. 28.0004/8**

**END CAP LR (LEFT)**

Part no.

28.0004/3

**TECHN. DATA / ITEMS SUPPLIED**

- ABS, Injection Mould, grey
- With integrated, sprung wiping and lubrication felt
- Fastening kit
- Also available in black, **part no. 28.0004/2**
- Weight = 0.031 kg/piece

**APPLICATIONS**

- All MiniTec-linear guides LR 12

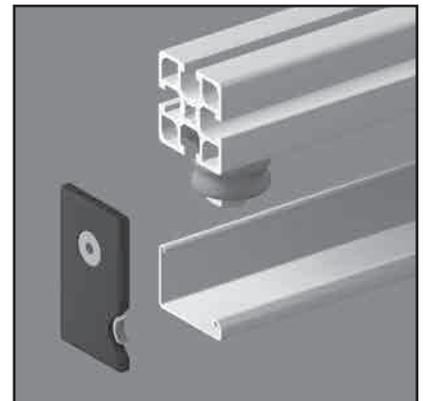
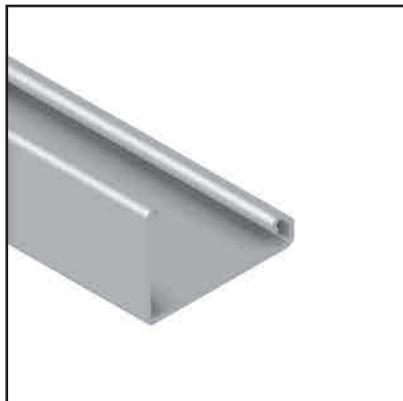
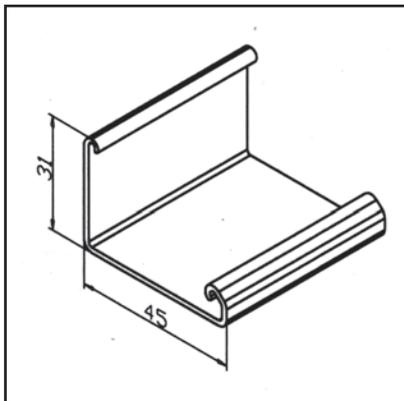
**ASSEMBLY**

- Insert the lubricated felts and press fastening peg in profile 45 x 45 of the slide plate
- Fasten with supplied hardware
- Insert cover profile between the end caps
- Clean and soak felt according to implementation conditions or use a spare felt **part no. 28.0004/8**

**COVER PROFILE LR**

Part no.

28.0049/0

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, extruded, anodized E6/EV1
- Weight = 0.362 kg/m
- Bar length = 6 m

**APPLICATIONS**

- MiniTec-linear guides LR 12

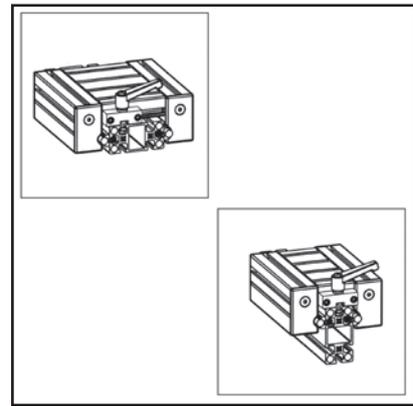
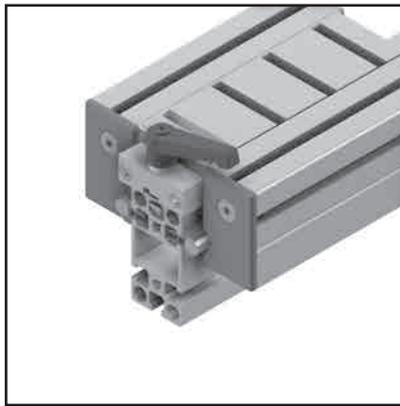
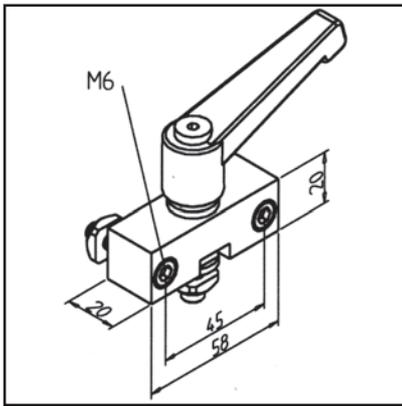
**ASSEMBLY**

- Cut profile according to the length of the slide
- Insert the cover profile between the end caps; insert the felts; fasten the end caps LR on the slide by means of the supplied screws

## SLIDE CLAMPING UNIT (TOP) LWG / LWN / LW

Part no.

28.0270/0



### TECHN. DATA / ITEMS SUPPLIED

- Aluminium, anodized E6/EV1
- With fastening material steel, zinc plated
- With clamping device
- Weight = 0.199 kg/piece

### APPLICATIONS

- Clamping of MiniTec slide LW and slides LWN / LWG on rail surface
- Clamping of MiniTec adjusting units

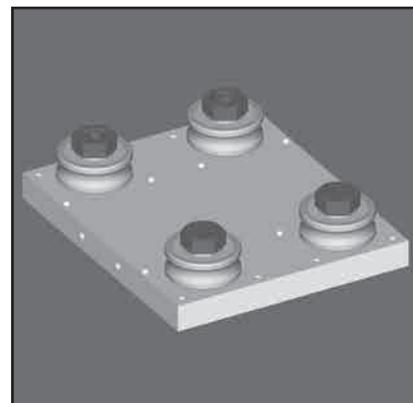
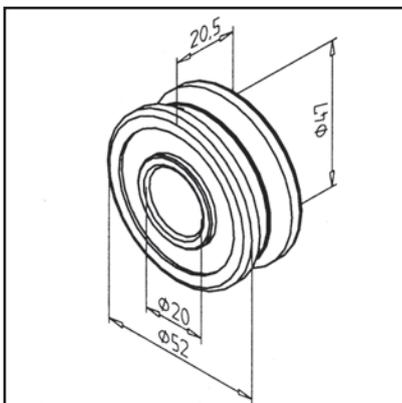
### ASSEMBLY

- Preadjust clamping shaft and lead it in profile groove
- Insert plastic element
- Install the housing block
- Secure clamping lever with installation glue Loctite 243

## BALL BEARING LR 16

Part no.

50.1726/0



### TECHN. DATA / ITEMS SUPPLIED

- Steel, hardened, polished
- 2-row angular ball bearing, wave groove executed as Gothic arch
- For shaft  $\varnothing 16$
- Load capacity:
- dyn.  $C = 19,90$  kN
- stat.  $C_0 = 12,60$  kN
- Weight = 0.230 kg/piece

### APPLICATIONS

- MiniTec linear guide LR16

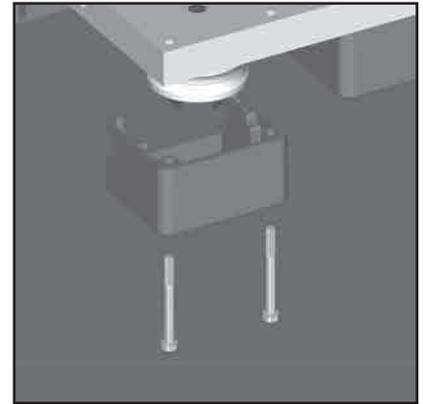
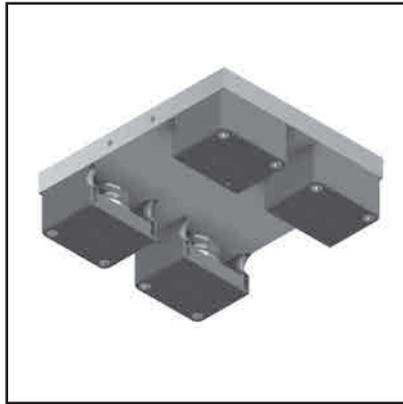
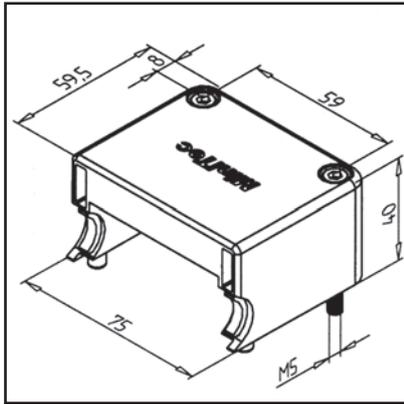
### ASSEMBLY

- Fastening using concentric bolts, **part no. 28.0814/0** or adjustable with eccentric bushing **part no. 28.0813/0** and screw M 12x40 **part no. 21.1257/0**

**END CAP LR 16**

Part no.

28.0815/0

**TECHN. DATA / ITEMS SUPPLIED**

- PA, Injection Mould, grey
- With fastening material steel, zinc plated
- With integrated, sprung wiping and lubrication felt
- Weight = 0.071 kg/piece

**APPLICATIONS**

- MiniTec linear guide LR16

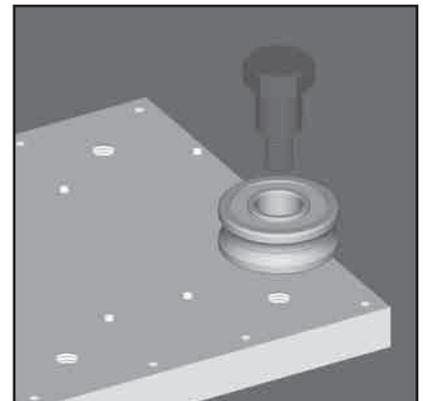
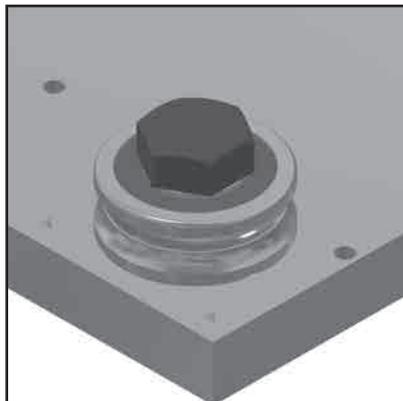
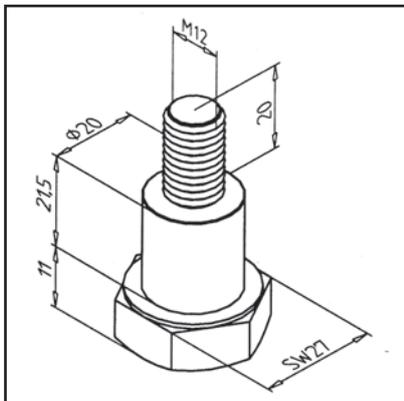
**ASSEMBLY**

- Fasten with supplied hardware
- Clean and soak fillet according to implementation conditions or spare fillet **part no. 28.0816/0**

**BOLT CONCENTRIC LR 16**

Part no.

28.0814/0

**TECHN. DATA / ITEMS SUPPLIED**

- Steel, burnished, black
- Bolt M12 concentric
- Weight = 0.121 kg/piece

**APPLICATIONS**

- MiniTec linear guide LR16
- Concentric mounting of ball bearings LR 16

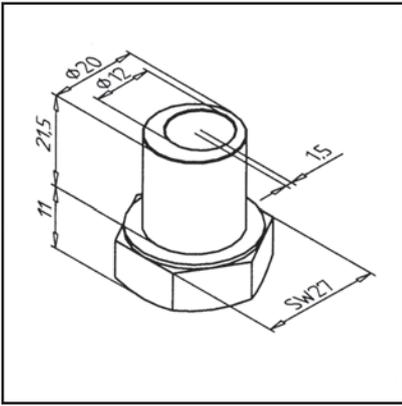
**ASSEMBLY**

- MiniTec linear guides LR 16
- Recommended torque: 50 Nm

## ECCENTRIC BUSHING LR 16

Part no.

28.0813/0



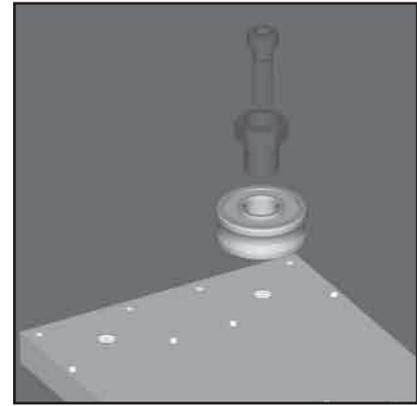
### TECHN. DATA / ITEMS SUPPLIED

- Steel, burnished, black
- Weight = 0.059 kg/piece



### APPLICATIONS

- MiniTec linear guide LR16
- Eccentric fastening of ball bearings LR 16



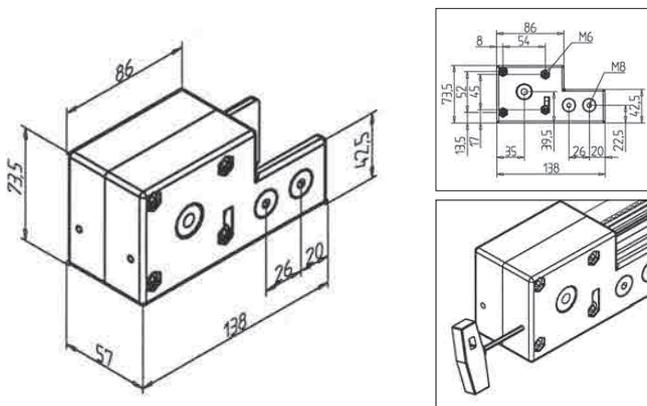
### ASSEMBLY

- Screw M12 x 45 **part no. 21.1157/0** Insert in eccentric bushing and mount loose with bearing
- Adjust the bearing by turning the eccentric bush with the spanner (wrench size 27) for zero play (with 0.9 - 1 Nm torque resistance) and hold the eccentric bush in this position. Tighten the bolt.
- Recommended torque: 50 Nm

## TIMING BELT PULLEY

## LR6 &amp; LR6 COMPACT / T45 (LR12 + LR16)

## LR 6 &amp; LR 6 COMPACT



## Techn. Data/Items supplied

Aluminum GD, powder coated, grey  
Body complete with pulley

## Application

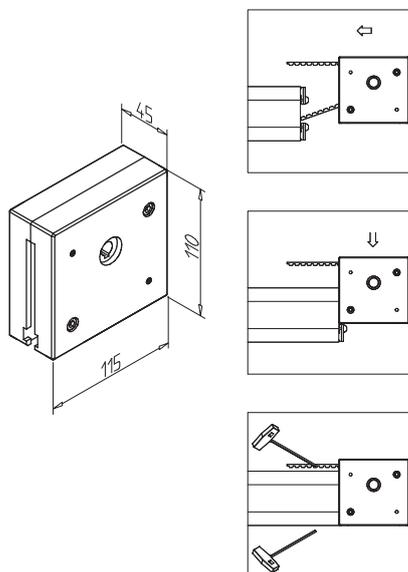
- For MiniTec linear guides LR 6 Z

## Assembly

- Insert sliding nut M8 into rail and pre-position it
- Guide timing belt through deflection
- Slide the deflection onto the end of the rail
- Pre-assemble fastening screws
- Attach timing belt to slide with hexagon socket wrench SW3 to tension the deflection
- Tighten fixing screws

Drill hole for drive shaft	Weight	Part no.	Part no. corrosion resistant design
without	0,96 kg	28.0510/0	28.0509/0
Ø 10 mm	0,96 kg	28.0510/1	28.0509/1
Ø 11 mm	0,96 kg	28.0510/2	28.0509/2
Ø 14 mm	0,96 kg	28.0510/3	28.0509/3

## T 45 (LR 12 + LR 16)



## Technical Data/Items Supplied

- Anodized aluminum E6/EV1
- Body complete with pulley
- 2 Precision ball bearings

## Application

- For MiniTec Linear Guides LR 12 & LR 16, freely combinable

## Assembly

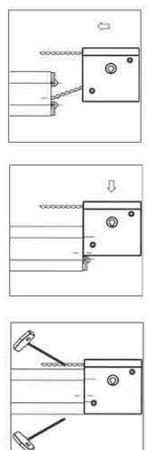
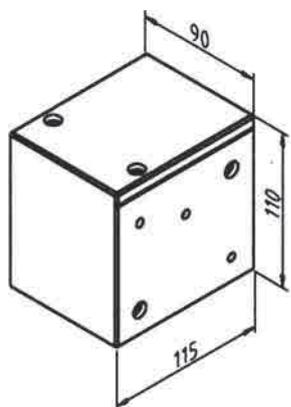
- Rail frontally provided at both ends with thread M8
- Power-lock Fastener Part no. 21.0818/0 screw in
- Guide timing belt through deflection
- Slide the deflector from above over the profile connector
- Tighten power-lock fastener
- Tighten timing belt
- For mounting use the corrosion resistant version power-lock fastener H Part no. 21.1018/1.

Drill hole for drive shaft	Weight	part no.	Part no. corrosion resistant design
without	1,170 kg	28.0614/0	28.0615/0
Ø 11 mm	1,168 kg	28.0614/2	28.0615/2
Ø 12 mm	1,168 kg	28.0614/6	28.0615/6
Ø 14 mm	1,167 kg	28.0614/3	28.0615/3
Ø 15 mm	1,165 kg	28.0614/5	28.0615/5
Ø 16 mm	1,165 kg	28.0614/4	28.0615/4

For the connection of motors and encoders we can produce special adapter plates suitable for the application. Please refer part no. 28.0112/0

## TIMING BELT PULLEY

## T 90 (LR 12 + LR 16)



## Technical Data/Items Supplied

- Anodized aluminum E6/EV1
- Body complete with pulley
- 2 Precision ball bearings
- top cover mounted

## Application

- For MiniTec-linear guides LR 12, LR 16, LR 45 x 90 F, LR 90, LR 180,

## Assembly

- Rail frontally provided at both ends with thread M8
- Power-lock Fastener Part no. 21.0818/0 screw in
- Guide timing belt through deflection
- Slide the deflector from above over the profile connector
- Tighten profile connectors
- Tighten timing belt
- For mounting use the corrosion resistant version power-lock fastener H Part no. 21.1018/1.

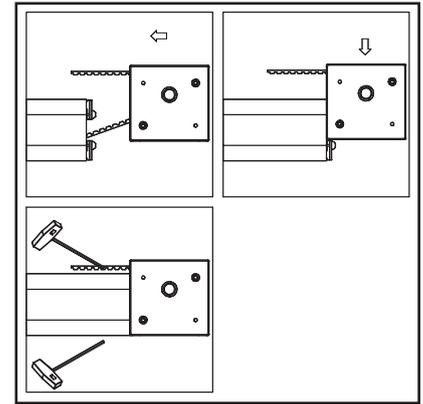
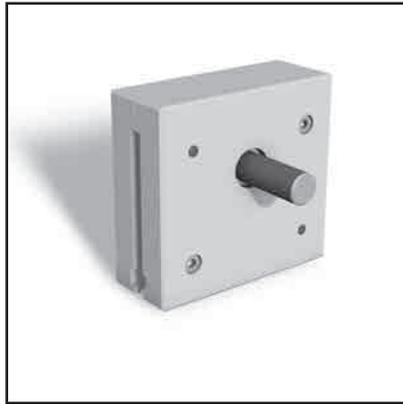
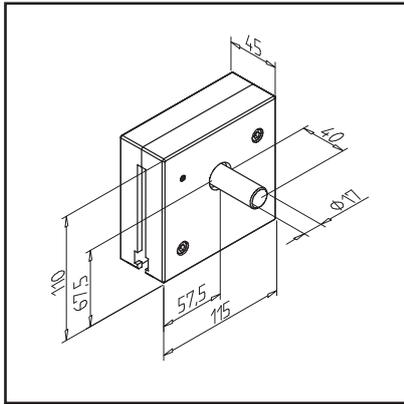
Drill hole for drive shaft	Weight	part no.	Part no. corrosion resistant design
without	2,800 kg	28.0082/0	28.0045/0
Ø 11 mm	2,798 kg	28.0082/2	28.0045/2
Ø 14 mm	2,795 kg	28.0082/3	28.0045/3
Ø 16 mm	2,789 kg	28.0082/4	28.0045/4
Ø 19 mm	2,775 kg	28.0082/5	28.0045/5
Ø 20 mm	2,773 kg	28.0082/7	28.0045/7
Ø 24 mm	2,164 kg	28.0082/6	28.0045/6

For the connection of motors and encoders we can produce special adapter plates suitable for the application. Please refer part no. 28.0112/0

**TIMING BELT PULLEY T45 Z**

Part no.

28.0614/1

**TECHN. DATA / ITEMS SUPPLIED**

- Aluminium, anodized E6/EV1
- Base body complete with belt pulley and shaft stub
- 2 ball-bearings
- **Stainless version part no. 28.0615/1**
- Drive taps also available in different diameters, lengths and with keyways
- Weight = 1.369 kg/piece

**APPLICATIONS**

- All MiniTec linear guides

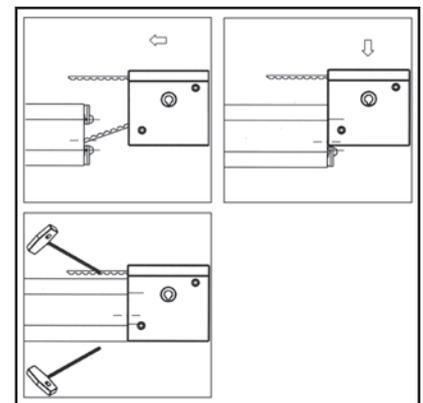
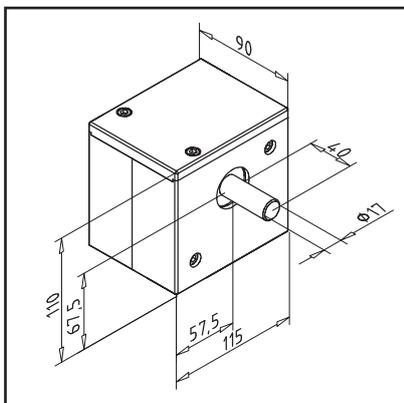
**ASSEMBLY**

- Provide rails with thread M8 at both sides, screw in Power lock fastener **part no. 21.1018/0**
- Guide the timing belt through the reverse unit
- Insert pulley unit from top
- Tighten power-lock fastener
- Tighten the timing belt
- For mounting the corrosion-resistant version, use profile connector H **part no.21.1018/1**

**TIMING BELT REVERSE UNIT T 90 Z**

Part no.

28.0082/1

**TECHN. DATA / ITEMS SUPPLIED**

- Steel, anodized E6/EV1
- Base body complete with belt pulley and shaft stub
- 2 ball-bearings
- Top cover installed
- **Stainless version part no. 28.0045/1**
- Drive taps also available in different diameters, lengths and with keyways
- Weight = 2.850 kg/piece

**APPLICATIONS**

- All MiniTec linear guides

**ASSEMBLY**

- Provide rails with thread M8 at both sides, screw in Power lock fastener **part no. 21.1018/0**
- Guide the timing belt through the reverse unit
- Insert pulley unit from top
- Tighten power-lock fastener
- Tighten the timing belt
- For mounting the corrosion-resistant version, use profile connector H **part no.21.1018/1**