

PROFILE SYSTEM

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235	TIMING BELT PULLEY T 45 Ø 15
235	TIMING BELT PULLEY T 45 Ø 15, STAINLESS
235	TIMING BELT PULLEY T 45 Ø 16
235	TIMING BELT PULLEY T 45 Ø 16, STAINLESS
235	TIMING BELT PULLEY T 45, STAINLESS
235	TIMING BELT PULLEY T 90
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ABOUT US



The Company

It started with miniature linear guides. Meanwhile we're even constructing complete production lines. The name MiniTec we've kept nevertheless. Beside our factories in Germany, France, and the USA we are represented by sales and service partners in more than 25 countries world-wide. They handle application-support, punctual delivery and assembly at customers sites.

The Production Program

Our linear motion system combined with our profile system is the ideal supplement. All components are optionally coordinated. Special wishes and requirements can be implemented economically within shortest lead time.



The Quality

Linear motion technology requires the highest precision. Therefore we use the latest measuring methods and machining equipment. The same quality principles apply to every product of MiniTec and of course for every service and department. Our quality management has been certified according to ISO 9001 since 1994.

The Environment

Considerate use of the resources and active environment protection are strict rules of our company philosophy. Therefore we establish our service stations as near as possible to our customers in order to avoid long transportations. Our environment management system is certified according to ISO 14001.



The Innovation

For us innovation means more than just new products. All our processes are constantly optimized. Continuous training of our staff and close cooperation with research and education facilities are the base for a steady innovation process.

EXAMPLES OF APPLICATIONS

The applications of the MiniTec profile system are almost unlimited. This system offers economic solutions for general machinery designs but also for office furniture, partitions, sound proofing walls and boxes, individually constructed workstations and assembly lines, robots, portal systems, and linear guides



Assembly table

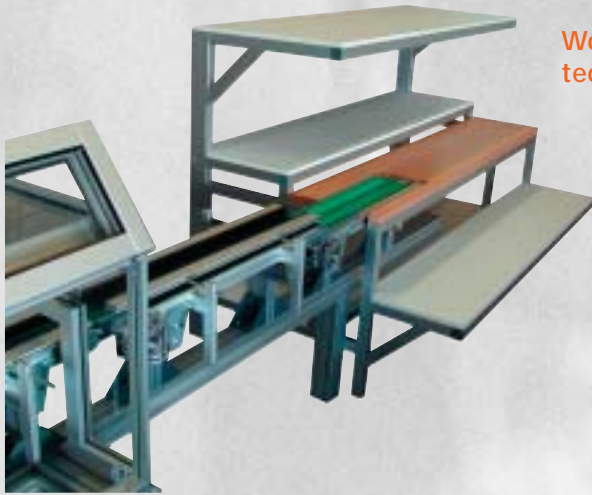
Moveable security
stair



Manual 3-axis positioning



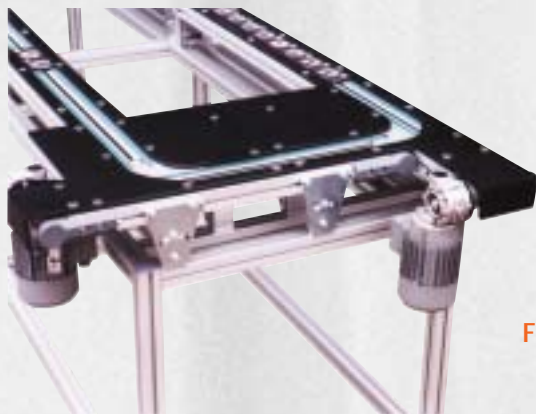
EXAMPLES OF APPLICATIONS



Workstation with integrated conveyor



Special conveyor with integrated demagnetisation device



Flexible transfer

EXAMPLES OF APPLICATIONS



Multi-axis drilling jig

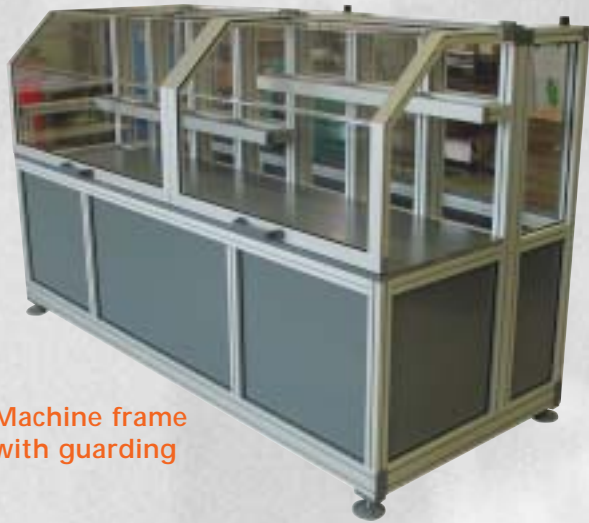


Systemworkstation with integrated press-air supply



System Workstation with customized workpiece trays

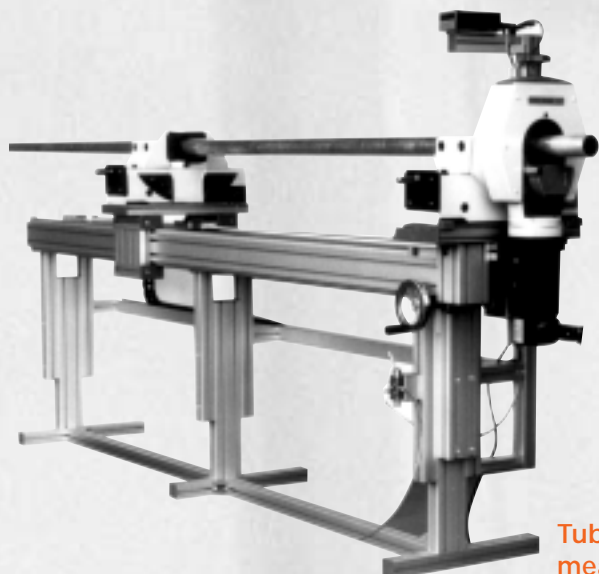
EXAMPLES OF APPLICATIONS



Machine frame with guarding



Automatic glue dispenser



Tubecutter with magnetic measuring system

EXAMPLES OF APPLICATIONS



Selfgauging
spraying-device



Hinged
liftingdoor



Workshop trolley

EXAMPLES OF APPLICATIONS



Workpiece tray



Longitudinal stop



Noise-reduction
for printer



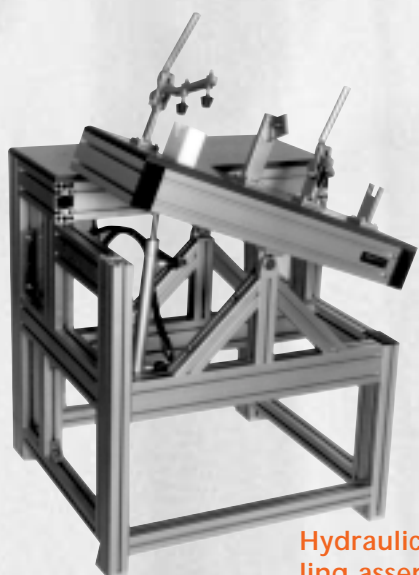
Packingline with
roller conveyors

EXAMPLES OF APPLICATIONS

Conveyor



Cooling and drying station
for hydraulic pumps



Hydraulic lifting and swivel-
ing assembly station for
steering columns

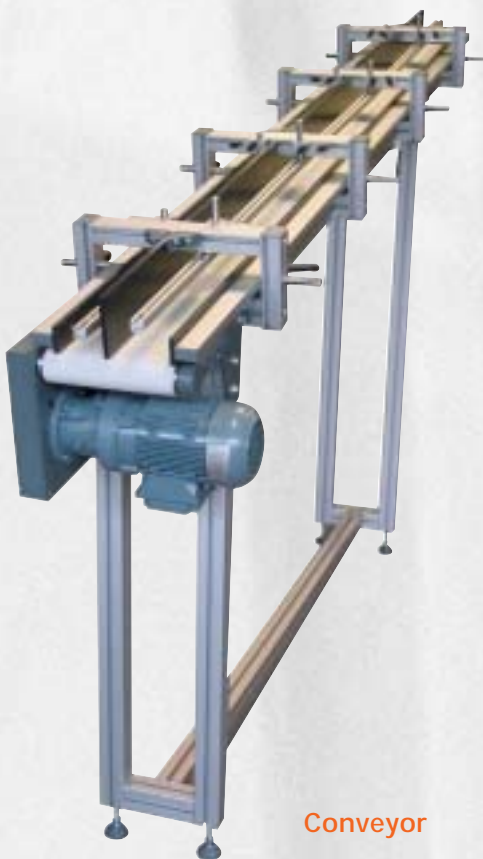
EXAMPLES OF APPLICATIONS



3-axis linear module



Machine frame with special glass screens for high-temperature application

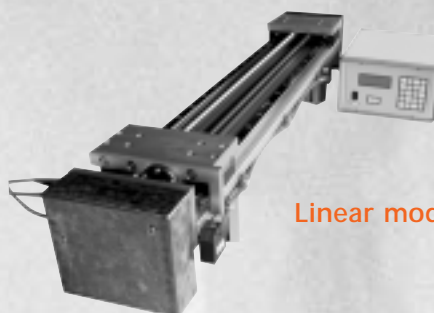


Conveyor

EXAMPLES OF APPLICATIONS

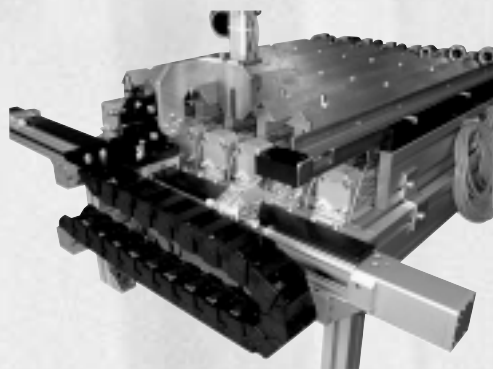


Gear wheel
measuring machine



Linear module with drive

2-axis portal for
automatic head
lamp adjustment



Classification device for
gear wheels

EXAMPLES OF APPLICATIONS



Showcase

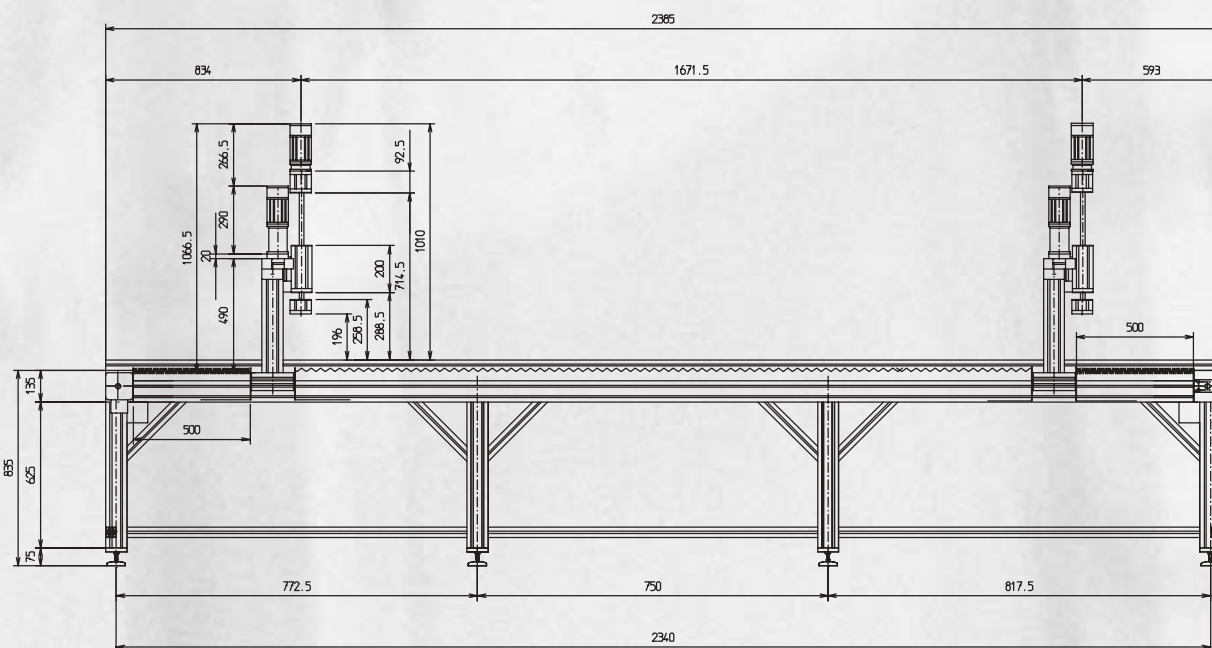
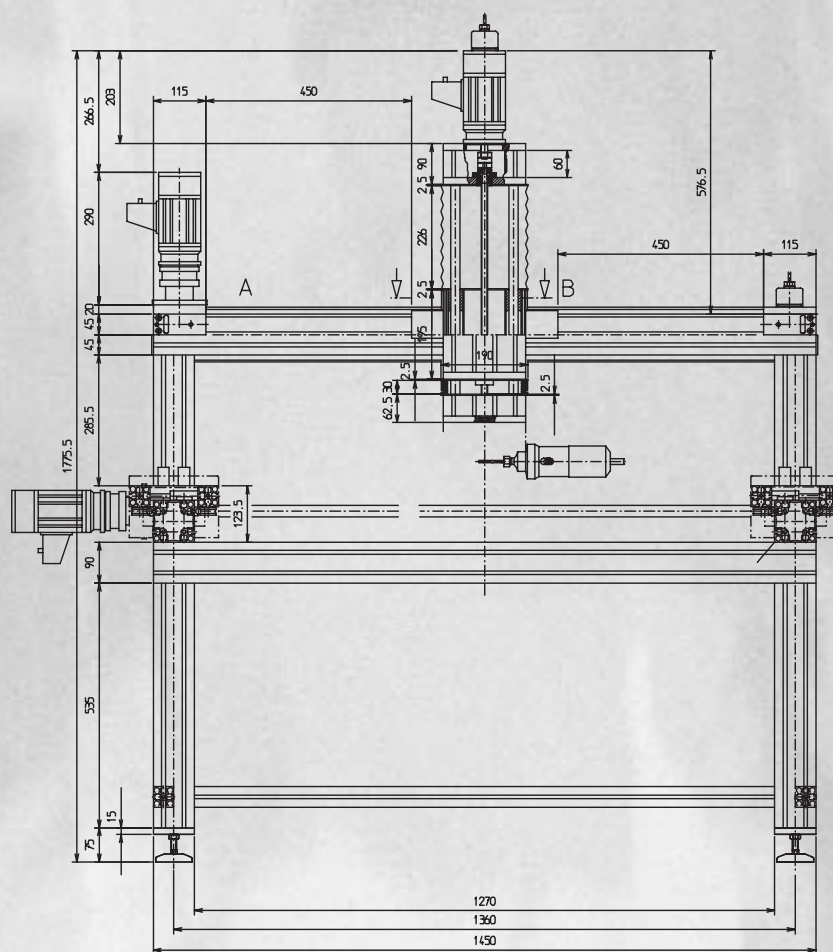


Test shelf



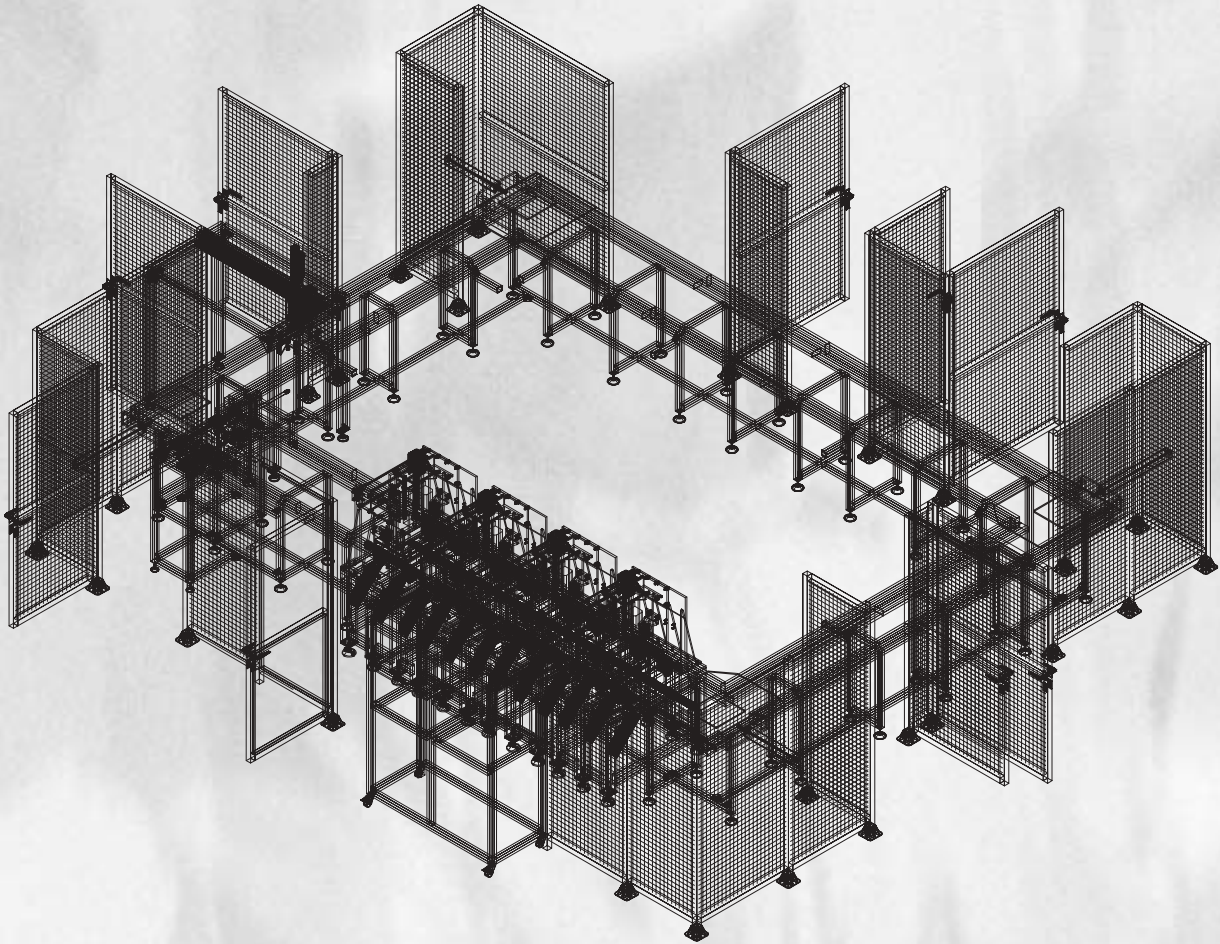
Testing shelf with
linear modules

PROJECT EXAMPLES

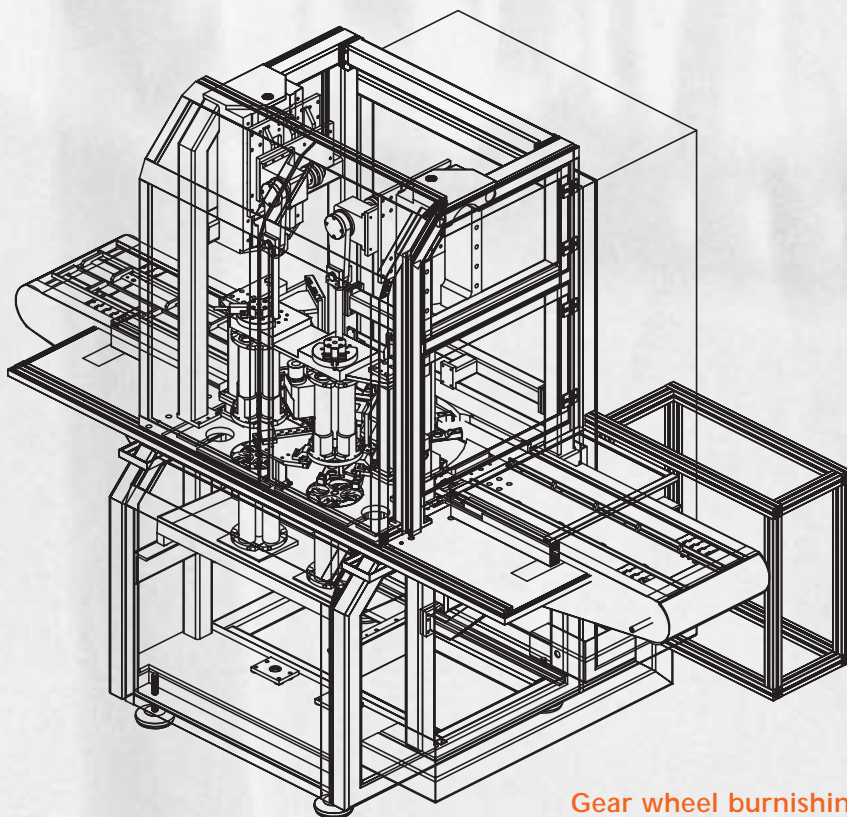


Milling machine

PROJECT EXAMPLES



Transfer system with automatic welding, assembly, and packing for warning triangles



Gear wheel burnishing machine

MiniTec CAD Support

Our CAD tools are the logical supplement to the hardware of our construction system. All planning and assembly requirements are comprehensively considered. The combination of components and software opens up the full potential for efficient, flexible, and modern machinery construction.

Time is a key factor in modern and economic machine construction. The time expended for a construction affects the costs to a great extent as well as the speed of implementation. It is not unusual that the expenditure for calculation, design, operation scheduling, and assembly to amount to more than half of the total costs. The ergonomic design of all the components of our system and the ease of assembly with our power-lock fastener without drilling results in a significant saving of time.

Planning and operations scheduling often offer an even greater potential for saving time. A fundamental step forward with regard to planning and avoidance of errors are our MiniTec CADmenu for AutoCAD and MiniTec iCAD design tools with more than 50 formats for all other CAD systems. The design time is reduced by more than 60% with these tools compared with conventional designing.

All components are contained in 2D and 3D in the electronic catalog. Defined insertion points facilitate positioning in the drawing. Any processing and the connectors that may be required are displayed for each of the components and can be added if desired. A parts-list is automatically created in which the overmeasurements for panel elements are correctly calculated. Identical parts are summarized in an order list. The weight of the individual items and the total weight is displayed. The parts list can be generated in German, English, or French. Interfaces to Word and Excel enable the data-transfer to planning systems and the creation of documentations or the further processing of the data.

MiniTec CADmenu *for AutoCAD*14, AutoCAD*2000 and AutoCAD*2002*° Part N° 95.0854/0



- Design tool using AutoCAD commands
- Automated design modules for
 - Linear axes
 - Safety equipment
 - Conveyor belts
 - Roller belts
 - Workplaces

° Installation routine for AutoCAD 2002 can be downloaded from our website www.minitec.de/cadsupport

MiniTec iCAD *for all CAD Systems*

Part N° 95.0850/0



- Autonomous design tool that can also be used without a CAD system
- Direct interfaces to all common CAD systems such as Mechanical Desktop, ProEngineer, Solid Works, Solid-Edge, MegaCAD, etc.
- More than 50 data output formats in 2D and 3D
- Automated design module for linear axes

*AutoCAD is a registered trademark of AUTODESK, Inc. - Word and Excel are registered trademarks of Microsoft

PROFILES

Material	Type:	Al Mg Si 0.5 F 25 EN-AW-6060 T6
	Specific weight:	2.75 g / cm ³
	Material no.:	3 3206.72 artificially aged
	min. Rm:	245 N / mm ²
	min. Rp 0,2:	200 N / mm ²
	Ductile yield A 5:	> 10%
	Ductile yield A 10:	> 8%
	Module of elasticity:	E: 70000 N / mm ² G: 27000 N / mm ²
	Expansion hardness:	ca. 75 HB 2,5 / 187.5
	Heat extension:	23,8 · 10 ⁻⁶ K ⁻¹

Surface		natural anodized E6/EV1
	Layer thickness:	approx. 10 µm
	Layer hardness:	250 - 350 HV

Tolerances		DIN 12020 1 + 2
	Outer dimensions:	depending on size 0.2 to 0.4 mm
	Straightness deviation:	max. 1,5 mm / 2 m
	Flatness deviation:	max. 1,5 mm / 2 m

Core boring uniform 7.5 - 0.3 mm

The thread M8 must be made by thread former, not by tap.

Core bore reborable up to M12.

Modular Dimension Standard 45 mm

All profiles are based on the same modular dimension.

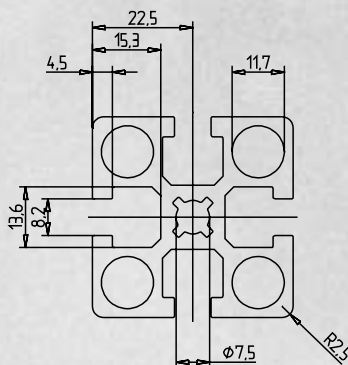
All grooves are uniform.

All bores are uniform.

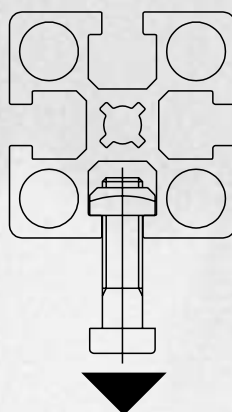
GROOVE SYSTEM

Grooves Uniform in all profiles from 19 up to 180 mm
 Width: 8,5 - 0,3 mm.
 The grooves are sized for standard M8 with head \varnothing 13 mm and standard nuts with an outer dimension of 13 mm. Square and hexagonal nuts and screws cannot twist in the groove.

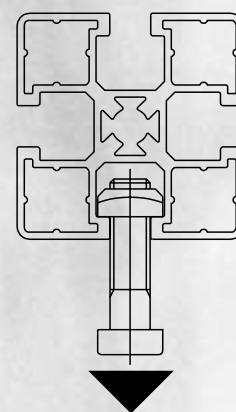
Basic dimensions



Load capacity

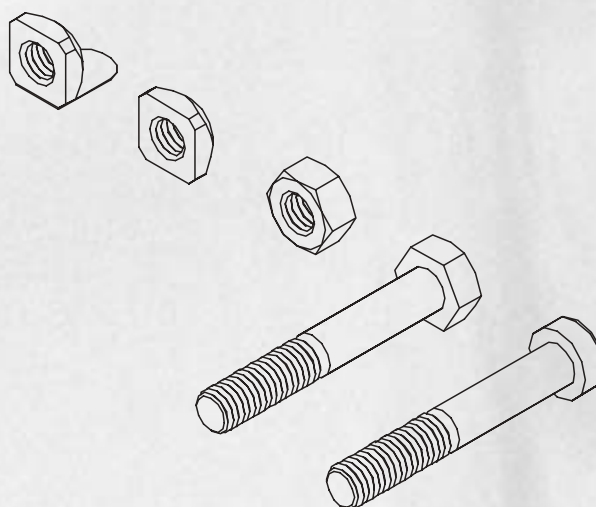


$F = 6000$ N



$F = 4000$ N

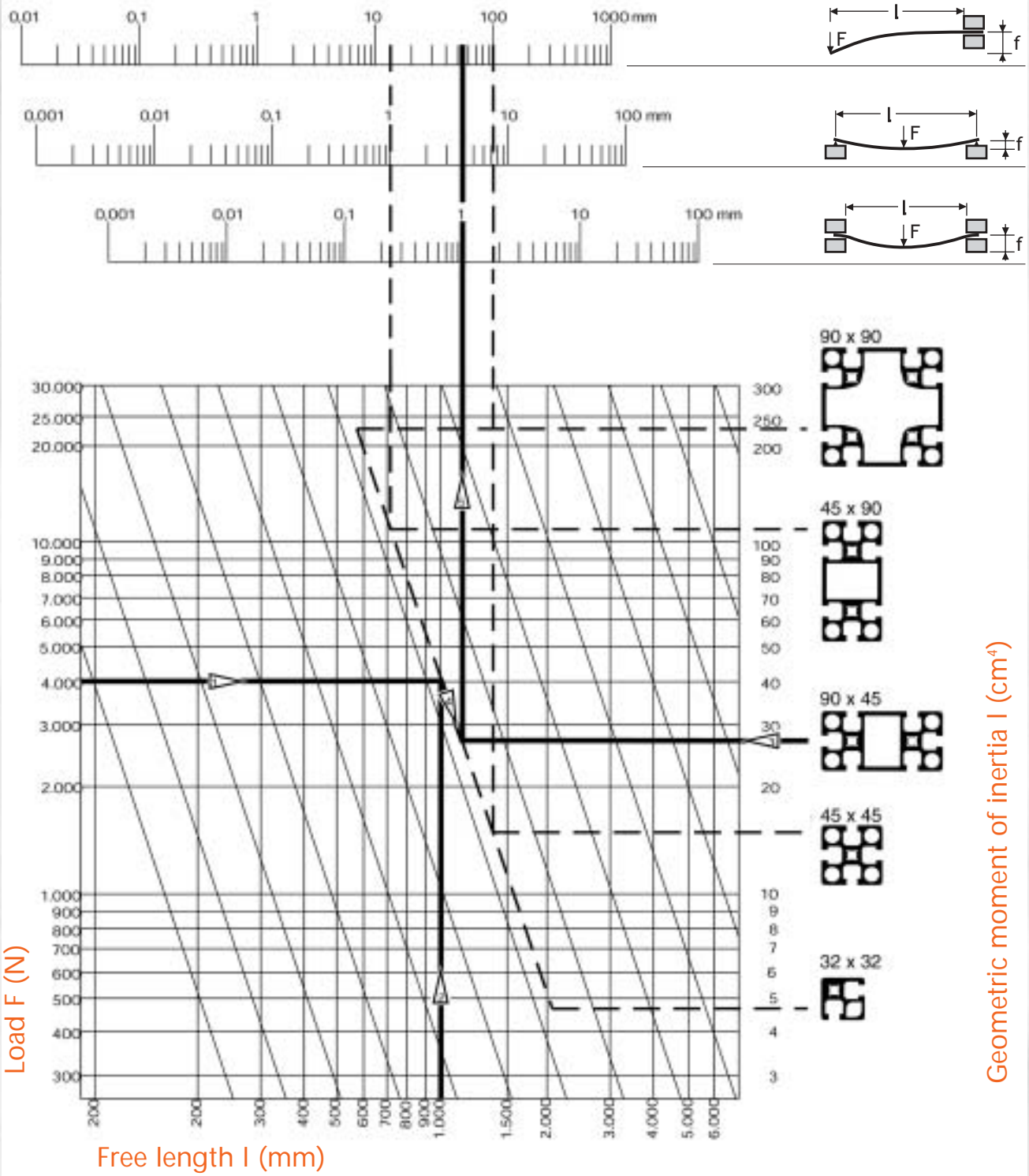
Useable screws and nuts



DEFLECTION OF MINITEC PROFILES

This mode of calculation is a function of our construction module for AutoCAD*

Deflection f (mm), calculated for static load in form of a point as shown below



* AutoCAD is a registered trade mark of AUTODESK, Inc.

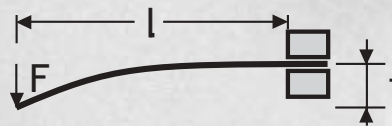
DEFLECTION OF MINITEC PROFILES

The following formulas and examples of calculation are for static load in the form of a point. For the determination of other load, please use the equations in the relevant literature. In particular we want to point out that reduced values should be used for dynamic loads.

Calculation of deflection of MiniTec profiles

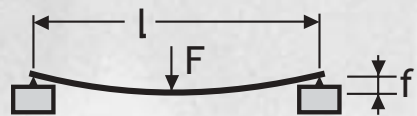
Example	f = Deflection	?
	F = Load	8 000 N
	L = Free length	700 mm
	I = Geom. moment of inertia	30.4 cm ⁴
	E = Modulus of elasticity	70 000 N / mm

Example 1



$$f = \frac{F \times L^3}{E \times I \times 3 \times 10^4} = 42.1 \text{ mm}$$

Example 2



$$f = \frac{F \times L^3}{E \times I \times 48 \times 10^4} = 2.7 \text{ mm}$$

Example 3

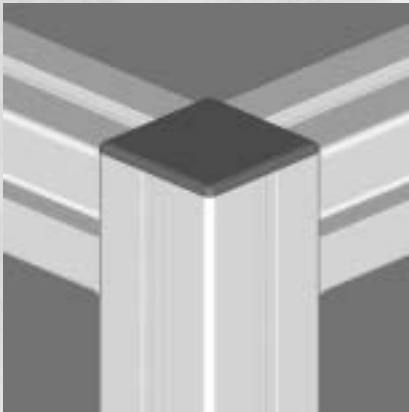


$$f = \frac{F \times L^3}{E \times I \times 192 \times 10^4} = 0.67 \text{ mm}$$

The above mentioned equations are easy to calculate using the diagram on previous page follow the steps in the given row for the respective value.

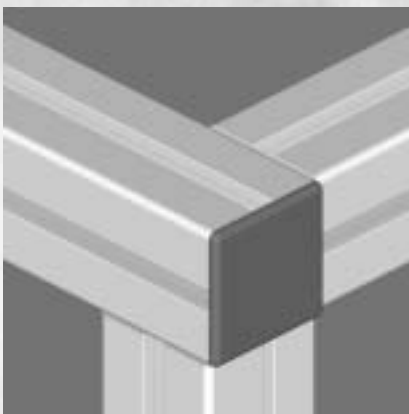
Deflection (f)	1	2	3	4	5
Max. load (F)	3	5	2	4	1
Profile determination	1	2	5	4	3
Free length (L)	3	5	1	4	2

ASSEMBLY HINTS

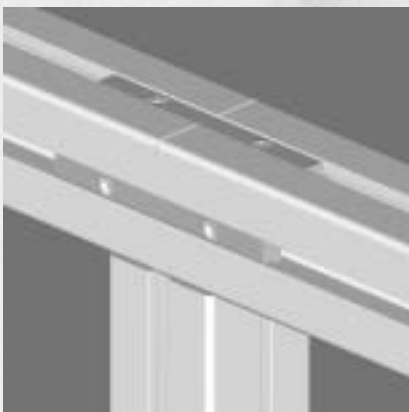


Right !

Horizontal profiles should be assembled between vertical profiles running unbroken from bottom to top.

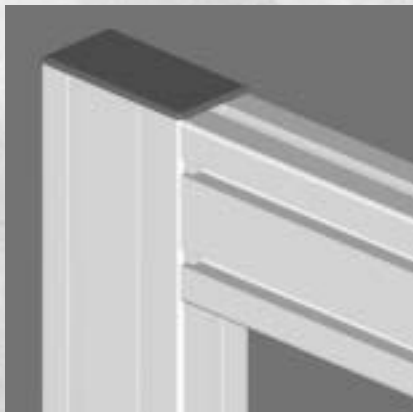


Wrong!

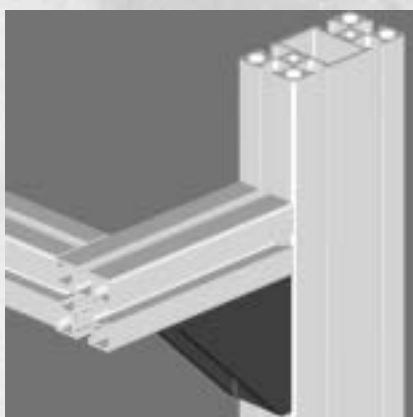


The joins of butt-fastened profiles should be supported.

ASSEMBLY HINTS



Because of higher bending strength, profiles should be used edgewise.



Torsional strain on connections should be avoided or supported by additional use of angles.




Right!

Supporting profiles must be built in as one piece avoid interruptions!



Wrong!

- 
- ALUMINIUM PROFILES
 - FASTENING ELEMENTS
 - LINKS AND HINGES
 - HANDLES, LOCKS, STOPS
 - FEET, WHEELS, FLOOR FASTENINGS, SUPPORTS
 - FITTING OF PANEL ELEMENTS
ASSEMBLY POSSIBILITIES
 - EDGE-, COVER-, SLIDE- AND SEALING PROFILES
 - PREASSEMBLED ELEMENTS FOR LIFTING AND SLIDING DOORS
 - ELECTRICAL INSTALLATION
 - DRIVE UNITS AND CONTROL SYSTEMS
 - PNEUMATIC CONNECTIONS
 - HYDRAULIC VERTICAL ADJUSTMENT

1

SYSTEM COMPONENTS



There is only one groove shape for all MiniTec construction profiles. Thus all fasteners are useable in all profiles, the necessary stock of fastening material can be reduced to a minimum and all elements fit to all profiles.

PROFILE SECTIONS

Profile 19 x 32



Part No. 20.1000/0

Profile 32 x 32 F



Part No. 20.1054/0

Profile 32 x 32 UL



Part No. 20.1064/0

Clamp Profile 32 x 32



Part No. 20.1070/0

Profile 19 x 45



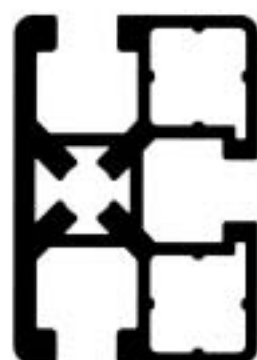
Part No. 20.1001/0

Profile 45 x 19



Part No. 20.1012/0

Profile 45 x 32 UL



Part No. 20.1065/0

Clamp Profile 45 x 32



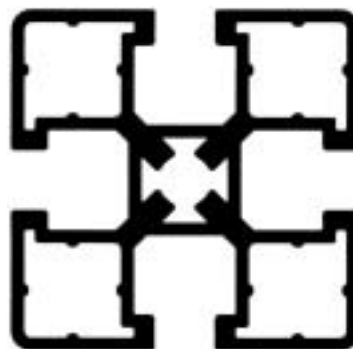
Part No. 20.1053/0

Profile 45 x 32 F



Part No. 20.1055/0

Profile 45 x 45 UL



Part No. 20.1063/0

Profile 45 x 45



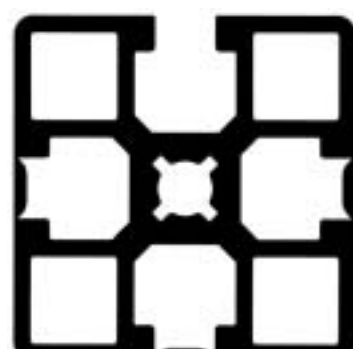
Part No. 20.1006/0

Profile 45 x 45 F



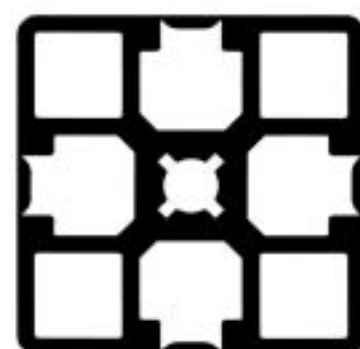
Part No. 20.1033/0

Profile 45 x 45 3G



Part No. 20.1048/0

Profile 45 x 45 G



Part No. 20.1028/0

PROFILE SECTIONS

Profile 45 x 45 2G



Part No. 20.1072/0

Profile 45 R



Part No. 20.1069/0

Profile 45/45°



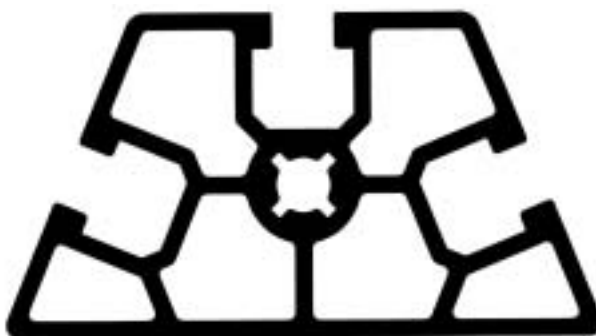
Part No. 20.1029/0

Profile 45 x 45 R



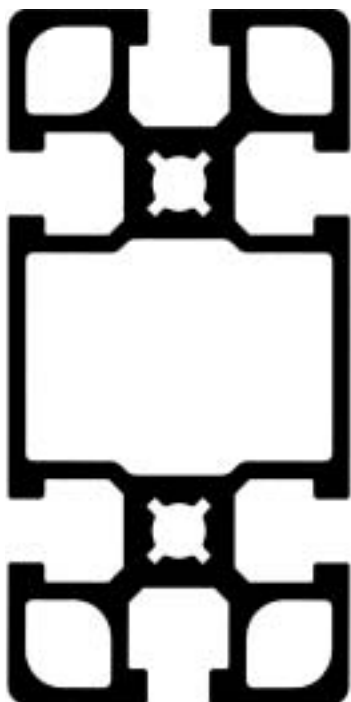
Part No. 20.1046/0

Profile 45/22,5°



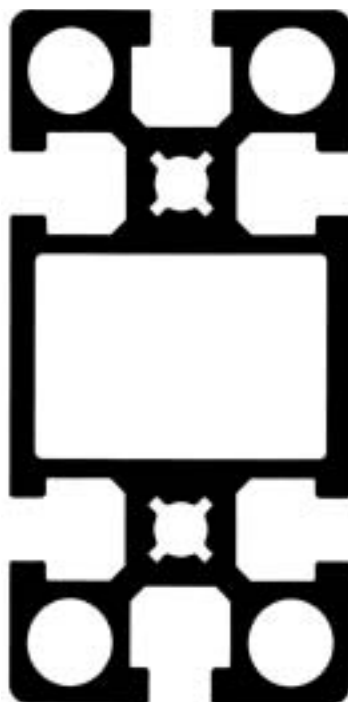
Part No. 20.1030/0

Profile 45 x 90 F



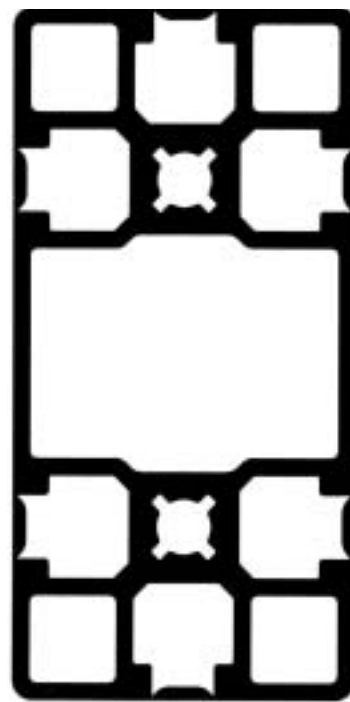
Part No.20.1032/0

Profile 45 x 90



Part No.20.1009/0

Profile 45 x 90 G



Part No.20.1015/0

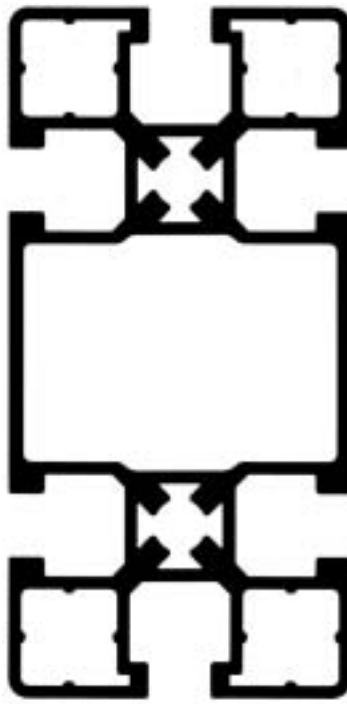
PROFILE SECTIONS

Profile 45 x 90 S



Part No. 20.1017/0

Profile 45 x 90 UL



Part No. 20.1067/0

Profile 90 x 32 UL



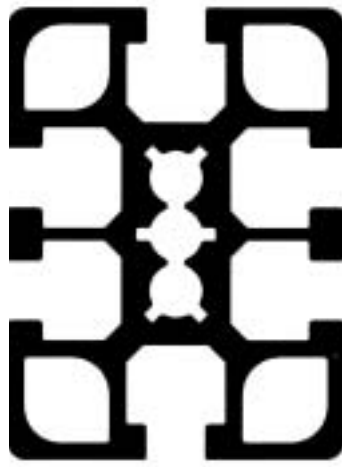
Part No. 20.1066/0

Profile 60 x 60 F



Part No. 20.1049/0

Profile 45 x 60



Part No.20.1023/0

Profile 45 x 135 G



Part No. 20.1024/0

PROFILE SECTIONS

Profile 90 x 19



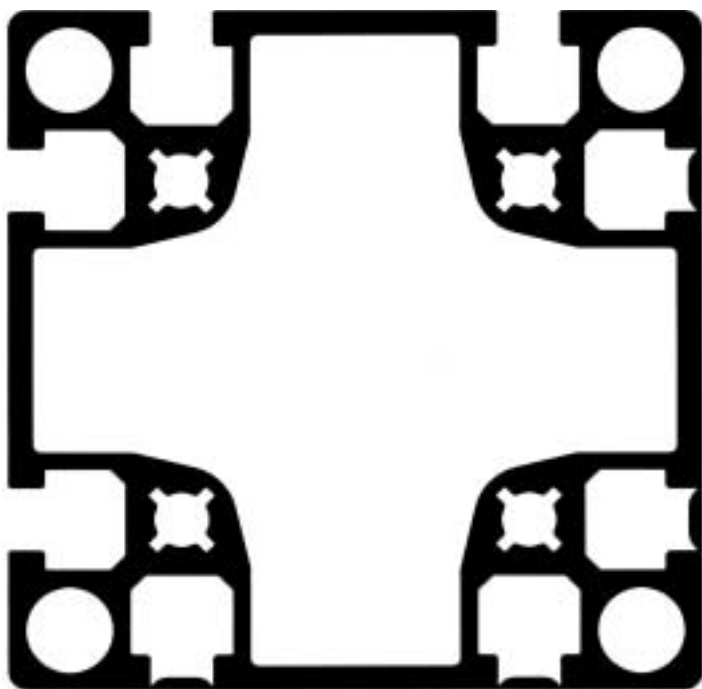
Part No. 20.1031/0

Cover 45 x 45 R



Part No. 20.1037/0

Profile 90 x 90 2G



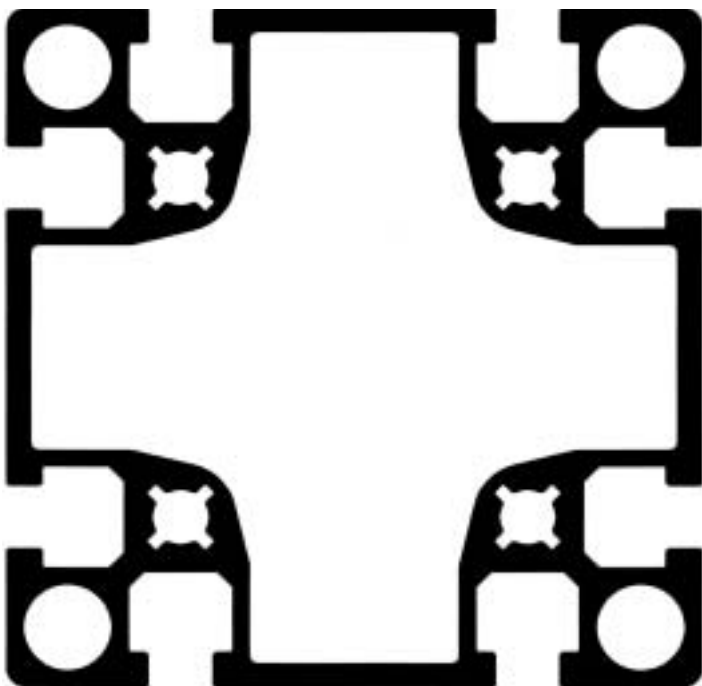
Part No. 20.1044/0

Sliding door Profile



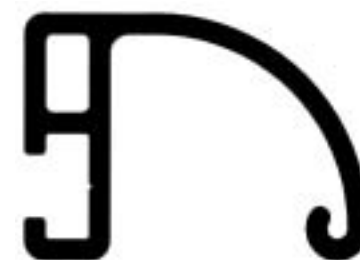
Part No. 20.1038/0

Profile 90 x 90 L



Part No. 20.1010/0

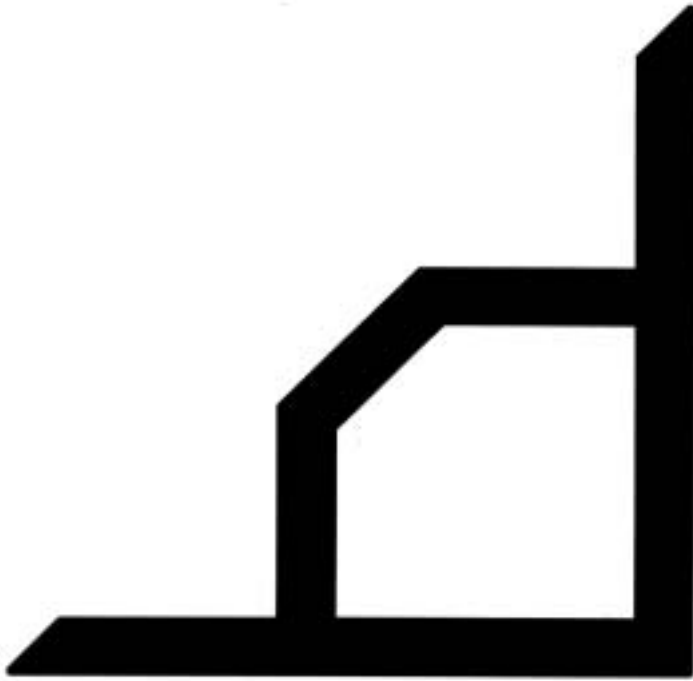
Handle Profile



Part No. 20.1045/0

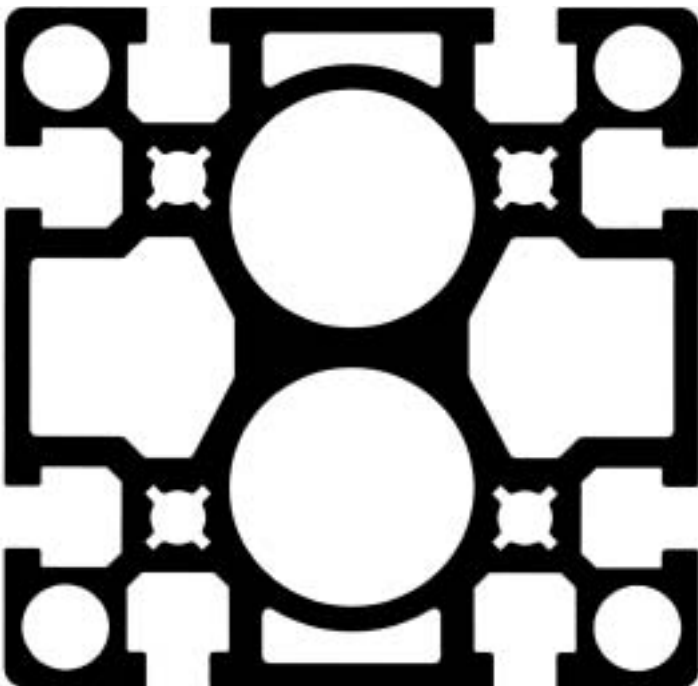
PROFILE SECTIONS

Angular Profile 89 x 89



Part No. 20.1011/0

Profile 90 x 90 S



Part No. 20.1019/0

Profile 19 x 270



Part No. 20.1077/0

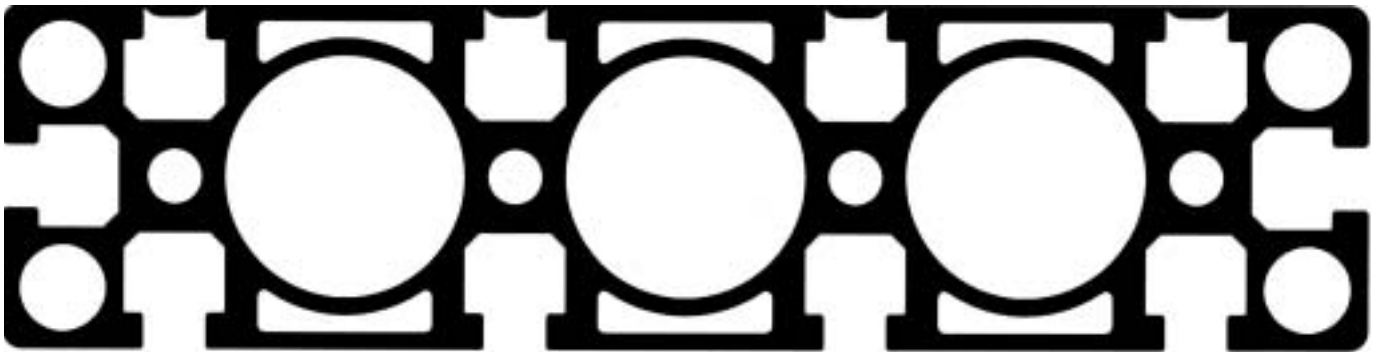
PROFILE SECTIONS

Profile 32 x 180



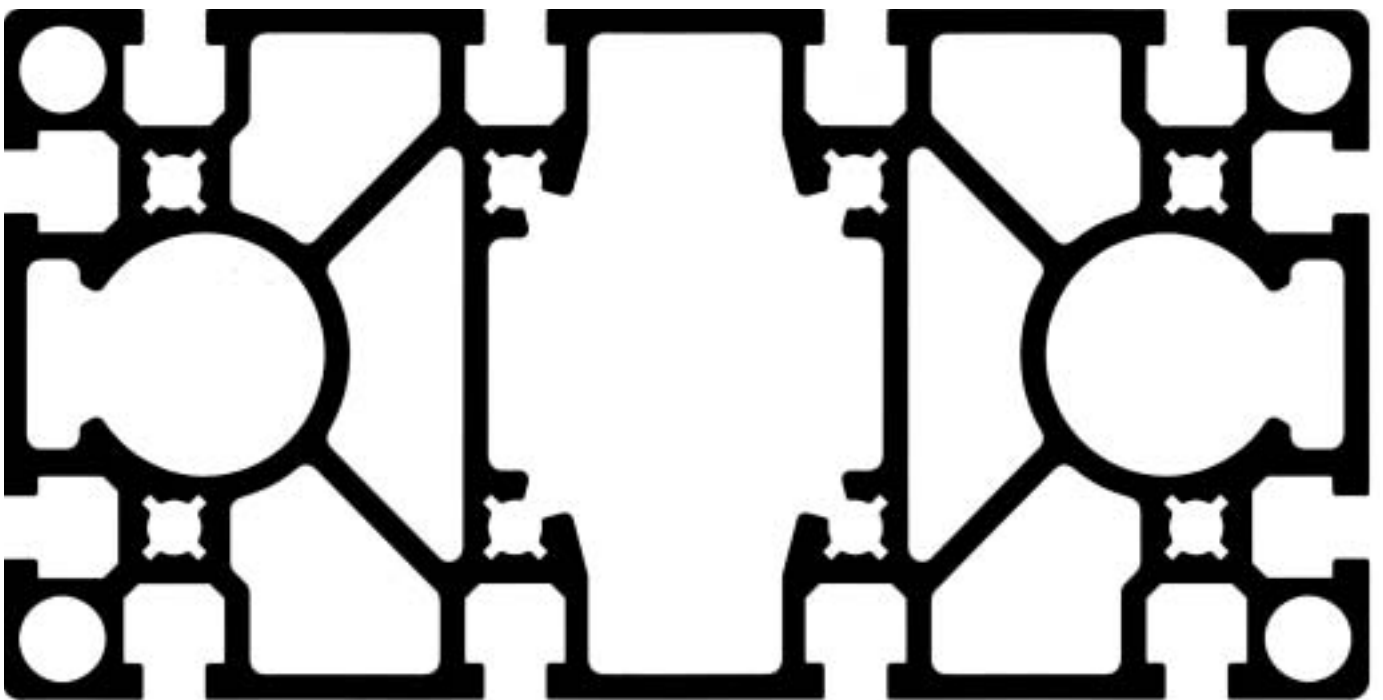
Part No. 20.1016/0

Profile 45 x 180 G



Part No. 20.1026/0

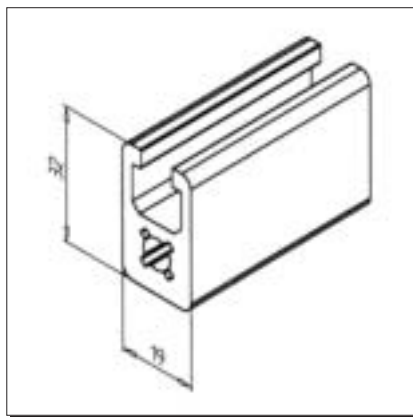
Profile 90 x 180 S



Part No. 20.1013/0

PROFILE 19 X 32

Part N° 20.1000/0



TECHN. DATA/ITEMS SUPPLIED

lx =	3,105	cm ⁴
ly =	1,527	cm ⁴
wx =	1,653	cm ³
wy =	1,607	cm ³
Weight	0,987	kg/m
Length	6	m
Packing unit	60	m

APPLICATIONS

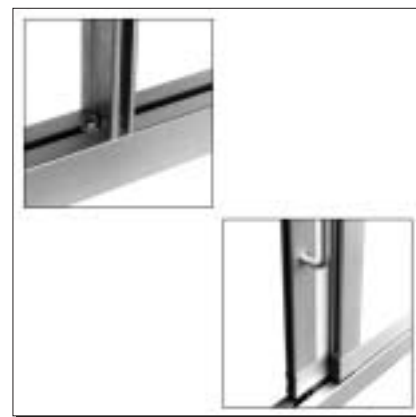
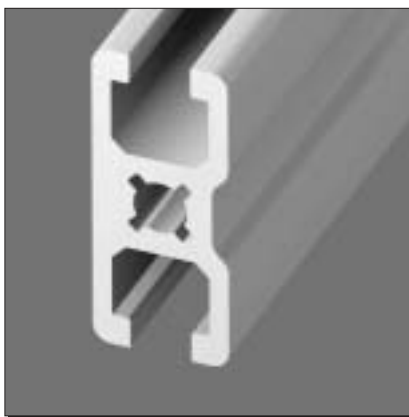
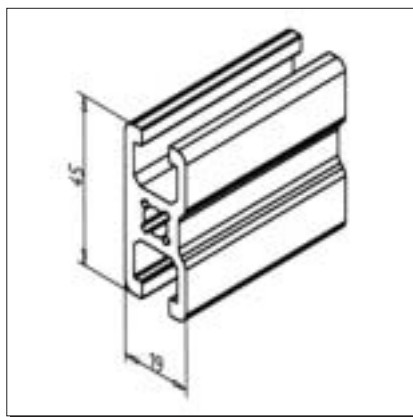
- Light constructions
- Panel frames
- Light supports
- Grip rails

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19
- Bolt fastener 15
- Screw connection

PROFILE 19 X 45

Part N° 20.1001/0



TECHN. DATA/ITEMS SUPPLIED

lx =	6,051	cm ⁴
ly =	1,830	cm ⁴
wx =	2,689	cm ³
wy =	1,821	cm ³
Weight	1,087	kg/m
Length	6	m
Packing unit	60	m

APPLICATIONS

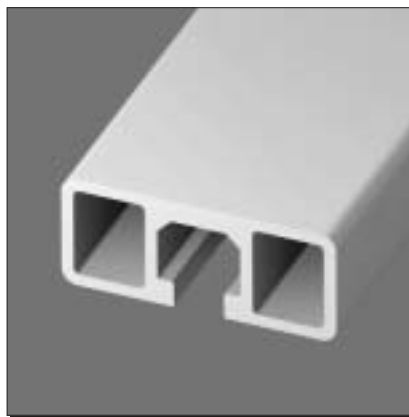
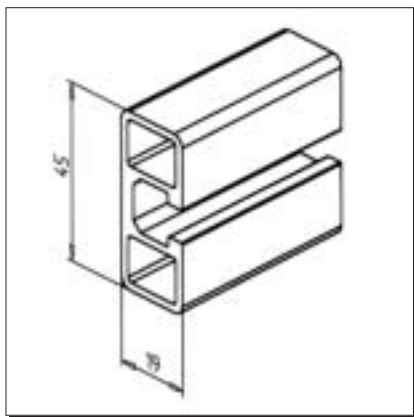
- Light supports
- Light constructions
- Panel frames
- Shelves
- Braces

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19
- Bolt-fastener 15
- Screw connection

PROFILE 45 X 19

Part N° 20.1012/0



TECHN. DATA/ITEMS SUPPLIED

ix =	6,050	cm ⁴
ly =	1,530	cm ⁴
wx =	2,689	cm ³
wy =	1,495	cm ³
Weight	0,869	kg/m
Length	6	m
Packing unit	72	m

APPLICATIONS

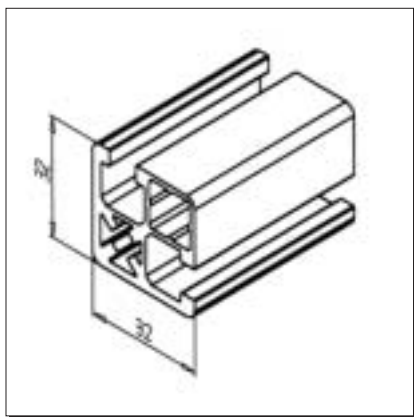
- Light constructions
- Light Sliding doors
- Bracings
- Sliding windows
- Tables

ASSEMBLY

- Angle 25
- Bolt fastener

PROFILE 32 X 32 UL

Part N° 20.1064/0



TECHN. DATA/ITEMS SUPPLIED

ix =	4,103	cm ⁴
ly =	4,103	cm ⁴
wx =	2,269	cm ³
wy =	2,269	cm ³
Weight	1,052	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

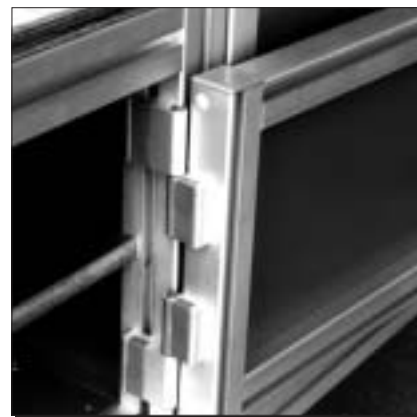
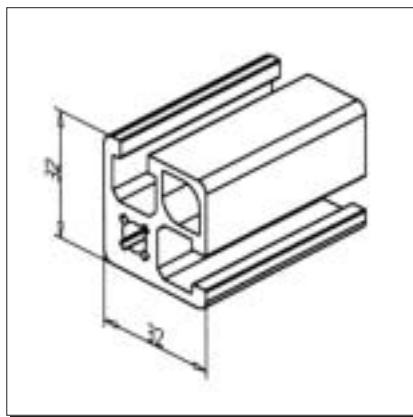
- Light constructions
- Tables
- Horizontal or vertical-sliding doors
- Bracings

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19
- Bolt-fastener 15
- Screw connection

PROFILE 32 X 32 F

Part N° 20.1054/0



TECHN. DATA/ITEMS SUPPLIED

lx =	4,824	cm ⁴
ly =	4,824	cm ⁴
wx =	2,702	cm ³
wy =	2,702	cm ³
Weight	1,288	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

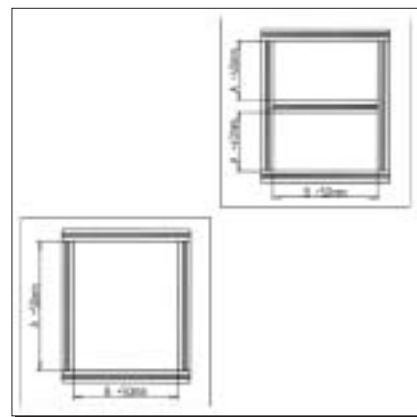
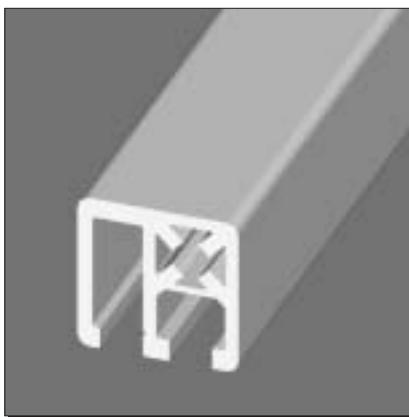
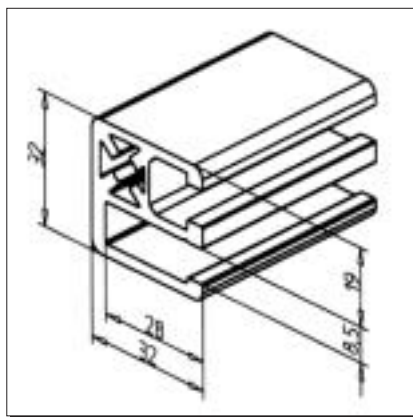
- Light constructions
- Tables
- Horizontal or vertical-sliding doors
- Bracings

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19
- Bolt fastener 15
- Screw connection

CLAMP PROFILE 32 X 32

Part N° 20.1070/0



TECHN. DATA/ITEMS SUPPLIED

lx =	5,027	cm ⁴
ly =	4,422	cm ⁴
wx =	3,703	cm ³
wy =	2,856	cm ³
Weight	1,211	kg/m
Length	6	m
Packing unit	54	m

APPLICATIONS

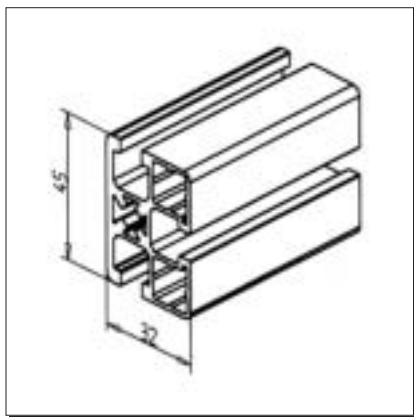
- All types of safety equipment
- For clamping surface elements such as wire mesh, panes, and plates up to a thickness of 8 mm
- Additional struts from clamping profile 45 x 32 must be used for larger safety fields to ensure sufficient protection against the surface elements pushing out; separate out covering strips for profile 45 x 32

ASSEMBLY

- MiniTec profile connector; no drilling required
- No cut-outs in surface elements required
- Preassemble the framework on three sides with the closed side outwards
- Insert surface element and last profile strut
- Push in distance profile on the inside or knock in with a flat tool
- Also mount appropriate seal for surface elements < 4 mm

PROFILE 45 X 32 UL

Part N° 20.1065/0



TECHN. DATA/ITEMS SUPPLIED

ix =	8,298	cm ⁴
ly =	5,181	cm ⁴
wx =	3,688	cm ³
wy =	2,817	cm ³
Weight	1,257	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

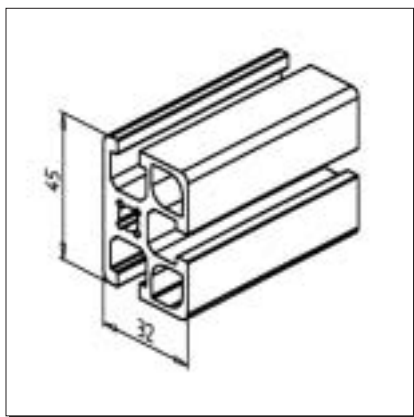
- General constructions
- Tables
- Racks
- Sliding-doors

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Bolt fastener 15 / 20
- Screw connection

PROFILE 45 X 32 F

Part N° 20.1055/0



TECHN. DATA/ITEMS SUPPLIED

ix =	10,181	cm ⁴
ly =	6,491	cm ⁴
wx =	4,525	cm ³
wy =	3,757	cm ³
Weight	1,588	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

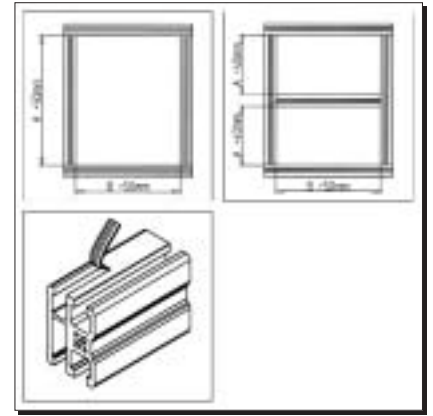
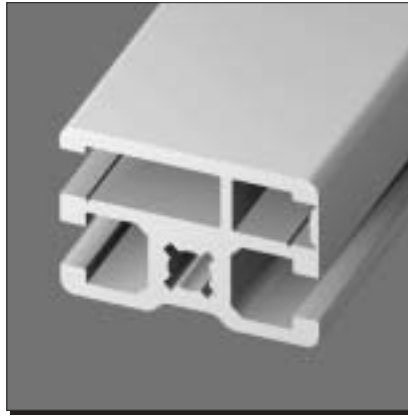
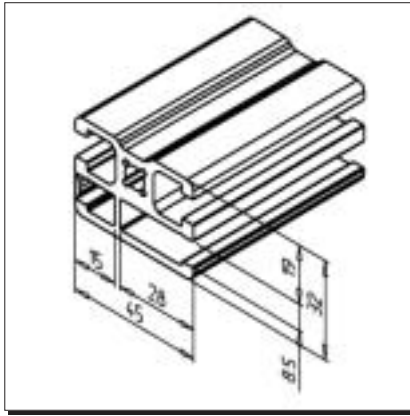
- General constructions
- Tables
- Racks
- Sliding-doors

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Bolt fastener 15 / 20
- Screw connection

CLAMP PROFILE 45 X 32

Part N° 20.1053/0



TECHN. DATA/ITEMS SUPPLIED

lx =	9,528	cm ⁴
ly =	6,467	cm ⁴
wx =	4,121	cm ³
wy =	4,002	cm ³
Weight	1,576	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

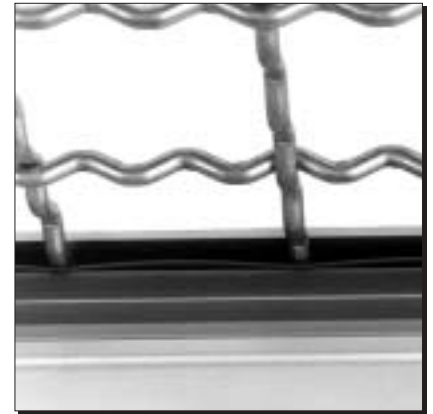
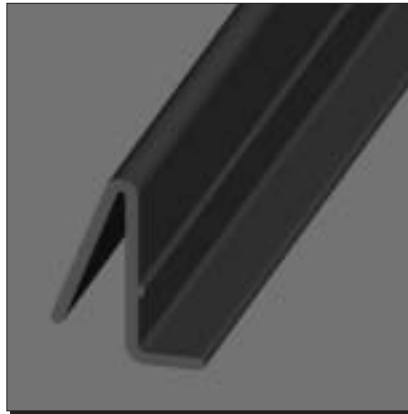
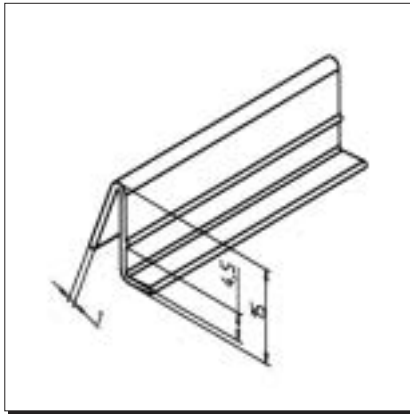
- All kinds of guard units
- Clamping of corrugated mesh or panel elements of all kinds up to 8 mm thickness
- For larger guards we propose to mount an additional brace to guarantee sufficient security
- After open the cover, the second groove is accessible

ASSEMBLY

- MiniTec power-lock fastener; no bores necessary
- No cut-outs in panel elements for fastening elements necessary
- Premount 3 sides of the frame, the even side of the profile outwards
- Insert panel element and mount last profile brace
- Depress the distance profile on the inner side or hit it with a flat tool
- For panel elements < 4 mm mount an additional insert seal

DISTANCE PROFILE

Part N° 22.1039/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, grey		
Weight	0,034	kg/m
Length	2	m

APPLICATIONS

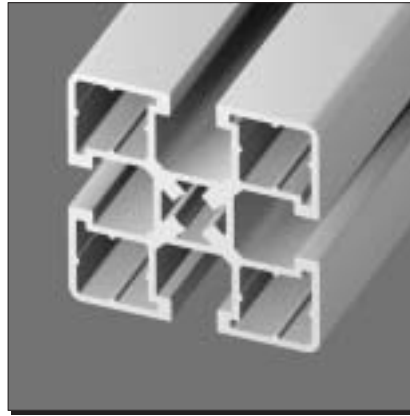
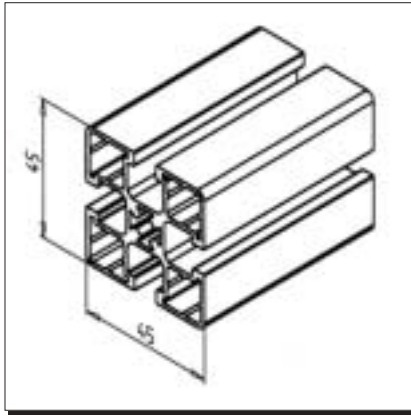
- Spacing element to use with clamp profile 45 x 32 Part N° 20.1053/0 and clamp profile 32 x 32 Part N° 20.1070/0 to fix corrugated mesh or panel elements
- Also for use with all other profiles to fix panel elements

ASSEMBLY

- Mount frame and panel elements
- Press in with suitable tool in space between panel element and clamp profile

PROFILE 45 X 45 UL

Part N° 20.1063/0



TECHN. DATA/ITEMS SUPPLIED

ix =	9,961	cm ⁴
ly =	9,961	cm ⁴
wx =	4,427	cm ³
wy =	4,427	cm ³
Weight	1,445	kg/m
Length	6	m
Packing unit	54	m

APPLICATIONS

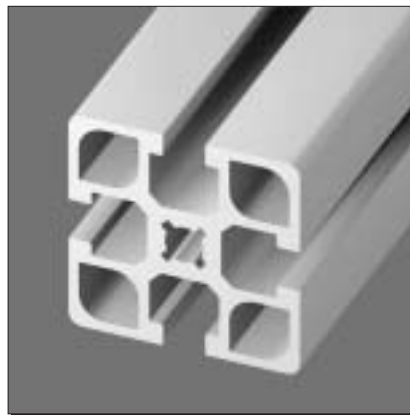
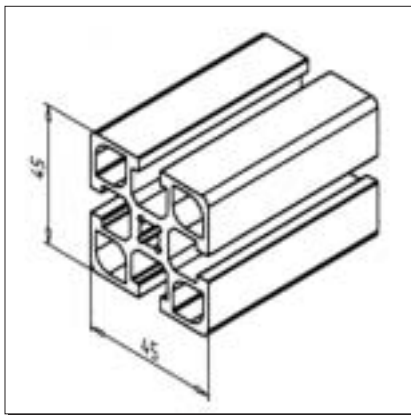
- General weight optimized engineering structures
- General Constructions

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Bolt fastener 20
- Screw connection

PROFILE 45 X 45 F

Part N° 20.1033/0



TECHN. DATA/ITEMS SUPPLIED

ix =	14,153	cm ⁴
ly =	14,153	cm ⁴
wx =	6,290	cm ³
wy =	6,290	cm ³
Weight	2,005	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

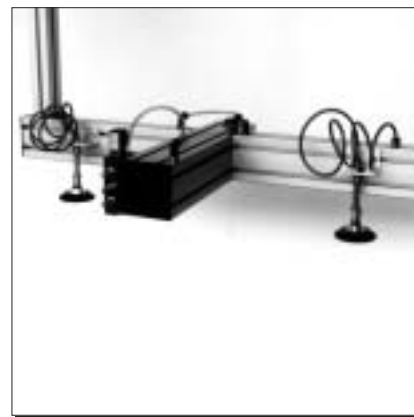
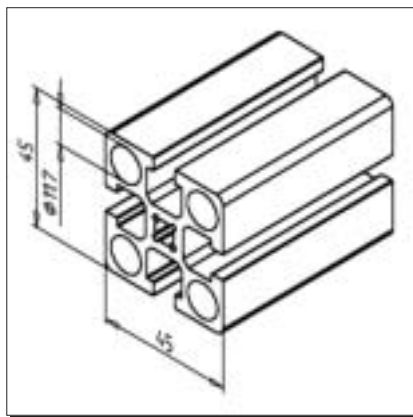
- General constructions

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Bolt fastener 20
- Screw connection

PROFILE 45 X 45

Part N° 20.1006/0



TECHN. DATA/ITEMS SUPPLIED

lx =	15,876	cm ⁴
ly =	15,876	cm ⁴
wx =	7,056	cm ³
wy =	7,056	cm ³
Weight	2,192	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

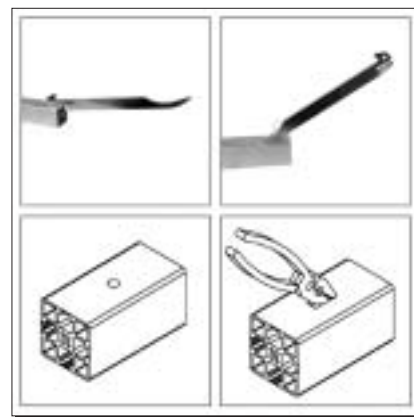
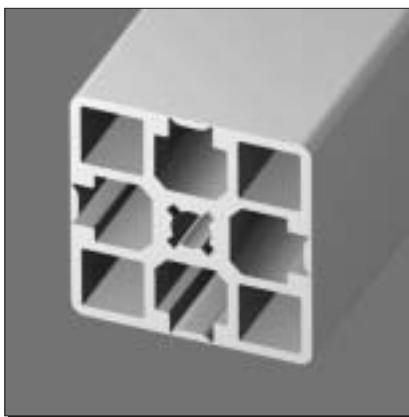
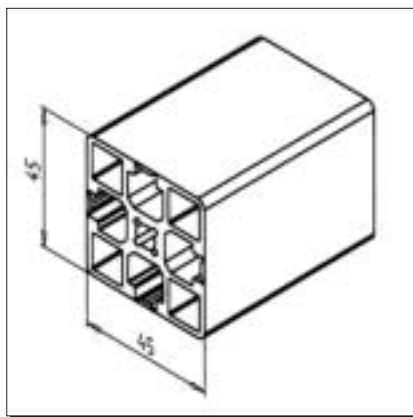
- General engineering structures
- Compressed air piping
- Linear guides

ASSEMBLY

- MiniTec power-lock fastener
- Angle 25 / 45, bolt-fastener, screw connection
- 4 bores Ø 11,7 mm reborable for G 1/4" piping thread for blanking screws or standard pneumatic connections
- Lateral connection of pneumatic elements directly into the profile

PROFILE 45 X 45 G

Part N° 20.1028/0



TECHN. DATA/ITEMS SUPPLIED

lx =	14,095	cm ⁴
ly =	14,095	cm ⁴
wx =	6,265	cm ³
wy =	6,265	cm ³
Weight	2,000	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

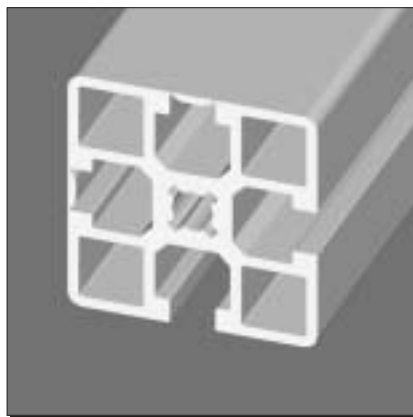
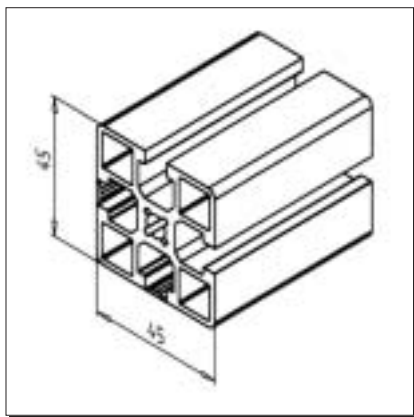
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Grooves can be closed with the aluminium cover profile L, Part N° 20.1021/0, when they turn out to be too big
- On request we offer silicon sealings for profile connections

ASSEMBLY

- Angle 25 / 45
- MiniTec power-lock fastener
- For tightening the power-lock fastener, the groove cover must be opened by tear-off lever Part N° 26.0815/0 at the profile end. This opening is covered by means of the cover plate G Part N° 22.1056 /0
- The grooves can be opened up to any length with the groove opener Part N° 26.0815/0

PROFILE 45 X 45 2G

Part N° 20.1072/0



TECHN. DATA/ITEMS SUPPLIED

ix =	13,550	cm ⁴
ly =	13,550	cm ⁴
wx =	5,939	cm ³
wy =	5,939	cm ³
Weight	1,925	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

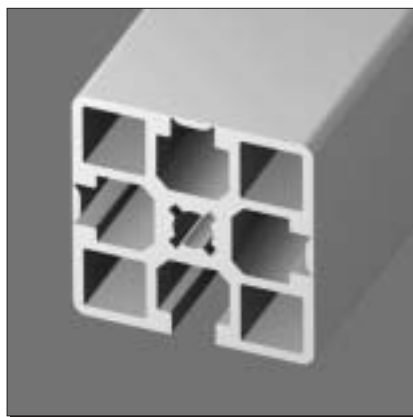
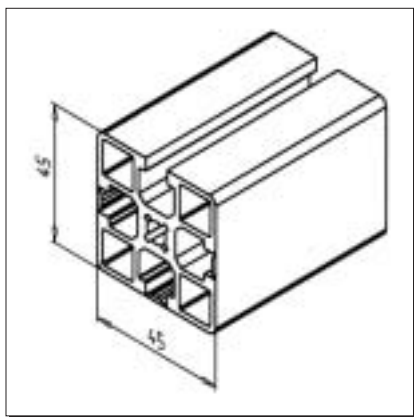
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set
- Grooves can be closed with the aluminium cover profile L **Part N° 20.10.21/0**
- On request we offer silicon sealings for profile connections

ASSEMBLY

- Angle 25 / 45
- MiniTec power-lock fastener
- For tightening the power-lock fastener, the groove cover must be opened by 30-33 mm at the profile end. This opening is covered by means of the cover plate G **Part N° 22.1056**
- The grooves can be opened up to any length with the groove opener **Part N° 26.0815/0**

PROFILE 45 X 45 3G

Part N° 20.1048/0



TECHN. DATA/ITEMS SUPPLIED

ix =	14,060	cm ⁴
ly =	13,560	cm ⁴
wx =	6,249	cm ³
wy =	6,112	cm ³
Weight	1,952	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

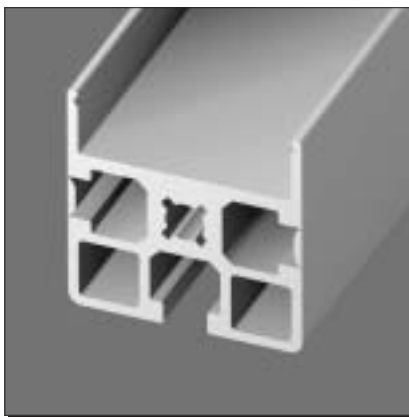
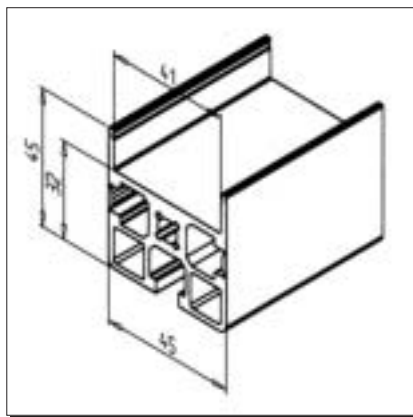
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Grooves can be closed with the aluminium cover profile L **Part N° 20.10.21/0**
- On request we offer silicon sealings for profile connections

ASSEMBLY

- Angle 25 / 45
- MiniTec power-lock fastener
- For tightening the power-lock fastener, the groove cover must be opened by 30-33 mm at the profile end. This opening is covered by means of the cover plate G **Part N° 22.1056**

PROFILE 45 X 45 R

Part N° 20.1046/0



TECHN. DATA/ITEMS SUPPLIED

Ix =	13,002	cm ⁴
Iy =	8,297	cm ⁴
wx =	5,779	cm ³
wy =	3,248	cm ³
Weight	1,711	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

Combination of constructional element and:

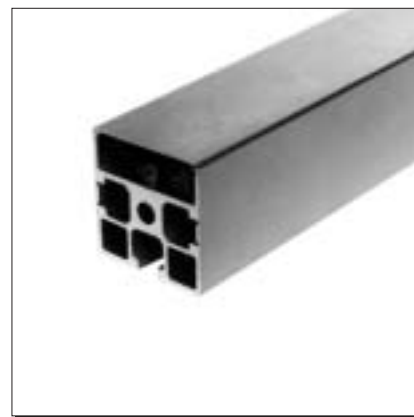
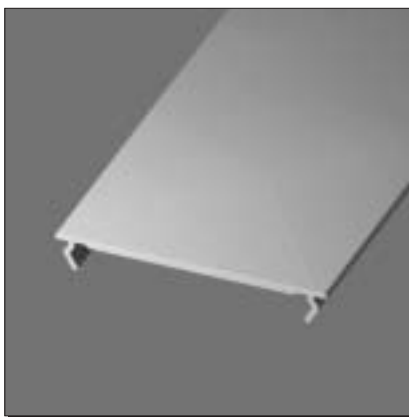
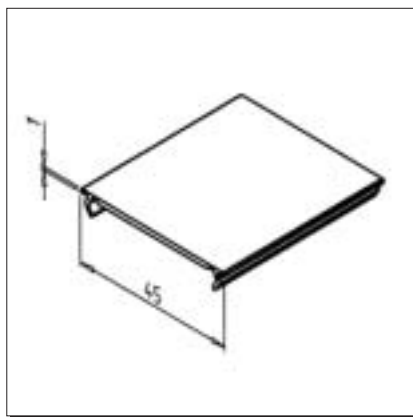
- Cable duct
- Guiding groove for belt conveyor
- Place of deposit
- Guide for cable chain

ASSEMBLY

- MiniTec power-lock fastener
- The lateral grooves can be opened up to any length with the groove opener Part N° 26.0815/0

COVER 45 X 45 R

Part N° 20.1037/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, grey		
Weight	0,110	kg/m
Length	2	m

APPLICATIONS

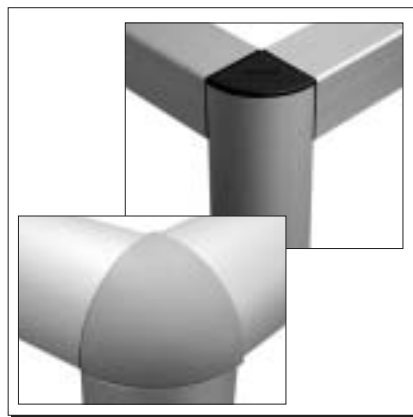
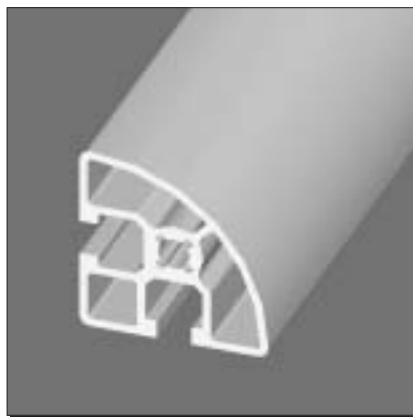
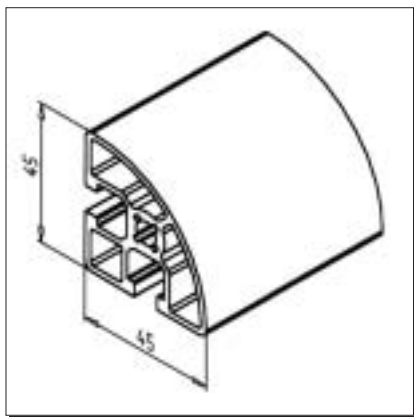
- Covering of profiles 45 x 45 R

ASSEMBLY

- Cover is fastened by clipping

PROFILE 45 R 90°

Part N° 20.1069/0



TECHN. DATA/ITEMS SUPPLIED

ix =	9,123	cm ⁴
ly =	9,123	cm ⁴
wx =	3,574	cm ³
wy =	3,574	cm ³
Weight	1,487	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

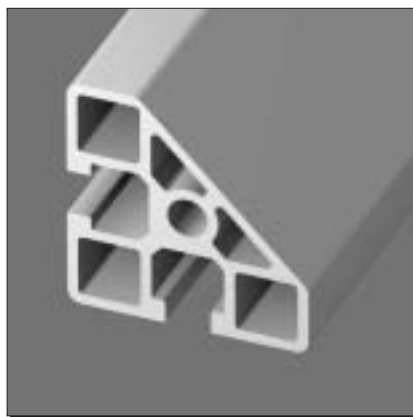
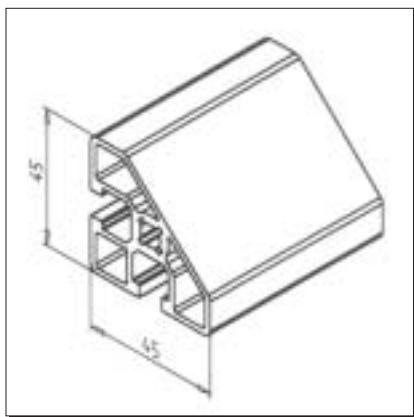
- Light construction
- Tables
- Framework constructions

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 R 90°
- Bolt-fastener
- Angle 45 / 90

PROFILE 45/45°

Part N° 20.1029/0



TECHN. DATA/ITEMS SUPPLIED

ix =	9,162	cm ⁴
ly =	9,162	cm ⁴
wx =	3,562	cm ³
wy =	3,562	cm ³
Weight	1,533	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

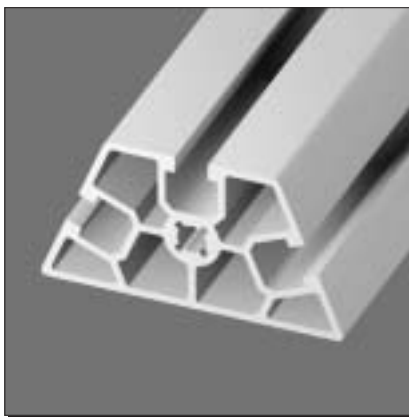
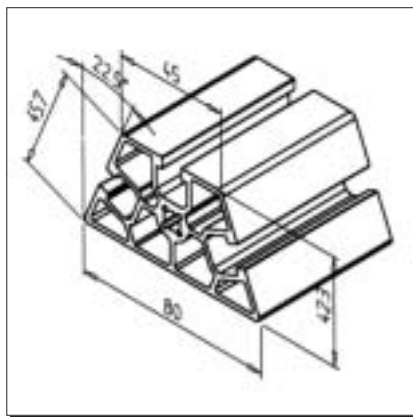
- Light construction
- Tables
- Framework constructions

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45°
- Angle 45 / 90
- Bolt-fastener

PROFILE 45 / 22,5°

Part N° 20.1030/0



TECHN. DATA/ITEMS SUPPLIED

ix =	33,436	cm ⁴
ly =	14,509	cm ⁴
wx =	8,517	cm ³
wy =	6,050	cm ³
Weight	2,225	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

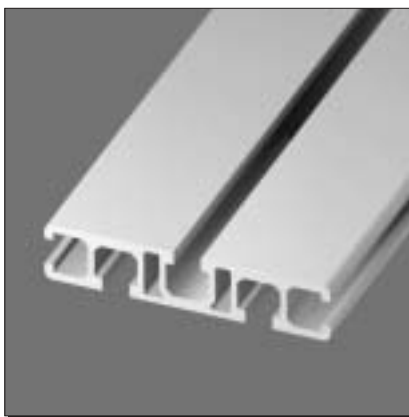
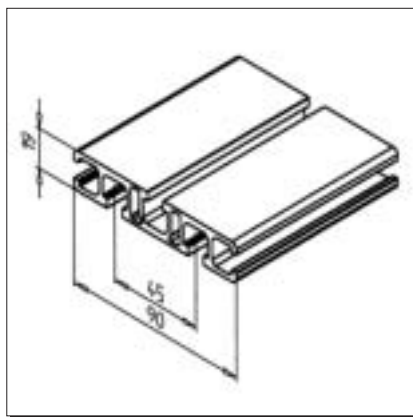
- Guards
- Tables
- Connection of construction elements at an angle of 45°

ASSEMBLY

- MiniTec power-lock fastener
- Mounting angle
- Bolt fastener

PROFILE 90 X 19

Part N° 20.1031/0



TECHN. DATA/ITEMS SUPPLIED

ix =	44,973	cm ⁴
ly =	3,317	cm ⁴
wx =	9,994	cm ³
wy =	3,347	cm ³
Weight	1,864	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

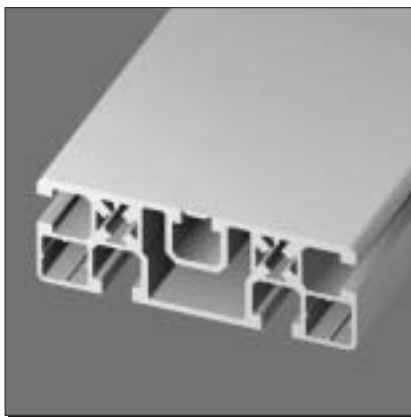
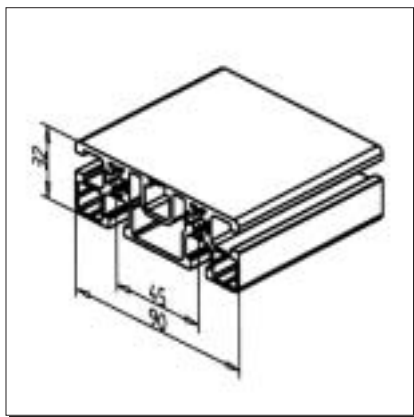
- Bearing plates
- Bearing surfaces
- Slide plate for linear guide
- Plates for floor fastening

ASSEMBLY

- Bolt fastener
- Mounting angle

PROFILE 90 X 32 UL

Part N° 20.1066/0



TECHN. DATA/ITEMS SUPPLIED

ix =	64,270	cm ⁴
ly =	10,612	cm ⁴
wx =	14,282	cm ³
wy =	5,836	cm ³
Weight	2,464	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

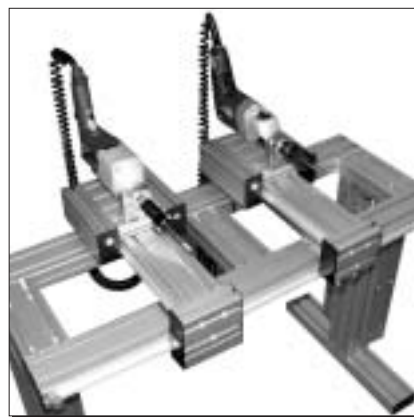
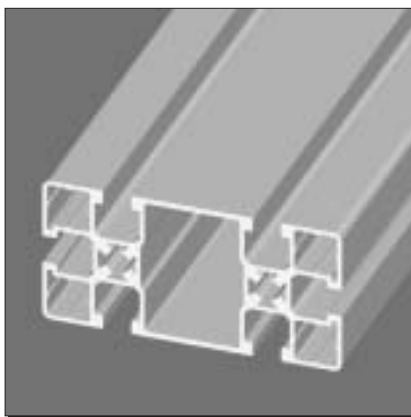
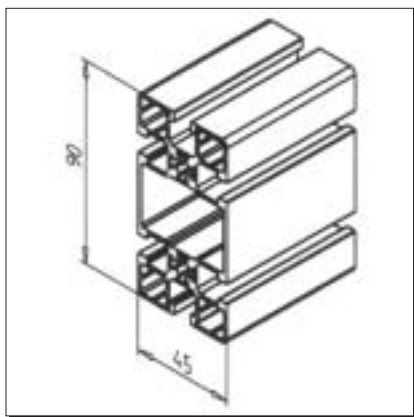
- General constructions
- General weight optimized engineering structures
- Tables
- Racks
- Guards

ASSEMBLY

- MiniTec power-lock fastener
- Mounting angle
- Screw connection
- The groove on top can be opened at any length by means the groove opener Part N° 26.0815/0

PROFILE 45 X 90 UL

Part N° 20.1067/0



TECHN. DATA/ITEMS SUPPLIED

ix =	73,921	cm ⁴
ly =	19,200	cm ⁴
wx =	16,427	cm ³
wy =	8,533	cm ³
Weight	2,421	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

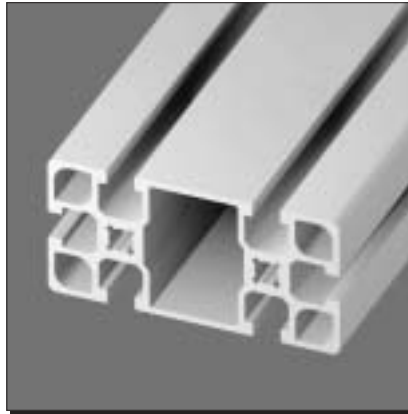
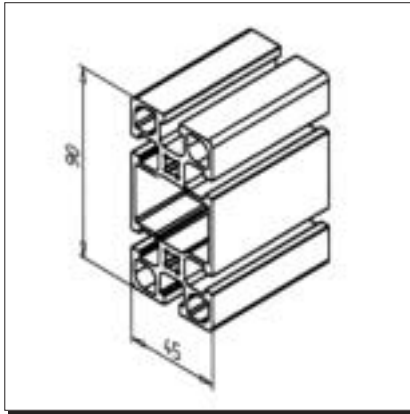
- General weight optimized engineering structures
- Counterweighted sliding-doors
- Counterweighted devices

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90 / 90
- Bolt fastener
- Screw connection

PROFILE 45 X 90 F

Part N° 20.1032/0



TECHN. DATA/ITEMS SUPPLIED

lx =	100,842	cm ⁴
ly =	24,321	cm ⁴
wx =	22,409	cm ³
wy =	10,809	cm ³
Weight	3,134	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

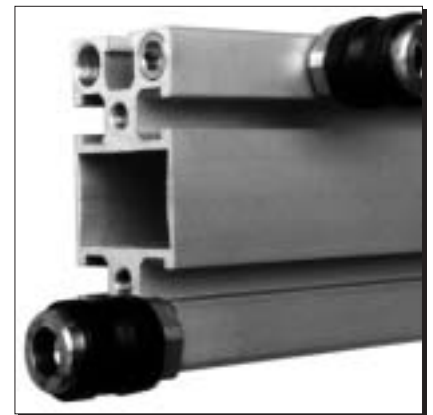
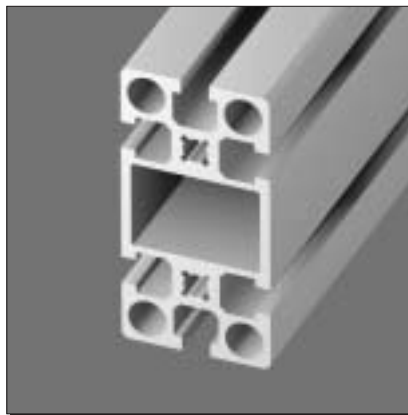
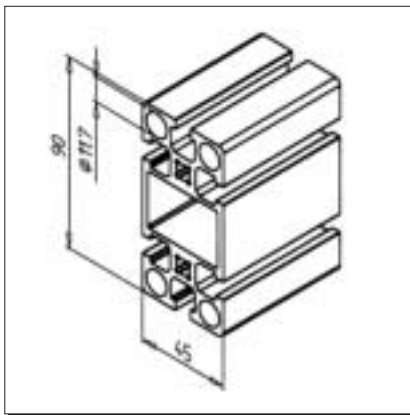
- General constructions
- Counterweighted sliding-doors
- Counterweighted devices

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90 / 90
- Bolt fastener

PROFILE 45 X 90

Part N° 20.1009/0



TECHN. DATA/ITEMS SUPPLIED

lx =	112,822	cm ⁴
ly =	28,526	cm ⁴
wx =	25,072	cm ³
wy =	12,678	cm ³
Weight	3,667	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

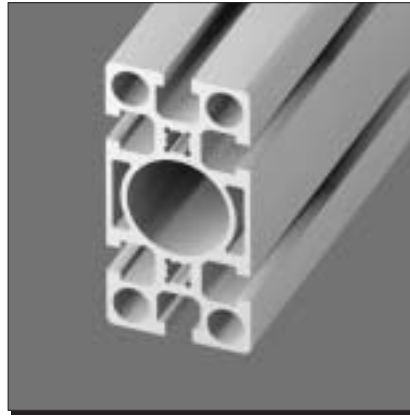
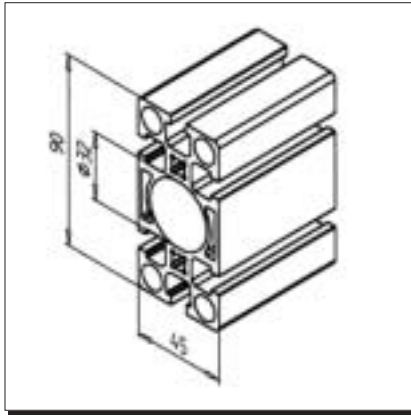
- Universal for general heavy duty constructions
- Four cavities for compressed air piping
- Cavity is not suitable for counterweights

ASSEMBLY

- MiniTec power-lock fastener
- Angle 25 / 45 / 90
- Bolt fastener
- Bores Ø 11,7 mm reborable for piping thread G 1/4" for connection of blanking screws or pneumatic elements
- Lateral connections G 1/8" direct into the profile. Wider connecting-bores by use of pneumatic adapting plate

PROFILE 45 X 90 S

Part N° 20.1017/0



TECHN. DATA/ITEMS SUPPLIED

ix =	113,048	cm ⁴
ly =	30,667	cm ⁴
wx =	25,122	cm ³
wy =	13,630	cm ³
Weight	3,860	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

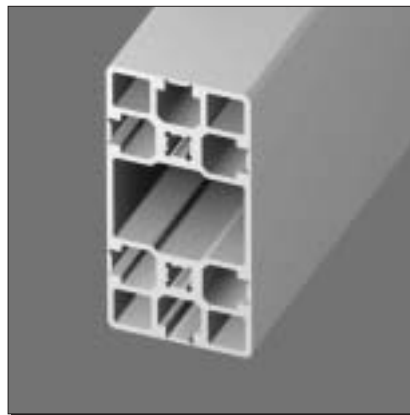
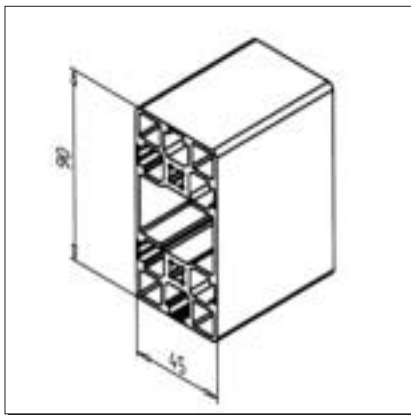
- Universal for general heavy duty constructions
- Linear guides LB
- 5 cavities for pressed air piping
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Cross bolt fastener
- Angle 45 / 90
- Screw connection

PROFILE 45 X 90 G

Part N° 20.1015/0



TECHN. DATA/ITEMS SUPPLIED

ix =	101,249	cm ⁴
ly =	25,326	cm ⁴
wx =	22,500	cm ³
wy =	11,256	cm ³
Weight	3,191	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

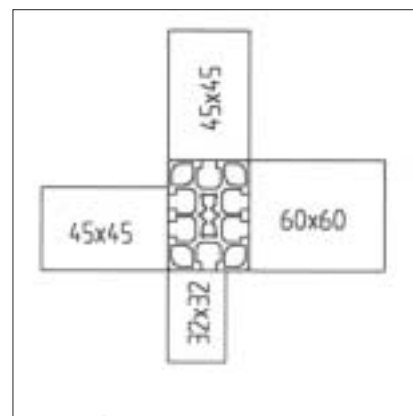
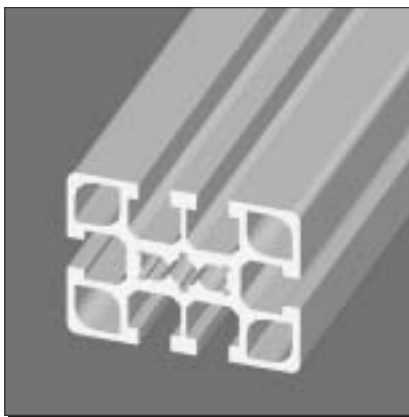
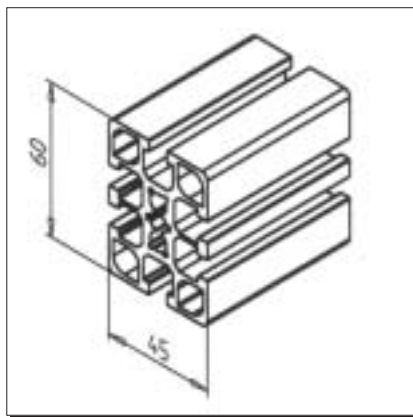
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Guidance of inner counterweights in central cavity

ASSEMBLY

- MiniTec power-lock fastener
- All 6 grooves can be opened up to the length desired
- For series production the groove cover can be removed easily and without burr by means of a groove opener Part N° 26.0815/0

PROFILE 45 X 60 F

Part N° 20.1023/0



TECHN. DATA/ITEMS SUPPLIED

lx =	32,022	cm ⁴
ly =	17,569	cm ⁴
wx =	14,232	cm ³
wy =	5,856	cm ³
Weight	2,603	kg/m
Length	6	m
Packing unit	36	m

APPLICATIONS

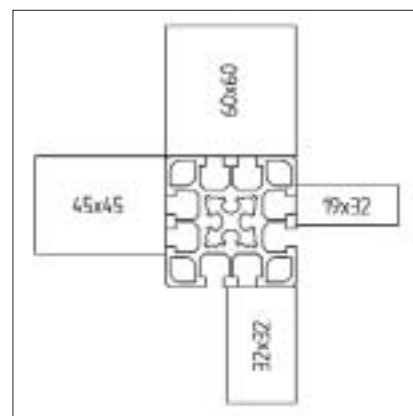
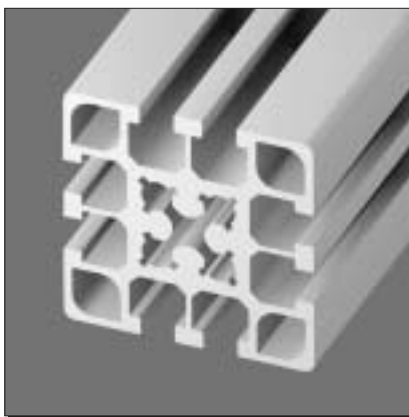
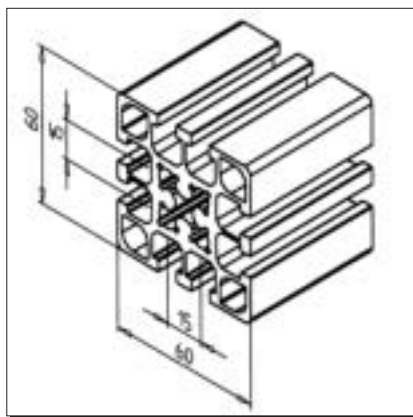
- Universal for general constructions
- Corner post in large guard units
- Compatible with all system profiles

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Central boring for thread M8

PROFILE 60 X 60 F

Part N° 20.1049/0



TECHN. DATA/ITEMS SUPPLIED

lx =	40,665	cm ⁴
ly =	40,665	cm ⁴
wx =	13,555	cm ³
wy =	13,555	cm ³
Weight	3,655	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

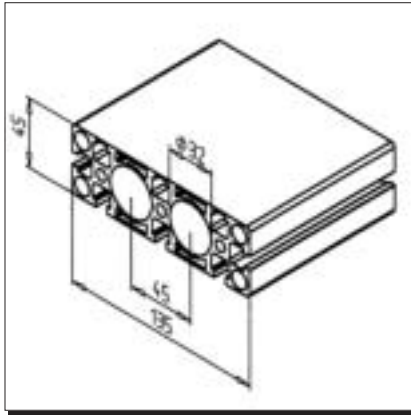
- Universal for general constructions
- Corner post in large guard units
- Compatible with all system profiles

ASSEMBLY

- MiniTec power-lock fastener
- Angle 19 / 25 / 45 / 45 x 90
- Central boring for thread M10

PROFILE 45 X 135 G

Part N° 20.1024/0



TECHN. DATA/ITEMS SUPPLIED

ix =	365,117	cm ⁴
ly =	47,083	cm ⁴
wx =	54,091	cm ³
wy =	20,633	cm ³
Weight	5,742	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

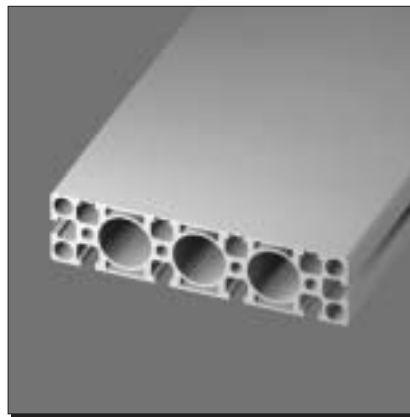
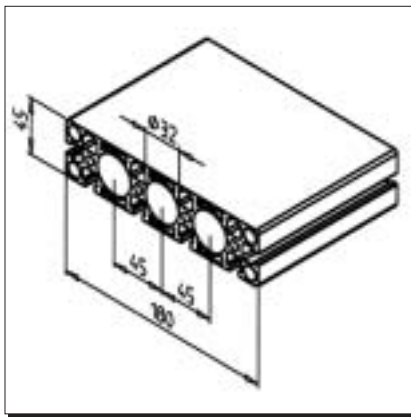
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Linear guiding
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- 3 closed grooves can be opened up to the desired length, by means of the tear-off lever **Part N° 26.0815/0**

PROFILE 45 X 180 G

Part N° 20.1026/0



TECHN. DATA/ITEMS SUPPLIED

ix =	829,808	cm ⁴
ly =	62,494	cm ⁴
wx =	92,201	cm ³
wy =	27,378	cm ³
Weight	7,492	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

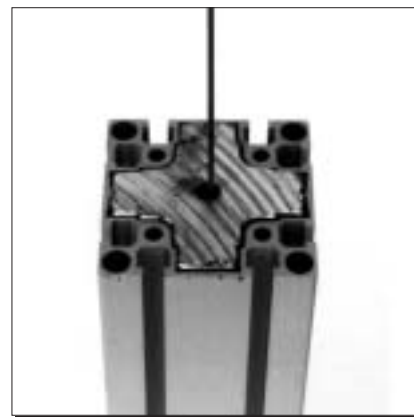
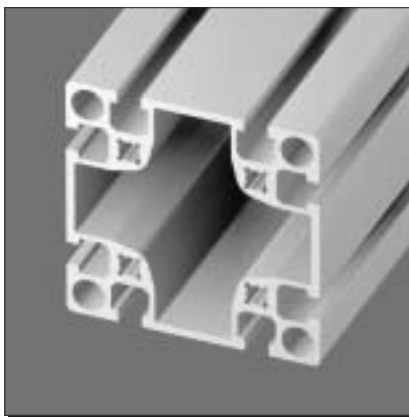
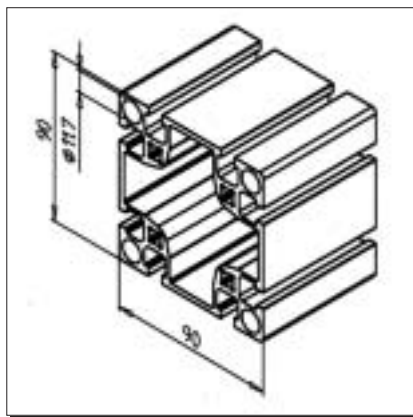
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set
- Linear guiding
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- 4 closed grooves can be opened up to the desired length, by means of the tear-off lever **Part N° 26.0815/0**

PROFILE 90 X 90 L

Part N° 20.1010/0



TECHN. DATA/ITEMS SUPPLIED

lx =	185,880	cm ⁴
ly =	185,880	cm ⁴
wx =	41,307	cm ³
wy =	41,307	cm ³
Weight	5,222	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

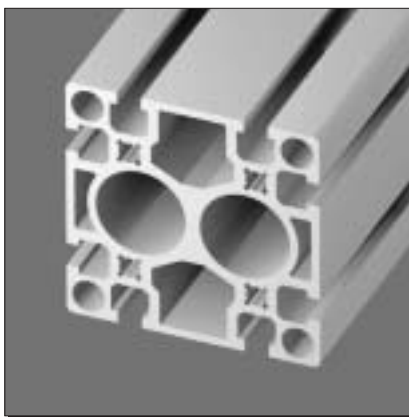
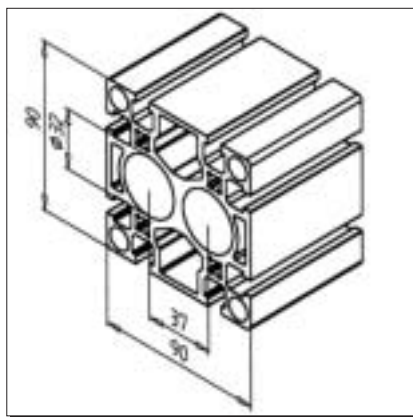
- General heavy duty applications
- Four cavities for compressed air piping
- The central cavity is constructed for guiding counterweights

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 or 90
- Screw connection
- Bolt fastener

PROFILE 90 X 90 S

Part N° 20.1019/0



TECHN. DATA/ITEMS SUPPLIED

lx =	223,514	cm ⁴
ly =	208,361	cm ⁴
wx =	49,670	cm ³
wy =	46,302	cm ³
Weight	7,514	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

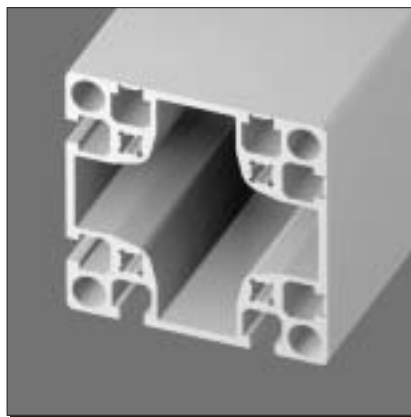
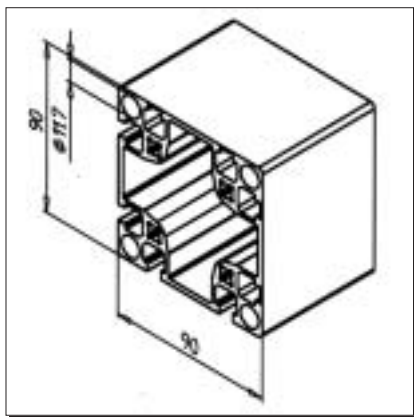
- Universal for general heavy duty constructions
- Linear guiding
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 or 90
- Screw connection

PROFILE 90 X 90 2G

Part N° 20.1044/0



TECHN. DATA/ITEMS SUPPLIED

ix =	190,967	cm ⁴
ly =	190,967	cm ⁴
wx =	41,998	cm ³
wy =	41,998	cm ³
Weight	5,333	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

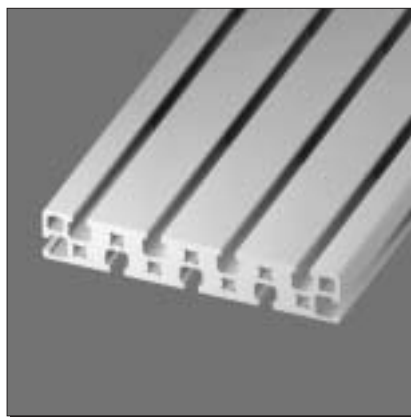
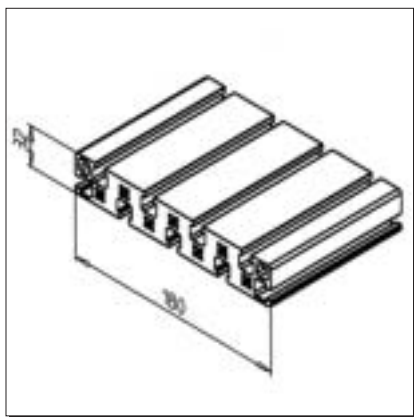
- Grooves can be teared off
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standarts are set

ASSEMBLY

- MiniTec power-lock fastener
- 4 closed grooves can be opened up to the desired length, by means of the tear-off lever **Part N° 26.0815/0**

PROFILE 32 X 180

Part N° 20.1016/0



TECHN. DATA/ITEMS SUPPLIED

ix =	843,491	cm ⁴
ly =	33,798	cm ⁴
wx =	93,721	cm ³
wy =	21,058	cm ³
Weight	9,539	kg/m
Length	6	m
Packing unit	6	m

APPLICATIONS

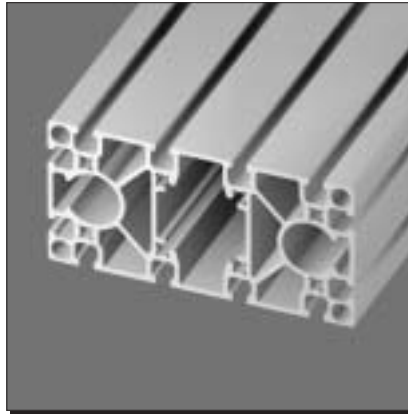
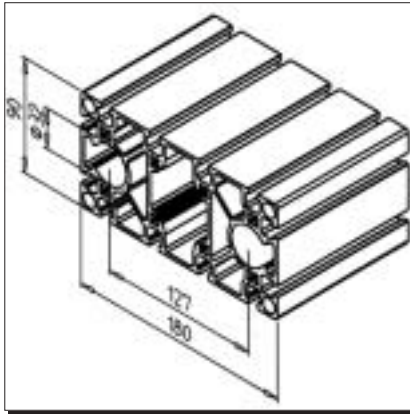
- Slides for MiniTec- linear system LR
- Clamping surfaces
- Haevy duty constructions

ASSEMBLY

- MiniTec power-lock fastener
- Cross bolt fastener
- Angle 45 or 90
- Screw connection

PROFILE 90 X 180 S

Part N° 20.1013/0



TECHN. DATA/ITEMS SUPPLIED

lx =	1411,317	cm ⁴
ly =	373,180	cm ⁴
wx =	156,813	cm ³
wy =	82,929	cm ³
Weight	11,424	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

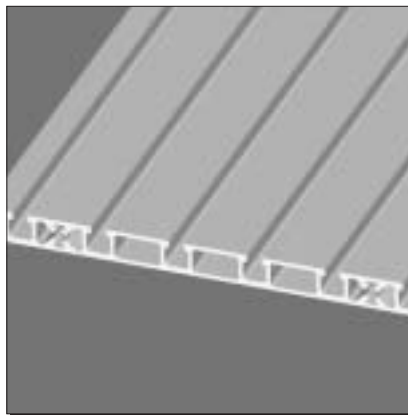
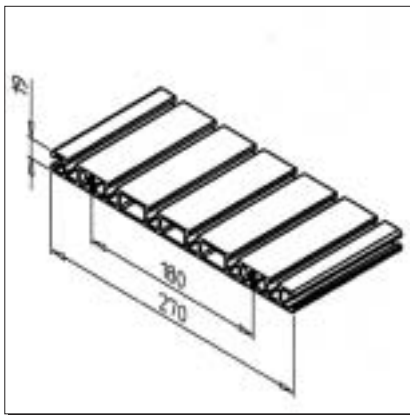
- Universal for general heavy duty constructions
- Linear guiding LB as slide
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 or 90
- Screw connection

PROFILE 19 X 270

Part N° 20.1077/0



TECHN. DATA/ITEMS SUPPLIED

lx =	1320,358	cm ⁴
ly =	10,252	cm ⁴
wx =	97,804	cm ³
wy =	10,060	cm ³
Weight	5,507	kg/m
Length	6	m
Packing unit	18	m

APPLICATIONS

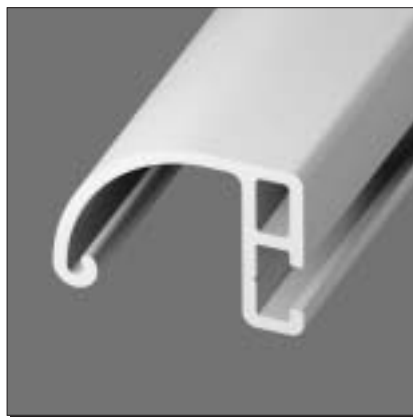
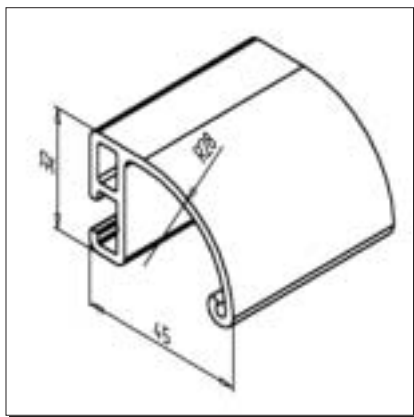
- table tops
- Workstations
- Didactic installations i.e. pneumatic, electronics, automatic-control

ASSEMBLY

- Minitec power-lock fastener
- Angle 19

HANDLE PROFILE

Part N° 20.1045/0



TECHN. DATA/ITEMS SUPPLIED

ix =	7,709	cm ⁴
ly =	3,551	cm ⁴
wx =	2,884	cm ³
wy =	1,995	cm ³
Weight	0,890	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

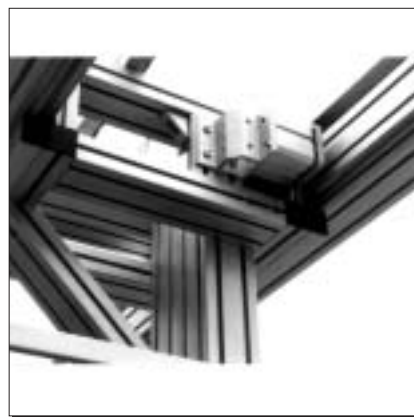
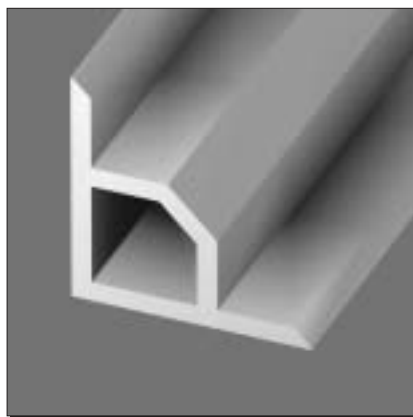
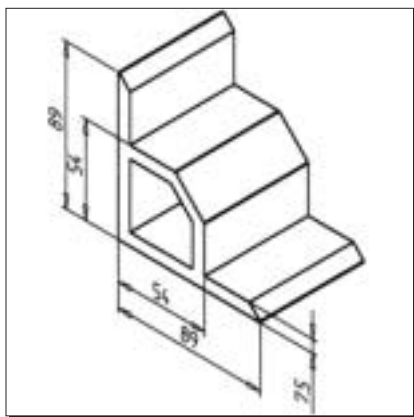
- Handles of different lengths
- Edges
- Table edges
- Cover ledge for cable, pneumatic conducts

ASSEMBLY

- Screw connection
- Mounting angle
- Lateral cover with end caps left Part N° 22.1055/0 and right Part N° 22.1054/0

ANGULAR PROFILE 89 X 89

Part N° 20.1011/0



TECHN. DATA/ITEMS SUPPLIED

ix =	105,416	cm ⁴
ly =	105,416	cm ⁴
wx =	17,413	cm ³
wy =	17,413	cm ³
Weight	4,868	kg/m
Length	6	m
Packing unit	72	m

APPLICATIONS

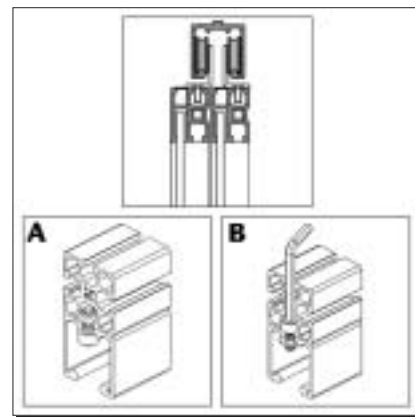
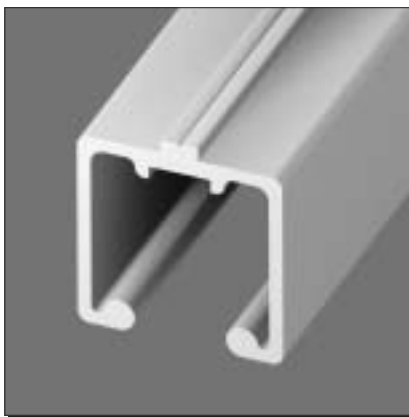
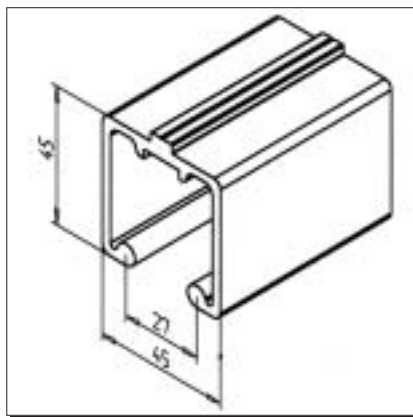
- Consoles
- Supports
- Material for special mounting angles

ASSEMBLY

- Screws M8 x 20 and square nuts M8

SLIDING DOOR PROFILE

Part N° 20.1038/0



TECHN. DATA/ITEMS SUPPLIED

$I_x =$	15,604	cm ⁴
$I_y =$	15,366	cm ⁴
$w_x =$	6,935	cm ³
$w_y =$	5,924	cm ³
Weight	1,470	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

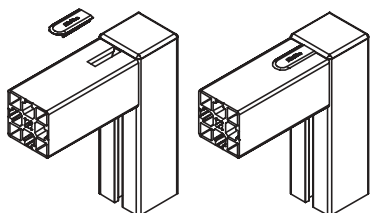
- Two wing sliding doors
- One wing sliding doors

ASSEMBLY

- Drill \varnothing 8,5 mm holes in centering groove; bore pitch: 250 - 400 mm depending on the load
- A) Position M8 F square nuts in the supporting profile and fasten the sliding rail profile with M8 x 25 cap screw
- B) Drill holes or step holes in the supporting profile and insert the square nuts in the sliding profile; the nuts are secured against torsion

END CAPS

All end caps are non-aging and oil-resistant ABS, grey, thickness 3 mm. The end caps are also available in black on demand. For cut-off face covering of profiles. Therefore no burr removal necessary.

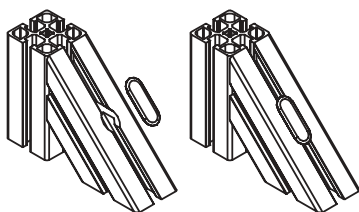


End cap G

Designation

Part no. End cap

End cap G	22.1056/1
End cap GL	22.1208/1
Lamellar plug 7	22.1200/1
Lamellar plug 9	22.1201/1
Lamellar plug 15	22.1202/1



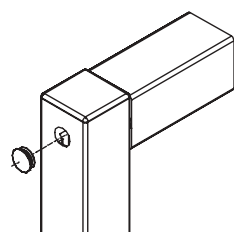
End cap GL

For profile:

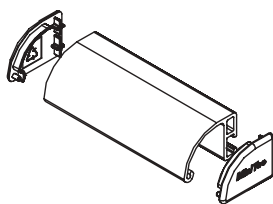
Part no. Profile

Part no. End cap

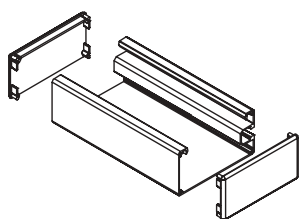
19 x 32	20.1000/0	22.1060/1
19 x 45	20.1001/0	22.1064/1
45 x 19	20.1012/0	22.1063/1
32 x 32 UL	20.1064/0	22.1032/1
32 x 32 F	20.1054/0	22.1032/1
Clamp profile 32 x 32	20.1068/0	22.1032/1
45 x 32 UL	20.1065/0	22.1065/1
45 x 32 F	20.1055/0	22.1065/1
Clamp profile 45 x 32	20.1053/0	22.1046/1
45 x 45 UL	20.1063/0	22.1067/1
45 x 45 F	20.1033/0	22.1067/1
45 x 45	20.1006/0	22.1067/1
45 x 45 G	20.1028/0	22.1067/1
45 x 45 2G	20.1072/0	22.1067/1
45 x 45 3G	20.1048/0	22.1067/1
45 x 45 R	20.1046/0	22.1065/1
45 R 90°	20.1069/0	22.1034/1
45/45°	20.1029/0	22.1051/1
45/22,5°	20.1030/0	22.1052/1
90 x 19	20.1031/0	22.1053/1
90 x 32 UL	20.1066/0	22.1061/1
45 x 90 UL	20.1067/0	22.1068/1
45 x 90 F	20.1032/0	22.1068/1
45 x 90	20.1009/0	22.1068/1
45 x 90 S	20.1017/0	22.1068/1
45 x 90 G	20.1015/0	22.1068/1
45 x 60 F	20.1023/0	22.1058/1
60 x 60 F	20.1049/0	22.1057/1
45 x 135 G	20.1024/0	22.1049/1
45 x 180 G	20.1026/0	22.1048/1
90 x 90 L	20.1010/0	22.1069/1
90 x 90 S	20.1019/0	22.1069/1
90 x 90 2G	20.1044/0	22.1069/1
32 x 180	20.1016/0	22.1059/1
90 x 180 S	20.1013/0	22.1069/1
19 x 270	20.1077/0	22.10
Handle profile right	20.1045/0	22.1054/0
Handle profile left	20.1045/0	22.1055/0
Conduit 90 AI	20.1056/0	22.1045/0



Lamellar plug



End cap handle profile



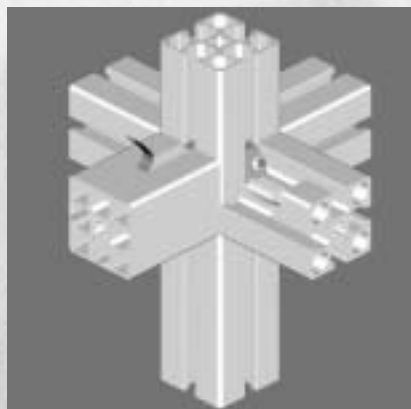
90 AI cable channel



FASTENING ELEMENTS

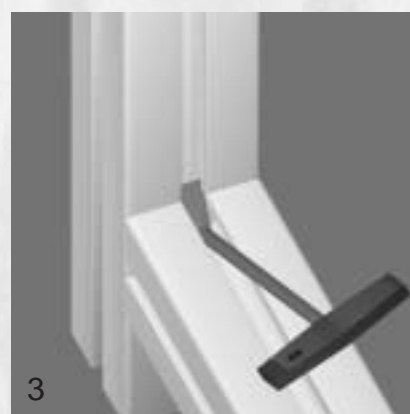
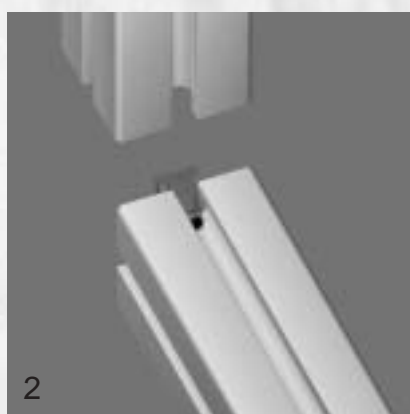
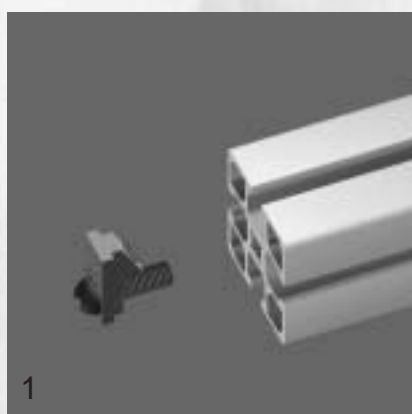


MINITEC - POWER LOCK FASTENER



Applications Extremely strong power-lock connection. Accurate location of the profiles, integrated mounting-aid, moveable, low-cost due to minimal processing. Can be used for all types of constructions.

Assembly For direct self-tapping of screw M8 into core bore or processing by using a thread former



Assembly

- 1 Screw the fastener by hand into the end of the profile 1.
- 2 Bring 2nd profile to the required position.
- 3 Tighten the set-screw M8 with hexagon key 4 A/F with T-handle. Recommended locking torque: ~12 Nm

Advantages

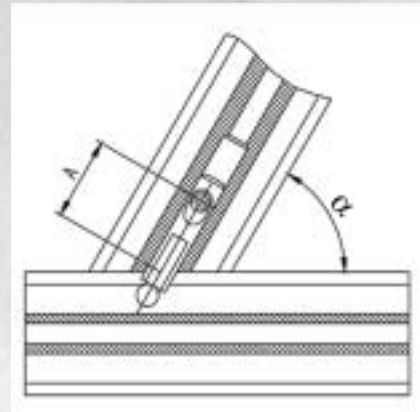
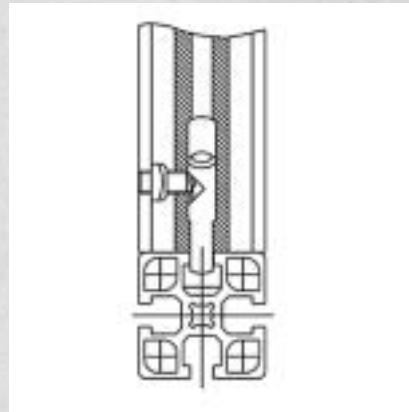
- The groove of the profile connection remains free for panels, etc.
- The connection is invisible from outside.
- Subsequently easily adjustable
- Power-locked in correct position
- Static load: 6000 N (UL profile: 4000 N)
- Easy construction of cross-joints
- Electrically conductive connection

MITRE CONNECTIONS

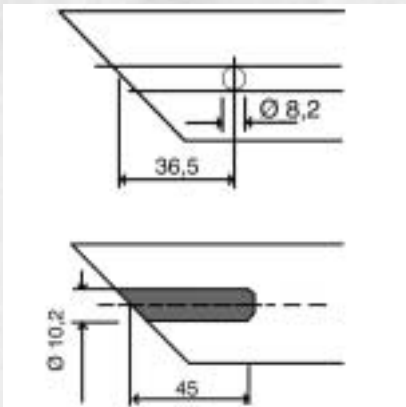
Mitre connector N

Drill $\varnothing 10.2$ mm bore in the profile core bore. Drill $\varnothing 8.2$ mm bore depending on the angle and at distance A from the profile end (see table). Insert the mitre connector in the open profile end, position the M8 square nut with the setscrew and tighten it.

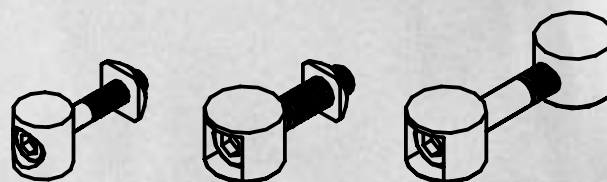
Angle α	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
Distance A (mm)	21	24	26	28	29	30	30.5	31	31.5	32	32	32	32

**Mitre connector**

Drill $\varnothing 10.2$ mm bore in the profile core bore. Drill $\varnothing 8.2$ mm bore at the distance 36.5 mm from the profile end. Insert the mitre connector in both open profile ends, position the M8 square nut with the setscrew, and tighten it.



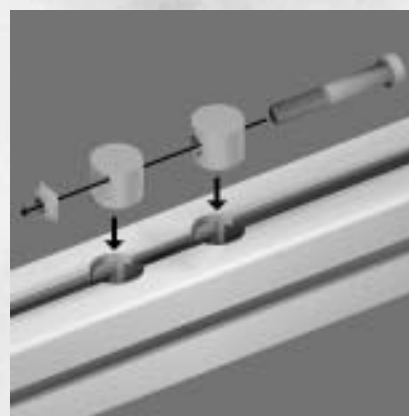
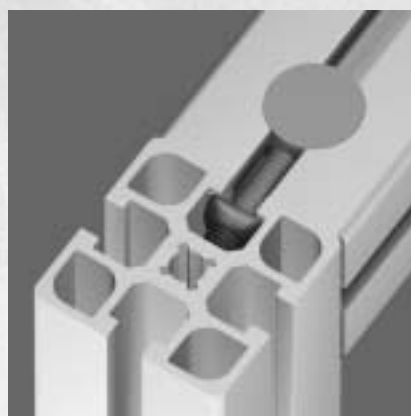
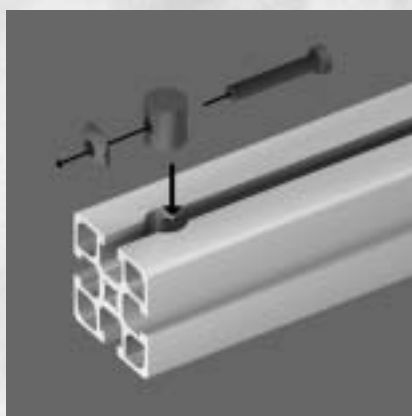
BOLT AND BUTT FASTENER



Application Subsequent assembly of profiles into existing frames, extension of profiles.

Processing Step drilling $\varnothing 7 / \varnothing 20$ mm, resp. $\varnothing 9 / \varnothing 15$ mm depth: 16 mm, position: middle of the groove, 20 mm from profile end.

- Subsequent mounting of profiles into existing frames.
- Adjustable
- Extension of profiles



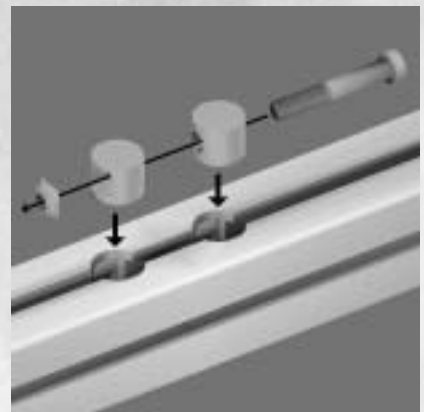
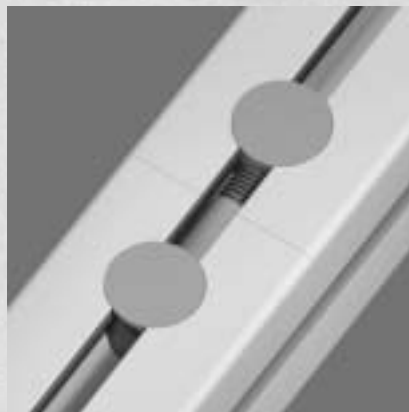
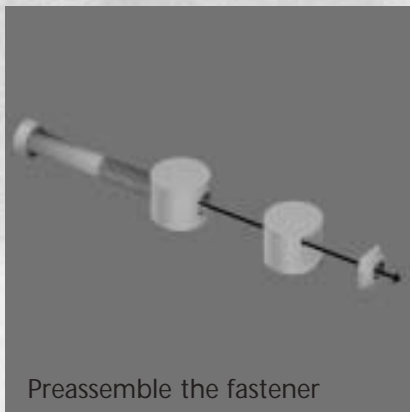
Assembly

- 1 Insert hex screw M8 x 35 in bolt and – if possible – preassemble square nut into second profile
- 2 Insert bolt in step drilling and connect with square nut.
- 3 Pretighten with ball-headed key 5 A/F.
Final tightening with L-key 5 A/F.

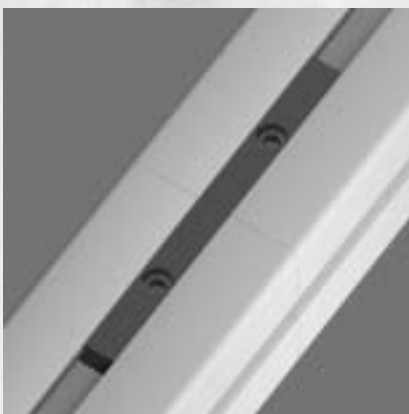
- Recommended locking torque: 15 Nm
- Static load: 3500 N

BUTT FASTENER

- Butt Fastener** Insert the fastener into the bore holes $\varnothing 7 \times 20$ mm. Tighten the fastener with L-key 5 A/F.
- Recommended locking torque: 15 Nm



- T-Slot Bars** Profile connection with steel t-slot bars. You can achieve optimum strength by combining the two extension methods.

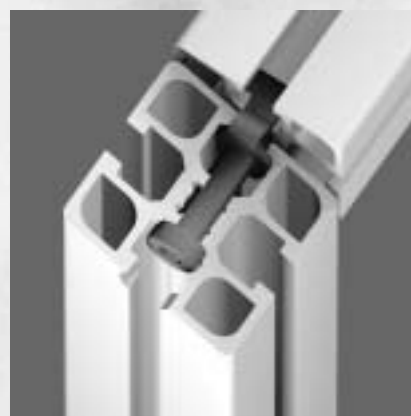
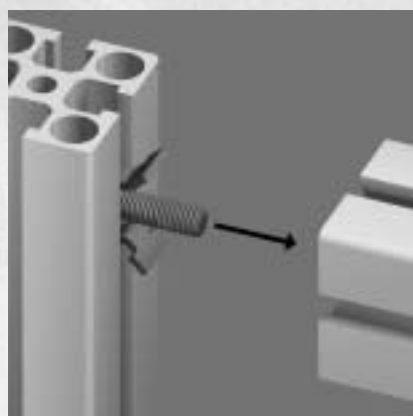


SCREW CONNECTION



Application Connections which must be secured against dislocation.

Processing Thread M8; step drilling $\varnothing 9 / \varnothing 15$ mm with drilling jig
Part no. 26.1092/0 for insert screw M8 x 50

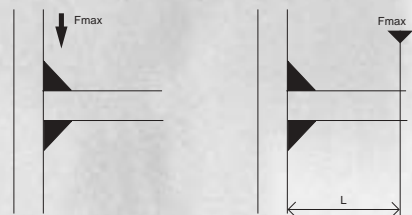


- Assembly**
- Form the tread M8 with thread former
 - Drill the through hole bore 9 x 15 at the position where the connection is required.
 - Insert the position fixing element and the screw.
 - Tighten the screw with hexagon key 5 A/F
- Definitely secured against dislocation
 - Static load: 18000 N
 - Recommended locking torque: 20 Nm

MOUNTING ANGLES



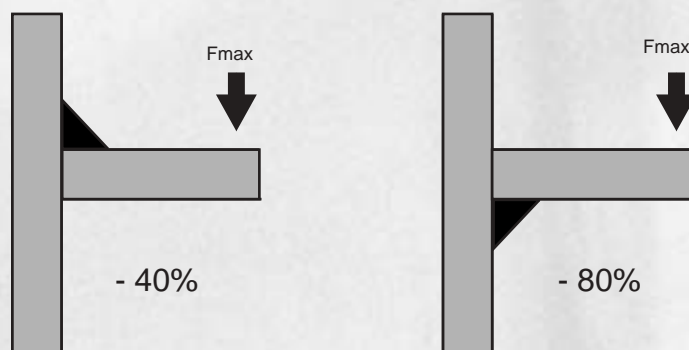
- None processing
- Suitable for subsequent mounting of profiles into existing frames
- Adjustable



Load Capacity:	Angle 19:	2 screws	1.200 N	400 Nm
	Angle 25:	2 screws	1.200 N	400 Nm
	Angle 45:	2 screws	1.200 N	400 Nm
	Angle 45 x 90:	4 screws	2.400 N	800 Nm
	Angle 90:	8 screws	4.800 N	1.600 Nm

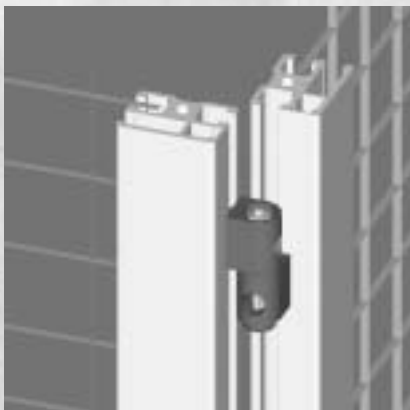
These values are valid only for angles mounted in pairs (up and downside as shown in the pictures).

If used one-sided, the load reduces as follows:

**Assembly**

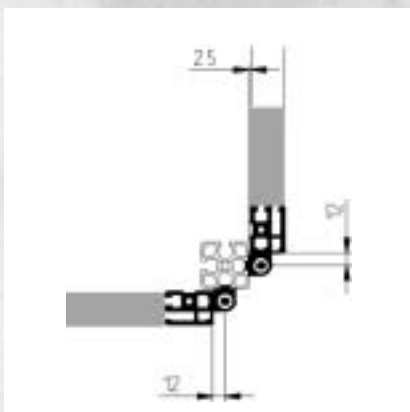
1. Preassemble the angle with necessary screws and nuts M8.
2. Fix the angle slightly at the vertical profile in the desired position.
3. Insert the horizontal profile and tighten all screws.
Recommended locking torque: 20 Nm

GUARD UNIT WITH ADJUSTABLE FIXING ANGLE

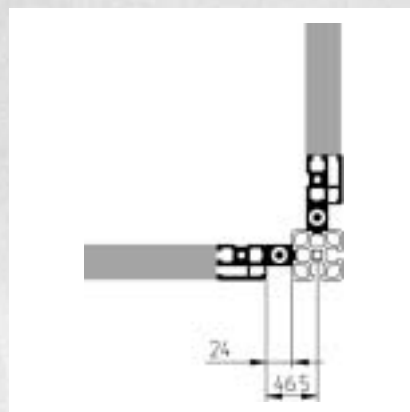


For fixing of MiniTec-aluminium profile guard units and erection of protective guard units at any angle.

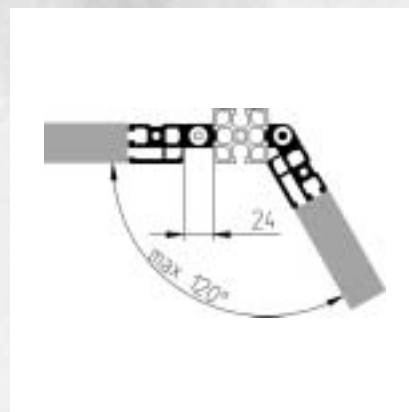
Assembly options:



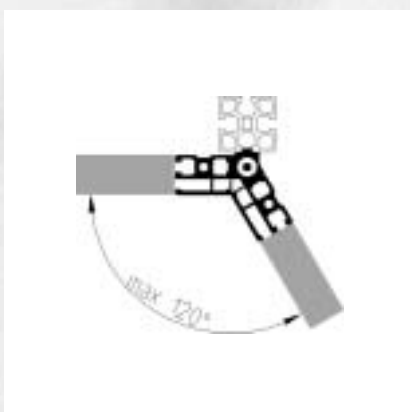
Without gap between guard unit and post



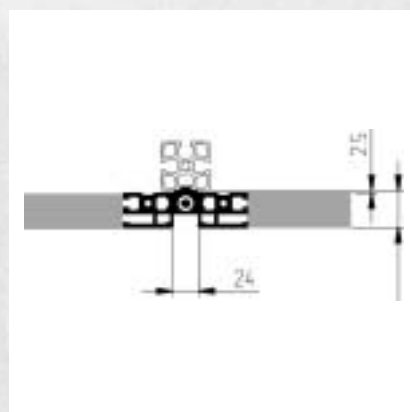
24 mm gap between guard unit and post



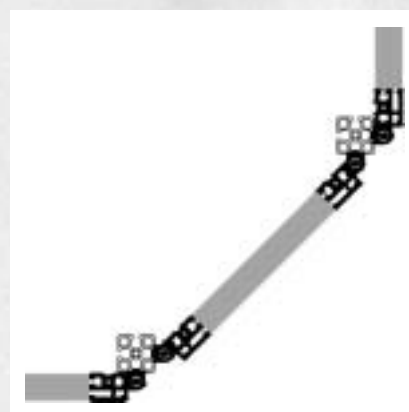
24 mm gap between guard unit and post



No gap between guard unit and post

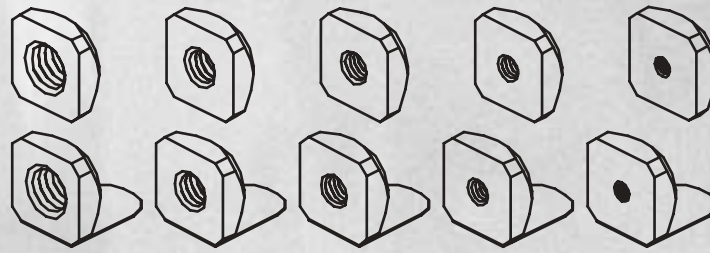


No gap between guard unit and post

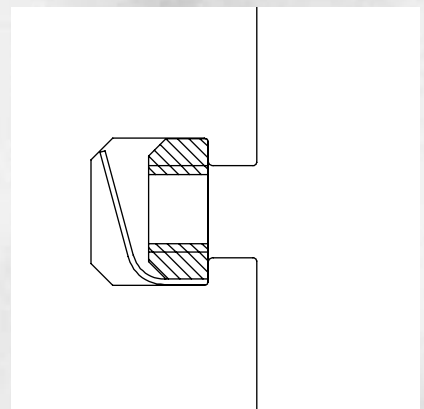
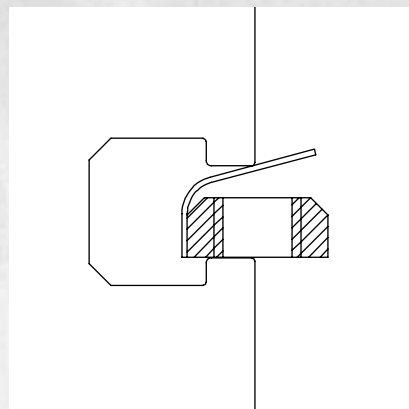
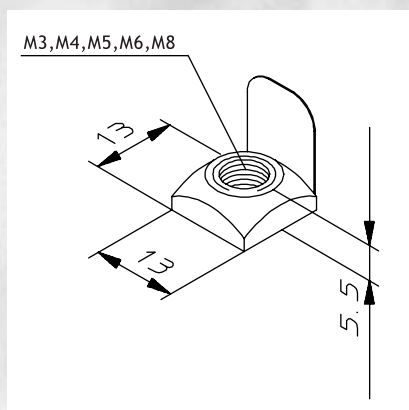


No gap between guard unit and post

SQUARE NUTS



Application Economical and easy fixing of fasteners and elements available with threads M3, M4, M5, M6 and M8.

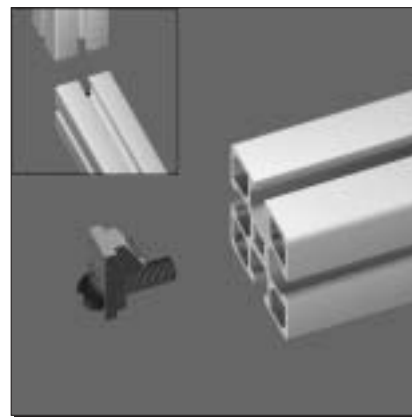
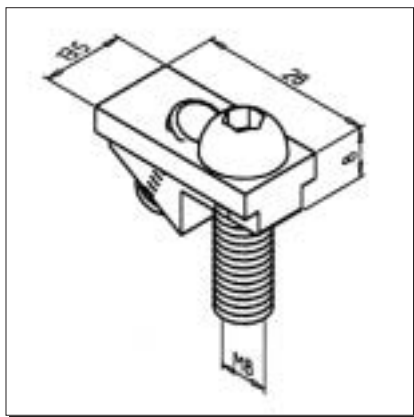


Assembly For applications in vertical profiles use special nuts with position-fixing. The spring metal keeps the nut in the desired position. Moveable by screw-driver.

- Insertable into the profile groove at any desired point.

MINITEC POWER-LOCK FASTENER

Part N° 21.1018/0



TECHN. DATA/ITEMS SUPPLIED

- 1 connecting element, stainless steel

- 1 Hex socket cap screw M8 x 25, stainless steel

Weight 0,029 kg

Stainless version Part N° 21.1018/1

APPLICATIONS

- Power-lock connection for all profiles, also suitable for crossjoints

- For larger profile sections several fasteners can be used

- For all profiles

ASSEMBLY

- Mount fastener by hand onto profile-face

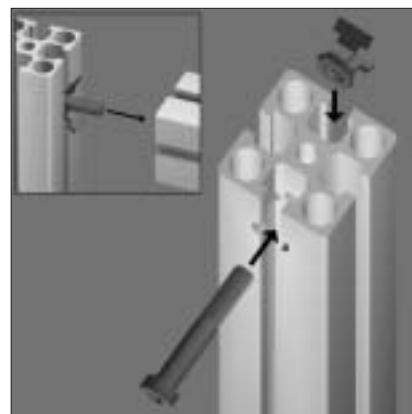
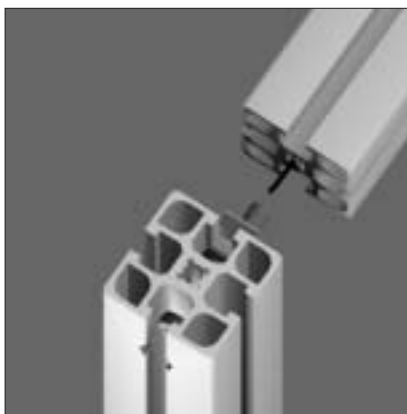
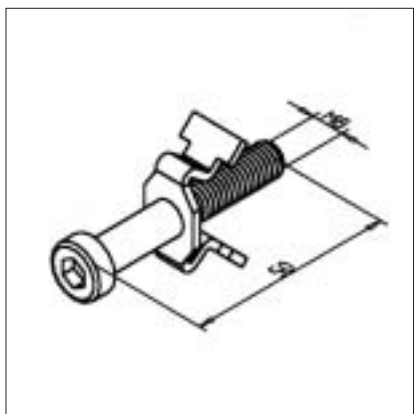
- Tighten setscrew M8 with key SW 4

- Recommended locking torque 12Nm

- See page 60

SCREW CONNECTION

Part N° 21.1017/0



TECHN. DATA/ITEMS SUPPLIED

- Hex socket cap screw M8 x 50, zinc plated

- Position fixing element, steel zinc plated

Weight 0,029 kg

APPLICATIONS

- Profile connections which must be secured against dislocation

ASSEMBLY

- Form thread M8 x 25 into the profile to be fixed

- Bore step-drilling $\varnothing 9 \times 15$ at the position of required connection

- Insert the position-fixing element into the groove and put the screw through the bore of the element

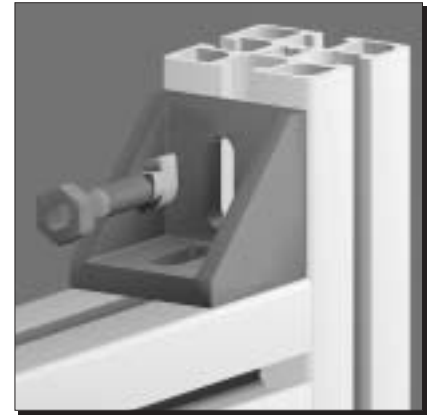
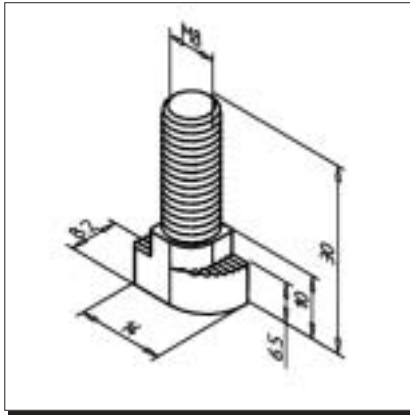
- Tighten the screw

- Recommended locking torque: 20 Nm

- see page 64

HAMMER HEAD SCREW

Part N° 21.1370/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

Weight 0,012 kg

APPLICATIONS

- Simple attachment of add-on parts or accessories on profiles

- Attachment of mounting angle 45 GD Part N° 21.1133/0 and 90 GD Part N° 21.1000/0

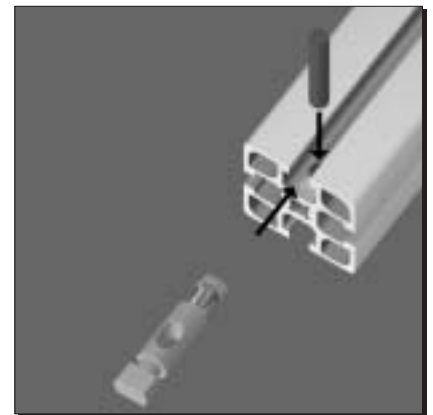
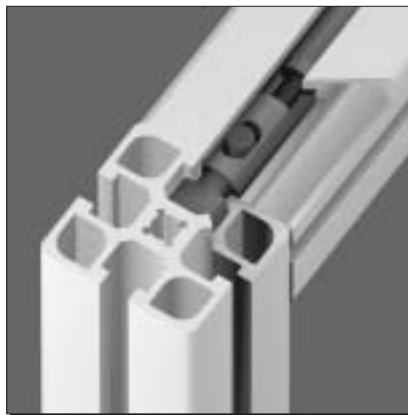
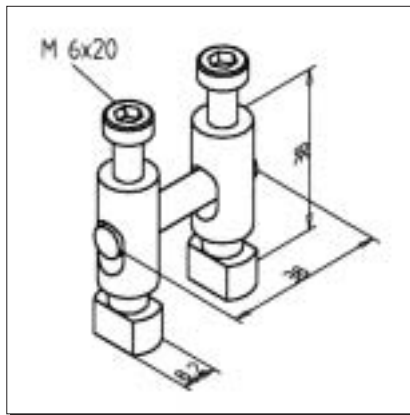
ASSEMBLY

- Insert hammer head bolt into profile groove, tighten nut M8

- When tightening the nut, the hammer head will turn crosswise

CROSS BOLT FASTENER

Part N° 21.1036/0



TECHN. DATA/ITEMS SUPPLIED

- 2 stretch connectors, steel zinc plated

- 1 cross-bolt \varnothing 7, special steel

- 2 hex socket cap screws M6 x 20

Weight 0,067 kg

APPLICATIONS

- Fitting to all profiles

- For subsequent fitting of profiles into existing frames

ASSEMBLY

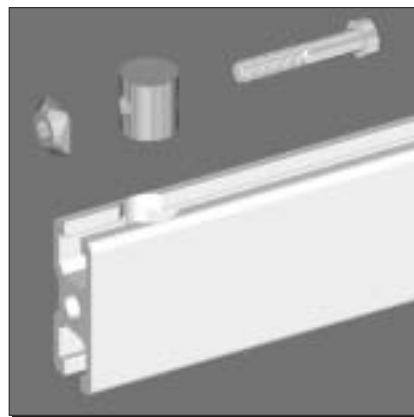
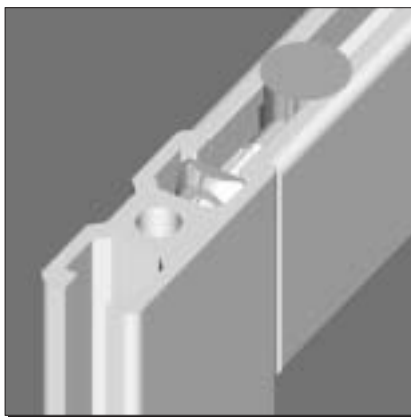
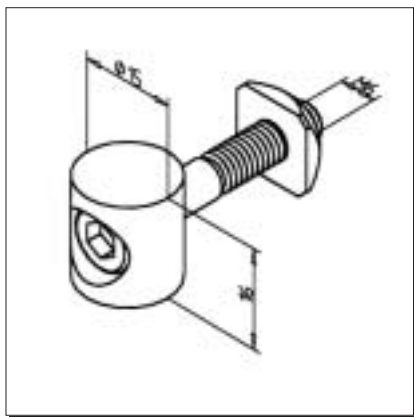
- Drill cross bore \varnothing 7,5 mm; 12 mm from profile end

- Insert stretch connectors into profile grooves and cross-bolt through connectors

- Pre-tighten the screws M6 with ball-headed key 5 A/F, final tightening with L- key

BOLT FASTENER 15

Part N° 21.1024/0



TECHN. DATA/ITEMS SUPPLIED

- 1 bolt aluminium
 - Fixing kit
- Weight 0,032 kg

APPLICATIONS

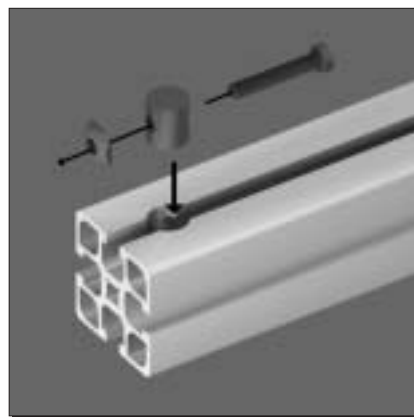
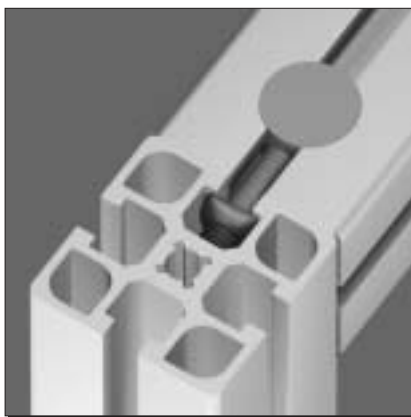
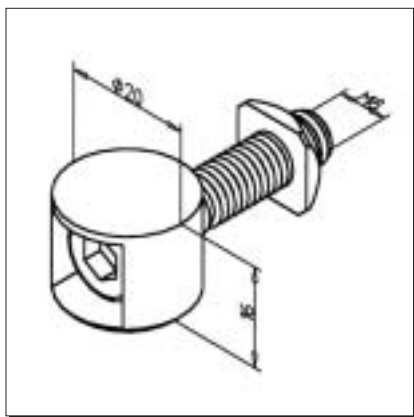
- For connection of profiles 19 and 32
- Particularly useful for profiles which have to be fitted subsequently into existing constructions

ASSEMBLY

- Step drilling $\varnothing 9 \times 15$, depth 16 mm, positioned 22,5 mm from profile end to the middle of the groove
- Insert the bolt into the step drilling and pretighten by using ball-headed key 4 A/F
- Final tightening with L- key
- Recommended locking torque: 15 Nm
- See page 62

BOLT FASTENER 20

Part N° 21.1021/0



TECHN. DATA/ITEMS SUPPLIED

- 1 Bolt GD Zn
 - Fixing kits
- Weight 0,037 kg

APPLICATIONS

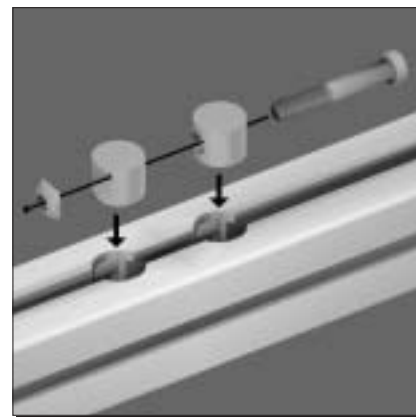
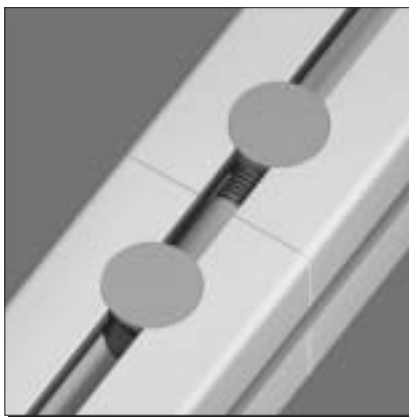
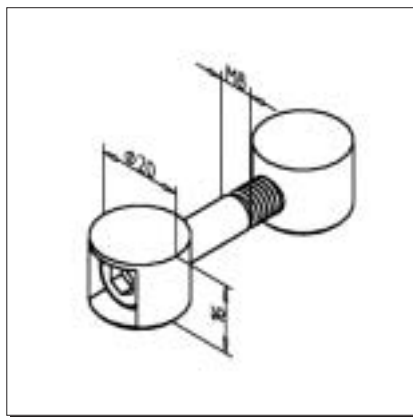
- For connection of all profiles
- Particularly useful for Profiles which have to be fitted subsequently into existing constructions
- For connection of profile 45 x 19

ASSEMBLY

- Step drilling $\varnothing 7 \times 20$, depth 16mm, positioned 22,5 mm from profile end to the middle of the groove
- Insert the bolt into the step drilling and pretighten by using ball-headed key 5 A/F
- Final tightening with L- key
- Recommended locking torque: 15 Nm
- See page 62

BUTT FASTENER

Part N° 21.1020/0



TECHN. DATA/ITEMS SUPPLIED

- 2 Bolts GD Zn

- Fixing kit

Weight 0,054 kg

APPLICATIONS

- Profile extension

ASSEMBLY

- Step drilling $\varnothing 7 \times 20$, depth 16 mm, positioned 22,5 mm from profile end to the middle of the groove

- Insert the fastener and pretighten the screw with a ball-headed key 5 A/F

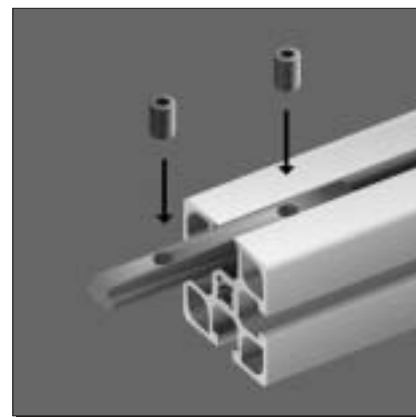
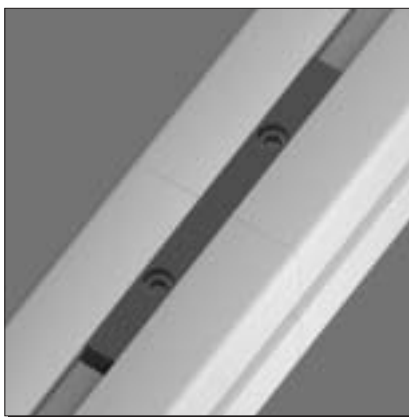
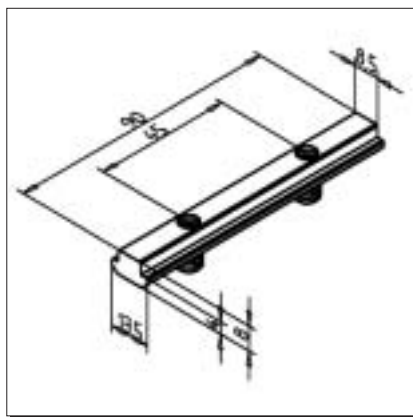
- Final tightening with L- key

- Recommended tightening torque: 15 Nm

- See page 62

T-SLOT BAR 90

Part N° 21.1029/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated

- 2 set-screws M8 x 14, 4 A/F, zinc plated

Weight 0,060 kg

Stainless version Part N° 21.0992/0

APPLICATIONS

- Profile extension

- Fixing of bearings for linear guides

ASSEMBLY

- Insertion into the profile groove

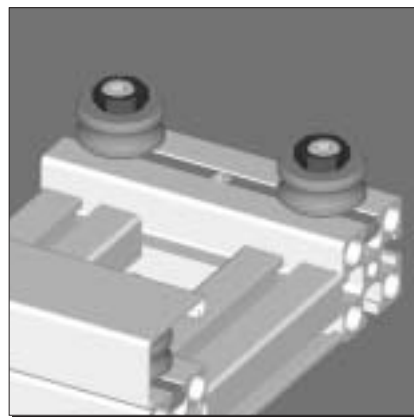
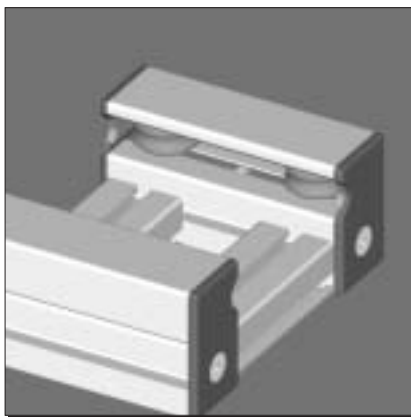
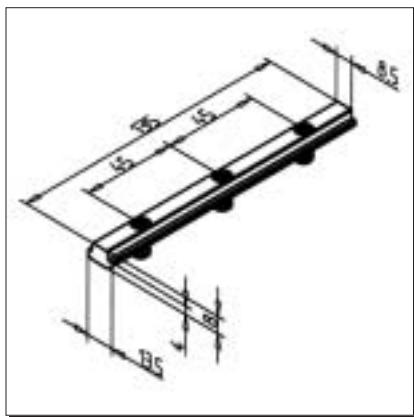
- Clamp with set-screw

- No processing required

- For larger profiles or heavy - duty applications use multiple t-slot bars

T-SLOT BAR 135

Part N° 21.0988/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
- 3 set-screws M8 x 14, 4 A/F, zinc-plated
- Weight 0,089 kg
- Stainless version Part N° 21.0987/0

APPLICATIONS

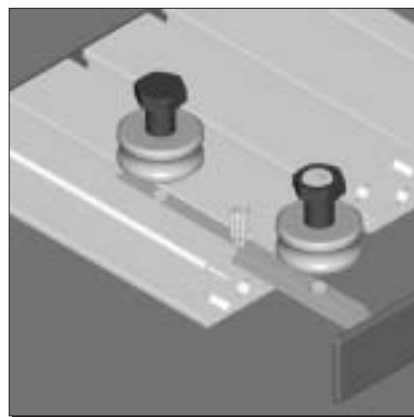
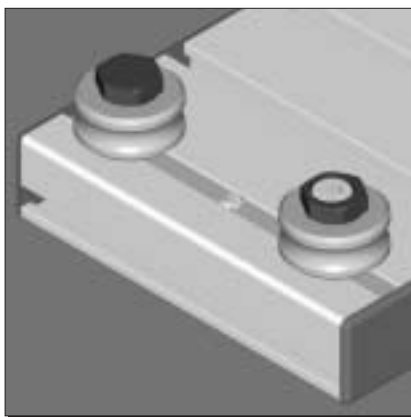
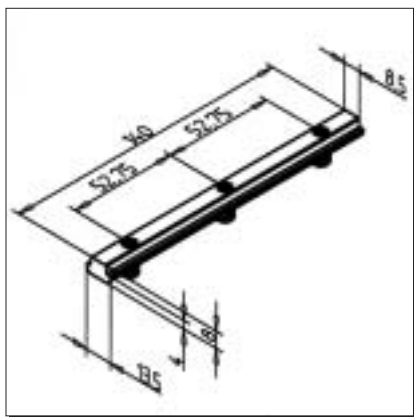
- Fixing of bearings in standard slide LW

ASSEMBLY

- Insertion into the profile groove
- No processing required

T-SLOT BAR 140

Part N° 28.0026/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated
- 3 set screws M8 x 14, 4 A/F, zinc plated
- Weight 0,094 kg
- Stainless version Part N° 28.0030/0

APPLICATIONS

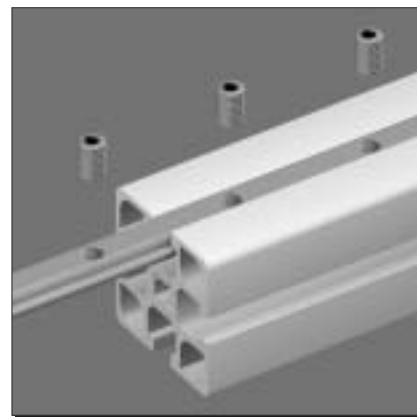
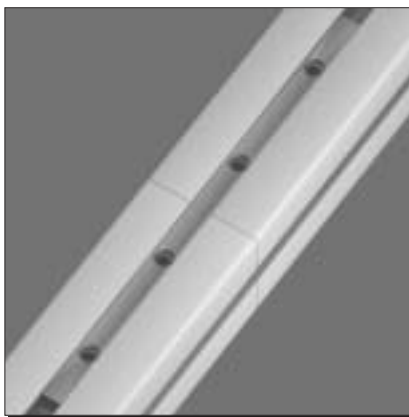
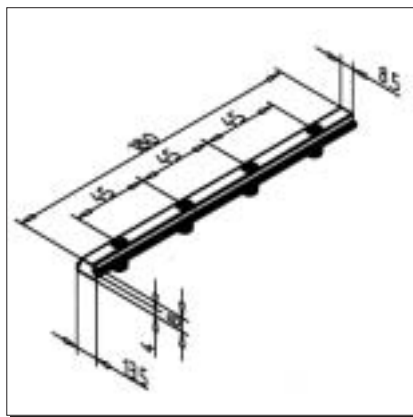
- Fixing of bearings in linear slides LW 32 E

ASSEMBLY

- Insertion into the profile groove
- No processing required

T-SLOT BAR 180

Part N° 21.1101/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated
- 4 Set -screws M8 x 14, 4 A/F, zinc plated

Weight 0,120 kg

Stainless version Part N° 21.0987/0

APPLICATIONS

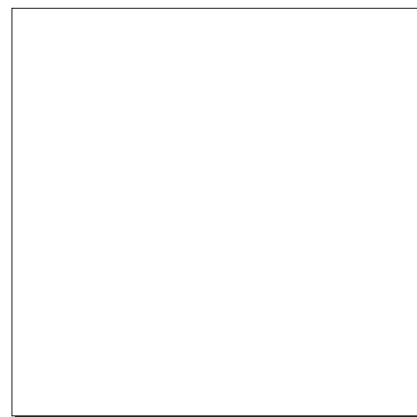
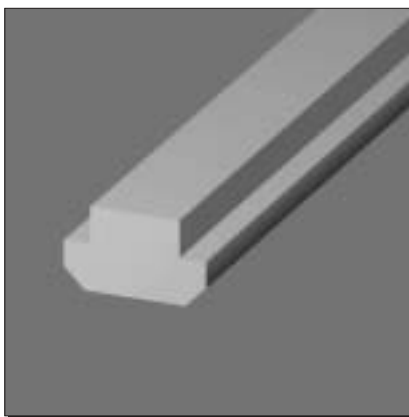
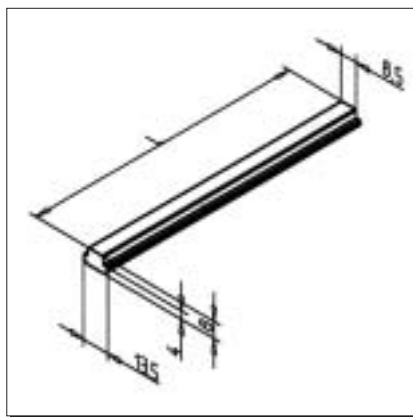
- Face fastening of profiles or ready-for-use elements
- Profile extension
- Fixing of bearings for linear guides

ASSEMBLY

- Insertion into the profile groove
- No processing required
- For larger profiles or heavy-duty applications use multiple t-slot bars
- See page 61

T-SLOT BAR PROFILE

Part N° 21.1030/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, plain

Weight 0,680 kg/m

Length 3 m

Stainless version Part N° 21.1030/1

APPLICATIONS

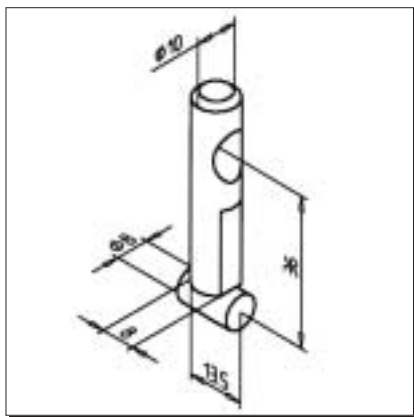
- Production of clamping ledges, connecting elements for special lengths
- Production of reinforcing elements
- Ledges with special perforation

ASSEMBLY

- Insertion into the profile groove

MITRE CONNECTOR N

Part N° 21.1401/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Fixing kit

Weight 0,051 kg

APPLICATIONS

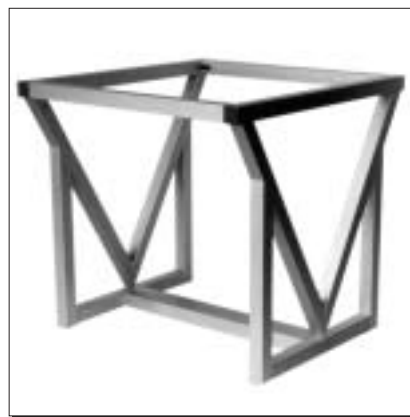
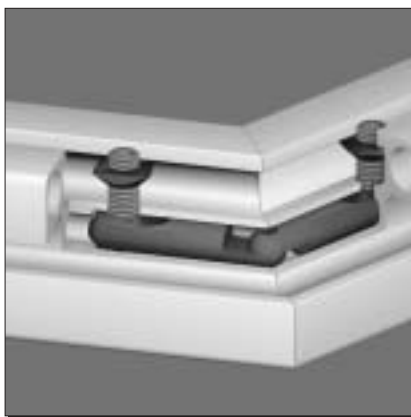
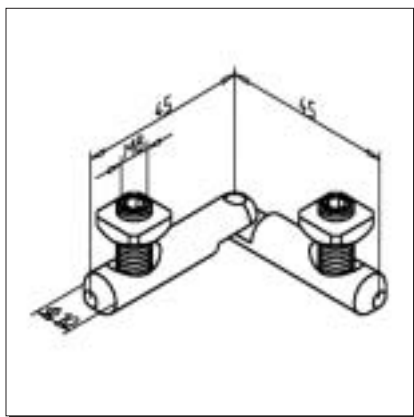
- Mitre connection of profiles on profile groove

ASSEMBLY

- Drill \varnothing 10,2 mm bore in the profile core bore
- Drill \varnothing 8,2 mm bore depending on the angle at distance A (see table page 61) from the profile end
- Insert the mitre connector in the open profile end, position the M8 square nut over the \varnothing 8,2 bore
- Pretighten the M8 set-screw, insert the bolt end into the profile groove, align it and tighten the set-screw
- Measure see page 61

MITRE CONNECTOR

Part N° 21.1400/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Fixing kit

Weight 0,065 kg

APPLICATIONS

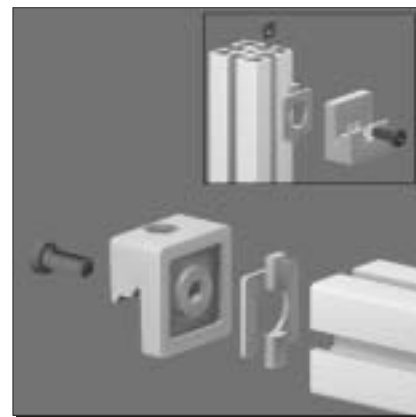
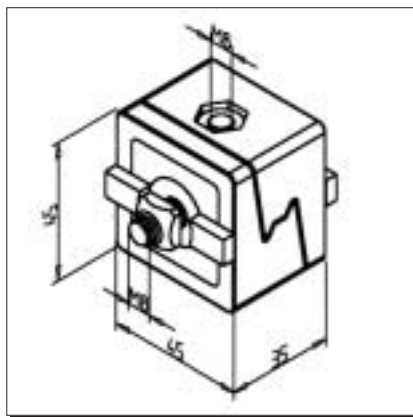
- Show cases
- Exhibition racks
- Displays
- Frames

ASSEMBLY

- Rebore core bore to \varnothing 10,2 mm
- Process a drill \varnothing 8,2 mm in the distance of 36,5 mm from the profile ends
- Insert the mitre connector into both profile ends
- Position square nuts on top of the thread M8 (strengthening of the thread)
- Tighten the connector with set-screws M8
- Measure see page 61

MOUNTING BRACKET 45

Part N° 21.1411/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, powder coated, grey

- Fixing kit

Weight 0,426 kg

APPLICATIONS

- Connection of profiles

- For subsequent fitting of profiles into existing constructions, displaceable in direction of the groove

- Fixing of supports

ASSEMBLY

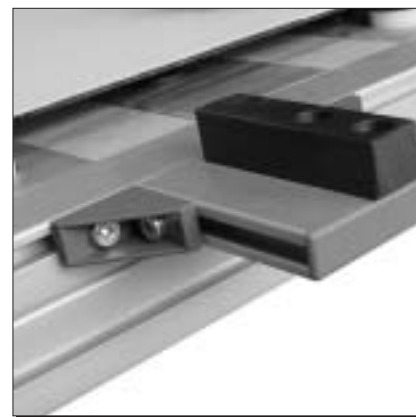
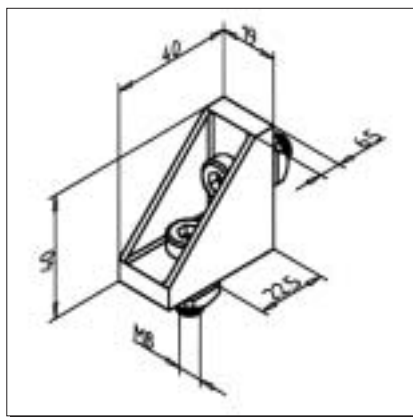
- Use fixing kit from supply schedule

- In case of mounting into vertical profiles, the use of square-nut M8 with position-fixing Part N° 21.1351/2 is recommended

- Recommended locking torque: 20 Nm

ANGLE 19 GD

Part N° 21.1107/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

Weight 0,033 kg

APPLICATIONS

- Connection of profiles 19 and 32

- Subsequent fitting of profiles into existing constructions, displaceable in direction of the groove

- Fixing of supports

ASSEMBLY

- Use fixing kit from supply schedule

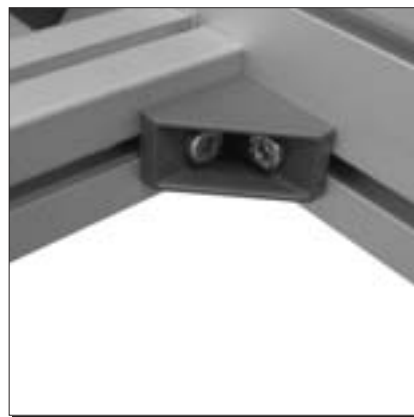
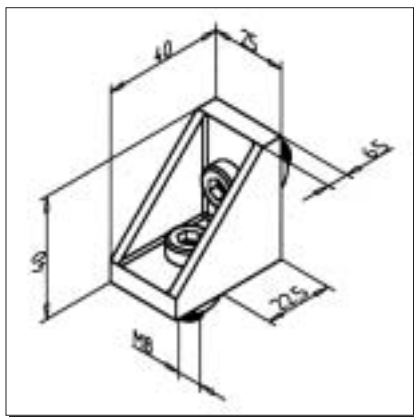
- In case of mounting into vertical profiles, the use of square nut M8 with position-fixing Part N° 21.1351/2 is recommended

- Recommended locking torque: 20 Nm

- See page 65

ANGLE 25 GD

Part N° 21.1102/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

Weight 0,044 kg

APPLICATIONS

- General constructions, particularly useful for subsequent fitting of profiles into existing constructions

- Fixing of panel elements, table tops

- Strengthening of all profile constructions

ASSEMBLY

- Use fixing kit from supply schedule

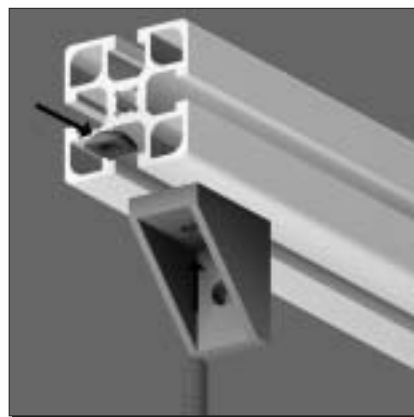
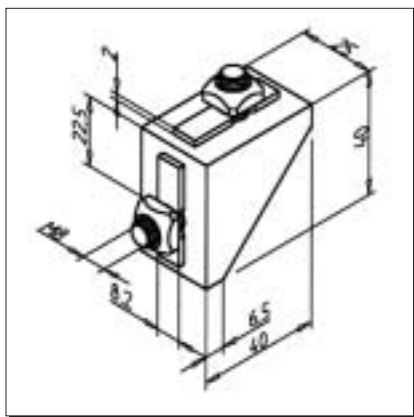
- For subsequent mounting into vertical profiles use square nut M8 with position-fixing Part N° 21.1351/2

- Recommended locking torque: 20 Nm

- See page 65

ANGLE 25 S

Part N° 21.1134/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated

- Locking device against torsion

- Fixing kit

Weight 0,066 kg

APPLICATIONS

- General constructions, particularly useful for subsequent fitting of profiles into existing constructions

- Strengthening of profile connections

ASSEMBLY

- Use fixing kit from supply schedule

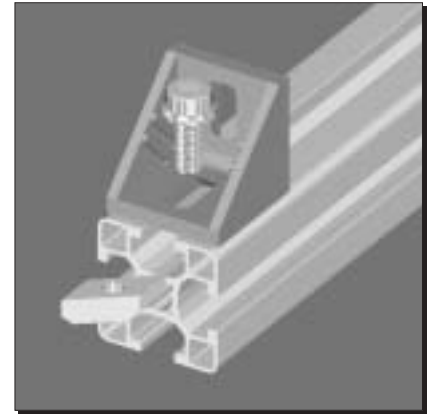
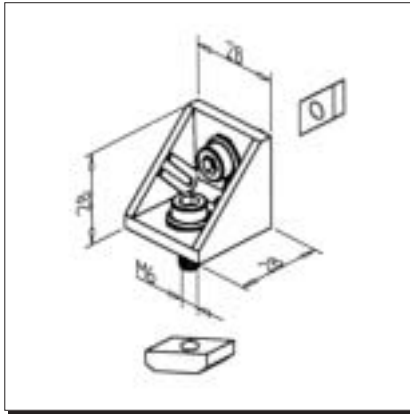
- For mounting into vertical profile use square nut M8 with position-fixing Part N° 21.1351/2

- Recommended locking torque: 20Nm

- See page 65

ANGLE 30 GD

Part N° 21.1347/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated

- Fixing kit

Weight 0,065 kg

APPLICATIONS

- General constructions with profile 30 x 30 particularly useful for subsequent fitting of profiles into existing constructions

- Fixing of panel elements, table tops

- Strengthening of constructions made from profile 30 x 30

ASSEMBLY

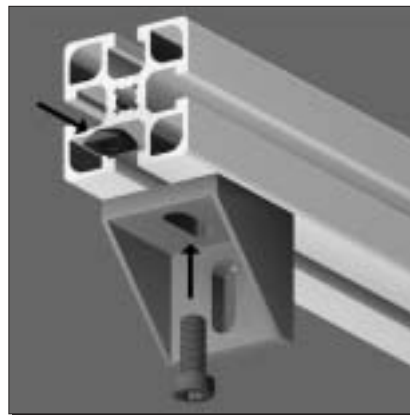
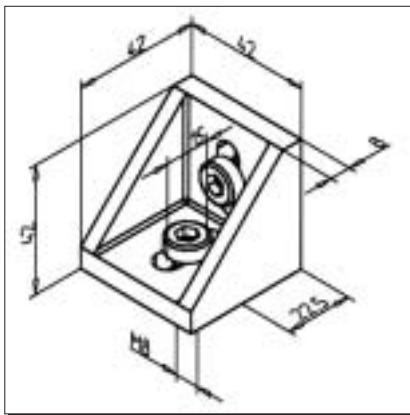
- Use fixing kit from supply schedule

- Recommended locking torque: 8 Nm

- Suitable End cap MW 30 black Part N° 22.1026/0

ANGLE 45 GD

Part N° 21.1133/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

Weight 0,072 kg

APPLICATIONS

- General constructions, particularly useful for subsequent fitting of profiles into existing constructions

- Fixing of panel elements, table tops

- Strengthening of profile constructions

ASSEMBLY

- Use fixing kit from supply schedule

- For subsequent mounting into vertical profiles use square nut M8 with position-fixing Part N° 21.1351/2

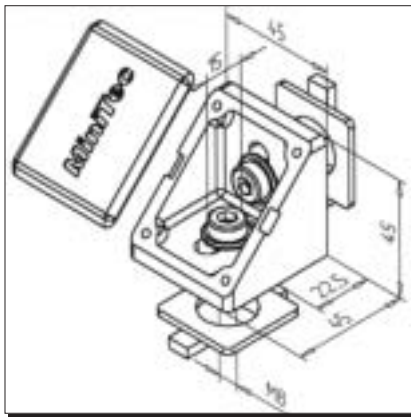
- Hammer head screw Part N° 21.1370/ can be used

- Recommended locking torque: 20 Nm

- See page 65

ANGLE 45 AK

Part N° 21.1709/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - Locking device against rotation AI GD
 - Fixing kit
 - End cap
- | | |
|--------|----------|
| Weight | 0,133 kg |
|--------|----------|

APPLICATIONS

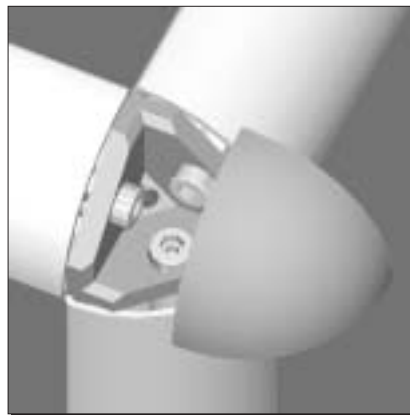
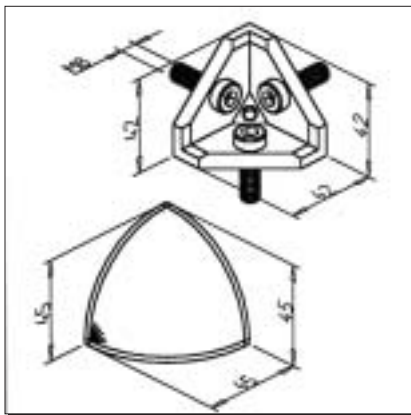
- General constructions, particularly useful for subsequent fitting of profiles into existing constructions
- Fixing of panel elements, table tops
- Strengthening of profile constructions

ASSEMBLY

- Use fixing kit from supply schedule
- For subsequent mounting into vertical profiles use square nut M8 with position-fixing Part Nr. 21.1351/2
- Hammer head screw Part Nr.21.1370/0 can be used
- Recommended locking torque: 20 Nm

ANGLE 45 R 90°

Part N° 21.1710/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD,nature
 - End cap 45 R 90°, grey
 - Fixing kit
- | | |
|--------|----------|
| Weight | 0,063 kg |
|--------|----------|

APPLICATIONS

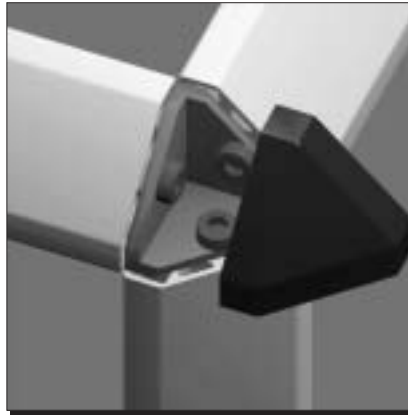
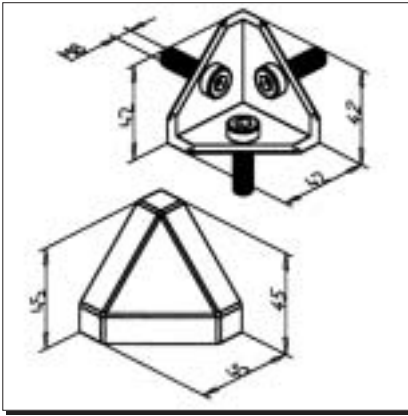
- Corner fastening of profiles 45 R 90°
- Constructions for show cases, tables etc.

ASSEMBLY

- With screws M8 x 25 from the fastening kit in central bore of the profile
- Clip into the end cap
- See page 65

ANGLE 45°

Part N° 21.1109/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD,nature
- End cap 45°/3, grey
- On request also deliverable in black
- Fixing kit

Weight	0,062 kg
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APPLICATIONS

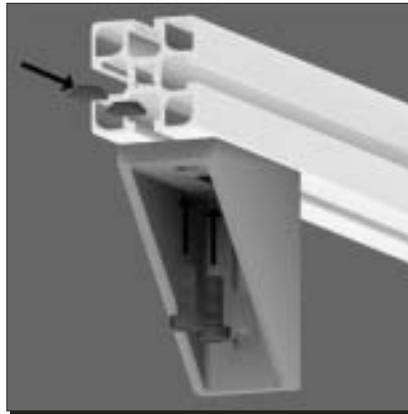
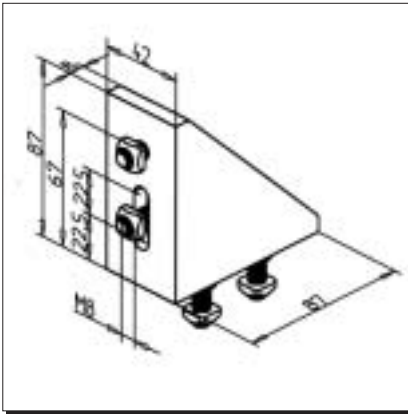
- Corner fastening of profiles 45 / 45°
- Constructions for show cases, tables etc.

ASSEMBLY

- With screws M8 x 25 from the fastening kit in central bore of the profile
- Clip into the end cap
- See page 65

ANGLE 45 X 90 GD

Part N° 21.1135/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, powder coated, grey
- Fixing kit

Weight	0,216 kg
--------	----------

APPLICATIONS

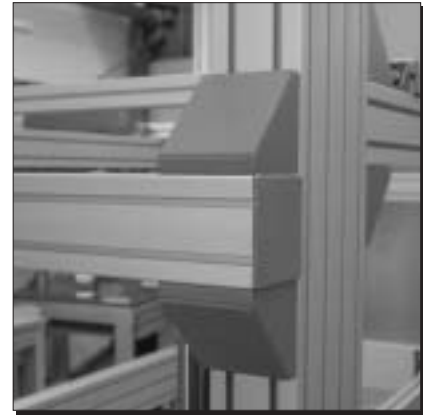
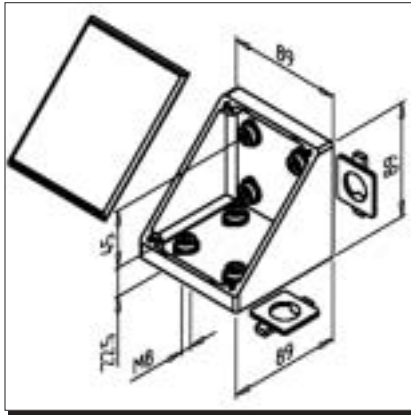
- General constructions, particularly useful for subsequent fitting of profiles into existing constructions
- Fixing panel elements, table tops

ASSEMBLY

- Use fixing kit from supply schedule
- For mounting into vertical profiles use Square nut M8 with position-fixing Part N° 21.1351/2
- Recommended locking torque: 20 Nm
- See page 65

ANGLE 90

Part N° 21.1000/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Fixing kit
- Locking device against rotation
- End caps

Weight 0,270 kg

APPLICATIONS

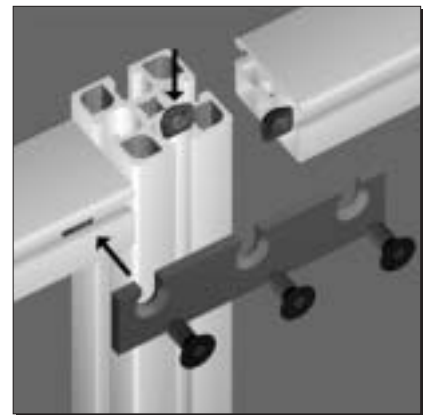
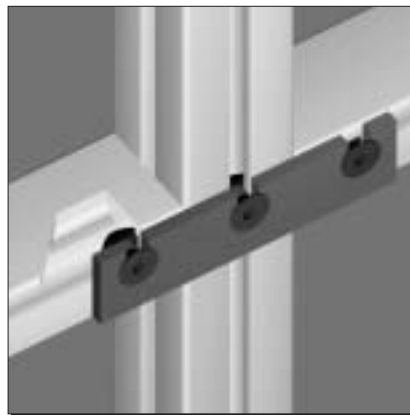
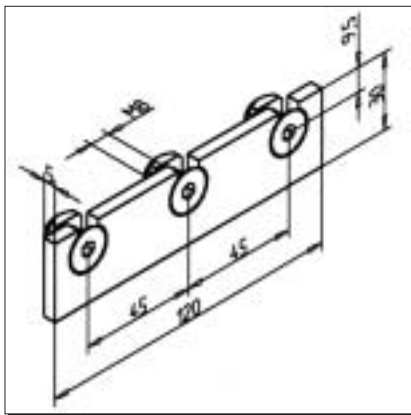
- For profiles 90 and 180
- General constructions, particularly useful for subsequent fitting of profiles into existing constructions
- Fixing of panel elements, table tops
- Strengthening of all profile connections

ASSEMBLY

- Use fixing kit from supply schedule
- For subsequent mounting into vertical profiles use square nut M8 with position fixing Part N° 21.1351/2
- Hammer head screw can be used
- Recommended locking torque: 20 Nm
- See page 63

CONNECTING BAR

Part N° 21.1113/0



TECHN. DATA/ITEMS SUPPLIED

- Bar steel, zinc plated
- Fixing kit

Weight 0,103 kg

APPLICATIONS

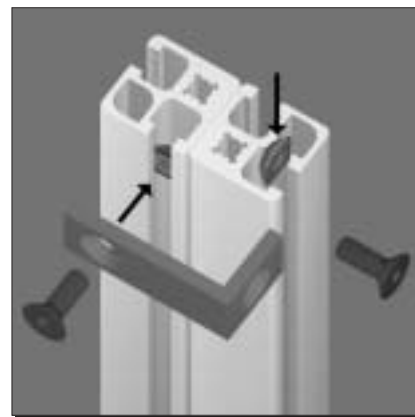
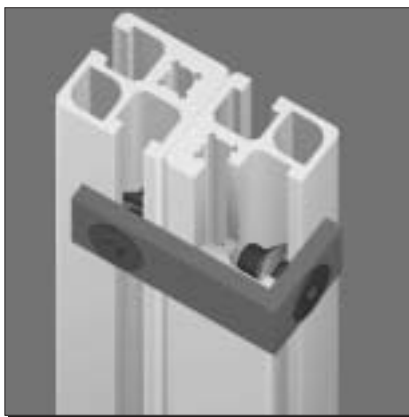
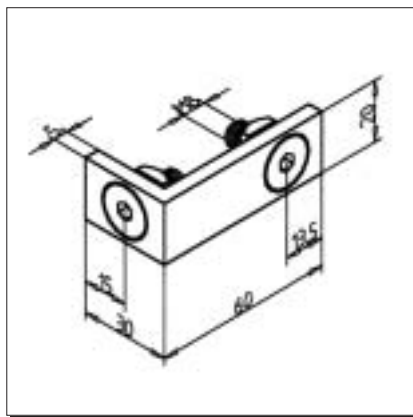
- Connection of different profiles
- Subsequent fitting of profiles

ASSEMBLY

- Use fixing kit from supply schedule
- No processing required

CONNECTING ANGLE 32

Part N° 21.1406/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated

- Fixing kit

Weight 0,093 kg

APPLICATIONS

- Parallel fastening of profiles 32 x 32

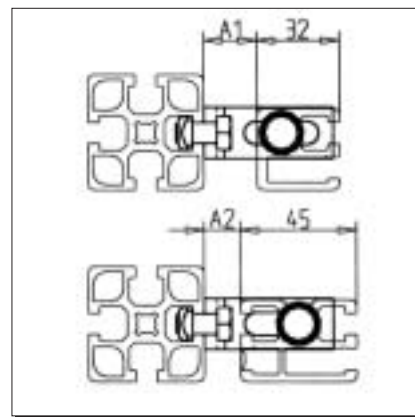
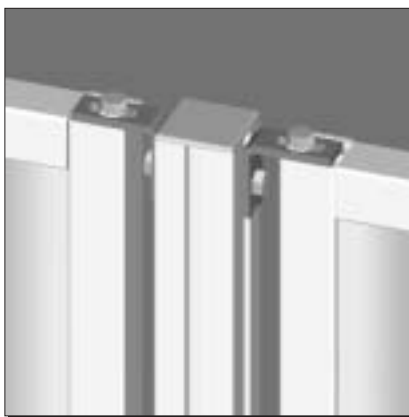
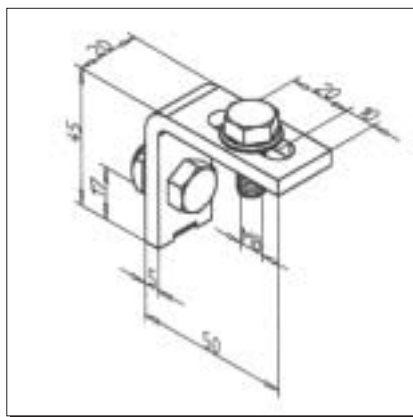
ASSEMBLY

- Use fixing kit from supply schedule

- No processing required

GUARD UNIT FIXING ANGLE 19

Part N° 21.1399/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc-plated

- Fixing kit

Weight 0,091 kg

APPLICATIONS

- Fixing of frame-elements made from clamp-profiles 32 x 32 or 45 x 32 or from all other standard-profiles

- Fixing of guards at any angle

ASSEMBLY

- Pre-fix the angles on post at appropriate upper and lower positions

- Drill thread M8 x 20 in both ends of vertical profiles of the guard

- Insert guard in angles, adjust position of the angles and fix it (wrench 13)

- Fix the guard with screws from supply schedule

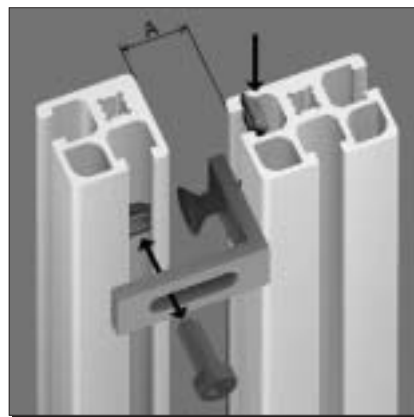
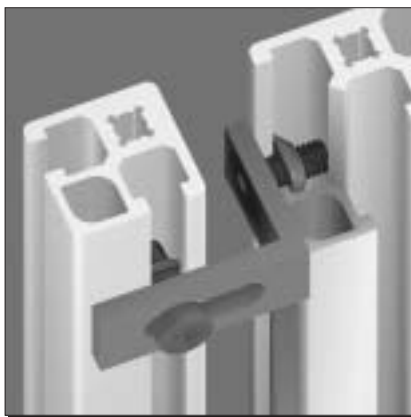
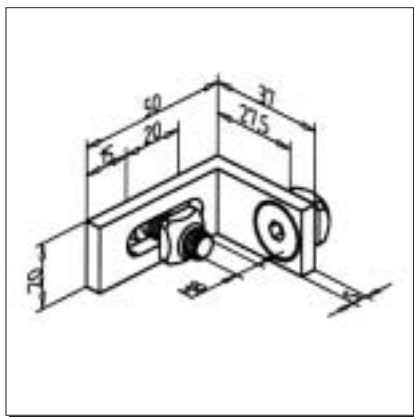
- Alternatively: use snap bolts 25 Part N° 21.1758/0 in lower threads of the guard for very quick assembly, fixing with upper screws only

- A1: 10,5 mm - 30,5 mm

- A2: 10,5 mm - 17,5 mm

GUARD UNIT FIXING ANGLE 32

Part N° 21.1405/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Fixing kit

Weight 0,081 kg

APPLICATIONS

- Fixing of frame elements made from profile 32 x 32 and 45 x 32. For frames made of profiles in 32 range

- This element differs from connecting angle 32 by a long hole, enabling adjustment up to 15 mm

ASSEMBLY

- Use fixing kit from supply schedule

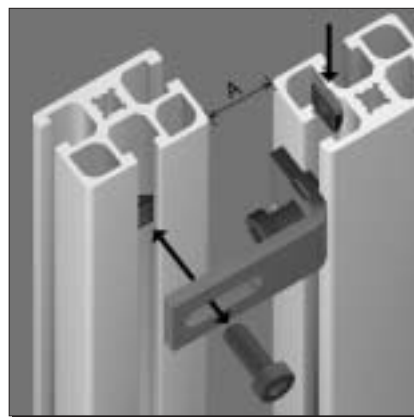
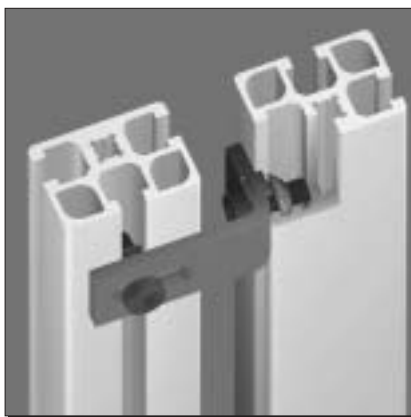
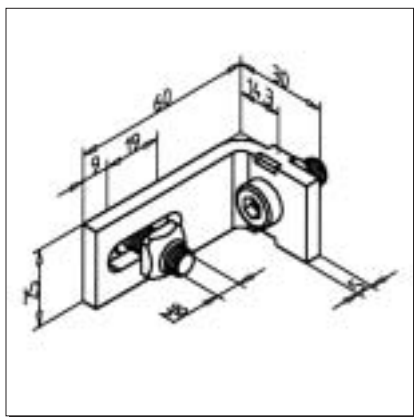
- No processing required

- First fix the angle to vertical profile, then screw guard unit from rear with angle

- A = 6 mm - 25 mm

GUARD UNIT FIXING ANGLE 45

Part N° 21.1404/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated

- Fixing kit

Weight 0,068 kg

APPLICATIONS

- Fixing of frame elements made from profile 45 x 32

- Usable in frames made from any profile, flush mounting of element

ASSEMBLY

- Use fixing kit from supply schedule

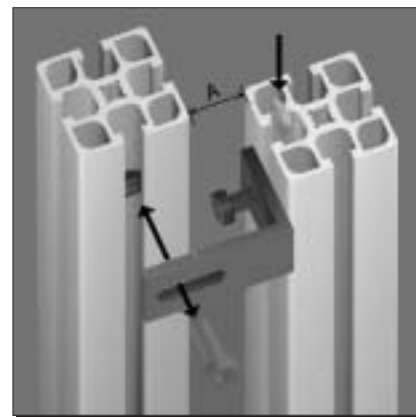
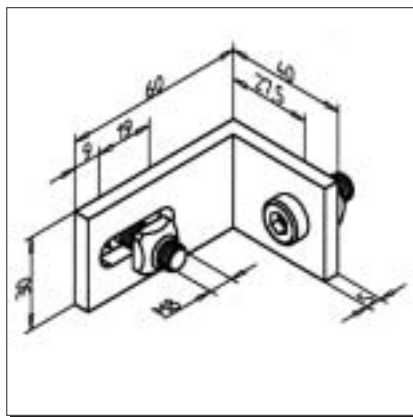
- No processing required

- First fix angle to vertical profile, then screw guard unit from rear with angle

- A = 10 mm - 28 mm

GUARD UNIT FIXING ANGLE 45 AL

Part N° 21.1407/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

- Fixing kit

Weight 0,045 kg

APPLICATIONS

- Fixing of frame elements made from profile 45 x 45

- Usable in frames made from any profile, flush mounting of element

ASSEMBLY

- Use fixing kit from supply schedule

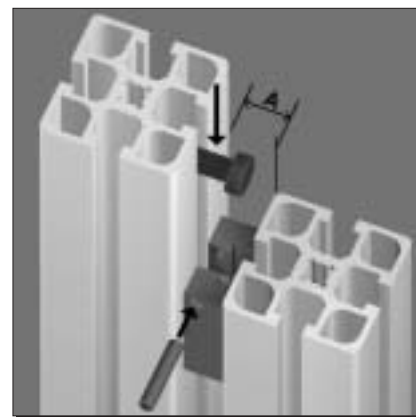
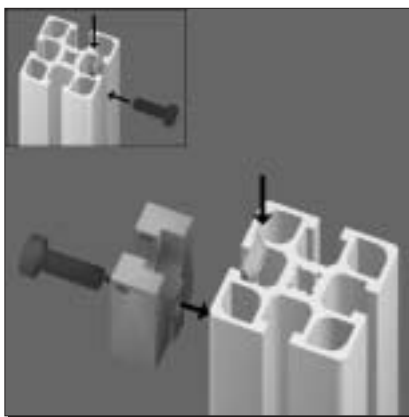
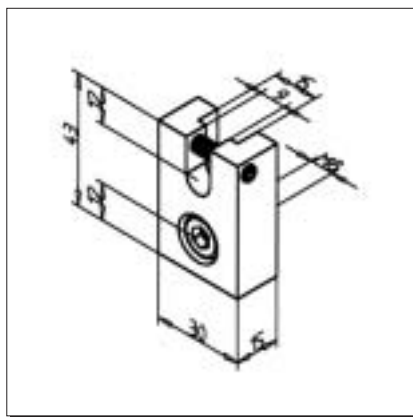
- No processing required

- First fix the angle to vertical profile, then screw guard unit from rear with angle

- A = 10 mm - 28 mm

GUARD FIXING ANGLE GD

Part N° 21.1408/0



TECHN. DATA/ITEMS SUPPLIED

- GD - Zn, zinc-plated

- Fixing kit

Weight 0,126 kg

APPLICATIONS

- Panel frame for all profiles

- Movable lids

- When mounted in front of profiles the guard units can also be fixed in front of the framework

ASSEMBLY

- Fix the guard unit fixing angle to the profile

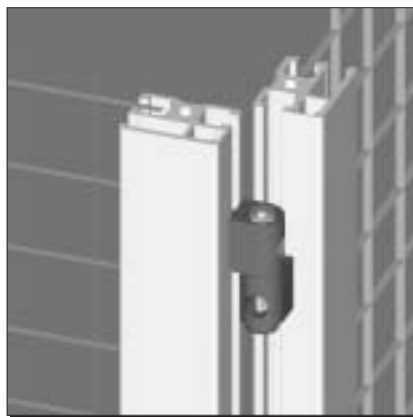
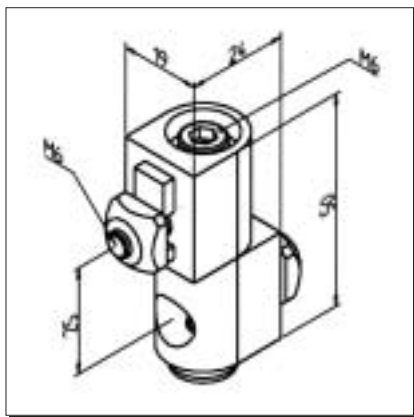
- Screw the panel element with hex socket cap screws M8 x 25

- Insert panel element and secure it from rear with hexagon socket screw key

- Panel frame cannot be dismantled from outside

GUARD UNIT WITH ADJUSTABLE FIXING ANGLE

Part N° 21.1403/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

Weight 0,118 kg

APPLICATIONS

- Connection of profiles at any angle

- Erection of protective guard units at any angle

ASSEMBLY

- Mount the lower fixing half on the post and align it

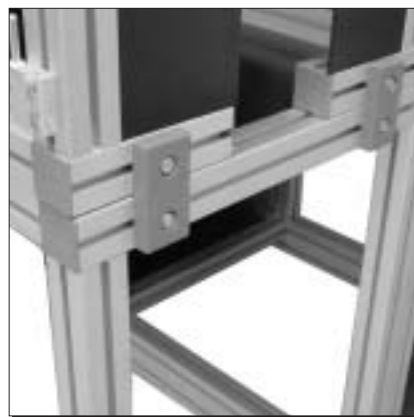
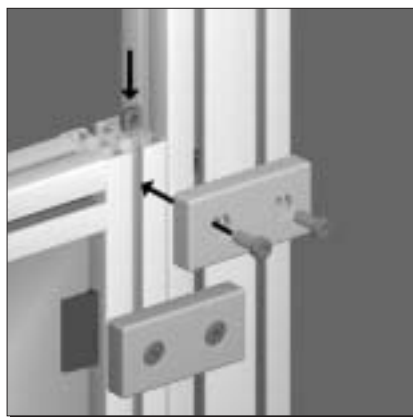
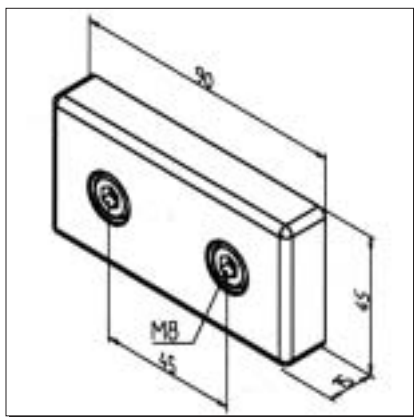
- Mount the upper half on the guard unit and insert the guard unit

- Insert the cap screw and tighten it with key 4 A/F. The inserted hexagon nut in the lower fixing half is secured against torsion

- See page 66

CONNECTING PLATE 45 X 90

Part N° 21.1472/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

Weight 0,172 kg

APPLICATIONS

- Connection of guards without cracks

- Strengthening of guard units

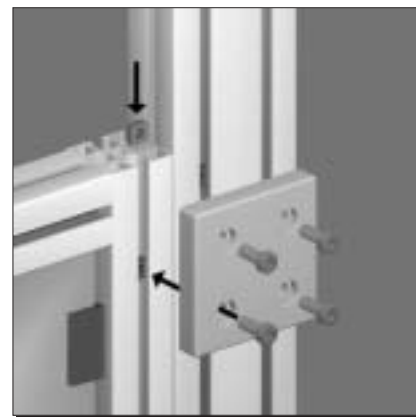
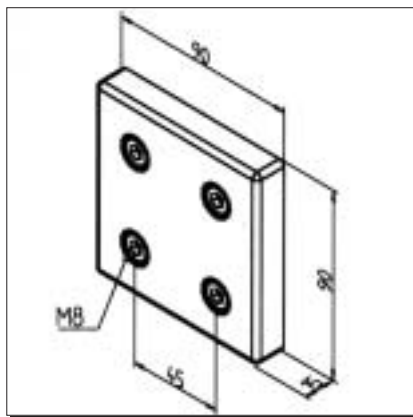
- Connection of premounted constructions

ASSEMBLY

- Use fixing kit from supply schedule

CONNECTING PLATE 90 X 90

Part N° 21.1473/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, powder coated, grey

- Fixing kit

Weight 0,330 kg

APPLICATIONS

- Connection of guards without cracks

- Strengthening of guard units

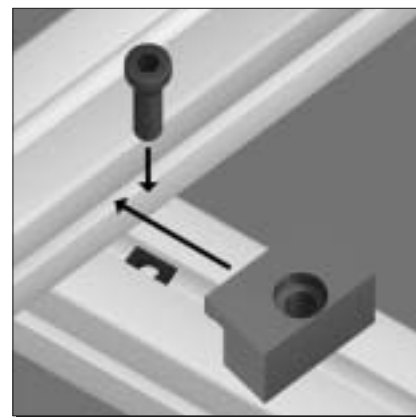
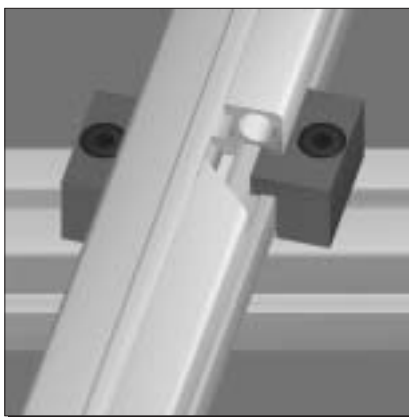
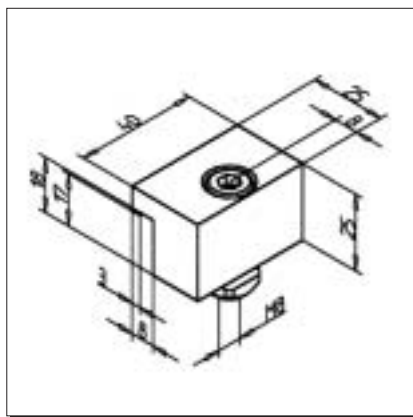
- Connection of premounted constructions

ASSEMBLY

- Use fixing kit from supply schedule

CLAMPING CLAW

Part N° 21.1027/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium anodized

- Fixing kit

Weight 0,069 kg

APPLICATIONS

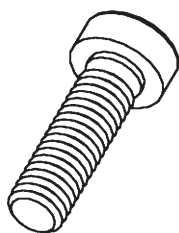
- Parallel connection of profiles at various angles

ASSEMBLY

- Use fixing kit from supply schedule

- No processing required

HEX SOCKET CAP SCREWS

**M8, 5 A/F**
Screw

M8 x 16
M8 x 20
M8 x 25
M8 x 30
M8 x 35
M8 x 40
M8 x 45
M8 x 50
M8 x 60
M8 x 70
M8 x 80
M8 x 90

Part no.
(steel, zincplated)
21.1200/0
21.1202/0
21.1204/0
21.1206/0
21.1208/0
21.1210/0
21.1211/0
21.1212/0
21.1214/0
21.1282/0
21.1225/0
21.1226/0

Part no.
(stainless steel)
21.1200/1
21.1202/2
21.1204/1

21.1208/1

21.1212/1

M6, 4 A/F
Screw

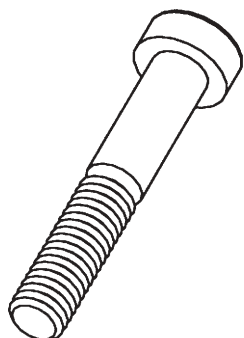
M6 x 12
M6 x 16
M6 x 20
M6 x 25
M6 x 30
M6 x 35
M6 x 40
M6 x 45
M6 x 50
M6 x 60
M6 x 80

Part no.
(steel, zincplated)
21.1143/0
21.1238/0
21.1240/0
21.1242/0
21.1243/0
21.1245/0
21.1247/0
21.1272/0
21.1171/0
21.1154/0
21.1199/0

Part no.
(stainless steel)

21.1238/1
21.1240/1
21.1242/1
21.1243/1

21.1199/1

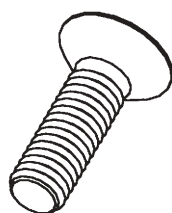
**M5, 4 A/F**
Screw

M5 x 12
M5 x 16
M5 x 20
M5 x 25
M5 x 30
M5 x 40
M5 x 45

Part no.
(steel, zincplated)
21.1220/0
21.1235/0
21.1222/0
21.1224/0
21.1237/0
21.1284/0
21.1219/0

Part no.
(stainless steel)

COUNTERSUNK SCREWS

**M8, hex socket**

Screw

M8 x 16
M8 x 20
M8 x 25
M8 x 30
M8 x 40
M8 x 50
M8 x 60

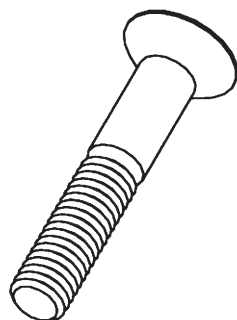
Part no.
(steel, zincplated)
21.1513/0
21.1514/0
21.1520/0
21.1516/0
21.1547/0
21.1517/0
21.1523/0

M5, hex socket

Screw

M5 x 16
M5 x 20
M5 x 25

Part no.
(steel, zincplated)
21.1503/0
21.1504/0
21.1505/0

**M6, hex socket**

Screw

M6 x 16
M6 x 20
M6 x 30
M6 x 40
M6 x 60

Part no.
(steel, zincplated)
21.1506/0
21.1507/0
21.1508/0
21.1510/0
21.1512/0

M4, hex socket

Screw

M4 x 16
M4 x 20
M4 x 30

Part no.
(steel, zincplated)
21.1501/0
21.1502/0
21.1503/0

SQUARE NUTS

The square nuts are insertable into the profile groove at any desired point. See page 67.
This enables subsequent mounting of elements into existing constructions without partial dismantling.

The spring metal keeps the nut in the right position. Moveable by screw-driver. Especially for use in vertical profiles.

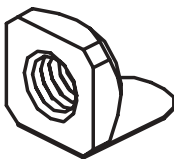


Square nuts square nut

M8
M6
M5
M4
M3

Part no.
(steel, zincplated)
21.1351/0
21.1330/0
21.1320/0
21.1310/0
21.1309/0

Part no.
(stainless steel)
21.1351/1
21.1330/1
21.1320/1
21.1310/1
21.1309/1



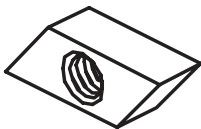
Square nuts with spring metal square nut

M8
M6
M5
M4
M3

Part no.
(steel, zincplated)
21.1351/2
21.1330/2
21.1320/2
21.1310/2
21.1309/2

Part no.
(stainless steel)
21.1351/4
21.1330/4
21.1320/4
21.1310/4
21.1309/4

RHOMBUS NUT

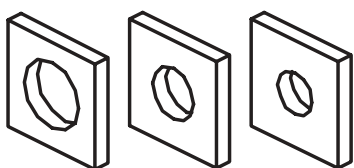


Rhombus nut

M6
F

Part no.
(steel, zincplated)
21.1352/0
21.1354/0

SQUARE WASHER

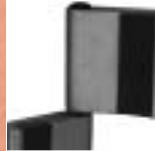


Square washer

Square washer 8
Square washer 6
Square washer 5

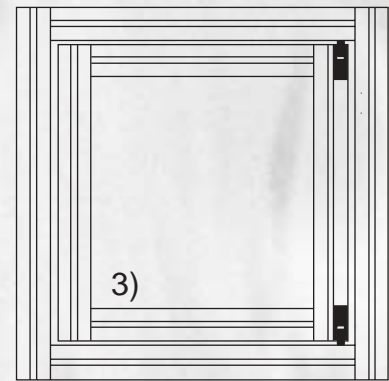
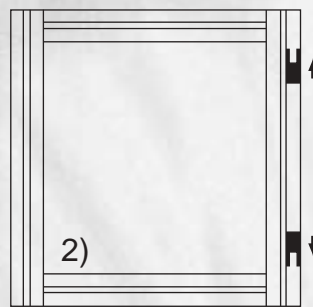
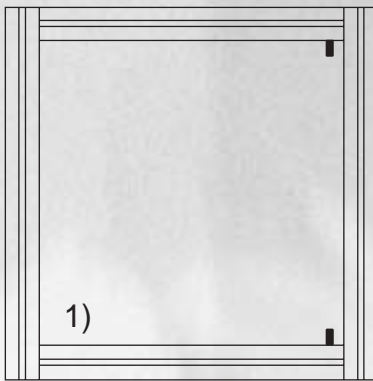
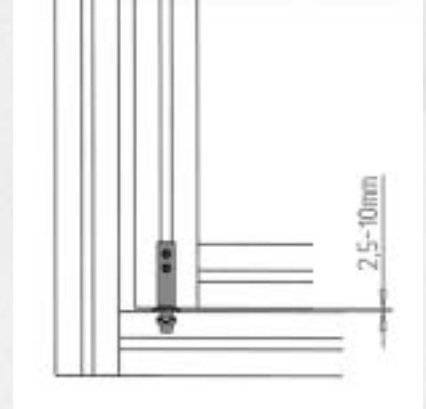
Part no.
(steel, zincplated)
21.1360/0
21.1363/0
21.1362/0

Part no.
(stainless steel)
21.1360/1

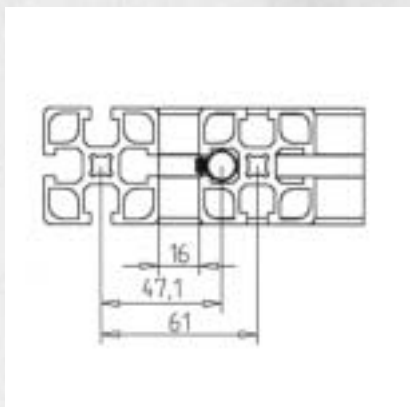


LINKS AND HINGES

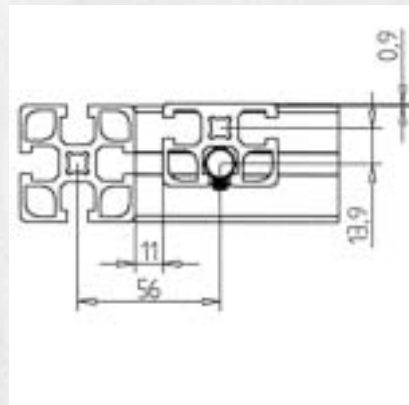
INTERNAL HINGE AL

**Assembly**

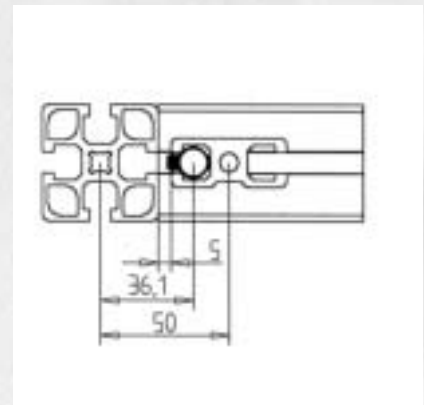
- 1) Screw snap bolts onto the frame and insert washer.
- 2) Insert hinge into door element.
- 3) Hold the door element above the grooves, push hinges onto snap bolts and tighten them.

Distance of the snap bolts from the frame:

Assembly in inner groove:
47.1 mm



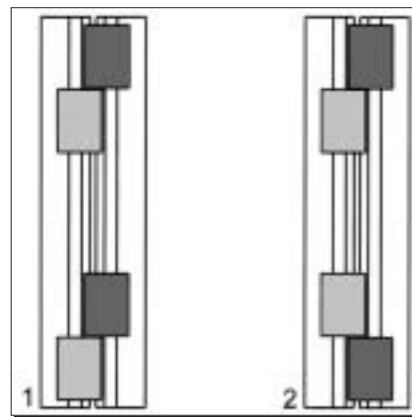
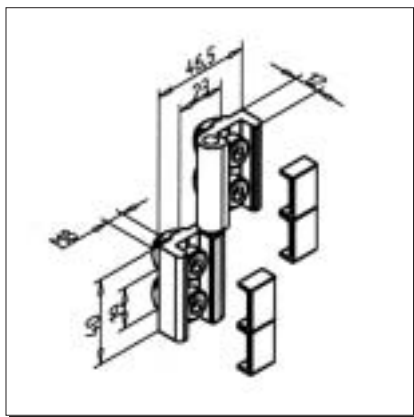
Assembly in central groove:
56 mm



Assembly in inner groove:
36.1 mm

HINGE 19

Part N° 21.1100/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized with steel-cylinder-bolt

- Fixing kit

- End caps

Weight 0,048 kg

Load max. 400 N

APPLICATIONS

- Swing doors and lids

- Connection of profiles 19 at various angles

ASSEMBLY

- Use fixing kit from supply schedule

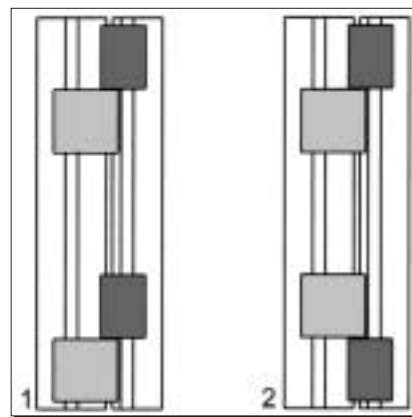
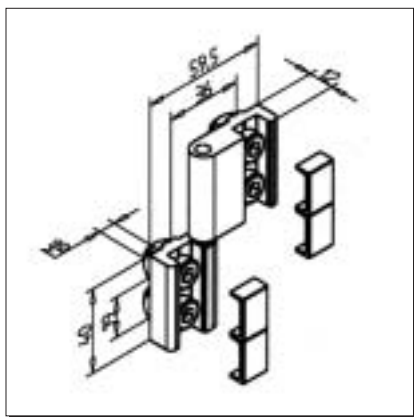
- For fixing directly on panel elements or on profile surfaces we deliver hinge 19 without fixing element Part N° 211100/2

- 1: lift removable

- 2: non lift removable

HINGE 32

Part N° 21.1095/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized with steel-cylinder-bolt

- Fixing kit

- End caps

Weight 0,062 kg

Load max. 400 N

APPLICATIONS

- Swing doors and lids

- Connection of profiles 19, 32 and 45 at various angles

ASSEMBLY

- Use fixing kit from supply schedule

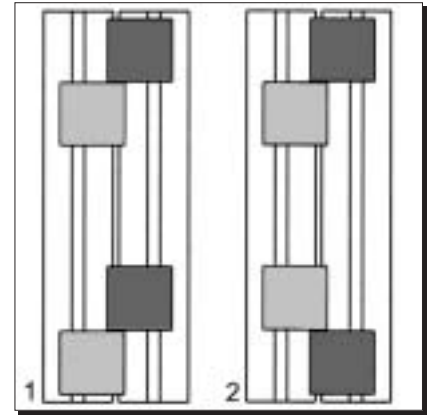
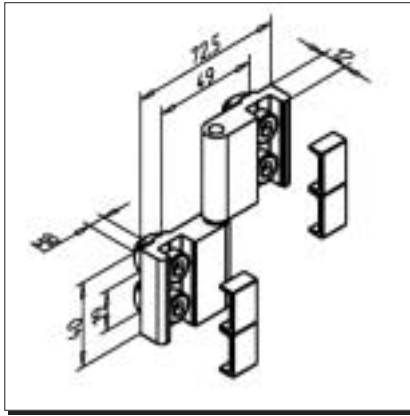
- For fixing directly on panel elements or on profile surfaces we deliver hinge 32 without fixing element Part N° 211100/2

- 1: lift removable

- 2: non lift removable

HINGE 45

Part N° 21.1096/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized with steel-cylinder-bolt
- Fixing kit
- End caps

Weight	0,074	kg
Load max.	400	N

APPLICATIONS

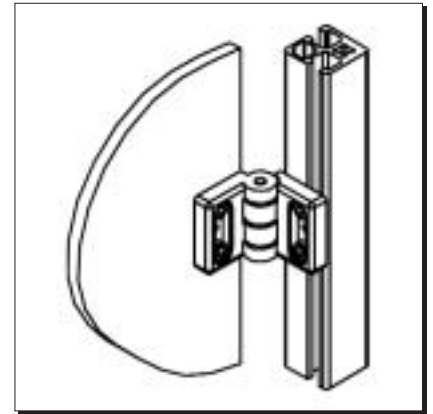
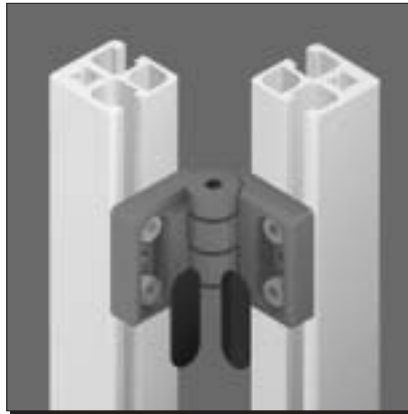
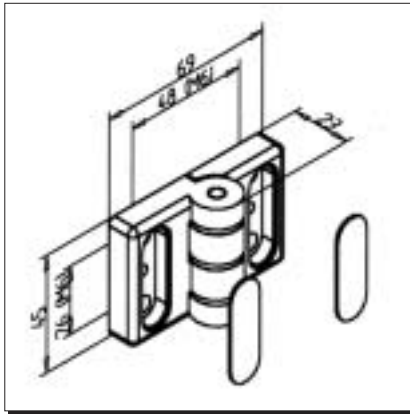
- Swing doors and lids
- Connection of profiles 45 at various angles
- Erection of guards

ASSEMBLY

- Use fixing kit from supply schedule
- For fixing directly on panel elements or on profile surfaces we deliver hinge 45 without fixing element **Part N° 211100/2**
- 1: lift removable
- 2: non lift removable

HINGE 19 S

Part N° 21.1044/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Without fixing kit
- End caps

Weight	0,090	kg
Load max.	600	N

APPLICATIONS

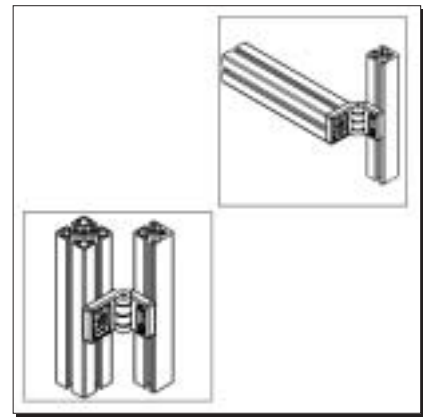
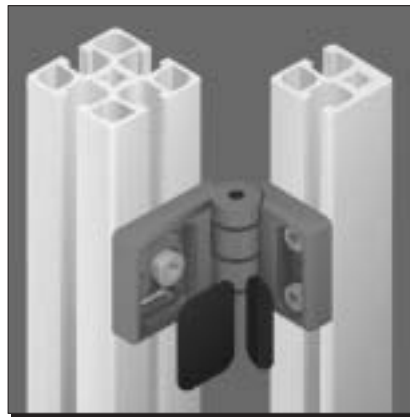
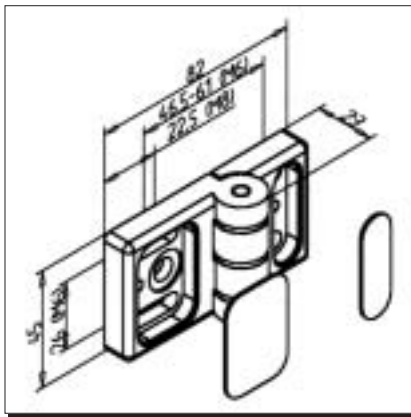
- Suitable for large doors and flaps of profile type 19 or 32
- Guard units
- Connection of profiles 19 and 32 at any angle

ASSEMBLY

- Fasten hinge with 4 M6 x 20 bolts and 4 square nuts on the profile groove
- Or with screws corresponding to the material thickness directly on the panel elements
- For heavy-duty applications use multiple hinges

HINGE 32 S

Part N° 21.1055/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Without fixing kit
- End caps

Weight	0,095	kg
Load max.	600	N

APPLICATIONS

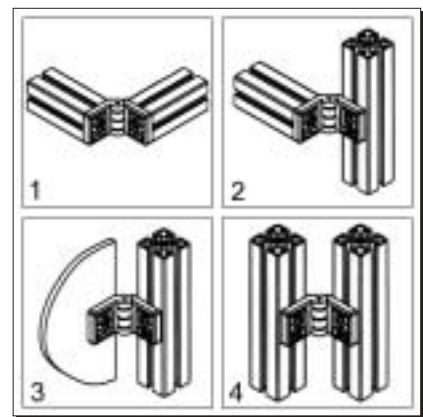
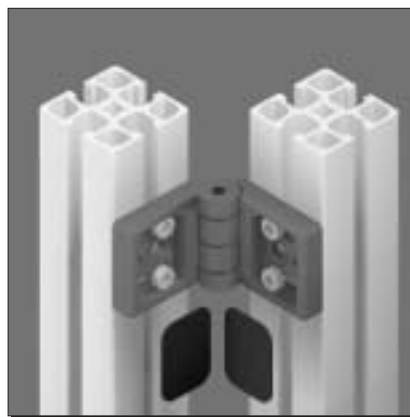
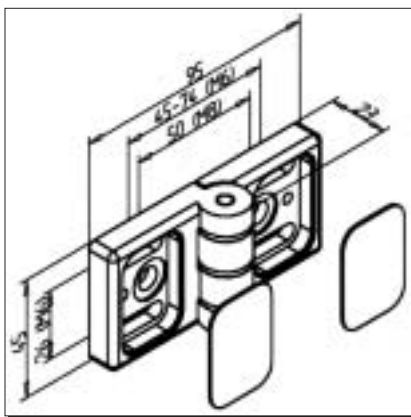
- Suitable for large doors and flaps
- Guard units
- Connection of profiles 19, 32 and 45 at any angle

ASSEMBLY

- Fasten hinge with 4 M6 x 20 bolts and 4 square nuts on the profile groove or with screws corresponding to the material thickness directly on the panel elements
- Fasten hinge with M8 x 30 bolt on the 45 x 45 profile face side ; fasten the other hinge half with M6 x 20bolts and square nuts on the profile groove or with M6 bolts corresponding to the material thickness
- For heavy-duty applications use multiple hinges

HINGE 45 S

Part N° 21.1098/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Without fixing kit
- End caps

Weight	0,104	kg
Load max.	600	N

APPLICATIONS

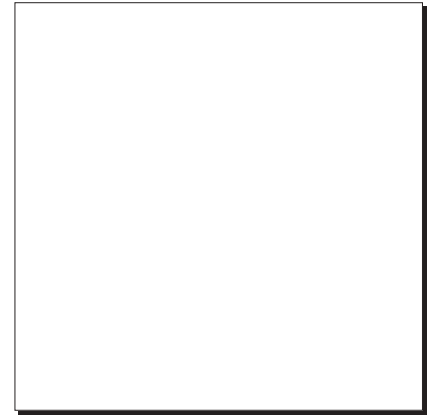
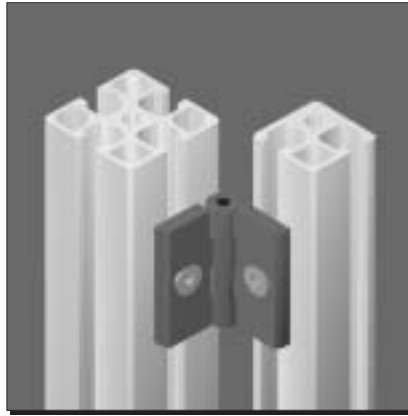
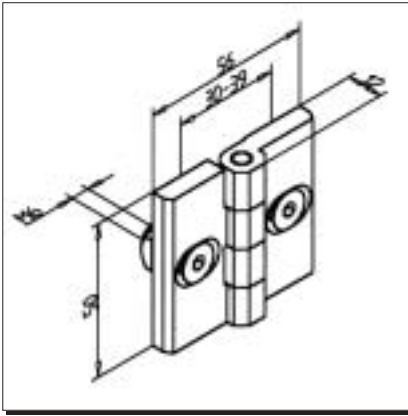
- Suitable for large doors and Flaps
- Guard units
- Connection of profiles at various angles

ASSEMBLY

- 1: 2 screws M8 x 30
- 2: 2 screws M6 x 20, 2 square nuts M6, 1 screw M8 x 30
- 3: 2 screws M6 x 20, 2 square nuts M6, 2 screws M6 for panel element according to material
- 4: 4 screws M6 x 20, 4 square nuts M6

HINGE 32 GD

Part N° 21.1131/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, powder coated, black

- Fixing kit

Weight	0,120	kg
Load max.	400	N

APPLICATIONS

- For profiles 32 x 32 and 32 x 45

- Heavy doors and lids

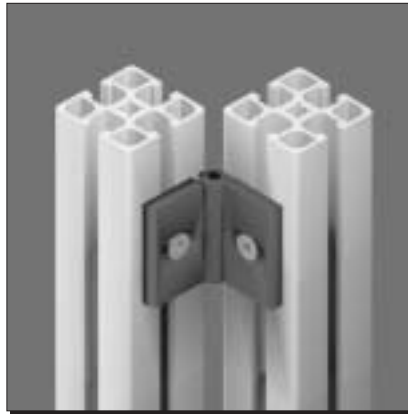
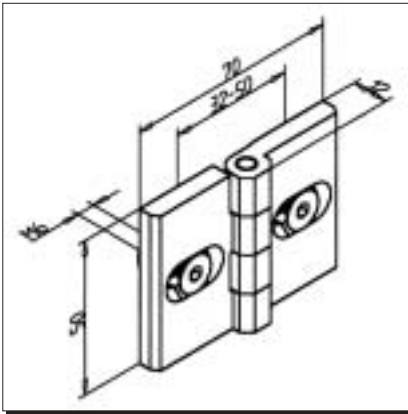
- Connection of profiles at various angles

ASSEMBLY

- Use fixing kit from supply schedule

HINGE 45 GD

Part N° 21.1130/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, powder coated, black

- Fixing kit

Weight	0,140	kg
Load max.	400	N

APPLICATIONS

- For profiles 45 and 90

- Heavy doors and lids

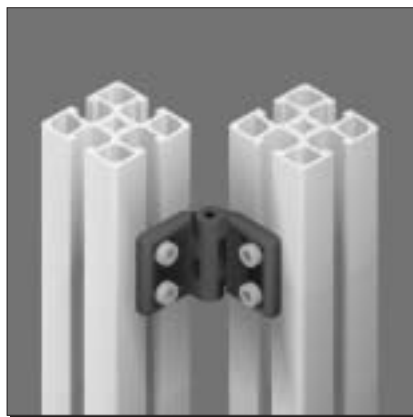
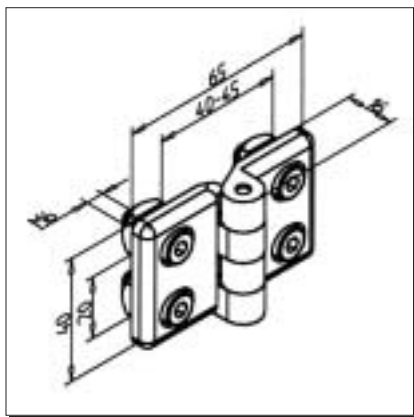
- Connection of profiles at various angles

ASSEMBLY

- Use fixing kit from supply schedule

HINGE 45 M6

Part N° 21.1175/0



TECHN. DATA/ITEMS SUPPLIED

- ABS, grey
- Fixing kit

Weight	0,061	kg
Load max.	160	N

APPLICATIONS

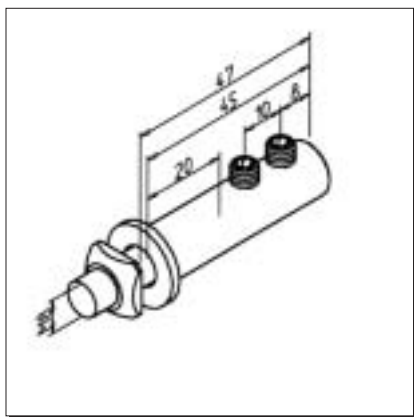
- Suitable for light doors and lids
- Guard units
- Connection of profiles at various angles

ASSEMBLY

- Use fixing kit from supply schedule

INTERNAL HINGE AL

Part N° 21.1142/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural
- Fixing kit

Weight	0,021	kg
Load max.	250	N

APPLICATIONS

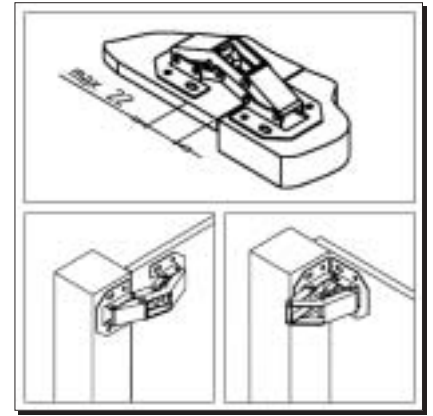
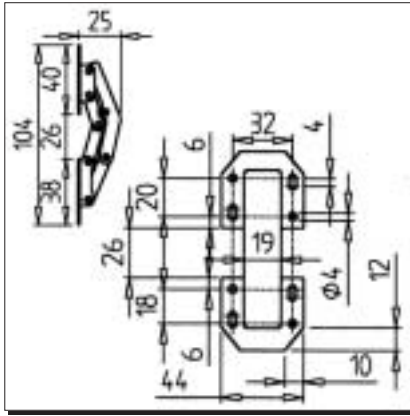
- Doors
- Lids
- Movable elements
- Subsequent fitting of doors

ASSEMBLY

- Screw snap bolts onto the frame and insert washer
- Insert hinge into door element
- Hold the door element above the grooves, push hinges onto snap bolts and tighten them

SWING-OUT HINGE

Part N° 21.1187/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc-plated

- Without fixing kit

Weight	0,082	kg
Load max.	50	N

APPLICATIONS

- Light doors

- Show cases, Fair equipment, guards

- Doors close without gap, bearing on the outside or flush on the inside

ASSEMBLY

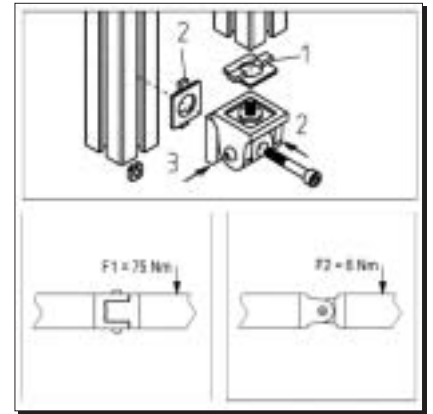
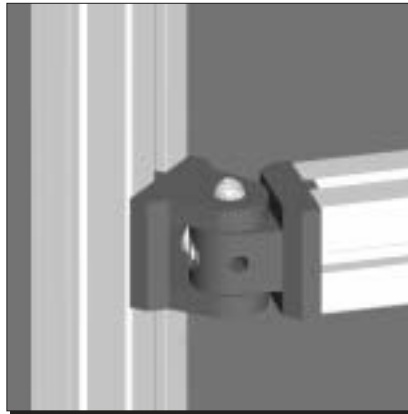
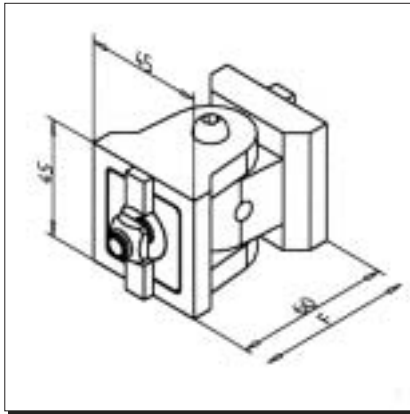
- On profile grooves with screws M4 x 16 and square nut M4

- Direct fastening on panel elements; screw length according to material thickness

- Direct fastening on profile surface

LINK

Part N° 21.2030/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit

- AL GD locking device against torsion

Weight	0,250	kg
Load max.	5000	N

APPLICATIONS

- Connection of profiles at any angle

- Braces

- Reinforcement of frame constructions

- Not to be used as a hinge

ASSEMBLY

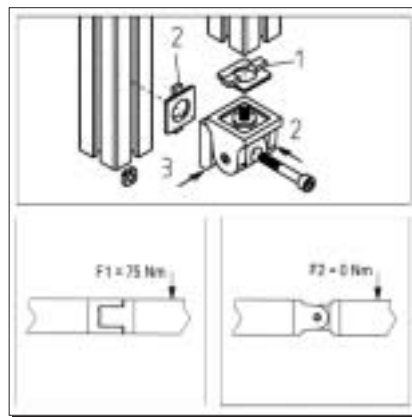
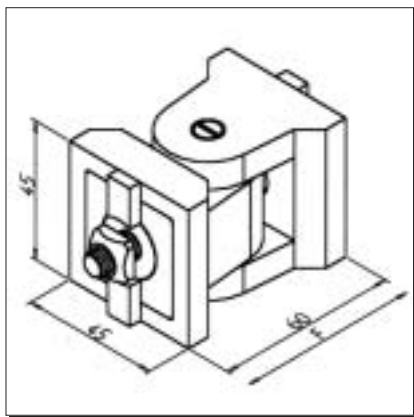
- 1: Mount the hinge half 1 on the desired position (with key 5A/F through bore in hinge half 2)

- 2: Insert screw M8 x 50 and fix hinge half 2

- 3: Tighten lateral connecting screws

ANGLE BRACKET

Part N° 21.2020/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Fixing kit
- AL GD locking device against torsion

Weight	0,240 kg
Load max.	1500 N

APPLICATIONS

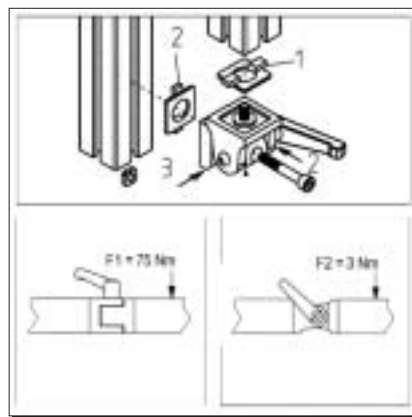
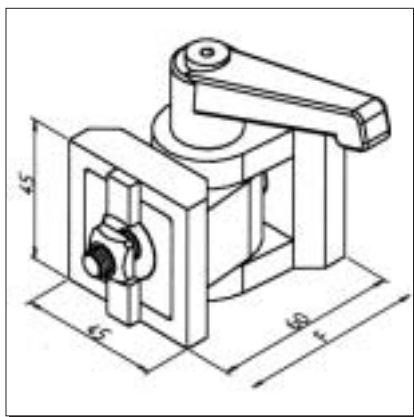
- Heavy swivel doors, bearing assembly of movable add-on pieces
- Not lockable
- For heavy-duty loads use multiple hinges

ASSEMBLY

- 1 : Mount the hinge half 1 on the desired position (with key 5 A/F through bore in hinge half 2)
- 2: Insert screw M8 x 50 and fix hinge half 2

ANGLE BRACKET FIXABLE

Part N° 21.2010/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Fixing kit
- AL GD locking device against torsion

Weight	0,280 kg
Load max.	1500 N

APPLICATIONS

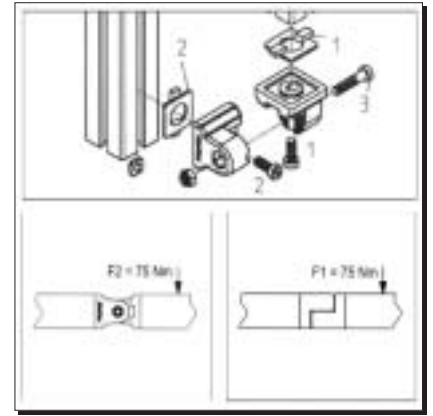
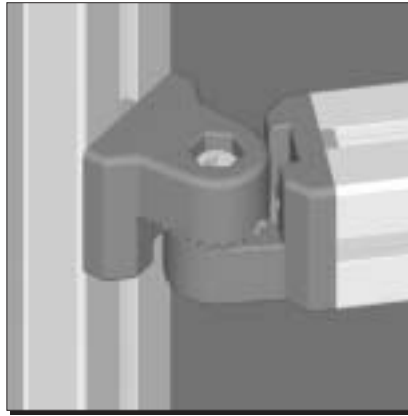
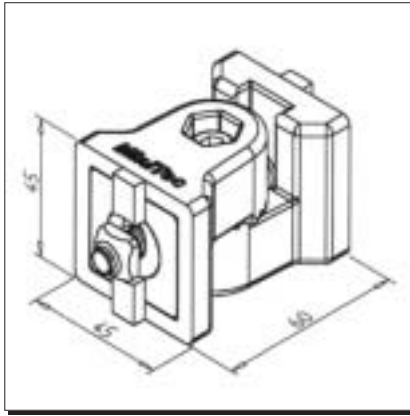
- Heavy swivel doors, bearing assembly of movable add-on pieces
- Clamping lever for positioning of add-on parts
- Fixing of pieces such as measuring devices that need to be adjusted quickly
- For heavy-duty loads use multiple hinges

ASSEMBLY

- 1: Mount the hinge half 1 on the desired position (with key 5 A/F throughbore in hinge half 2)
- 2: Insert screw M8 x 50 and fix hinge half 2
- 3: Tighten clamping lever

ANGLE BRACKET R

Part N° 21.2041/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - Fixing kit
 - Locking device against rotation AL GD
- Weight 0,240 kg

APPLICATIONS

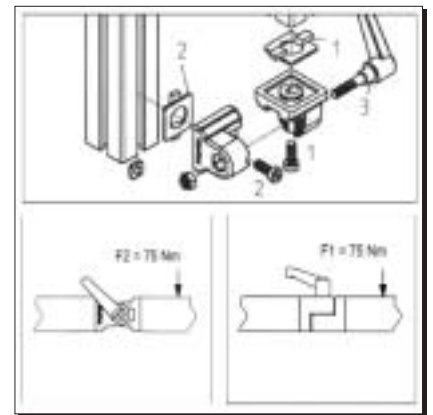
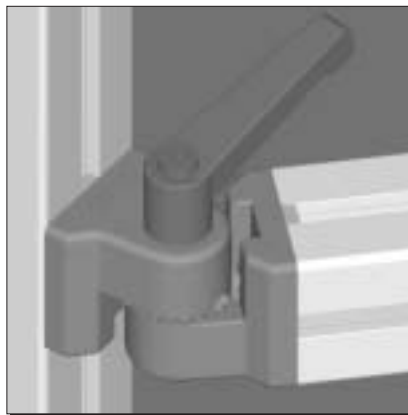
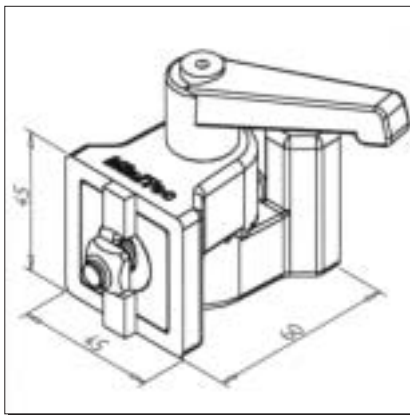
- Setting angle 180° in steps of 15°
- Adjustable fixing of add-on parts such as grip-boxes, beams or monitors

ASSEMBLY

- 1 : Place locking device and screw first half of the bracket
- 2: Fix second half
- 3: Connect the 2 halves in desired angle and tighten

ANGLE BRACKET R FIXABLE

Part N° 21.2040/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - Fixing kit
 - Locking device against rotation AL GD
- Weight 0,25 kg

APPLICATIONS

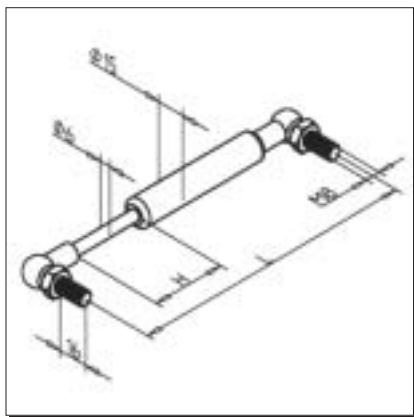
- Setting angle 180° in steps of 15°
- Adjustable fixing of add-on parts such as grip-boxes, beams or monitors

ASSEMBLY

- 1 : Place locking device and screw first half of the bracket
- 2: Fix second half
- 3: Connect the 2 halves in desired angle and tighten

GAS SPRING 6/15

Part N° 24.1126/0



H (mm)	L (mm)
40	165
60	205
80	245
100	285
120	325
150	385

TECHN. DATA/ITEMS SUPPLIED

- Fixing kit
- Stroke (H) alternatively 20 / 40 / 60 / 80 / 100 / 120 / 150 mm
- Force (F) between 50 and 400 N

Please indicate desired length of stroke and force

APPLICATIONS

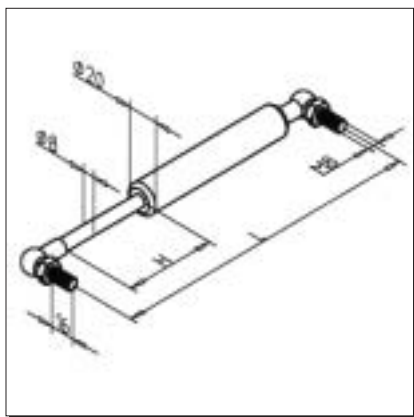
- Weight equalization for hinged elements
- Suitable for lift and swivel movements

ASSEMBLY

- Use fixing kit from supply schedule

GAS SPRING 8/20

Part N° 24.1127/0



H (mm)	L (mm)
60	215
80	255
100	295
120	335
140	375
160	415
180	455
200	495
220	535
250	595

TECHN. DATA/ITEMS SUPPLIED

- Fixing kit
- Stroke (H) alternatively 60 / 80 / 100 / 120 / 140 / 160 / 180 / 200 / 220 / 250 mm
- Force (F) between 50 and 750 N

Please indicate desired length of stroke and force

APPLICATIONS

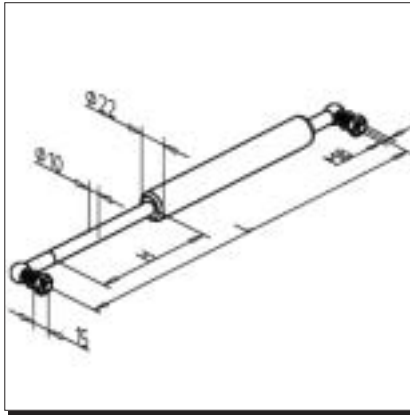
- Weight equalization for hinged elements
- Suitable for lift and swivel movements

ASSEMBLY

- Use fixing kit from supply schedule

GAS SPRING 10/22

Part N° 24.1128/0



H (mm)	L (mm)
100	315
150	415
200	515
250	615
300	715
350	815
400	915
500	1115

TECHN. DATA/ITEMS SUPPLIED

- Fixing kit
- Stroke (H) alternatively 100 / 150 / 200 / 250 / 300 / 350 / 400 / 500 mm
- Force (F) between 50 and 1150 N

Please indicate desired length of stroke and force

APPLICATIONS

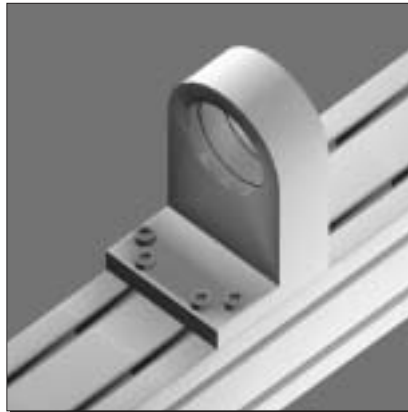
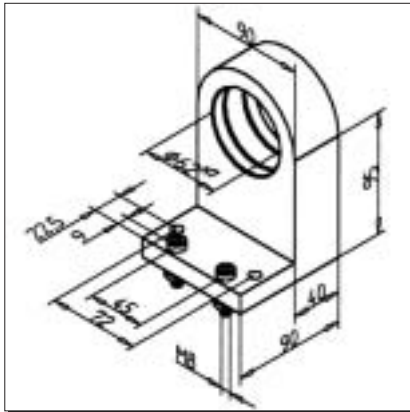
- Weight equalization for hinged elements
- Suitable for lift and swivel movements

ASSEMBLY

- Use fixing kit from supply schedule

UPRIGHT BEARING

Part N° 28.0158/0



TECHN. DATA/ITEMS SUPPLIED

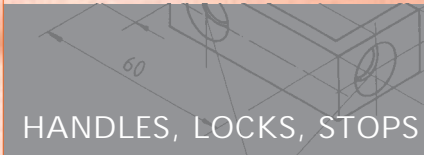
- Aluminium, natural anodized
- Fixing kit
- Without ball bearing and locking rings

APPLICATIONS

- Large swivel frames
- Guiding of shafts, axles, drums, tires lengthwise and crosswise to the profile

ASSEMBLY

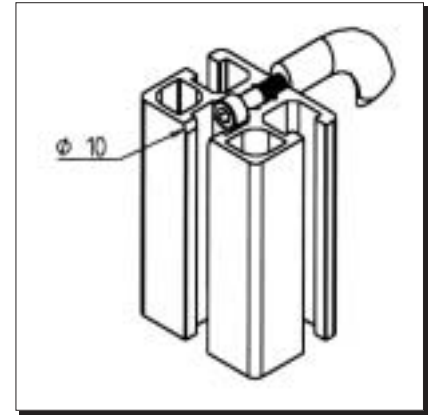
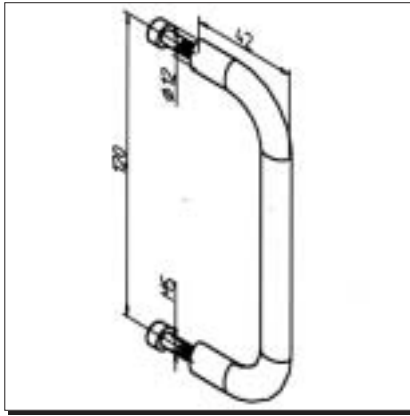
- Location hole fitting for radial ball bearing 6206 2RS Part N° 50.0977/1
- Use fixing kit from supply schedule



HANDLES, LOCKS, STOPS

HANDLE AL

Part N° 21.1138/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

- Fixing kit

Weight 0,050 kg

APPLICATIONS

- Show cases

- Cabinets

- Light doors

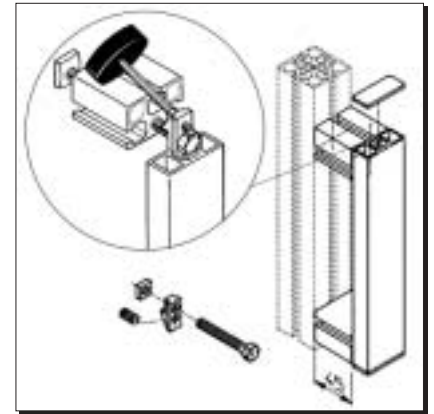
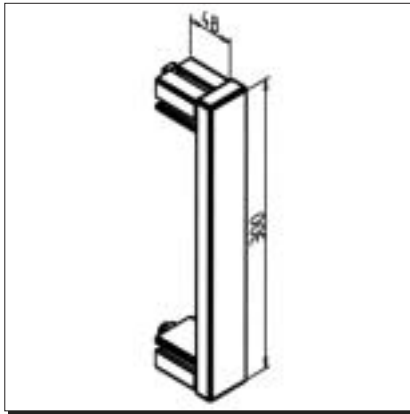
ASSEMBLY

- Use fixing kit from supply schedule

- With step drilling $\varnothing 10$ mm x 5,5 mm respectively through hole $\varnothing 5,5$ mm

PROFILE HANDLE

Part N° 21.1051/0



TECHN. DATA/ITEMS SUPPLIED

- Assembly kit made from MiniTec aluminium profiles

- Fixing kit

Weight 0,480 kg
Length 300 mm

Other lengths on request

APPLICATIONS

- Handle for very large doors, lids, trolleys, removable panel elements

ASSEMBLY

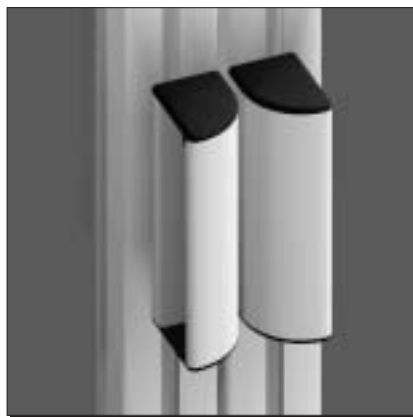
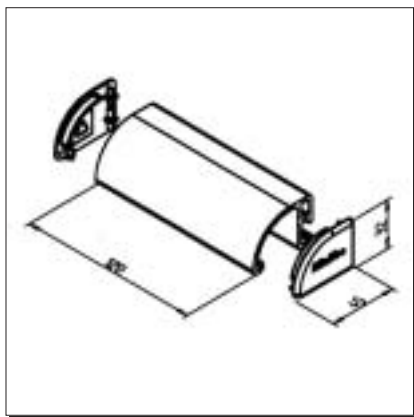
- Put the screw with fastener through the bore of the distance piece

- Griffprofil einschieben und Profilverbinder an Distanzstücken anziehen

- Abdeckkappen montieren

CLOSED PROTECTIVE HANDLE

Part N° 21.1048/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium anodized
 - End caps
 - Without fixing kit
- | | | |
|--------|-------|----|
| Weight | 0,113 | kg |
| Length | 120 | mm |

Other lengths on request

APPLICATIONS

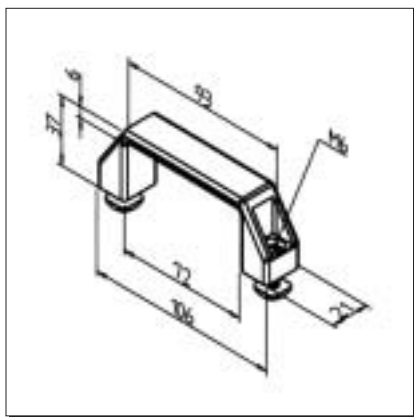
- For doors
- Lids
- Guards
- Furniture

ASSEMBLY

- On profile groove with 2 cap screws M6 x 20 and square nut M6
- Directly on panel element with cap screw M6, length according to material thickness
- Assembly can also be carried out from the rear side; for this purpose insert square nut M6

HANDLE 90

Part N° 21.1099/1



TECHN. DATA/ITEMS SUPPLIED

- PA 6.6, grey
 - On request also deliverable in black
 - Fixing kit
- | | | |
|--------|-------|----|
| Weight | 0,025 | kg |
|--------|-------|----|

APPLICATIONS

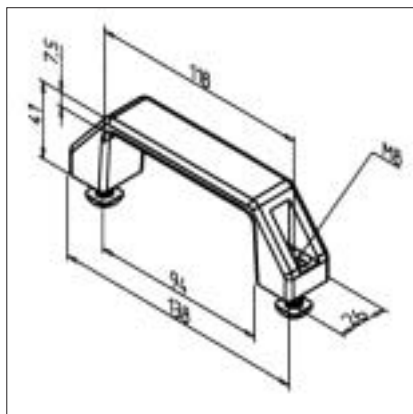
- For doors
- Lids
- Guards

ASSEMBLY

- Use fixing kit from supply schedule
- Directly on panel element with cap screw M6, length according to material thickness
- Assembly can also be carried out from the rear side

HANDLE 120

Part N° 21.1092/1



TECHN. DATA/ITEMS SUPPLIED

- PA 6.6, grey
 - On request also deliverable in black
 - Fixing kit
- | | |
|--------|----------|
| Weight | 0,074 kg |
|--------|----------|

APPLICATIONS

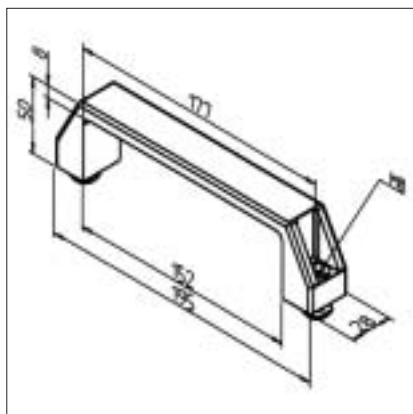
- For doors
- Lids
- Guards

ASSEMBLY

- Use fixing kit from supply schedule
- Directly on panel element with screw M8, length according to material thickness
- Fixing is possible from front or rear

HANDLE 180

Part N° 21.1094/1



TECHN. DATA/ITEMS SUPPLIED

- PA 6.6, grey
 - On request also deliverable in black
 - Fixing kit
- | | |
|--------|----------|
| Weight | 0,099 kg |
|--------|----------|

APPLICATIONS

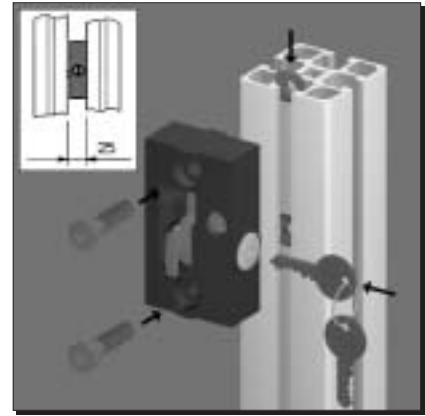
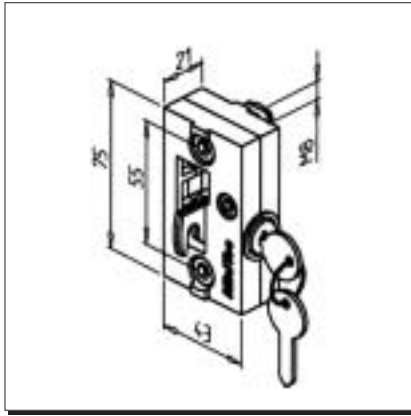
- For doors
- Lids
- Guards

ASSEMBLY

- Use fixing kit from supply schedule
- Directly on panel element with screw M8, length according to material thickness
- Fixing is possible from front or rear

DOOR LOCK

Part N° 21.1750/5



TECHN. DATA/ITEMS SUPPLIED

- PA 6.6, grey
 - On request also deliverable in black
 - Cylinder lock with 2 keys
 - Lock, steel, zinc-plated
 - Fixing kit
- Weight 0,195 kg

APPLICATIONS

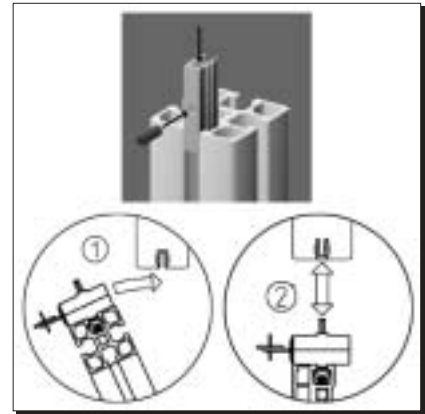
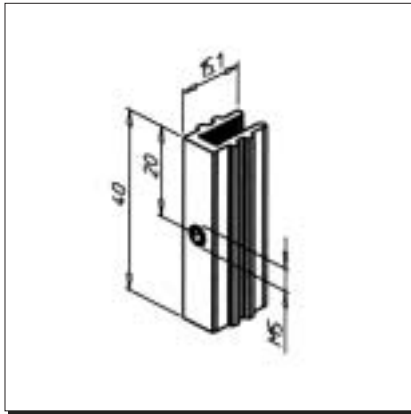
- For doors
- Lids
- Guards

ASSEMBLY

- Use fixing kit from supply schedule
- Door lock meshes into groove of opposite profile
- Suitable for left and right hand mounting

CATCH 8

Part N° 21.1754/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium natural, anodized
 - With set-screw
- Weight 0,009 kg

APPLICATIONS

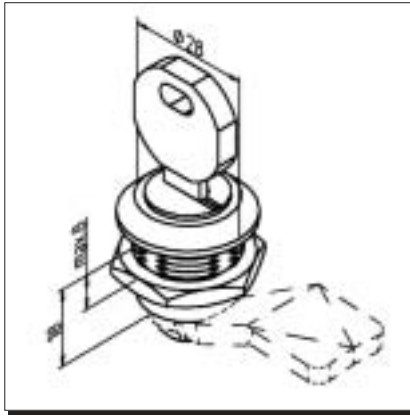
- Locking of sliding doors, swing doors with door lock

ASSEMBLY

- Slip the catch into profile groove
- 1) Catch open: for swing doors
- 2) Catch closed (as shown in the picture): for sliding doors
- Fix in desired position with set-screw

CYLINDER LOCK

Part N° 21.1752/0



TECHN. DATA/ITEMS SUPPLIED

- Brass, chrome plated

- Without lock

- 2 keys

Weight 0,097 kg

APPLICATIONS

- Light doors from panel elements up to 8 mm thickness

ASSEMBLY

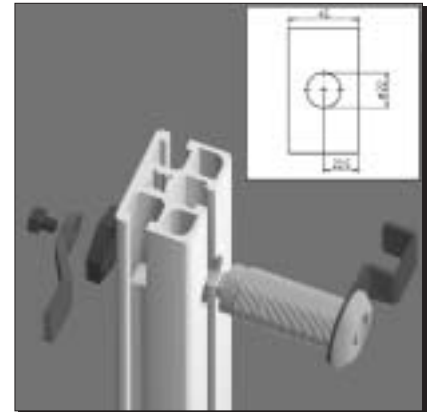
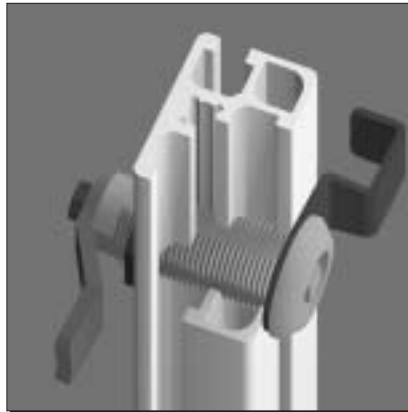
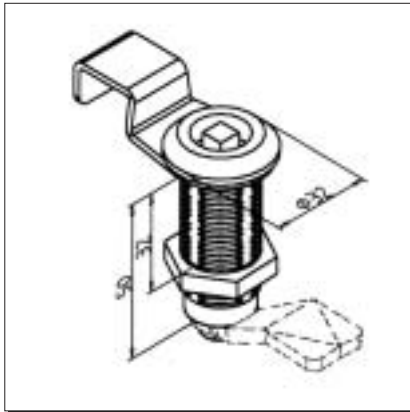
- Bore \varnothing 22 mm in panel element

- Position: 22 mm from edge in both directions

- Selection of locks see page 112

BOLT LOCK 32 FOR FOUR-FACED KEY

Part N° 21.1087/6



TECHN. DATA/ITEMS SUPPLIED

- Housing GD Zn, black

- With four-faced key

- Opener, black

- Fixing nut, steel, zinc-plated

- Without lock

Weight 0,140 kg

APPLICATIONS

- For profiles 32

- Locking of doors and lids in guard units

ASSEMBLY

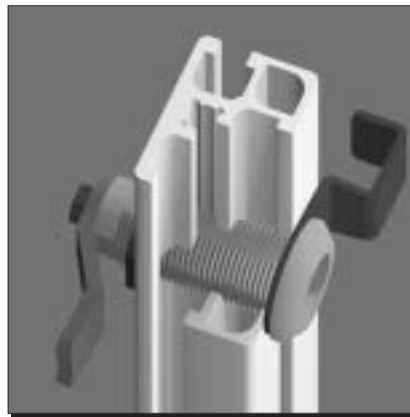
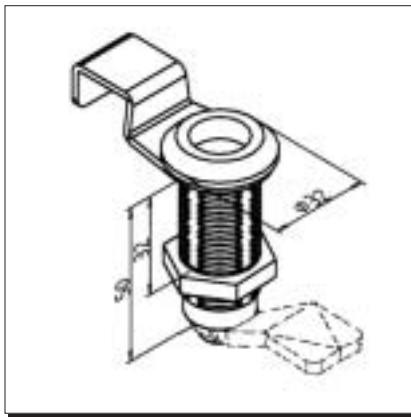
- Bore \varnothing 22 mm in the middle of the profile

- Tighten bolt lock from the rear with fixing nut

- Selection of locks see page 112

BOLT LOCK 32 SOCKET HEX HEAD WRENCH 10 A/F

Part N° 21.1087/8



TECHN. DATA/ITEMS SUPPLIED

- Housing GD Zn, black
 - For socket hex head wrench 10 A/F
 - Opener, black
 - Fixing nut, steel, zinc-plated
 - Without lock
- Weight 0,142 kg

APPLICATIONS

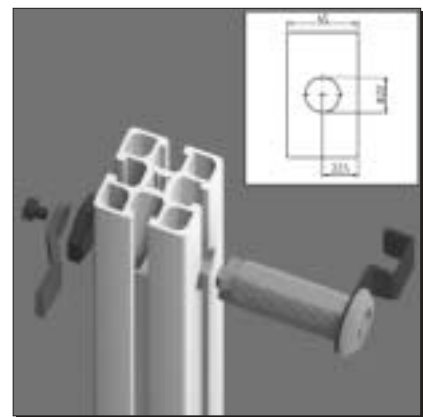
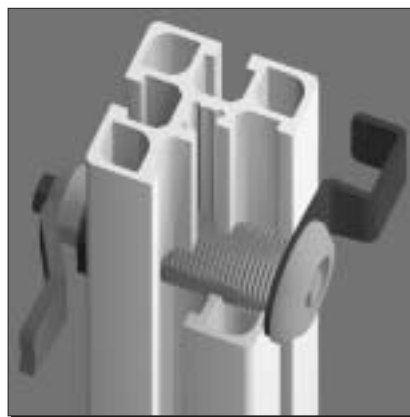
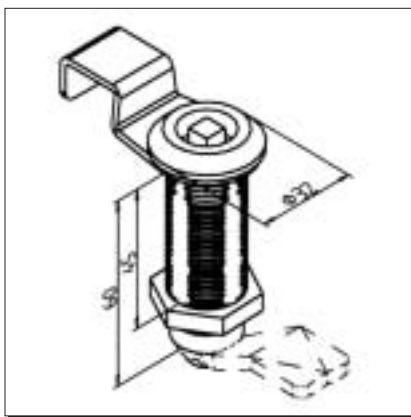
- For profiles 32
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten bolt lock from the rear with fixing nut
- Selection of locks see page 112

BOLT LOCK 45 FOR FOUR-FACED KEY

Part N° 21.1087/7



TECHN. DATA/ITEMS SUPPLIED

- Housing GD Zn, black
 - With four-faced key
 - Opener, black
 - Fixing nut, steel, zinc-plated
 - Without lock
- Weight 0,162 kg

APPLICATIONS

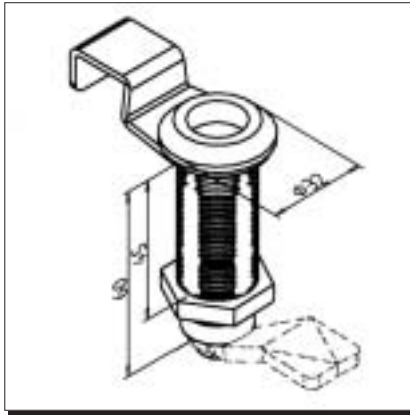
- For profiles 45
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten bolt lock from the rear with fixing nut
- Selection of locks see page 112

BOLT LOCK 45 SOCKET HEX HEAD WRENCH 10 A/F

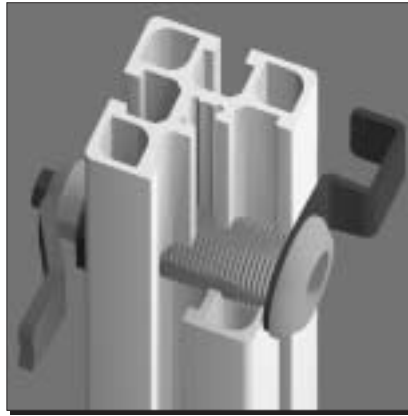
Part N° 21.1087/9



TECHN. DATA/ITEMS SUPPLIED

- Housing GD Zn, black
- For socket hex head wrench 10 A/F
- Opener, black
- Fixing nut, steel, zinc-plated
- Without lock

Weight 0,16 kg



APPLICATIONS

- For profiles 45
- Locking of doors and lids in guard units

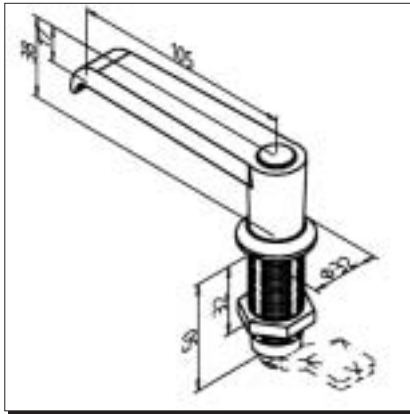


ASSEMBLY

- Bore \varnothing 22 mm in the middle of the profile
- Tighten bolt lock from the rear with fixing nut
- Selection of locks see page 112

HANDLE 32 WITHOUT PROFILE CYLINDER LOCK

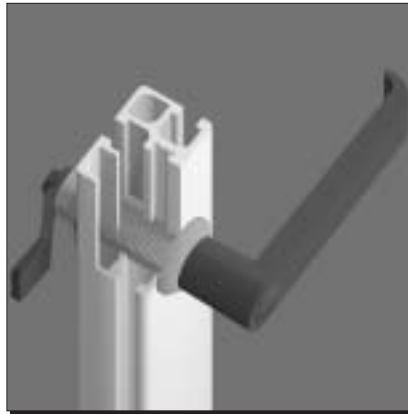
Part N° 21.1087/4



TECHN. DATA/ITEMS SUPPLIED

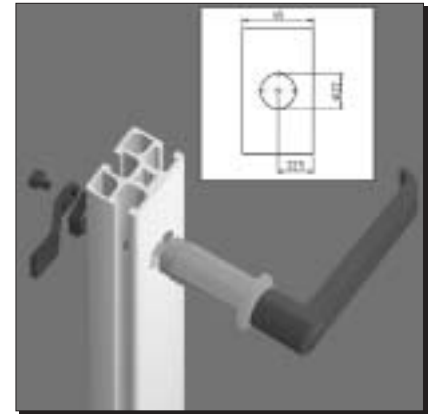
- Housing PA/GD Zn, grey
- On request also deliverable in black
- Fixing nut, steel, zinc-plated
- Without lock

Weight 0,170 kg



APPLICATIONS

- For profiles 32
- Locking of doors and lids in guard units

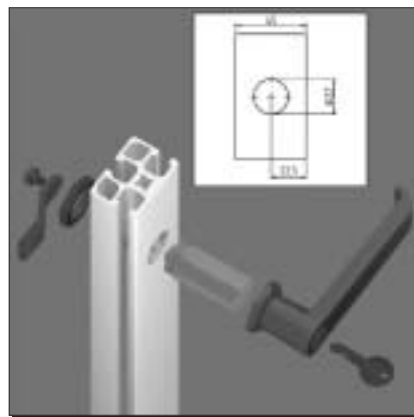
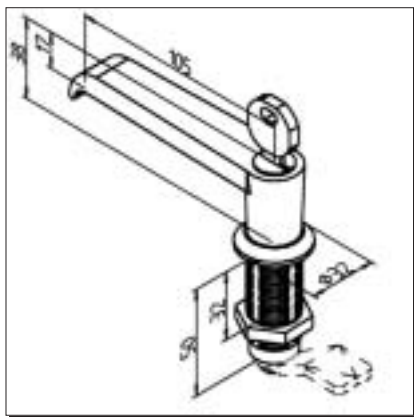


ASSEMBLY

- Bore \varnothing 22 mm in the middle of the profile
- Tighten handle from the rear with fixing nut
- Selection of locks see page 112

HANDLE 32 WITH PROFILE CYLINDER LOCK

Part N° 21.1091/4



TECHN. DATA/ITEMS SUPPLIED

- Housing PA/GD Zn, grey
- On request also deliverable in black
- Fixing nut, steel, zinc-plated
- Without lock

Weight 0,170 kg

APPLICATIONS

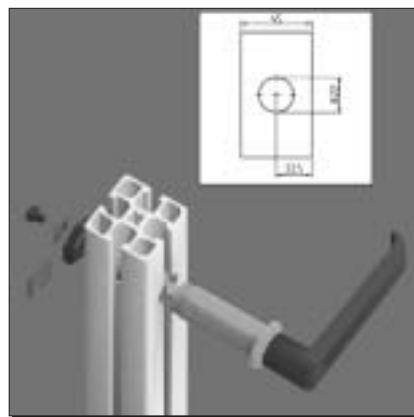
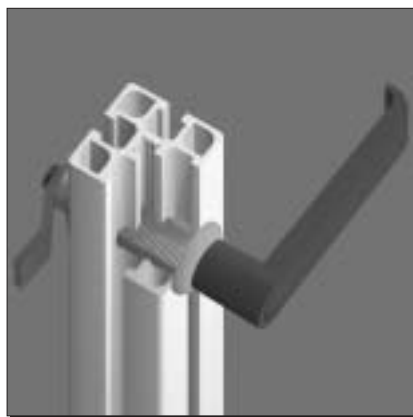
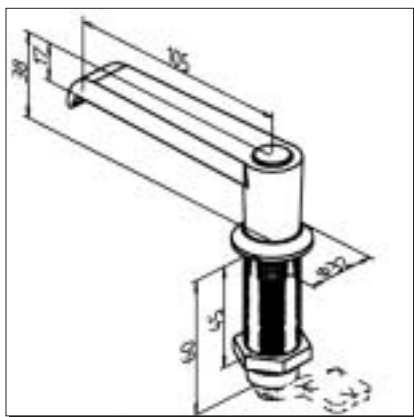
- For profiles 32
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten handle from the rear with fixing nut
- Selection of locks see page 112

HANDLE 45 WITHOUT PROFILE CYLINDER LOCK

Part N° 21.1087/3



TECHN. DATA/ITEMS SUPPLIED

- Housing PA/GD Zn, grey
- On request also deliverable in black
- Fixing nut, steel, zinc-plated
- Without lock

Weight 0,195 kg

APPLICATIONS

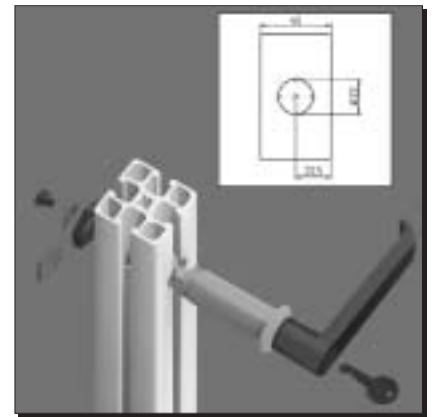
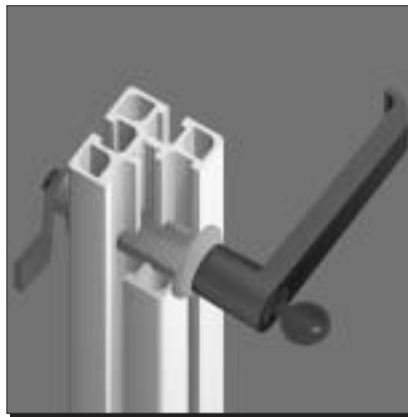
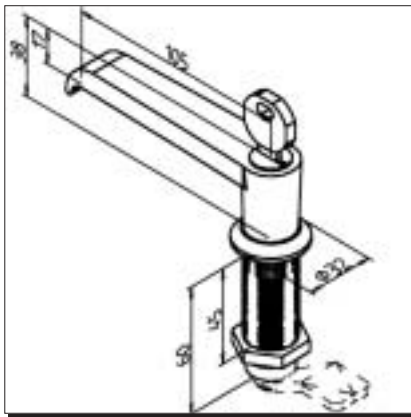
- For profiles 45
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten handle from the rear with fixing nut
- Selection of locks see page 112

HANDLE 45 WITH PROFILE CYLINDER LOCK

Part N° 21.1091/3



TECHN. DATA/ITEMS SUPPLIED

- Housing PA/GD Zn, grey
- On request also deliverable in black
- Fixing nut, steel, zinc-plated
- Without lock

Weight 0,195 kg

APPLICATIONS

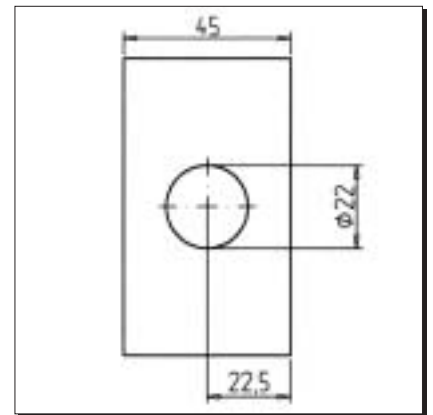
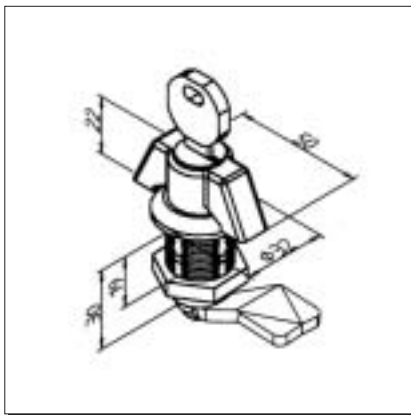
- For profiles 45
- Locking of doors and lids in guard units

ASSEMBLY

- Bore \varnothing 22 mm in the middle of the profile
- Tighten handle from the rear with fixing nut
- Selection of locks see page 112

T-HANDLE 19

Part N° 21.1015/2



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, chrome plated
- with profile cylinder lock
- Fixing nut, steel, zinc plated
- Without lock

Weight 0,168 kg

APPLICATIONS

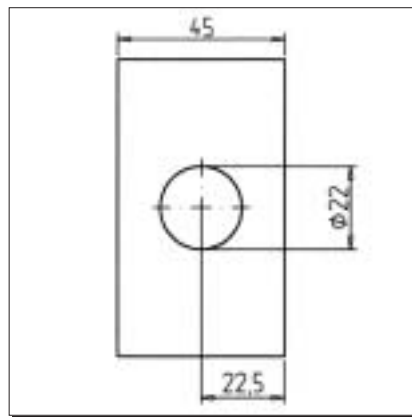
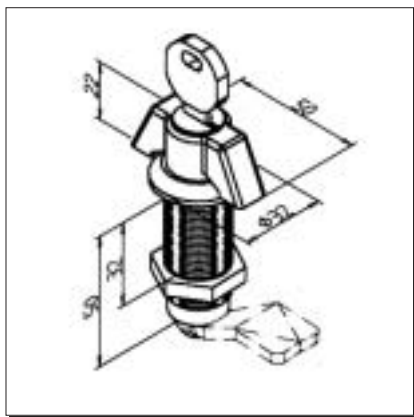
- For profiles 19
- Locking of doors and lids in guard units

ASSEMBLY

- Bore \varnothing 22 mm in the middle of the profile
- Tighten T-handle from the rear with fixing nut
- Selection of locks see page 112

T-HANDLE 32

Part N° 21.1015/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, chrome plated
 - with profile cylinder lock
 - Fixing nut, steel, zinc plated
 - Without lock
- Weight 0,188 kg

APPLICATIONS

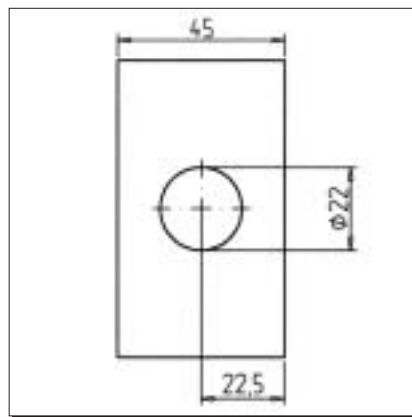
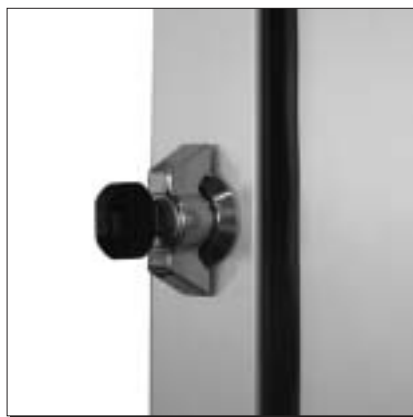
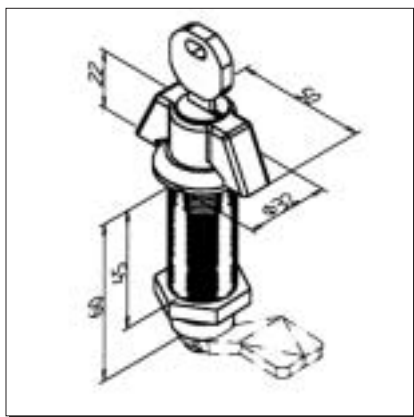
- For profiles 32
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten T-handle from the rear with fixing nut
- Selection of locks see page 112

T-HANDLE 45

Part N° 21.1015/1



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, chrome plated
 - with profile cylinder lock
 - Fixing nut, steel, zinc plated
 - Without lock
- Weight 0,198 kg

APPLICATIONS

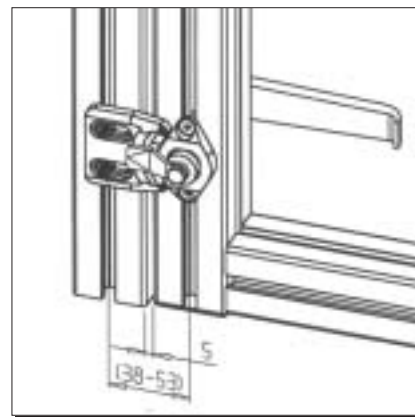
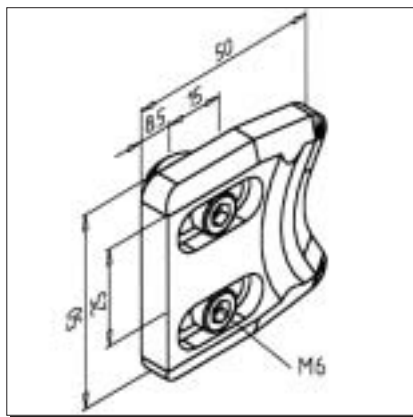
- For profile 45
- Locking of doors and lids in guard units

ASSEMBLY

- Bore Ø 22 mm in the middle of the profile
- Tighten T-handle from the rear with fixing nut
- Selection of locks see page 112

DOOR STOP S

Part N° 21.1767/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, black

- Fixing kit

Weight 0,077 kg

APPLICATIONS

- Adjustable stop for swing-doors

- Especially designed for use in combination with handles, bolt-locks or t-handles

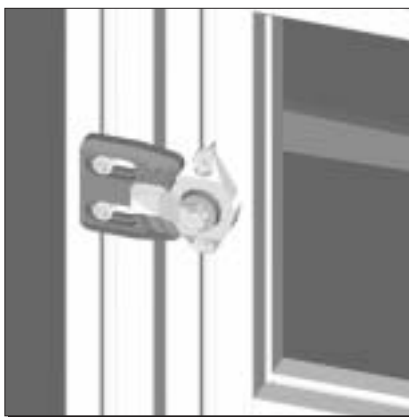
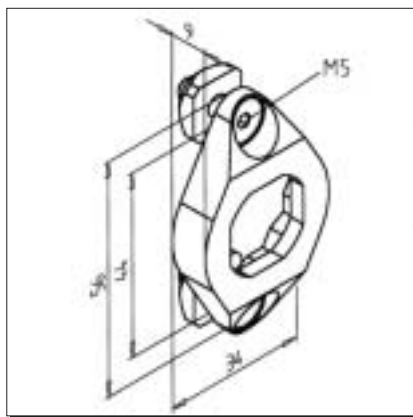
- Precise and strong door stop

ASSEMBLY

- Screw with fixing kit on door-frame

TWIST-STOP

Part N° 21.1768/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, black

- Fixing kit

Weight 0,040 kg

APPLICATIONS

- Protection of bolt-locks, handles and T-handles against unwanted loosening or overturning

- In particular fitting in combination with Door Stop S Part N° 21.1767/0

ASSEMBLY

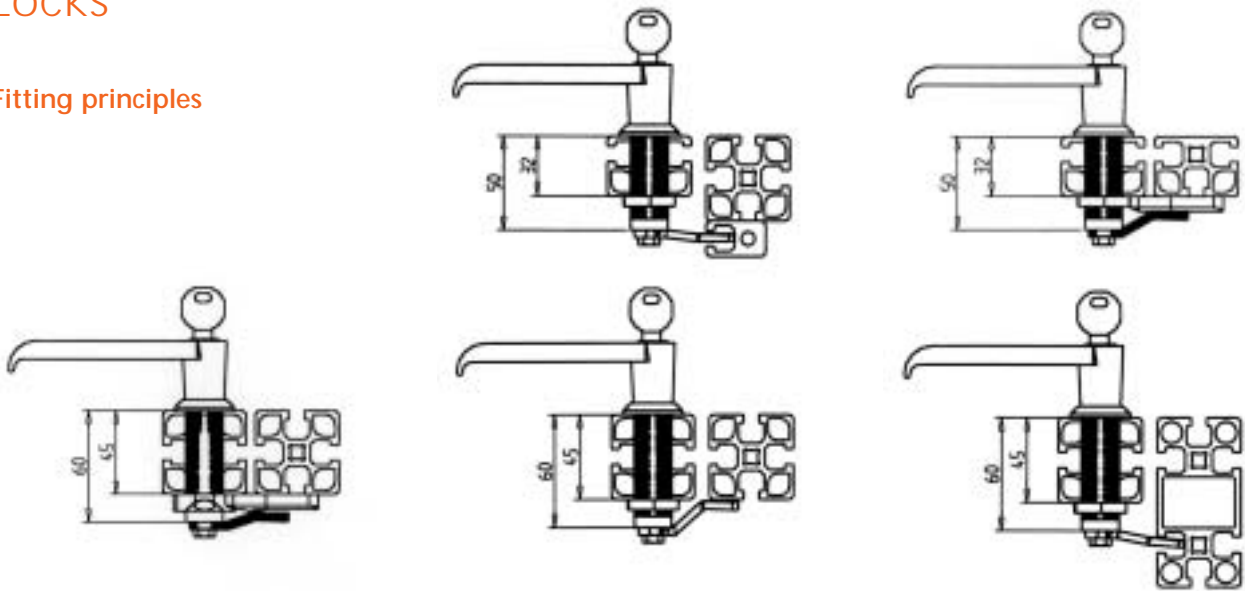
- Mount handle or bolt-lock as usual

- Fix Twist-Stop using fixing kit

- Mount lock

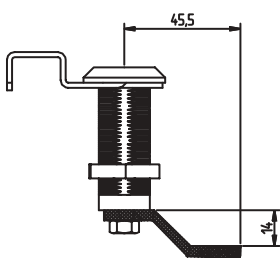
LOCKS

Fitting principles

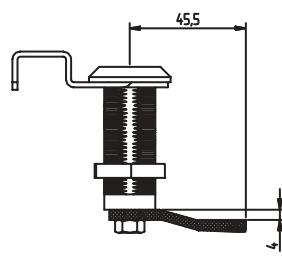


Selection of locks

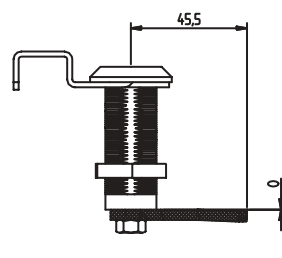
Door profile	45 x 45 mm	32 x 45 mm	19 x 45 mm	Panel elements 4-8 mm
	Lock	handle 45 or bolt lock 45	handle 32 or bolt lock 32	handle 32 or bolt lock 32
Frame profile	Part number of locks			
90 x 45	21.1093/1	21.1093/0	21.1093/0	21.1093/2
45 x 45	21.1093/5	21.1093/3	21.1093/3	21.1093/2
With catch 19	21.1093/4	21.1093/2	21.1093/2	-----
With door stop S	21.1093/6	-----	-----	-----
32 x 45	-----	21.1093/5	21.1093/5	21.1093/5
With catch 19	-----	21.1093/4	21.1093/4	-----
With door stop S	-----	21.1093/4	-----	-----



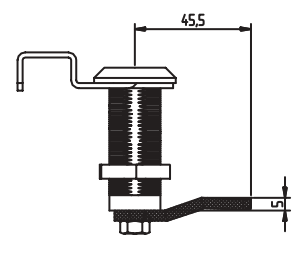
Part no. 21.1093/0



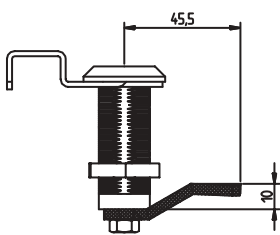
Part no. 21.1093/1



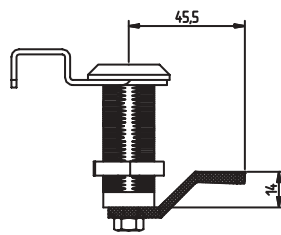
Part no. 21.1093/2



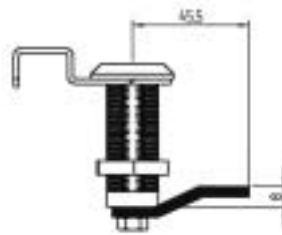
Part no. 21.1093/3



Part no. 21.1093/4



Part no. 21.1093/5



Part no. 21.1093/6

ROD LOCK

Items supplied

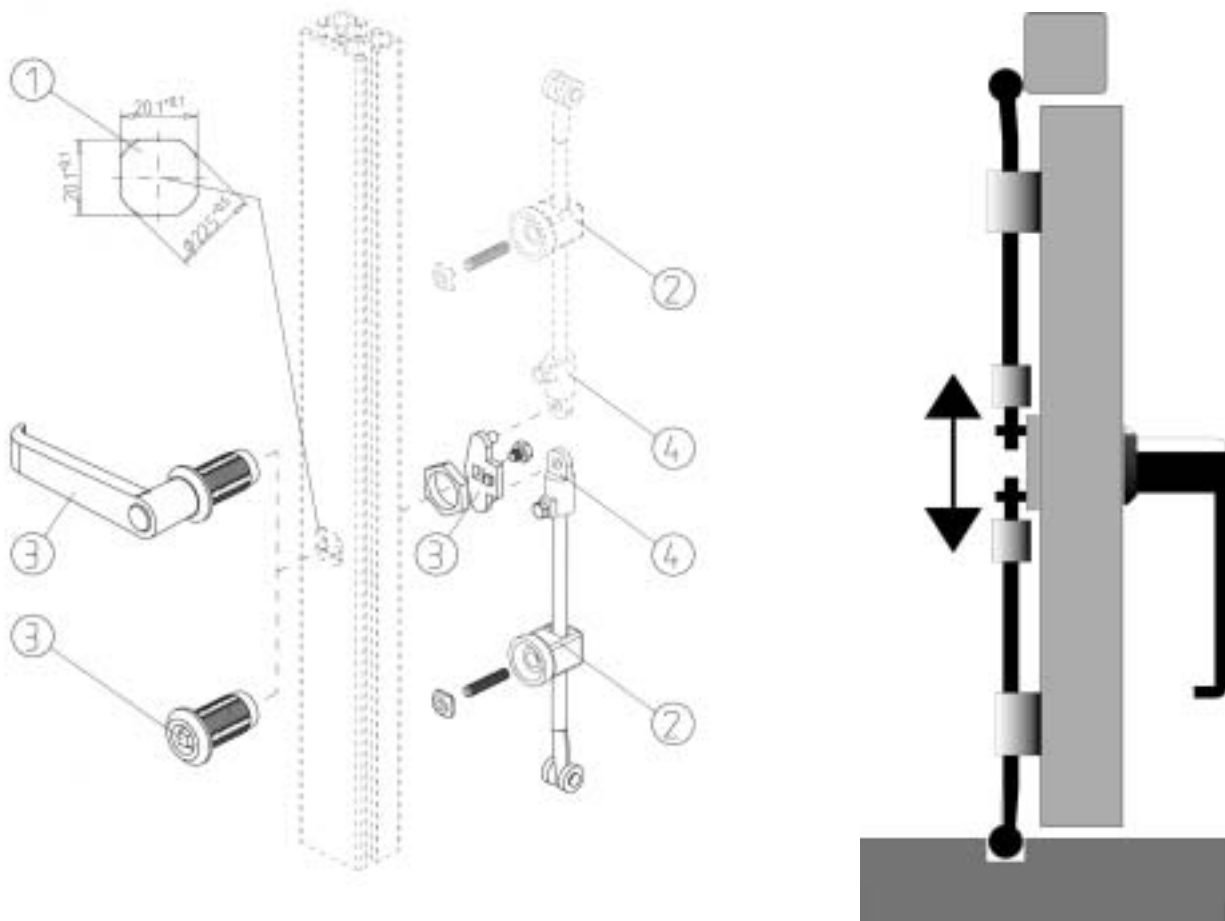
- Bolt lock, steel with square key
- Optional: handle or handle with cylinder lock
- Latch with rod connections, steel, galvanized
- Latch with rollers (l = 1100 mm), steel, galvanized
- Rod guiding element, PA with nut M6

Applications

- For locking doors at upper or lower beam
- Use 2 rods for 2-sided locking
- Order bolt lock, handle without lock or handle with cylinder lock
- Especially suited for control boxes or double-sided doors

Assembly

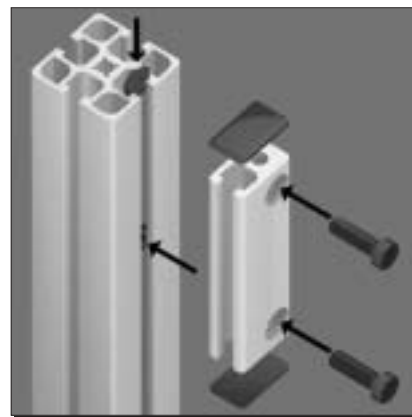
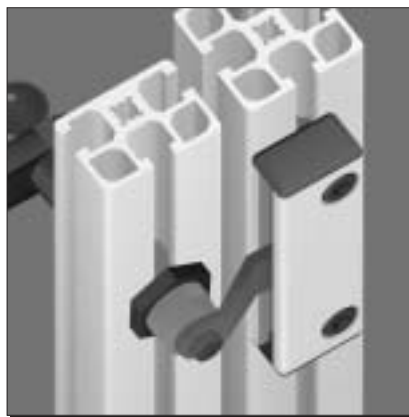
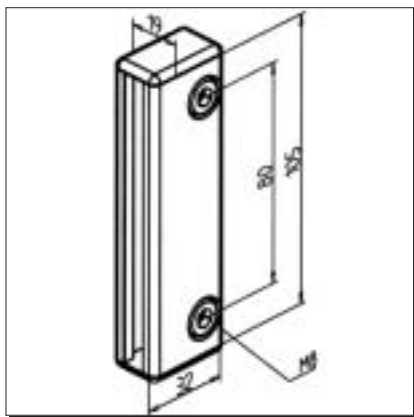
- 1) Mill bore \varnothing 22,5 mm as shown in figure below
- 2) Fix rod guide with set screw M6 x 30 at desired position. No drilling necessary. Screw square nut loose onto set screw. Insert the square nut into the profile groove and twist the plastic part until the guide is fixed.
- 3) Attach bolt lock or handle.
- 4) Insert rod into guiding element and connect with latch.



Profile	Bolt lock		Handle without lock		Handle with cylinder lock	
	1 rod	2 rods	1rod	2 rods	1 rod	2 rods
32 x 45	21.1798/0	21.1798/2	21.1798/3	21.1798/4	21.1798/5	21.1798/6
45 x 45	21.1788/0	21.1788/2	21.1788/3	21.1788/4	21.1788/5	21.1788/6

CATCH 19

Part N° 21.1755/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 19 x 32

- End caps

- Fixing kit

Weight 0,040 kg

APPLICATIONS

- Locking of doors and lids in connection with handles and bolt locks

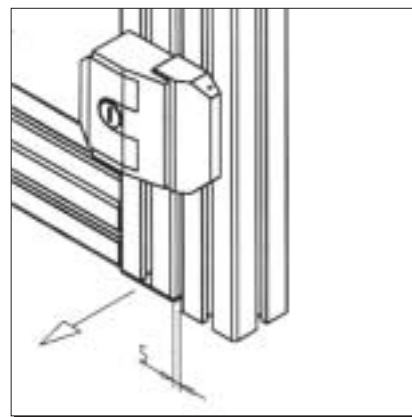
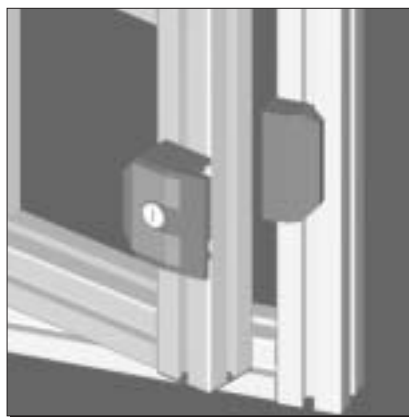
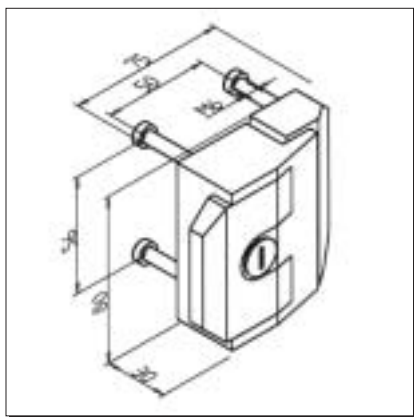
ASSEMBLY

- Use fixing kit from supply schedule

- Selection of locks see page 112

TRUNK-LOCK

Part N° 21.1764/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, black

- Lock with 2 keys

- Fixing kit

Weight 0,550 kg

ANWENDUNG

- Locking of door or lids

- No additional door-stop necessary

- Useable for frameless doors

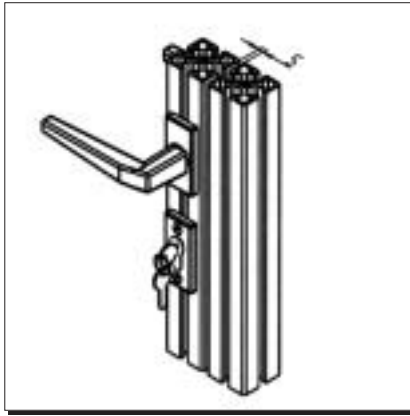
MONTAGE

- Insert screws of fixing kit in lock and stop

- Drill through-holes \varnothing 6,5 mm in door and post, screw both parts from backside

DOOR HANDLE

Part N° 21.1748/0



TECHN. DATA/ITEMS SUPPLIED

- Lock housing steel, zinc plated; fitted into profile 45 x 45

- Fittings, aluminium, anodized

- Profile cylinder with 3 keys, mounted

Weight 0,850 kg

+ 1,950 kg/m

Length 2 m

When ordering, please indicate the required profile length

APPLICATIONS

- Swing doors for guard units

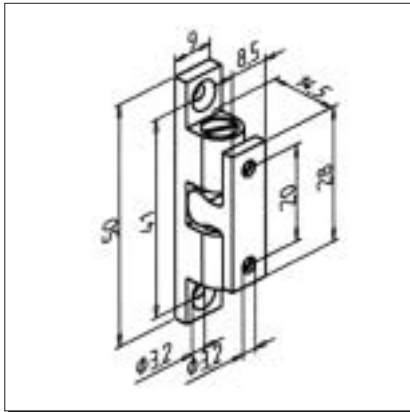
ASSEMBLY

- Allow 5 mm space between door and frame

- Door lock meshes into groove of opposite profil

BALL LATCH 50

Part N° 21.1763/0



TECHN. DATA/ITEMS SUPPLIED

- Brass

- Holding force adjustable 8 -40 N

- Fixing kit

Weight 0,027 kg

APPLICATIONS

- Stop and catch for swing- and sliding doors

- The latch housing fits into profile groove. This allows gap-free closing of sliding doors

- Doors, lids, removable panel elements

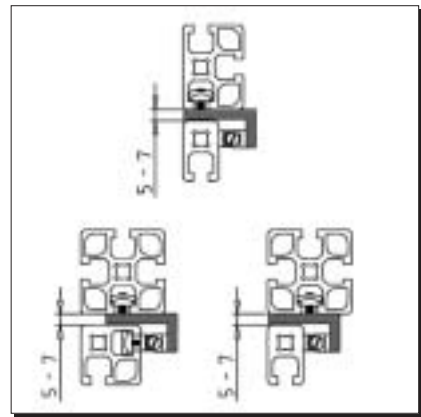
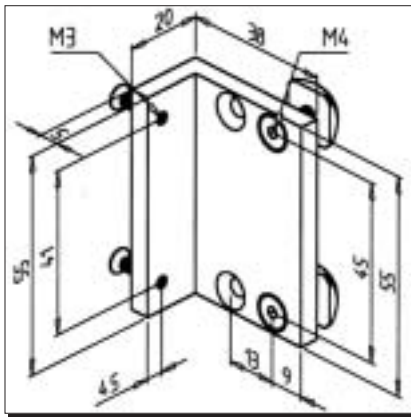
ASSEMBLY

- Use fixing kit from supply schedule

- Holding plate on profile surface with self-tapping screws

BALL LATCH SUPPORT 50

Part N° 21.1139/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural, anodized
 - Fixing kit
- Weight 0,037 kg

APPLICATIONS

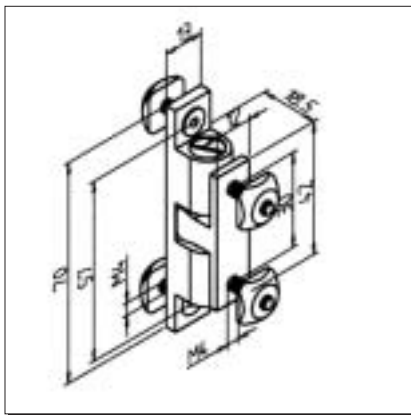
- Attachment of ball latch 50 in doors, lids
- Removable panel elements
- Door stop

ASSEMBLY

- Use fixing kit from supply schedule

BALL LATCH 70

Part N° 21.1757/0



TECHN. DATA/ITEMS SUPPLIED

- Brass
 - Holding force adjustable
 - Fixing kit
- Weight 0,052 kg

APPLICATIONS

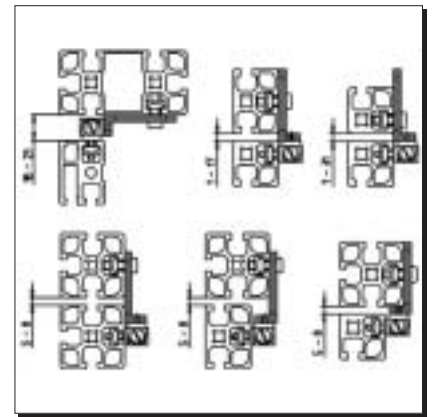
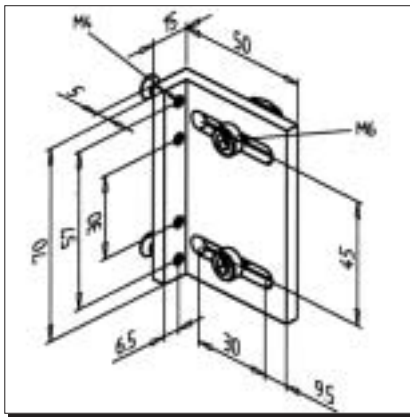
- Quick attachment of easy to remove panel elements
- Stop and catch for sliding doors, swing doors, lids

ASSEMBLY

- Use fixing kit from supply schedule

BALL LATCH SUPPORT 70

Part N° 21.1137/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural, anodized

- Fixing kit

Weight 0,062 kg

APPLICATIONS

- Attachment of ball latch 70 in doors, lids, removable panel elements

- Door stop

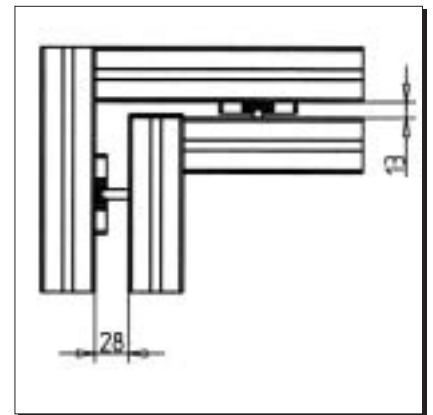
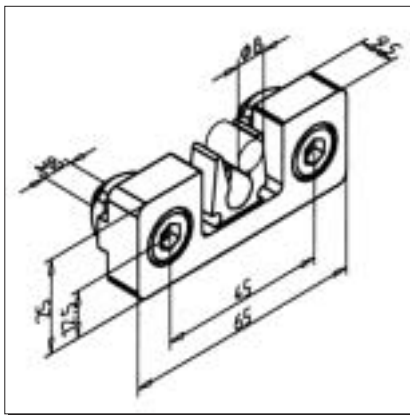
- If using profile 32, ball latch support has to be shortened

ASSEMBLY

- Use fixing kit from supply schedule

DOOR CATCH

Part N° 21.1756/1



TECHN. DATA/ITEMS SUPPLIED

- PA 6, grey

- On request also deliverable in black

- Fixing kit

Weight 0,041 kg

APPLICATIONS

- Quick catch of doors and lids

- Function in connection with snap bolt

- Roller carrier for transport rollers

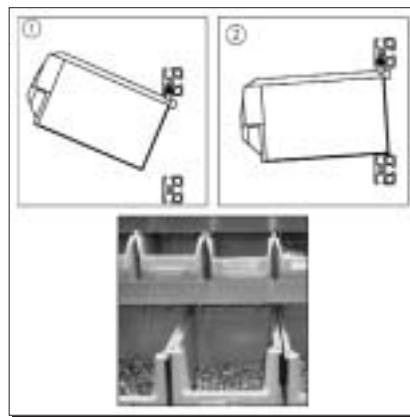
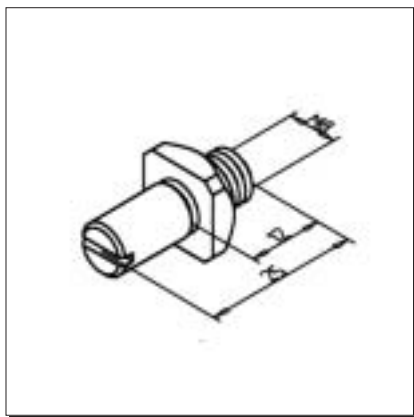
ASSEMBLY

- Mount on all profiles with fixing kit from supply schedule

- Alternative use of snap bolt 25 or 40

SNAP BOLT 25

Part N° 21.1758/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
 - With square nut, zinc plated
- Weight 0,013 kg

APPLICATIONS

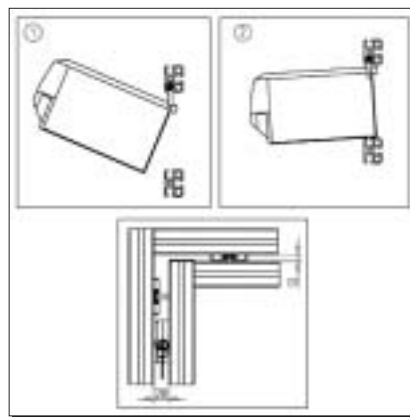
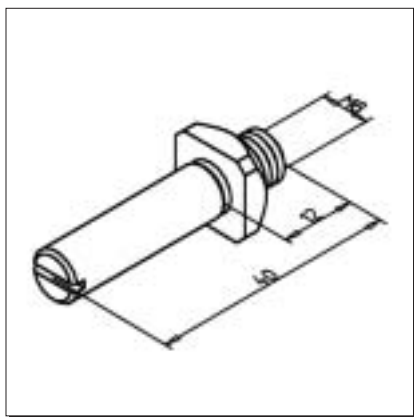
- Door catches
- Attachment of grab trays in work benches between 2 profiles
- Supports

ASSEMBLY

- Use fixing kit from supply schedule

SNAP BOLT 40

Part N° 21.1760/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
 - With square nut, zinc plated
- Weight 0,019 kg

APPLICATIONS

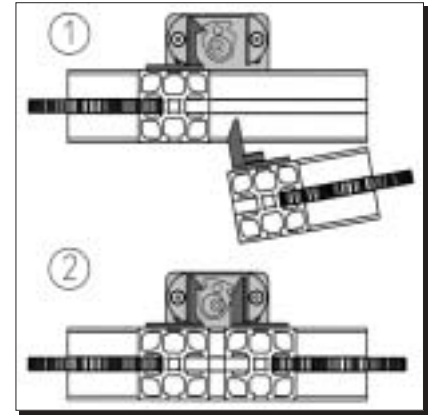
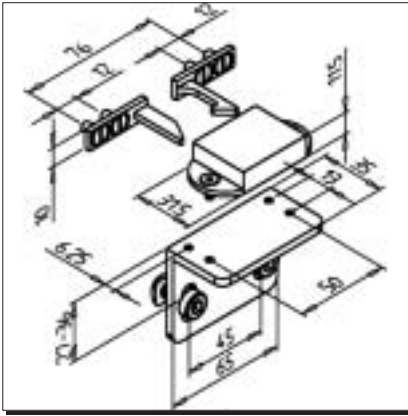
- Door catches
- Attachment of grab trays in work benches between 2 profiles
- Supports

ASSEMBLY

- Screw with square nut in profile groove

LOCK FOR DOUBLE DOOR

Part N° 21.0990/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, chrome plated
- 2 locks
- Holding angle
- Fixing kit

Weight 0,020 kg

APPLICATIONS

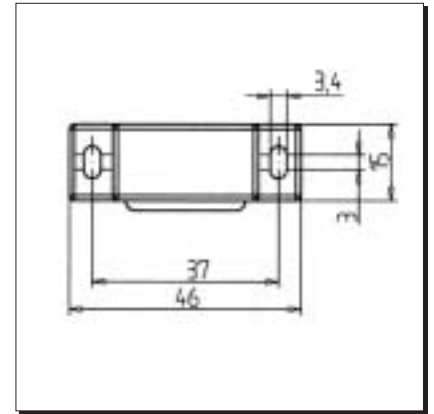
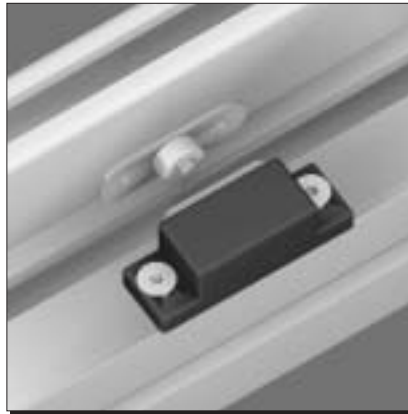
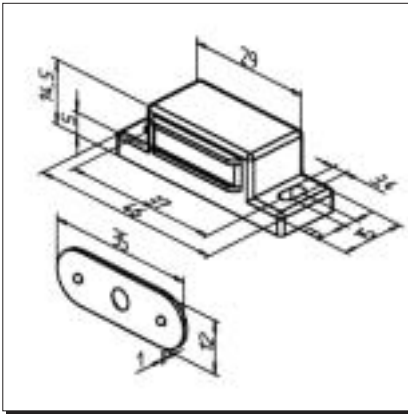
- Locking of double doors with only one profile cylinder lock
- After Insertion of the second tongue, the first door cannot be opened. A locking mechanism on the second door suffice for bolting.

ASSEMBLY

- Fix lock angle upper or lower frame, position at door folding
- Select the threads according to the profiles used for the doors
- Screw catches on door-wings and adjust to lock

MAGNETIC CATCH

Part N° 21.1753/0



TECHN. DATA/ITEMS SUPPLIED

- Housing PA 6, black
- Holding plate, steel, zinc plated
- Fixing kit

Weight 0,020 kg

APPLICATIONS

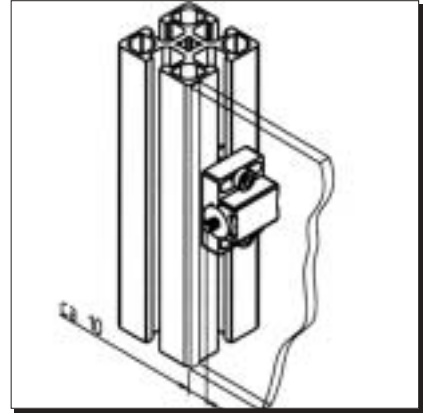
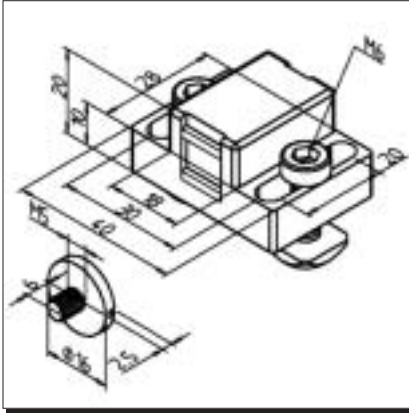
- Quick catch for swing-doors
- Attachment of light panel elements

ASSEMBLY

- Mount with fixing kit on profile surface

MAGNETIC CATCH N

Part N° 21.1741/0



TECHN. DATA/ITEMS SUPPLIED

- Housing PA 6, grey
 - Holding plate, steel, zinc plated
 - Fixing kit
- Weight 0,059 kg

APPLICATIONS

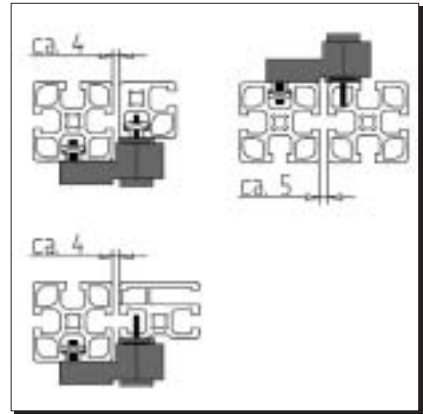
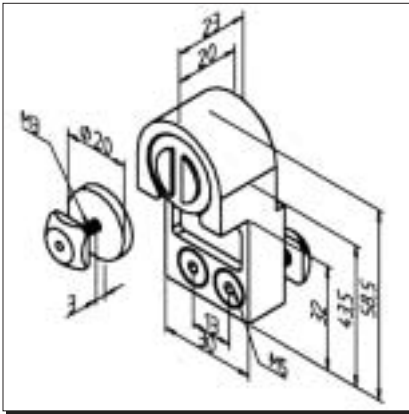
- Stop and quick catch for swing doors
- Fastening of light panel elements

ASSEMBLY

- Use fixing kit from supply schedule
- Opposite plate directly on profile surface or panel element ; thread M5 required

MAGNETIC CATCH S

Part N° 21.1740/0



TECHN. DATA/ITEMS SUPPLIED

- Housing PA 6, grey
 - Holding plate, steel, black finished
 - Fixing kit
- Weight 0,059 kg

APPLICATIONS

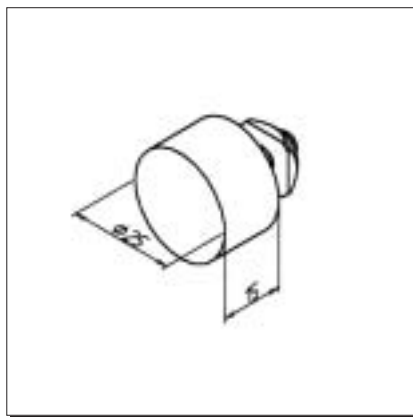
- Stop and quick catch for swing doors
- Fastening of light panel elements

ASSEMBLY

- Use fixing kit from supply schedule
- Opposite plate in profile groove or directly on profile surface; thread M3 required

STOPPER 25

Part N° 21.1759/0



TECHN. DATA/ITEMS SUPPLIED

- NBR, black

- Square nut M6, zinc plated

Weight 0,015 kg

APPLICATIONS

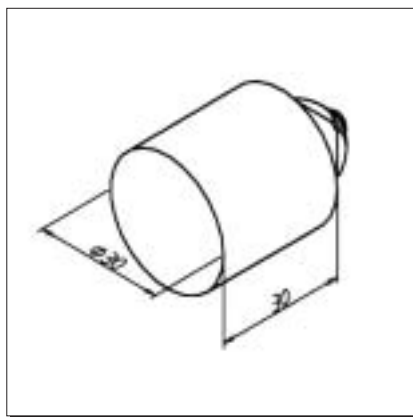
- Stop for doors, linear guides

ASSEMBLY

- Fix with square nut M6 in profile groove

STOPPER 30

Part N° 21.1759/1



TECHN. DATA/ITEMS SUPPLIED

- NBR, black

- Square nut M8, zinc plated

Weight 0,055 kg

APPLICATIONS

- Stop for heavy doors, linear guides

ASSEMBLY

- Fix with square nut M8 in profile groove



FEET, WHEELS, FLOOR
FASTENINGS, SUPPORTS



BASE AND TRANSPORT PLATE 45 X 90

Items supplied

- Aluminium, powder-coated, grey
- With fixing kit



Applications

- Mounting of adjustable feet or wheels on profiles 45 x 90

Assembly

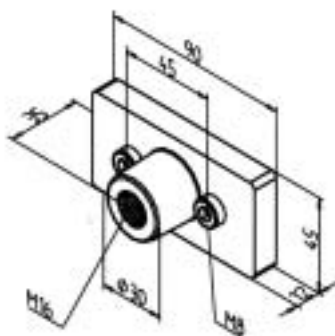
- Connection with fixing kit from supply schedule on profile face

Thread	Thickness	Weight	Part no.
M10	15 mm	0.164 kg	21.1038/0
M12	15 mm	0.162 kg	21.1039/0
M16	15 mm	0.160 kg	21.1040/0
M20	15 mm	0.156 kg	21.1047/0

BASE AND TRANSPORT PLATE 45 X 90 GD

Items supplied

- Aluminium, powder-coated, grey
- With fixing kit



Applications

- Mounting of adjustable feet or add-on pieces on profile face with thread M16 for profile 90 x 45

Assembly

- Connection with fixing kit from supply schedule on profile face

Thread	Thickness	Weight	Part no.
M16	15 mm	0.135 kg	21.1136/0

BASE AND TRANSPORT PLATE 90 X 90

Items supplied

- Aluminium, powder-coated, grey
- With fixing kit



Applications

- Mounting of adjustable feet or wheels on profiles 90 x 90

Assembly

- Connection with fixing kit from supply schedule on profile face

Thread	Thickness	Weight	Part no.
M10	15 mm	0,332 kg	21.1041/0
M12	15 mm	0,330 kg	21.1042/0
M16	15 mm	0,328 kg	21.1043/0
M20	15 mm	0,325 kg	21.1057/0

FEET PA



Items supplied

- Plate PA, grey
- Anti-skid insert NBR
- Threaded bolt, steel, galvanized
- Locknut, steel, galvanized
- All bolts are suitable for all plates

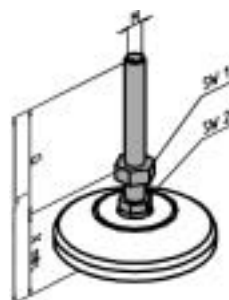
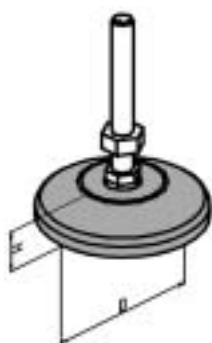
Applications

- Levelling of machine bases or constructions
- Boards, partitions, enclosures
- Tables, conveyors and work benches

Assembly

- Directly on core boring of profiles, reborable up to M12
- On larger threads use base and transport plate
- For profiles 45 x 90 und 90 x 90 a base and transport plate is required, if the feet are to be positioned centrally.

threaded bolt	Plate			
	Ø 30	Ø 45	Ø 60	Ø 80
M8	21.1851/0	21.1871/0	21.1881/0	21.1891/0
M10	21.1852/0	21.1872/0	21.1882/0	21.1892/0
M12	----	21.1873/0	21.1883/0	21.1893/0
M16	----	21.1874/0	21.1884/0	21.1894/0



Plate

D mm	H mm	max. load
30	20	300 kg
45	20	500 kg
60	20	1000 kg
80	20	1000 kg

Threaded bolt

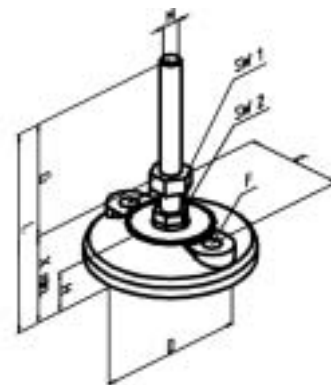
M	G	X	SW1	SW2	L
M8	34	35.4	13	14	69
M10	37.5	38	17	14	75.2
M12	141.5	41	19	14	182.3
M16	138.8	43.8	24	17	182

FEET PA WITH ATTACHMENT BORES



Items supplied

- Plate PA, grey
- Anti skid insert NBR
- Threaded bolt, steel, galvanized
- Locknut, steel, galvanized
- Feet with load 1800 kg are supplied without anti-skid insert NBR



Part no.	Colour	M	G	X	SW1	SW2	L	E	F	D	Load
21.1846/0	grey	M10	82.9	40	41.2	14	124	74	Ø 9	100	1000 kg
21.1847/0	grey	M12	141	42	41.7	14	181.9	74	Ø 9	100	1000 kg
21.1848/0	grey	M16	138	45	43.3	17	182	74	Ø 9	100	1000 kg
21.1141/0	black	M16	130	60	60	24	189	74	Ø 12,5	100	1800 kg
21.1075/0	black	M20	127.7	64	63.5	24	189.6	74	Ø 12,5	100	1800 kg

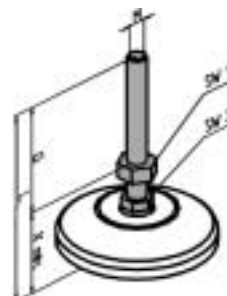
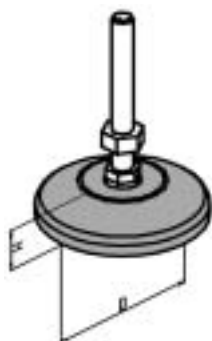
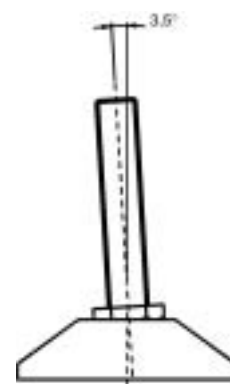
FEET GD

Items supplied

- Plate, aluminium, pressure die casting, powder-coated, grey
- Anti skid insert NBR
- Threaded bolt, steel, galvanized
- Locknut, steel, galvanized
- All bolts are suitable for all plates



Spindle	Plate	
	Ø 45	Ø 90
M10	21.1842/0	21.1862/0
M12	21.1843/0	21.1863/0
M16	21.1844/0	21.1864/0



Plate

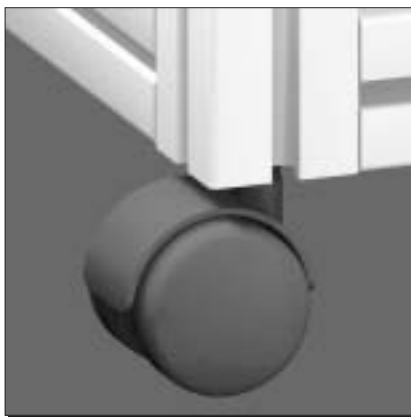
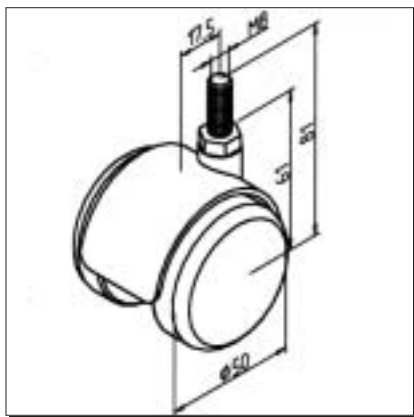
D mm	H mm	Load capacity
45	25	3000 kg
90	27	4000 kg

Threaded bolt

M	G	X	SW1	SW2	L
M10	52.6	37.5	17	17	89.5
M12	50.5	41	19	19	91.2
M16	68	45.6	24	24	112.6

FURNITURE WHEEL WITHOUT LOCKING DEVICE

Part N° 21.1105/0



TECHN. DATA/ITEMS SUPPLIED

- Housing, polyamide, black
- Double wheel, polyamide, black with slide bearing
- Fixing kit

Weight	0,076	kg
Load max	30	kg

APPLICATIONS

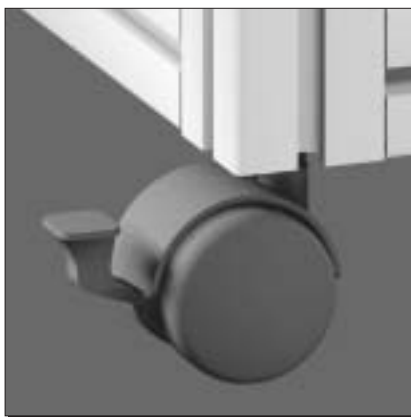
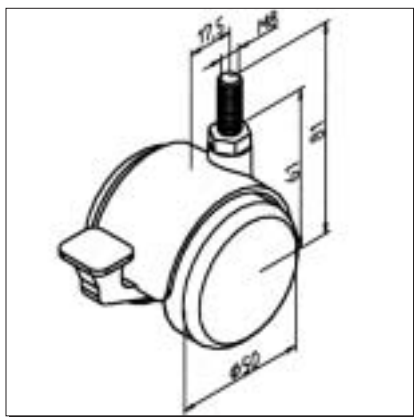
- Light movable tables
- Movable file box
- Office furniture
- Tool boxes

ASSEMBLY

- Directly on central bore of the vertical profile
- If the wheel is to be positioned centrally, for profiles 45 x 90 or bigger a base plate with thread M8 is required

FURNITURE WHEEL WITH LOCKING DEVICE

Part N° 21.1153/0



TECHN. DATA/ITEMS SUPPLIED

- Housing polyamide, black
- Double wheel, polyamide, black with slide bearing
- Fixing kit

Weight	0,080	kg
Load max	30	kg

APPLICATIONS

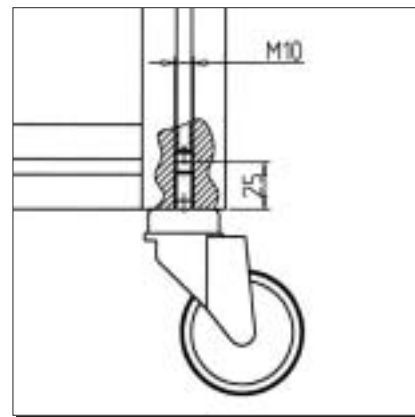
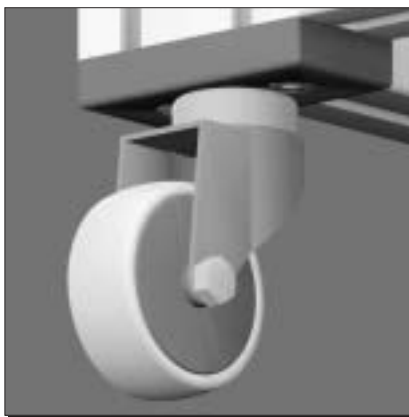
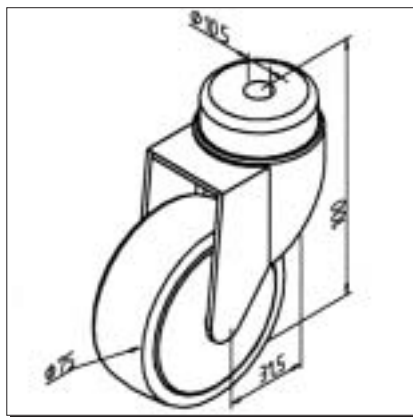
- Light movable tables
- Movable file box
- Office furniture
- Tool boxes

ASSEMBLY

- Directly on central bore of the vertical profile
- If the wheel is to be positioned centrally, for profiles 45 x 90 or bigger, a base plate with thread M8 is required

WHEEL SWIVEL TYPE WITHOUT BRAKE

Part N° 21.1118/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Tire, rubber, grey

- Fixing kit

Weight 0,225 kg

Load max 50 kg

Further constructions on demand

APPLICATIONS

- Movable tables

- Material-pillars

- Show cases etc

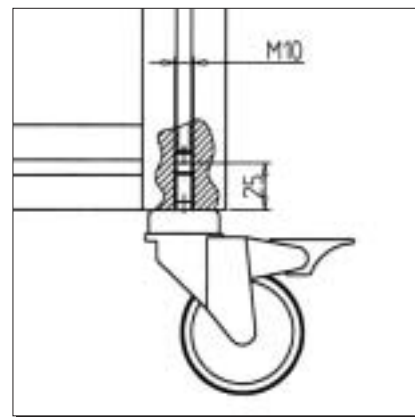
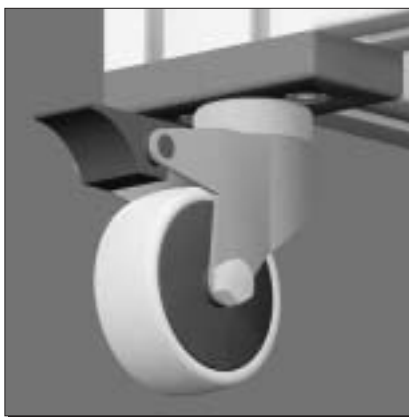
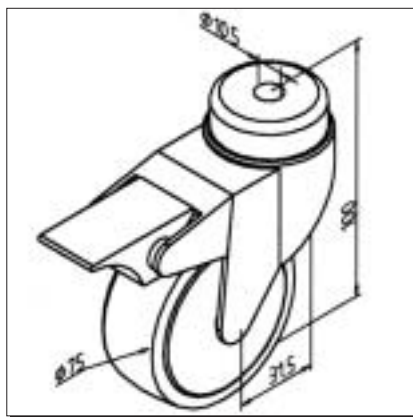
ASSEMBLY

- Directly on central bore of the vertical profile; thread M10 requested

- If the wheel is to be positioned centrally, for profiles 45 x 90 or bigger a base plate is required

WHEEL SWIVEL TYPE WITH BRAKE

Part N° 21.1120/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Tire, rubber, grey

- Fixing kit

Weight 0,250 kg

Load max 50 kg

Further constructions on demand

APPLICATIONS

- Movable tables

- Material-pillars

- Show cases

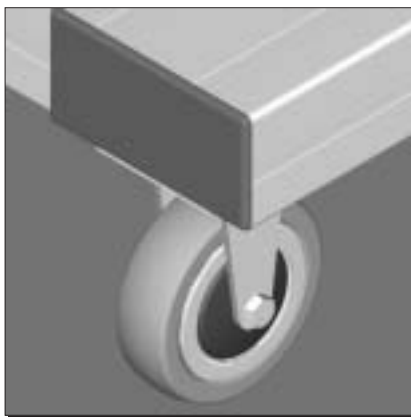
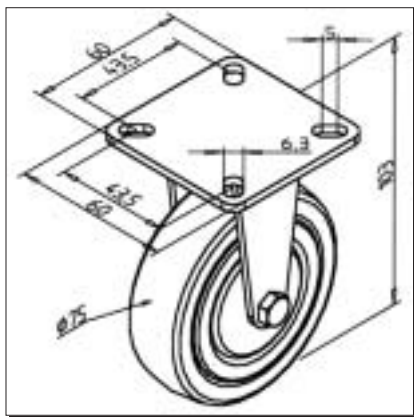
ASSEMBLY

- Directly on central bore of the vertical profile; thread M 10 required

- With profiles 45 x 90 or bigger use base plate M10

WHEEL Ø 75 X 100 RIGID TYPE

Part N° 21.1475/0



TECHN. DATA/ITEMS SUPPLIED

- Housing, Steel
- Tire, rubber, grey
- Fixing kit

Weight	0,350 kg
Load max	50 kg

Further constructions on demand

APPLICATIONS

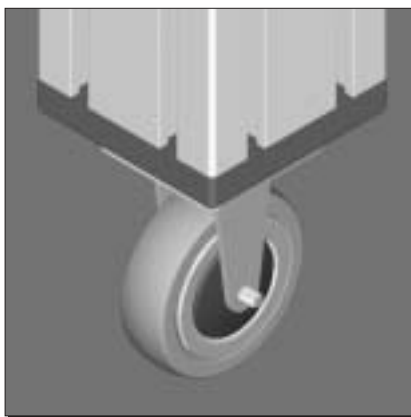
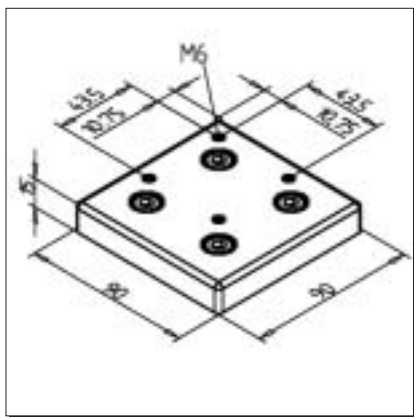
- Material-pillars
- Frames
- Movable tables

ASSEMBLY

- With fixing kit from supply schedule directly on profile groove or
- With fixing plate for wheel rigid type Part N° 21.1476/0 on profile

FIXING PLATE FOR WHEEL RIGID TYPE

Part N° 21.1476/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Fixing kit

Weight	0,330 kg
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APPLICATIONS

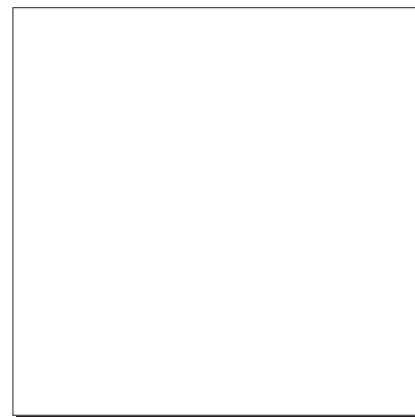
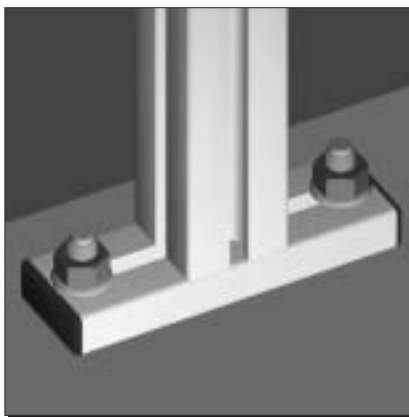
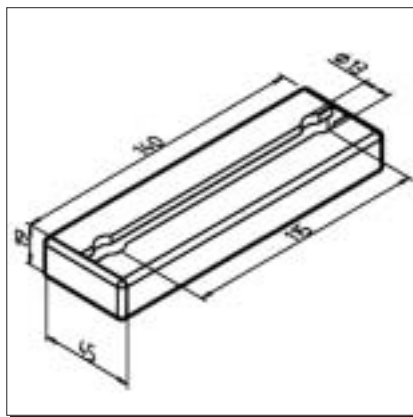
- For fastening of wheel Ø 75 x 100 rigid type Part N° 21.1475/0 on profile face 90 x 90

ASSEMBLY

- Use fixing kit from supply schedule

FLOOR MOUNTING PLATE 45

Part N° 21.1730/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 19
- End caps, grey
- Without fixing kit

Weight 0,125 kg

APPLICATIONS

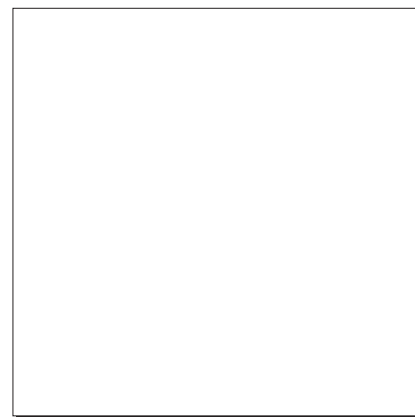
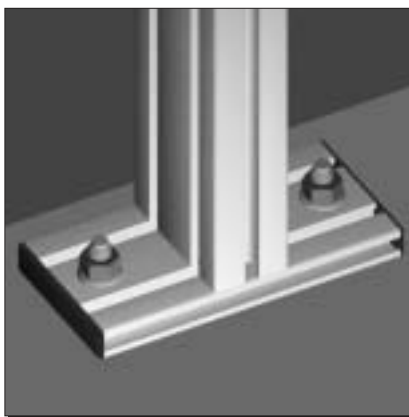
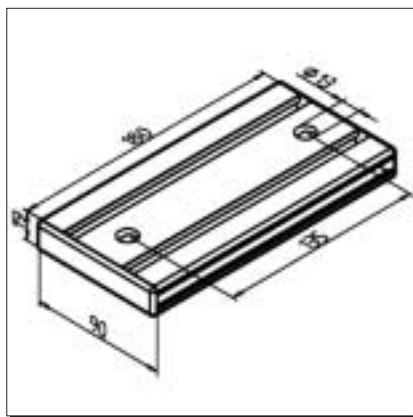
- Floor mounting of stand-profiles 45 x 45

ASSEMBLY

- On profile side: MiniTec power-lock fastener
- On floor side: 2 floor anchors 10 Part N° 21.1082/0

FLOOR MOUNTING PLATE 45 / 90

Part N° 21.1732/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 19
- End caps, grey
- Without fixing kit

Weight 0,329 kg

APPLICATIONS

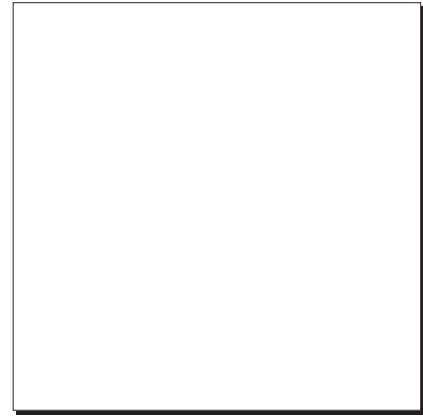
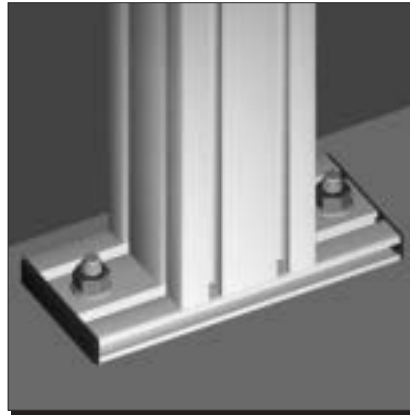
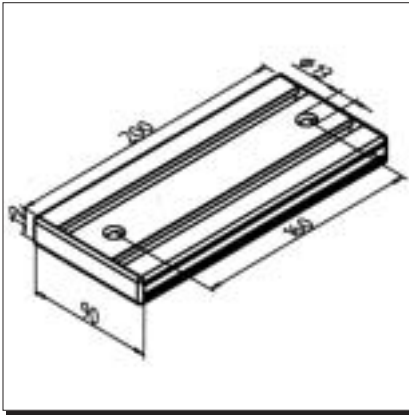
- Floor-mounting of stand profiles 45 x 45 or 45 x 90 transversal

ASSEMBLY

- On profile side: 1 or 2 MiniTec power-lock fasteners
- On floor side: 2 floor anchors 10 Part N° 21.1082/0

FLOOR MOUNTING PLATE 90

Part N° 21.1733/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 19 x 90
 - End caps, grey
 - Without fixing kit
- Weight 0,465 kg

APPLICATIONS

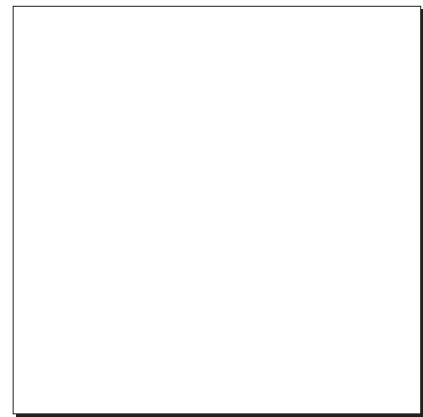
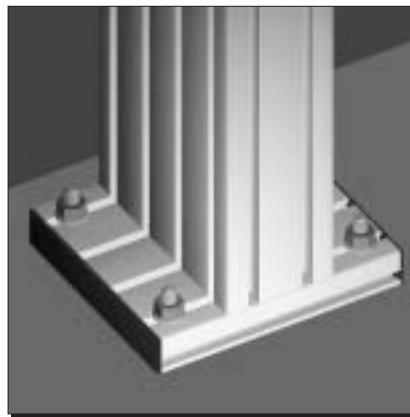
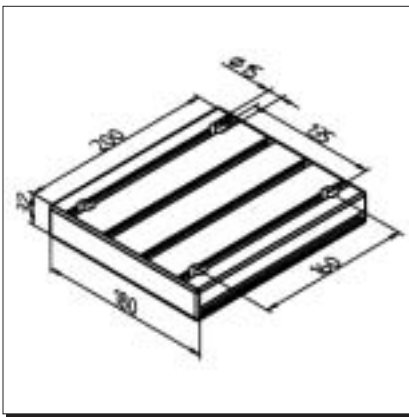
- Floor-mounting of standprofiles 45 x 90 lengthwise or 90 x 90

ASSEMBLY

- On profile side: 2 or 4 MiniTec power-lock fasteners
- On floor side: 4 floor anchors 10 Part N° 21.1082/0

FLOOR MOUNTING PLATE 90/180

Part N° 21.1734/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 32 x 180
 - End caps, grey
 - Without fixing kit
- Weight 2,030 kg

APPLICATIONS

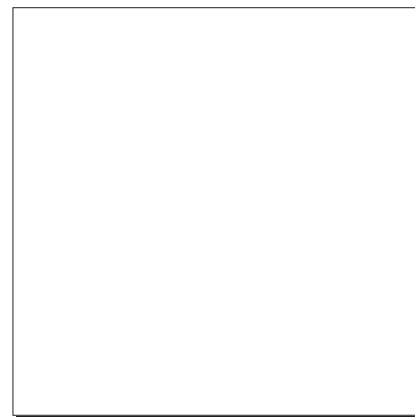
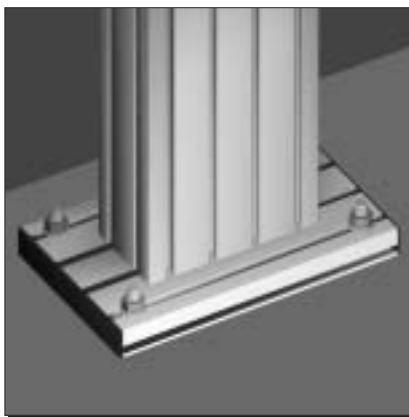
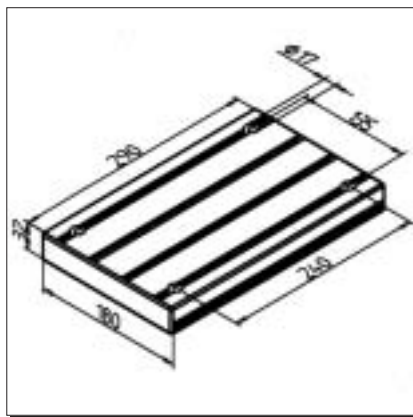
- Floor-mounting of standprofiles 90 x 90 or 90 x 180 transversal

ASSEMBLY

- On profile side: 4 MiniTec power-lock fasteners
- On floor side: 4 floor anchors 12 Part N° 21.1115/0

FLOOR MOUNTING PLATE 180

Part N° 21.1735/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 32 x 180

- End caps, grey

- Without fixing kit

Weight 2,970 kg

APPLICATIONS

- Floor-mounting of standprofiles 90 x 180 lengthwise

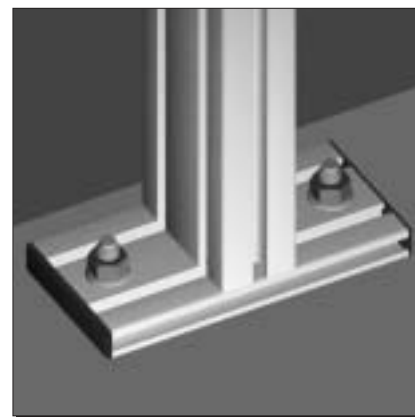
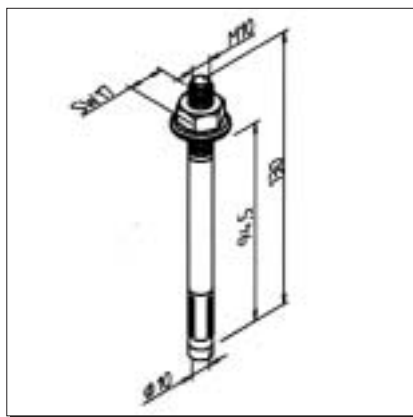
ASSEMBLY

- On profile side: 4 MiniTec power-lock fasteners

- On floor side: 4 floor anchors 16 Part N° 21.1119/0

FLOOR ANCHOR 10

Part N° 21.1082/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated

- Ø 10

- Complete with nut and washer

Weight 0,084 kg

APPLICATIONS

- Attachment of standprofiles to floor or wall. To be used together with angle bracket for floor fastening, levelling plate or floor mounting plate

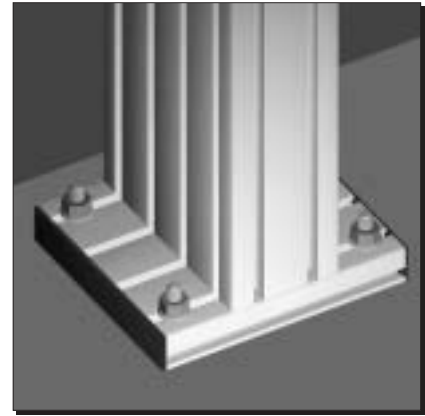
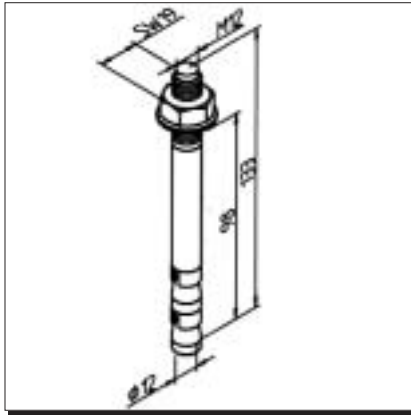
ASSEMBLY

- Fit bore in the bottom

- Screw floor anchor in connection with angle, levelling plate or floor mounting plate

FLOOR ANCHOR 12

Part N° 21.1115/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
 - Ø 12
 - Complete with nut and washer
- | | |
|--------|----------|
| Weight | 0,116 kg |
|--------|----------|

APPLICATIONS

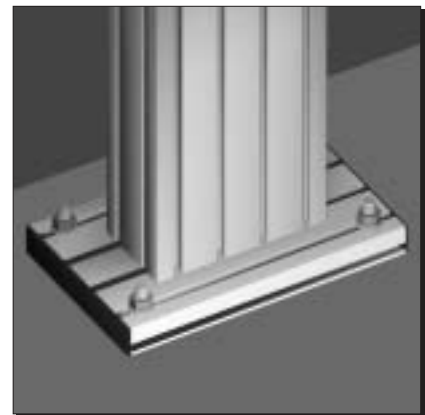
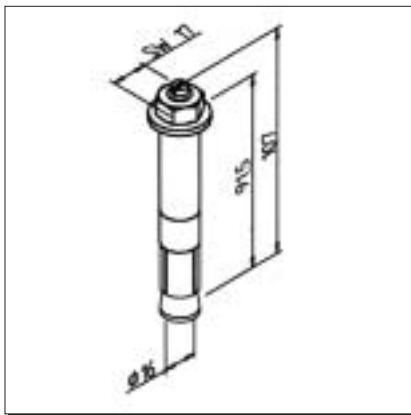
- Attachment of standprofiles to floor or wall. To be used together with angle bracket for floor fastening, levelling plate or floor mounting plate

ASSEMBLY

- Fit bore in the bottom
- Screw floor anchor in connection with angle, levelling plate or floor mounting plate

FLOOR ANCHOR 16

Part N° 21.1119/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
 - Ø 16
 - Complete with nut and washer
- | | |
|--------|----------|
| Weight | 0,123 kg |
|--------|----------|

APPLICATIONS

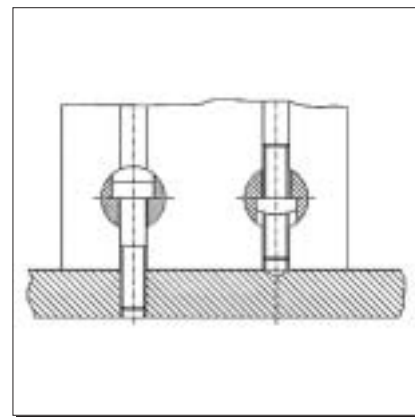
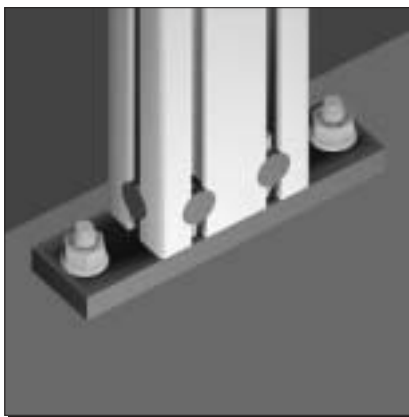
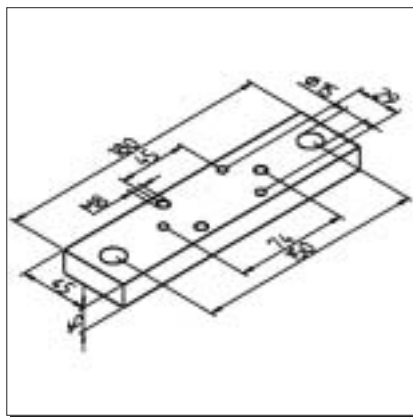
- Attachment of standprofiles to floor or wall. To be used together with angle bracket for floor fastening, levelling plate or floor mounting plate

ASSEMBLY

- Fit bore in the bottom
- Screw floor anchor in connection with angle, levelling plate or floor mounting plate

LEVELLING PLATE 45

Part N° 21.1053/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, completely processed
- Without fixing kit
- Without levelling elements

Weight	0,146 kg
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APPLICATIONS

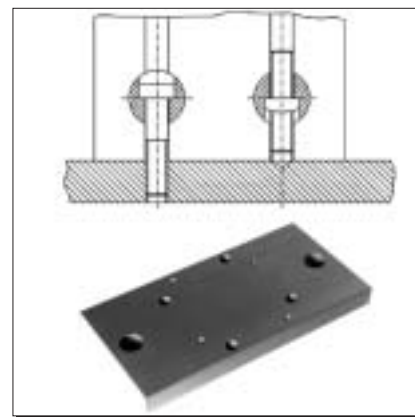
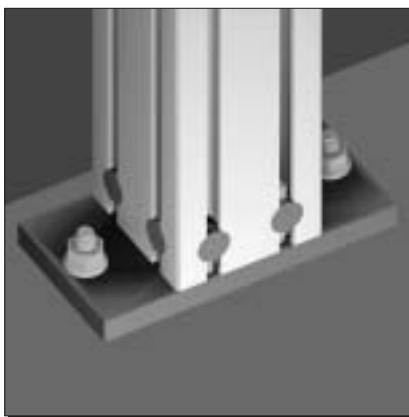
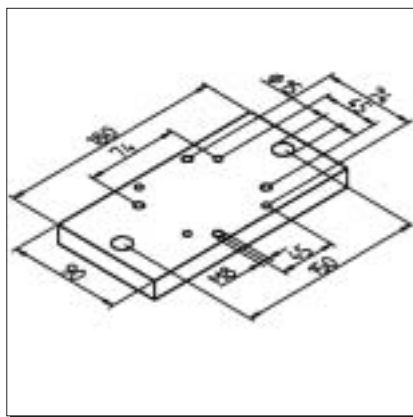
- Precise levelling of standprofiles 45 x 90 in profile constructions
- Particularly suitable for vertical sliding doors

ASSEMBLY

- Fasten levelling plate with floor anchor on floor or wall
- Insert bolt-fasteners for levelling plate **Part N° 21.1049/0** into the step bores of the profile and pretighten the bolt-fasteners
- Insert the levelling elements **Part N° 21.1054/0** and correct the vertical position of the profile by screwing the levelling elements
- Fix bolt-fasteners

LEVELLING PLATE 90

Part N° 21.1052/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, completely processed
- Without fixing kit
- Without levelling elements

Weight	0,297 kg
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APPLICATIONS

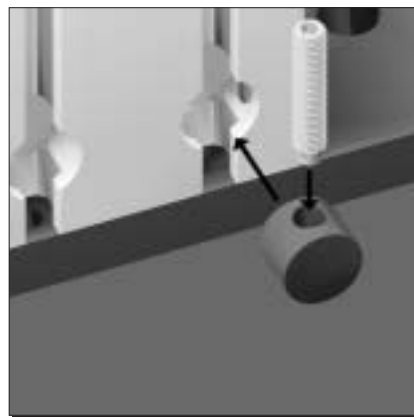
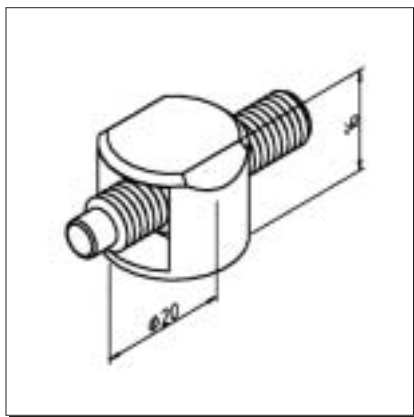
- Precise levelling of standprofiles 90 x 90 in profile constructions; particularly suitable for vertical sliding doors

ASSEMBLY

- Fasten levelling plate with floor anchor on floor or wall
- Insert bolt-fasteners for levelling plate **Part N° 21.1049/0** into the step bores of the profile and pretighten the bolt-fasteners
- Insert the levelling elements **Part N° 21.1054/0** and correct the vertical position of the profile by screwing the levelling elements
- Fix bolt fasteners

LEVELLING ELEMENT

Part N° 21.1054/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn
 - Square nut M8
 - Set-screw M8 x 40, 4 A/F
- Weight 0,027 kg

APPLICATIONS

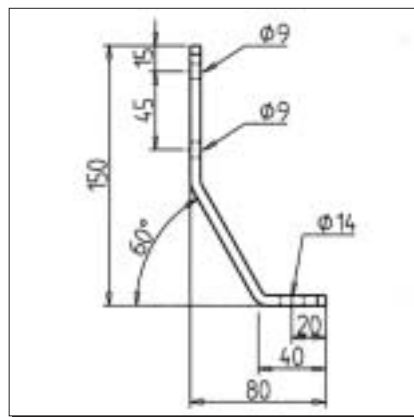
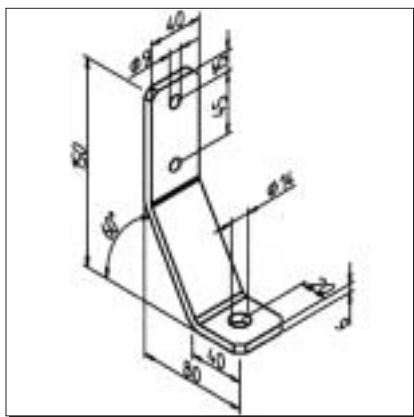
- Alignment of profile constructions in connection with levelling plate

ASSEMBLY

- Same processing as for bolt fasteners
- The set-screw M8 x 40 meshes into the centering bore on the levelling plate

ANGLE BRACKET FOR FLOOR FASTENING

Part N° 21.1112/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, powder coated, grey
 - Without fixing kit
- Weight 0,335 kg

APPLICATIONS

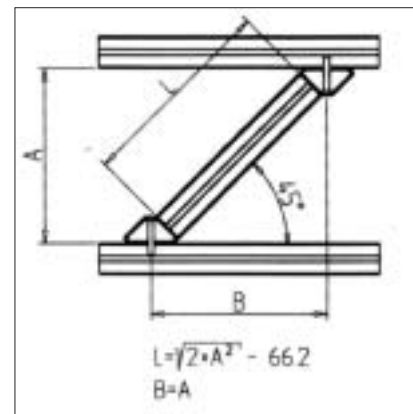
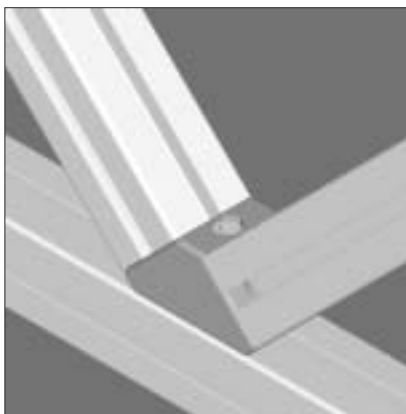
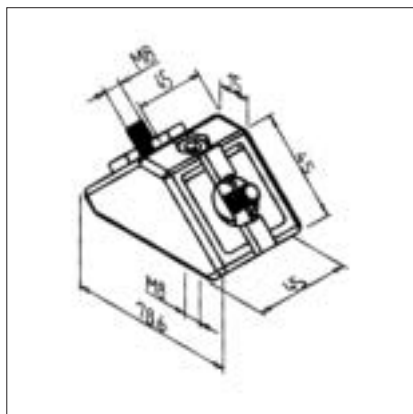
- Securing and fastening of constructions on floor or wall

ASSEMBLY

- On profile side: Use hex socket cap screws M8 x 20 5 A/F
- On floor side: Use floor anchor 12 Part N° 21.1115/0
- Also suitable for subsequent mounting

BRACE SOCKET 45 GD

Part N° 21.1729/1



TECHN. DATA/ITEMS SUPPLIED

- GD Zn, powder coated, grey

- End caps, grey

- Fixing kit

Weight 0,261 kg

APPLICATIONS

- Support in half-timbered constructions

ASSEMBLY

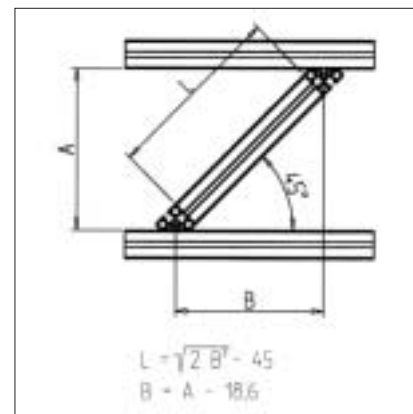
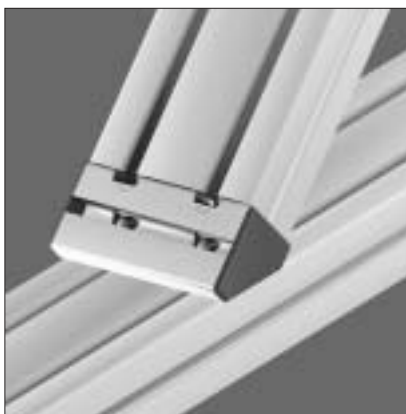
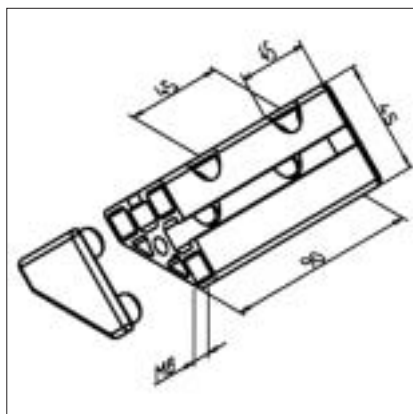
- Screw brace socket onto the frame

- Insert supports by means of MiniTec power-lock fasteners and tighten.

- Fix end caps

BRACE SOCKET 45° / 90

Part N° 21.1727/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium profile 45 / 45°

- End caps, grey

- Fixing kit

Weight 0,175 kg

APPLICATIONS

- Supports in half-timbered constructions

ASSEMBLY

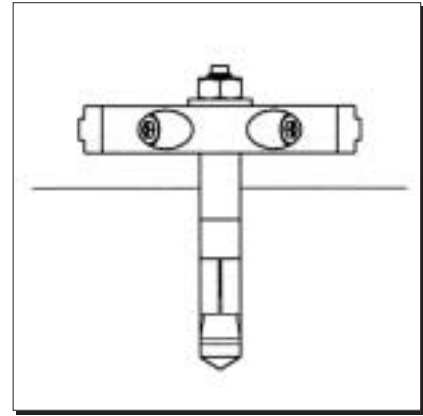
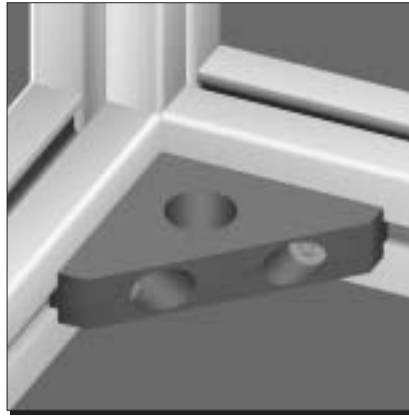
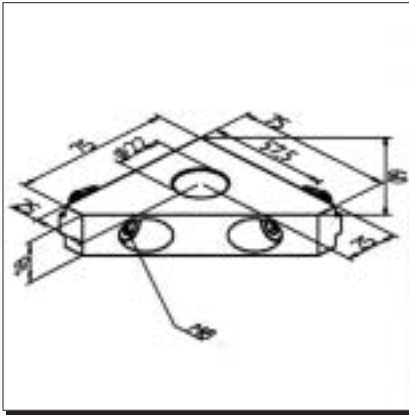
- Screw brace socket onto the frame

- Insert supports by means of MiniTec power-lock fasteners and tighten

- Fix end caps

CORNER 90

Part N° 21.1783/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized
 - Fixing kit
- Weight 0,170 kg

APPLICATIONS

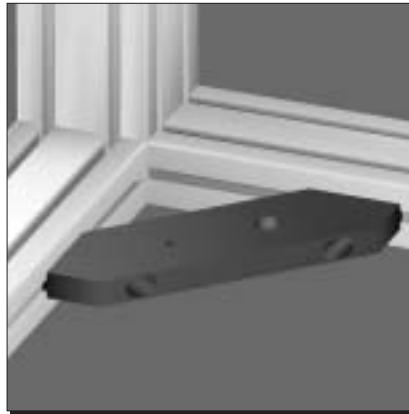
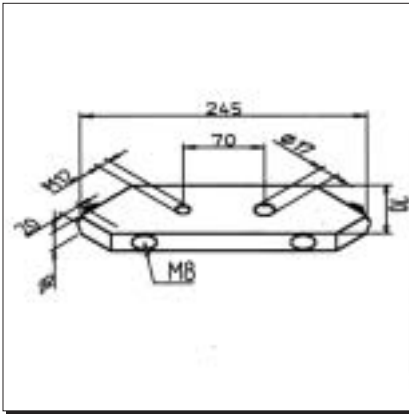
- Strengthening of constructions
- Attachment of interal feet
- Floor mounting and levelling of frames

ASSEMBLY

- On Profile side with fixing kit
- On floor side fasten with floor anchor

CORNER 180

Part N° 21.1784/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized
 - Fixing kit
- Weight 0,690 kg

APPLICATIONS

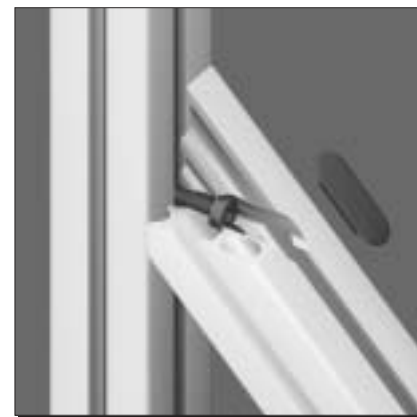
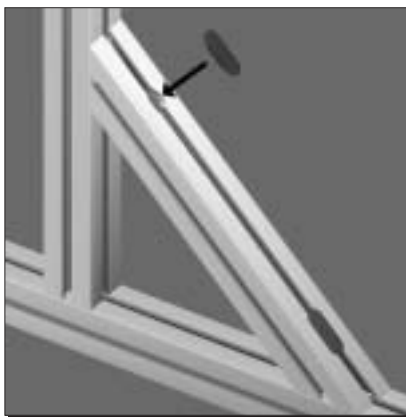
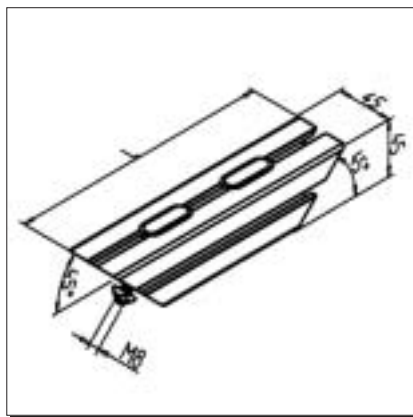
- Strengthening of heavy constructions
- Attachment of interal feet
- Floor mounting and levelling of frames

ASSEMBLY

- On profile side with fixing kit
- On floor side fasten with floor anchor and levelling screw M12

STRENGTHENING ELEMENT 45

Part N° 21.1761/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 45, ready for use
- Both ends cut at 45° with counter-bores for fixing kit
- Fixing kit

Weight	0,865	kg
Length	360	mm

APPLICATIONS

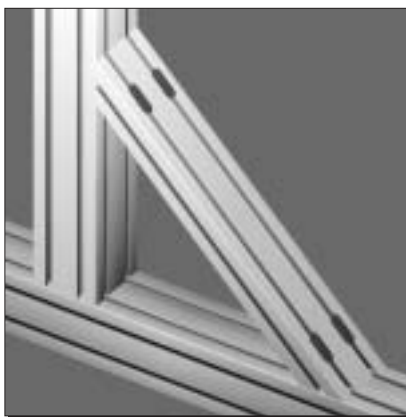
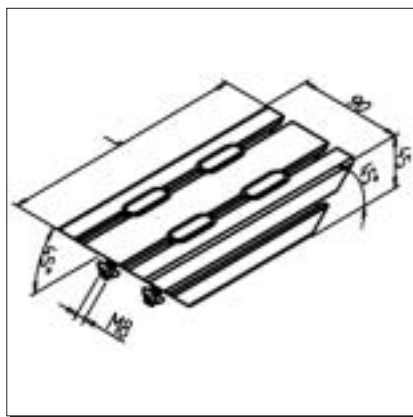
- Reinforcement of constructions in half-timbered principle

ASSEMBLY

- Screw onto profile groove use the fixing kit

STRENGTHENING ELEMENT 90

Part N° 21.1762/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90, ready for use
- Both ends cut at 45° with 4 counter-bores for fixing kit
- Fixing kit

Weight	1,416	kg
Length	360	mm

APPLICATIONS

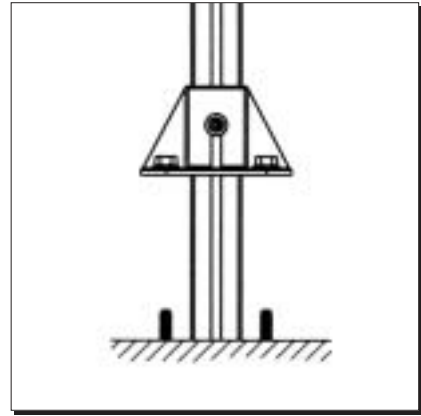
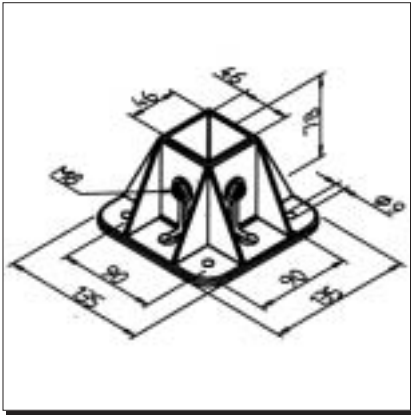
- Reinforcement of constructions in half-timbered principle

ASSEMBLY

- Screw onto profile groove use the fixing kit

FOOT 45 GD

Part N° 21.1731/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - Fixing kit for profile
- | | |
|--------|----------|
| Weight | 0,595 kg |
|--------|----------|

APPLICATIONS

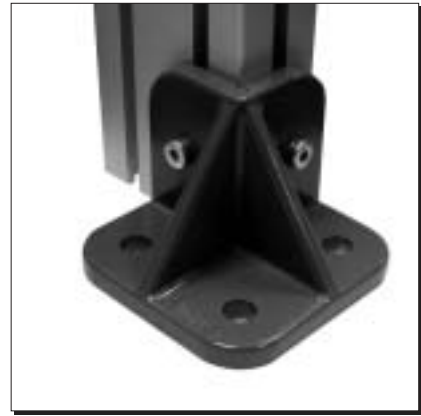
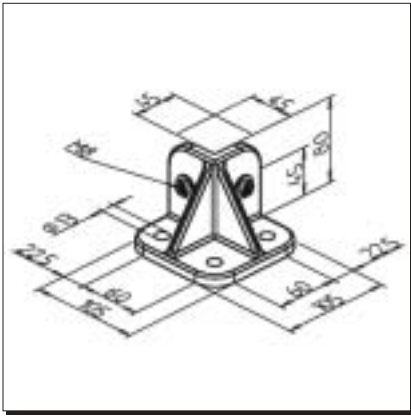
- Suitable for profiles up to dimension 45 x 45
- Floor mounting of guard units, information plates and frames
- As connection element for wall attachment; can be used for both sides

ASSEMBLY

- Insert profile into foot
- Insert the square nut with spring steel sheet into the profile groove; insert the screws
- Fix the foot on the floor or on the wall; for this purpose use high-performance anchors or universal dowels with hexagon screws
- Tighten the fixing screws

FOOT 45 GD S

Part N° 21.1723/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - Fixing kit for profile
- | | |
|--------|----------|
| Weight | 0,595 kg |
|--------|----------|

APPLICATIONS

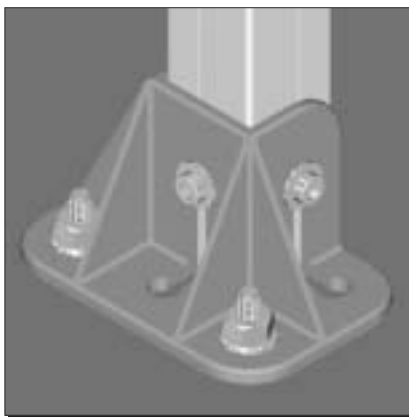
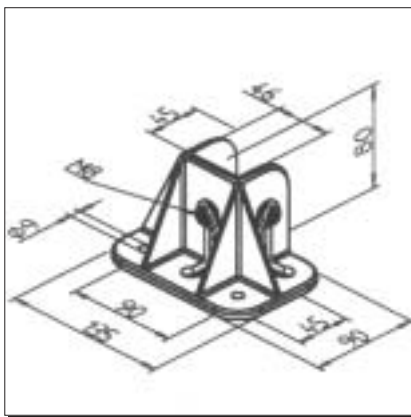
- Suitable for all profiles
- Floor mounting of guard units, information plates and frames
- As connection element for wall attachment; can be used for both sides

ASSEMBLY

- Insert profile into foot
- Fix the foot on the floor or on the wall; for this purpose use high-performance anchors or universal dowels with hexagon screws
- Tighten the fixing screws

FOOT 45 GD OPEN

Part N° 21.1738/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit for profile

Weight 0,595 kg

APPLICATIONS

- Floor mounting of guard units, information plates and frames

- As connection element for wall attachment; can be used for both sides

ASSEMBLY

- Insert profile into foot

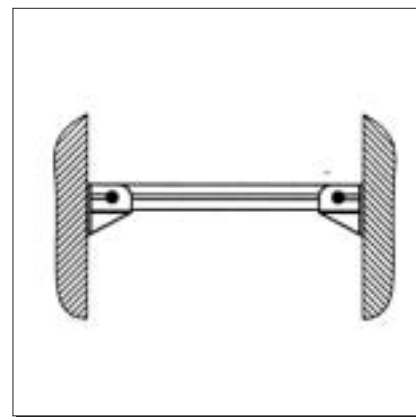
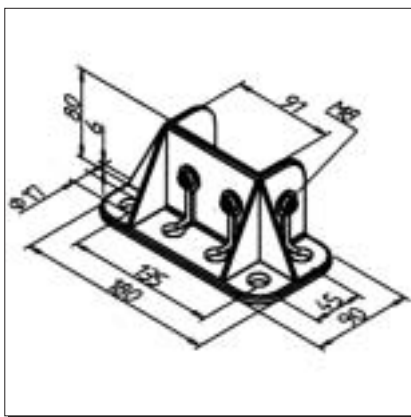
- Insert the square nut with spring steel sheet into the profile groove; insert the screws

- Fix the foot on the floor or on the wall; for this purpose use high-performance anchors or universal dowels with hexagon screws

- Tighten the fixing screws

FOOT 90 GD

Part N° 21.1737/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Fixing kit for profile

Weight 0,465 kg

APPLICATIONS

- Suitable for profiles up to dimension 45 x 90, 90 x 90 and 90 x 180

- Floor fastening of guard units, information plates and frames

- Connection element for wall attachment; can be used for both sides

ASSEMBLY

- Insert profile into foot

- Insert the square nut with spring steel sheet into the profile groove; insert the screws

- Fix the foot on the floor or on the wall; for this purpose use high-performance anchors or universal dowels with hexagon screws

- Tighten the fixing screws



FITTING OF PANEL
ELEMENTS, ASSEMBLY
POSSIBILITIES

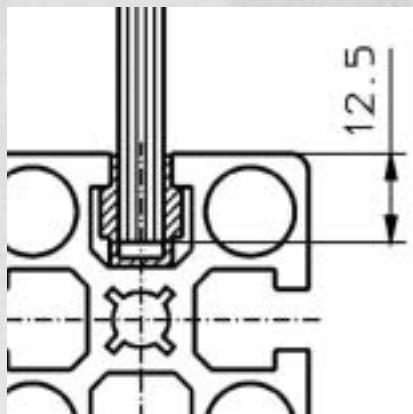
FITTING OF PANEL ELEMENTS

There are two assembly modes that have to be distinguished: the mounting of elements into the profile groove and the subsequent attachment of panel elements.

The **mounting of elements into the groove** has to be pre-planned. It is recommendable to put together elements to a complete frame that can be fitted into existing constructions. This assembly method is of particular use for large panel elements, corrugated mesh and sealing constructions.

Subsequent mounting of panel elements is easier to perform and causes less damage.

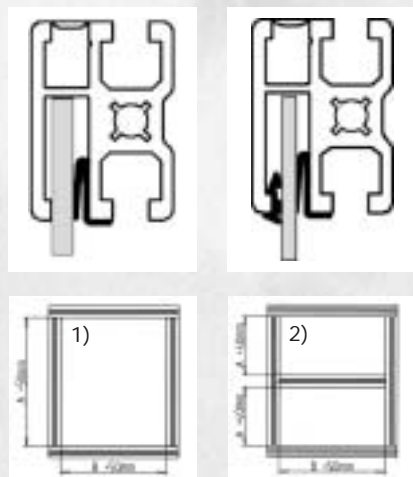
Mounting elements into the profile groove



Cover profiles

Panel elements of max. 6 mm thickness can be mounted directly into the profile groove by using a PVC cover profile.

Allow an enlargement of panel elements in x and y direction of: +25 mm

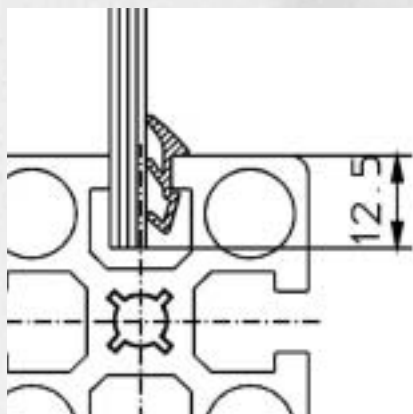


Clamp profile 45 x 32

The clamp profile 45 x 32 combines the properties of the construction profiles and the secure fixing for panel elements of max. 8 mm thickness. This profile is best suited for large elements and corrugated mesh. The ready assembled frames are subsequently fixed to the stand profiles with guard unit fixing angles. Quick removal of the units is ensured.

Allow an enlargement of panel elements in x and y direction of:

- 1) Simple frames: +50 mm
- 2) Frames with intermediate brackets: +40 mm



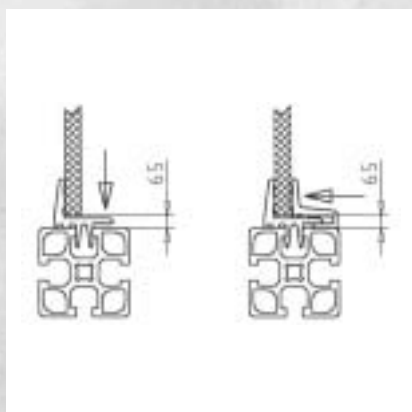
Insert seals

Sheet material, plastic panels, and panes etc. from 2 to 6 mm can easily be mounted and sealed with insert seal 2, 4, 5 and 6. The seals are subsequently pressed into free space between panel element and profile groove with a blunt tool made from wood or plastic.

For mounting of sheets < 2 mm use insert seals from both sides of the panel.

Allow an enlargement of panel elements in x and y direction of: +25 mm

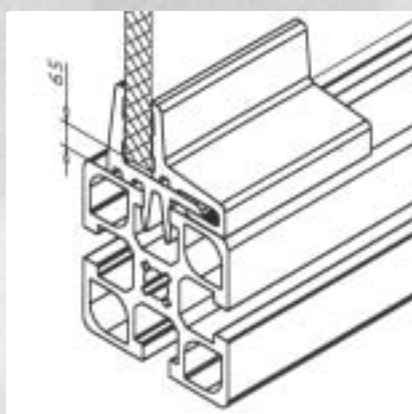
Fitting of panels into existing frames



Clamp profiles PVC

For easy fitting of panel elements of all kinds into existing frames without free space between frame and panel. Suitable for panel elements of max. 8 mm, also for corrugated mesh.

For the panel element allow a min of 13 mm reduction in x- and y-direction.

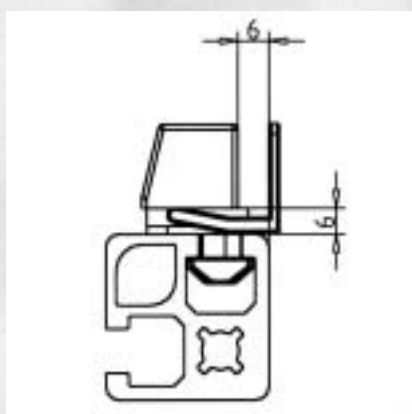
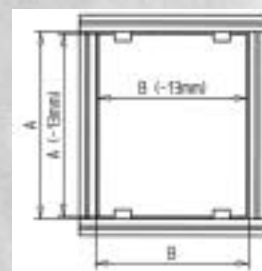


Panel holder

For easy and economical fitting of panel elements into existing frames. The panel holders are of two elements.

Best suited for all panel elements of max. 8 mm thickness, except for corrugated mesh.

For the panel element allow a min. of 13 mm reduction in x- and y-direction. (6,5 free space between profile surface and panel)

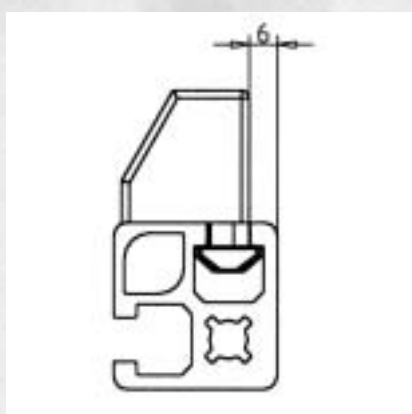
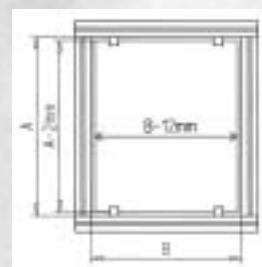


Clamp block

Simple and economical fixing of panel elements.

The clamp block consists of block and clip. Suitable for all panel elements from 2 - 6 mm thickness. Not for mesh.

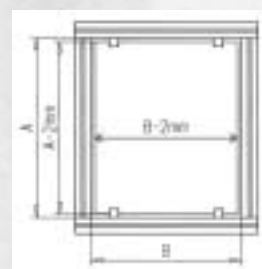
For the panel element allow a reduction of 12 mm in x- and y-direction (6 mm free space between profile surface and panel)

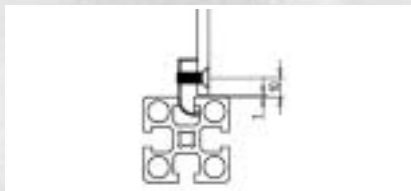


Screw block

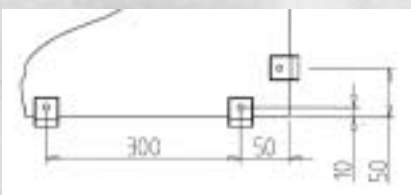
Suitable for all kind of panel elements up to 6 mm thickness, except mesh.

For the panel element allow a reduction of 2 mm in x- and y-direction (1 mm free space between profile surface and panel)



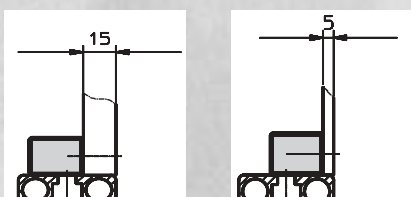


Thread socket

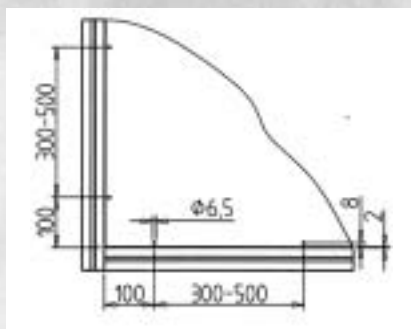


Secure and easy fixing of panel elements of all kinds, except for corrugated mesh. Insert the socket into profile grooves in 300 mm grid. Select screw form and length appropriate to thickness and type of panel element.

For the panel element allow a min. of 2 mm reduction in x- and y-direction.



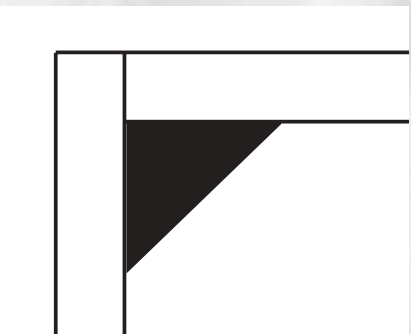
Multiblock



The multiblocks are installed in the clear space of the frame construction at a spacing of approx. 300 mm using cylinder-head screws M6 and rhombus nuts.

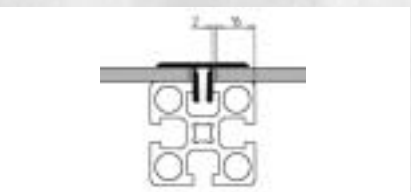
Best suited for compound sheet materials. Material of 5-15 mm can be attached bundled. Select screw form and length appropriate to type and thickness of panel element. Bore holes for the attachment screws in the panel elements 6.5 mm in diameter and with 8 mm distance to edge.

For the panel element, allow a min. of 4 mm reduction in the x- and y-direction (- 2 mm space on all sides).

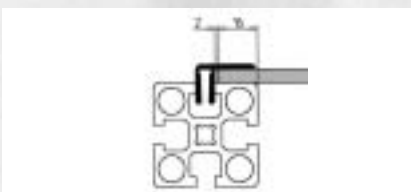


Angles

Fixing of on-lying panel elements for tables, consoles. See also Page 65



Panel-clamping profile



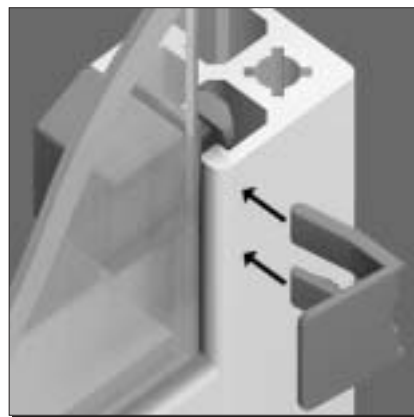
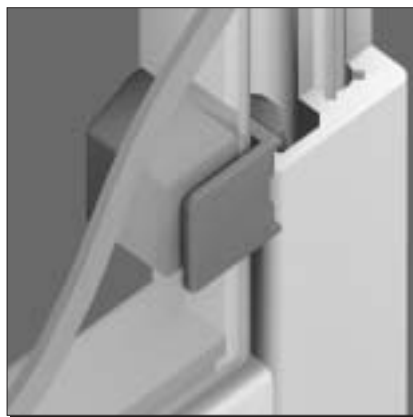
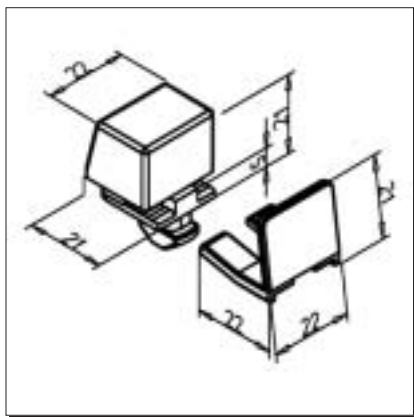
Suitable for panel elements from 2 to 10 mm.

Insert fixing bores $\text{Ø } 5,5$ mm for set screw M5 in ~ 250 mm grid. Press into profile groove and fix with set screw M5 x 12.

Best suited for panels, corrugated mesh and press mesh.

PANEL CLAMP BLOCK 32

Part N° 22.1110/1



TECHN. DATA/ITEMS SUPPLIED

- PA, grey

Weight 0,012 kg

APPLICATIONS

- Suitable for all profiles > 32

- Subsequent fitting of panel elements from 2 to 6 mm thickness; For the panel element allow a min. of 12 mm reduction in x- and y-direction

- Insert socket into profile groove

- Insert panel elements

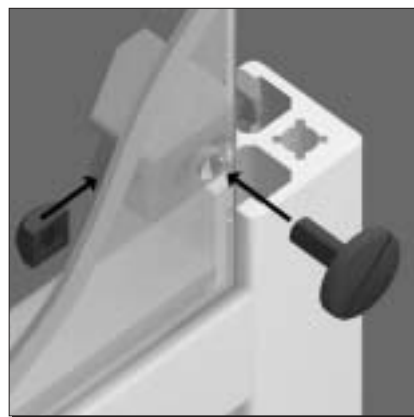
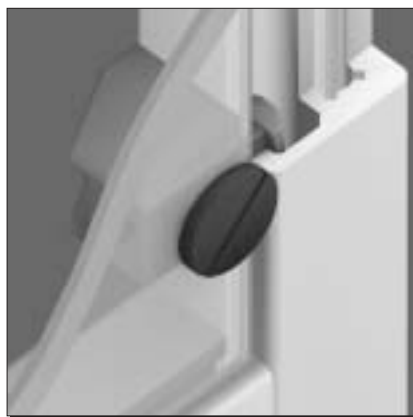
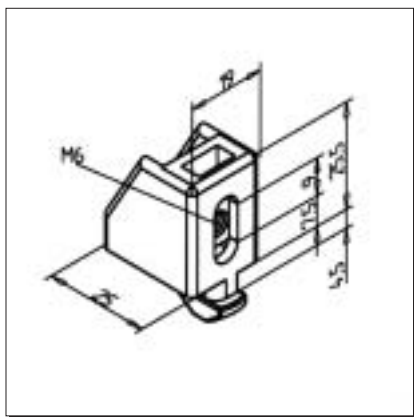
- Press on clip

- Disassembly: lift clip with a screwdriver

- See page 142

SCREW BLOCK 32

Part N° 22.1112/1



TECHN. DATA/ITEMS SUPPLIED

- PA, grey

Weight 0,010 kg

APPLICATIONS

- Suitable for all profiles > 32

- Subsequent fitting of panel elements from 2 to 6 mm thickness; a reduction in x- or y-direction is not requested

- Insert socket into profile groove

- Insert bored panel elements

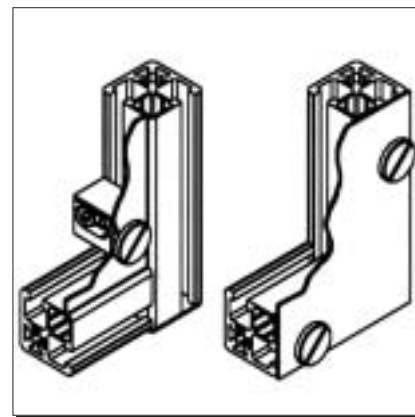
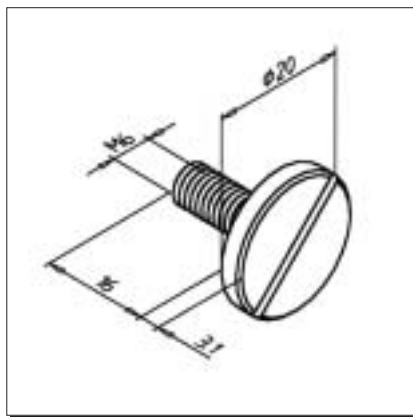
- Screw with suited screws M6 (recommended: pan head screw 16 Part N° 21.1246/0)

- Edge distance: 7,5 until 16 mm

- See page 142

PAN HEAD SCREW 16

Part N° 21.1246/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc-plated

- Screw head: $\varnothing 20$

- M6 x 16

Weight 0,009 kg

APPLICATIONS

- Mounting of panel elements directly on profile groove or

- In connection with screw block 32 Part N° 22.1112/0 or multiblock Part N° 21.1116/0

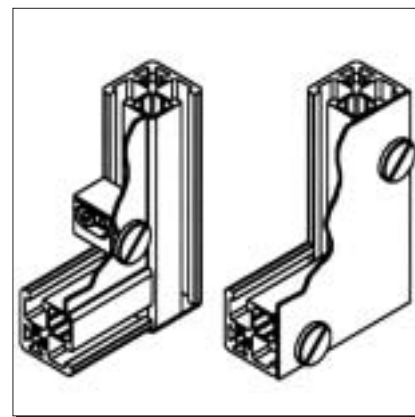
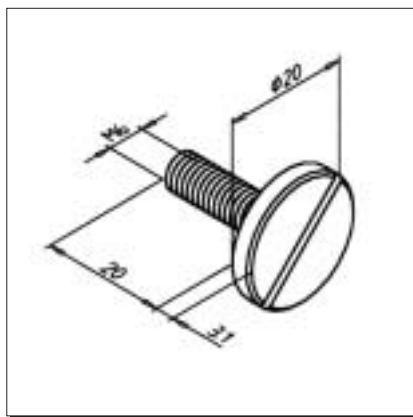
- Predrill panel elements: $\varnothing 6,5$ mm

- Recommended grid dimension: ca. 150 mm

- Edge distance: see screw block 32 and multiblock

PAN HEAD SCREW 20

Part N° 21.1246/1



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc-plated

- Screw head: $\varnothing 20$

- M6 x 20

Weight 0,009 kg

APPLICATIONS

- Mounting of panel elements directly on profile groove or

- In connection with screw block 32 Part N° 22.1112/0 or multiblock Part N° 21.1116/0

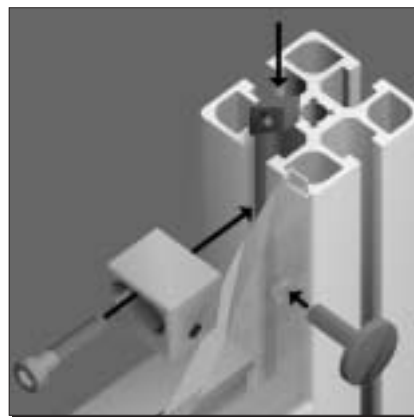
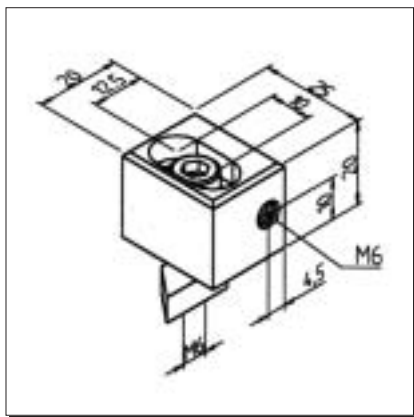
- Predrill panel elements: $\varnothing 6,5$ mm

- Recommended grid dimension: ca. 150 mm

- Edge distance: see screw block 32 and multiblock

MULTIBLOCK

Part N° 21.1116/0



TECHN. DATA/ITEMS SUPPLIED

- GD Zn
 - Fixing kit
 - Without pan head screw
- Weight 0,027 kg

APPLICATIONS

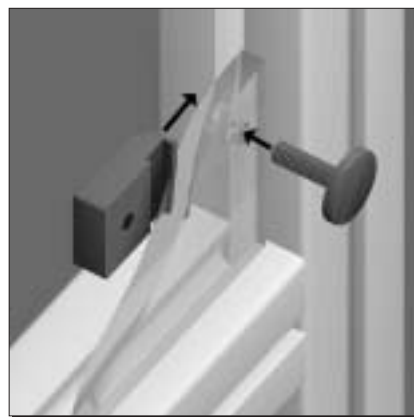
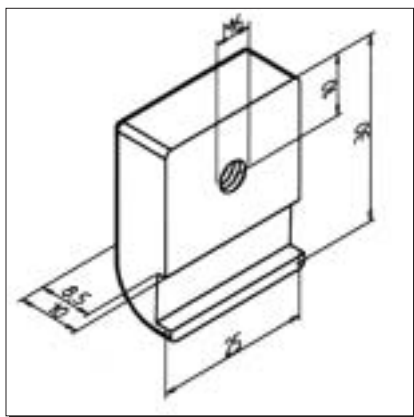
- Subsequent fitting of panel- and add-on elements
- Flush installation of panels, thickness 5 to 15 mm

ASSEMBLY

- For all profile grooves
- Subsequent fastening of panel elements with screws M6 or pan head screw
- Calculation of the panel element dimension: see page 143
- Fixing bores \varnothing 6,5 for screws M6, 8 mm from edge of the panel element

THREAD SOCKET GD

Part N° 21.1117/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD
 - Without pan head screw
- Weight 0,017 kg

APPLICATIONS

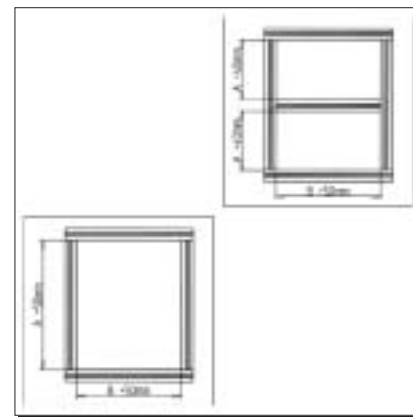
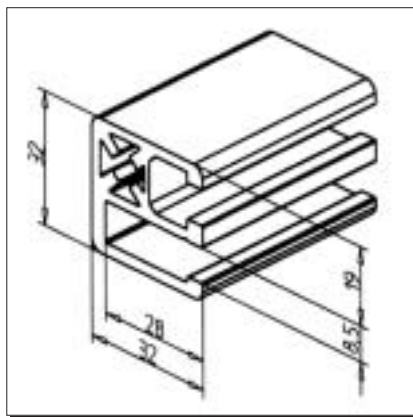
- Fastening of panel elements in profile frames
- Table tops

ASSEMBLY

- Insert the thread socket into profile groove
- Screw the element with screws M6 or with pan head screw
- Edge distance: 10 mm
- Calculation of the panel element dimension: see page 142

CLAMP PROFILE 32 X 32

Part N° 20.1070/0



TECHN. DATA/ITEMS SUPPLIED

lx =	5,027	cm ⁴
ly =	4,422	cm ⁴
wx =	3,703	cm ³
wy =	2,856	cm ³
Weight	1,211	kg/m
Length	6	m
Packing unit	54	m

APPLICATIONS

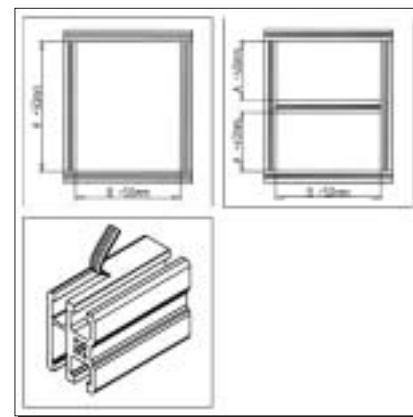
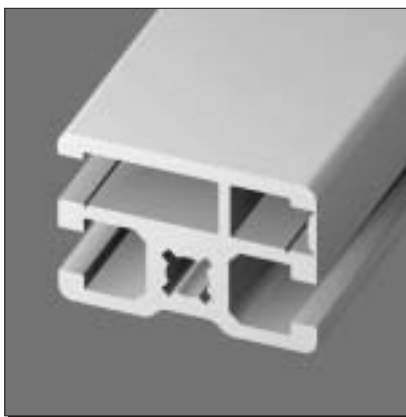
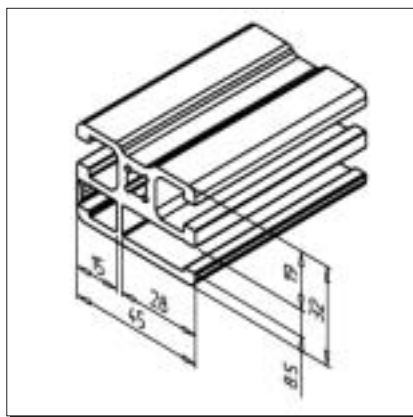
- All types of safety equipment
- For clamping surface elements such as wire mesh, panels, and plates up to a thickness of 8 mm
- Additional struts from clamping profile 45 x 32 must be used for larger safety fields to ensure sufficient protection against the surface elements pushing out; separate out covering strips for profile 45 x 32

ASSEMBLY

- MiniTec power-lock fastener; no bores necessary
- No cut-outs in panel elements for fastening elements necessary
- Premount 3 sides of the frame, the even side of the profile outwards
- Insert panel element and mount last profile brace
- Depress the distance profile on the inner side or hit it with a flat tool
- For panel elements < 4 mm mount an additional insert seal

CLAMP PROFILE 45 X 32

Part N° 20.1053/0



TECHN. DATA/ITEMS SUPPLIED

lx =	9,528	cm ⁴
ly =	6,467	cm ⁴
wx =	4,121	cm ³
wy =	4,002	cm ³
Weight	1,576	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

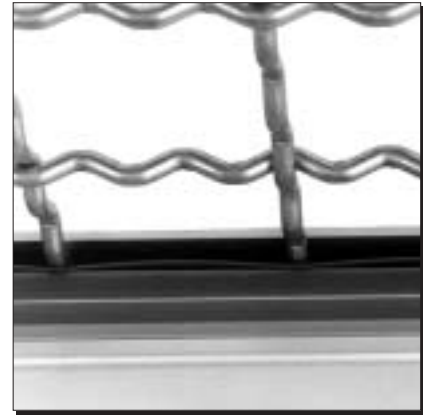
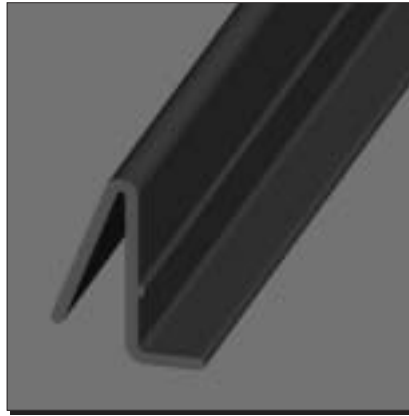
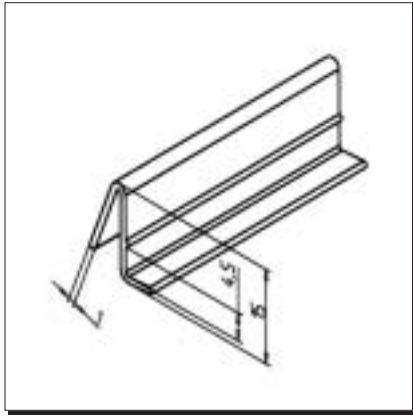
- All kinds of guard units
- Clamping of corrugated mesh or panel elements of all kinds up to 8 mm thickness
- For larger guards we propose to mount an additional brace to guarantee sufficient security
- After open the cover, the second groove is accessible

ASSEMBLY

- MiniTec power-lock fastener; no bores necessary
- No cut-outs in panel elements for fastening elements necessary
- Premount 3 sides of the frame, the even side of the profile outwards
- Insert panel element and mount last profile brace
- Depress the distance profile on the inner side or hit it with a flat tool
- For panel elements < 4 mm mount an additional insert seal

DISTANCE PROFILE

Part N° 22.1039/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, grey		
Weight	0,034	kg/m
Length	2	m

APPLICATIONS

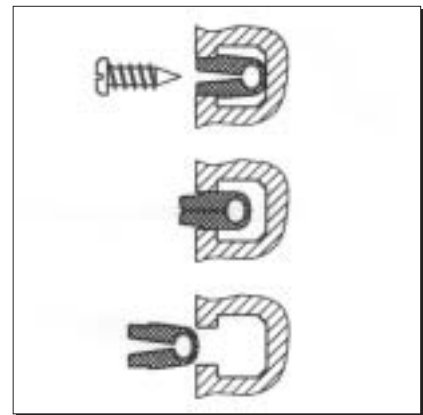
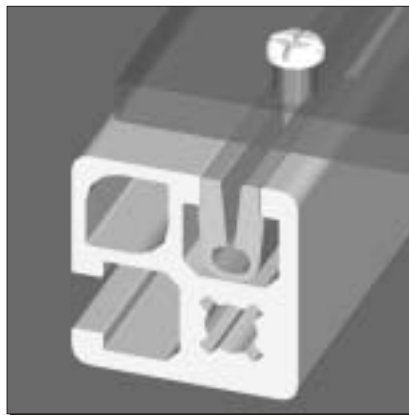
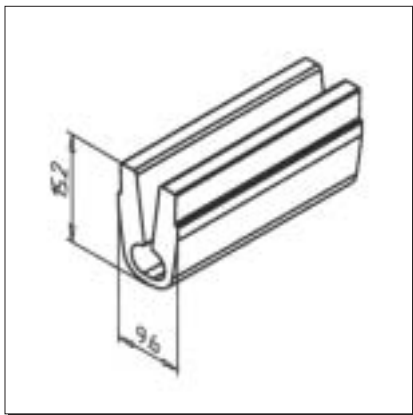
- Spacing element to use with clamp profile 45 x 32 Part N° 20.1053/0 and clamp profile 32 x 32 Part N° 20.1070/0 to fix corrugated mesh or panel elements
- Also for use with all other profiles to fix panel elements

ASSEMBLY

- Mount frame and panel elements
- Press in with suitable tool in space between panel element and clamp profile

SCREW-IN STRIP

Part N° 22.1076/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, grey RAL 7012		
Weight	0,118	kg/m
Length	2	m
Load (Screw)	1000	N

ANWENDUNG

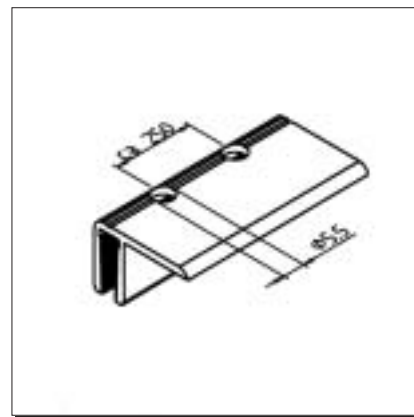
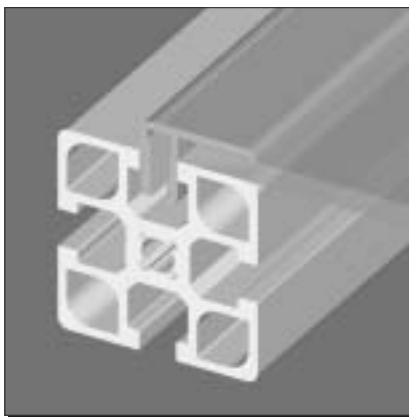
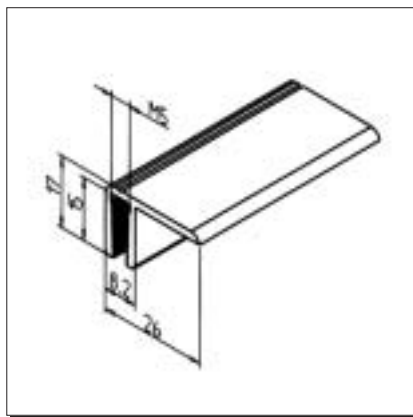
- Easy fixing of panels or panel elements at any point
- Fixing of plastic cable conduits

MONTAGE

- Clip profile into groove
- Fix element with commercial-type selftapping screws Ø 4-5 mm, Length min: 16 mm

PANEL CLAMPING PROFILE

Part N° 20.1025/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, anodized E6/EV1

Weight	0,299	kg/m
Length	6	m

APPLICATIONS

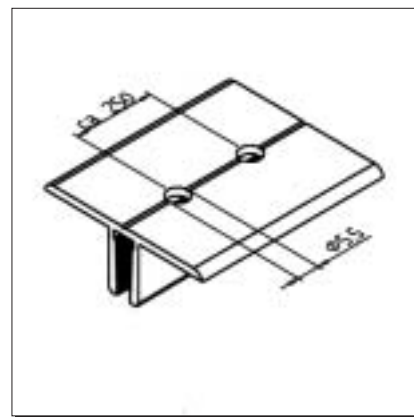
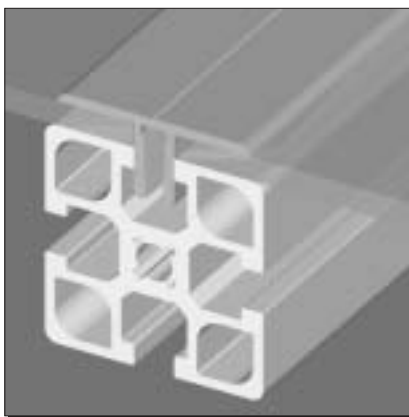
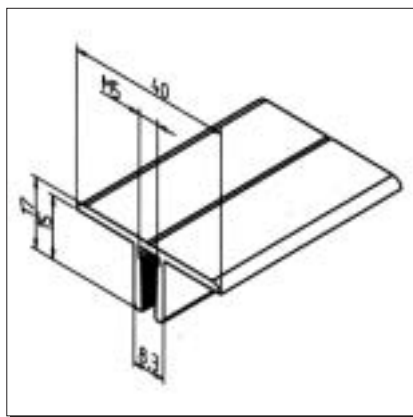
- Fastening of panel elements
- Subsequent fitting of panel elements of max. 10 mm thickness

ASSEMBLY

- Drill bores \varnothing 5,5 mm for set-screw M5 in grid dimension of 250 mm
- Press into profile groove and clamp with set-screw M5 x 12
- Calculation of the panel element dimension: see page 143

DOUBLE PANEL CLAMPING PROFILE

Part N° 20.1018/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, anodized E6/EV1

Weight	0,375	kg/m
Length	6	m

APPLICATIONS

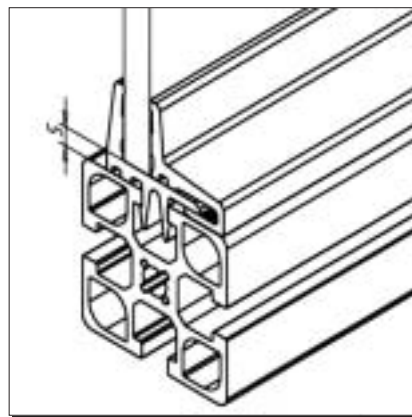
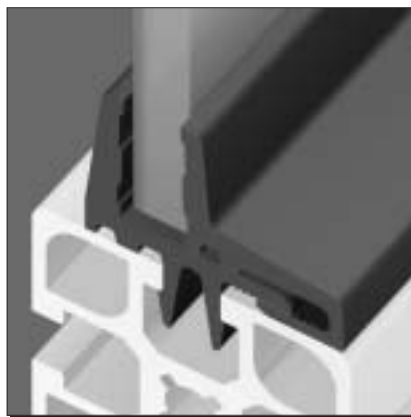
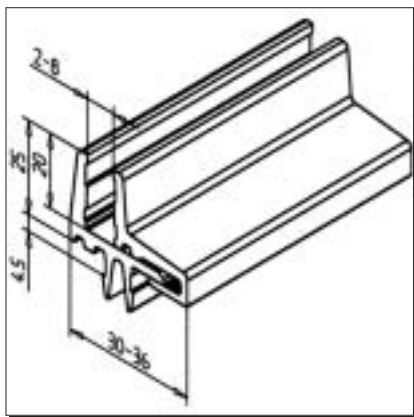
- Butt-joint fastening of panels
- Support of panel elements of a thickness up to 10 mm

ASSEMBLY

- Drill bores \varnothing 5,5 mm for set-screw M5 in grid dimension of 250 mm
- Press into the profile groove and clamp with set-screw M5 x 12
- Also see panel clamping profile Part N° 20.1025/0
- Calculation of the panel element dimension: see page 143

CLAMP PROFILE PVC

Part N° 22.1092/0



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey		
- On request also deliverable in black		
Weight	0,230	kg/m
Length	6	m

APPLICATIONS

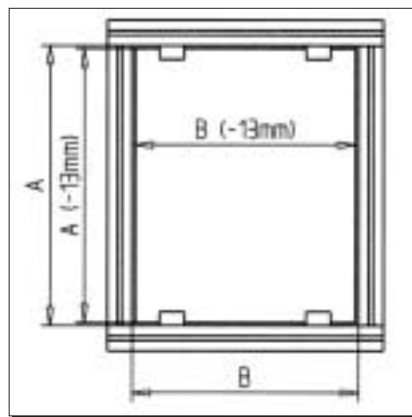
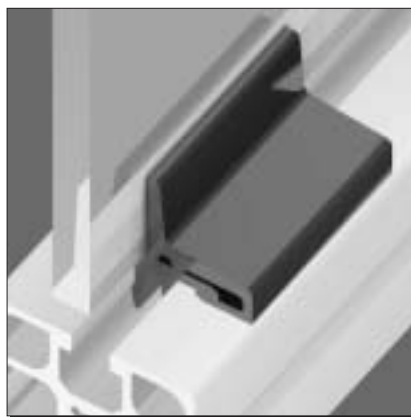
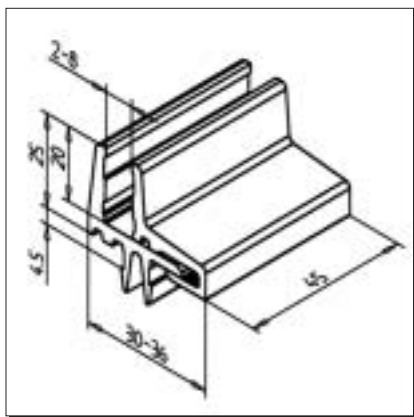
- Attachment of panel elements up to 8 mm
- If the panel elements are < 4mm, a microcellular rubber has to be inserted
- Windows, door fillings
- No free space between profile and panel element
- Also suitable for corrugated mesh

ASSEMBLY

- Snap socket half into profile groove
- Insert the panel element
- Press clamping half firmly on socket half
- Calculation of the panel element dimension: see page 143

PANEL HOLDER

Part N° 22.1090/1



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey		
- On request also in black		
Weight	0,024	kg

APPLICATIONS

- Attachment of panel elements up to 8 mm
- If the panel elements are < 4 mm, a microcellular rubber has to be inserted
- Windows, door fillings
- Not suitable for corrugated mesh

ASSEMBLY

- Snap socket half into profile groove
- Insert the panel element
- Press clamping half firmly on socket half
- Calculation of the panel element dimension: see page 143

ACRYLIC



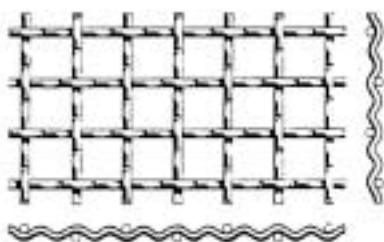
Part N°	Thickness	Colour	Weight	Dimension mm
21.1832/0	4 mm	tinted	4.76 kg/m ²	2000 x 3000
21.1812/0	6 mm	tinted	7.14 kg/m ²	2000 x 3000
21.1813/0	8 mm	tinted	9.52 kg/m ²	2000 x 3000
21.1826/0	4 mm	clear	4.76 kg/m ²	2000 x 3000
21.1827/0	6 mm	clear	7.14 kg/m ²	2000 x 3000
21.1828/0	8 mm	clear	9.52 kg/m ²	2000 x 3000

POLYCARBONATE

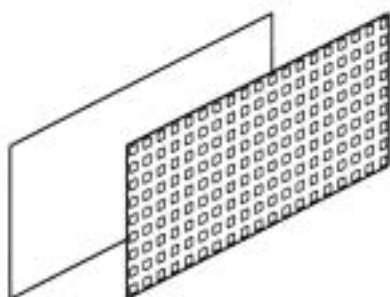


Part N°	Thickness	Colour	Weight	Dimension mm
21.1809/0	4 mm	tinted	4.80 kg/m ²	2000 x 3000
21.1807/0	6 mm	tinted	7.20 kg/m ²	2000 x 3000
21.1821/0	8 mm	tinted	9.78 kg/m ²	2000 x 3000
21.1829/0	4 mm	clear	4.80 kg/m ²	2000 x 3000
21.1830/0	6 mm	clear	7.20 kg/m ²	2000 x 3000
21.1831/0	8 mm	clear	9.78 kg/m ²	2000 x 3000

CORRUGATED MESH



Part N°	Wire size	Mesh-size	Weight kg/m ²	max. Size mm	Material
21.1803/0	4 mm	30 mm	4.9	2000 x 2000	St, zincpl.
21.1805/0	4 mm	40 mm	4.7	2000 x 2000	St, zincpl.
21.1818/0	3 mm	30 mm	1.3	2000 x 2000	AlMg3
21.1818/1	4 mm	40 mm	1.6	2000 x 2000	AlMg3

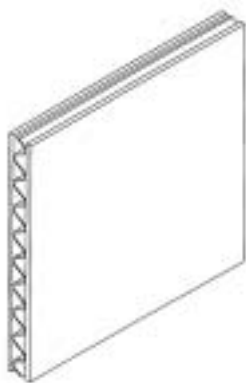


On demand

Aluminium panels, steel panels, laminated wood panels

CORRUGATED ALUMINIUM PANEL

Part Nr 21.1816/0

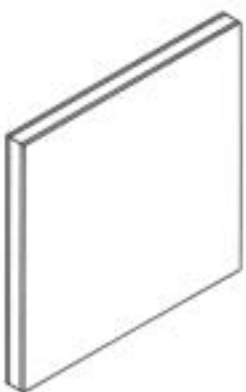


Front plate (anodized)	1	mm
Rear plate (natural)	0.3	mm
Interior corrugated plate (Al)	0.2	mm
Total thickness	5.5	mm
Weight	4.6	kg/m ²
Panel size	1500 x 2500	mm

- Al material can be recycled!
- Suitable for painting and printing.

COMPOSITE PANEL

Part Nr 21.1834/0

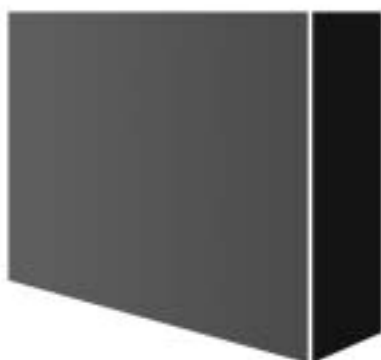


Material outside	Aluminium	(anodized)
Material inside	PE	
Total thickness	6	mm
Weight	7,3	kg/m ²
Panel size	1500 x 3000	mm

- Suitable for painting and printing.

PVC-PLATE

Part Nr 21.1817/0



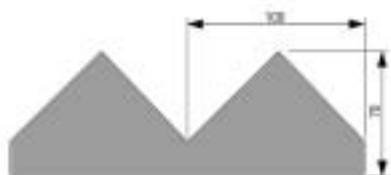
Thickness	20	mm
Colour	grey	7011 RAL
Weight	28	kg/m ²
Panel size	1000 x 2000	mm



- Other colours and measurements as well as antistatic table plate upon request.

SOUND- PROOFING SHEET

Part N° 21.1819/0



Thickness	70	mm
Coefficient of thermal conduction	0.032	W/mK
	bei	0°C
Weight	28	kg/m ³
Panel size	600 x 1200	mm



- Primary noise reduction by enclosing of noise sources
- Secondary noise protection in working rooms, offices
- Other sizes on demand

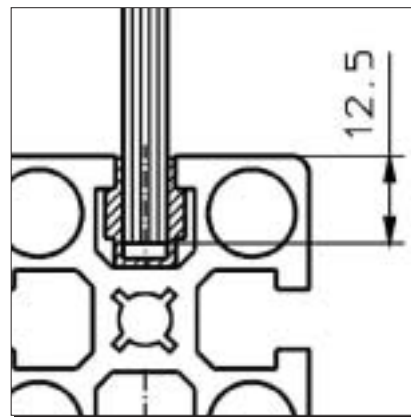
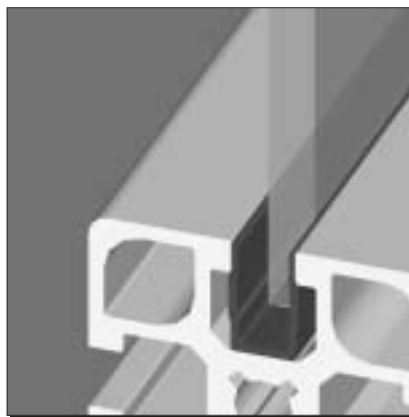
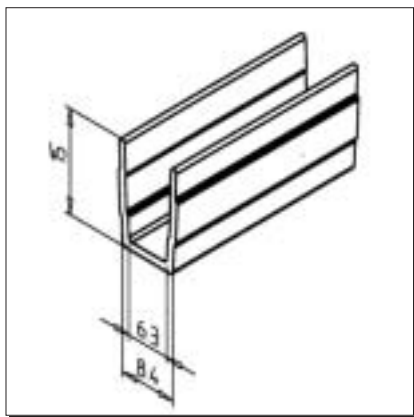


EDGE-, COVER-, SLIDE- AND SEALING PROFILES

These profiles are used for groove covering or for reception of panel elements up to 6 mm. Covering of grooves is necessary if flush profile surfaces are required or for the installation of wiring and piping. With slide profiles simple and economic linear guides for drawers, sliding doors, jigs etc. can be realized. For sealing of enclosures against sound, water or dust insert-seals and frame-seals are available.

COVER PROFILE

Part N° 22.1070/1



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey
- Deliverable in lightgrey Part N° 22.1070/2
- Deliverable in black Part N° 22.1070/0
- Deliverable in orange Part N° 22.1071/0
- Deliverable in blue Part N° 22.1072/0
- Deliverable in yellow Part N° 22.1074/0

Weight	0,081	kg/m
Length	2	m

APPLICATIONS

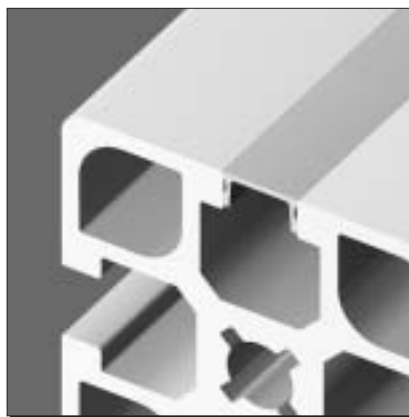
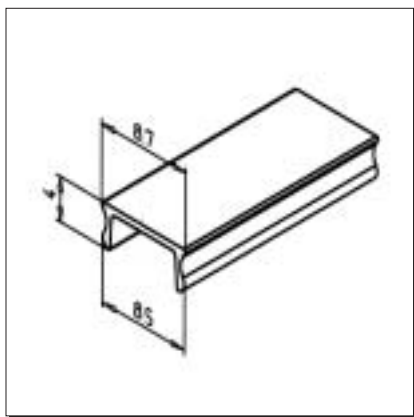
- Mounted with groove inwards: for covering of profile grooves
- Mounted with groove outwards: Attachment of panel elements up to 6mm; thickness compensation for thin panels with silicon or rubber string

ASSEMBLY

- Snap or slip into profile groove
- Allowance for the panel elements: see page 141

COVER PROFILE L

Part N° 20.1021/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural
- | | | |
|--------|-------|------|
| Weight | 0,025 | kg/m |
| Length | 6 | m |
- Also deliverable in aluminium anodized Part N° 20.1021/1

APPLICATIONS

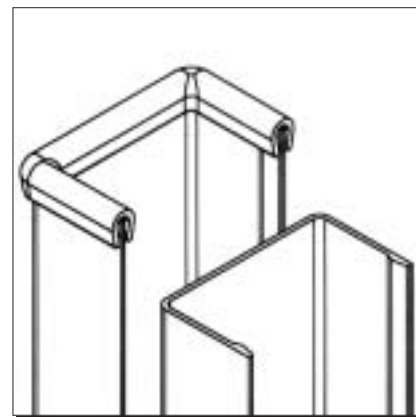
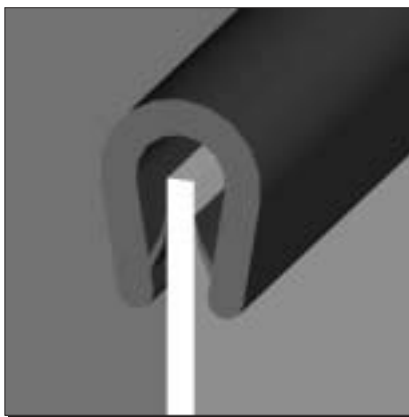
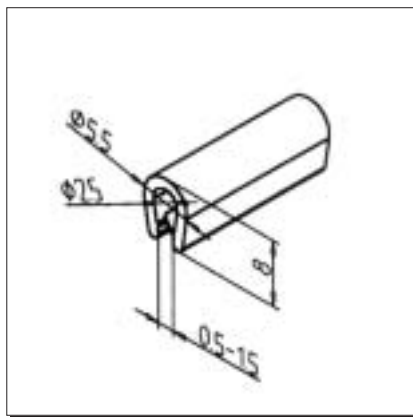
- Flush, dust -proof covering of profile grooves
- Groove cross-section usable as installation conduit for wiring or piping
- Information plates

ASSEMBLY

- Press by hand onto profile groove
- Cut off with metal-pliers

EDGE PROTECTION 0,5 - 1,5

Part N° 22.1029/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, black, strengthened with steel sheet

Weight	0,067	kg/m
Length	100	m

APPLICATIONS

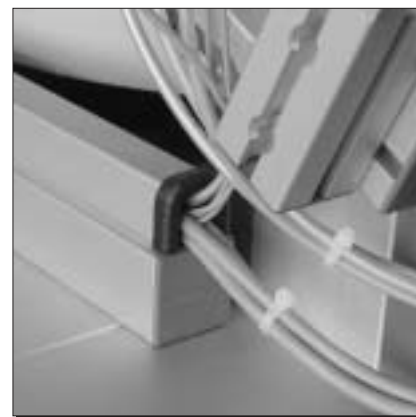
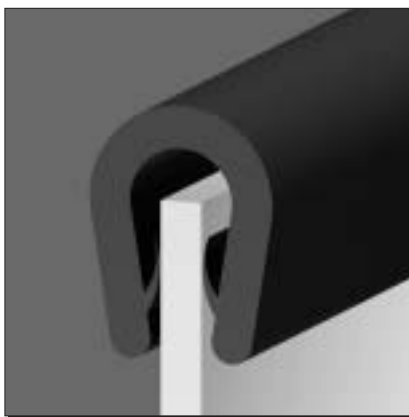
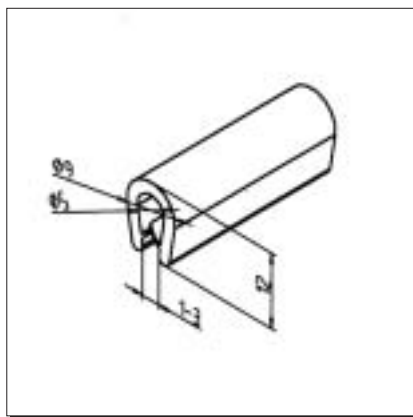
- Edge protection for panel elements
- Protection of bores or openings

ASSEMBLY

- Slip on edge of the panel element

EDGE PROTECTION 1 - 3

Part N° 22.1036/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, black, strengthened with steel sheet

Weight	0,081	kg/m
Length	100	m

APPLICATIONS

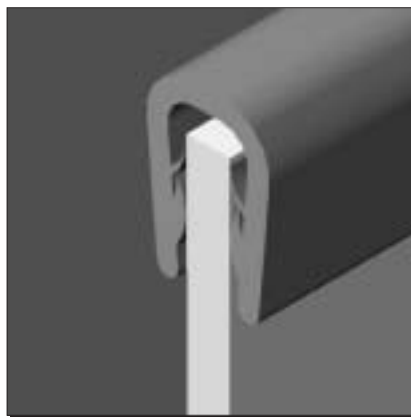
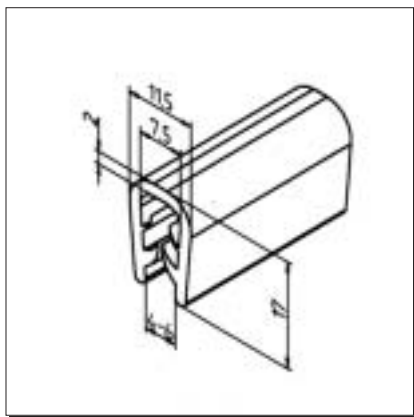
- Edge protection for panel elements
- Protection of bores or openings

ASSEMBLY

- Slip on edge of the panel element

EDGE PROTECTION 4 - 6

Part N° 22.1037/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, black, strengthened with steel sheet

Weight	0,081	kg/m
Length	100	m

APPLICATIONS

- Edge protection for panel elements

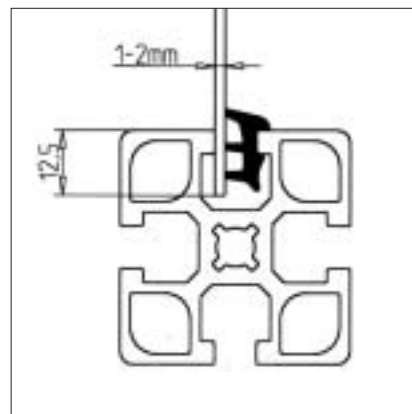
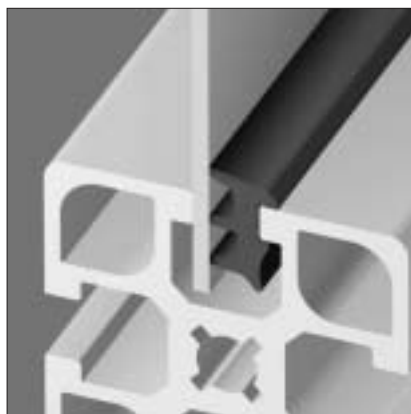
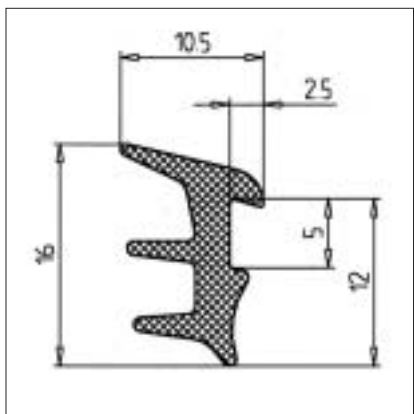
- Protection of bores or openings

ASSEMBLY

- Slip on edge of the panel element

INSERT SEAL 2

Part N° 22.1083/0



TECHN. DATA/ITEMS SUPPLIED

- EPDM, black

Weight	0,092	kg/m
Length	200	m

APPLICATIONS

- Not suitable for acrylic plastic and polycarbonate

- Attachment and sealing of panel elements up to 2 mm thickness, directly in the profile groove

ASSEMBLY

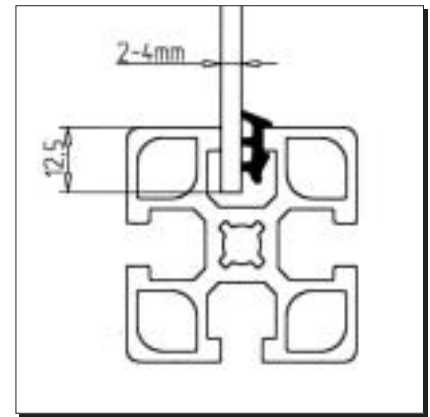
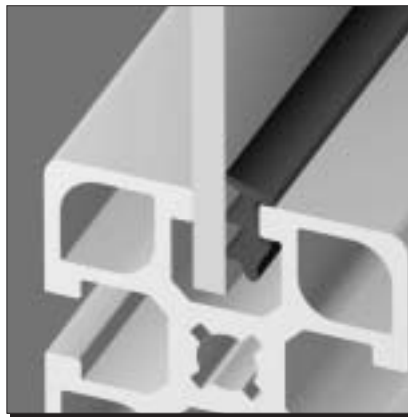
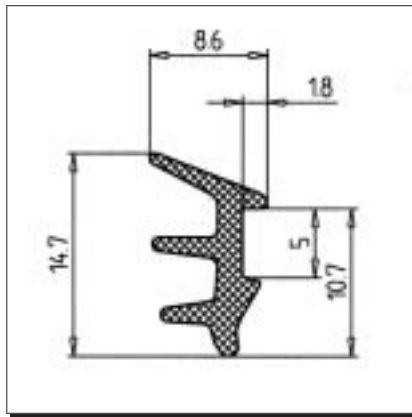
- Insert panel element into profile groove

- Press insert seal subsequently into free space between panel element and profile groove with blunt tool made of wood or plastic

- Allowance for the panel element: see page 141

INSERT SEAL 4

Part N° 22.1081/0



TECHN. DATA/ITEMS SUPPLIED

- EPDM-AGV, black

Weight	0,065	kg/m
Length	200	m

APPLICATIONS

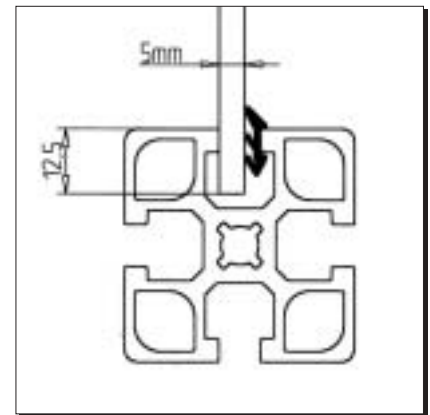
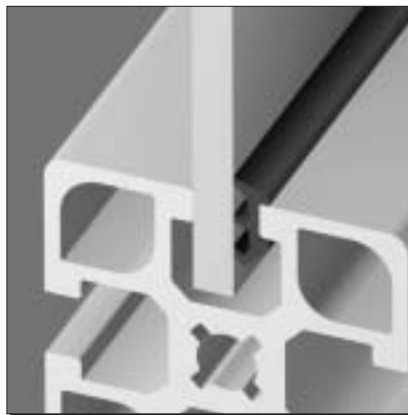
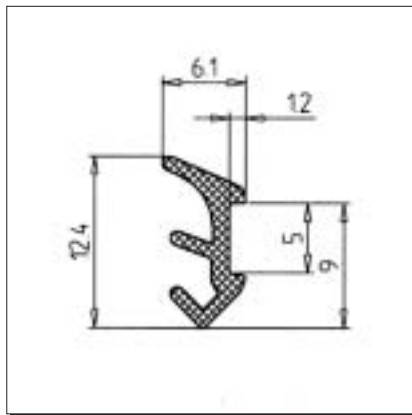
- Attachment and sealing of panel elements of 2 - 4 mm in the profile groove
- Also suitable for acrylic plastic and polycarbonate

ASSEMBLY

- Insert panel element into profile groove and press insert seal subsequently into free space between panel element and profile groove with blunt tool made of wood or plastic
- Materials < 2mm can be clamped by using insert seal on both sides
- Allowance for the panel element: see page 141

INSERT SEAL 5

Part N° 22.1099/0



TECHN. DATA/ITEMS SUPPLIED

- EPDM-AGV, black

Weight	0,033	kg/m
Length	200	m

APPLICATIONS

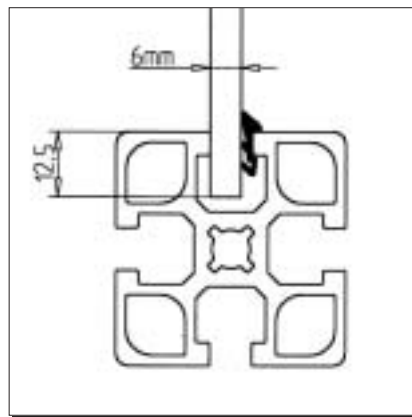
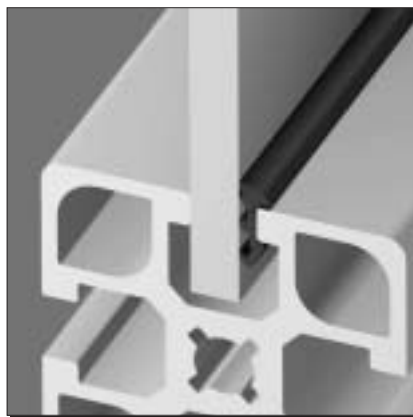
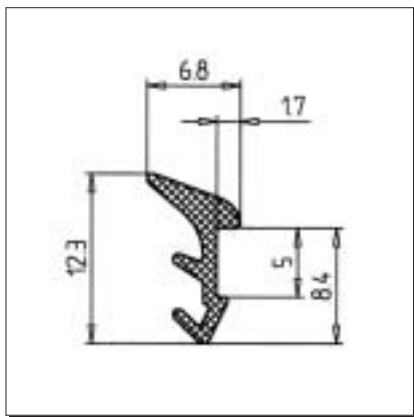
- Attachment and sealing of panel elements directly in the profile groove; for panel elements of 5 mm thickness
- Also suitable for acrylic plastic and polycarbonate

ASSEMBLY

- Insert panel element into profile groove
- Press insert seal subsequently into free space between panel element and profile groove with blunt tool made of wood or plastic
- Allowance for the panel element: see page 141

INSERT SEAL 6

Part N° 22.1086/1



TECHN. DATA/ITEMS SUPPLIED

- EPDM-AGV, black

Weight	0,030	kg/m
Length	200	m

APPLICATIONS

- Attachment and sealing of panel elements directly in the profile groove; for panel elements of 6 mm thickness

- Also suitable for acrylic plastic and polycarbonate

ASSEMBLY

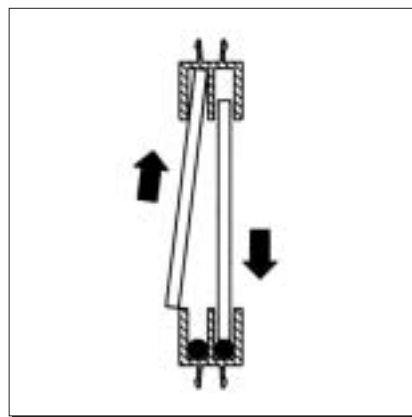
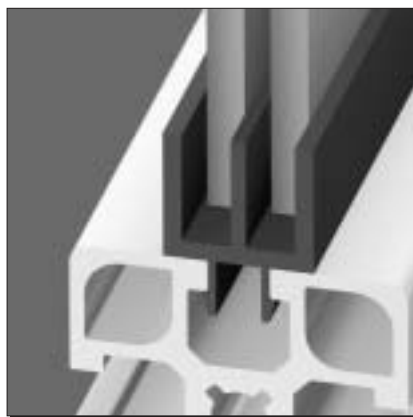
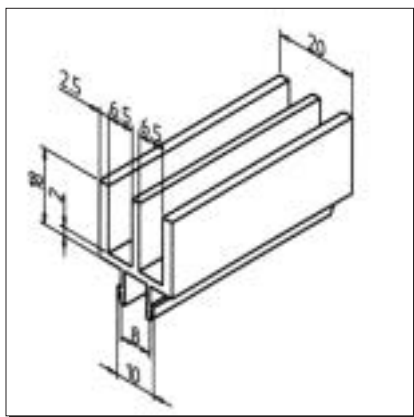
- Insert panel element into profile groove

- Press insert seal subsequently into free space between panel element and profile groove with blunt tool made of wood or plastic

- Allowance for the panel element: see page 141

GUIDE PROFILE 2

Part N° 22.1073/1



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey

- On request also deliverable in black

Weight	0,268	kg/m
Length	2	m

APPLICATIONS

- 2-fold sliding doors made of panel elements of max. 6 mm

ASSEMBLY

- Snap into profile groove

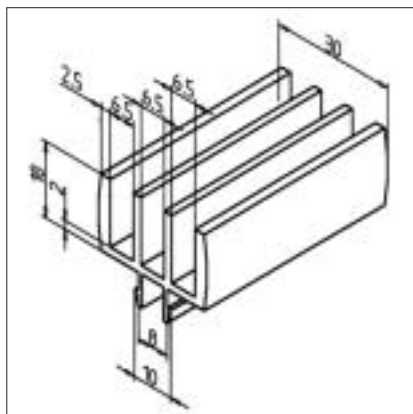
- Suitable for subsequent mounting

- For subsequent mounting of panel elements PVC-bars Part N° 22.1077/0 are to be inserted into the grooves of the lower guide profile

- For the panel element allow a min. of 20 mm reduction in y - direction

- For direct fitting without PVC-bars allow a min. of 10 mm reduction in y - direction

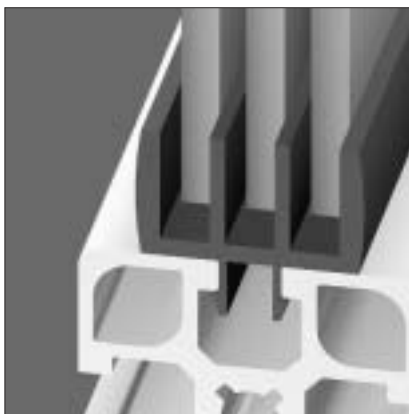
GUIDE PROFILE 3



TECHN. DATA/ITEMS SUPPLIED

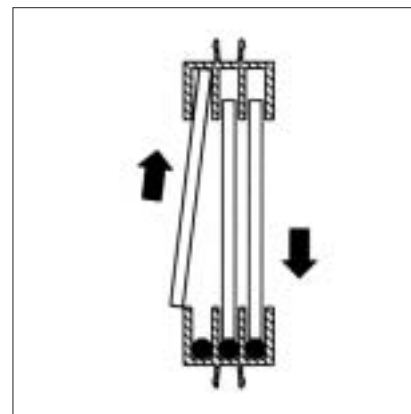
- Hard PVC, grey
- On request also deliverable in black

Weight	0,342	kg/m
Length	2	m



APPLICATIONS

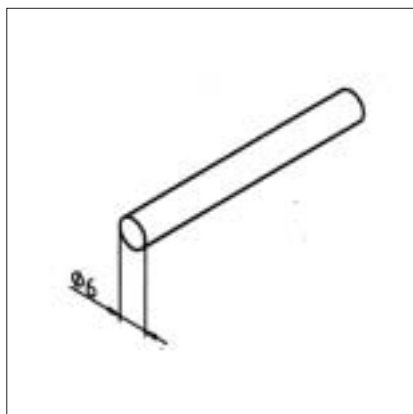
- 3-fold sliding doors, made of panel elements of max. 6mm



ASSEMBLY

- Snap into profile groove
- Suitable for subsequent mounting
- For subsequent mounting of panel elements PVC-bars **Part N° 22.1077/0** are to be inserted in the grooves of the lower guide profile
- For the panel element allow a min. of 20 mm reduction in y - direction
- For direct fitting without PVC-bars allow a min. of 10 mm reduction in y - direction

PVC - BAR



TECHN. DATA/ITEMS SUPPLIED

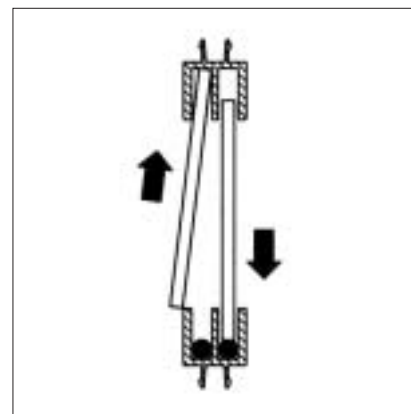
- Hard PVC, natural
- Ø 6mm

Weight	0,036	kg/m
Length	3	m



APPLICATIONS

- For guiding of windows or doors in guide profiles

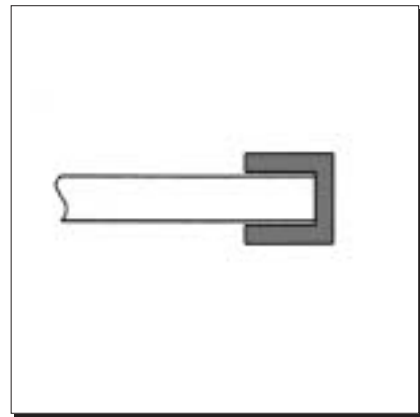
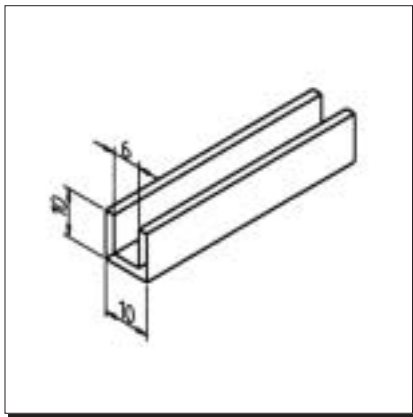


Part N° 22.1077/0

- Insert in the lower grooves of guide profiles 2 and 3

U - PROFILE

Part N° 21.1002/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, anodized E6/EV1

Weight	0,150	kg/m
Length	6	m

APPLICATIONS

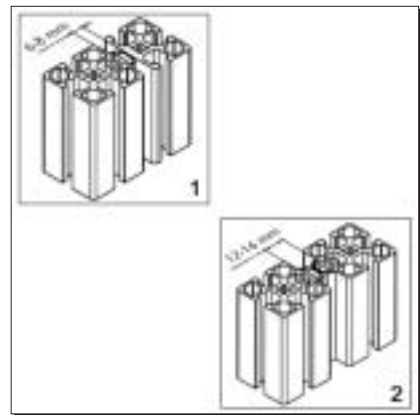
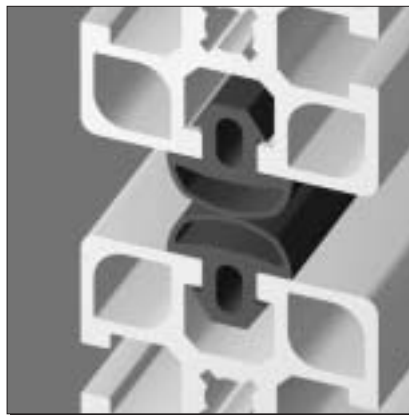
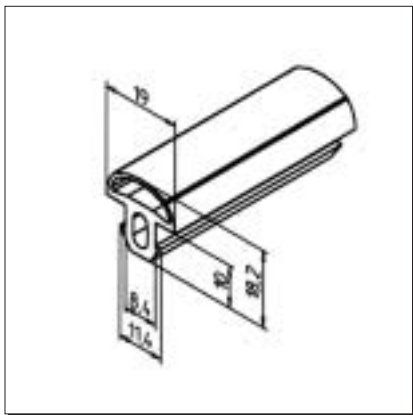
- Frame for screens of max. 5mm

ASSEMBLY

- Glue on edges of panel element with suitable adhesive

SEALING LEDGE

Part N° 22.1078/0



TECHN. DATA/ITEMS SUPPLIED

- NBR, black

Hardness (Shore A)	70°	
Weight	0,14	kg/m
Length	200	m

APPLICATIONS

- Sealing of doors, lids and other constructions against dust, water, noise etc.

ASSEMBLY

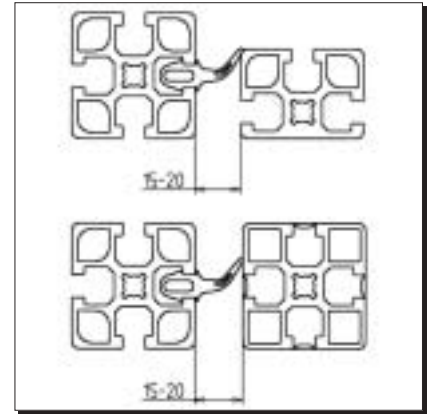
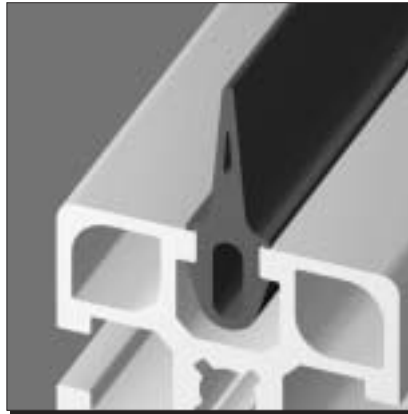
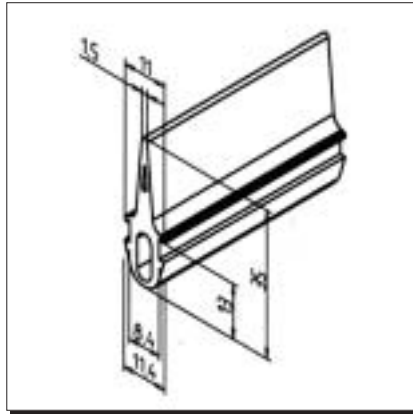
- Press into profile groove

- 1) Sealing of one side: gap width = 6 - 8 mm

- 2) Sealing of both sides: gap width = 12 - 16 mm

SEALING LIP PROFILE

Part N° 22.1038/0



TECHN. DATA/ITEMS SUPPLIED

- NBR, black	
Hardness (Shore A)	60°
Weight	0,210 kg/m
Length	75 m

APPLICATIONS

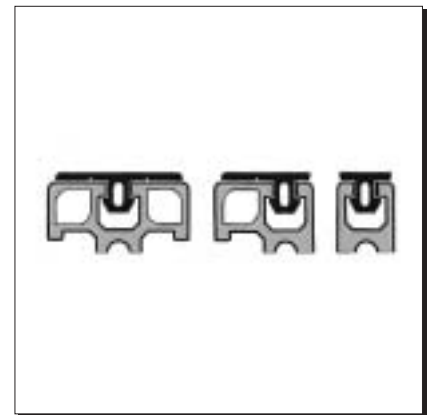
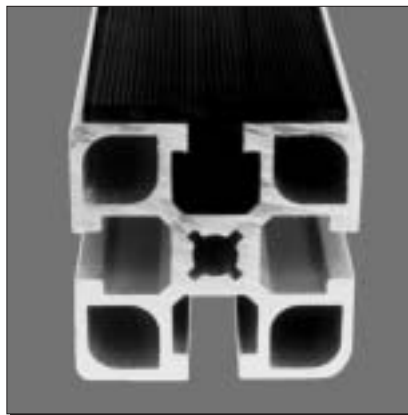
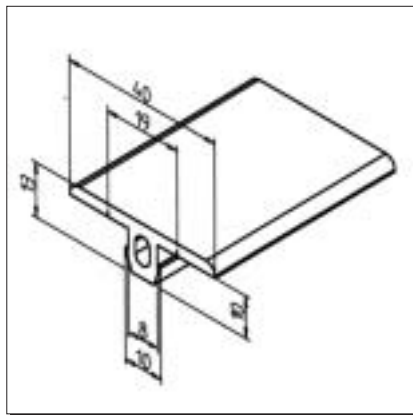
- Sealing of doors, lids and constructions protecting from:
- Dust
- Splash water,
- Noise
- Light

ASSEMBLY

- Press into profile groove

COVER PROFILE NBR

Part N° 22.1098/0



TECHN. DATA/ITEMS SUPPLIED

- NBR, black	
Weight	0,230 kg/m
Length	20 m

APPLICATIONS

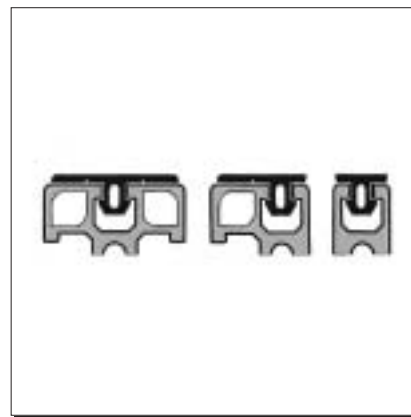
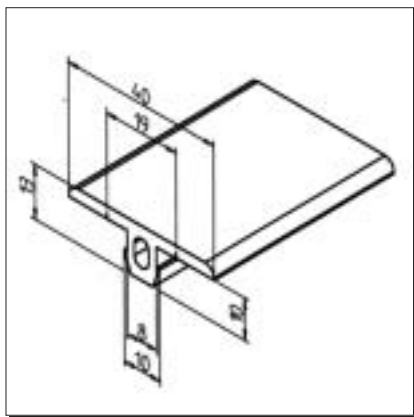
- Edge protection
- Buffer strip
- Ladder rungs
- Buffer for sliding doors

ASSEMBLY

- Press into profile groove
- The lower side of the profile has 2 tear-off notches for adjustment of width to the aluminium profile

COVER PROFILE EPDM

Part N° 22.1098/1



TECHN. DATA/ITEMS SUPPLIED

- EPDM, grey

Weight	0,230	kg/m
Length	200	m

APPLICATIONS

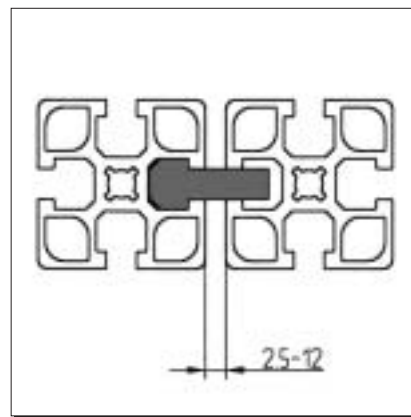
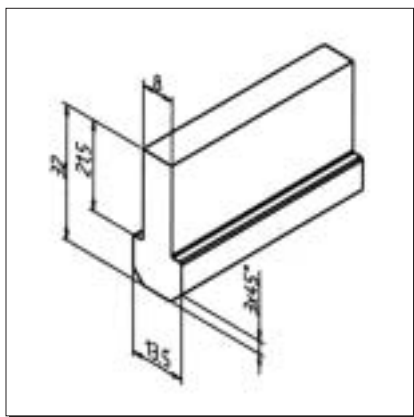
- Edge protection
- Buffer strip
- Ladder rungs
- Buffer for sliding doors

ASSEMBLY

- Press into profile groove
- The lower side of the profile has 2 tear-off notches for adjustment of width to the aluminium profile

SLIDE BAR 8 N

Part N° 22.1085/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black
- Extremely wear-resistant

Weight	0,296	kg/m
Length	2	m

APPLICATIONS

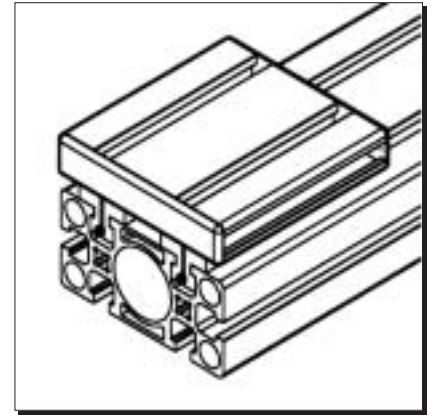
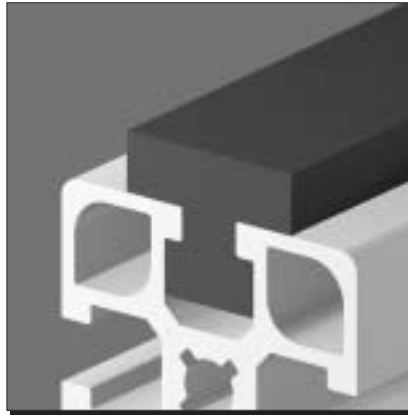
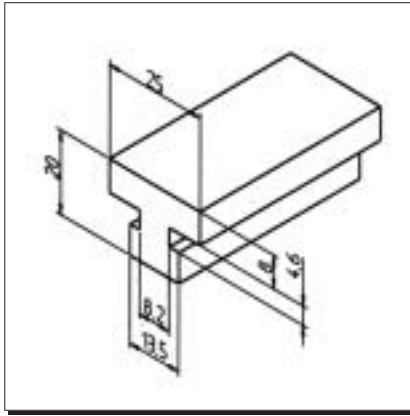
- Guiding device for sliding doors and other sliding elements
- Lateral guide for conveyors

ASSEMBLY

- Slide into profile groove

SLIDE BAR 8

Part N° 22.1088/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Extremely wear resistant

Weight	0,311	kg/m
Length	2	m

APPLICATIONS

- Sliding support

- Work-piece slide

- Guide for lifting doors

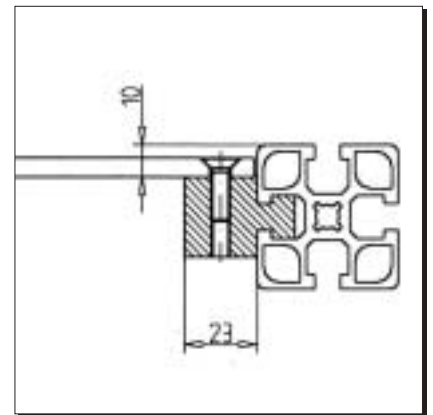
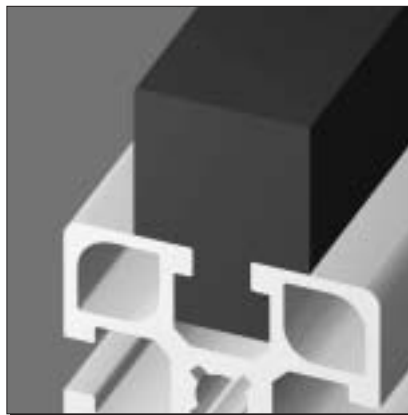
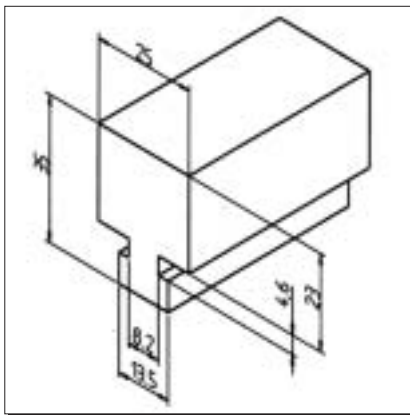
- Slides

ASSEMBLY

- Slide into profile groove

SLIDE BAR 23

Part N° 22.1089/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Extremely wear resistant

Weight	0,673	kg/m
Length	2	m

APPLICATIONS

- Slide support

- Work-piece slide

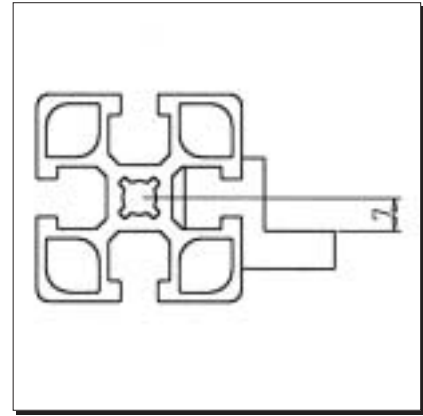
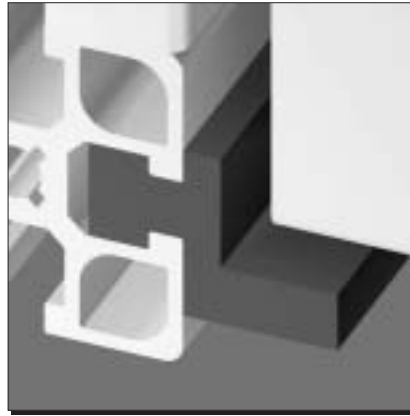
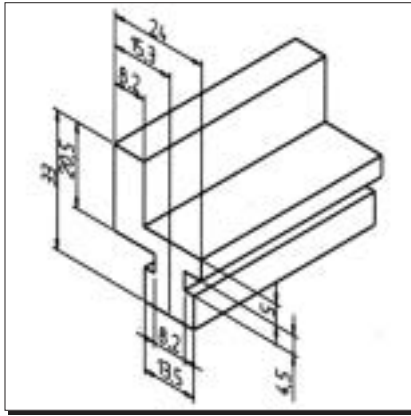
- Customer processing possible by additional machining allowance

ASSEMBLY

- Slide into profile groove

ANGULAR SLIDE BAR

Part N° 22.1040/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black		
- Extremely wear resistant		
Weight	0,480	kg/m
Length	2	m

APPLICATIONS

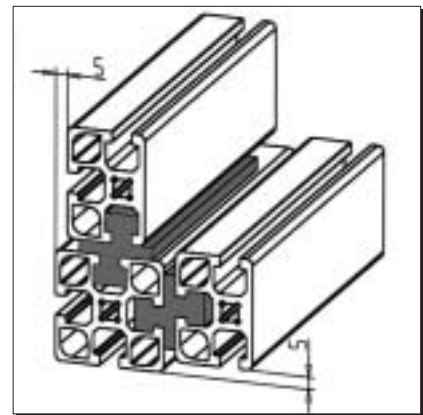
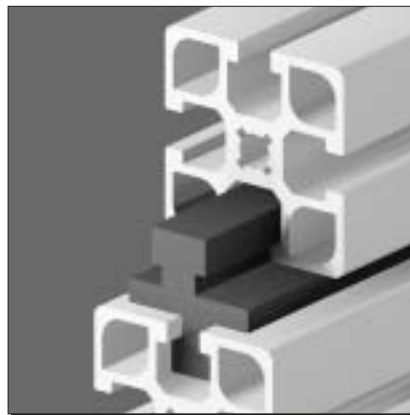
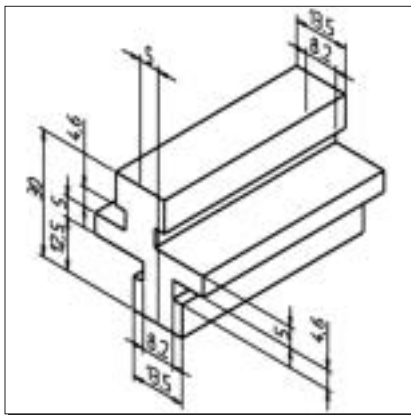
- Conveying systems
- Belt conveyors
- Lateral stop of conveyors

ASSEMBLY

- Slide into profile groove
- If necessary, secure with against displacement with set-screws M6 x 16

DOUBLE SLIDE BAR

Part N° 22.1087/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black		
- Extremely wear resistant		
Weight	0,411	kg/m
Length	2	m

APPLICATIONS

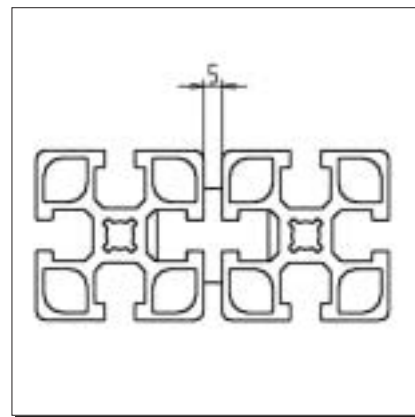
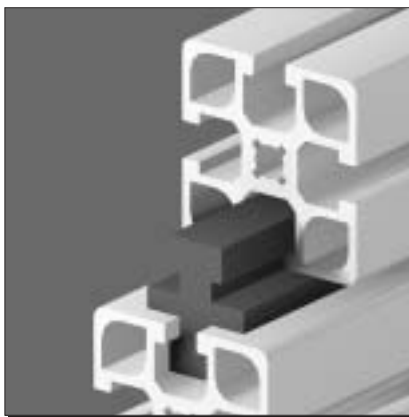
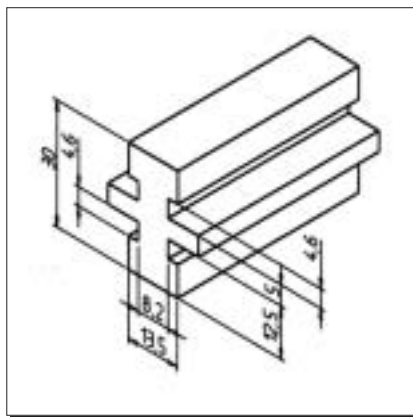
- Simple work-piece slides
- Guide for drawers

ASSEMBLY

- Slide the double slide unit into profile grooves of frame and sliding element
- Secure the sliding element at both ends with screws M8 x 16

PARALLEL SLIDE BAR

Part N° 22.1041/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black
- Extremely wear resistant

Weight	0,387	kg/m
Length	2	m

APPLICATIONS

- Parallel guide without difference in height
- Sliding elements that are flush on the outside

ASSEMBLY

- Slide into profile grooves
- If necessary, they can be locked on one side by means of straight pins M6 x 16



PREASSEMBLED
ELEMENTS FOR LIFTING
AND SLIDING DOORS

These elements are preassembled from our standard products ready for use. They are easily fixed to our profiles by using our fastening elements. For you stock of parts is not necessary and planning and assembly time can be reduced significantly.

PREASSEMBLED ELEMENTS FOR LIFTING AND SLIDING DOORS

All elements are preassembled from our standard products ready for use. They are easily fixed to our profiles by using our fastening elements. You do not need stock of parts is not necessary and planning and assembly time can be reduced significantly.

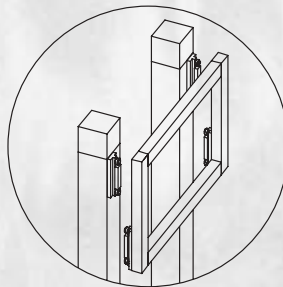


Slide-roll element

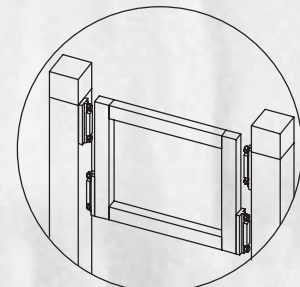


For one door four elements are necessary:
 One each to be fixed at end positions of guiding profiles.
 One each to be fixed at door element.
 Length of sliding profile:
 desired stroke + 180 mm min.

1. Disassemble the bearings from the element.
2. Insert T-slot bar into profile groove and lock at desired position.
3. Reassemble the slide and the bearings with T-slot bar.

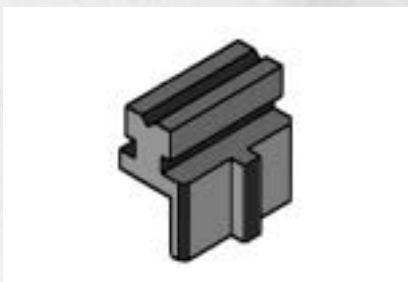


Assembly in front of stand profiles



Assembly between stand profiles

Guide for sliding-door



For a simultaneous guidance of two elements in one profile groove. Subsequent mounting of sliding-doors into existing constructions possible.

For one door element 4 guides are necessary.

Allow for door elements:

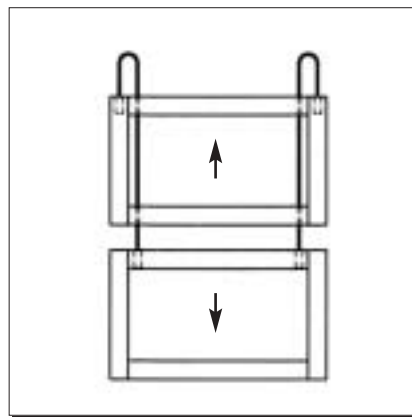
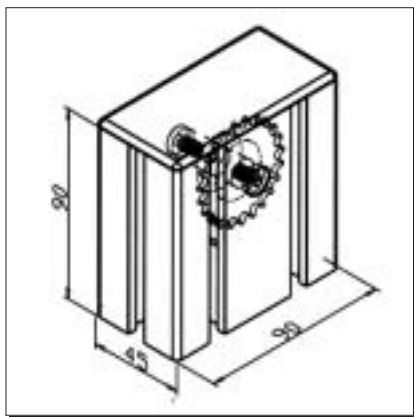
Height: Clearance of the opening minus 11 mm

Width for 2 elements: $\frac{\text{Clear width of the opening} + 55}{2}$

2

SYNCHRONOUS PULLEY 45

Part N° 21.1792/0



TECHN. DATA/ITEMS SUPPLIED

- Housing made of profile 45 x 90
- Chain wheel, steel, preassembled for installation on broad side of the profile

Weight	0,343	kg
Load max.	34	kg

APPLICATIONS

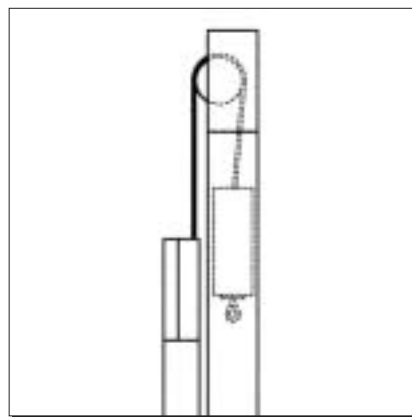
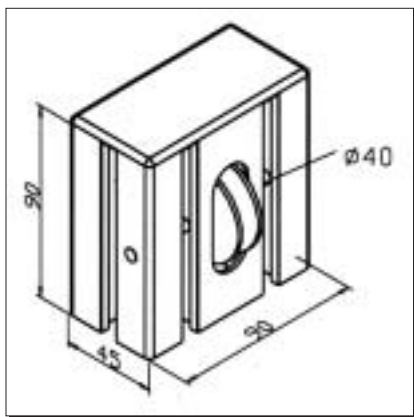
- Simultaneous opening and closing of two lifting doors running in the opposite direction; doors are of similar weight
- The chain is guided in the profile groove; thus no hand-protection is required

ASSEMBLY

- Attachment on vertical profile with 2 T-slot bars 90 Part N° 21.1029/0
- Insert chain Part N° 21.1713/0 in pulley; fasten it with the door chain clamping device Part N° 21.1712/0 on both doors and insert it in the vertical profiles

CABLE PULLEY 45

Part N° 21.1775/0



TECHN. DATA/ITEMS SUPPLIED

- Housing made of profile 45 x 90
- Cable roller preassembled; built-in on broad side of the profile
- End cap

Weight	0,350	kg
Load max.	12	kg

APPLICATIONS

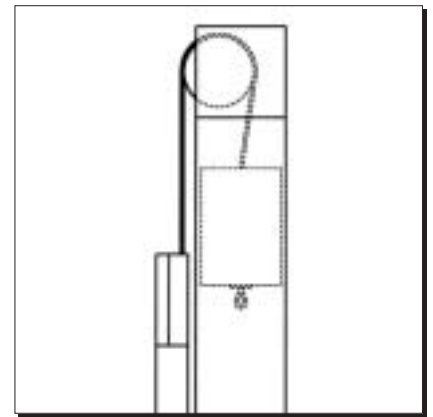
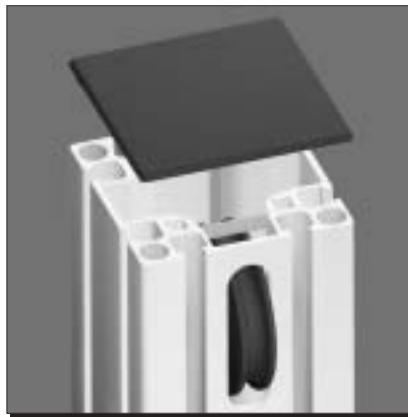
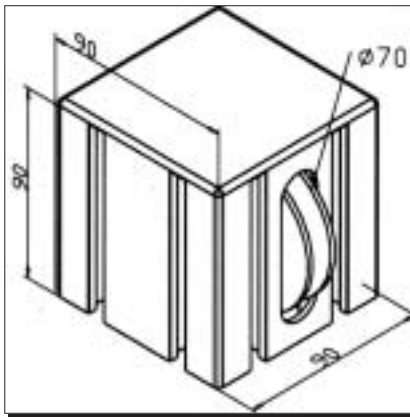
- Cable reverse for counterweights in lifting doors made of profiles 45 x 90 L or 45 x 90 G
- For continuous operation and heavy loads use chain pulley 45

ASSEMBLY

- Attachment on vertical profile with 2 T-slot bars 90 Part N° 21.1029/0

CABLE PULLEY 90

Part N° 21.1776/0



TECHN. DATA/ITEMS SUPPLIED

- Housing made of profile 90 x 90 L
- Built-in cable roller St, zinc-plated
- End cap

Weight	0,680	kg
Load max.	30	kg

APPLICATIONS

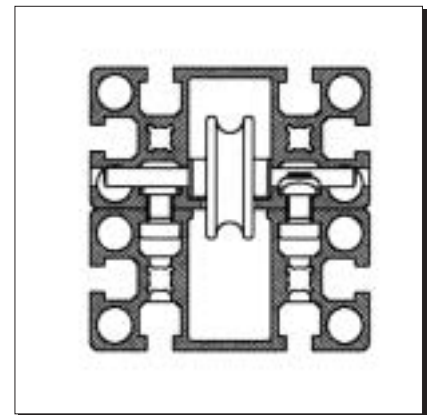
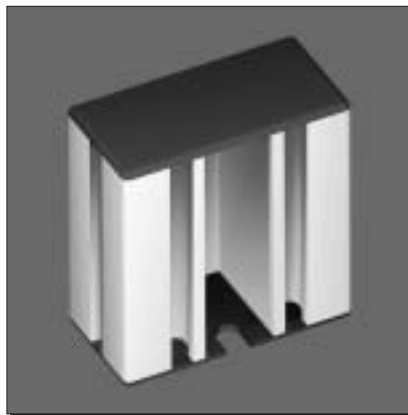
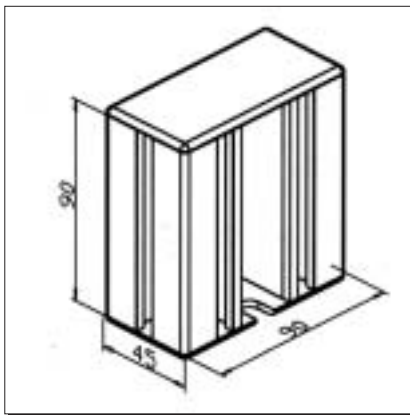
- Cable reverse for counterweights in lifting doors made of profile 90 x 90 L
- For continuous operation and heavy loads use chain pulley 90

ASSEMBLY

- Attachment on vertical profile with 4 T-slot bars 90 Part N° 21.1029/0

END BLOCK

Part N° 21.1780/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90
- End caps 45 x 90, one of them with slot for cable passage
- Fixing kit

Weight	0,290	kg
Length	90	mm

APPLICATIONS

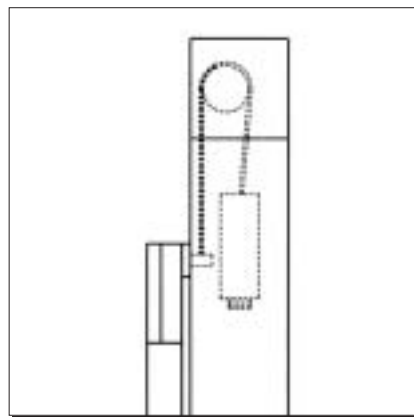
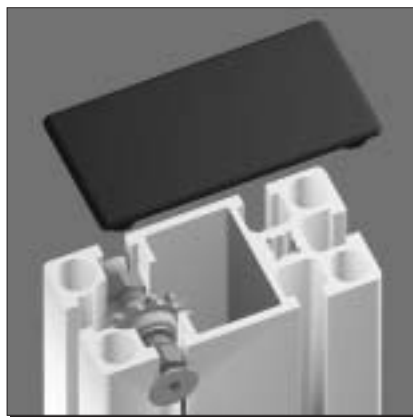
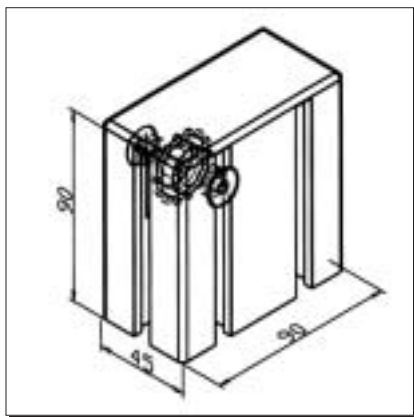
- Safety device for cable pulleys
- Cable pulley 45 and 90
- Chain pulley 90

ASSEMBLY

- Use fixing kit from supply schedule

CHAIN PULLEY 32

Part N° 21.1774/0



TECHN. DATA/ITEMS SUPPLIED

- Housing made of profile 45 x 90
- Chain wheel, steel, zinc-plated, preassembled, for small profile side
- End cap

Weight	0,372	kg
Load max.	50	kg

APPLICATIONS

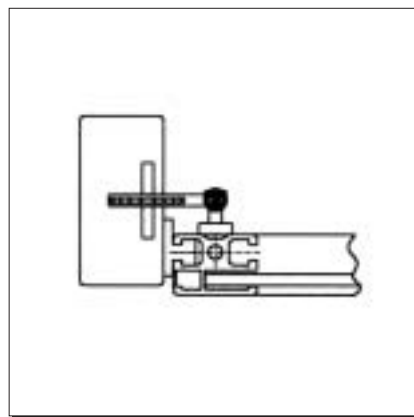
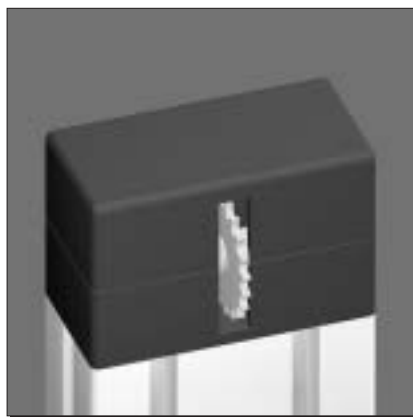
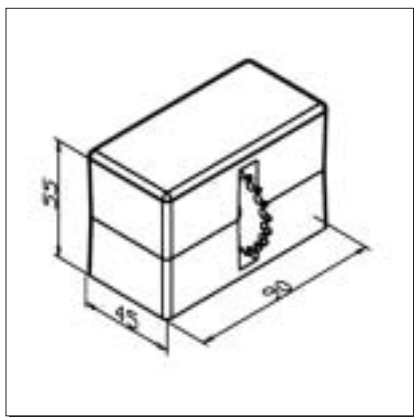
- Chain reverse for counterweights in lifting doors; for inner balancing weight in profiles 45 x 90 F or 45 x 90 G
- The cable is guided in the profile groove, thus no hand-protection is required

ASSEMBLY

- Attachment on vertical profiles with 2 slot-bars 90 Part N° 21.1029/0
- Application of chain Part N° 21.1713/0 with door chain clamping device Part N° 21.1712/0 and weight chain clamping device Part N° 21.1711/0

CHAIN PULLEY 45 A

Part N° 21.1838/0



TECHN. DATA/ITEMS SUPPLIED

- Housing aluminium GD, powder coated, grey
- Chain wheel, steel, zinc-plated, preassembled
- End cap
- Fixing kit

Weight	0,347	kg
Load max.	50	kg

APPLICATIONS

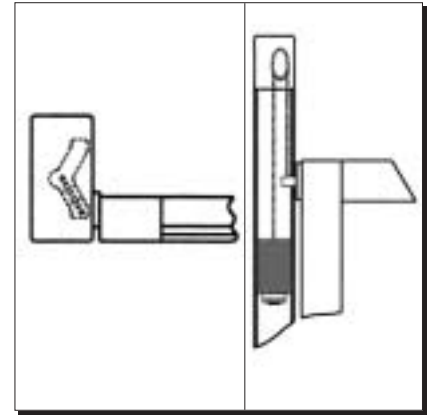
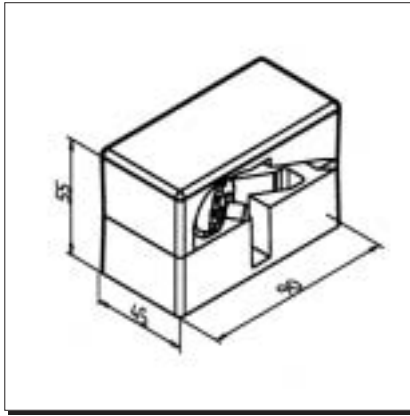
- Chain reverse of counterweights for lifting doors for inner counterweight in profile 45 x 90 L or 45 x 90 G
- Chain runs on the outer profile side and in the middle of the broad side; if required covered with hand-protection Part N° 21.1780/0

ASSEMBLY

- Attachment with fixing kit from supply schedule; thread M8 in vertical profile required
- Use of chain Part N° 21.1713/0 with door chain clamping device Part N° 21.1712/0 and weight chain clamping device Part N° 21.1711/0

CHAIN PULLEY 45 I

Part N° 21.1840/0



TECHN. DATA/ITEMS SUPPLIED

- Housing aluminium GD, powder coated, grey
- Chain wheel, steel, zinc plated, preassembled
- End cap
- Fixing kit

Weight	0,347	kg
Load max.	50	kg

APPLICATIONS

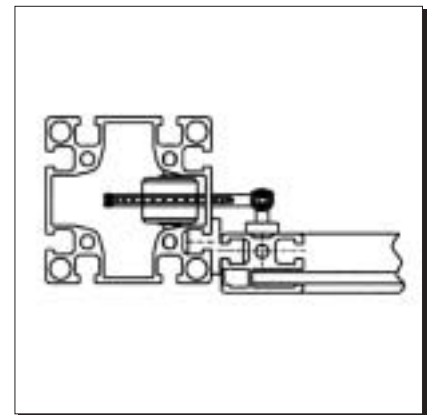
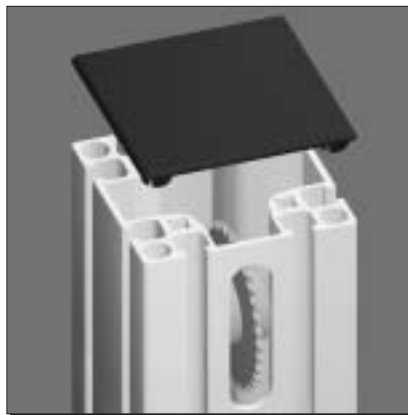
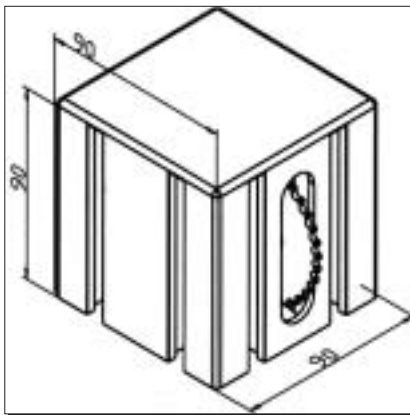
- Chain reverse of counterweights for lifting doors for inner counterweight in profile 45 x 90 L or 45 x 90 G
- Chain runs on the broad side of the profile in the right or left profile groove (adjustable chain wheel), no hand-protection required

ASSEMBLY

- Attachment with fixing kit from supply schedule; thread M8 in vertical profile required
- Use of chain Part N° 21.1713/0 with door chain clamping device Part N° 21.1712/0 and weight chain clamping device Part N° 21.1711/0

CHAIN PULLEY 90

Part N° 21.1839/0



TECHN. DATA/ITEMS SUPPLIED

- Housing made of profile 90 x 90
- Chain wheel, steel, zinc-plated, preassembled
- End cap

Weight	0,681	kg
Load max.	70	kg

APPLICATIONS

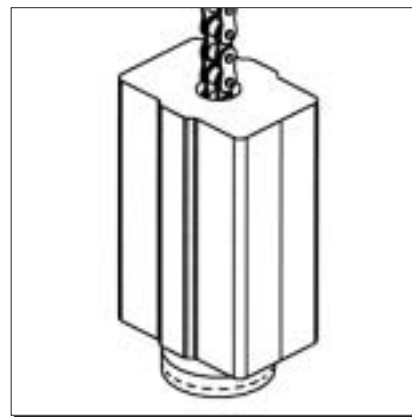
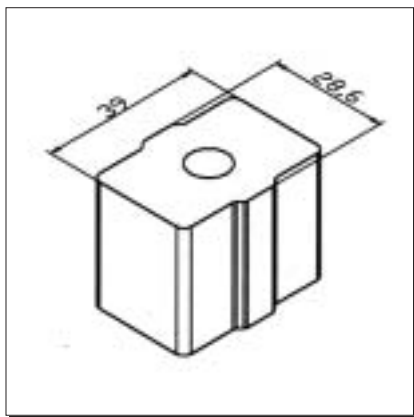
- Chain reverse for counterweights in lifting doors; for inner balancing weight in profile 90 x 90 L
- The chain is guided on the outside and in the middle of the profile surface; cover with hand-protection Part N° 21.1780/0 if required

ASSEMBLY

- Attachment on vertical profiles with 4 slot-bars Part N° 21.1029/0
- Use of chain Part N° 21.1713/0 with door chain clamping device Part N° 21.1712/0 and weight chain clamping device Part N° 21.1711/0

COUNTERWEIGHT 45

Part N° 21.1772/0



TECHN. DATA/ITEMS SUPPLIED

- Pb cast, special hard
- For profiles 45 x 90 L or 45 x 90 G

Weight	0,100	kg/cm
Length	33	cm

On request also other length available
Part N° 21.1772/1

APPLICATIONS

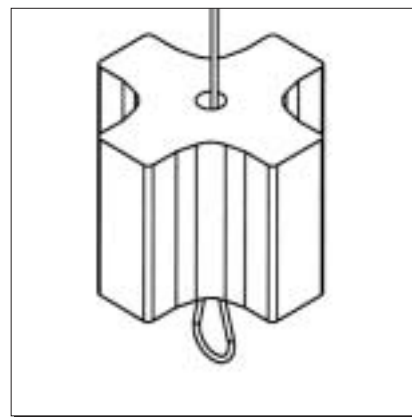
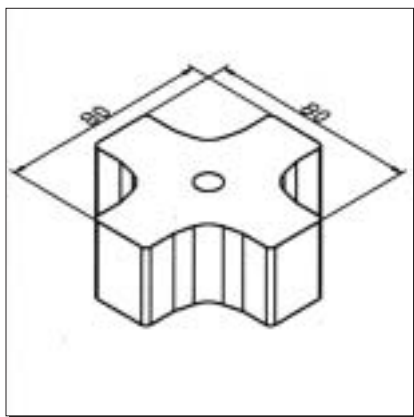
- Counterweight for lifting doors
- For cable and chain

ASSEMBLY

- Insert the counterweight into the profile
- Fasten the steel cable Part N° 21.1777/0 with cable clamping device Part N° 21.1797/0 on the lifting door
- Fasten chain Part N° 21.1713/0 with weight chain clamping device Part N° 21.1711/0 and with door chain clamping device Part N° 21.1712/0 on the door

COUNTERWEIGHT 90

Part N° 21.1778/0



TECHN. DATA/ITEMS SUPPLIED

- Pb cast, special hard
- For profiles 90 x 90 L

Weight	0,385	kg/cm
Length	26	cm

On request also other length available
Part N° 21.1778/1

APPLICATIONS

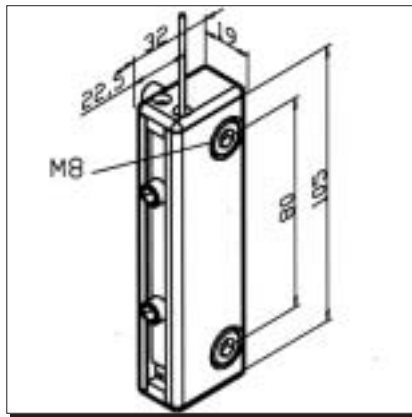
- Counterweight for large lifting doors
- For cable and chain

ASSEMBLY

- Insert the counterweight into the profile
- Fasten the steel cable Part N° 21.1777/0 with cable clamping device Part N° 21.1797/0 on the lifting door
- Fasten chain Part N° 21.1713/0 with weight chain clamping device Part N° 21.1711/0 and with door chain clamping device Part N° 21.1712/0 on the door

ROPE CLAMP

Part N° 21.1797/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 19 x 32
 - 1 Clamping plate
 - 2 hex socket cap screws M8 x 25 with square nuts M8
 - 2 End caps, one with throughbore
- | | |
|--------|----------|
| Weight | 0,149 kg |
|--------|----------|

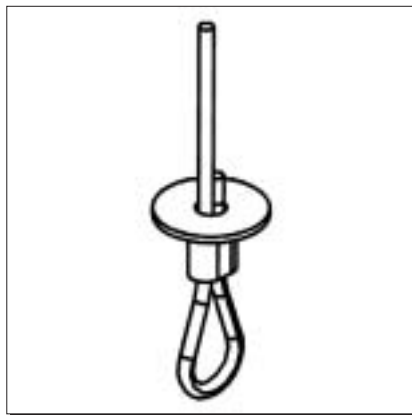
APPLICATIONS

- Connection of counterweight and door element in lifting doors

- Remove lower end cap and unscrew set-screw
- Attach rope clamp with fastening set at the top of the door element
- Pull the rope through the bore of the upper end cap
- Put the counterweight in desired position (test in upper and lower end position of the door element)
- Lay rope end in loop around clamping plate, slide into the slot and fix the two set screws
- If necessary cut cable end
- Fix lower end cap

CABLE

Part N° 21.1777/0



TECHN. DATA/ITEMS SUPPLIED

- Steel cable VA, 2,5 mm
 - With clamping eye hook on one side, pressed
- | | |
|--------|----------|
| Weight | 0,072 kg |
| Length | 2,5 m |

APPLICATIONS

- Use in connection with counterweight 45 or 90 and cable pulleys

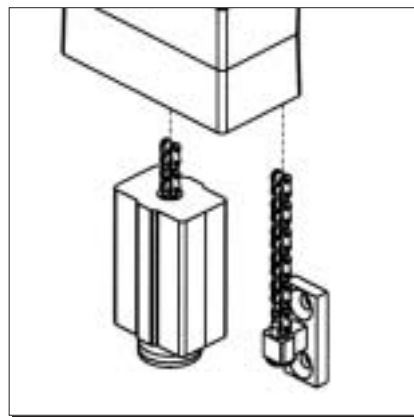
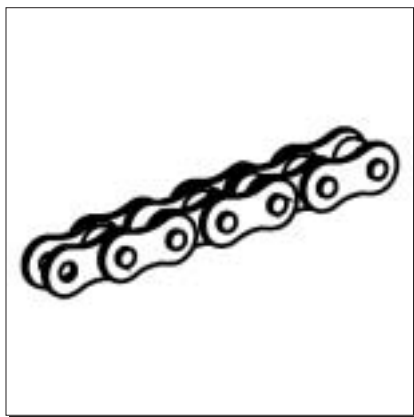
ASSEMBLY

- Lead the cable through the center bore and into the counterweight
- Fasten the cable with the cable clamping device Part N° 21.1797/0 on the lifting door

On request also deliverable in other length

CHAIN

Part N° 21.1713/0



TECHN. DATA/ITEMS SUPPLIED

- Roller chain, steel
 - Size 4
 - Please indicate desired length
- | | | |
|--------------------|-------|----|
| Weight | 0,120 | kg |
| Breaking load min. | 3000 | N |

APPLICATIONS

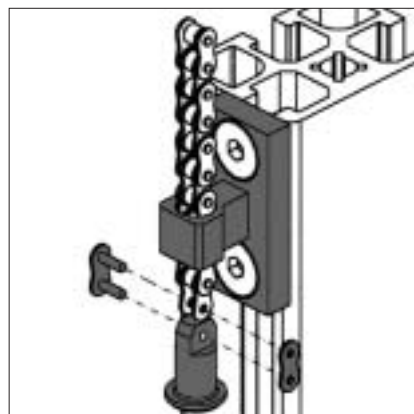
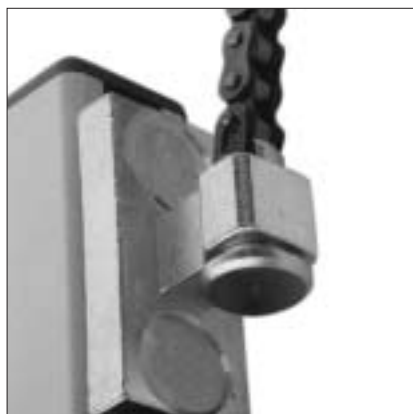
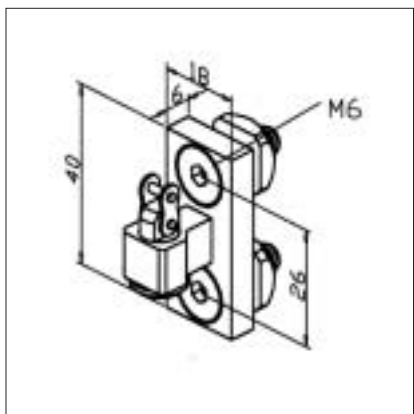
- Use in connection with counterweight 45 or 90 and chain pulleys
- Door chain clamping device **Part N° 21.1712/0** for fastening the chain on the door
- Weight chain clamping device **Part N° 21.1711/0** for fastening the chain on the side of the counterweight

ASSEMBLY

- Lead the chain through the counterweight and through the fixing kit for chain (counterweight side) **Part N° 21.1711/0** mount link for chain
- For mounting on door lead chain through fixing kit for chain (door side) B>**Part N° 21.1712/0** and mount bolt with link for chain

DOOR CHAIN CLAMPING DEVICE

Part N° 21.1712/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc plated
 - Fixing kit
- | | | |
|--------|-------|----|
| Weight | 0,060 | kg |
|--------|-------|----|

APPLICATIONS

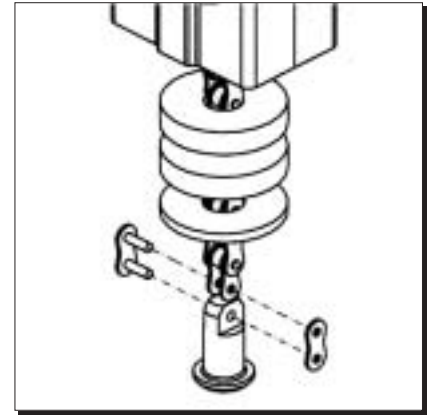
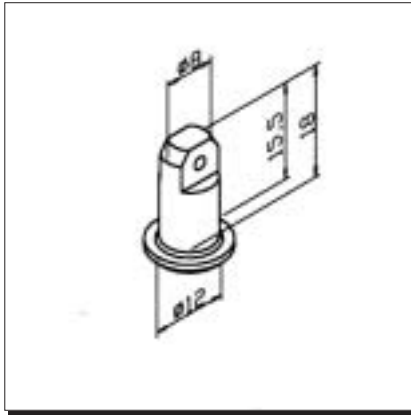
- Use in connection with counterweight 45 or 90 and pulleys
- Use in connection with chain **Part N° 21.1713/0** for fastening on door side

ASSEMBLY

- Lead the chain through the counterweight and through the fixing kit for chain (counterweight side) **Part N° 21.1711/0** mount link for chain
- For mounting on door lead chain through fixing kit for chain (door side) **Part N° 21.1712/0** and mount bolt with link for chain

FIXING KIT FOR CHAIN (COUNTERWEIGHT SIDE)

Part N° 21.1711/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated
 - Rubber-ring
 - Link for chain
- | | | |
|--------|-------|----|
| Weight | 0,015 | kg |
|--------|-------|----|

APPLICATIONS

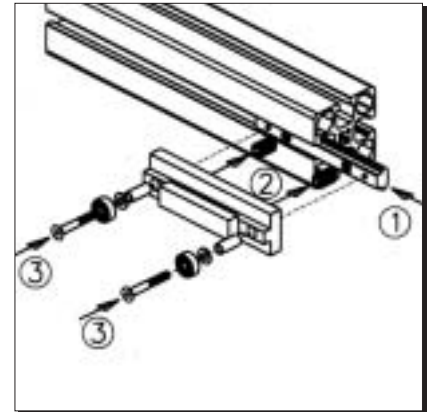
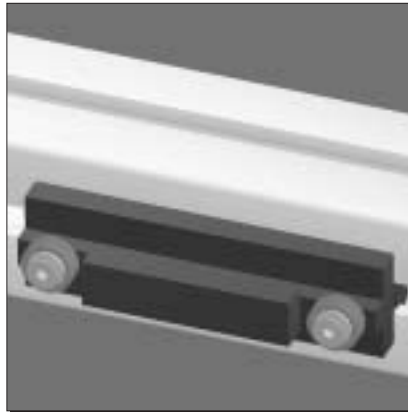
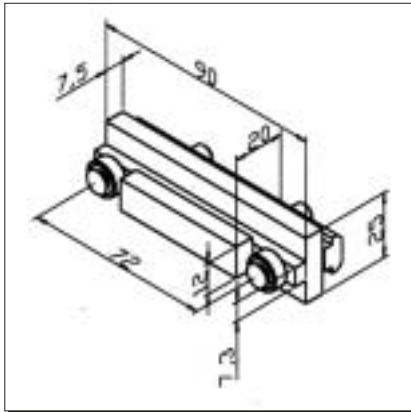
- Use in connection with counterweight 45 or 90 and pulleys
- Use in connection with chain Part N° 21.1713/0 for fastening on door side

ASSEMBLY

- Lead the chain through the counterweight and through the fixing kit for chain (counterweight side) Part N° 21.1711/0 mount link for chain
- For mounting on door lead chain through fixing kit for chain (door side) Part N° 21.1712/0 and mount bolt with link for chain

SLIDE-ROLL ELEMENT

Part N° 21.1796/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black
 - Extremely wear resistant
 - 1 T-slot bar, steel, zinc plated
 - 2 ball-bearings, premounted
- | | | |
|-----------|-------|----|
| Weight | 0,093 | kg |
| Load max. | 200 | N |

APPLICATIONS

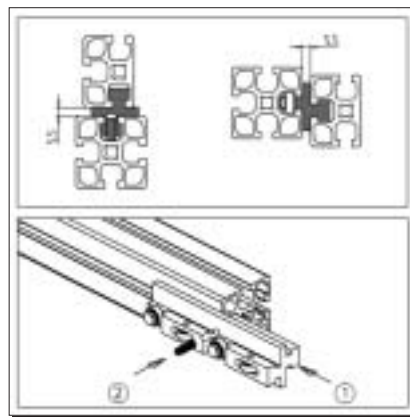
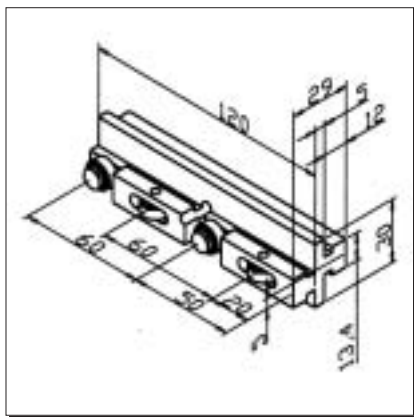
- Guide for lifting doors in the groove of the vertical profile
- Light linear slides
- Workpiece-slides, drawers

ASSEMBLY

- 1: Disassemble the bearings from the element
- 2: Insert t-slot bar into profile groove and lock at desired position
- 3: Reassemble the slide and the bearings with t-slot bar; secure with suitable glue

GLIDE-ROLL ELEMENT

Part N° 21.1799/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black
 - Extremely wear resistant
 - 1 clamping screw, steel, zinc plated
 - 4 built-in ball-bearings
- | | | |
|-----------|-------|----|
| Weight | 0,060 | kg |
| Load max. | 300 | N |

APPLICATIONS

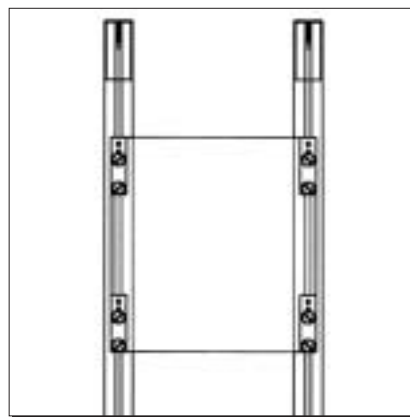
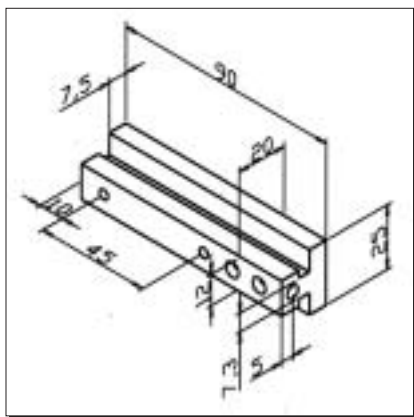
- Guide for sliding-doors, lifting-doors, workpiece-slides, light linear guides
- The element provides 5 mm eccentricity for the construction of sliding-doors with 2 casements or guides with 5 mm ground clearance

ASSEMBLY

- 1: Insert the element with screw side into profile groove of moveable construction part
- 2: Tighten the screw
- Slide the completely mounted moveable part into the grooves of the guiding profiles
- Secure the movable part against falling out with screws at both ends

SLIDE ELEMENT

Part N° 21.1795/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black
 - Extremely wear resistant
 - Ready for use with rope-bore and clamp
- | | | |
|--------|-------|----|
| Weight | 0,029 | kg |
|--------|-------|----|

APPLICATIONS

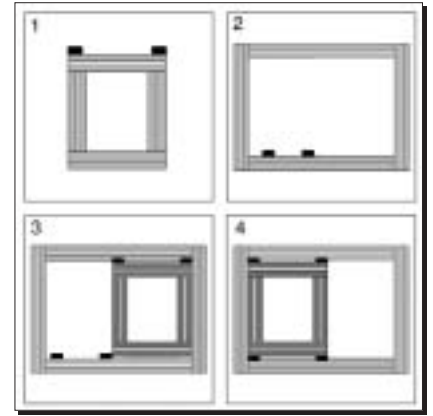
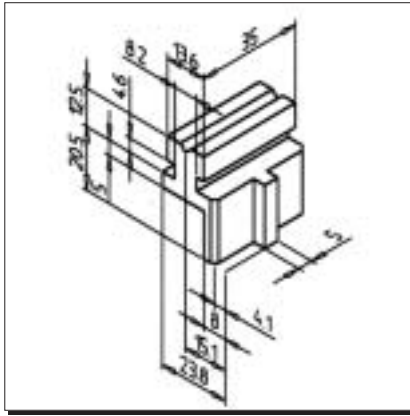
- Guide for light lifting doors and in same function connection of door element and counterweight
- Especially suitable for direct attachment on panel elements without frame

ASSEMBLY

- Connect the cable of the counterweight with slide element
- Secure cable end with clamp
- Screw into the groove of the vertical profile
- Screw panel element

GUIDE FOR SLIDING DOOR

Part N° 22.1079/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic PA 6.6, black
 - 1 screw
 - For 1 door element 4 guides are necessary
- | | |
|--------|----------|
| Weight | 0,029 kg |
|--------|----------|

APPLICATIONS

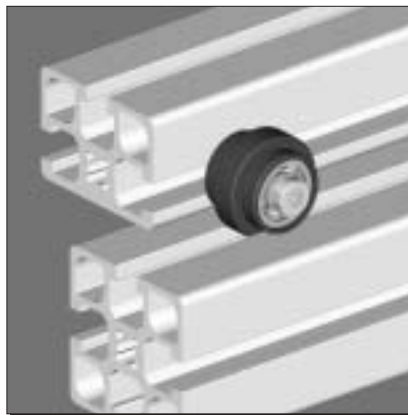
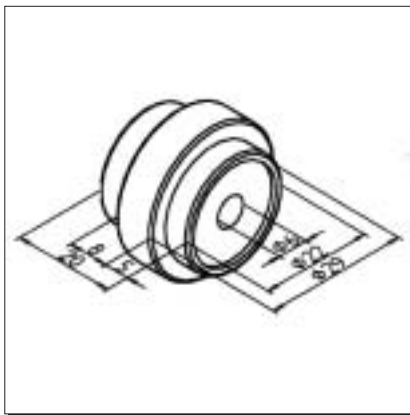
- Sliding doors
- Sliding elements
- Workpiece-slides
- For a simultaneous guidance of 2 elements in 1 profile groove
- Subsequent mounting of sliding-doors into existing constructions possible

ASSEMBLY

- 1: Fix the upper guide at the frame of the door element
 - 2: Insert the lower guide into the frame construction
 - 3: Insert the door element
 - 4: Slide it into the lower guide and secure at desired position
- Mount second door element
 - Allowance: see page 167

ROLLER ELEMENT

Part N° 21.1782/0



TECHN. DATA/ITEMS SUPPLIED

- ABS, grey
 - With 2 ball-bearings 626 ZZ
- | | |
|--------------------|----------|
| Weight | 0,033 kg |
| Load max. (roller) | 200 N |

APPLICATIONS

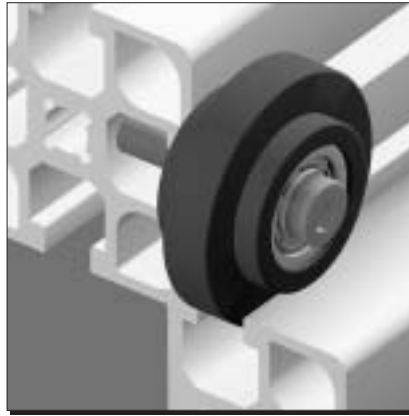
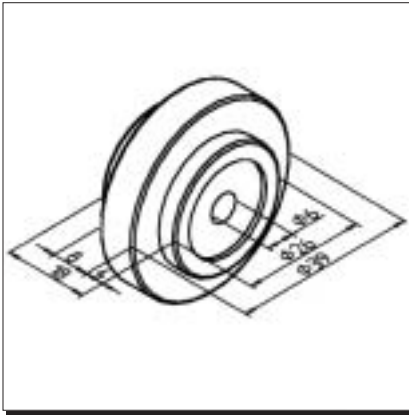
- Guide for sliding doors, lifting doors and drawers

ASSEMBLY

- Attachment with hex socket cap screws M6 x 35 and square nut M6 on profile grooves or directly on the panel element

ROLLER ELEMENT S

Part N° 21.1781/0



TECHN. DATA/ITEMS SUPPLIED

- ABS, grey
- With 2 ball-bearings 626 ZZ

Weight	0,044	kg
Load max. (roller)	200	N

APPLICATIONS

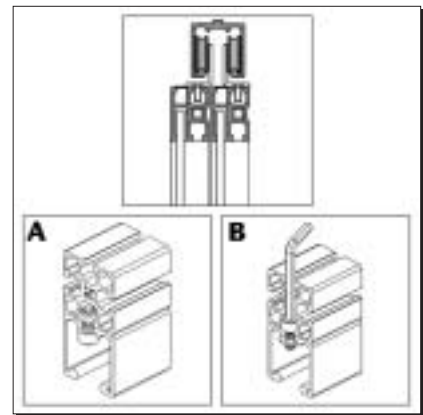
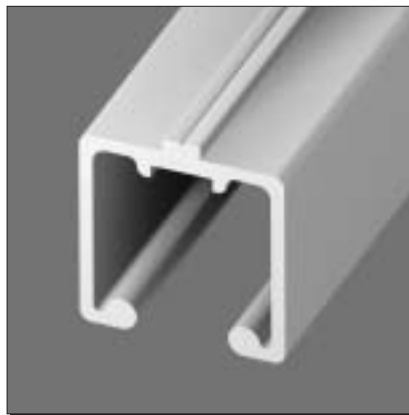
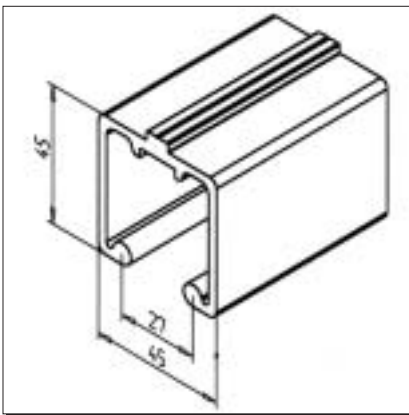
- Guide for sliding doors, lifting doors and drawers

ASSEMBLY

- Attachment with hex socket cap screws M6 x 35 and square nut M6 on profile grooves or directly on the panel element

SLIDING DOOR PROFILE

Part N° 20.1038/0



TECHN. DATA/ITEMS SUPPLIED

ix =	15,604	cm ⁴
ly =	15,366	cm ⁴
wx =	6,935	cm ³
wy =	5,924	cm ³
Weight	1,470	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

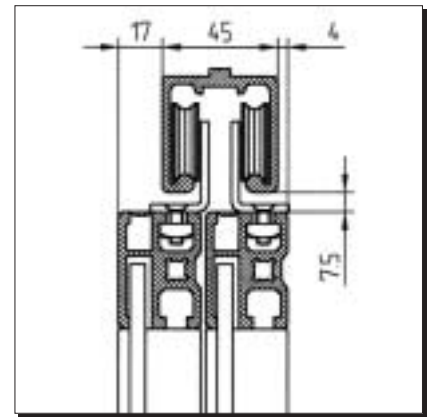
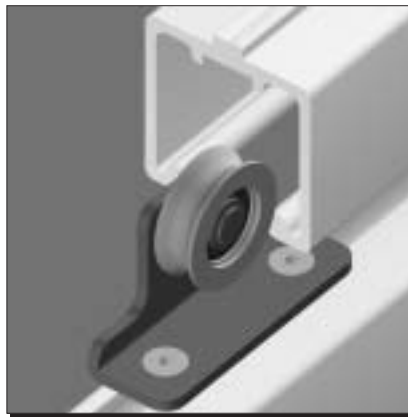
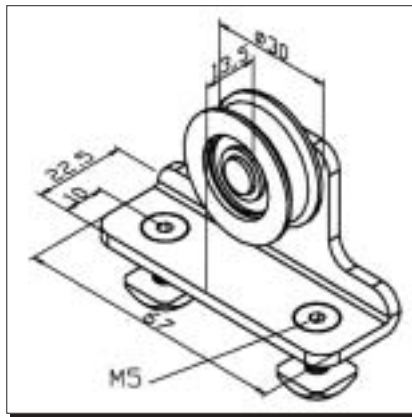
- Two wing sliding doors
- One wing sliding doors

ASSEMBLY

- Drill Ø 8,5 mm holes in centering groove; bore pitch: 250 - 400 mm depending on the load
- A) Position M8 F square nuts in the supporting profile and fasten the sliding rail profile with M8 x 25 cap screw
- B) Drill holes or step holes in the supporting profile and insert the square nuts in the sliding profile; the nuts are secured against torsion

ROLLER ELEMENT FOR SLIDING DOOR

Part N° 21.2000/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic roller with ball-bearing
- Zinc plated steel support
- Fixing kit

Weight	0,080	kg
Load max. (roller)	600	N

APPLICATIONS

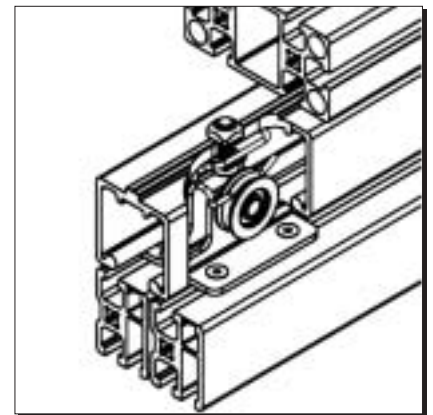
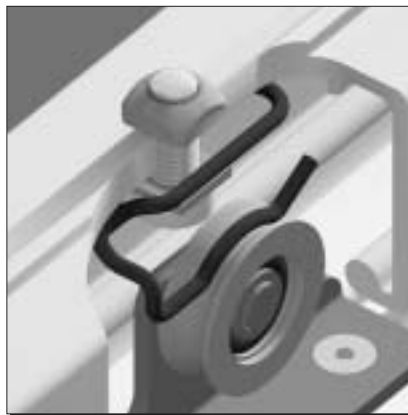
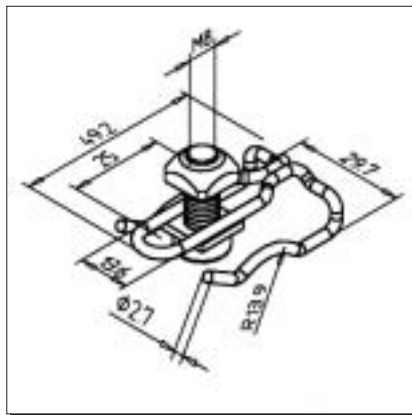
- Easy-running, multi-wing sliding doors in guard units, exhibition stands, testing units, etc.

ASSEMBLY

- Fasten the roller elements on profile groove; use fixing kit from supply schedule
- Insert the doors in the sliding rail profile and gently swing out the doors at their bottom end
- Secure the sliding door at the bottom with locking pins, sliding rails 8N Part N° 21.1085/0 or U-Profile Part N° 21.2002/0 against swinging

STOP FOR SLIDING DOOR

Part N° 21.2001/0



TECHN. DATA/ITEMS SUPPLIED

- Spring steel wire
- Fixing kit

Weight	0,010	kg
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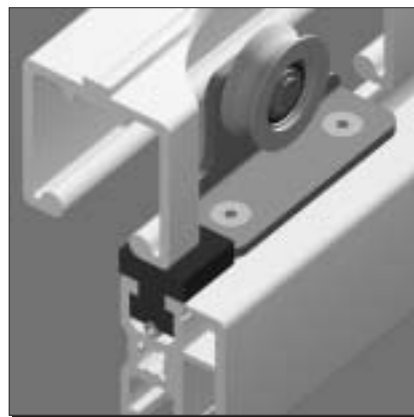
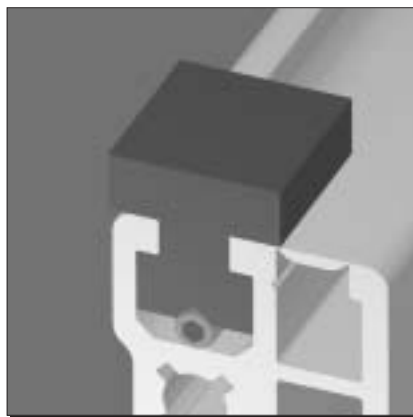
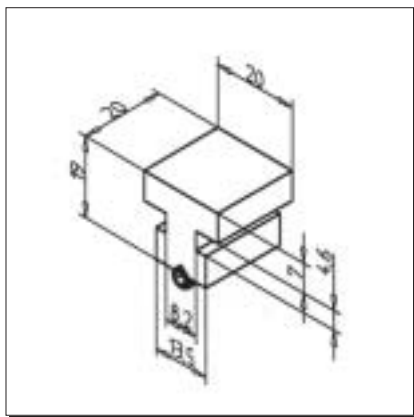
APPLICATIONS

- Stop for sliding doors in their end positions (open / closed)

- Mark end position of the wheel
- Bore drill \varnothing 8,5 mm in sliding door profile
- Use fixing kit from supply schedule

ANTI LIFT FOR SLIDING DOOR

Part N° 21.2003/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Fixing kit

Weight 0,009 kg

APPLICATIONS

- Securing of sliding doors against lift off

MONTAGE

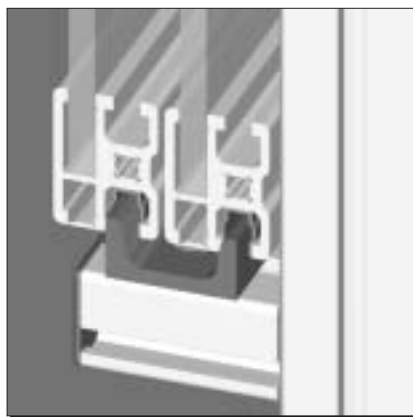
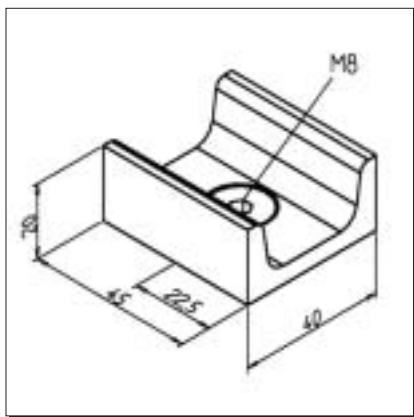
- Slip lift for sliding door in upper profile-groove of the door-element

- Secure the position by screwing the included set-screw horizontally in profile groove underneath antilift

- Fix end cap

U-BAR FOR SLIDING DOOR

Part N° 21.2002/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc plated

- Fixing kit

Weight 0,012 kg

ANWENDUNG

- Securing of sliding doors against lateral swinging

- Guidance of sliding doors

MONTAGE

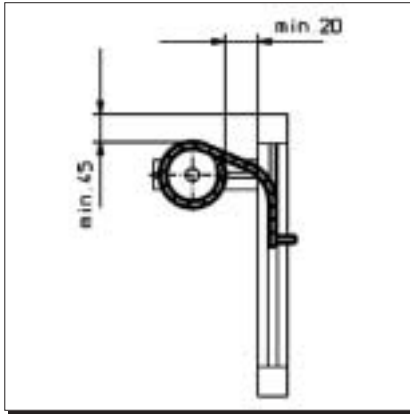
- Hang up the doors

- Mount U-Bar on profile (~60 mm), slide in position and fix

- For smooth movement provide profile grooves with cover profile

ROLLING DOOR

Part N° 29.0400/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural, anodized
- 2 lateral guide rails with integrated spring bolts
- Flexible roller
- Fixing kit

Length max	2 m
Width max	1,7 m

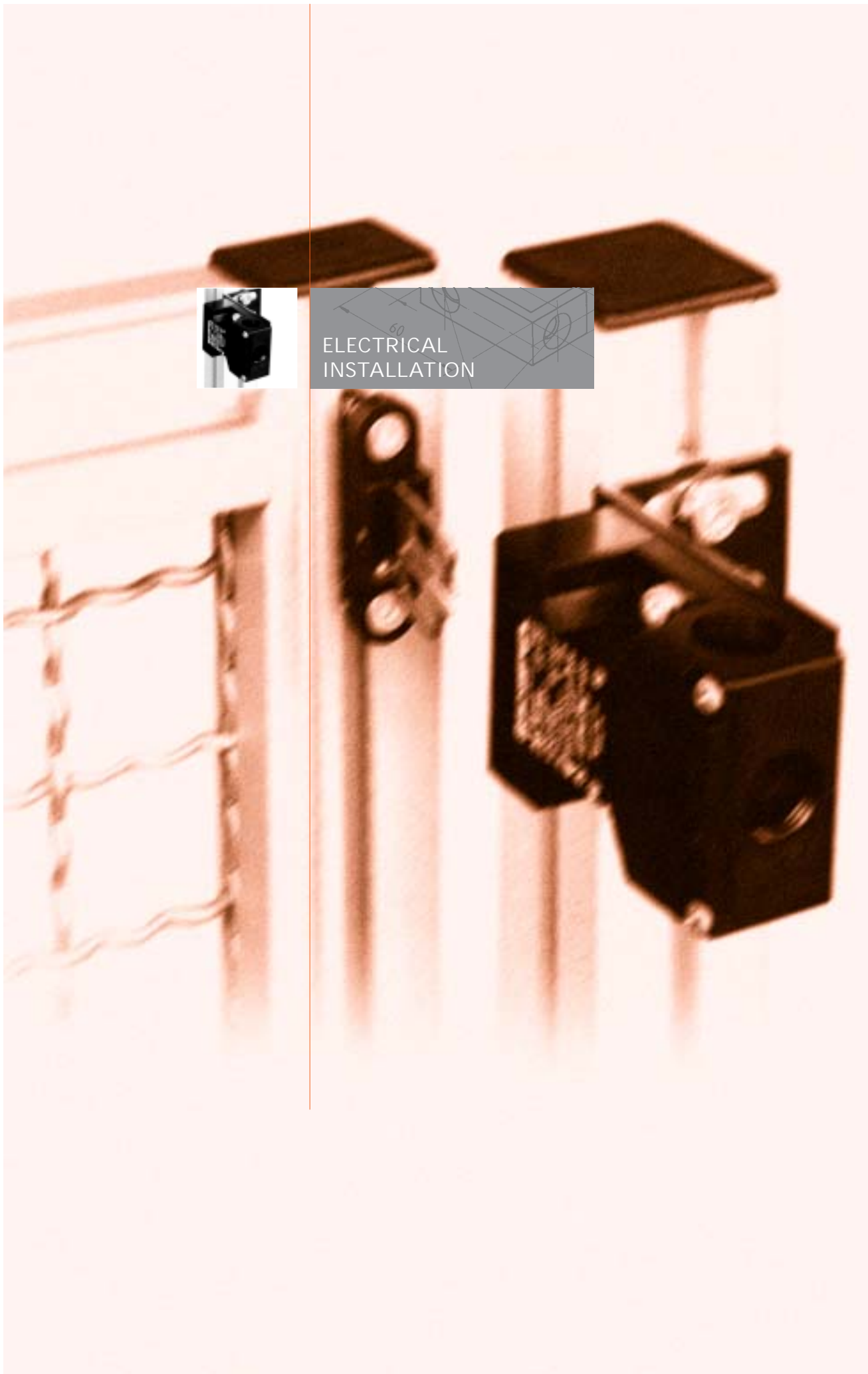
Please indicate clearance and headway of the opening for your order

APPLICATIONS

- Closed for instruments or tools
- Computer racks
- Counters, windows

ASSEMBLY

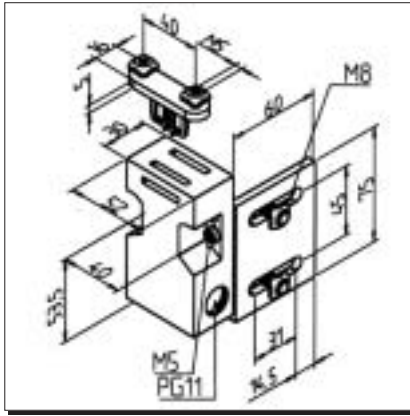
- Mount lateral guide rails into clearance
- Fix flexible roller
- Attach roller door to the flexible roller and slide it into the guide rails
- Close gap at upper door edge with profile 19 x 45
- Also deliverable with electric drive



ELECTRICAL
INSTALLATION

SECURITY SWITCH AZ 16 ZVR

Part N° 21.1110/0



TECHN. DATA/ITEMS SUPPLIED

- Security switch, complete with switching pad, type B1, standard
- Fastening angle, aluminium, natural anodized
- Fixing kit

Weight 0,278 kg

APPLICATIONS

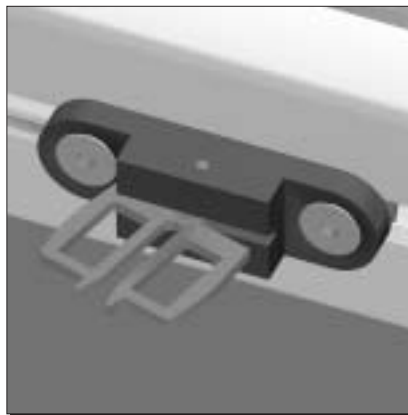
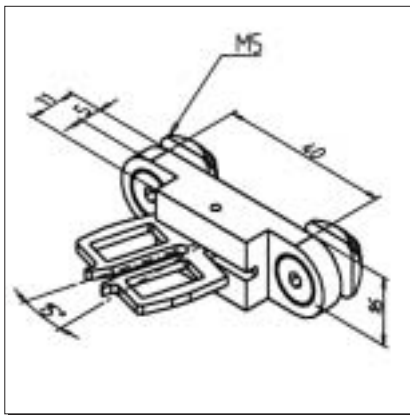
- Electrical securing of swing-doors, sliding-doors, windows
- Suitable for all profiles

ASSEMBLY

- Use fixing kit from apply schedule
- Easy adjustment in x-, y- and z-axis by means of long holes in the angle - bracket
- For small radii use actuating bow B2 Part N° 21.1110/2 or B3 Part N° 21.1110/3

ACTUATING BOW FOR SECURITY SWITCH B2

Part N° 21.1110/2



TECHN. DATA/ITEMS SUPPLIED

- Switching pad, type B2, for particularly small actuating radii over the broad side of the bow
- Fixing kit

Weight 0,032 kg

APPLICATIONS

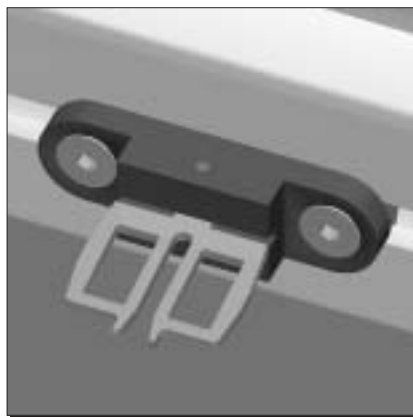
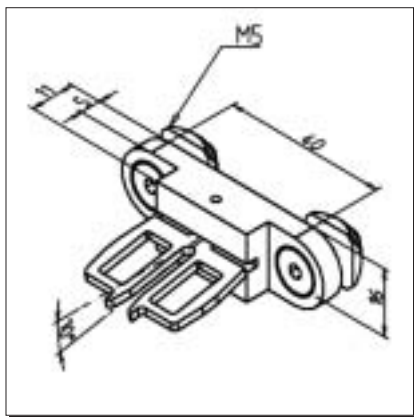
- Actuating bow for small actuating radii in connection with security switch Part N° 21.1110/0 replaces standard bow

ASSEMBLY

- Fix with fixing kit on profile groove
- Directly in panel element with countersunk screw M5 according to the material thickness

ACTUATING BOW FOR SECURITY SWITCH B3

Part N° 21.1110/3



TECHN. DATA/ITEMS SUPPLIED

- Switching pad, type B3, for particularly small actuating radii over the small side of the bow

- Fixing kit

Weight 0,032 kg

APPLICATIONS

- Actuating bow for small actuating radii in connection with security switch **Part N° 21.1110/0** replaces standard bow

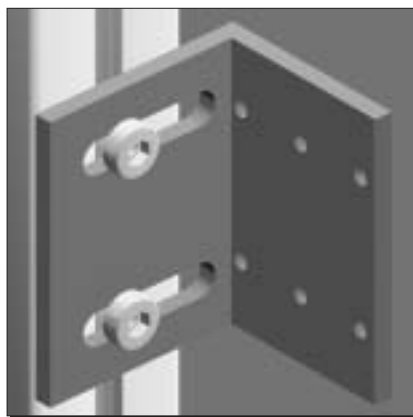
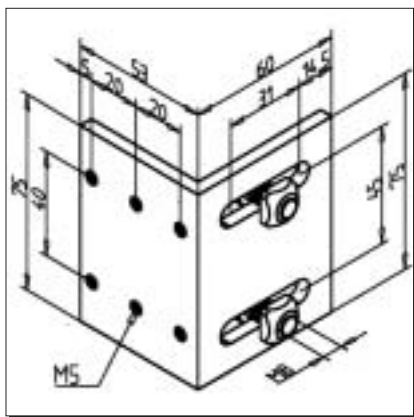
ASSEMBLY

- Fix with fixing kit on profile groove

- Directly in panel element with countersunk screw M5 according to the material thickness

ANGLE-BRACKET FOR SECURITY SWITCH

Part N° 21.1108/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

- Fixing kit

Weight 0,128 kg

APPLICATIONS

- For security switches (DIN EN 50041)

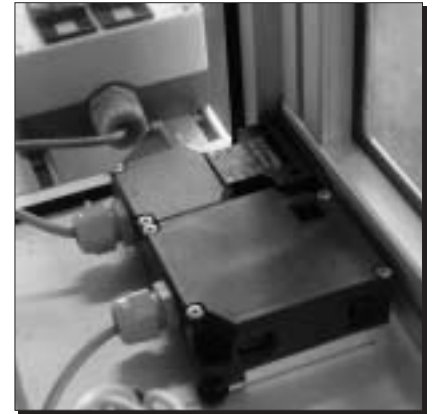
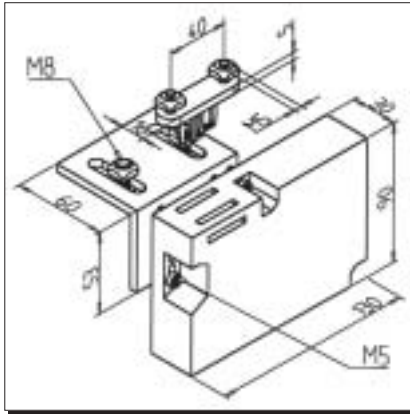
- Fitting to all standard types, facilitated adjustment of the switch in x-, y- and z-axis

ASSEMBLY

- Mount with fixing kit on profile groove

SECURITY SWITCH WITH LOCK

Part N° 21.1766/0



TECHN. DATA/ITEMS SUPPLIED

- Switch, type AZM 161 SK -22 rK
- Housing thermoplast, black, self-extinguishing
- Protective system IP65, nominal operating current 10 A (220 V), driving voltage 24 V AC/DC, power consumption 10 W
- Fixing kit
- Optional auch mit Steuerspannung 110 V AC oder 230 V AC lieferbar

Weight	0,032 kg
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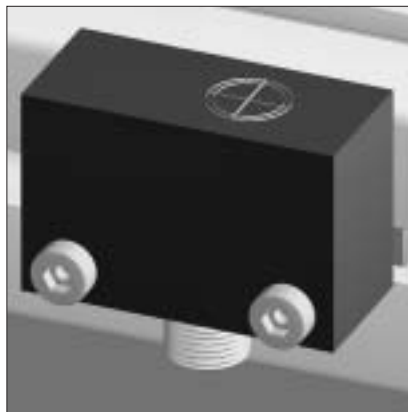
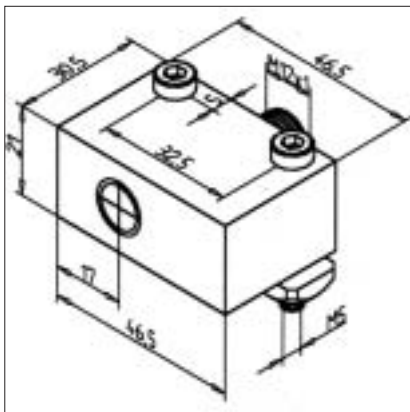
APPLICATIONS

- Protective gears with high requirements to security

ASSEMBLY

- Screw onto profile groove with fixing kit from supply schedule

PROXIMITY SWITCH PNP (NORMALLY OPEN CONTACT) Part N° 33.0403/0



TECHN. DATA/ITEMS SUPPLIED

- PNP - normally open contact
- Housing polyamide with GF
- Protective system IP 67
- Ambient temperature: -25 to +75 °C

Nom. working distance	0 - 4,8 mm
Nom. switch distance	6 mm
Current max.	200 mA

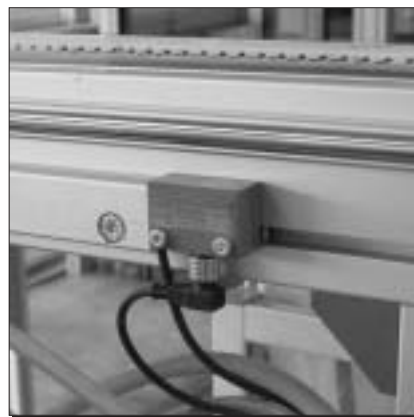
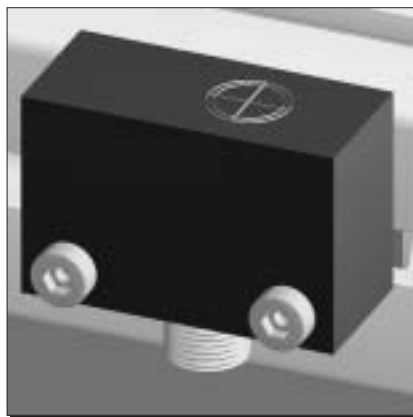
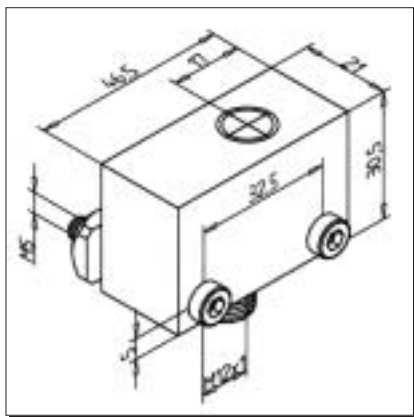
APPLICATIONS

- Proximity switch of position or reference for MiniTec LR-system
- Actuating distance suitable for MiniTec system

ASSEMBLY

- Use fixing kit from supply schedule
- Suitable cable Part-N° 33.0401/0 L = 5m

PROXIMITY SWITCH PNP(NORMALLY CLOSED CONTACT) Part N° 33.0404/0



TECHN. DATA/ITEMS SUPPLIED

- PNP - normally closed contact
- Housing polyamide with GF
- Protective system IP 67
- Ambient temperature: -25 to + 75 °C

Nom. working distance	0 - 4,8	mm
Nom. switch distance	6	mm
Current max.	200	mA

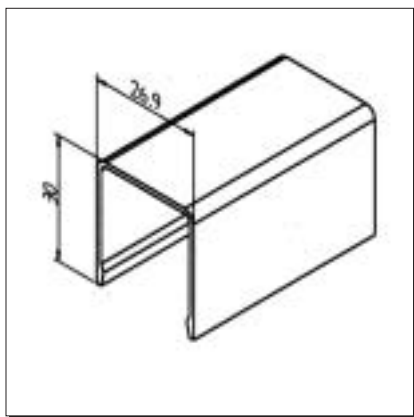
APPLICATIONS

- Proximity switch of position or reference for MiniTec LR-system
- Actuating distance suitable for MiniTec system

- Use fixing kit from supply schedule
- Suitable cable Part-N° 33.0401/0 L = 5m

CONDUIT AL

Part N° 20.1051/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

Weight	0,280	kg/m
Length	6	m

APPLICATIONS

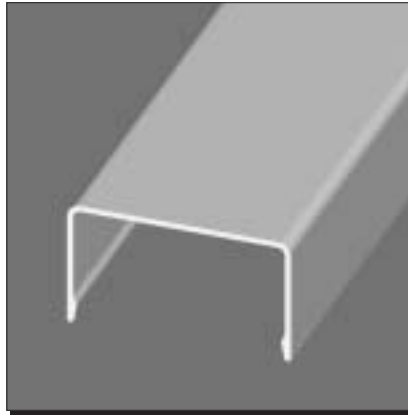
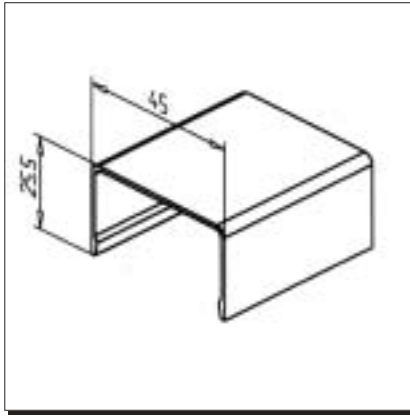
- Cover for cables and pneumatic hoses on all MiniTec aluminium profiles

ASSEMBLY

- Clip on cable clips Part N° 22.1204/0

CONDUIT 45 AL

Part N° 20.1071/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

Weight	0,320	kg/m
Length	6	m

APPLICATIONS

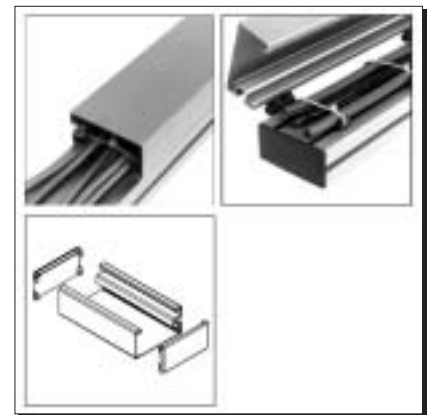
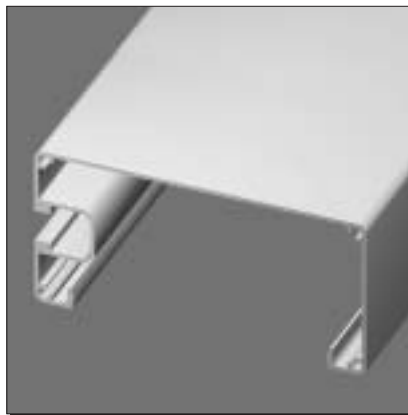
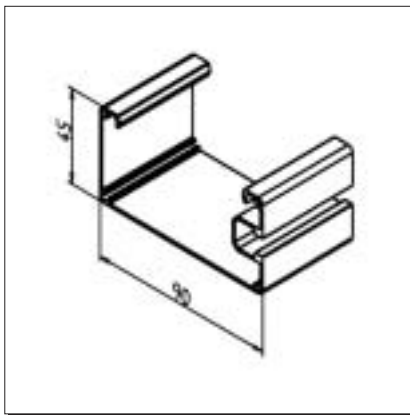
- Cover for cables and pneumatic hoses

ASSEMBLY

- Clip on cable clips 45 Part. N° 22.1203/0

CONDUIT 90 AL

Part N° 20.1056/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized

Weight	0,970	kg/m
Length	6	m

APPLICATIONS

- Cover for cables and pneumatic hoses

- Suitable for MiniTec profiles, grid dimension: 90

- Can also be swung open, when used with hinges

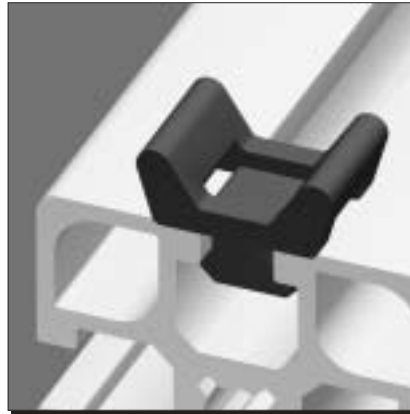
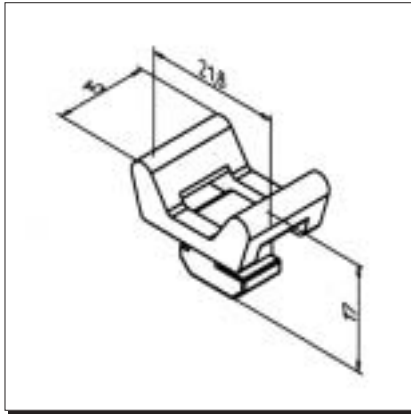
ASSEMBLY

- Clip on cable clips Part N° 22.1204/0

- Endcaps Part N° 20.1045/0

CABLE CLIP

Part N° 22.1204/0



TECHN. DATA/ITEMS SUPPLIED

- PA 6, grey

APPLICATIONS

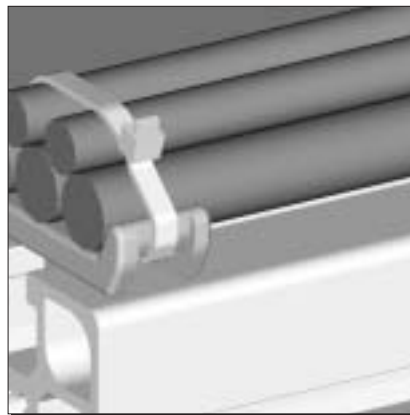
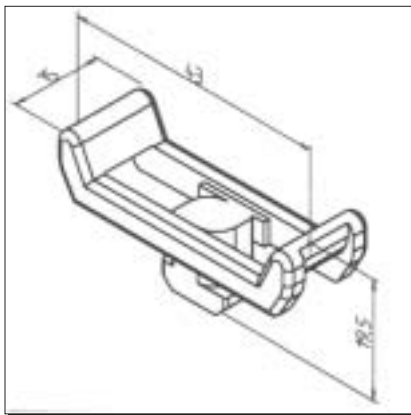
- Simple and rational fastening of cables and pneumatic hoses
- Suitable for conduit 45 AL
Part N° 20.1071/0

ASSEMBLY

- Insert in profile groove and secure it with a 90° rotation
- Insert cable tie band through the cable clip and around the cable. Bind together, cut off any excessive length

CABLE CLIP 45

Part N° 22.1210/0



TECHN. DATA/ITEMS SUPPLIED

- PA 6, grey

APPLICATIONS

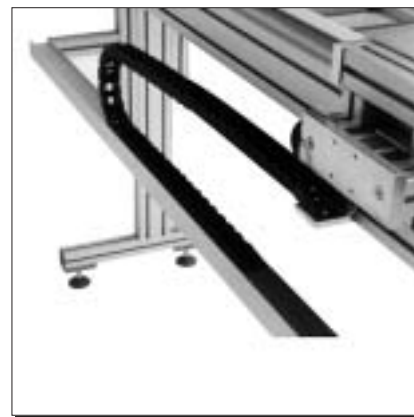
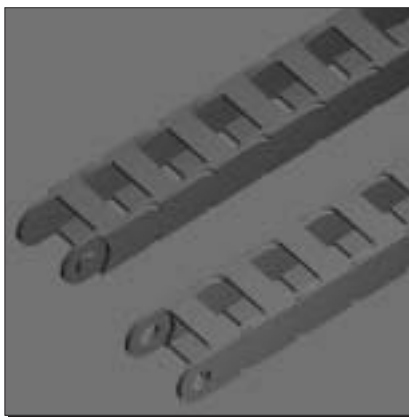
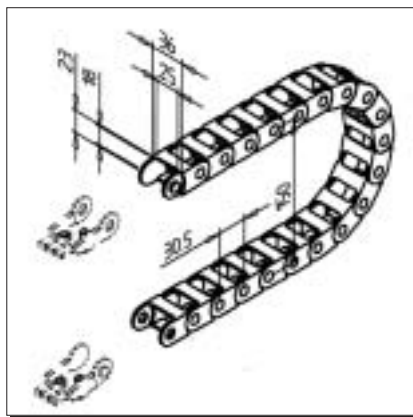
- Simple and rational fastening of cables and pneumatic hoses
- Suitable for conduit 45 AL
Part N° 20.1071/0

ASSEMBLY

- Insert in profile groove and secure it with a 90° rotation
- Insert cable tie band through the cable clip and around the cable. Bind together, cut off any excessive length

ENERGY CHAIN R

Part N° 33.0410/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic, black
- Without fixing kit

Weight 0,341 kg/m

APPLICATIONS

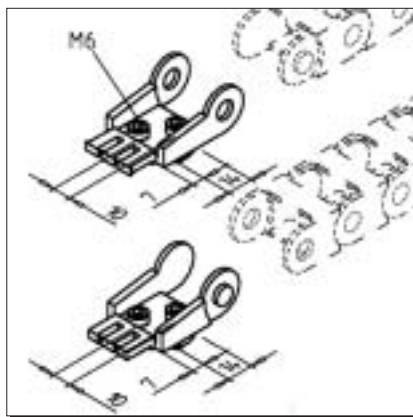
- Energy chain to bind cables and hoses on slides and movable elements

ASSEMBLY

- Fastening of the energy chain by means of mounting brackets Part N° 33.0411/0

MOUNTING BRACKETS FOR ENERGY CHAIN R

Part N° 33.0411/0



TECHN. DATA/ITEMS SUPPLIED

- 1 bracket each left or right
- Plastic, black
- Fixing kit

Weight 0,058 kg/m

APPLICATIONS

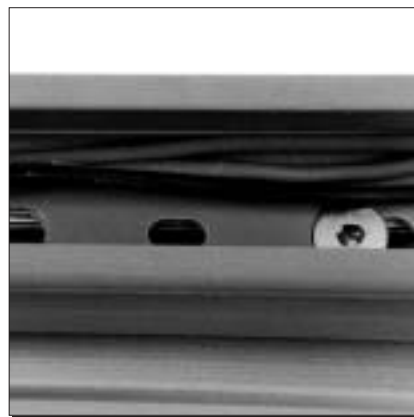
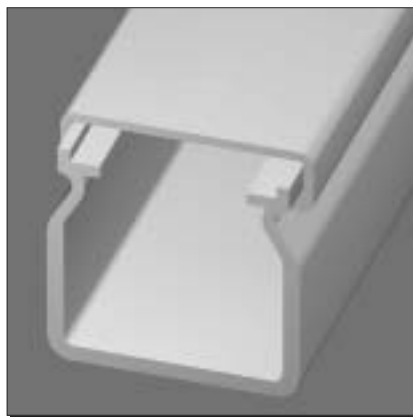
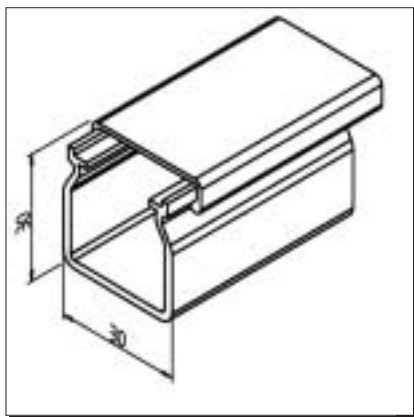
- For fastening energy chain R Part N° 33.0410/0 on profile constructions

ASSEMBLY

- Use fixing kit from supply schedule
- Use cable tie band to fix cables and hoses

CONDUIT 32

Part N° 22.1082/0



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey	
- Snap-cover	
- Cross-section: 660 mm ²	
Weight	0,323 kg/m
Length	6 m

APPLICATIONS

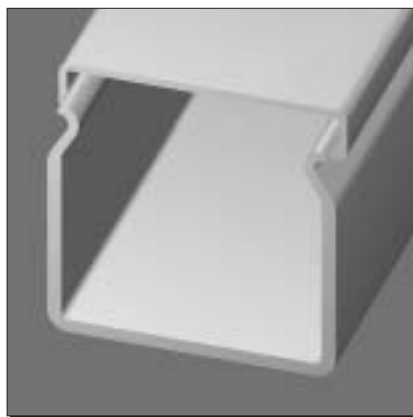
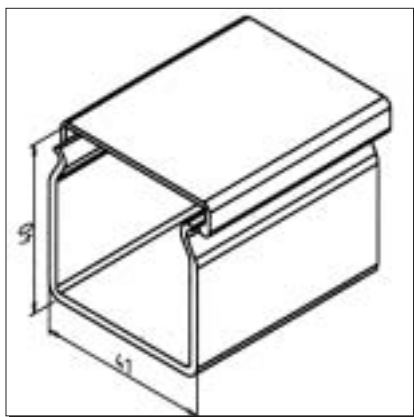
- Installation of cables or tubings in all kinds of constructions

ASSEMBLY

- Fastening with screws M6 x 12 and rhombus-nut M6

CONDUIT 45

Part N° 22.1084/0



TECHN. DATA/ITEMS SUPPLIED

- Hard PVC, grey	
- Snap-cover	
- Cross-section: 1584 mm ²	
Weight	0,523 kg/m
Length	6 m

APPLICATIONS

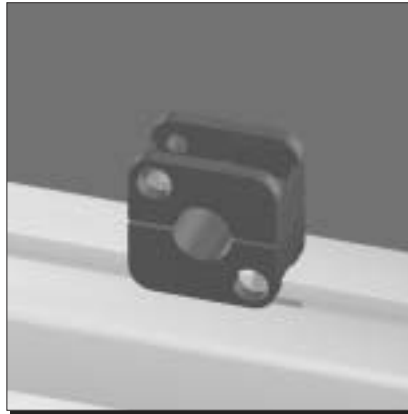
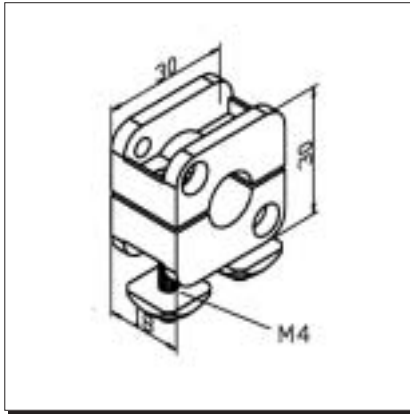
- Installation of cables or tubings in all kinds of constructions

ASSEMBLY

- Fastening with screws M6 x 12 and rhombus-nut M6

PROXIMITY SWITCH HOLDER 12

Part N° 28.0120/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Ø 12

- Fixing kit

Weight 0,040 kg

APPLICATIONS

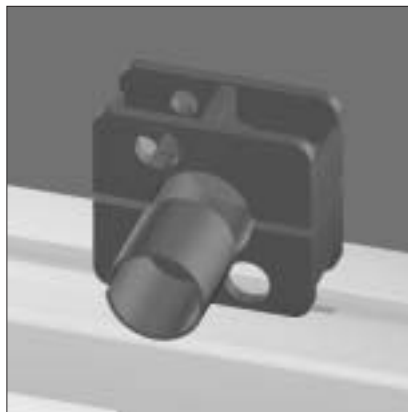
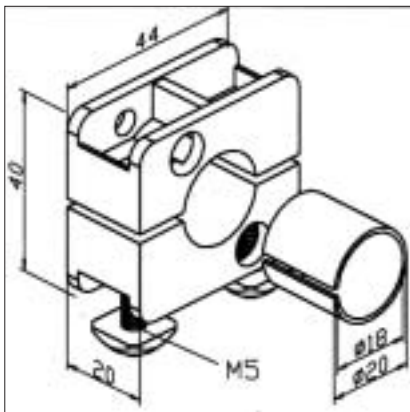
- Fixing of proximity switches Ø 12 in profile constructions and linear guides

ASSEMBLY

- On profile groove with fixing kit from supply schedule

PROXIMITY SWITCH HOLDER 18

Part N° 28.0121/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Ø 18

- Ø 20

- Fixing kit

Weight 0,051 kg

APPLICATIONS

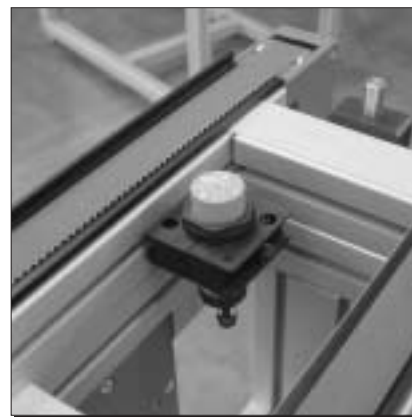
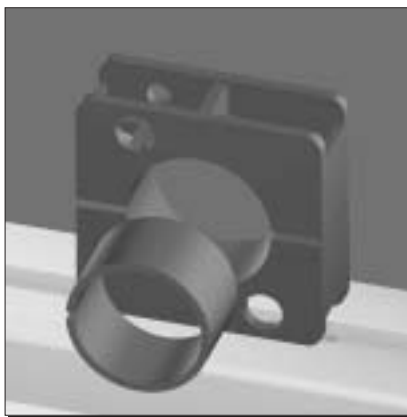
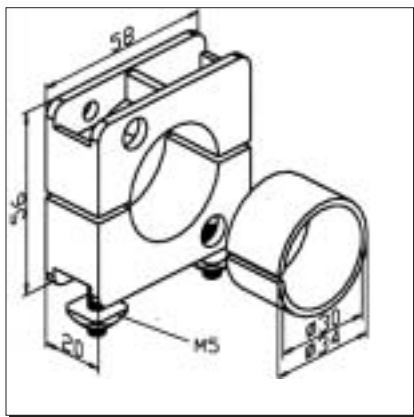
- Fixing of proximity switches Ø 18 and Ø 20 in profile constructions and linear guides

ASSEMBLY

- On profile groove with fixing kit from supply schedule

PROXIMITY SWITCH HOLDER 30

Part N° 28.0122/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic, black

- Ø 30

- Ø 34

- Fixing kit

Weight 0,064 kg

APPLICATIONS

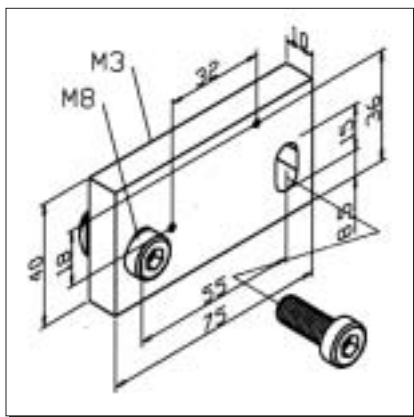
- Fixing of proximity switches in Ø 30 and Ø 34 in profile constructions and linear guides

ASSEMBLY

- On profile groove with fixing kit from supply schedule

PROXIMITY SWITCH HOLDER AL

Part N° 28.0117/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural

- Fixing kit

Weight 0,120 kg

APPLICATIONS

- Fixing of limit stop switch for standad constructions; cuboid form (40 mm x 26 mm x 12 mm) in profile constructions and linear guides

ASSEMBLY

- On profile groove with fixing kit from supply schedule

- Adjust exact distance

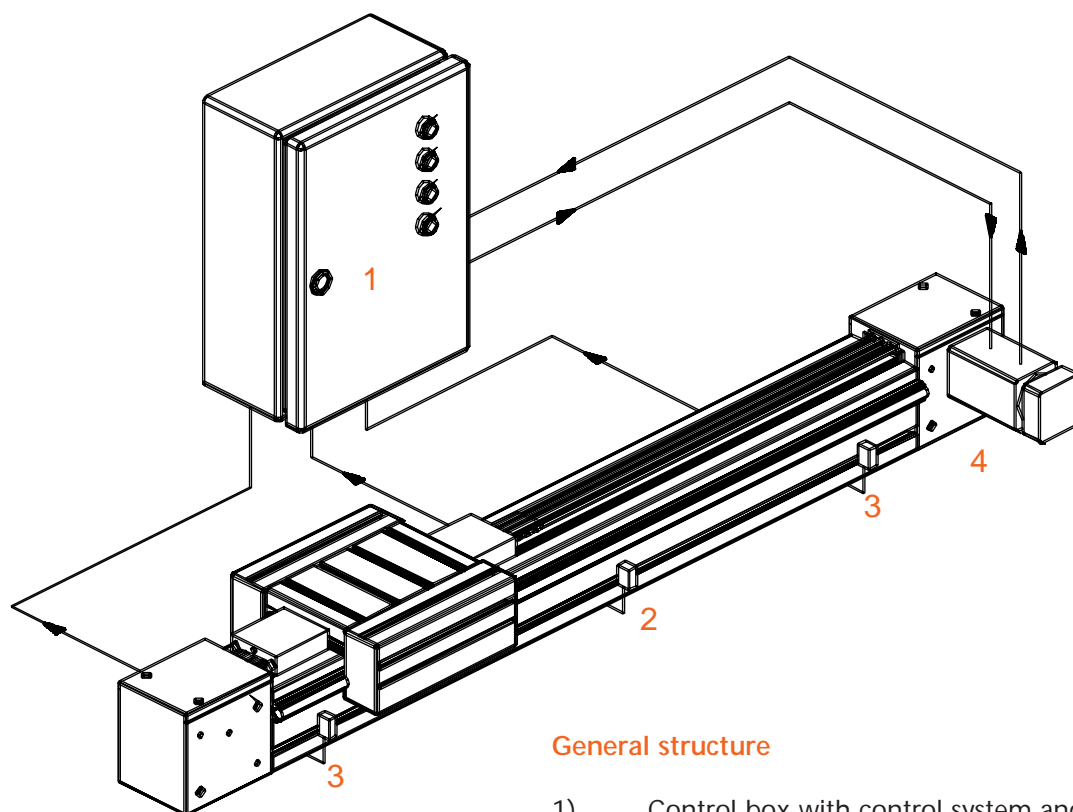


DRIVE UNITS AND CONTROL SYSTEM

With the MiniTec standard program you have got the possibility to choose between several drive units. They offer economic solutions for all applications of normal operation.

It is a pleasure for us to help you finding out the type of construction that is the most economic for you. Would you please indicate the necessary data, e. g. for travelling speed, acceleration, positioning and repeating accuracy, strengths and moments, conditions of application and process

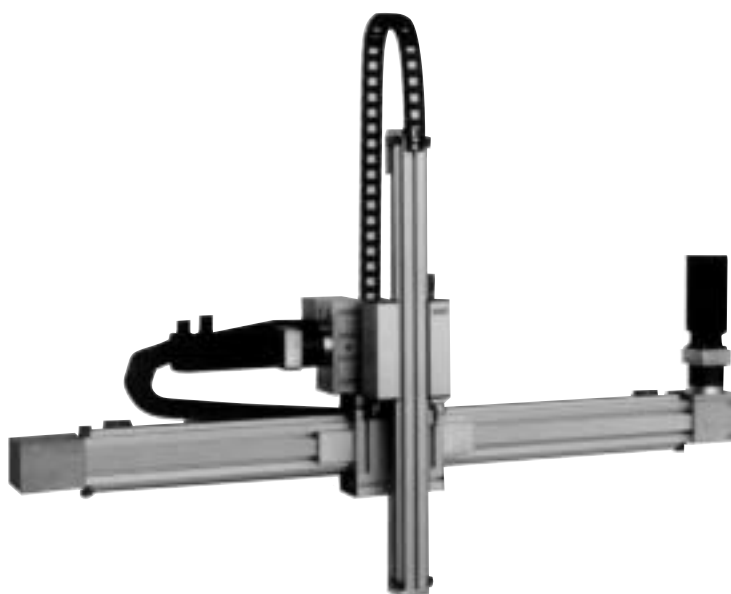
ONE-AXIS OR MULTIPLE-AXIS LINEAR SYSTEMS



General structure

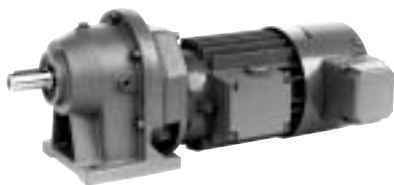
- 1) Control box with control system and servo control
- 2) Reference switch
- 3) Position limit switch
- 4) Servo motor with integrated incremental encoder

Multiple-axis systems designed for carrying out complex tasks like loading and unloading systems, palettizers, milling machines, drilling machines, engraving machines, etc. Can be implemented with the same driving components as for single-axis system. Control-unit only must be adapted to the individual demands of the system.



SPURE WHEEL BACK-GEARED MOTOR

Type CB, B5



Item supplied

- Foot design without flange
- Nominal voltage 230 / 400 V
- 50 Hz
- Protective system IP 44
- Weight 11 - 15 kg

Data given refer to the individual speeds; different levels for one type possible; data sheets upon request.

Can also be supplied with brake, heat detector or separate fan as an option; other equipment upon request.

Type	Part no.	Power W	Min. output speed (for output torque)		Max. output speed (for output torque)	
DGM 120-00	33.0050/0	120	20 1/min	(59 Nm)	462 1/min	(2.5 Nm)
DGM 120-0	33.0060/0	120	17.4 1/min	(69 Nm)	41 1/min	(27 Nm)
DGM 180-00	33.0051/0	180	26.6 1/min	(63 Nm)	466 1/min	(3.6 Nm)
DGM 180-0	33.0061/0	180	26.5 1/min	(63 Nm)	64.4 1/min	(26 Nm)
DGM 250-00	33.0052/0	250	39.4 1/min	(57 Nm)	476 1/min	(5 Nm)
DGM 250-0	33.0062/0	250	20.2 1/min	(111 Nm)	88.6 1/min	(28 Nm)
DGM 370-00	33.0053/0	370	73.6 1/min	(48 Nm)	476 1/min	(7.5 Nm)
DGM 370-0	33.0063/0	370	27 1/min	(120 Nm)	177 1/min	(20 Nm)
DGM 550-00	33.0054/0	550	108 1/min	(50 Nm)	618 1/min	(8.5 Nm)
DGM 550-0	33.0064/0	550	42.7 1/min	(128 Nm)	618 1/min	(8.5 Nm)
DGM 750-00	33.0055/0	750	201 1/min	(26 Nm)	482 1/min	(11 Nm)
DGM 750-0	33.0065/0	750	95 1/min	(60 Nm)	616 1/min	(8.5 Nm)

SPURE WHEEL BACK-GEARED MOTOR

Type CB, B5



Item supplied

- Flange design without recess installation on the motor kit Ø 16 (Typ-00F) or Ø 20 (Typ-0F)
- Nominal voltage 230 / 400 V
 - 50 Hz
 - Protective system IP 44
 - Weight 11 - 15 kg

Data given refer to the individual speeds; different levels for one type possible; data sheets upon request.

Can also be supplied with brake, heat detector or separate fan as an option; other equipment upon request.

Type	Part no.	Power W	Min. output speed (for output torque)		Max. output speed (for output torque)	
DGM 120-00F	33.0050/1	120	20 1/min	(59 Nm)	462 1/min	(2.5 Nm)
DGM 120-0F	33.0060/1	120	17.4 1/min	(69 Nm)	41 1/min	(27 Nm)
DGM 180-00F	33.0051/1	180	26.6 1/min	(63 Nm)	466 1/min	(3.6 Nm)
DGM 180-0F	33.0061/1	180	26.5 1/min	(63 Nm)	64.4 1/min	(26 Nm)
DGM 250-00F	33.0052/1	250	39.4 1/min	(57 Nm)	476 1/min	(5 Nm)
DGM 250-0F	33.0062/1	250	20.2 1/min	(111 Nm)	88.6 1/min	(28 Nm)
DGM 370-00F	33.0053/1	370	73.6 1/min	(48 Nm)	476 1/min	(7.5 Nm)
DGM 370-0F	33.0063/1	370	27 1/min	(120 Nm)	177 1/min	(20 Nm)

PLUG-ON MOTOR



Type	Part no.	Power W	Gear reduction ratio	Rpm	Drive torque
DSGM 120-60	33.0070/0	120	60	23 1/min	19 Nm
DSGM 120-40	33.0071/0	120	40	35 1/min	19 Nm
DSGM 120-30	33.0072/0	120	30	47 1/min	15 Nm
DSGM 180-20	33.0073/0	180	20	70 1/min	18 Nm
DSGM 180-15	33.0074/0	180	15	93 1/min	14 Nm
DSGM 180-10	33.0075/0	180	10	140 1/min	10 Nm
DSGM 180-7	33.0076/0	180	7	200 1/min	7 Nm

FREQUENCY TRANSFORMER FU 370 PP

Part Nr 33.0124/0



- Built in On/Off key
- 1Q mode of operation
- Mains overvoltage/ undervoltage monitoring device
- Motor load monitoring
- Shielded according EN 55011, curve 3
- Adjustable U/f current characteristic
- EMV-shielded according to VDE 0871, curve B
- Short circuit monitoring phase/ phase
- LED display for main supply, readiness, release and failure
- Adjustable acceleration and deceleration ramp
- Adjustable voltage increase for low initial frequency
- 2 m mains cable with shock-proof plug
- 2 m OELFLEX 110 CY motor cable
- Shielded according to IEC 801-2 class 4, IEC 801-4 class 4, IEC 801-5 class 3

Output motor	Power output	0,8 kVA
	max. motor output	0,37 kW
	Nominal output current	2,1 A
	Output voltage	3 x 0...230 V
	Overload	1.2 - 1.5 x
Input mains	Nominal voltage	230 V
	Mains frequency	50 - 60 Hz
General Data	Protective system	IP 54
	Ambient temperature	0 - 40°C
	Cooling	Convection
	max. cooling body temperature	70°C
	Power reduction	3%/°C > 40° C
	Weight	2 kg

AC-SERVO MOTORS- COMPLETE PACKAGES



These packages are extremely easy to assemble. All components required for operation are part of this package and the components are mostly preassembled.

Combining with the single and multiple positioning systems on page 198 yields a modular control system that can also simultaneously control complete processes and machines.

Item supplied

- Motor with integrated resolver, AC- servo control system, ring core transformer as well as of a 3 m long motor and encoder cable
- Standard DIN IEC 34
- Basic type B5
- They can also be delivered with low-slack gears or with brake.
- Data sheets containing connecting dimensions on request.

Type package	ACSM 100	ACSM 150	ACSM 175	ACSM 350	ACSM 480	ACSM 1000
Part no.	33.0174/0	33.0175/0	33.0176/0	33.0177/0	33.0178/0	33.0179/0
Motor rating						
Nominal power	100 W	150 W	175 W	350 W	480 W	1000 W
Nominal current	3.1 A	4.2 A	4.0 A	5.0 A	6.5 A	4.2 A
Nominal speed	3000 Upm	3000 Upm	3000 Upm	3000 Upm	3000 Upm	3000 Upm
Nominal moment	0.32 Nm	0.48 Nm	0.55 Nm	1.1 Nm	2.3 Nm	3.2 Nm
Encoder rating						
Nominal power	60 V	60 V	60 V	60 V	60 V	60 V
Nominal current	3.1 A	4.2 A	4.0 A	5.0 A	6.5 A	4.2 A
Pulsed current	3.1 A	4.2 A	4.0 A	5.0 A	6.5 A	4.2 A
Intermediate circuite voltage	25-85 VDC	25-85 VDC	25-85 VDC	70-170 VDC	70-170 VDC	150-390 VDC
Measurements	19" 3 HE	19" 3 HE	19" 3 HE	19" 3 HE	19" 3 HE	19" 3 HE
Transformer rating						
Primary voltage	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	3 x 400 VAC
Secondary voltage	54 VAC	54 VAC	54 VAC	95 VAC	95 VAC	3 x 230 VAC
Power	324 VA	324 VA	324 VA	655 VA	655 VA	1500 VA
Measurements/ mm	Ø 145 x 230	Ø 145 x 230	Ø 120 x 57	Ø 130 x 85	Ø 130 x 85	Ø 145 x 230

PLANETARY GEAR



Low play design, compact, space-saving construction, lubricated with fluid grease, maintenance-free.

Housing and flanges made of aluminium pressure-die casting. Motor shaft with fitting-key groove.

Adaptor plate **Part N° 28.0112/0** for attachment off MiniTec timing belt pulley.

Advantages

- High driving torques
- Extremely torsion-proof
- Low noise
- Easy assembly
- Standard built-on flange
- Data sheets containing connecting dimensions on request.

Type	Part no.	Max. driving torque	Gear ratio
PLG 50/1	33.0110/0	15 Nm	3 - 8
PLG 50/2	33.0111/0	44 Nm	9 - 64
PLG 100/1	33.0112/0	120 Nm	3 - 8
PLG 100/2	33.0113/0	260 Nm	9 - 64

SINGLE AND MULTIPLE POSITIONING AND CONTROL SYSTEM



The MCsystem for single and multiple positioning and control and SPS is an economic solution for many automation tasks. This modular control system in 19" plug-in or housing design can be expanded with up to 8 step or servo motor axes as well as PLC components and IO modules, fast meters or temperature controllers. In this way step and servo motors can be run independently of each other and complete processes and motors can be controlled simultaneously.

Uses step motors, DCmotors or the AC servo motors including controller from the AC servo motor complete packages on page 197.

Programming can be performed easily using the keyboard and display. All commands are shown in plain text on a 4 x 20-character display. The MCstep programming language included in the standard package allows easy selection of the commands. Service mode can be selected for initiation. More information on the software and operation as well as special adaptations of the software available on request.

Connection

- Cold plug-in socket for mains connection 230V AC
- Harting plug HAN6 for motor connection
- Reference and limit switch D-SUB plug
- Inputs D-SUB socket, 37-pin
- Outputs D-SUB socket, 25-pin

Options

- Analog inputs and outputs
- Stop brake
- Emergency stop circuit
- Fast counter
- Step monitoring

Features

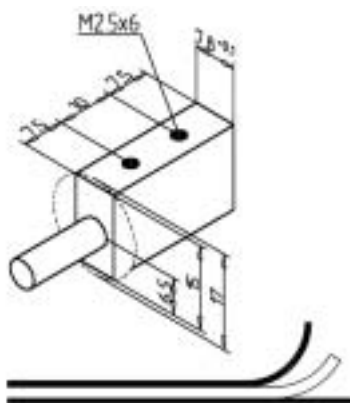
- Max. step frequency 40 kHz
- High rotary encoder frequency up to 2 MHz for servo operation
- Short cycle times of servo motor control (250 μ s)
- P, PI, or PID controller can be programmed
- PLC cycle time 5 (10) ms for 1K statements
- Linear interpolation for step and servo motor axes
- Up to 192 opto-decoupled PLC inputs
- Up to 128 short-circuit resistant PLC outputs
- RS 232 serial interface (optional RS 484)
- 4 parallel PLC programs (4-task)
- Data backup: CMOS memory 128K*8 with buffer battery
- Software end limitation
- Teach-in mode
- High operational security due to self-monitoring
- Interference-resistant (EMC)



MAGNETIC MEASURING SYSTEMS ML

Length and stroke measurement is a standard task in machine and plant construction. A modern and economical solution is the ML magnetic length measurement system with magnetic tape, magnetic sensor, measurement display, or evaluation electronics. The advantages of this system lie primarily in the direct measurement procedure, the freedom from wear, the simple and economical installation, and the high precision that is possible.

The core of this measurement system is the magnetic tape: a flexible, plastic band filled with magnetic particles. Using this tape, a magnetic sensor is moved along and the magnetic fields is probed at regular intervals without making contact. The direction of motion and increments are derived from these scanning signals and processed further in a control system or displayed via the measurement display.



Part N°

Magnetic tape	33.0028/0
Magnetic sensor	33.0030/0

Measuring display:

24 V DC	33.0029/0
Battery operated	33.0029/1
230 V AC	33.0029/2

Techn. data / items supplied

Magnetic tape

- Magnetic tape for installation on MiniTec profile surface, length max. 80 m (optional: 5 mm tape width for sticking into the profile groove)
- Magnetic sensor fitting for all MiniTec profiles, integrated cable (4 m) and D-sub plug (other cable length upon request max. 20 m)

Measuring display

- Measuring LED display, 6 places, with integrated evaluation system, keys for reference, zero and reset
- Housing, protecting system IP 60

Types deliverable:

- Mains voltage 24 V DC
- Battery operation (4 mignon cells)
- 230 V AC
- Operating temperature -5 up to +45° C
- Travelling speed max. 5m/sec.
- Measuring tolerance ± 0.1 mm/m

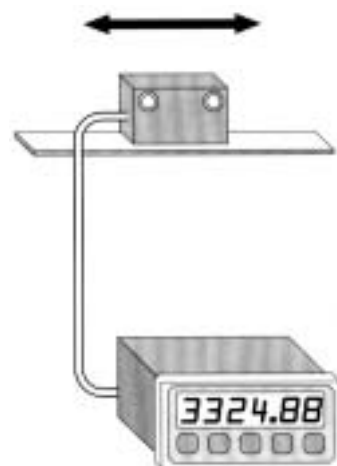
Please indicate desired measuring length

Application

- For all MiniTec linear guides with rails made from profiles
- Length measuring devices
- Material feeding

Assembly

- Stick magnetic tape on profile surface
- Attach sensor on slide
- Distance to the magnetic tape: 1.1 ± 0.9 mm



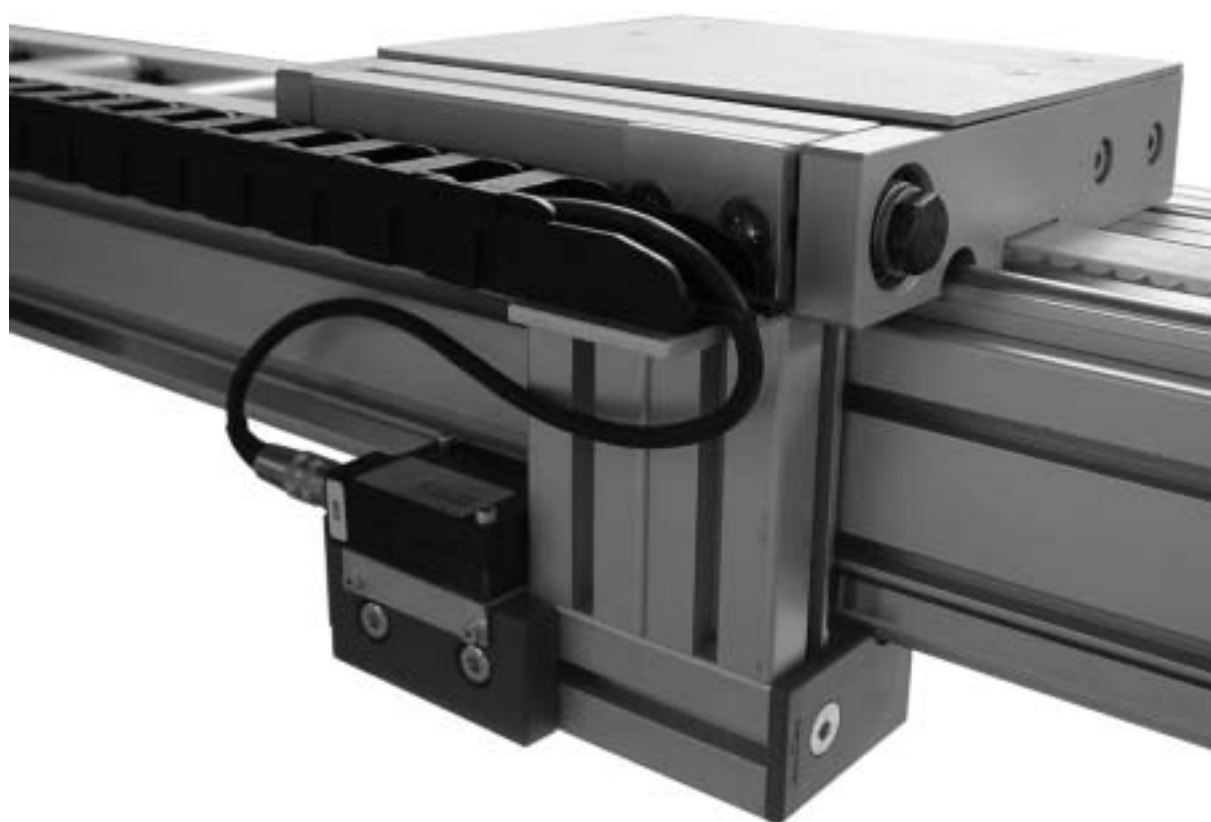
ELECTRONIC ANALYSING SYSTEM WITH INTEGRATED SENSOR Part Nr 33.0029/4**Techn. Data**

- 2 x 90° phases DISPLACED output signals with reference signal
- Mains voltage 10-30 V
- Optionally with additional reference signal

Please indicate desired cable length

Application

- Evaluation electronics for converting the magnetic signals into incremental encoder signals
- Suitable for ML magnetic measurement system with external control



- Suitable cable Part no. 33.0029/5



PNEUMATIC
CONNECTIONS

MiniTec profiles are designed for integrated air-piping. The use of the profile-carities reduces the risk of pipe-leaks significantly. Standard-connectors $9^{1/4}$ and $9^{1/8}$ can be used.

PNEUMATIC SYSTEM



All standard pneumatic elements with thread G 1/8" und G 1/4" can be used with all standard MiniTec profiles. Fixing is possible at any desired point.

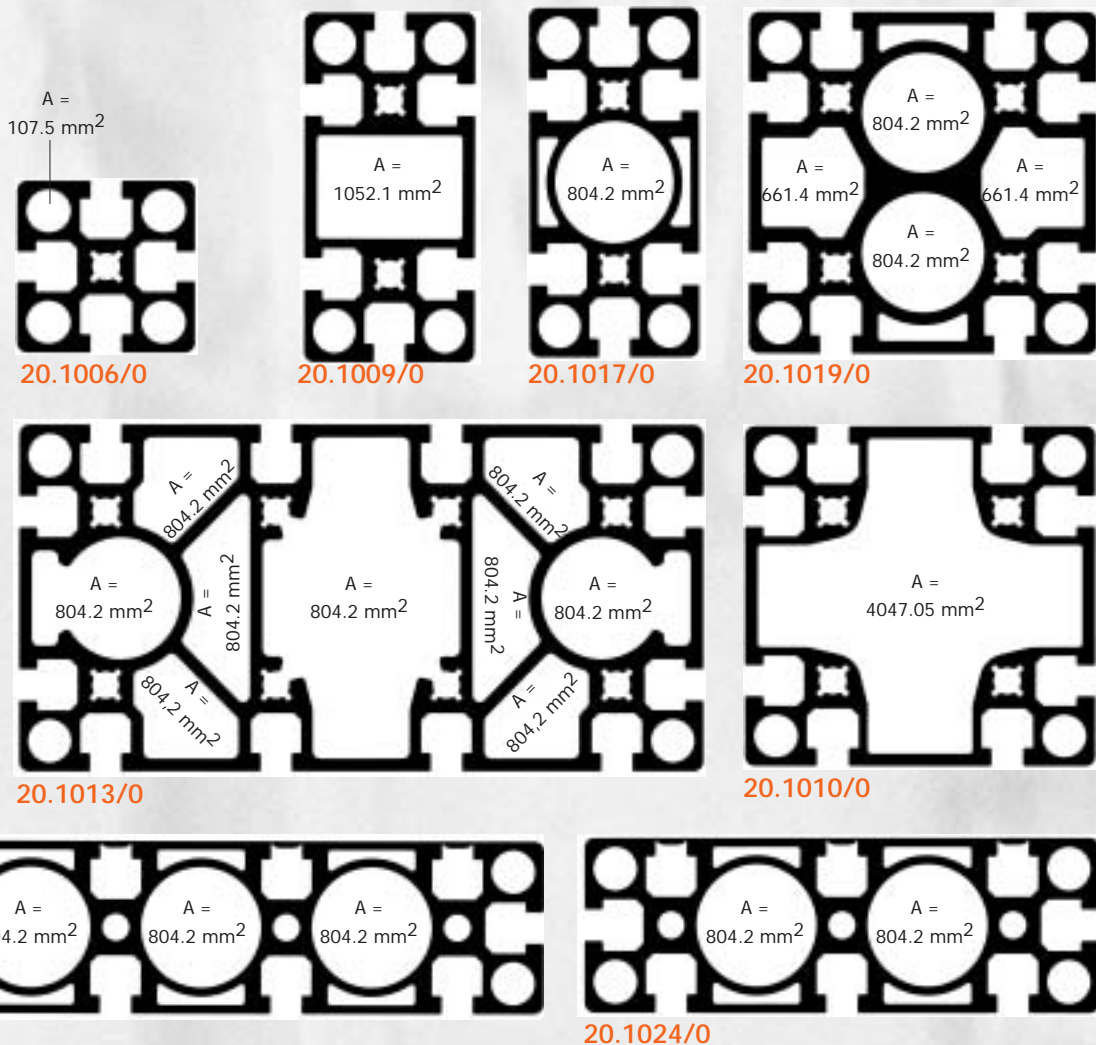


The standard profile 45 x 45 provides 4 pipes; in the larger profiles 4 pipes and 1 air chamber are included. Parts are required for face-connection .

The Ø 11.7 mm bore in the standard profiles can be rebored to G 1/4" for fastening standard screw connecticons.

Max. pressure: for round chambers 20 bar; for others: 8 bar.

Useable air pipings



PNEUMATIC CONNECTION PLATE 45

Technical data/ items supplied

- Aluminium pressure die casting, powder-coated, grey
- One O-ring
- With fixing kit



Applications

- Lateral connection of pneumatic connections at profiles 45 x 90 or lager

Assembly

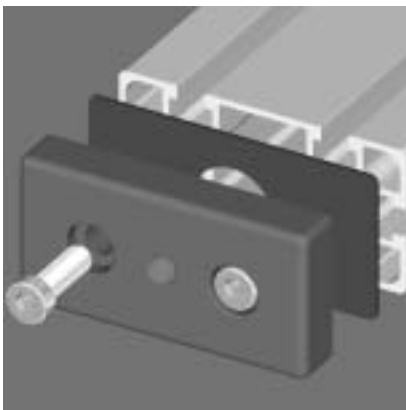
- Attache at profile grooves with fixing kit
- Drill \varnothing 12 mm hole in the profile center.

Thread	Weight	Part no.
G 1/8"	0.170	24.1107/0
G 1/4"	0.168	24.1107/2
G 3/8"	0.165	24.1107/3

PNEUMATIC CONNECTION PLATE 45 X 90

Technical data/ items supplied

- Aluminium pressure die casting, powder-coated, grey
- Sealing plate
- With fixing kit



Applications

- Closing of chambers of profiles 45 x 90 for connection of pneumatic couplings

Assembly

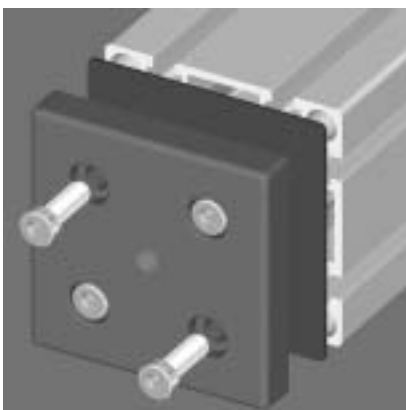
- Insert sealing plate
- Attach on 2 central bores \varnothing 7.5 mm with fixing kit

Thread	Weight	Part no.
G 1/8"	0.181	24.1105/0
G 1/4"	0.178	24.1105/2
G 3/8"	0.174	24.1105/3

PNEUMATIC CONNECTION PLATE 90

Technical data/ items supplied

- Aluminium pressure die casting, powder-coated, grey
- Sealing plate
- With fixing kit



Applications

- Closing of chambers of profiles 90 x 90 for connection of pneumatic couplings

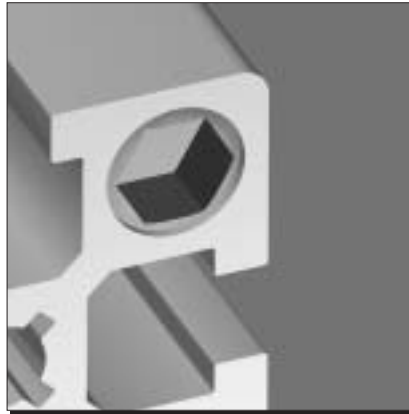
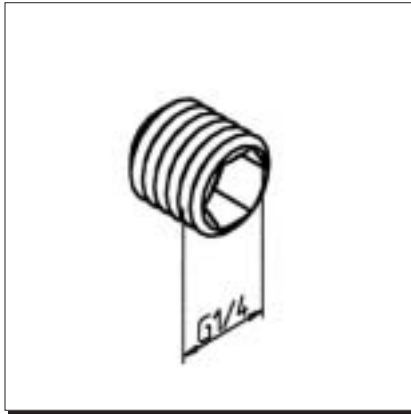
Assembly

- Insert sealing plate
- Attache on 4 central bores \varnothing 7.5 mm with fixing kit

Thread	Weight	Part no.
G 1/8"	0.434	24.1106/0
G 1/4"	0.429	24.1106/2
G 3/8"	0.421	24.1106/3

PLUG

Part N° 24.1104/0



TECHN. DATA/ITEMS SUPPLIED

- Brass	
Weight	0,146 kg

APPLICATIONS

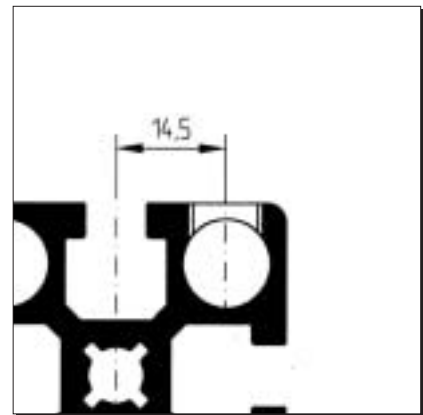
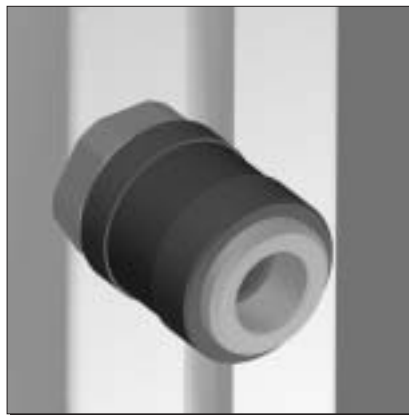
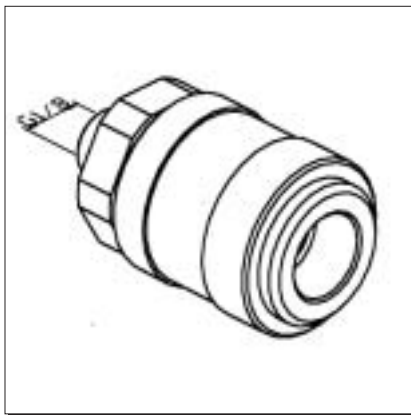
- Closure for profile chambers
Ø 11,7 mm

ASSEMBLY

- Thread the round profile chambers Ø 11,7 mm to G 1/4"
- Screw-in the plug by using sealing tape

QUICK COUPLING 1/8

Part N° 24.1109/0



TECHN. DATA/ITEMS SUPPLIED

- Brass, nickel plated, NW 7	
- Connection G 1/8", SW 22	
Weight	0,064 kg

APPLICATIONS

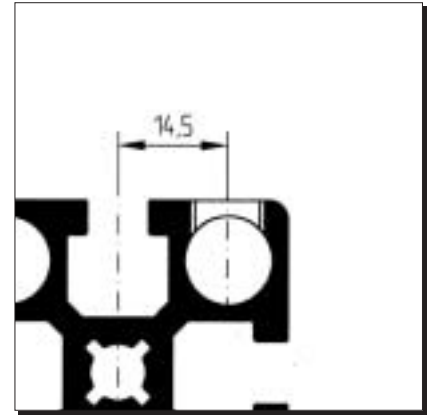
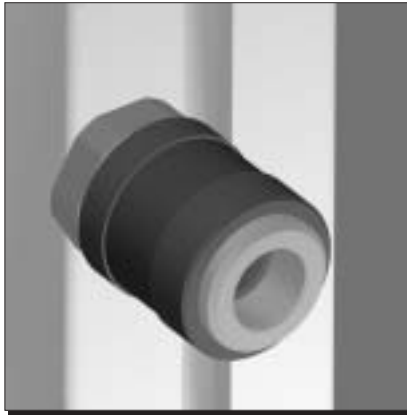
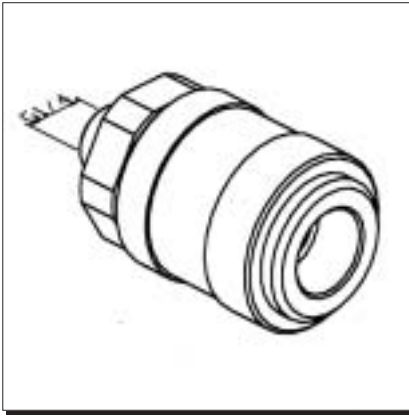
- Pressed air connection at any desired point on profile surface or faces, Ø 11,7

ASSEMBLY

- Bore thread G 1/8" in profile surface; distance from profile groove: 14,5mm

QUICK COUPLING 1/4

Part N° 24.1110/0



TECHN. DATA/ITEMS SUPPLIED

- Brass, nickel plated, NW 7

- Connection G 1/4", SW 22

Weight 0,065 kg

APPLICATIONS

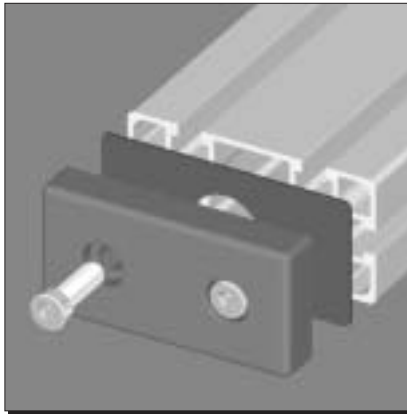
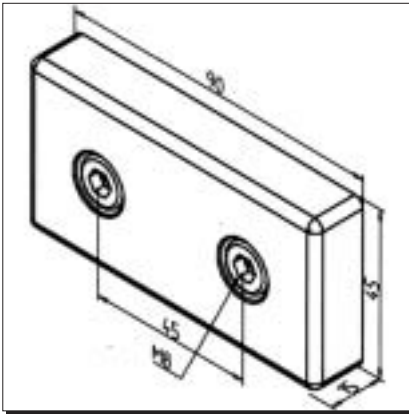
- Pressed air connection at any desired point on profile surface or faces, Ø 11,7

ASSEMBLY

- Bore thread G 1/4" in profile surface; distance from profile groove: 14,5 mm

PNEUMATIC CONNECTION PLATE 45 X 90

Part N° 24.1105/7



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey

- Sealing plate

- Fixing kit

Weight 0,181 kg

APPLICATIONS

- Closing of chamber ends of profiles 45 x 90

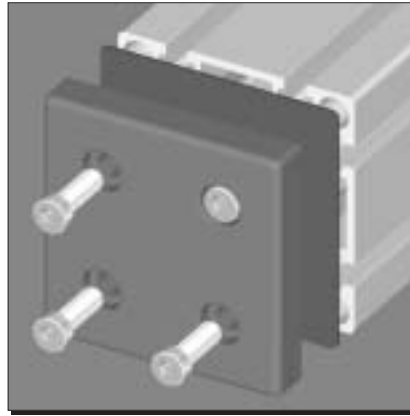
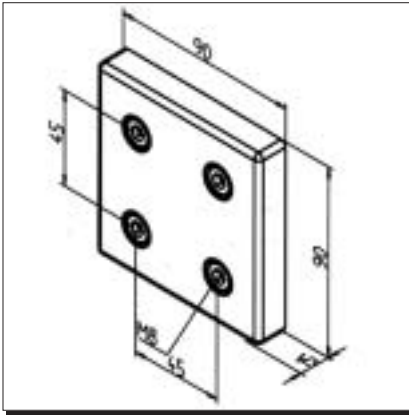
ASSEMBLY

- Insert sealing plate

- Attachment on 2 central bores Ø 7,5 with fixing kit from supply schedule

PNEUMATIC CONNECTION PLATE 90 X 90

Part N° 24.1106/7



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Sealing plate
- Fixing kit

Weight 0,434 kg

APPLICATIONS

- Closing of chambers of profiles 90 x 90 for connection of pneumatic couplings

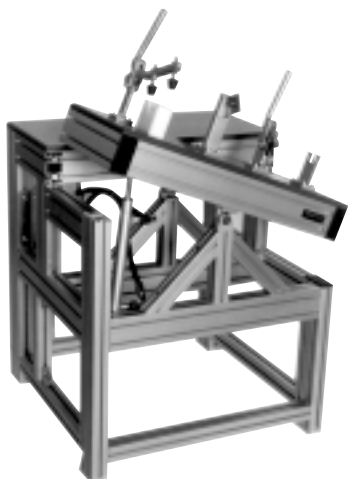
ASSEMBLY

- Insert sealing plate
- Attachment on 4 central bores $\varnothing 7,5$ with fixing kit from supply schedule



60
HYDRAULIC
VERTICAL ADJUSTMENT

HYDRAULIC VERTICAL ADJUSTMENT



Items supplied

- Hydraulic hand pump for 1 to 6 cylinders
- Cylinders with 150 - 500 mm stroke
- Hydraulic tubes PA 4 mm
- Single-acting cylinders
- Minimum load for return ~ 5 kg
- Temperature from -20°C to + 45°C

Applications

- Lifting and lowering of tables, work benches, terminals etc.

Assembly

- Screw pump at desired position onto the profile groove with screws M6
- Fix cylinder in aluminium profile "S" with adaptor rings
- Attach cylinder onto profile groove with adaptor plate

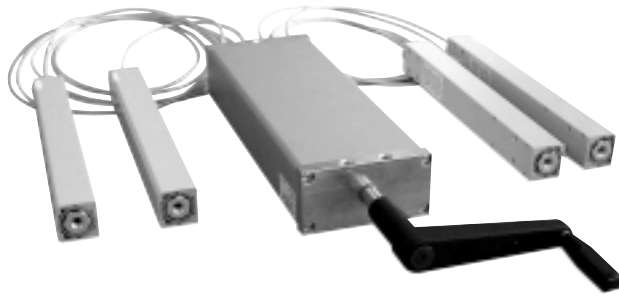
Available special models and accessories

- System with hose coupling Part Nr. 27.0003/0, for decoupling the cylinder from the pump
- Angle connector Part Nr. 27.0002/0 Angle 90°, for pump and cylinders
- Attachment parts for pumps according to customer request
- Attachment set 45 for add-in cylinder Part Nr. 27.0005/0 for all profiles with bore 32 except for profile 90 x 90 S and 90 x 180 S. For these, please use attachment set 90, Part Nr. 27.0006/0
- Service kit with oil, screw connections, special spanner, hose cutter, and filling injector

Use great caution when working on the hydraulics. To avoid penetration of air into the hydraulic system, we recommend having this work performed by us.



COMPLETE SYSTEM WITH ADD-ON CYLINDER AZ



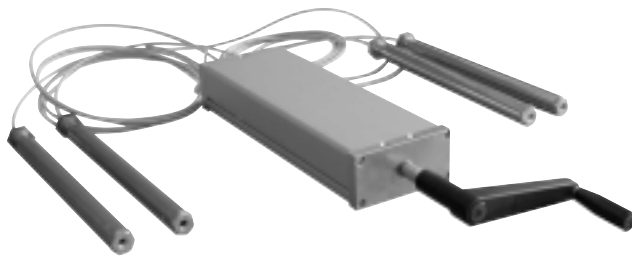
Item supplied

- Pump with folding crank
- Cylinder with 2.5 m hydraulic tube
- Completely assembled and inspected system

See the following pages for dimensions and data.

Pump system load	TB			PB		
	150 kg	300 kg		350 kg		
No. of cylinders	1	2	3	4	5	6
Type (stoke)						
AZ 150	27.0050/1	27.0050/2	27.0050/3	27.0050/4	27.0050/5	27.0050/6
AZ 200	27.0051/1	27.0051/2	27.0051/3	27.0051/4	27.0051/5	27.0051/6
AZ 300	27.0052/1	27.0052/2	27.0052/3	27.0052/4	27.0052/5	27.0052/6
AZ 400	27.0053/1	27.0053/2	27.0053/3	27.0053/4	27.0053/5	27.0053/6
AZ 500	27.0054/1	27.0054/2	27.0054/3	27.0054/4	27.0054/5	27.0054/6

COMPLETE SYSTEM WITH ADD-IN CYLINDER EZ



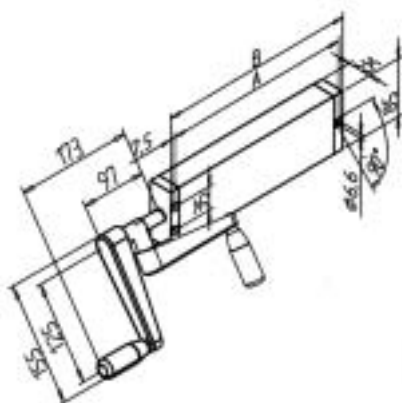
Item supplied

- Pump with folding crank
- Cylinder with 2.5 m hydraulic tube
- Completely assembled and inspected system

See the following pages for dimensions and data.

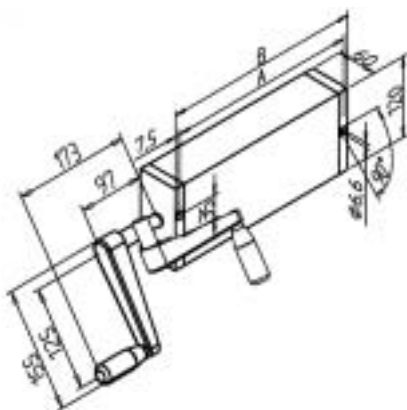
Pump system load	TB			PB		
	150 kg	300 kg		350 kg		
No. of cylinders	1	2	3	4	5	6
Type (stoke)						
EZ 150	27.0060/1	27.0060/2	27.0060/3	27.0060/4	27.0060/5	27.0060/6
EZ 200	27.0061/1	27.0061/2	27.0061/3	27.0061/4	27.0061/5	27.0061/6
EZ 300	27.0062/1	27.0062/2	27.0062/3	27.0062/4	27.0062/5	27.0062/6
EZ 400	27.0063/1	27.0063/2	27.0063/3	27.0063/4	27.0063/5	27.0063/6
EZ 500	27.0064/1	27.0064/2	27.0064/3	27.0064/4	27.0064/5	27.0064/6

HYDRAULIC PUMP TB FOR 1-2 CYLINDERS



Type	Stroke H mm	Dimension A mm	Dimension B mm
Hydraulic pump TB 150	150	298,5	283,5
Hydraulic pump TB 200	200	288,5	343,5
Hydraulic pump TB 300	300	480,5	465,5
Hydraulic pump TB 400	400	600,5	585,5
Hydraulic pump TB 500	500	722,5	707,5

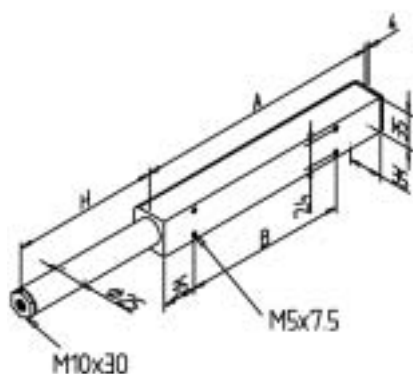
HYDRAULIC PUMP PB FOR 3-6 CYLINDERS



Type	Stroke H mm	Dimension A mm	Dimension B mm
Hydraulic pump PB 150	150	298,5	283,5
Hydraulic pump PB 200	200	288,5	343,5
Hydraulic pump PB 300	300	480,5	465,5
Hydraulic pump PB 400	400	600,5	585,5
Hydraulic pump PB 500	500	722,5	707,5

ADD-ON CYLINDER AZ

For attachment with adaptor plate.

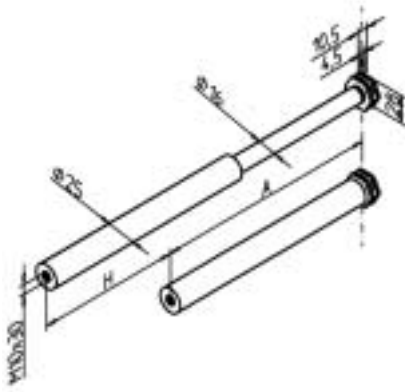


Type	Stroke H mm	Length A mm	Length B mm	lateral load kg max.
AZ 150	150	252	165	130
AZ 200	200	317	240	97
AZ 300	300	442	340	65
AZ 400	400	542	340	48
AZ 500	500	667	450	29

ADD-IN CYLINDER EZ

For installation in MiniTec profiles 45 x 90 S / 45 x 135 / 45 x 180 / 90 x 90 S / 90 180.

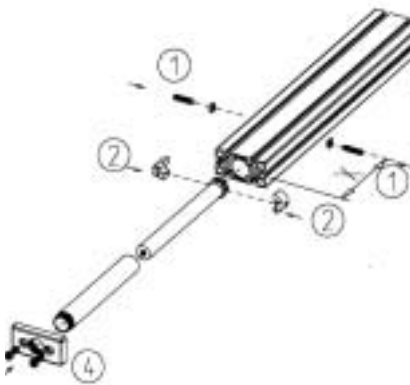
To install the cylinder, use attachment set "add-in cylinder"
Part no. 27.0005/0 or Part no. 27.0006/0.



Type	Stroke H mm	Length A mm	lateral load kg max.
EZ 150	150	235	130
EZ 200	200	300	97
EZ 300	300	425	65
EZ 400	400	525	48
EZ 500	500	650	29

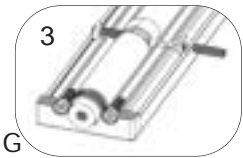
ATTACHMENT SET 45 FOR ADD-IN CYLINDER

Part Nr. 27.0005/0



Applications

- Suitable for all stroke lengths
- For profile 45 x 90 S, 45 x 135 G and 45 x 180 G



Installation

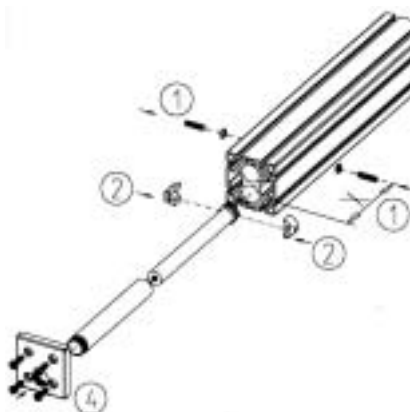
- 1) Bore \varnothing 8,5 mm in distance "X" from profile end
- 2) Place two holder pieces on cylinder and insert into the profile bore \varnothing 32 mm
- 3) Position holder pieces according to dimension table (below) and drill
- fix with setscrew
- 4) Screw guide pipe into connection plate, insert into profile and tighten

Table of Dimensions for Attachment Set 45 and 90

Cylinder	EZ 150	EZ 200	EZ 300	EZ 400	EZ 500
Distance X	224 mm	289 mm	414 mm	514 mm	639 mm

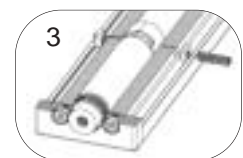
ATTACHMENT SET 90 FOR ADD-IN CYLINDER

Part Nr. 27.0006/0



Applications

- Suitable for all stroke lengths
- For profile 90 x 90 S, 90 x 180



Installation

- 1) Bore \varnothing 8,5 mm in distance "X" from profile end
- 2) Place two holder pieces on cylinder and insert into the profile bore \varnothing 32 mm
- 3) Position holder pieces according to dimension table (below) and drill
- fix with setscrew
- 4) Screw guide pipe into connection plate, insert into profile and tighten

All MiniTec linear guides are constructed by using the profile system elements and thus are fully compatible with all system elements. The modular structure allows the designer to design his unit exactly according to the requirement of his application. The possibility to use the profiles both as construction elements and guide rails reduces the cost significantly. All MiniTec linear guides are extremely quick and easy to assemble. By exclusively using precision-guiding elements from our linear program the guides feature high travelling speed, optimal durability and high precision. The travel length of this system is virtually unlimited.

- LINEAR SYSTEM LR
COMPONENTS LR
READY FOR USE MODULS LR

- LINEAR SYSTEM LB
COMPONENTS LB
READY FOR USE MODULS LB

- LINEAR SYSTEM LG
COMPONENTS LG
READY FOR USE MODULS LG

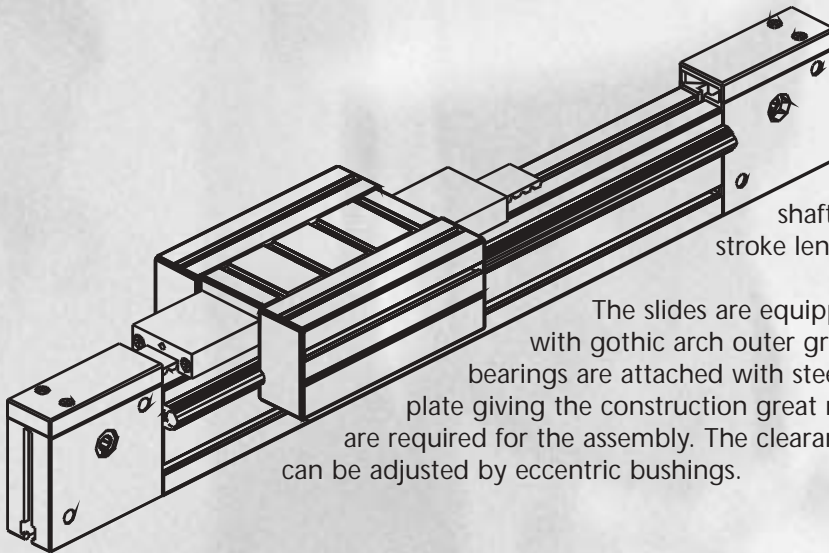
2

LINEAR SYSTEMS



LINEAR SYSTEM LR

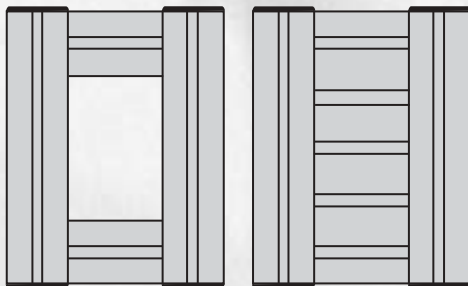
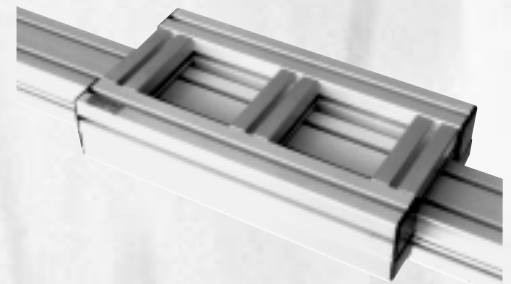
LINEAR SYSTEM LR



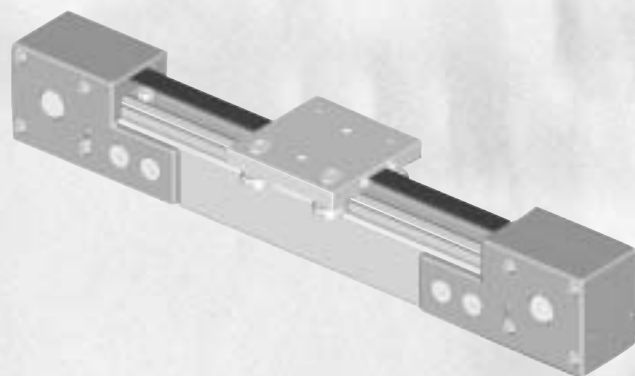
The profile system LR is based on double-row angular contact bearings made of bearing steel and hardened and ground precision shafts \varnothing 12 mm / Cf 53. Any required stroke length can be implemented.

The slides are equipped with double-row roller bearings with gothic arch outer grooves. For very high loads multiple bearings are attached with steel-T-Slot bars directly to the slide-plate giving the construction great rigidity. No special bearing profiles are required for the assembly. The clearance between bearings and shafts can be adjusted by eccentric bushings.

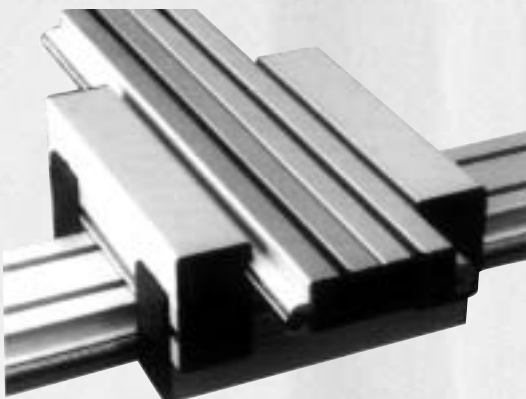
The slides are completely covered, lubrication felts are fitted in the endcaps which clean and grease the shafts. For maintenance purposes the felts can be exchanged quickly and easily without tools. This advantage is important for applications in rough working conditions



Both closed and open-frame slides with any desired length or width can be fabricated.



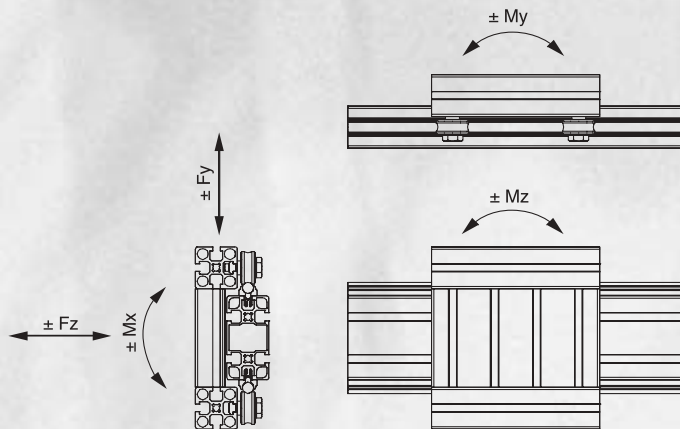
X/Y-tables are easily constructed by the attachment of 4 bearings on to the top of the slide. The guide rails for this configuration are made from profile 45 x 32. Caps LR and cover profile AL also fit the y-axis.



LINEAR SYSTEM LR



Load capacity

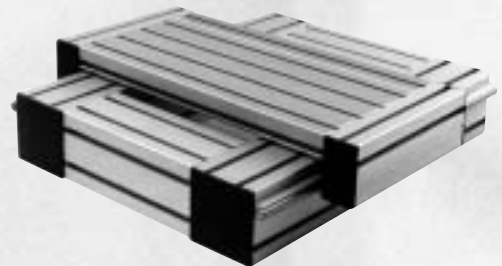


Calculation of max. moment loads as function of the slide length:

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

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

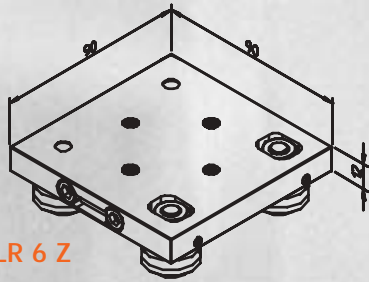
L = length of slide



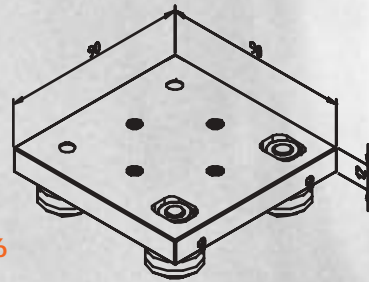
Linear system Slides	LR6 Slide LR 6 4 bearings L = 90 mm	LR 12 Slide 45 4 bearings L = 180 mm	Slide 90 4 bearings L = 180 mm	Slide 135 4 bearings L = 180 mm	Slide 180 4 bearings L = 180 mm	Slide 180 8 bearings L = 360 mm
Mx max.	30 Nm	79 Nm	107 Nm	130 Nm	165 Nm	240 Nm
My max.	75 Nm	120 Nm	120 Nm	120 Nm	120 Nm	275 Nm
Mz max.	40 Nm	202 Nm	202 Nm	202 Nm	202 Nm	470 Nm
Fy max.	800 N	3500 N	3500 N	3500 N	3500 N	7000 N
Fz max.	640 N	1500 N	1500 N	1500 N	1500 N	3000 N

Maximal speed slide 45 - 180: 10 m/sec.
 Maximal speed slide LR 6: 5 m/sec.

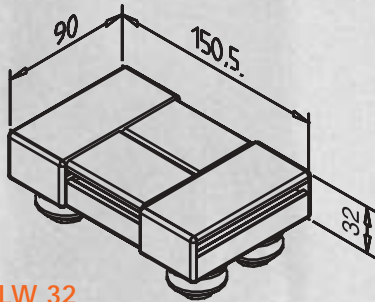
EXAMPLES OF SLIDES



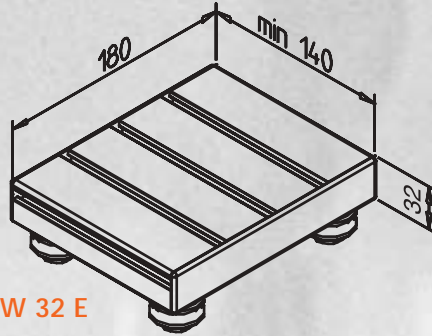
LR 6 Z



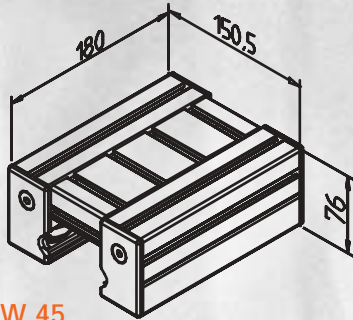
LR 6



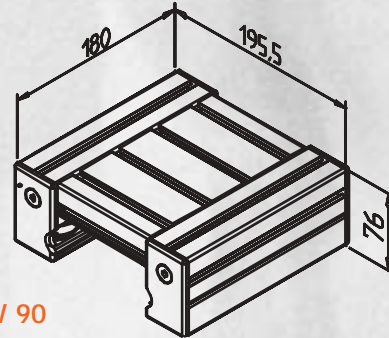
LW 32



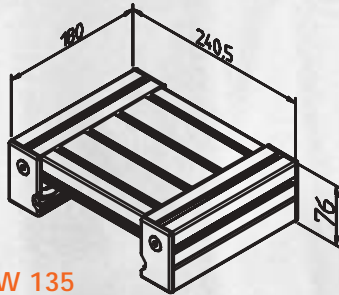
LW 32 E



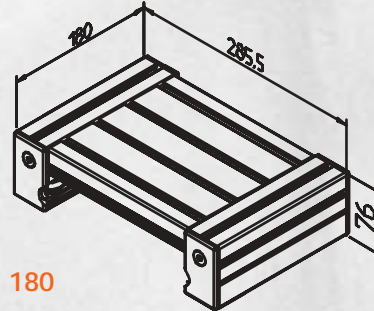
LW 45



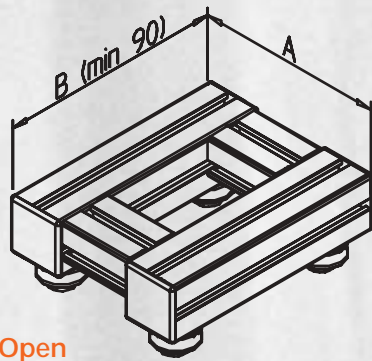
LW 90



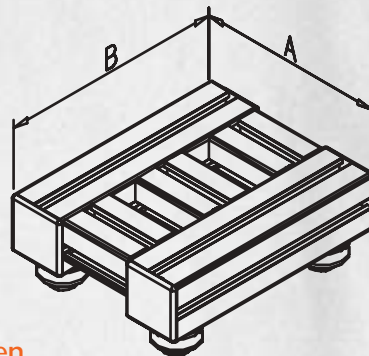
LW 135



LW 180



Open



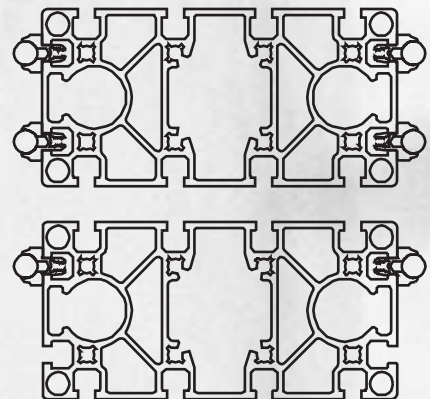
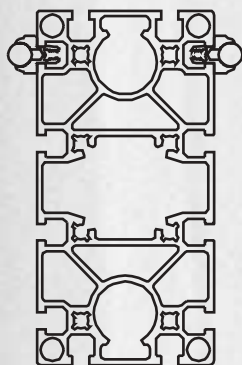
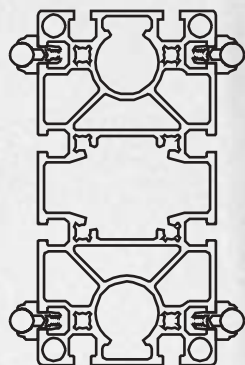
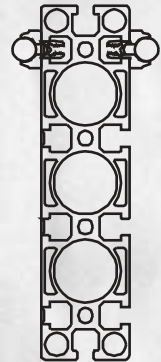
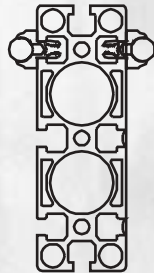
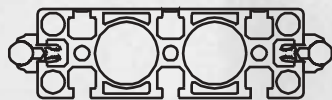
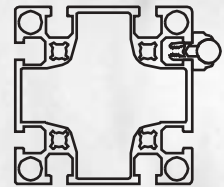
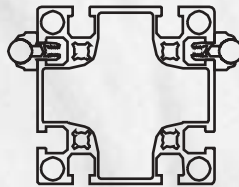
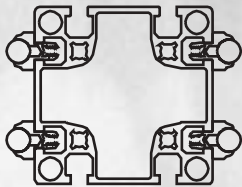
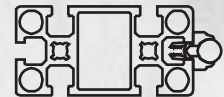
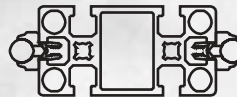
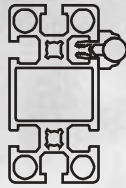
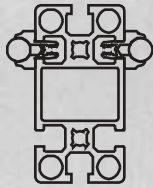
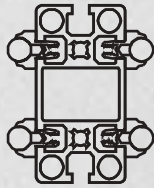
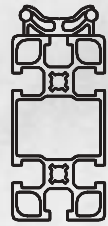
Open

POSSIBLE DESIGNS OF RAILS

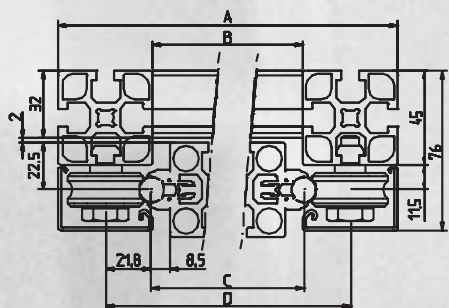
Calculation of rail length

Travel
 + Slide length
 + 2 x Belt tensioner
 + 40 mm Security distance

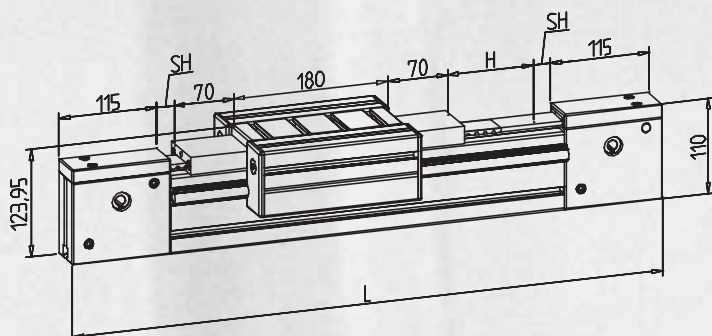
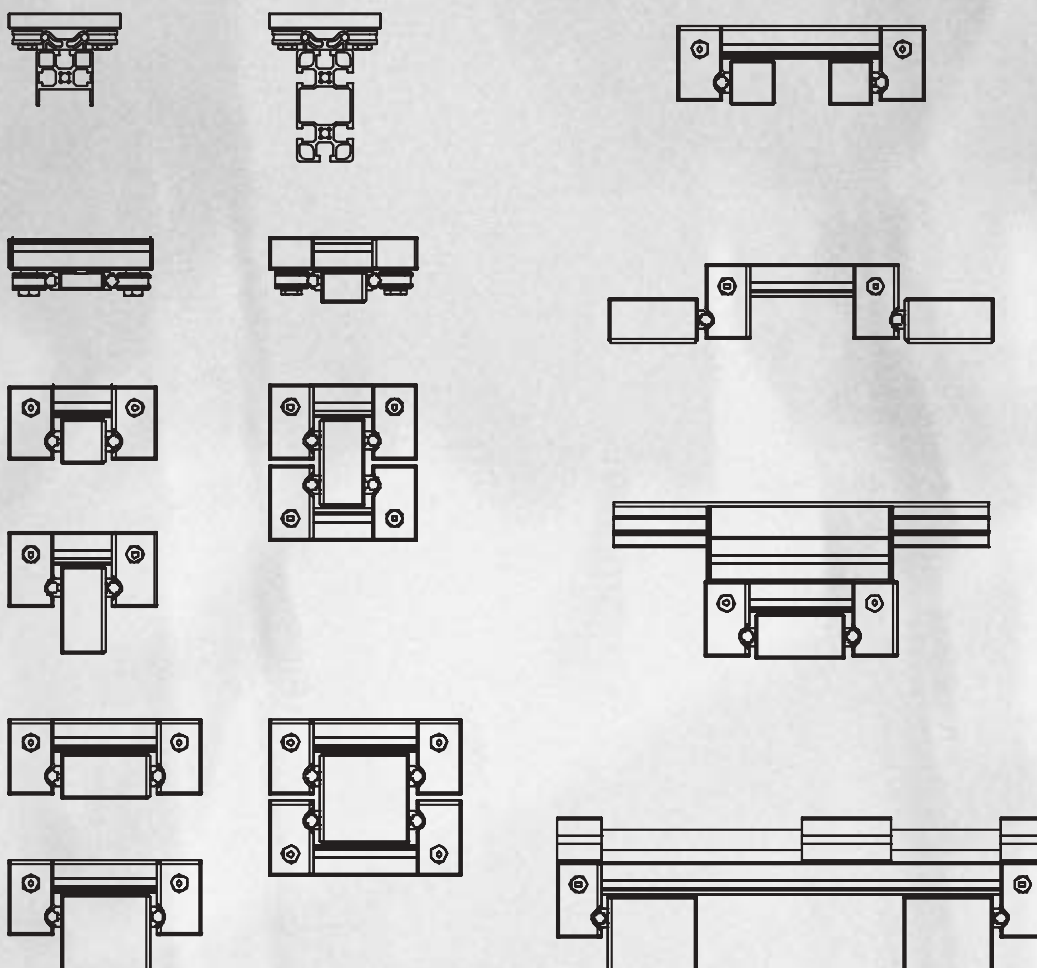
= Travel
 + Slide length
 + 180 mm



POSSIBLE COMBINATIONS OF RAILS AND SLIDES



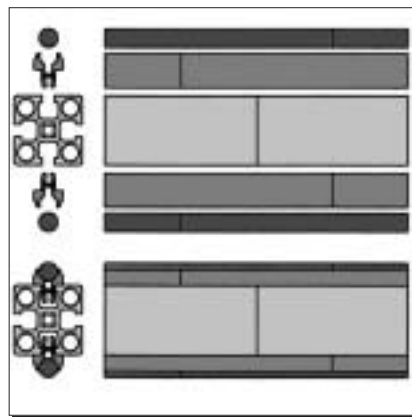
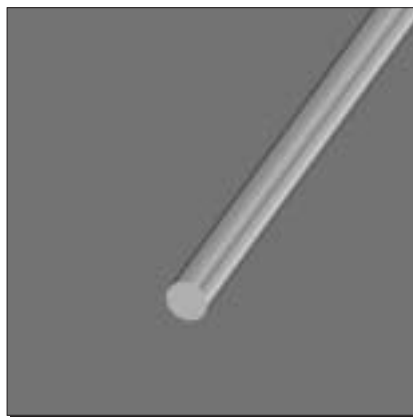
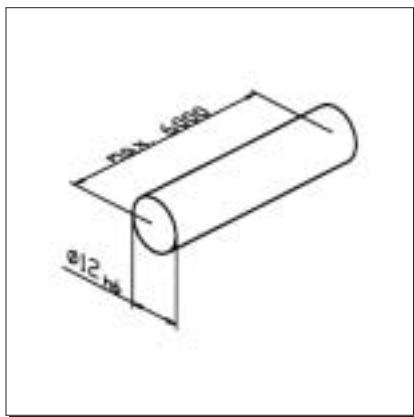
Slide-type	LW 45	LW 90	LW 135	LW 180
A	150,5	195,5	240,5	285,5
B	60,5	105,5	150,5	195,5
C	62	107	152	197
D	105,5	150,5	195,5	240,5



Calculation of total length L:
 Travel H
 + Slide length
 + 2 x Reverse unit
 + 2 x Belt tensioner
 + 40 mm Security distance SH
 = Travel + slide length + 410 mm

SHAFT 12

Part N° 17.1741/0



TECHN. DATA/ITEMS SUPPLIED

- Cf 53, hardened 60 +5 HRC, precision ground h6

Weight	0,888	kg/m
Length	6	m

Stainless version Part N° 17.1760/0

APPLICATIONS

- All MiniTec linear guides LR

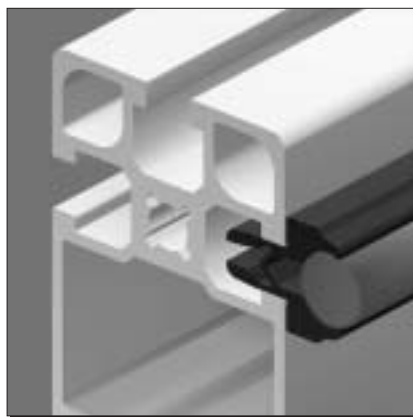
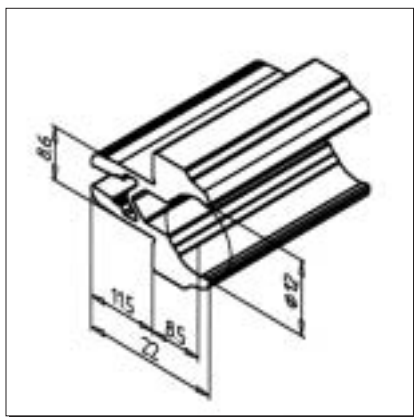
ASSEMBLY

- Press shaft into supporting profile with appropriate tool (plastic mallet)

- For rails L > 6 000 mm assemble profile, shaft supporting profile and shaft with offset joints

SHAFT SUPPORTING PROFILE

Part N° 28.0002/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized E6/EV 1

Weight	0,365	kg/m
Length	6	m

APPLICATIONS

- MiniTec linear guides LR / LG

ASSEMBLY

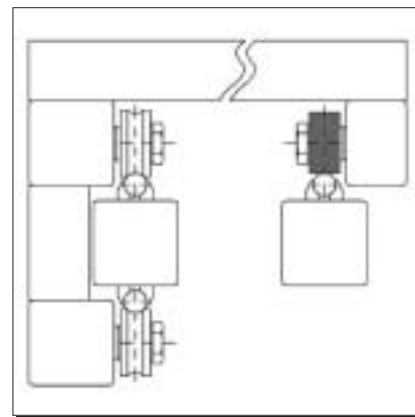
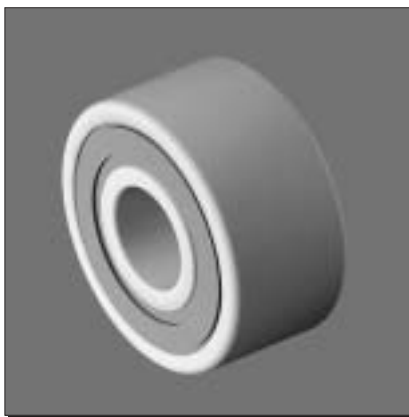
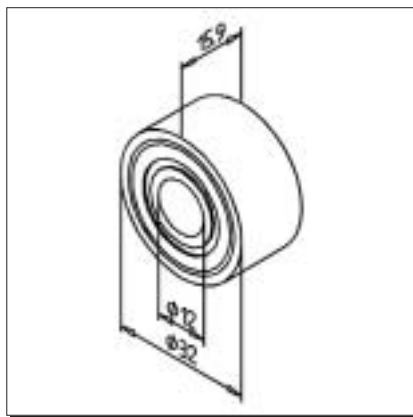
- Press into the groove of the rail profile

- If necessary clamp with set-screw M5 x 10 in position

- Press shaft into supporting profile with appropriate tool (plastic mallet)

BALL BEARING LR 12 L

Part N° 28.0005/0



TECHN. DATA/ITEMS SUPPLIED

- Double-row angular contact bearing

- Load capacity:

dyn. C	8600	N
stat. C°	5100	N

Weight	0,060	kg
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APPLICATIONS

- MiniTec linear guiding system with movable and fixed bearing side

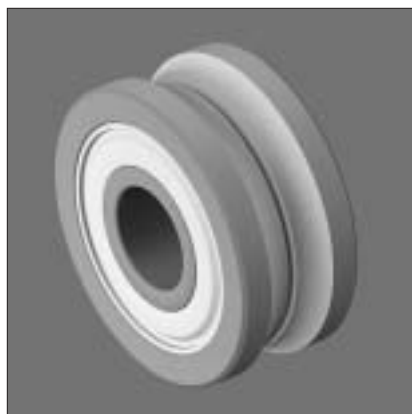
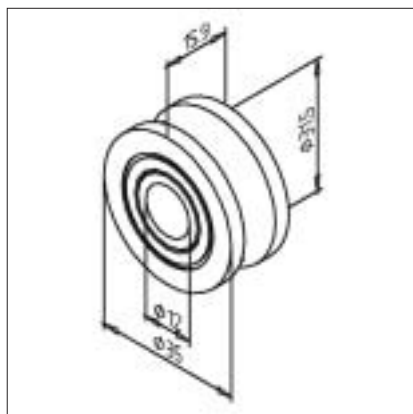
- Balancing deviations in distance in parallel linear systems

ASSEMBLY

- With fixing kit LRK Part N° 28.0021/0 or LRE Part N° 28.0022/0

BALL BEARING LR 12

Part N° 28.0001/0



TECHN. DATA/ITEMS SUPPLIED

- Double-row angular contact bearing, outer groove: gothic arch

- For shaft Ø 12 mm

- Load capacity:

dyn. C	10500	N
stat. C°	6000	N

Weight	0,068	kg
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Stainless version art. no. 28.0001/1

APPLICATIONS

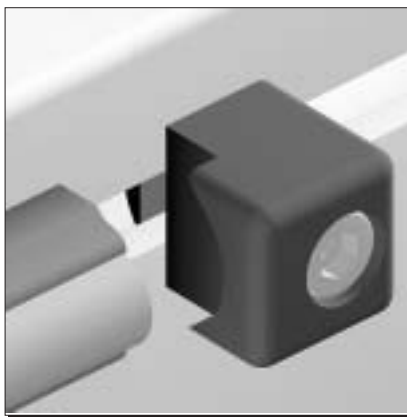
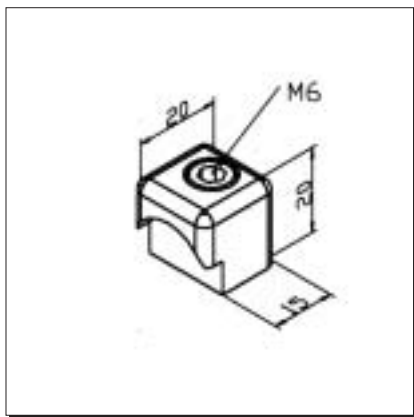
- All MiniTec linear guides LR

ASSEMBLY

- With fixing kit LRK Part N° 28.0021/0 or LRE Part N° 28.0022/0

SHAFT RETENTION DEVICE

Part N° 28.0052/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, powder coated, grey
 - Fixing kit
- Weight 0,030 kg
- Stainless version art. no. 28.0053/0**

APPLICATIONS

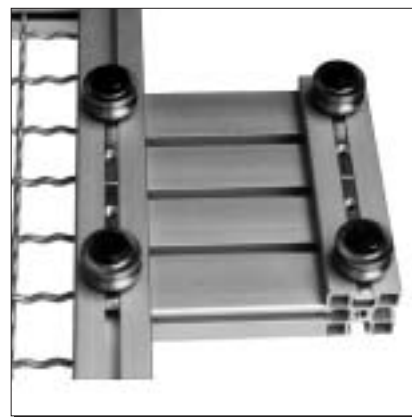
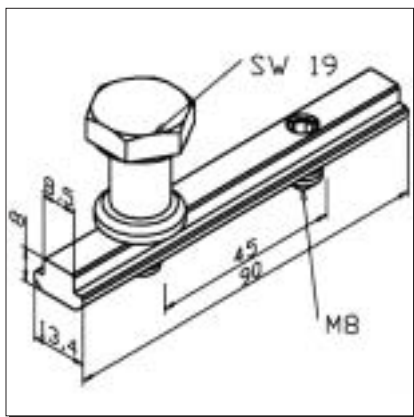
- Axial retention of shafts in dynamically stressed linear guides

ASSEMBLY

- Fix the retention device at both shaft ends with fixing kit from supply schedule
- No processing required

FIXING KIT LRK

Part N° 28.0021/0



TECHN. DATA/ITEMS SUPPLIED

- 1 T-slot bar, steel, zinc-plated with set-screw
 - 1 Bolt M8 concentric, steel, black finished
 - 1 Washer 3,5 mm, steel, precision ground, black finished
- Weight 0,100 kg
- Stainless version Part N° 28.0021/1**

APPLICATIONS

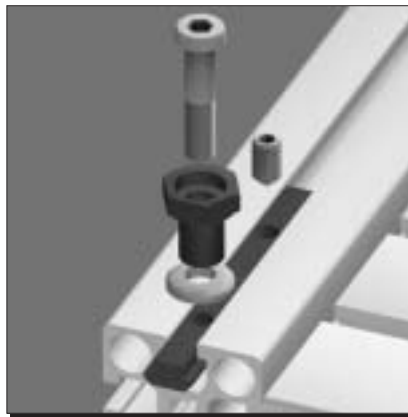
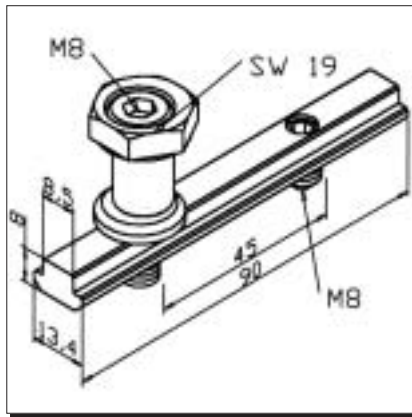
- All MiniTec linear guides LR
- Concentric attachment of ball bearings LR 12

ASSEMBLY

- Fix T-slot bar in groove of lower slide-side with the set-screws at inner position
- Threads M8 without set-screws are used for the fixing bolts
- Insert bolt in the bearing and washer bore
- Tighten firmly on T-slot bar with spanner 19 A/F
- Recommended locking torque: 25 Nm

FIXING KIT LRE

Part N° 28.0022/0



TECHN. DATA/ITEMS SUPPLIED

- T-slot bar, steel, zinc plated with set-screw
- Eccentric bush, steel, black finished
- Bolt M8, steel, black finished
- Washer 3,5 mm, steel, precision ground, black finished

Weight 0,102 kg

Stainless version Part N° 28.0022/1

APPLICATIONS

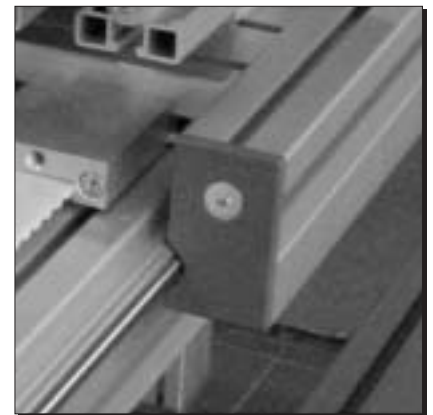
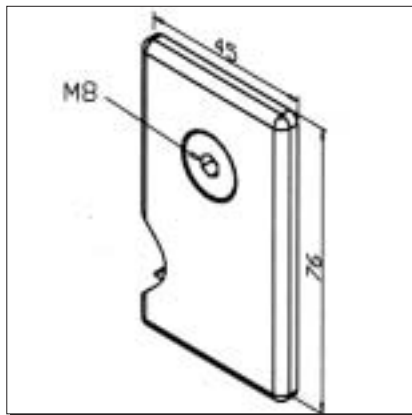
- All MiniTec linear guides LR
- Eccentric attachment of ball bearings LR 12

ASSEMBLY

- Mounting of T-slot bar: see fixing kit LRK
- Screw bolt into eccentric bush
- Insert eccentric bush in the bearing and washer bore
- Pretighten T-slot bar with key 4 A/F
- Adjust bush with ring spanner width 19 mm (turn for freedom from clearance with 0,9 - 1 Nm) and fix bolt
- Recommended locking torque: 25 Nm

END CAP LR (RIGHT)

Part N° 28.0004/1



TECHN. DATA/ITEMS SUPPLIED

- ABS with integrated, spring-mounted stripping and greasing felt
- Fixing kit

Weight 0,030 kg

APPLICATIONS

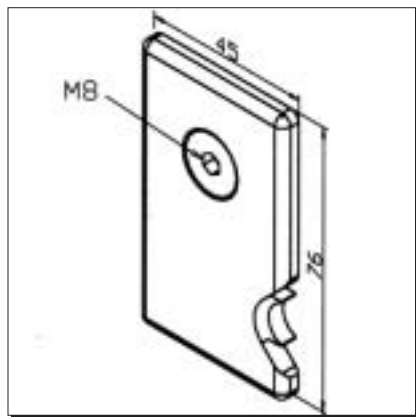
- All MiniTec linear guides LR

ASSEMBLY

- Insert cover profile between the end caps
- Insert the lubricated felts and press fastening peg in profile 45 x 45 of the slide plate
- Use fixing kit from supply schedule
- Clean and relubricate the felt or replace it when necessary

END CAP LR (LEFT)

Part N° 28.0004/3



TECHN. DATA/ITEMS SUPPLIED

- ABS with integrated, spring-mounted stripping and greasing felt

- Fixing kit

Weight 0,030 kg

APPLICATIONS

- All MiniTec linear guides LR

ASSEMBLY

- Insert cover profile between the end caps

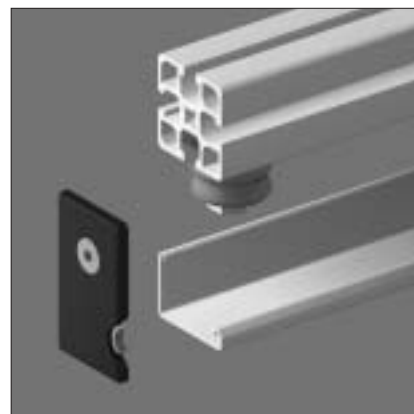
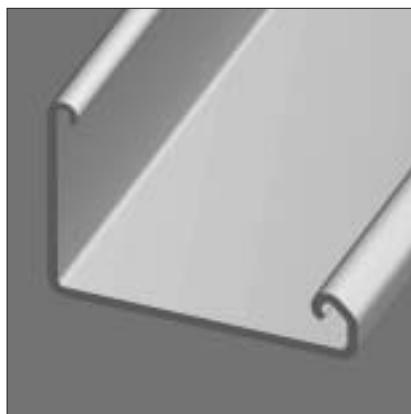
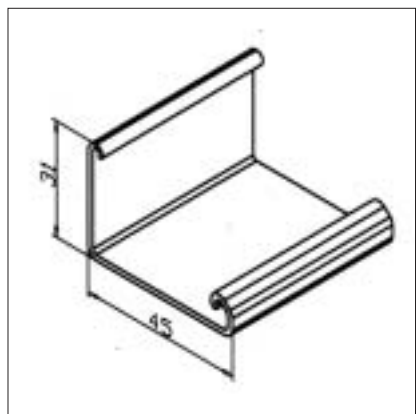
- Insert the lubricated felts and press fastening peg in profile 45 x 45 of the slide plate

- Use fixing kit from supply schedule

- Clean and relubricate the felt or replace it Part N° 28.0004/8 when necessary

COVER PROFILE LR

Part N° 28.0049/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized E 6/EV 1

Weight 0,362 kg/m
Length 6 m

APPLICATIONS

- All MiniTec linear guides LR

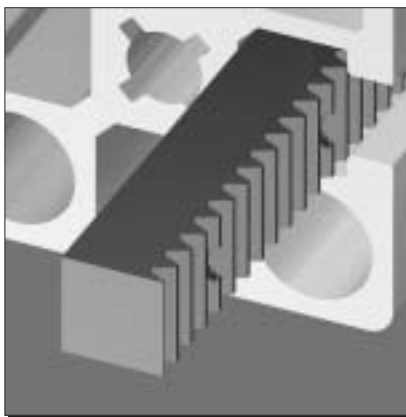
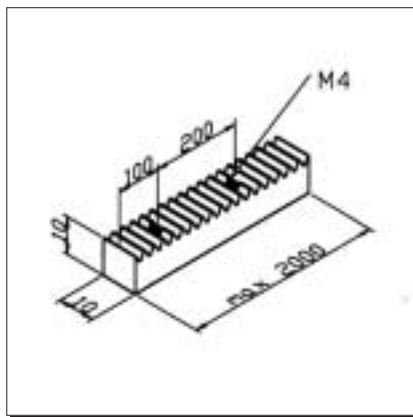
ASSEMBLY

- 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

TOOTHED RACK 8

Part N° 28.0051/0



TECHN. DATA/ITEMS SUPPLIED

- Steel
 - 1 set-screw M4 x 8 in 200 mm grid
- | | | |
|--------|-------|------|
| Weight | 0,785 | kg/m |
| Length | 2 | m |

APPLICATIONS

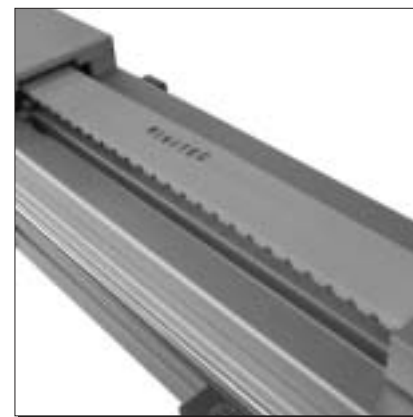
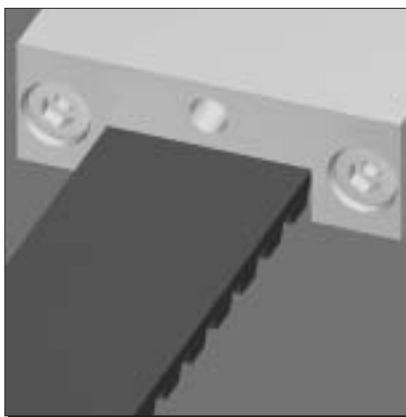
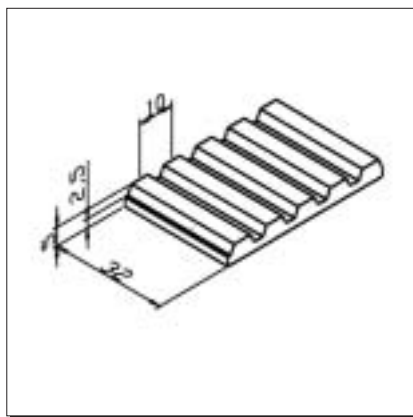
- Linear guides with extremely long travels
- Linear guides with compact dimension overall
- Recurring height sectioning and longitudinal sectioning in 3,14 mm grid (e.g. sorting frame)

ASSEMBLY

- Push toothed rack into profile groove
- Secure with set-screw M4

TIMING BELT

Part N° 28.0093/0



TECHN. DATA/ITEMS SUPPLIED

- PUR white, reinforced with integrated wires
 - Typ 32 AT10
- | | | |
|-----------|-------|------|
| Weight | 0,190 | kg/m |
| Load max. | 4750 | N |

APPLICATIONS

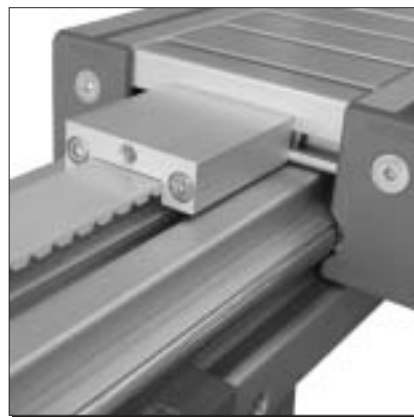
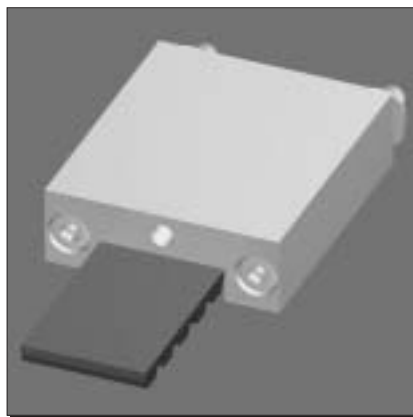
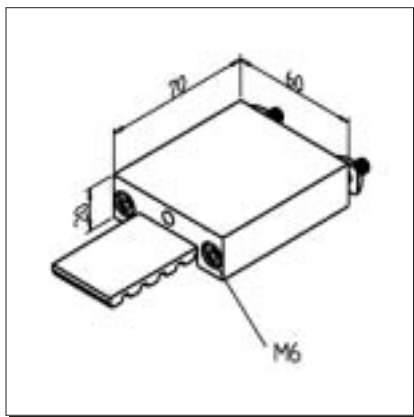
- For all MiniTec linear guides LR
- For belt drives

ASSEMBLY

- Fix timing belt on timing belt tensioner
- Calculation of belt length: see page 234

TIMING BELT TENSIONER

Part N° 28.0090/0



TECHN. DATA/ITEMS SUPPLIED

- Housing, aluminium, natural anodized
- Tensioning plug, steel, zinc plated with mateling with 3 teeth
- Fitting for timing belt AT 10
- Fixing kit

Weight 0,236 kg

Stainless version Part N° 28.0090/1

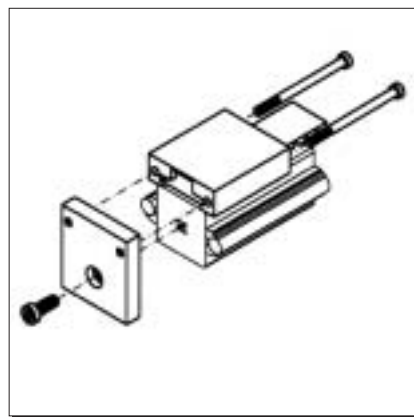
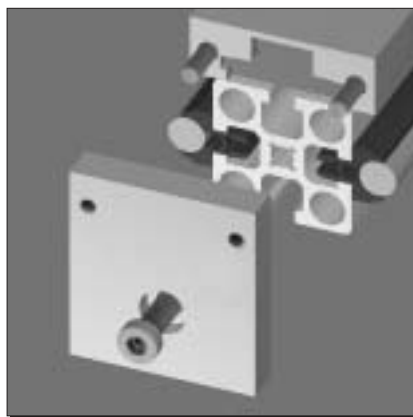
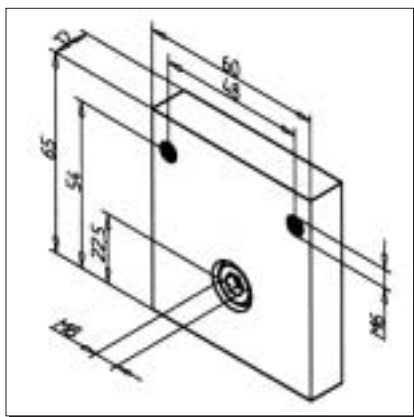
APPLICATIONS

- For each end of the timing belt a timing belt tensioner is necessary
- For all MiniTec linear guides LR
- For MiniTec belt drive

ASSEMBLY

- Subsequent fixing on the face of the slide with fixing kit from supply schedule
- After fixing on slide face, tension the belt with central tensioning screw M8, 5 A/F
- Recommended stretching: 1mm / 1000 mm

FASTENING KIT FOR TIMING BELT TENSIONING DEVICE 45 Part N° 28.0054/0



TECHN. DATA/ITEMS SUPPLIED

- Plate aluminium, natural anodized
- Fixing kit

Weight 0,089 kg

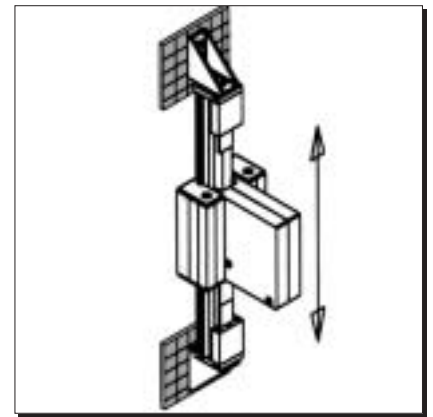
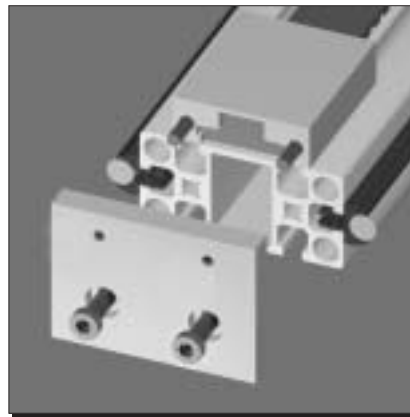
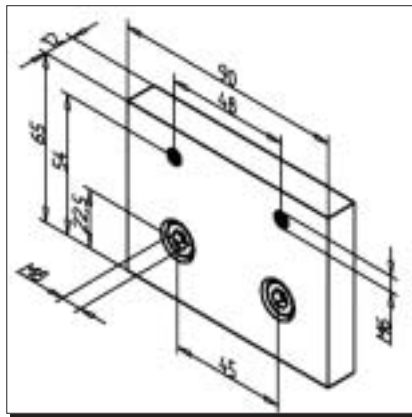
APPLICATIONS

- In connection with belt drive
- For each timing belt tensioner one fastening kit is necessary
- Attachment of timing belt tensioner on rail 45

ASSEMBLY

- Fasten with fixing kit from supply schedule on rail end; thread M8 required
- Mount timing belt tensioner

FASTENING KIT FOR TIMING BELT TENSIONING DEVICE 45 X 90 F Part N° 28.0055/0



TECHN. DATA/ITEMS SUPPLIED

- Plate aluminium, natural anodized
 - Fixing kit
- | | |
|--------|----------|
| Weight | 0,089 kg |
|--------|----------|

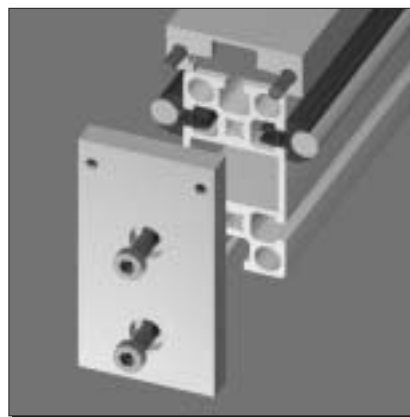
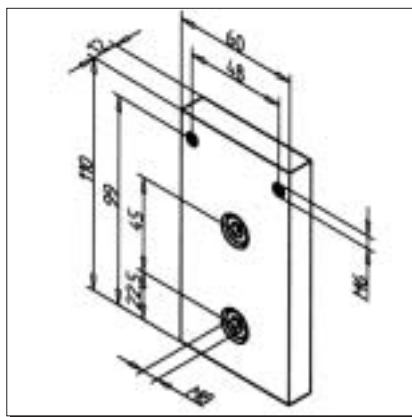
APPLICATIONS

- For each timing belt tensioner one fastening kit is necessary
- Attachment of timing belt tensioner on rail 45 x 90 F in connection with belt drive

ASSEMBLY

- Fasten with fixing kit from supply schedule on rail end; thread M8 required
- Mount timing belt tensioner

FASTENING KIT FOR TIMING BELT TENSIONING DEVICE 45 X 90 H Part N° 28.0056/0



TECHN. DATA/ITEMS SUPPLIED

- Plate aluminium, natural anodized
 - Fixing kit
- | | |
|--------|----------|
| Weight | 0,089 kg |
|--------|----------|

APPLICATIONS

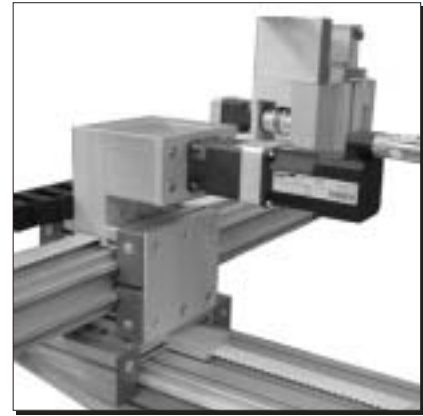
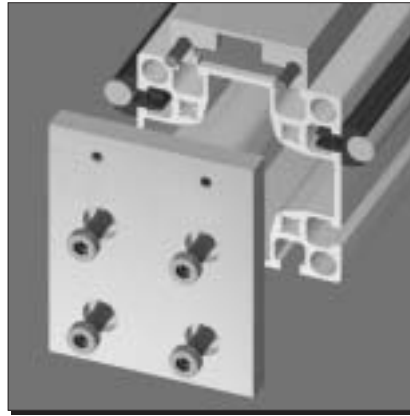
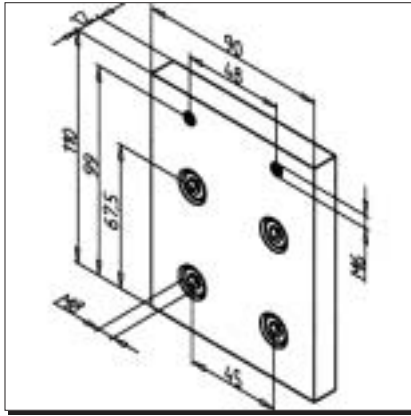
- For each timing belt tensioner one fastening kit is necessary
- Attachment of timing belt tensioner on rail 45 x 90 H in connection with belt drive

ASSEMBLY

- Fasten with fixing kit from supply schedule on rail end; thread M8 required
- Mount timing belt tensioner

FASTENING KIT FOR TIMING BELT TENSIONING DEVICE 90

Part N° 28.0057/0



TECHN. DATA/ITEMS SUPPLIED

- Plate aluminium, natural anodized
 - Fixing kit
- | | | |
|--------|-------|----|
| Weight | 0,096 | kg |
|--------|-------|----|

APPLICATIONS

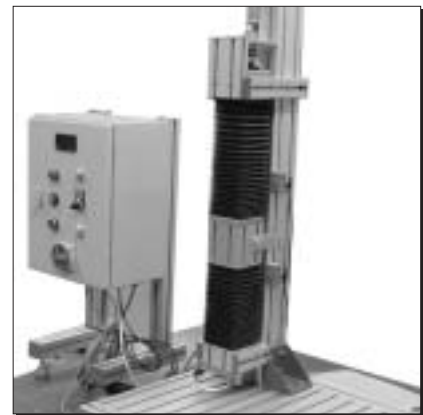
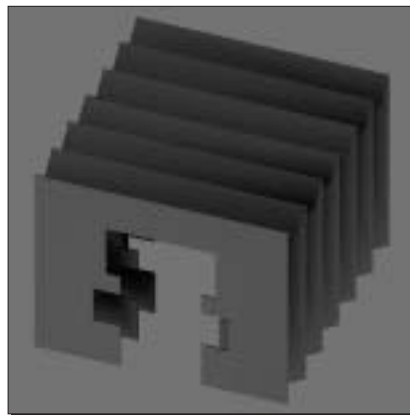
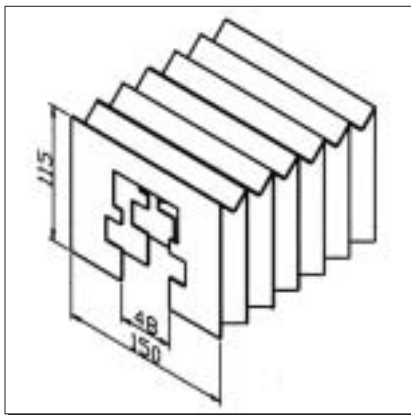
- For each timing belt tensioner one fastening kit is necessary
- Attachment of timing belt tensioner on rail 90 in connection with belt drive

ASSEMBLY

- Fasten with fixing kit from supply schedule on rail end; thread M8 required
- Mount timing belt tensioner

PROTECTIVE BELLOW LR 45

Part N° 33.3007/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic, black with plastic frame
 - Without fixing kit
 - Length when pushed together for 1 m travel: ~ 110 mm
- | | | |
|--------|-------|------|
| Weight | 0,650 | kg/m |
| Length | 6 | m |

APPLICATIONS

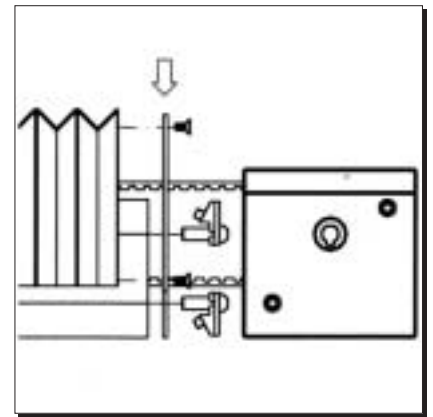
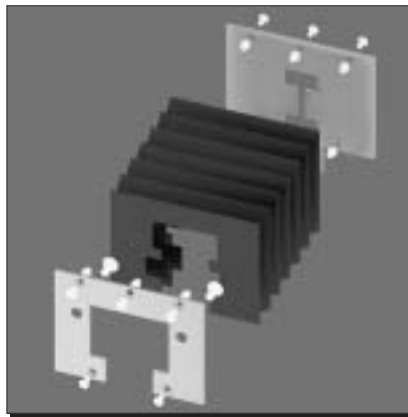
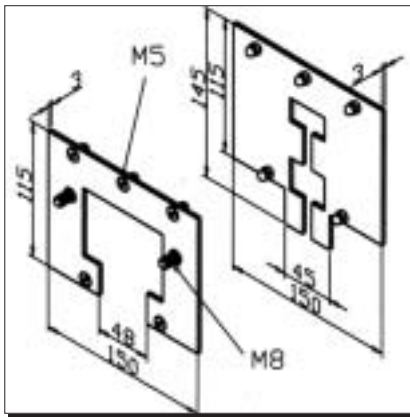
- Cover of MiniTec linear guides LR 45
- Rough working conditions, dust, chips

ASSEMBLY

- Push bellow onto rail
- Fix ends with fastening kit for protective bellow Part N° 33.3010/0 at slide or reverse unit
- The travel length is reduced by approx. 22% when bellow is used
- Caution: Consider higher friction moment when dimensioning drive unit!

FASTENING KIT FOR PROTECTIVE BELLOW LR 45

Part N° 33.3010/0



TECHN. DATA/ITEMS SUPPLIED

- 1 End frame slide
- 1 End frame pulley
- Fixing kit for frame and bellow

APPLICATIONS

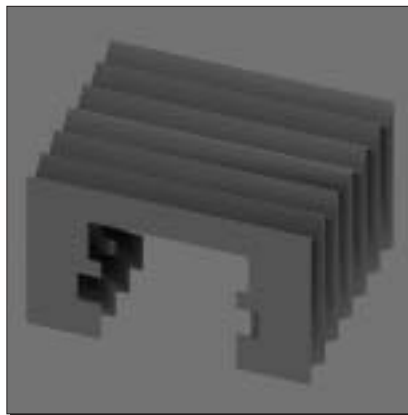
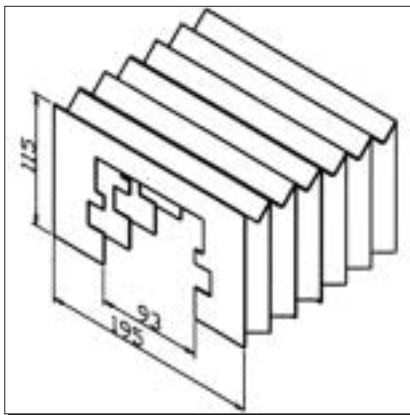
- Fastening of protective bellow LR 45 on slide LW 45
- Fastening of protective bellow LR 45 on timing belt pulley T 45

ASSEMBLY

- Fasten end frame on slide
- Push protective bellow on 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

PROTECTIVE BELLOW LR 90

Part N° 33.3008/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic, black with plastic frame
- Without fixing kit
- Length when pushed together for 1m travel: ~ 110 mm

Weight	0,750	kg/m
Length	6	m

APPLICATIONS

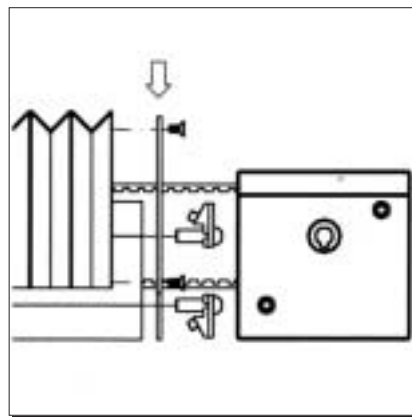
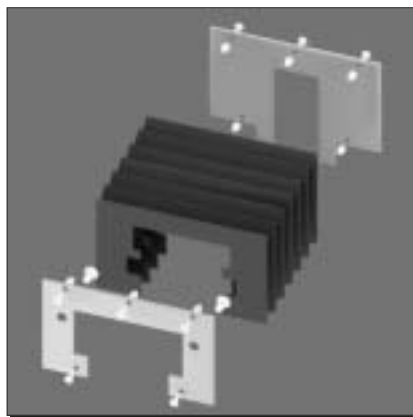
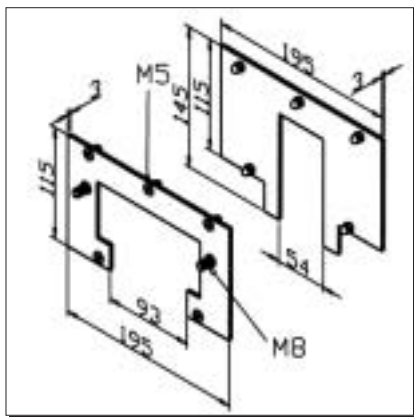
- Cover of MiniTec linear guides LR 90
- Rough working conditions, dust, chips

ASSEMBLY

- Push bellow onto rail
- Fix ends with fastening kit for protective bellow a Part N° 33.3010/0 at slide or reverse unit
- The travel length is reduced by approx. 22% when bellow is used
- Caution: Consider higher friction moment when dimensioning drive unit!

FASTENING KIT FOR PROTECTIVE BELLOW LR 90

Part N° 33.3011/0



TECHN. DATA/ITEMS SUPPLIED

- 1 End frame slide
- 1 End frame pulley
- Fixing kit for frame and bellow

APPLICATIONS

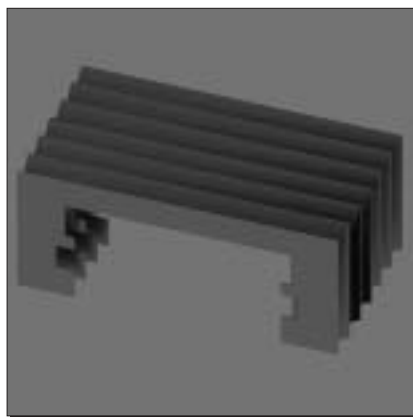
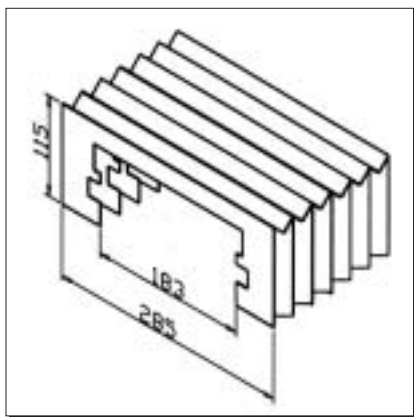
- Fastening of protective bellow LR 90 on slide LW 90
- Fastening of protective bellow LR 90 on timing belt pulley T 90

ASSEMBLY

- Fasten end frame on slide
- Push protective bellow on 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

PROTECTIVE BELLOW LR 180

Part N° 33.3009/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic, black with plastic frame
- Without fixing kit
- Length when pushed together for 1m travel: ~ 110 mm

Weight	0,950	kg/m
Length	6	m

APPLICATIONS

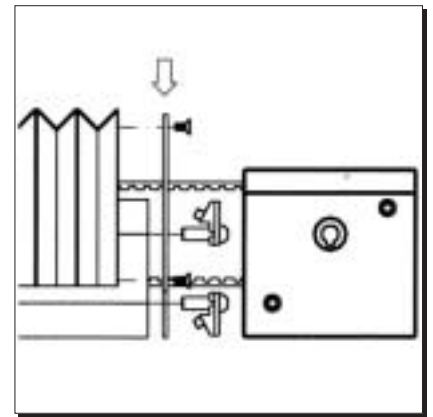
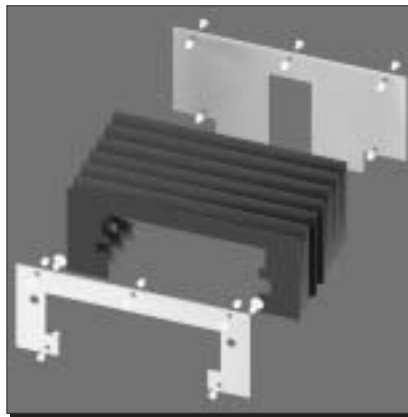
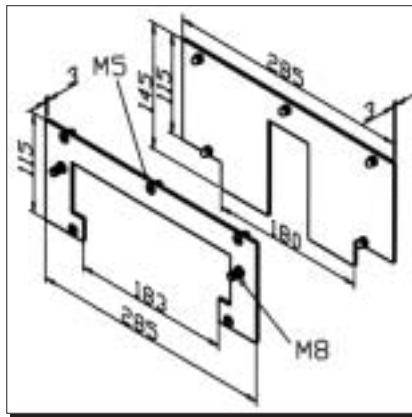
- Cover of MiniTec linear guides LR 180
- Rough working conditions, dust, chips

ASSEMBLY

- Push bellow onto rail
- Fix ends with fastening kit for protective bellow Part N° 33.3010/0 at slide or reverse unit
- The travel length is reduced by approx. 22% when bellow is used
- Caution: Consider higher friction moment when dimensioning drive unit!

FASTENING KIT FOR PROTECTIVE BELLOW LR 180

Part N° 33.3012/0



TECHN. DATA/ITEMS SUPPLIED

- 1 End frame slide
- 1 End frame pulley
- Fixing kit for frame and bellow

APPLICATIONS

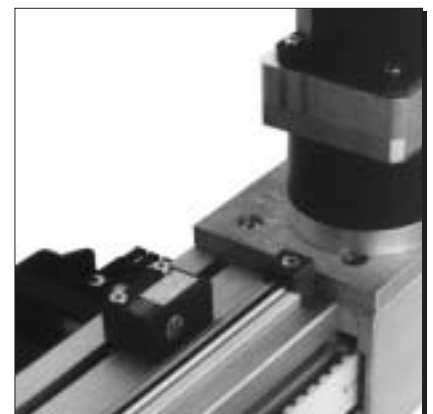
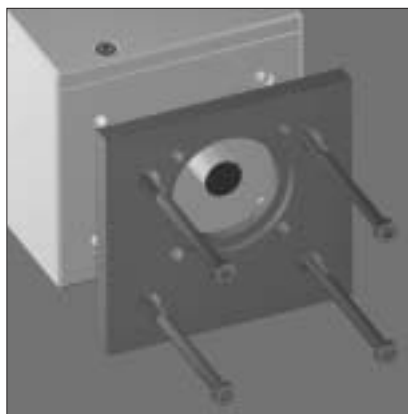
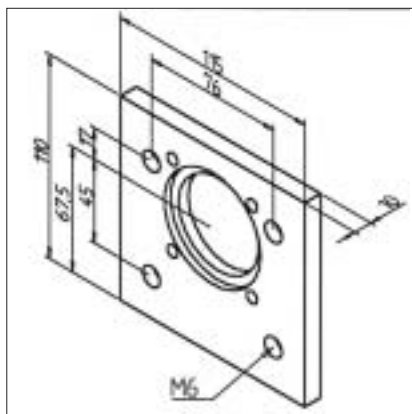
- Fastening of protective bellow LR 180 on slide LW 180

ASSEMBLY

- Fasten end frame on slide
- Push protective bellow on 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

ADAPTOR PLATE

Part N° 28.0112/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural
- Dimensions according to customers specification

APPLICATIONS

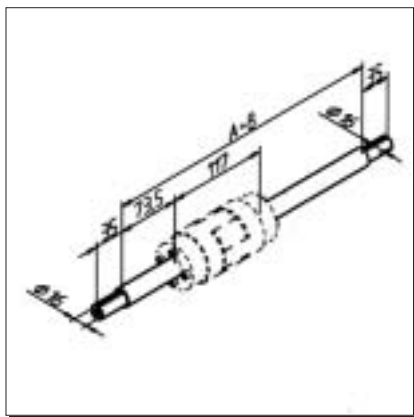
- Attachment of motors, timing belt pulley and counter

ASSEMBLY

- Mount on timing belt pulley

CONNECTING SHAFT 45

Part N° 17.1706/0



TECHN. DATA/ITEMS SUPPLIED

- Steel
 - Length and processing of ends according to customer specification
 - 2 pieces, clutch not included
- | | | |
|----------|-------|------|
| Weight | 2,470 | kg/m |
| + Spring | 0,010 | kg |

APPLICATIONS

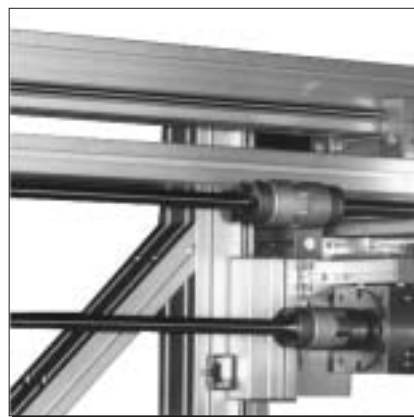
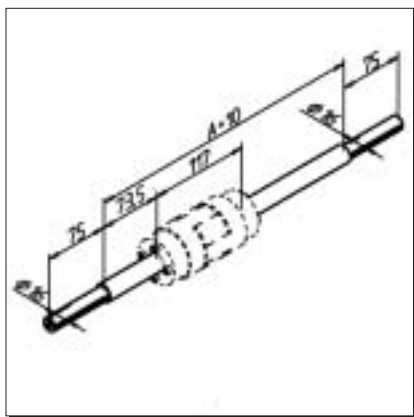
- Simultaneous transmission of 2 parallel linear guides
- Install support bearing for longer shafts

ASSEMBLY

- Fasten shafts with spring in timing belt pulley
- Connect both shaft pieces with clutch Part N° 28.0180/0

CONNECTING SHAFT 90

Part N° 17.1706/1



TECHN. DATA/ITEMS SUPPLIED

- Steel
 - Length and processing of ends according to customer specification
 - 2 pieces, clutch not included
- | | | |
|----------|-------|------|
| Weight | 2,470 | kg/m |
| + Spring | 0,015 | kg |

APPLICATIONS

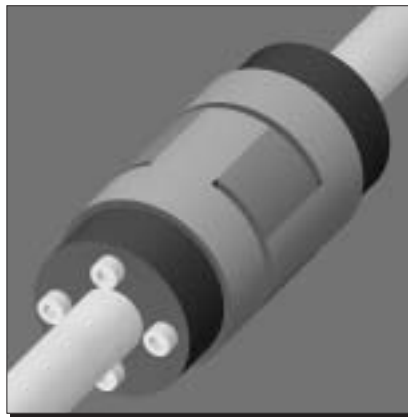
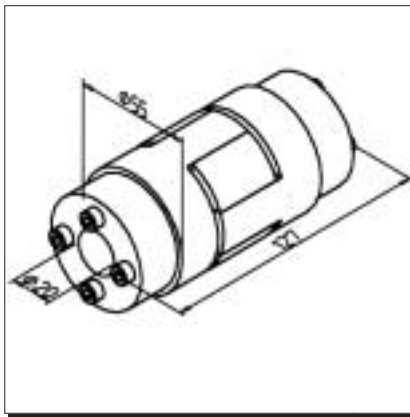
- Simultaneous transmission of 2 parallel linear guides

ASSEMBLY

- Fasten shaft with spring in timing belt pulley
- Connect both shaft pieces with clutch Part N° 28.0180/0

CLUTCH 20

Part N° 28.0180/0



TECHN. DATA/ITEMS SUPPLIED

- Clutch, steel with plastic inlay
 - 2 tensioning sets, steel
- | | | |
|---------------------|-------|----|
| Weight | 0,500 | kg |
| Locking torque max. | 30 | Nm |

APPLICATIONS

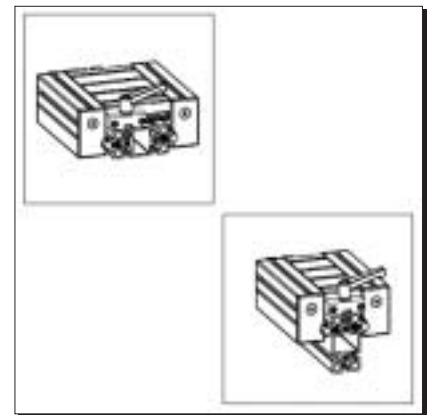
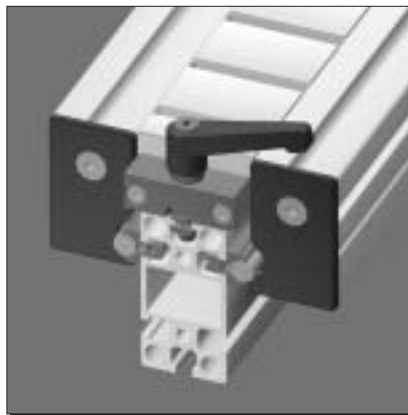
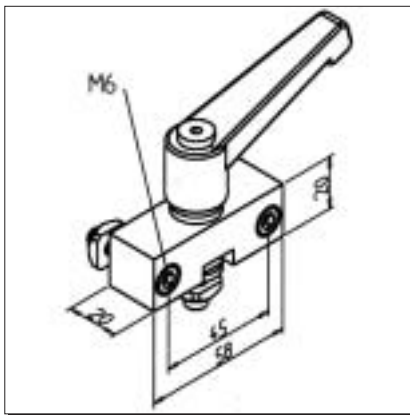
- Connection of motors to reverse unit
- Correction of misalignment for simultaneous transmission of 2 parallel linear guides with connecting shaft 45 aPart N° 17.1706/0or connecting shaft Part N° 17.1706/1

ASSEMBLY

- Attachment with integrated tensioning device.
- Position of both reverse units continuously adjustable

SLIDE CLAMPING UNIT (TOP) LWG / LWN / LW

Part N° 28.0270/0



TECHN. DATA/ITEMS SUPPLIED

- Housing, aluminium, anodized E2/E6/EV1
 - Clamp
 - Fixing kit
- | | | |
|--------|-------|----|
| Weight | 0,225 | kg |
|--------|-------|----|

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
- Mount housing block
- Secure clamping lever with mounting adhesive on clamping shaft

CONNECTION OF MOTORS



Timing belt pulley T 45

Rotary-current-, step or servo-motors with max. shaft diameter of 16 mm are suitable. Assemble directly on the timing belt pulley.

The pulley bore with fitting key groove and the connection side of the reverse unit will be designed according to customer specification.

Timing belt pulley T 90

Rotary-current-, step or servo-motors with max. shaft diameter of 24 mm are suitable. Assemble directly on the timing belt pulley.

The pulley bore with fitting key groove and the connection side of the reverse unit will be designed according to customer specification.

Belt drive 45 und 90

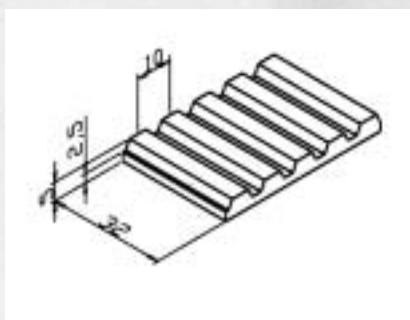
Motors with hollow shafts can be attached directly on the slide-plate. Step and servo motors are connected via a coupling on the drive of the belt drive, diameter 17.

Shaft, slide-plate or adapter plate are also available according to customer specification.

Technical Data

Timing belt pulley:	T 45	T 90	Belt drive
Pulley			
D =	58.6 mm	58.6 mm	58.6 mm
W =	32 mm	32 mm	32 mm
Teeth	19	19	19
Bore	8 mm	8 mm	8 mm
Reborable to max.	16 mm	30 mm	drive shaft d 17
Travel (1 revolution)	190 mm	190 mm	190 mm
Timing belt	32AT10	32AT10	32AT10
Belt length in the reverse unit	210 mm	210 mm	420 mm
Friction moment at 1/1000			
Belt tensioning	0.35 Nm	0.35 Nm	0.35 Nm
Maximal Load	70 Nm	130 Nm	30 Nm

Calculation of the timing belt



When using T 45 and T 90

2 x rail length
 + 2 x 210 mm belt length in reverse
 - slide length
 - 2 x 20 mm in belt tensioner
 = 2 x rail length - slide length + 380 mm

When using belt drive

Rail length + 212 mm

TIMING BELT PULLEY T 45



Techn. data/items supplied

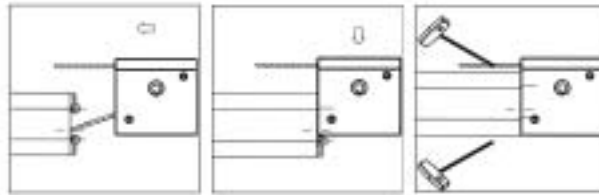
- Aluminium, anodized E6/EV1
- Completely assembled with pulley
- 2 ball bearings

Applications

- For MiniTec linear guides LR

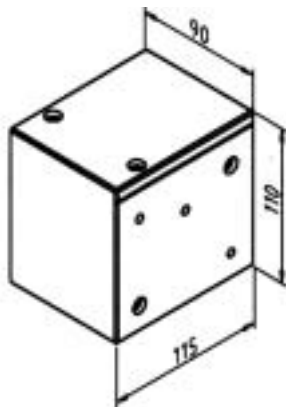
Assembly

- Form threads M8 in both rail ends and mount power lock fastener **Part no. 21.1018/0**
- Pass belt through the rail and through pulley unit
- Insert pulley unit from top
- Tighten set screw



Bore	Weight	Part no.	Part no. stainless steel
without	1.170 kg	28.0083/0	28.0046/0
Ø 11 mm	1.168 kg	28.0083/2	28.0046/2
Ø 14 mm	1.167 kg	28.0083/3	28.0046/3
Ø 15 mm	1.165 kg	28.0083/5	28.0046/5
Ø 16 mm	1.165 kg	28.0083/4	28.0046/4

TIMING BELT PULLEY T 90



Techn. data/items supplied

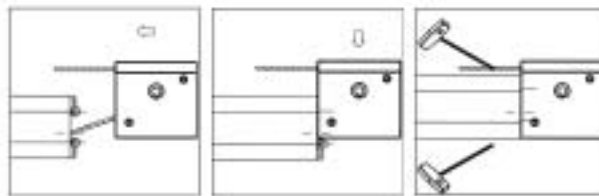
- Aluminium, anodized E6/EV1
- Completely assembled with pulley
- 2 ball bearings

Applications

- For MiniTec linear guides LR

Assembly

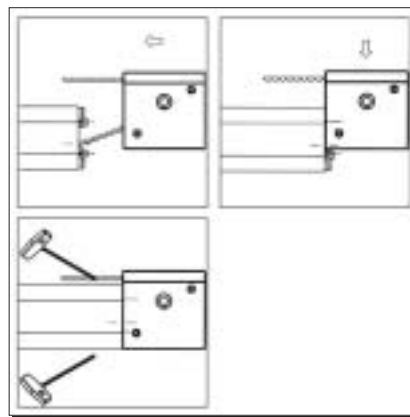
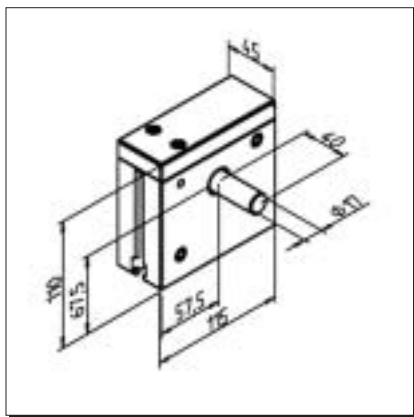
- Form threads M8 in both ends of rail and mount power lock fastener **Part no. 21.1018/0**
- Pass belt through the rail and through pulley unit
- Insert pulley unit from top
- Tighten set screw



Bore	Weight	Part no.	Part no. stainless steel
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

TIMING BELT PULLEY T 45 Z

Part N° 28.0083/1



TECHN. DATA/ITEMS SUPPLIED

- Anodized E6 / EV1
 - Completely assembled with pulley and shaft end
 - 2 ball-bearings
 - Top cover mounted
- Weight 1,200 kg
- Stainless version Part N° 28.0046/1**

APPLICATION

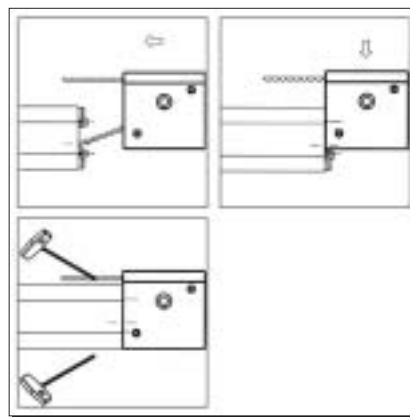
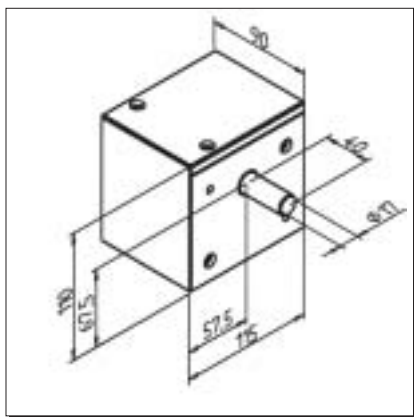
- All MiniTec linear guides

ASSEMBLY

- Form thread M8 and mount MiniTec power-lock fastener **Part N° 21.1018/0**
- Pass belt through the rail and through pulley unit
- Insert pulley unit from top
- Tighten power-lock fastener

TIMING BELT PULLEY T 90 Z

Part N° 28.0082/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, anodized E6 / EV1
 - Main casting completely assembled with pulley and shaft end
 - 2 ball-bearings
 - Top cover mounted
- Weight 2,800 kg
- Stainless version Part N° 28.0045/1**

APPLICATION

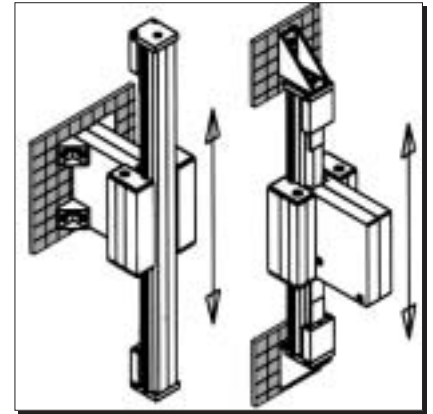
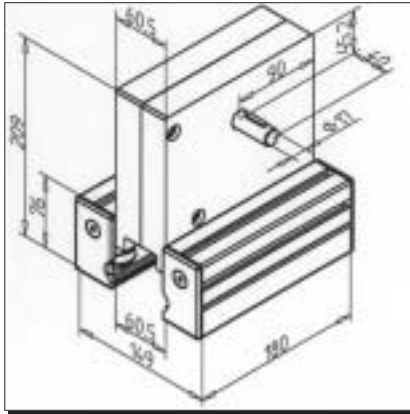
- All MiniTec linear guides

ASSEMBLY

- Form thread M8 and mount MiniTec power-lock fastener **Part N° 21.1018/0**
- Pass belt through the rail and through pulley unit
- Insert pulley unit from top
- Tighten power-lock fastener

BELT DRIVE 45

Part N° 28.0248/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium
- Shaft end Ø 17 for motor connection
- 2 idler pulleys, aluminium
- Integrated in linear slide LW 45
- max. Torque: 30 Nm
- Weight 4,901 kg

APPLICATIONS

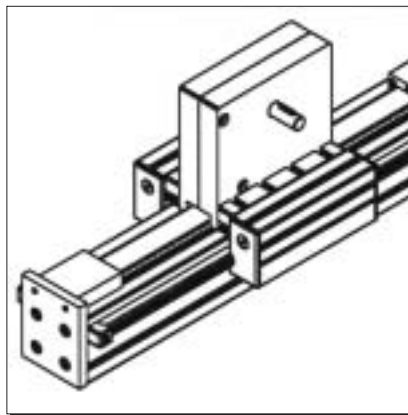
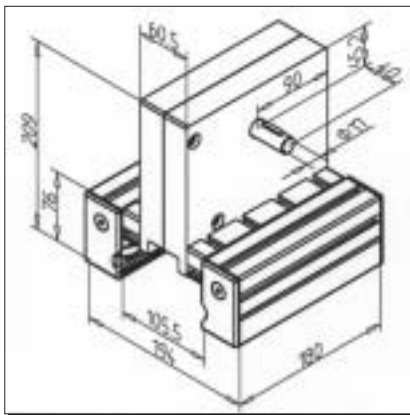
- MiniTec linear guides LR with extremely long travels, z-axis
- Use rail 45, 45 x 90 H, 45 x 135 H and 45 x 180 H

ASSEMBLY

- Push the timing belt through the drive, slide drive on the rail and adjust clearance
- Fasten timing belt ends with timing belt tensioner Part N° 28.0090/0 and fastening plate for rail 45 Part N° 28.0045/0 or for rail 45 x 90 H Part N° 28.0056/0 on the rail ends
- Tighten the timing belt
- Calculation of the timing belt: rail length + 212 mm

BELT DRIVE 90

Part N° 28.0249/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium
- Shaft end Ø 17 for motor connection
- 2 idler pulleys, aluminium
- integrated in linear slide LW 90
- max. Torque: 30 Nm
- Weight 5,024 kg

APPLICATIONS

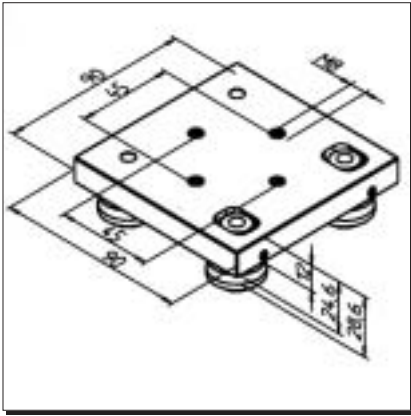
- MiniTec linear guides with extremely long travels, z-axis
- Use rail 45 x 90 F, rail 90 or 90 x 180 H

ASSEMBLY

- Push the timing belt through the drive, slide drive on the rail and adjust clearance
- Fasten timing belt ends with timing belt tensioner Part N° 28.0090/0 and fastening plate for rail 90 Part N° 28.0057/0 or for rail 45 x 90 F Part N° 28.0055/0 on the rail ends
- Tighten the timing belt
- Calculation of the timing belt: rail length + 212 mm

SLIDE LR 6

Part N° 28.0138/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, all faces machined
- Double row, angular-contact bearings
- Assembled ready for use

Fy max.	800	N
Fz max.	640	N
Weight	0,396	kg

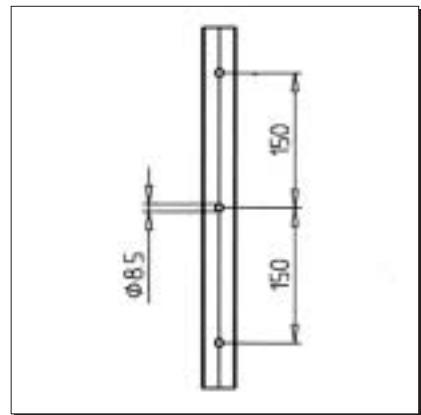
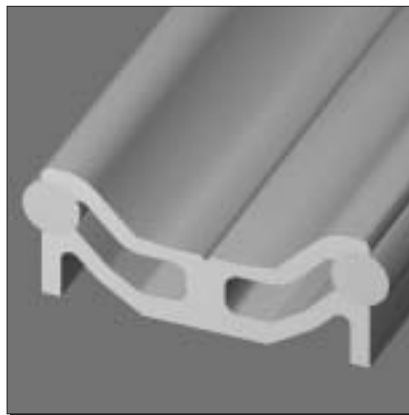
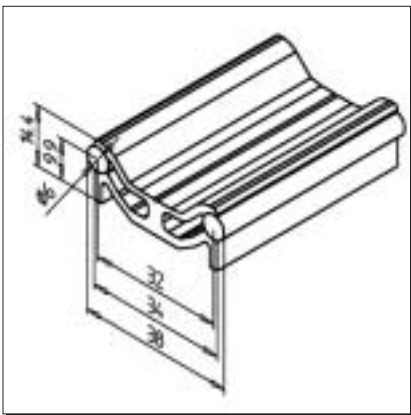
APPLICATIONS

- MiniTec linear guide systems LR 6
- Material-handling
- Measuring devices
- Doors

- Slip slide onto rail
- Adjust clearance with key 2,5 A/F,
- Tighten fixing screw
- Recommended torque: 20 Nm

RAIL LR 6

Part N° 28.0016/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural anodized E6/EV 1
- 2 Shafts Cf 53 h6, 60±3 HRC
- With fixing bores \varnothing 8,5 mm, grid: 150 mm

Weight	0,958	kg/m
Length	4	m

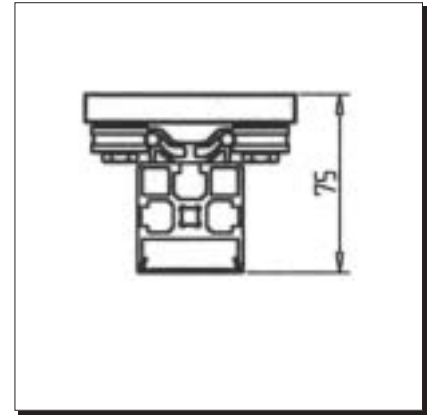
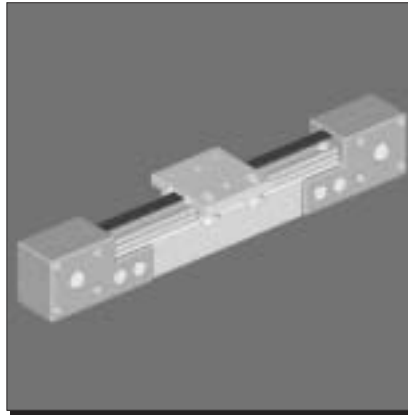
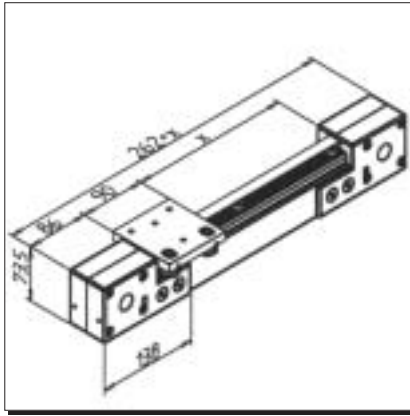
APPLICATIONS

- MiniTec linear guide systems LR 6
- Material-handling
- Measuring devices
- Doors

- Fasten rail with cap screws M8 x 20 and square nut M8 on MiniTec profile

MODULE LR 6 Z 45

Part N° 28.0500/0



TECHN. DATA/ITEMS SUPPLIED

Linear-guide, ready for use assembled from:
 - 1 Rail LR 6 with precision-steel-shafts Ø, 6 mm, h6, with profile 45 x 45 R
 - 1 slide LW 6 Z with timing belt fastener,
 - 2 timing-belt reverse units
 - 1 timing belt 16 AT 5, steel-reinforced

Lenght	4 m
Weight (without profile)	2,250 kg
Weight/100 mm stroke	0,120 kg

Please specify travel "X" and bore of timing belt reverse unit (Ø 11 mm/Ø 14 mm/None)

APPLICATIONS

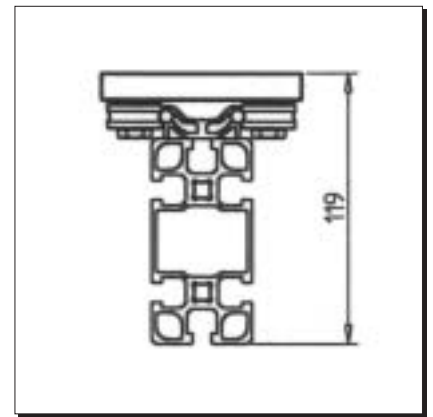
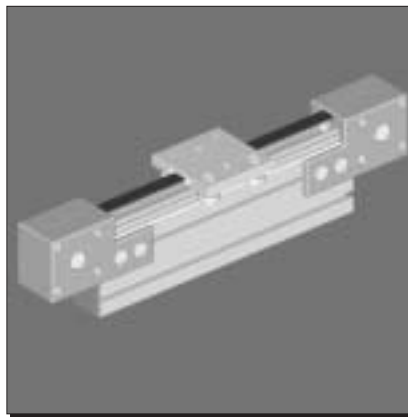
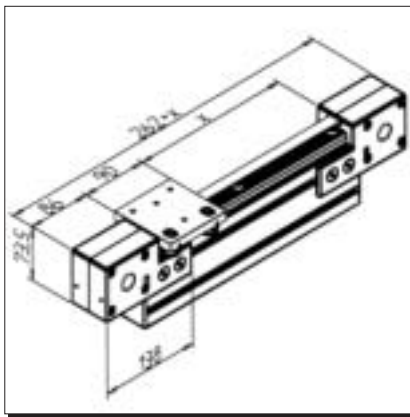
- MiniTec linear guide systems LR 6
- Material-handling
- Measuring devices
- Doors

ASSEMBLY

- Timing-belt tensioners integrated in reverse-units

MODULE LR 6 Z 90

Part N° 28.0501/0



TECHN. DATA/ITEMS SUPPLIED

Linear-guide, ready for use assembled from:
 - 1 Rail LR 6 with precision-steel-shafts Ø, 6 mm, h6, with profile 45 x 90
 - 1 slide LW 6 Z with timing belt fastener,
 - 2 timing-belt reverse units
 - 1 timing belt 16 AT 5, steel-reinforced

Lenght	4 m
Weight (without profile)	2,250 kg
Weight/100 mm stroke	0,120 kg

Please specify travel "X" and bore of timing belt reverse unit (Ø 11 mm/Ø 14 mm/None)

APPLICATIONS

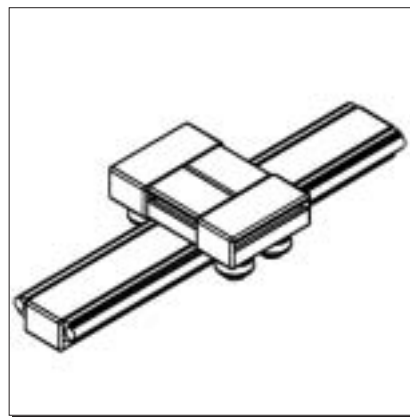
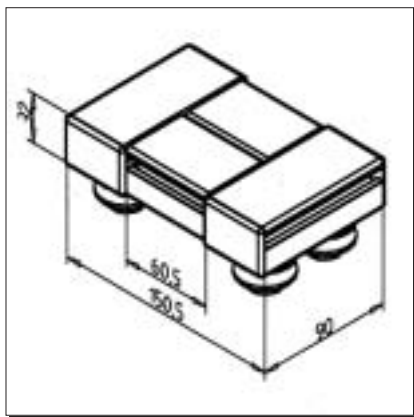
- MiniTec linear guide systems LR 6
- Material-handling
- Measuring devices
- Doors

ASSEMBLY

- Timing-belt tensioners integrated in reverse-units

SLIDE LW 32

Part N° 28.0088/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps

Load / bearings:

dyn. C	10500	N
stat. C°	6000	N

Weight	1,060	kg
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Stainless version Part N° 28.0088/1

APPLICATIONS

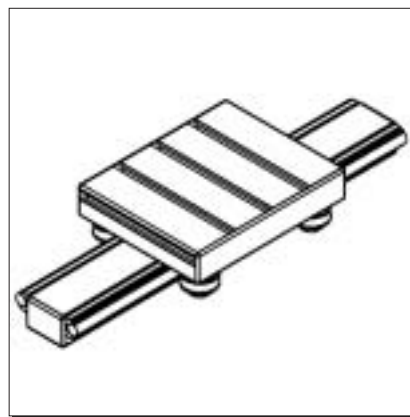
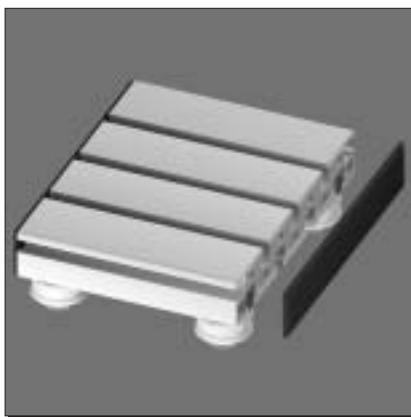
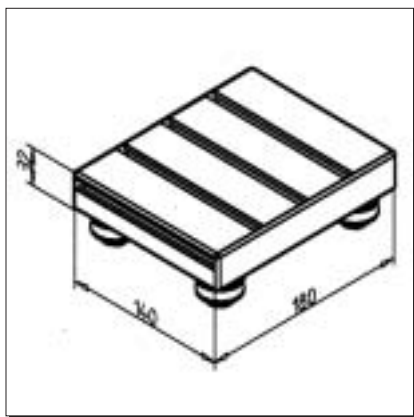
- 1-axis guides
- Handling systems
- Measuring devices
- Automatic advance units
- For rails 19 and 32

ASSEMBLY

- Slip slide on rail 19 or 32; adjust clearance with eccentric bush
- Load capacity: see page 216 ff.

SLIDE LW 32 E

Part N° 28.0089/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps

Load / bearings:

dyn. C	10500	N
stat. C°	6000	N

Weight	1,920	kg
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Stainless version Part N° 28.0089/1

APPLICATIONS

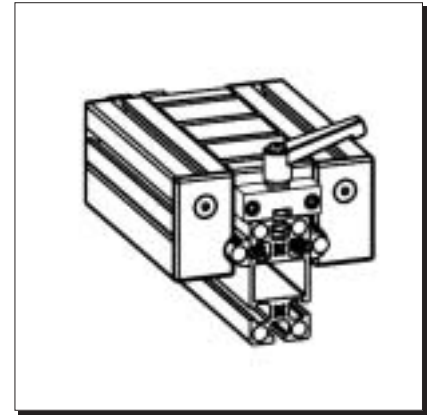
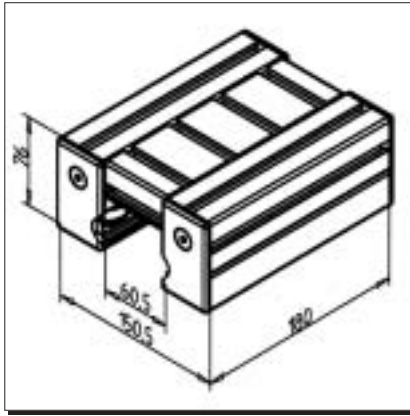
- 1- or multi-axis guides
- Handling systems
- Measuring devices
- For rails 19 and 32

ASSEMBLY

- Slip slide on rail 19 or 32; adjust clearance with eccentric bush
- Load capacity: see page 216 ff.

SLIDE LW 45

Part N° 28.0091/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps LR
- 2 Cover profiles LR

Load		
dyn. C	10500	N
stat. C°	6000	N

Weight	2,260	kg
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Stainless version Part N° 28.0091/3

APPLICATIONS

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

ASSEMBLY

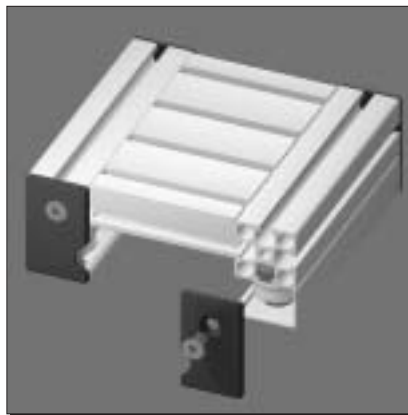
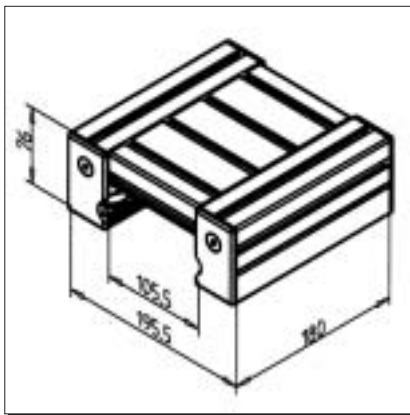
- Assemble slide on rail 45 or 45 x 90 H, adjust clearance with eccentric bush
- Assemble cover and greasing system
- Load capacity: see page 216 ff.

OPTIONS:

- Slide clamping unit Art.-Nr. 28.0270/0

SLIDE LW 90

Part N° 28.0092/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps
- 2 Cover profiles LR

Load		
dyn. C	10500	N
stat. C°	6000	N

Weight	2,700	kg
--------	-------	----

Stainless version Part N° 28.0092/2

APPLICATIONS

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

ASSEMBLY

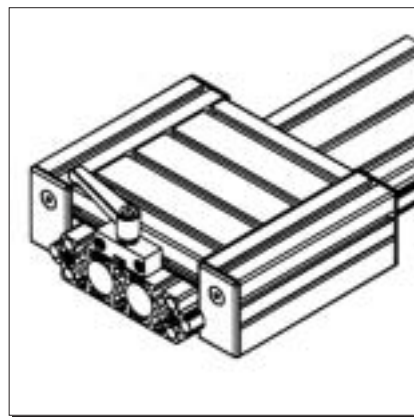
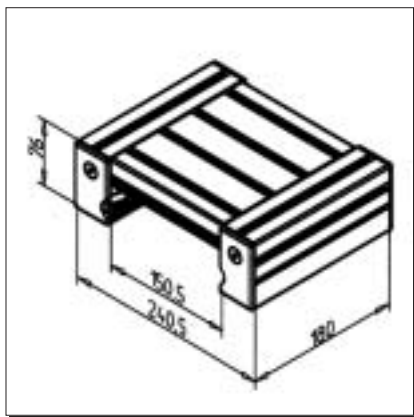
- Assemble slide on rail 45 x 90 F, rail 90 or rail 90 x 180 H; adjust clearance with eccentric bush
- Assemble cover and greasing system
- Load capacity: see page 216 ff.

OPTIONS:

- Slide clamping unit Art.-Nr. 28.0270/0

SLIDE LW 135

Part N° 28.0084/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps
- Cover profile LR

Load	
dyn. C	10500 N
stat. C°	6000 N

Weight	3,150 kg
--------	----------

Stainless version Part N° 28.0084/1

APPLICATIONS

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

ASSEMBLY

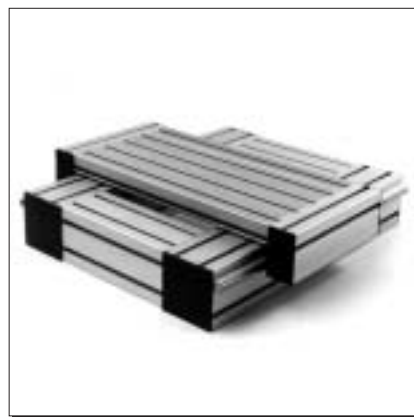
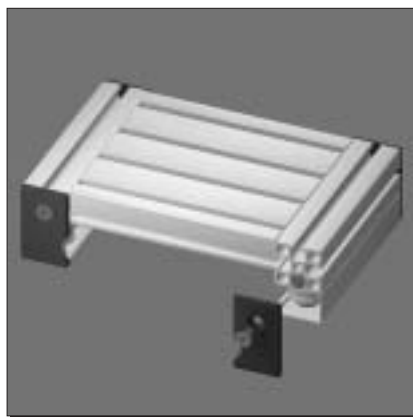
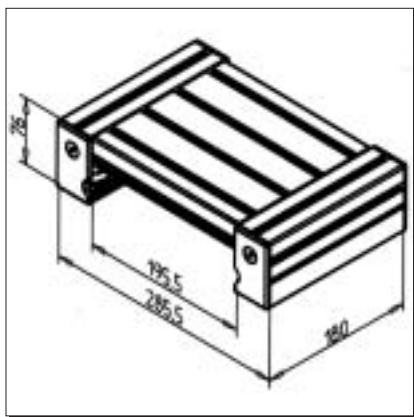
- Assemble slide on rail 45 x 135; adjust clearance with eccentric bush
- Assemble cover and greasing system
- Load capacity: see page 216 ff.

OPTIONS:

- Slide clamping unit Art.-Nr. 28.0270/0

SLIDE LW 180

Part N° 28.0087/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
- 2 concentric and 2 eccentric bearing units
- End caps
- Cover profile LR

Load	
dyn. C	10500 N
stat. C°	6000 N

Weight	3,590 kg
--------	----------

Stainless version Part N° 28.0087/1

APPLICATIONS

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

ASSEMBLY

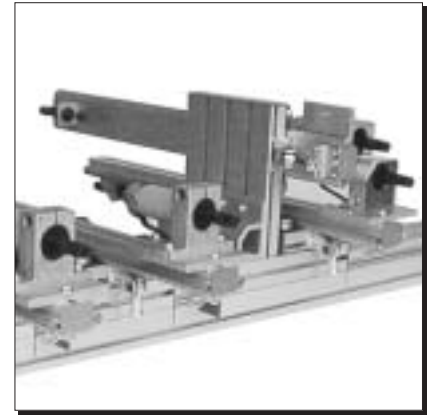
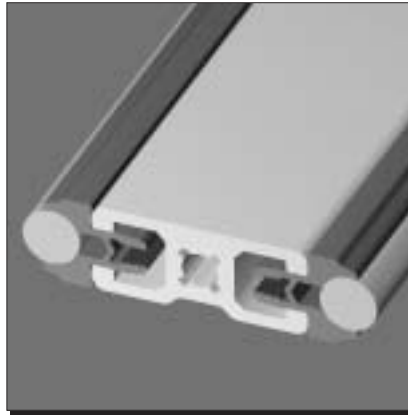
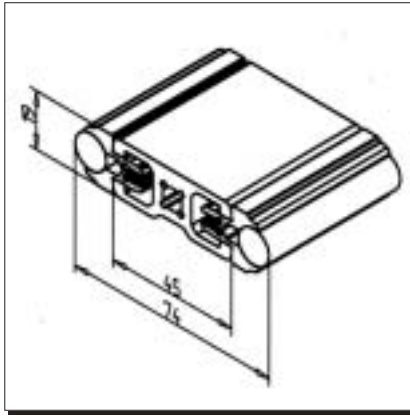
- Assemble slide on rail 90 x 180; adjust clearance with eccentric bush
- Assemble cover and greasing system
- Load capacity: see page 216 ff.

OPTIONS:

- Slide clamping unit Art.-Nr. 28.0270/0

RAIL 19

Part N° 28.0009/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 19 x 45
 - Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
 - Without end caps
- | | |
|--------|------------|
| Weight | 3,179 kg/m |
| Lenght | 6 m |
- Stainless version Part N° 28.0009/1

APPLICATIONS

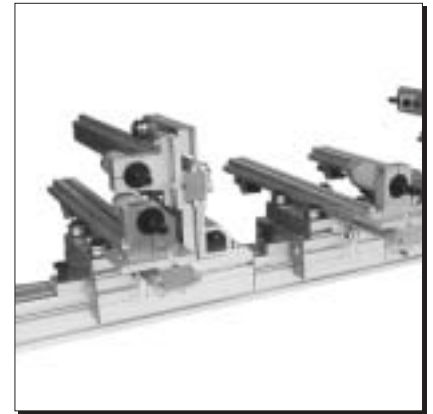
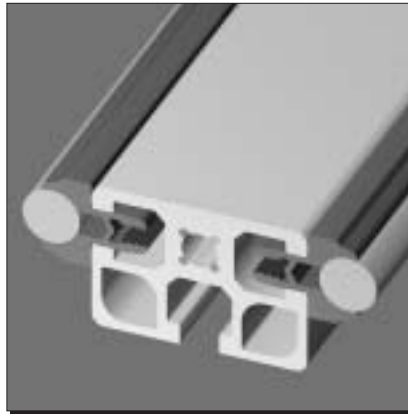
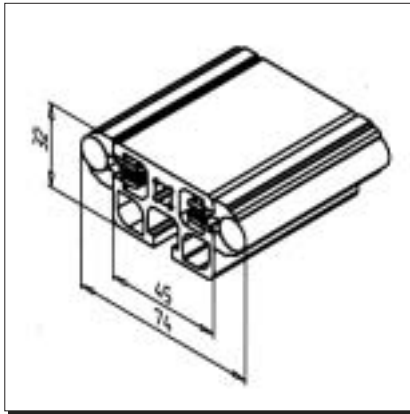
- Linear-guides
- Longer rails with composit shafts possible

ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices Part N° 28.0052/0
- Load capacity: see page 216 ff.

RAIL 32

Part N° 28.0010/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 32 x 45
 - Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
 - Without end caps
- | | |
|--------|------------|
| Weight | 4,161 kg/m |
| Lenght | 6 m |
- Stainless version Part N° 28.0009/1

APPLICATIONS

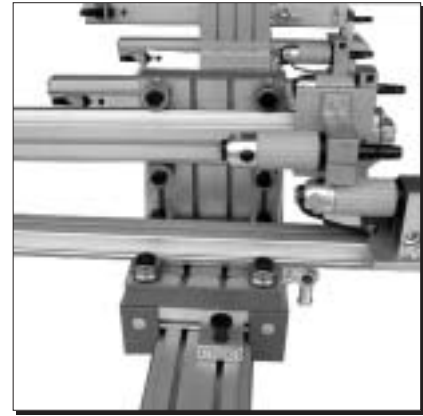
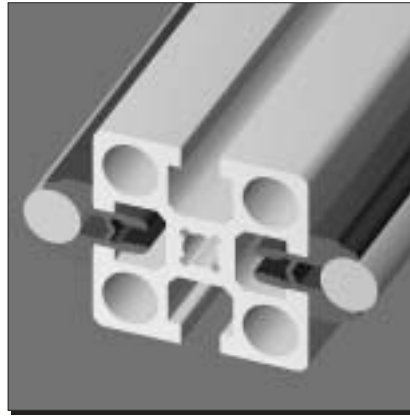
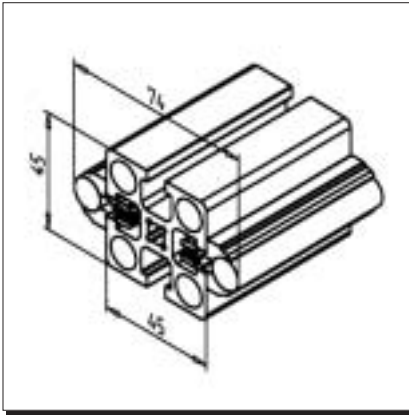
- Linear-guides
- Longer rails with composit shafts possible

ASSEMBLY

- For vertical use or for high speed applications, we recommend the use of shaft retention devices Part N° 28.0052/0
- Load capacity: see page 216 ff.

RAIL 45

Part N° 28.0006/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 45
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	4,430	kg/m
Length	6	m

Stainless version Part N° 28.0006/1

APPLICATIONS

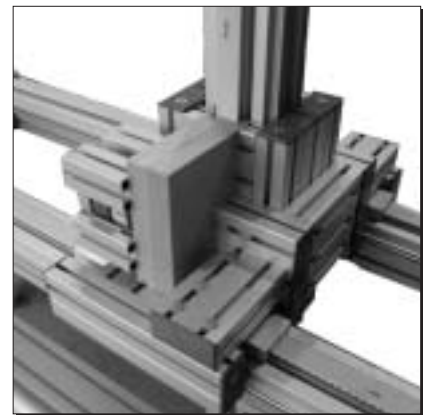
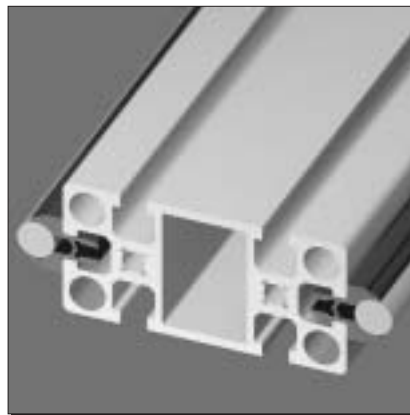
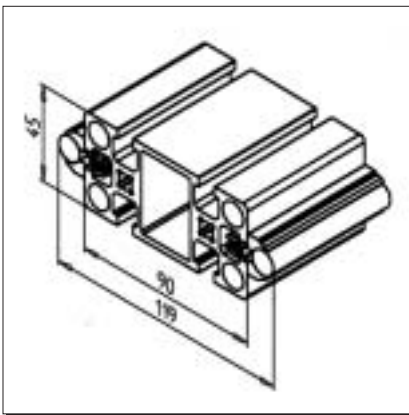
- Linear-guides
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**

- Load capacity: see page 216 ff.

RAIL 45 X 90 F

Part N° 28.0007/1



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	6,190	kg/m
Length	6	m

Stainless version Part N° 28.0007/3

APPLICATIONS

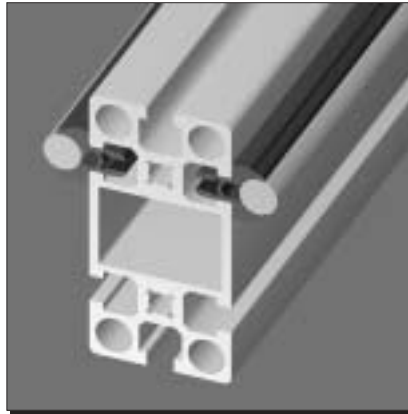
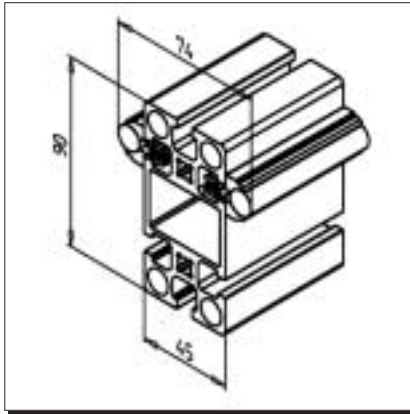
- Linear-guides
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**

- Load capacity: see page 216 ff.

RAIL 45 X 90 H

Part N° 28.0007/2



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	6,190	kg/m
Length	6	m

Stainless version Part N° 28.0007/4

APPLICATIONS

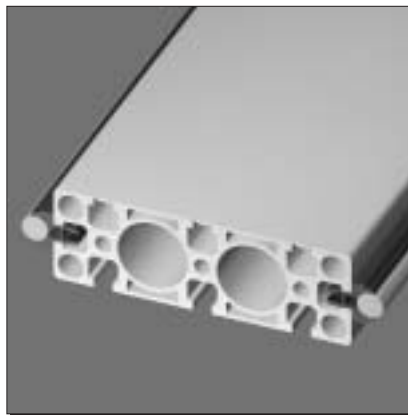
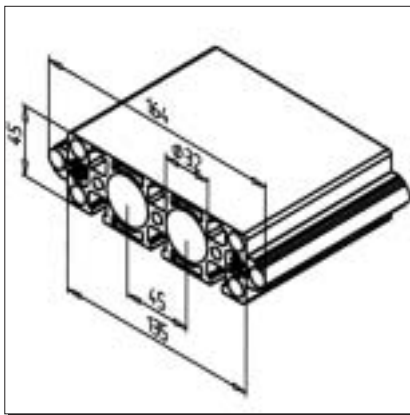
- Linear and lifting guides
- Belt return in profile
- Longer rails with shafts put together

- For vertical use or for high speed applications, we recommend the use of shaft retention devices Part N° 28.0052/0

- Load capacity: see page 216 ff

RAIL 135 F

Part N° 28.0012/1



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 135 G
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	8,250	kg/m
Length	6	m

Stainless version Part N° 28.0012/3

APPLICATIONS

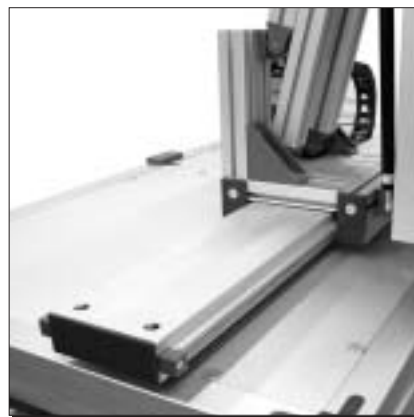
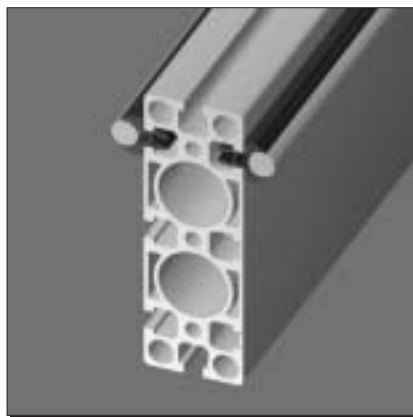
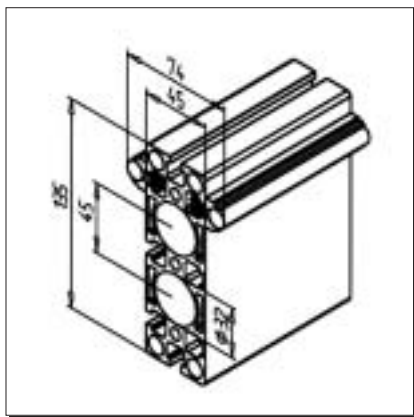
- Linear and lifting guides
- Longer rails with shafts put together

- For vertical use or for high speed applications, we recommend the use of shaft retention devices art. no. 28.0052/0

- Load capacity: see page 216 ff

RAIL 135 H

Part N° 28.0012/2



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 135 G
 - Both sides with shaft supporting profile and shafts Ø 12 h6
 - Without end caps
- | | | | |
|--------|-------|------|--|
| Weight | 8,250 | kg/m | |
| Lenght | 6 | m | |
- Stainless version Part N° 28.0012/4**

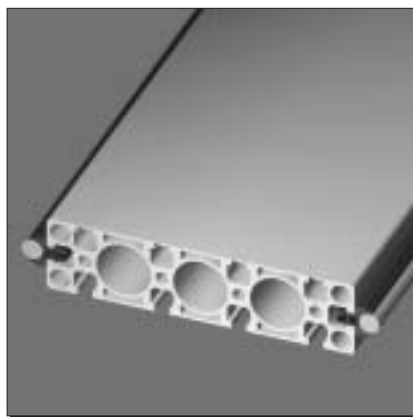
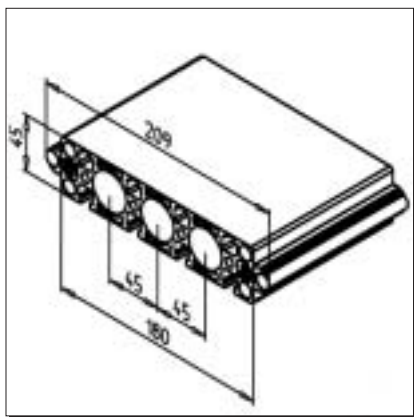
APPLICATIONS

- Linear-guides
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**
- Load capacity: see page 216 ff

RAIL 45 X 180 F

Part N° 28.0013/1



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 180 G
 - Both sides with shaft supporting profile and shafts Ø 12 h6, ready for use
 - Without end caps
- | | | | |
|--------|--------|------|--|
| Weight | 10,005 | kg/m | |
| Lenght | 6 | m | |
- Stainless version Part N° 28.0013/3**

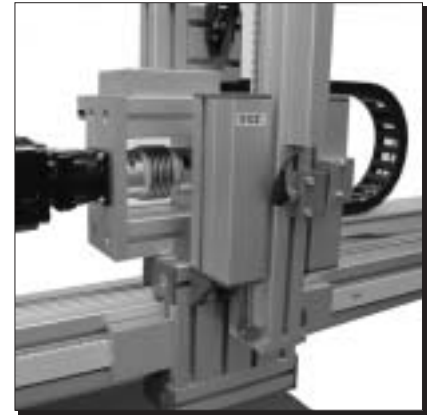
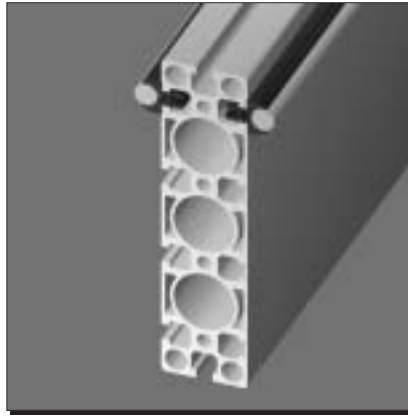
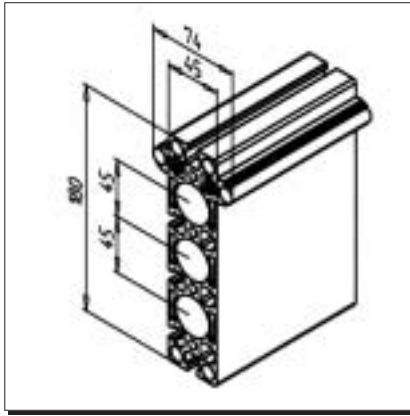
APPLICATIONS

- Linear-guides
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**
- Load capacity: see page 216 ff

RAIL 45 X 180 H

Part N° 28.0013/2



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 180 G
 - Both sides with shaft supporting profile and shafts Ø 12 h6
 - Without end caps
- | | |
|--------|-------------|
| Weight | 10,005 kg/m |
| Length | 6 m |
- Stainless version Part N° 28.0013/4

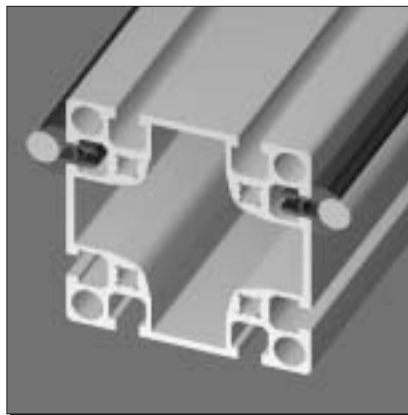
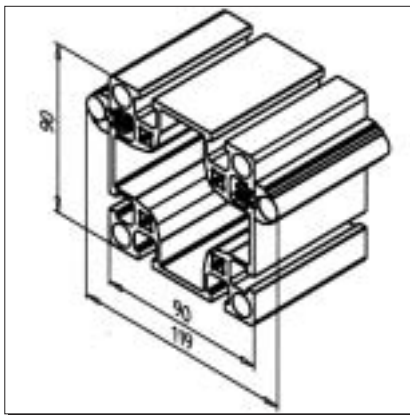
APPLICATIONS

- Linear-guides
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention devices Part N° 28.0052/0
- Load capacity: see page 202 ff

RAIL 90

Part N° 28.0008/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 90 L
 - Both sides with shaft supporting profile and shafts Ø 12 h6, ready for use
 - Without end caps
- | | |
|--------|------------|
| Weight | 7,880 kg/m |
| Length | 6 m |
- Stainless version Part N° 28.0008/1

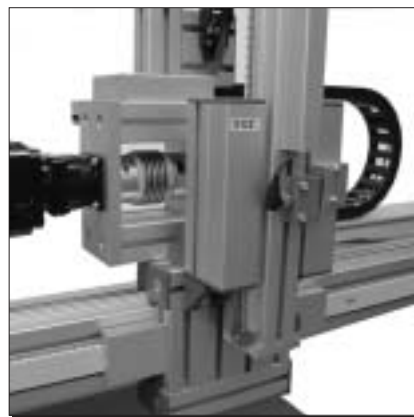
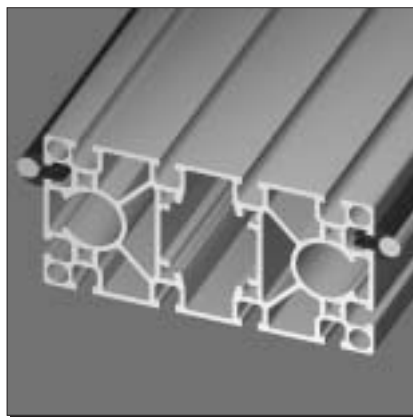
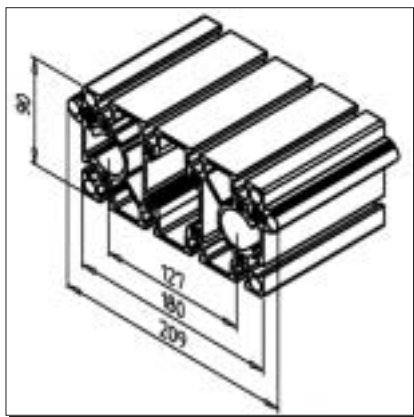
APPLICATIONS

- Linear-guides
- Timing belt return inside the profile
- Longer rails with composit shafts possible

- For vertical use or for high speed applications, we recommend the use of shaft retention Part N° 28.0052/0
- Load capacity: see page 202 ff

RAIL 180 F

Part N° 28.0011/1



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 180 S
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	14,950	kg/m
Lenght	6	m

Stainless version Part N° 28.0011/3

APPLICATIONS

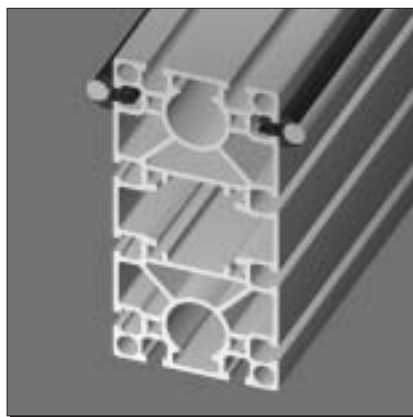
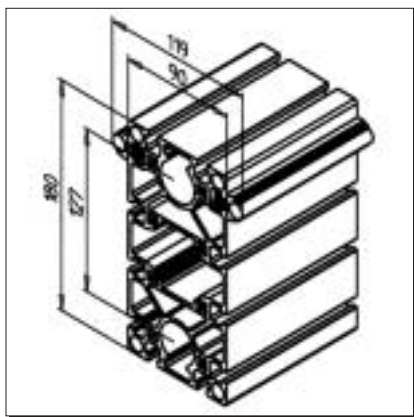
- Linear and lifting guides
- Timing belt return inside the profile
- Longer rails with shafts put together

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**

- Load capacity: see page 202 ff

RAIL 180 H

Part N° 28.0011/2



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 180 S
- Both sides with shaft supporting profile and shafts Ø 12 h6; ready for use
- Without end caps

Weight	14,950	kg/m
Lenght	6	m

Stainless version Part N° 28.0011/4

- Linear and lifting guides

- Timing belt return inside the profile

- Longer rails with shafts put together

- For vertical use or for high speed applications, we recommend the use of shaft retention devices **Part N° 28.0052/0**

- Load capacity: see page 202 ff



LINEAR SYSTEM LB

LINEAR SYSTEM LB



The LB design is based on LME 20 linear ball bearings that are built into our construction profile in the specially provided bore holes. Precision shafts D 20 mm give this guide high load capacity. The LB design offers substantial advantages for short travelling distances and high stroke frequencies. Especially compact and economical guide elements based on our solid precision ball bushings from the LME series with integrated sealing rings, which provide functional security under rough conditions.

Possible applications

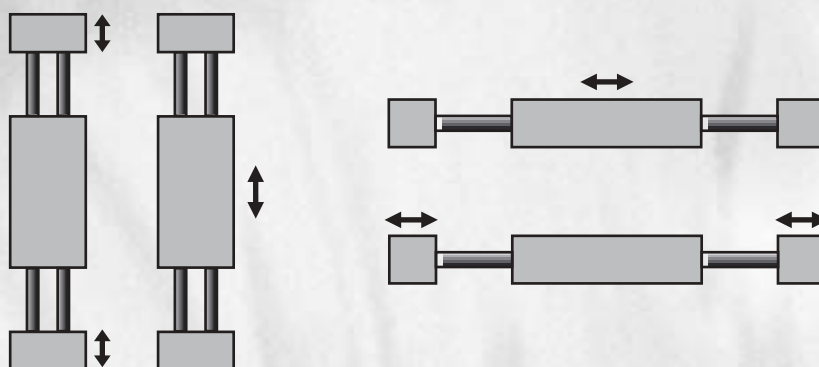
Calculation of life:

$$L = \frac{C}{F} \cdot 10^5$$

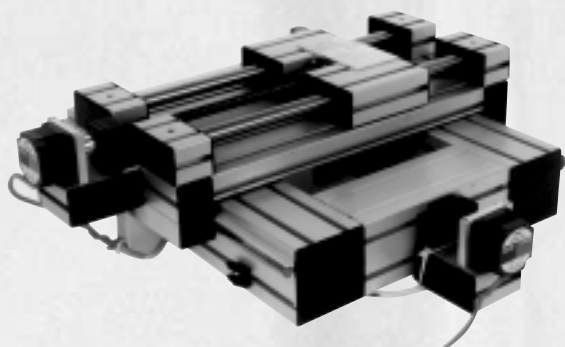
L = Life

C = Basic dynamic load rating (N)

F = Working load (N)



MiniTec LB series linear guides are particularly suitable for short strokes of up to 1 meter. The modular system provides absolute flexibility in the design of the guide. The ball bushings with solid outer ring made from hardened and ground bearing steel are mounted directly into the profile 32 Ø bores of the extra strong profil 45 x 135, 45 x 180, 90 x 180, 90 x 45 S and 90 x 90 S.



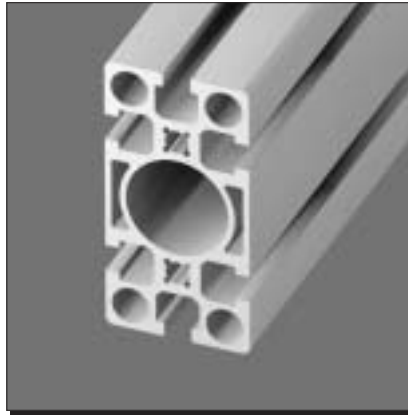
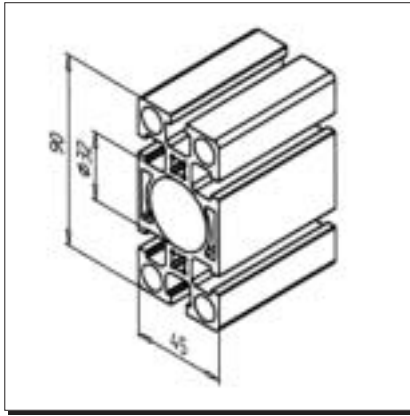
The axial position of the bushes is secured with one-component glue. The ball-bushing combines low friction, limited clearance, low noise and long life.

When designing a linear system LB, shaft deflection under load of max. 0.5° must be considered.

For further technical details see MiniTec catalogue "Linear bearings"
 Linear guides LB are available completely assembled with ball-screw on request.
 All components are also available in stainless version.

PROFILE 45 X 90 S

Part N° 20.1017/0



TECHN. DATA/ITEMS SUPPLIED

lx =	113,048	cm ⁴
ly =	30,667	cm ⁴
wx =	25,122	cm ³
wy =	13,630	cm ³
Weight	3,860	kg/m
Length	6	m
Packing unit	24	m

APPLICATIONS

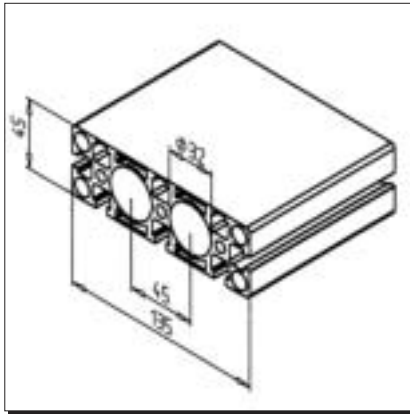
- Universal for general heavy duty constructions
- Linear guides LB
- Lifting guides
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Cross-bolt fastener
- Angle 45 / 90
- Screw connection

PROFILE 45 X 135 G

Part N° 20.1024/0



TECHN. DATA/ITEMS SUPPLIED

lx =	365,117	cm ⁴
ly =	47,083	cm ⁴
wx =	54,091	cm ³
wy =	20,633	cm ³
Weight	5,742	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

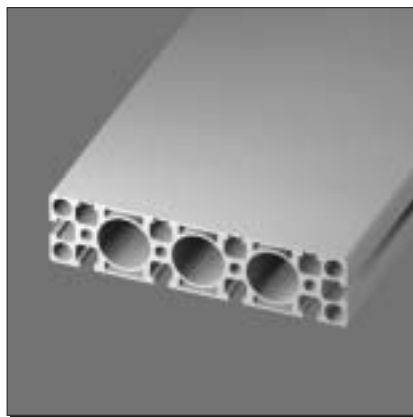
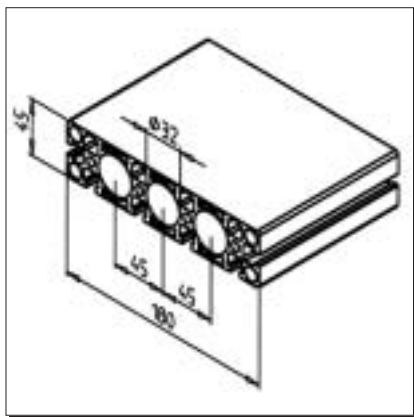
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Linear guiding LB as slide
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- 3 closed grooves can be opened up to the desired length, by means of the tear-off lever Part N° 26.0815/0

PROFILE 45 X 180 G

Part N° 20.1026/0



TECHN. DATA/ITEMS SUPPLIED

ix =	829,808	cm ⁴
ly =	62,494	cm ⁴
wx =	92,201	cm ³
wy =	27,378	cm ³
Weight	7,492	kg/m
Length	6	m
Packing unit	12	m

APPLICATIONS

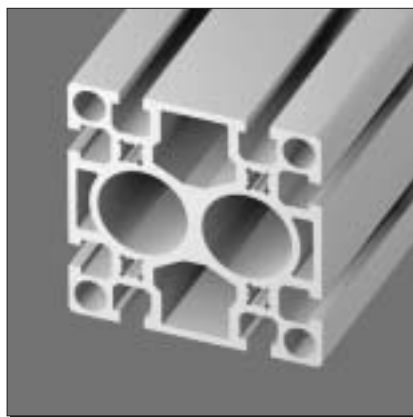
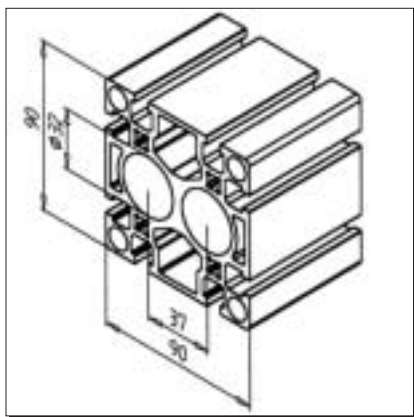
- General engineering structures, particularly for use in the food industry, in medical engineering and for the filling of beverages, where strict hygienic standards are set.
- Linear guiding LB as slide
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- 4 closed grooves can be opened up to the desired length, by means of the tear-off lever Part N° 26.0815/0

PROFILE 90 X 90 S

Part N° 20.1019/0



TECHN. DATA/ITEMS SUPPLIED

ix =	223,514	cm ⁴
ly =	208,361	cm ⁴
wx =	49,670	cm ³
wy =	46,302	cm ³
Weight	7,514	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

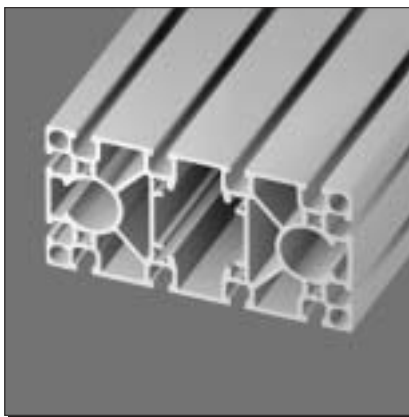
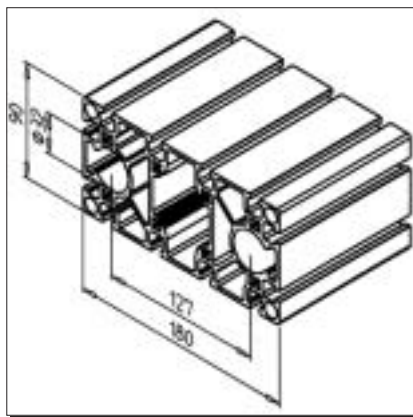
- Universal for general heavy duty constructions
- Linear guides LB
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 or 90
- Screw connection

PROFILE 90 X 180 S

Part N° 20.1013/0



TECHN. DATA/ITEMS SUPPLIED

lx =	1411,317	cm ⁴
ly =	373,180	cm ⁴
wx =	156,813	cm ³
wy =	82,929	cm ³
Weight	11,424	kg/m
Length	6	m
Packing unit	48	m

APPLICATIONS

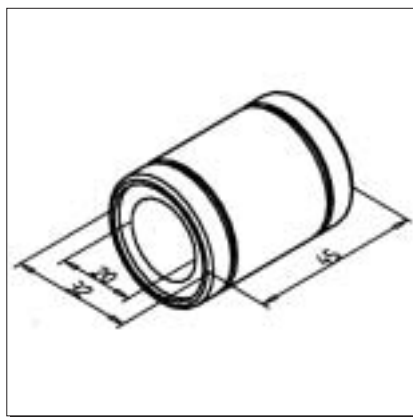
- Universal for general heavy duty constructions
- Linear guides LB
- Central bore Ø 32 mm for ball-bushings LME 20, for ball-bearings 6201 or 6002, for compressed air piping or guiding of hydraulic add-in cylinders

ASSEMBLY

- MiniTec power-lock fastener
- Angle 45 or 90
- Screw connection

BALL BUSHING LME 20 UU

Part N° 10.1745/0



TECHN. DATA/ITEMS SUPPLIED

- Housing 100 Cr6		
- 2 integrated sealing rings, heat resistant up to 110°C, for higher temperatures up to 180°C use ball bushing with steel cage		
Load:		
dyn. C	880	N
stat. C°	1400	N
Weight	0,075	kg

APPLICATIONS

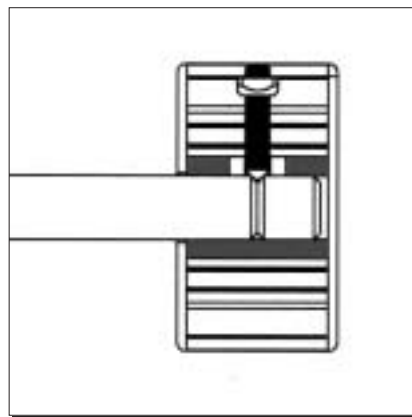
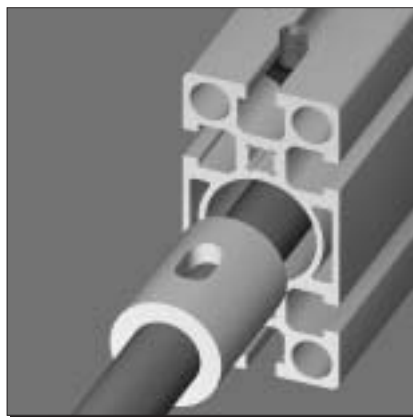
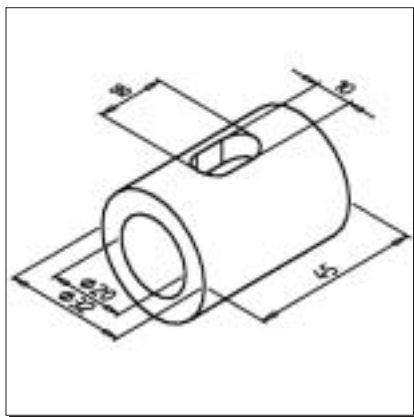
- Precision linear guides
- Linear slide system LB
- lifting-tables
- Quattro-units

ASSEMBLY

- Push in bore 32 of the profile
- Axial securing with housing adhesive

CENTERING BUSH

Part N° 28.0146/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, natural	
Weight	0,067 kg

APPLICATIONS

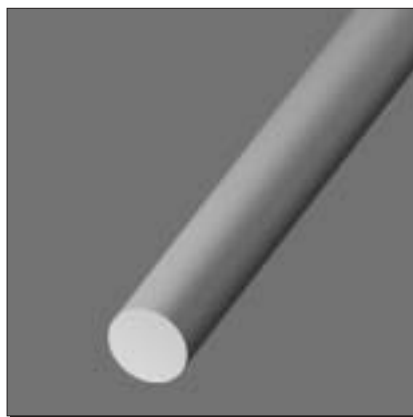
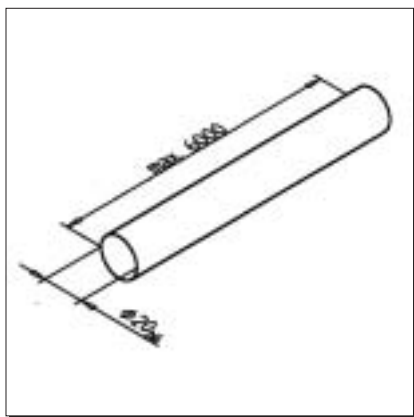
- Central clamping of shafts for all shaft supporting blocks of the MiniTec-linear system LB

ASSEMBLY

- Insert centering bush in bore Ø 32mm
- Insert shaft
- Attachment with set screw M8 x 35

SHAFT 20

Part N° 17.1744/0



TECHN. DATA/ITEMS SUPPLIED

- Cf53, inductive hardened 60 +5 HRC ground h6	
Weight	2,466 kg/m
Length	6 m

APPLICATIONS

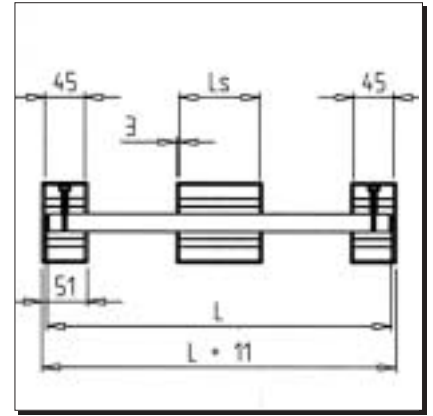
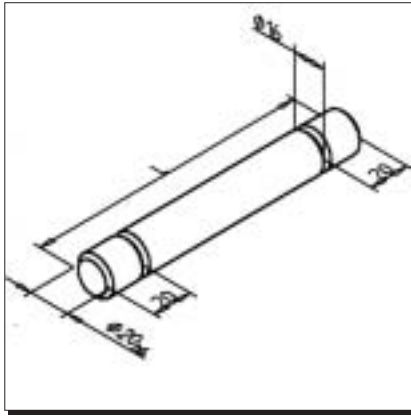
- Linear guide system LB

ASSEMBLY

- With centering bush in shaft support block

SHAFT 20 FOR LB-SYSTEM

Part N° 28.0154/0



TECHN. DATA/ITEMS SUPPLIED

- Steel Cf53, inductive hardened 60 +5 HRC grinded
- Tolerance h6
- Processed for shaft support block WB
- Weight 0,067 kg/m
- Please indicate measure L

APPLICATIONS

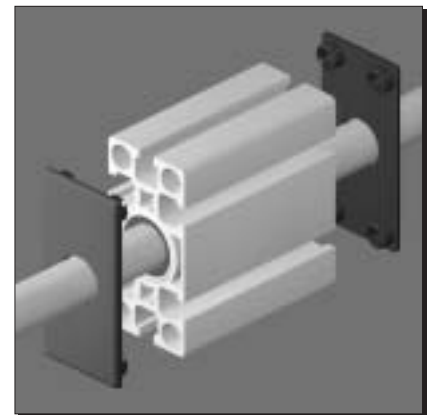
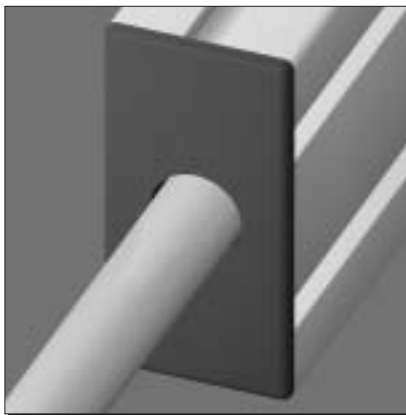
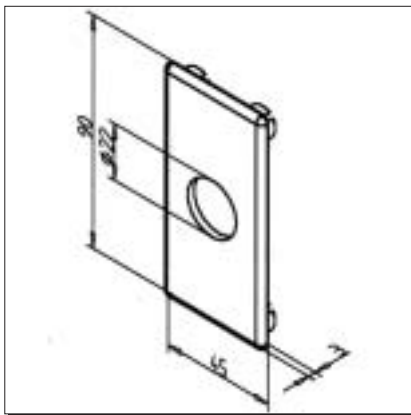
- MiniTec linear guides LB

ASSEMBLY

- Insert in shaft support
- Clamp with set screw M8 x 35

END CAP LB 45

Part N° 28.0094/1



TECHN. DATA/ITEMS SUPPLIED

- ABS, non-aging and oil resistant, grey
- On request also deliverable in black
- 1 centric bore Ø 22 mm
- Weight 0,095 kg

APPLICATIONS

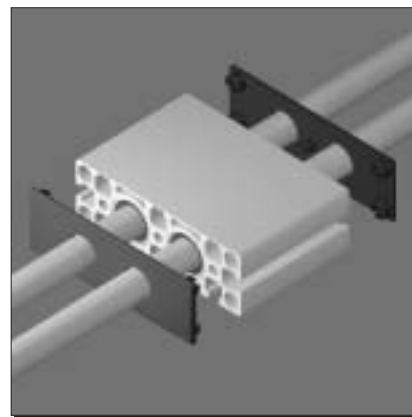
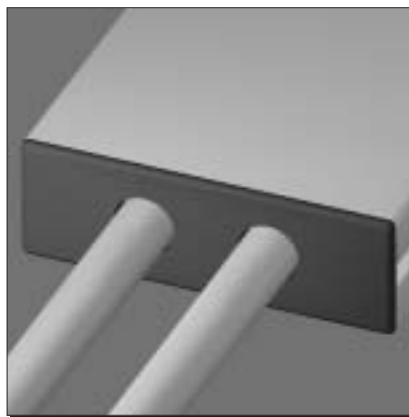
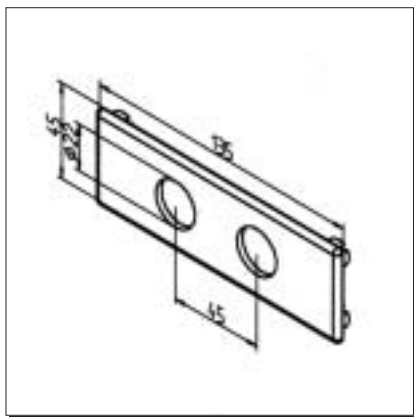
- Face covering of linear slides LB 45
- Face covering of shaft support block WB 45 (shaft side)

ASSEMBLY

- Press into profile bores

END CAP LB 45 X 135

Part N° 28.0101/1



TECHN. DATA/ITEMS SUPPLIED

- ABS, non-aging and oil resistant, grey

- On request also deliverable in black

- 2 bores Ø 22 mm

Weight 0,017 kg

APPLICATIONS

- Face covering of linear slides LB 45 x 135

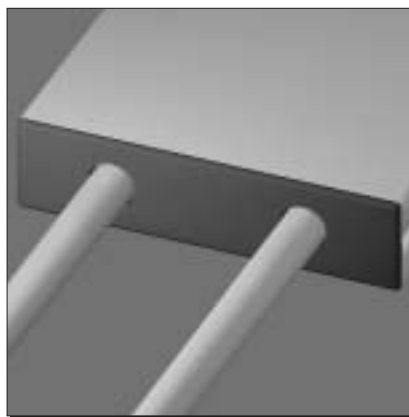
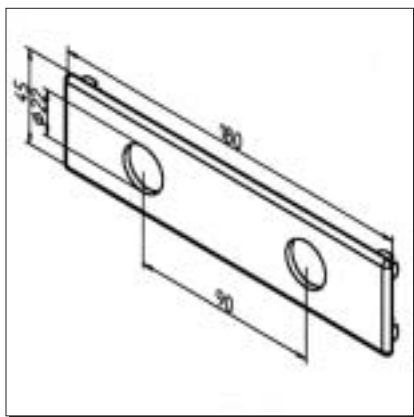
- Face covering of shaft support blocks WB 45 x 135

ASSEMBLY

- Press into profile bores

END CAP LB 45 X 180

Part N° 28.0102/1



TECHN. DATA/ITEMS SUPPLIED

- ABS, non-aging and oil resistant, grey

- On request also deliverable in black

- 2 bores Ø 22 mm

Weight 0,020 kg

APPLICATIONS

- Face covering of linear slides LB 45 x 180

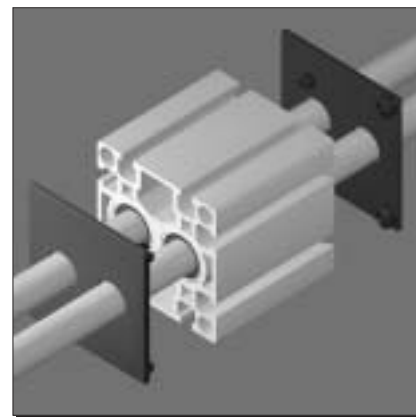
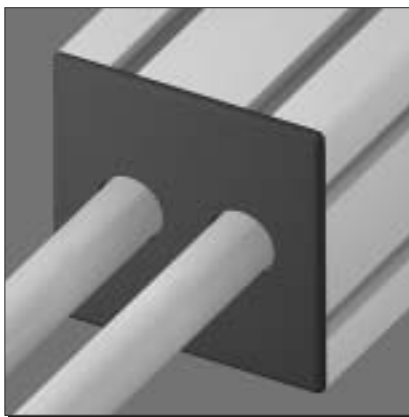
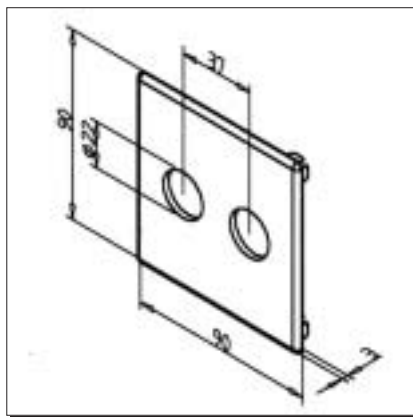
- Face covering of shaft support blocks WB 45 x 180

ASSEMBLY

- Press into profile bores

END CAP LB 90

Part N° 28.0095/1



TECHN. DATA/ITEMS SUPPLIED

- ABS, non-aging and oil resistant, grey

- On request also deliverable in black

- 2 bores Ø 22 mm

Weight 0,0165 kg

APPLICATIONS

- Face covering of linear slides LB 90

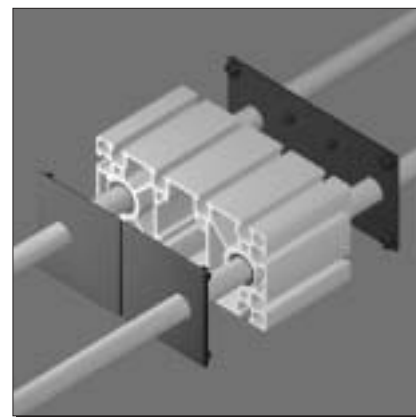
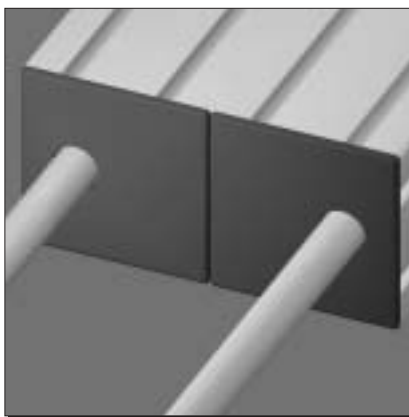
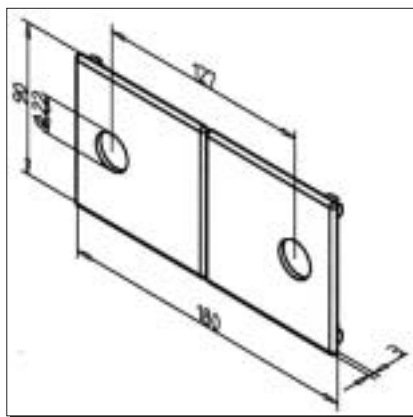
- Face covering of shaft support blocks WB 90

ASSEMBLY

- Press into profile bore

END CAP LB 180

Part N° 28.0103/1



TECHN. DATA/ITEMS SUPPLIED

- ABS, non-aging and oil resistant, grey

- On request also deliverable in black

- 2 bores Ø 22 mm

Weight 0,037 kg

APPLICATIONS

- Face covering of linear slides LB 180

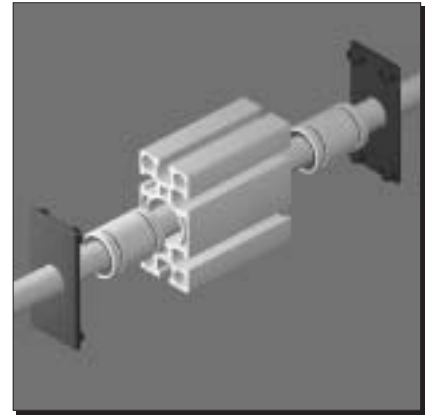
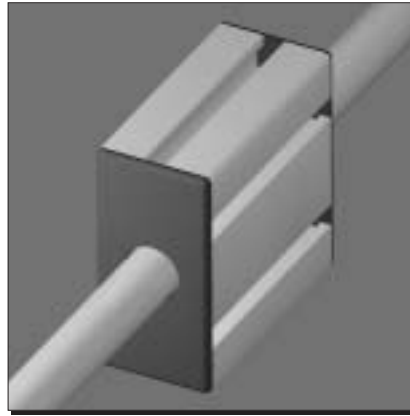
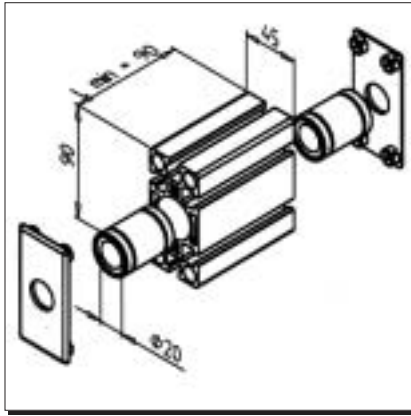
- Face covering of shaft support blocks WB 180

ASSEMBLY

- Press into profile bore

SLIDE LB 45

Part N° 28.0150/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90 S

- Completely assembled with 2 ball bushings LME 20 UU

- Profile face covered with end caps LB 45, grey

Weight 0,550 kg

Other length on request

APPLICATIONS

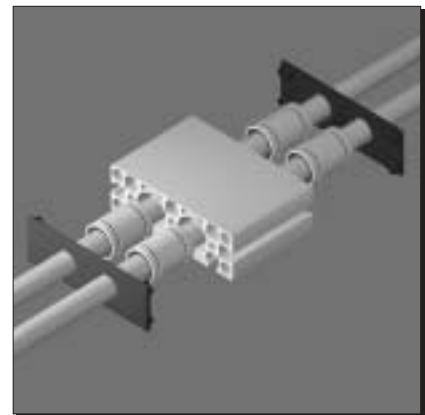
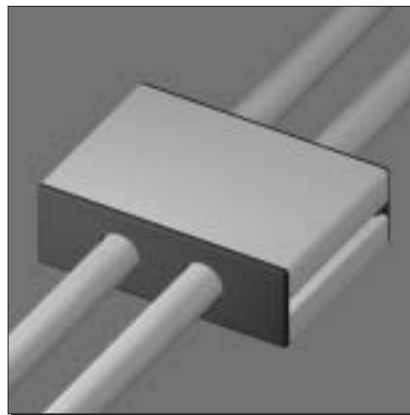
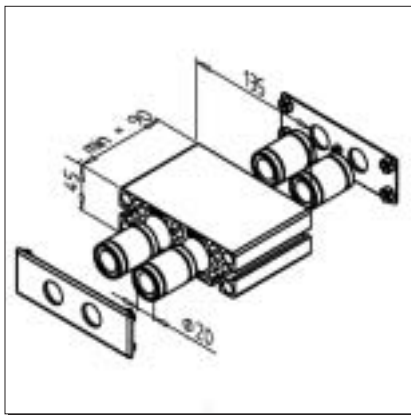
- All MiniTec linear systems LB

ASSEMBLY

- Lead shaft through slide

SLIDE LB 45 X 135

Part N° 28.0155/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 135

- Completely assembled with 2 ball bushings LME 20 UU

- Profile face covered with end cap LB 45 x 135, grey

Weight 1,220 kg

Other length on request

APPLICATIONS

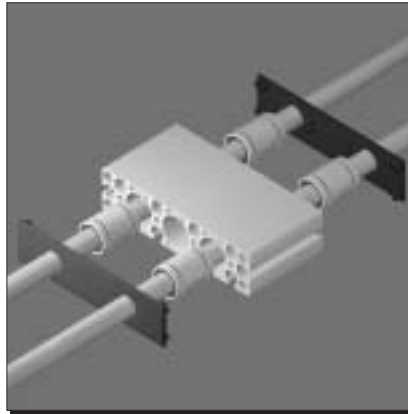
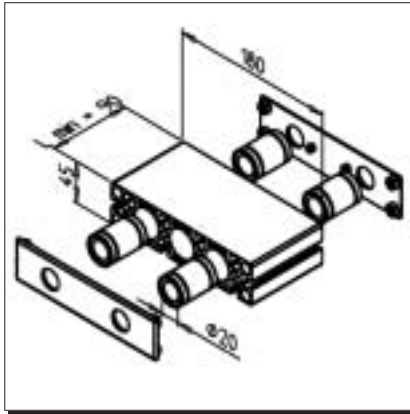
- All MiniTec linear systems LB

ASSEMBLY

- Lead shaft through slide

SLIDE LB 45 X 180

Part N° 28.0156/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 180
- Completely assembled with 2 ball bushings LME 20 UU
- Profile face covered with end caps LB 45 x 180, grey

Weight 1,050 kg

Other length on request

APPLICATIONS

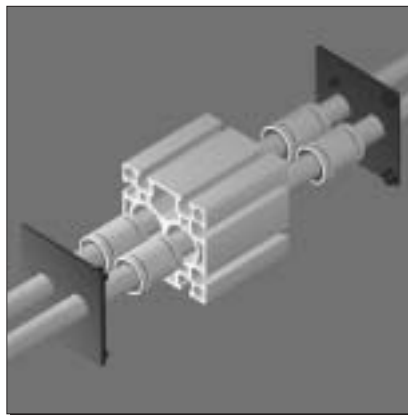
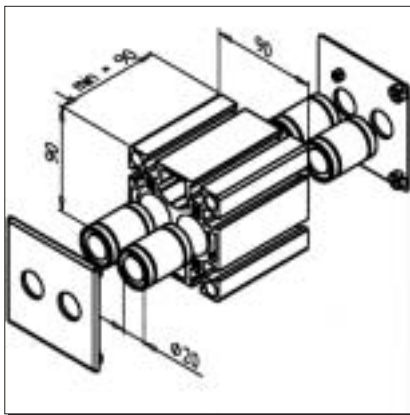
- All MiniTec linear systems LB

ASSEMBLY

- Lead shaft through slide

SLIDE LB 90

Part N° 28.0152/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 90 S
- Completely assembled with 4 ball bushings LME 20 UU
- Profile face covered with end caps LB 90, grey

Weight 0,550 kg

Other length on request

APPLICATIONS

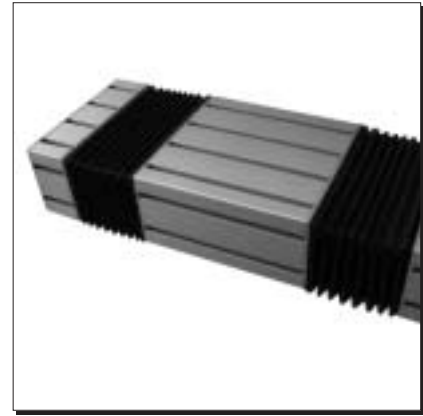
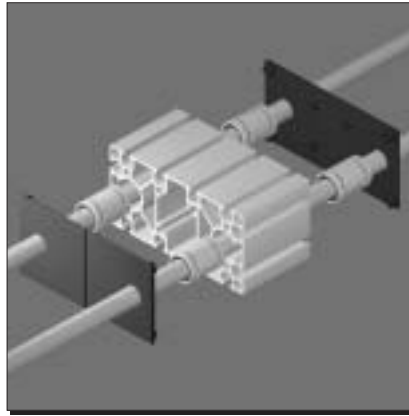
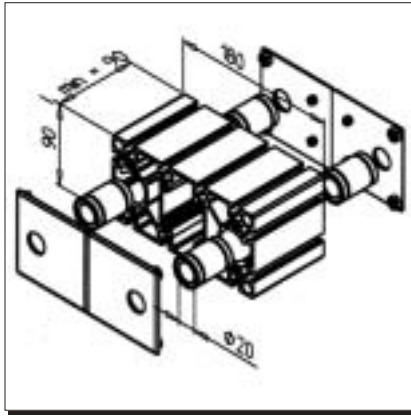
- All MiniTec linear systems LB

ASSEMBLY

- Lead shaft through slide

SLIDE LB 180

Part N° 28.0143/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 180 S
- Completely assembled with 4 ball bushings LME 20 UU
- Profile face covered with end caps LB 180, grey

Weight 1,350 kg

Other length on request

APPLICATIONS

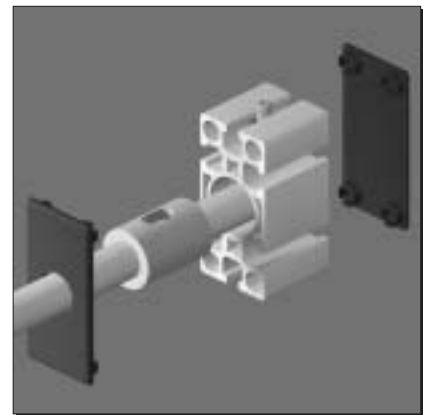
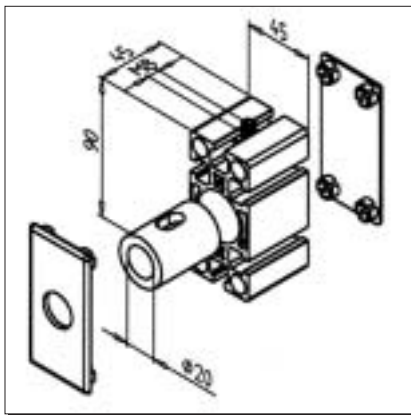
- All MiniTec linear guides LB

ASSEMBLY

- Lead shaft through slide

SHAFT SUPPORT BLOCK WB 45

Part N° 28.0151/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 90 S
- Completely assembled with centering bush
- Shaft side with end cap LB 45, grey
- Outer side with end cap 45 x 90, grey

Weight 0,210 kg

APPLICATIONS

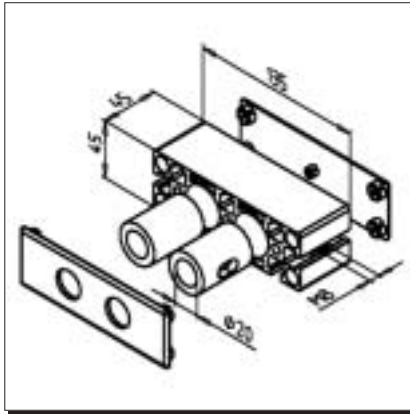
- Fastening shafts Ø 20 in MiniTec linear systems LB 45

ASSEMBLY

- Insert shaft
- Tighten with set screw M8 x 35

SHAFT SUPPORT BLOCK WB 45 X 135

Part N° 28.0157/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 135
 - Completely assembled with centering bush
 - Shaft side with end cap LB 45 x 135, grey
 - Outer side with end cap 45 x 135, grey
- Weight 0,440 kg

APPLICATIONS

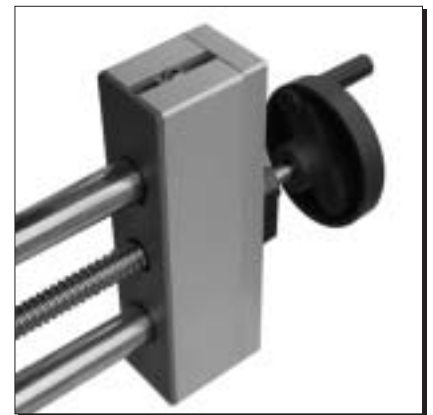
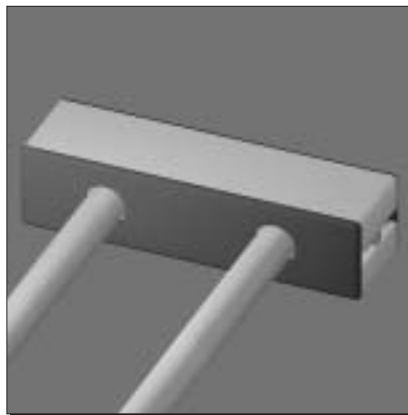
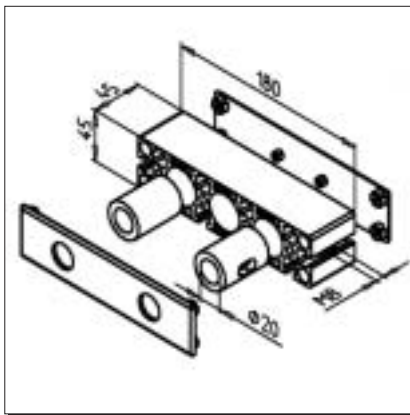
- Fastening shafts Ø 20 in MiniTec linear systems LB 45

ASSEMBLY

- Insert shaft
- Tighten with set screw M8 x 35

SHAFT SUPPORT BLOCK WB 45 X 180

Part N° 28.0159/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 45 x 180
 - Completely assembled with centering bush
 - Shaft side with end cap LB 45 x 180, grey
 - Outer side with end cap 45 x 180, grey
- Weight 0,550 kg

APPLICATIONS

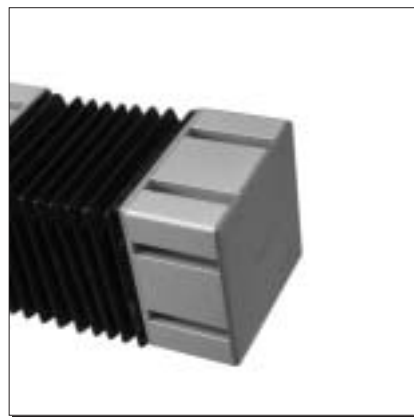
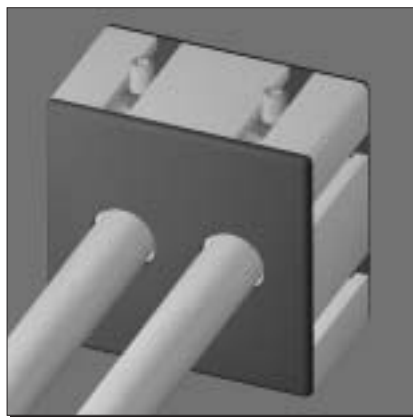
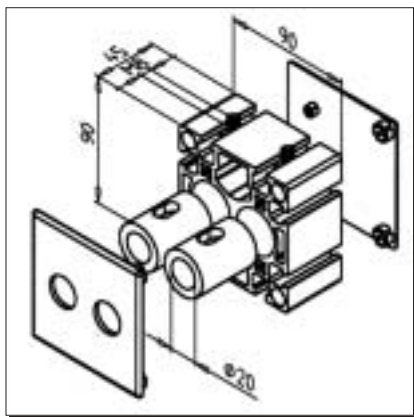
- Fastening shafts Ø 20 in MiniTec linear systems LB 45

ASSEMBLY

- Insert shaft
- Tighten with set screw M8 x 35

SHAFT SUPPORT BLOCK WB 90

Part N° 28.0153/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 90 S
 - Completely assembled with 2 centering bushes
 - Shaft side with end cap LB 90, grey
 - Outer side with end cap 90 x 90, grey
- | | |
|--------|----------|
| Weight | 0,410 kg |
|--------|----------|

APPLICATIONS

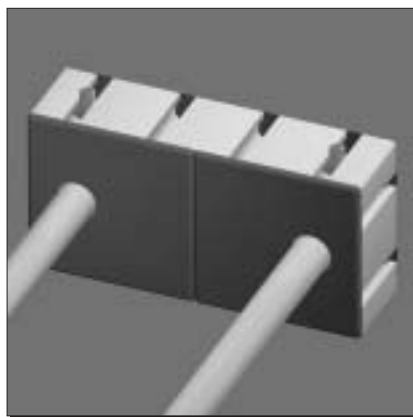
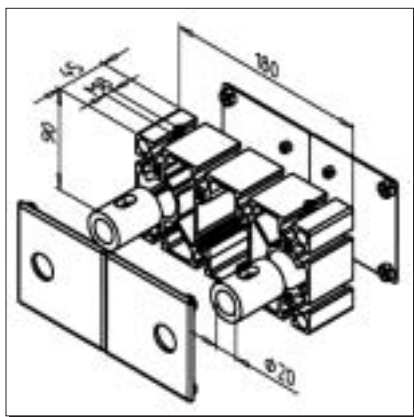
- Fastening shafts Ø 20 un MiniTec linear systems LB 90

ASSEMBLY

- Insert shaft
- Tighten with set screw M8 x 35

SHAFT SUPPORT BLOCK WB 180

Part N° 28.0144/0



TECHN. DATA/ITEMS SUPPLIED

- Profile 90 x 180 S
 - Completely assembled with 2 centering bushes
 - Shaft side with end caps LB 180, grey
 - Outer side with 2 end caps 90 x 90, grey
- | | |
|--------|----------|
| Weight | 0,650 kg |
|--------|----------|

APPLICATIONS

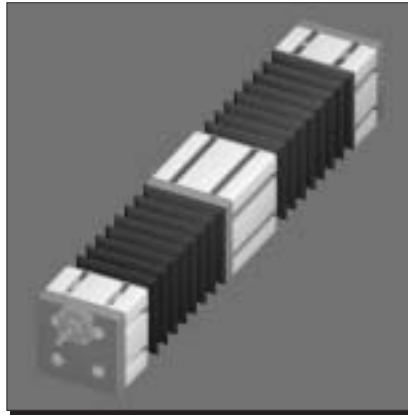
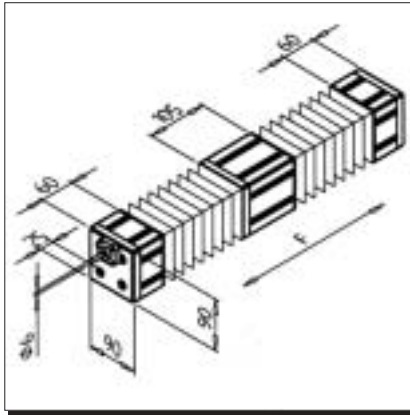
- Fastening shafts Ø 20 in MiniTec linear systems LB 180

ASSEMBLY

- Insert shaft
- Tighten with set screws M8 x 35

LINEAR MODULE LB 90

Part N° 28.0178/0



TECHN. DATA/ITEMS SUPPLIED

- Linear module made of profile 90 x 90; ready for use
- Drive unit with rolled circulating ball spindle RNCT 1003 Ø 10 mm, incline 3
- Incline fault / 300: 12 µm (class C3)
- Slide guidance on 4 linear ball bearings with hardened ground precision shafts Ø 20 mm

Travel max.	300 mm
V max.	10 m/min
F max.	500 N

TECHN. DATA/ITEMS SUPPLIED-

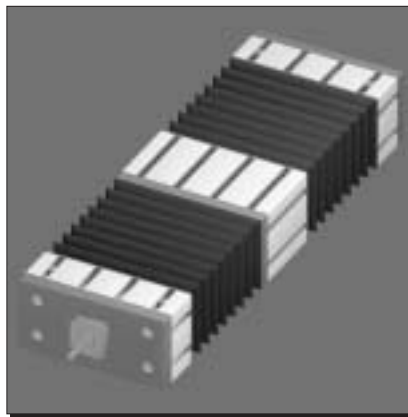
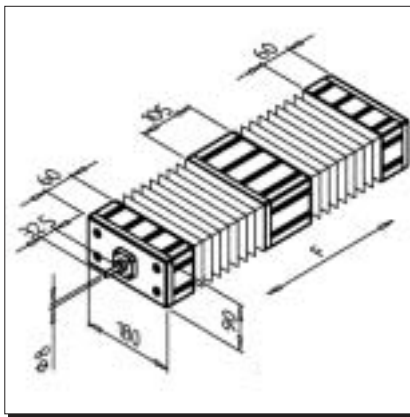
- Shaft end processed at fixed bearing side according to customer specification for motor and crank connection
- Basic length: 234 mm without protective bellow (for slide length = 90mm)
- Total length: Travel + basic length
- Positioning accuracy: ± 0,1 mm

ASSEMBLY

- Handling systems
- z-axis in portals
- Multiple axis systems
- Grabbing units

LINEAR MODULE LB 180

Part N° 28.0179/0



TECHN. DATA/ITEMS SUPPLIED

- Linear module made of profile 90 x 180; ready for use
- Drive unit with rolled circulating ball spindle RNFT 1404-3,4 Ø 14 mm, incline 4
- Incline fault / 300: 12 µm (class C3)
- Slide guidance on 4 linear ball bearings with hardened ground precision shafts Ø 20 mm

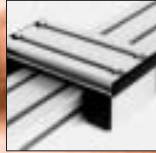
Travel max.	300 mm
V max.	10 m/min
F max.	500 N

TECHN. DATA/ITEMS SUPPLIED-

- Shaft ends processed at fixed bearing side according to customer specification for motor and crank connection
- Shafts and spindles covered with protective bellows
- Basic length: 267 mm (for slide length = 90 mm)
- Total length: Travel + basic length
- Positioning accuracy: ± 0,1 mm

ASSEMBLY

- Handling systems
- z-axis in portals
- Multiple axis systems
- Grabbing units



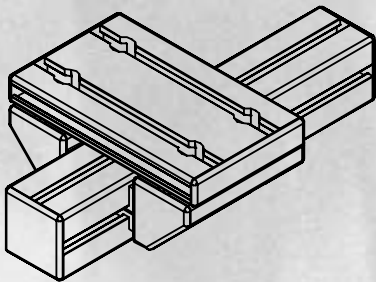
SLIDEWAYS



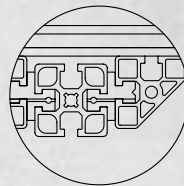
The LG slide guide was built for applications where demands for guidance accuracy are not high but where extreme usage conditions are present.

These guides are especially suitable for wet operation, high dust concentrations, and insufficient lubrication.

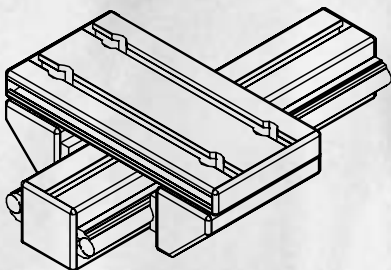
The slides series LG/LN are constructed according to the same modular principle as series LR.



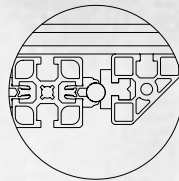
Series LN:



Slide guidance in profile groove and on profile surface. This series requires little space.



Series LG:



Slide guidance on ground and hardened shafts h6 made from material Cf53.

For operation in humid environment we recommend the use of our stainless shafts.

Accuracy: Series LG: ± 0.15 mm Series LN: ± 0.20 mm.

The lateral guide rails can be used to adjust clearance.

Max. load: 50 N/cm supporting slide rail (= slide length)

Slide friction coefficient: 0.05 on steel shaft (Series LG), 0.1 on anodized profile surface (Series LN)

This bearing requires no lubrication. Please consider higher slip-stick effect.

Travel: 1 m/sec (max.)

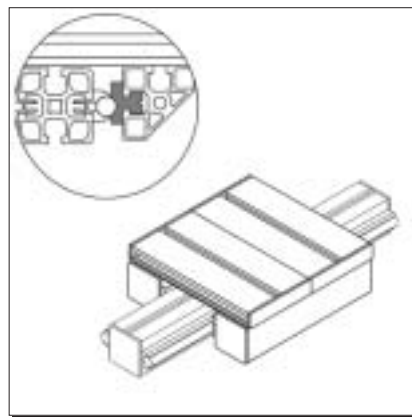
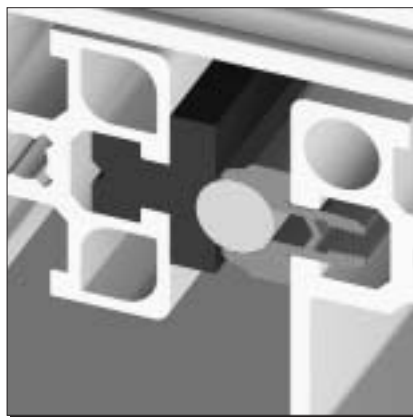
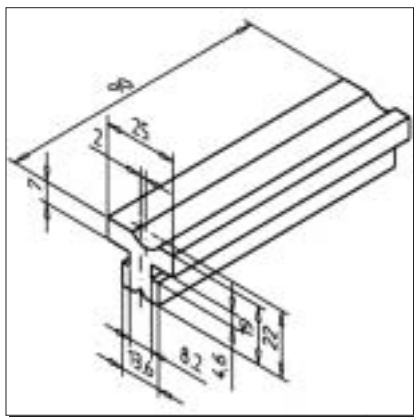
Average temperature: 50°C (max.)

Peak load: 70°C (max.)

The slide rail is resistant to organic acids, alkalis, hydrous solutions, inorganic salt, organic acids and alcohol. They are not fully resistant to hydrocarbon and halogenated hydrocarbons.

SLIDE RAIL LG

Part N° 22.1094/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic PE-UHMW, black
 - 2 set screws
 - Max. surface pressure: 10 N/mm²
- Weight 0,032 kg

APPLICATIONS

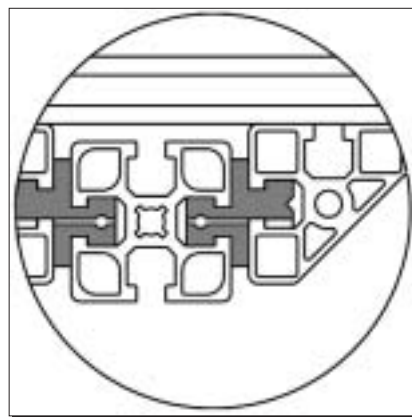
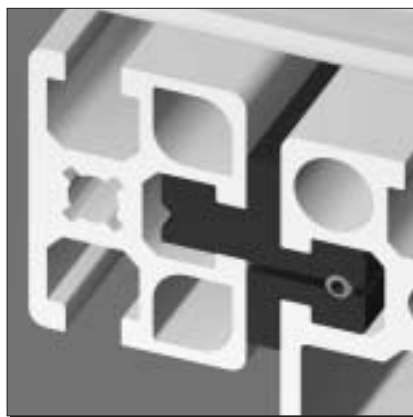
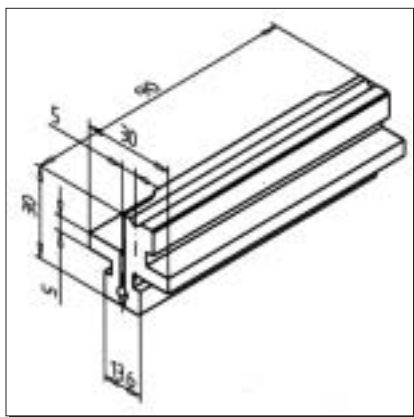
- Slide guides LG

ASSEMBLY

- Insert into groove of lateral guide profile
- Secure with set screw

SLIDE RAIL LN

Part N° 22.1095/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic PE-UHMW, black
 - Fixing kit
 - Max. surface pressure: 10 N/mm²
- Weight 0,030 kg

APPLICATIONS

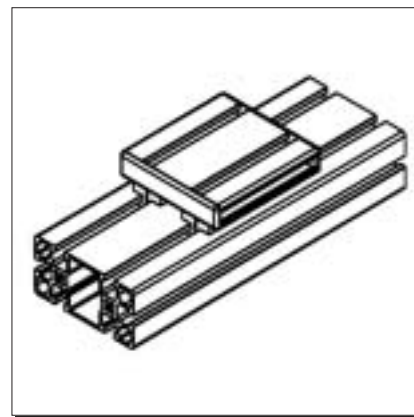
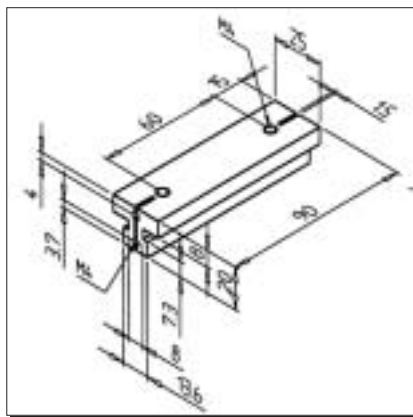
- Slide guides LN
- Adjusting units
- Heavy sliding doors

ASSEMBLY

- Connect with slide plate
- Insert into grooves of the guide profile
- Adjust with clearance, use fixing kit

SLIDE RAIL LN-S

Part N° 22.1096/0



TECHN. DATA/ITEMS SUPPLIED

- Hard plastic PE-UHMW, balck
 - 2 set screws M5 x 10
 - Max. surface pressure: 10 N/mm²
- | | |
|--------|----------|
| Weight | 0,030 kg |
|--------|----------|

APPLICATIONS

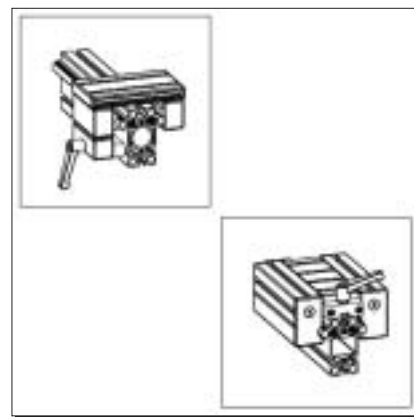
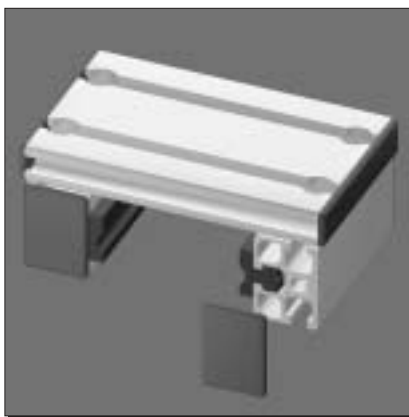
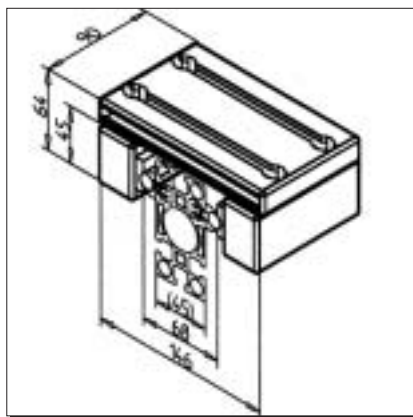
- Slide guides LN-S
- Adjusting units
- Automatic advance units
- Workpiece support

ASSEMBLY

- Insert into profile groove
- Adjust with clearance
- Connect with slide plate

SLIDE LWG 32 X 45 - 45

Part N° 28.0132/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LG
 - End caps
 - Clearance adjusted
- | | |
|-----------|----------|
| Load max. | 450 N |
| Weight | 0,642 kg |

APPLICATIONS

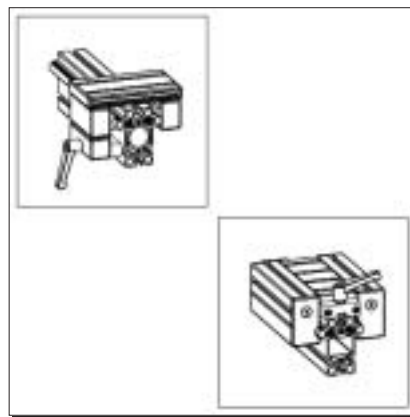
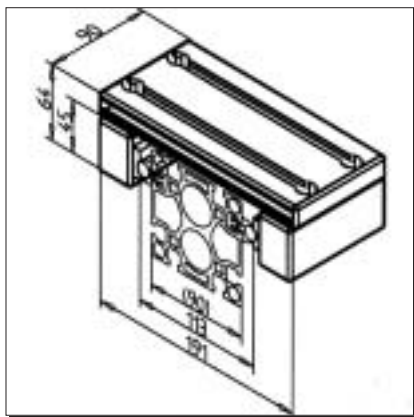
- Simple linear guides
- Automatic advance units
- Adjusting units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0132/1
- With slide clamping unit (Lateral) Part N° 28.0132/2
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWG 32 X 45 - 90

Part N° 28.0133/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LG
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,725 | kg |

APPLICATIONS

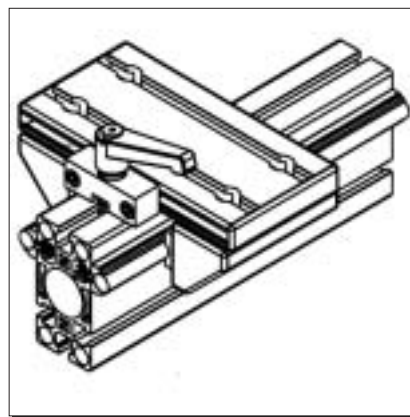
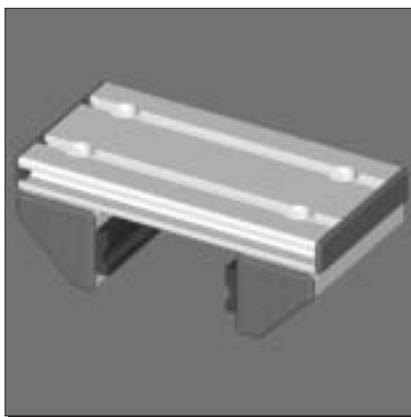
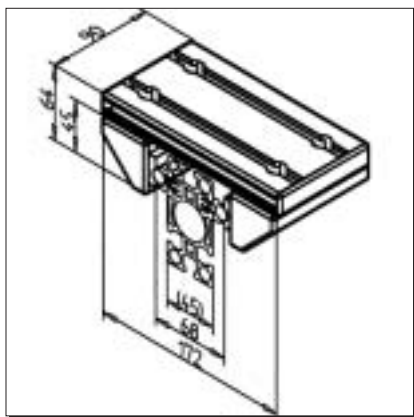
- Simple linear guides
- Automatic advance units
- Adjusting units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0133/1
- With slide clamping unit (Lateral) Part N° 28.0133/2
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWG 45 / 45° - 45

Part N° 28.0136/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LG
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,690 | kg |

APPLICATIONS

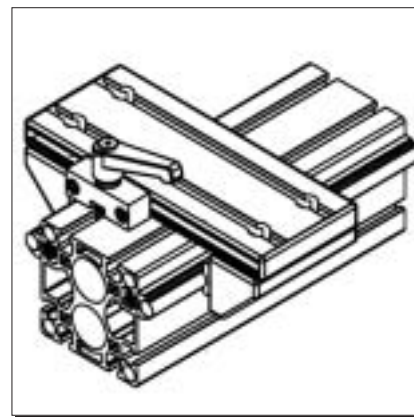
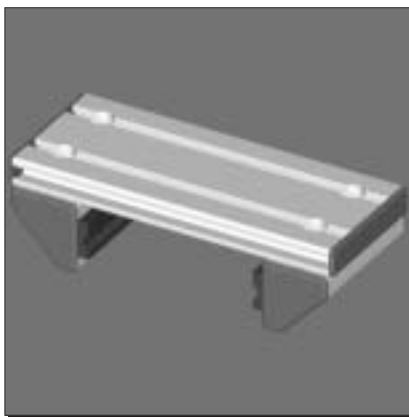
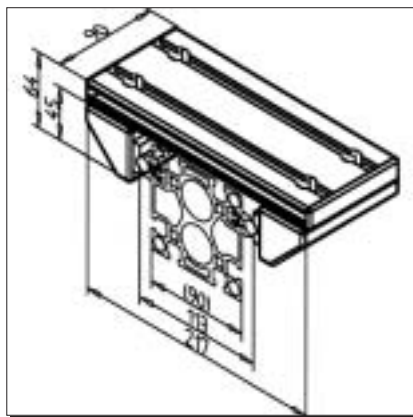
- Simple linear guides
- Automatic advance units
- Adjusting units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0136/1
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWG 45 / 45° - 90

Part N° 28.0137/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LG
 - End caps
 - Clearance adjusted
- | | |
|-----------|----------|
| Load max. | 450 N |
| Weight | 0,773 kg |

APPLICATIONS

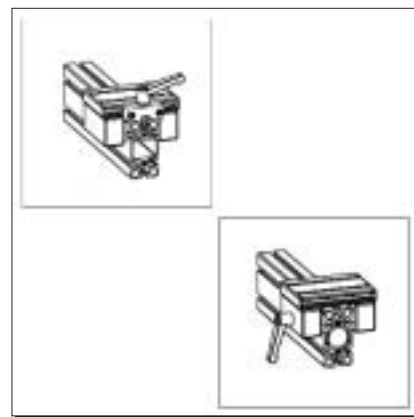
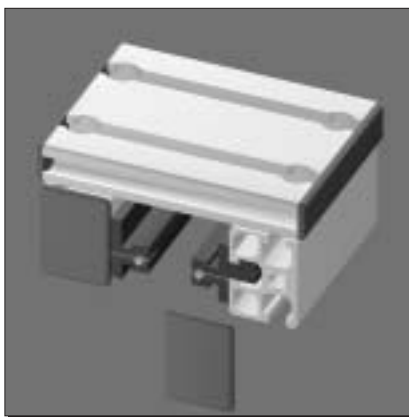
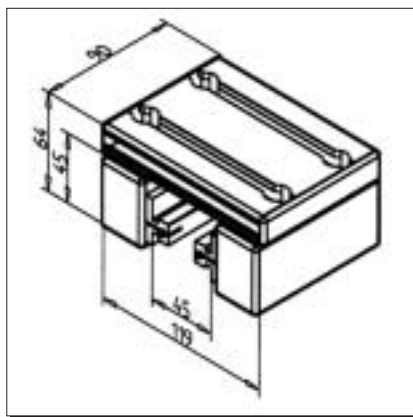
- Simple linear guides
- Automatic advance units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0137/1
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWN 32 X 45 - 45

Part N° 28.0192/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LN
 - End caps
 - Clearance adjusted
- | | |
|-----------|----------|
| Load max. | 450 N |
| Weight | 0,632 kg |

APPLICATIONS

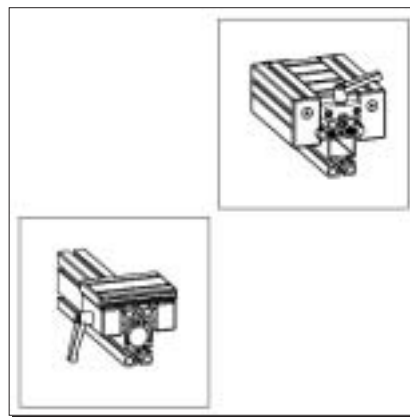
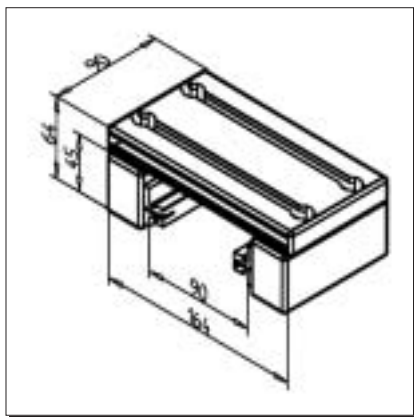
- Simple linear guides
- Automatic advance units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0192/1
- With slide clamping unit (Lateral) Part N° 28.0192/2
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWN 32 X 45 - 90

Part N° 28.0193/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LN
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,715 | kg |

APPLICATIONS

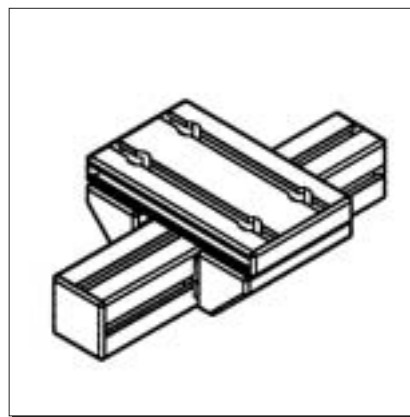
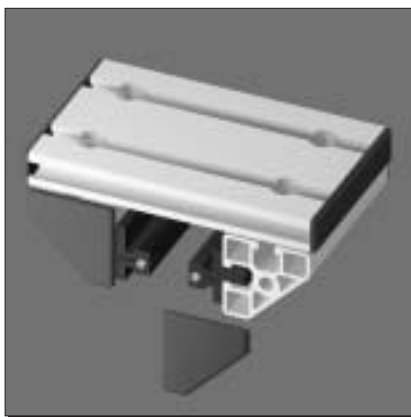
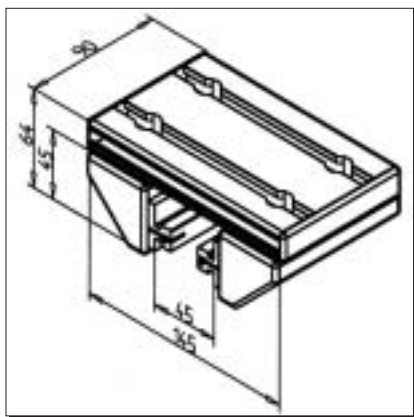
- Simple linear guides
- Automatic advance units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0193/1
- With slide clamping unit (Lateral) Part N° 28.0193/2
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWN 45 / 45° - 45

Part N° 28.0196/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LN
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,680 | kg |

APPLICATIONS

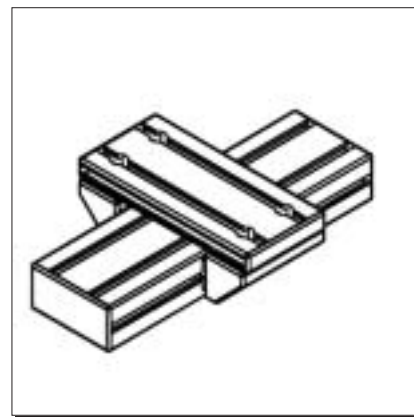
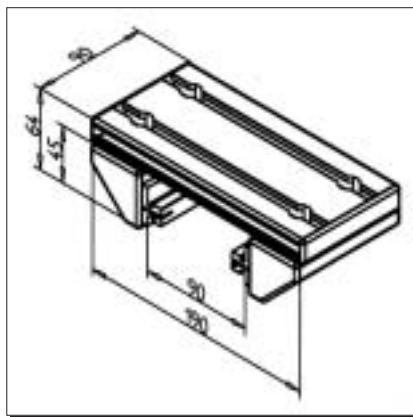
- Simple linear guides
- Automatic advance units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0196/1
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWN 45 / 45° - 90

Part N° 28.0197/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LN
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,763 | kg |

APPLICATIONS

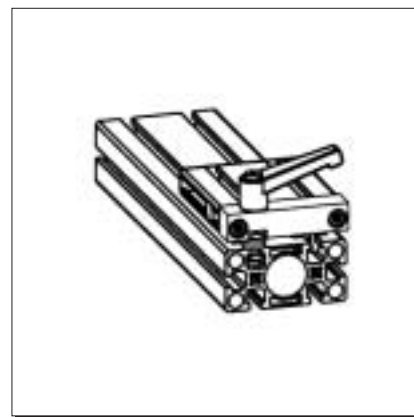
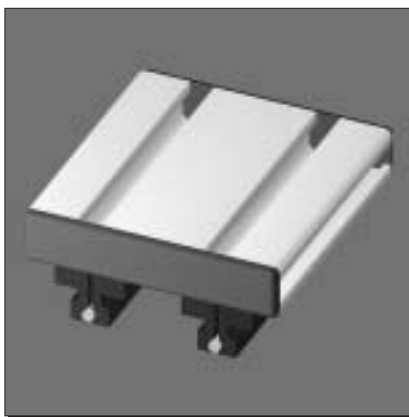
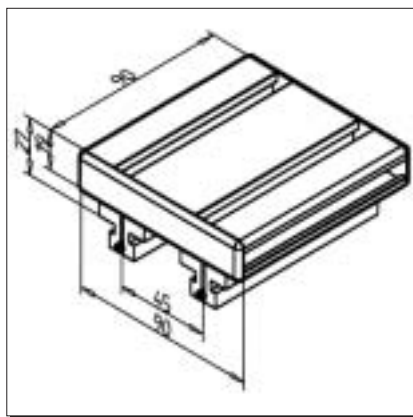
- Simple linear guides
- Automatic advance units

SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0197/1
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

SLIDE LWN-S

Part N° 28.0170/0



TECHN. DATA/ITEMS SUPPLIED

- Slide completely assembled
 - 2 slide rails LN
 - End caps
 - Clearance adjusted
- | | | |
|-----------|-------|----|
| Load max. | 450 | N |
| Weight | 0,261 | kg |

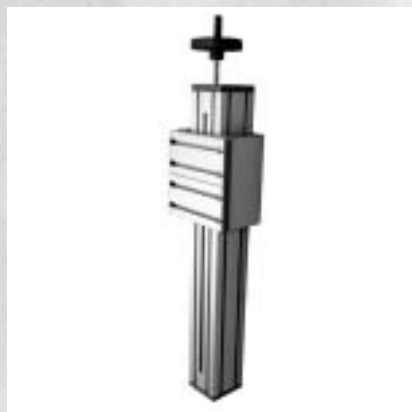
APPLICATIONS

- Simple linear guides
- Automatic advance units

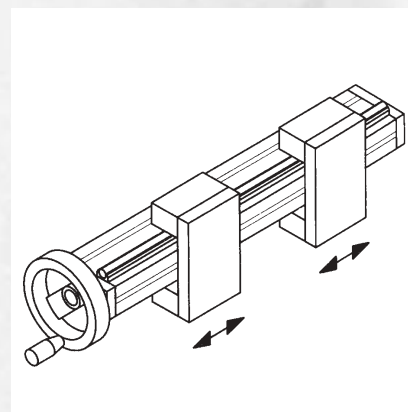
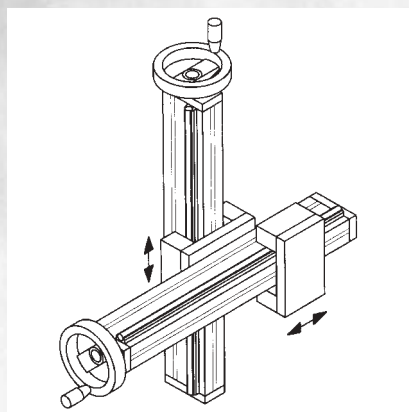
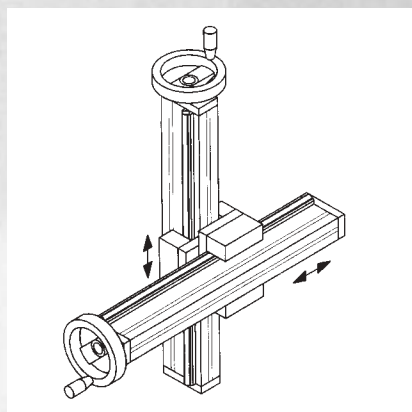
SPECIAL DESIGNS

- With slide clamping unit (Top) Part N° 28.0170/1
- Slide plate made of aluminium profile 32 x 180
- Different slide lengths

ADJUSTING UNITS

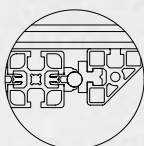


Possible combinations:



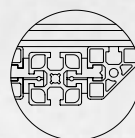
MiniTec adjusting units are ready-to-use modules that are strictly assembled according to the modular system of our standard profile elements. They are used in mechanical engineering, in the packing industry, for filling installations and testing. The adjusting units are equipped with slide elements made from plastics PE-UHMW. This material is resistant against most acids and lyes. The friction value for ground steel shafts in 0.05 and 0.1 for anodized aluminium surfaces (see page 265).

Designs



Series VEW

Slide guidance on ground, hardend precision shafts \varnothing 12 mm, h6, material special steel Cf 53, mat. no. 1.1213



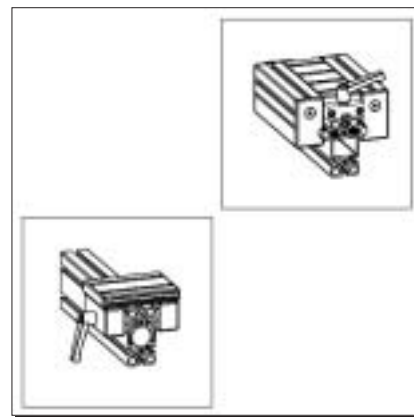
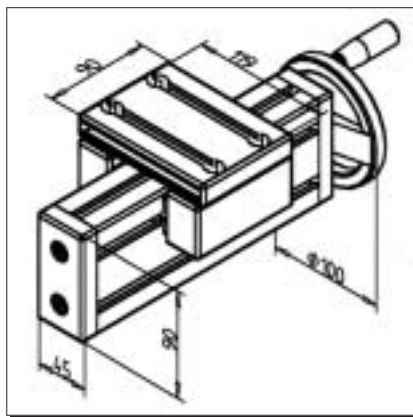
Series VEN

Slide guidance in profile grooves

Screw:	ACME-Screw 16 x 4, St, with nut RG 7
Incline fault:	$\pm 0.1/300$ mm (max.)
Positioning accuracy:	$\pm 0.1/300$ mm
Travel:	1000 mm (max.)
Max. load:	50 N/cm slide rail (slide length)

ADJUSTING UNIT VEN 45 X 90 H

Part N° 28.0185/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- AVCME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight	1,970	kg
Weight/100 mm stroke	0,490	kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

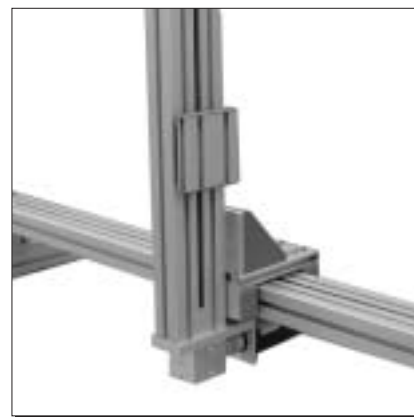
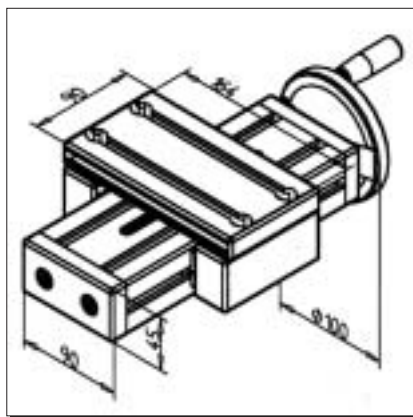
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0185/1
- With slide clamping unit (Lateral) Part N° 28.0185/2

ADJUSTING UNIT VEN 45 X 90 F

Part N° 28.0188/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight	2,050	kg
Weight/100 mm stroke	0,500	kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

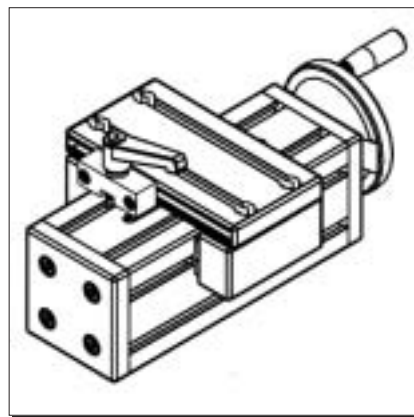
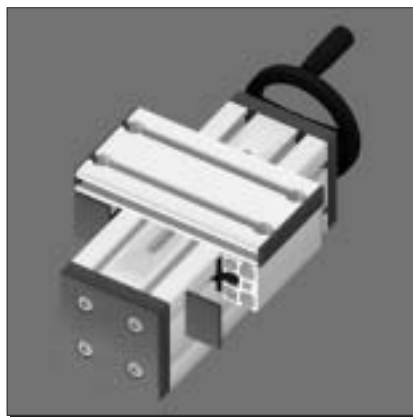
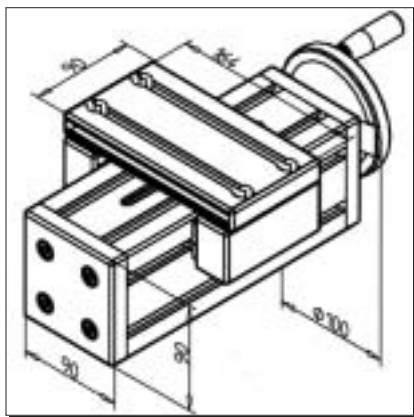
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0188/1
- With slide clamping unit (Lateral) Part N° 28.0188/2

ADJUSTING UNIT VEN 90

Part N° 28.0186/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight 2,750 kg
Weight/100 mm stroke 0,870 kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

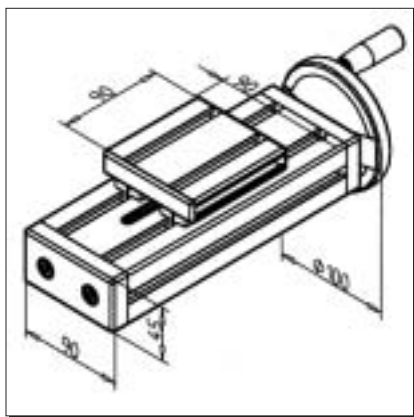
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0186/1
- With slide clamping unit (Lateral) Part N° 28.0186/2

ADJUSTING UNIT 45 X 90 S

Part N° 28.0187/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight 1,590 kg
Weight/100 mm stroke 0,500 kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

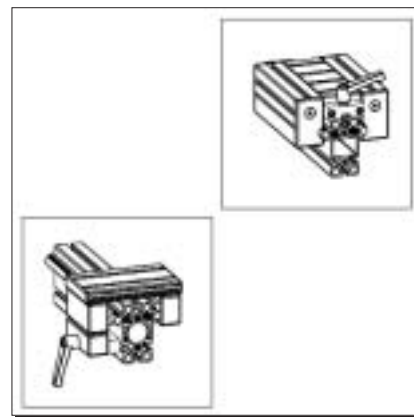
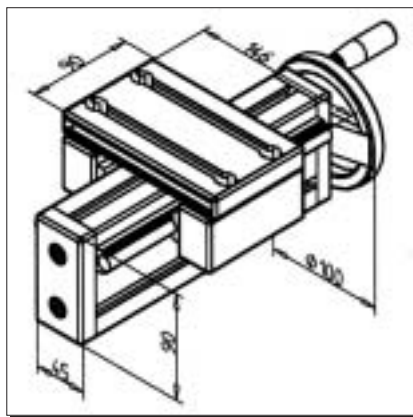
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0187/1

ADJUSTING UNIT VEW 45 X 90 H

Part N° 28.0182/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight 2,190 kg
Weight/100 mm stroke 0,740 kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

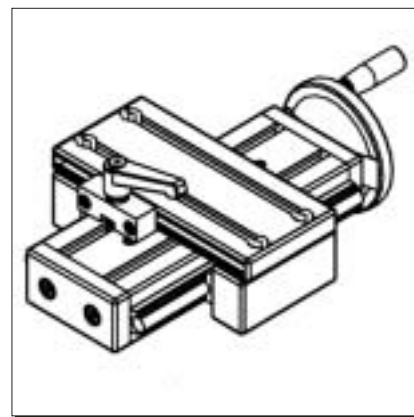
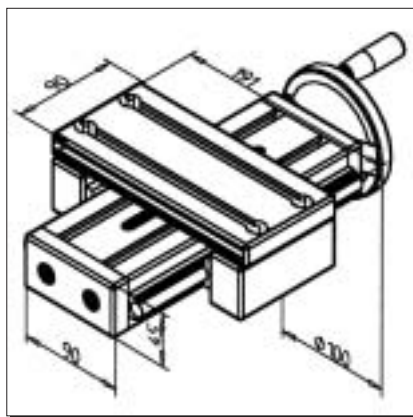
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive
- Shafts stainless

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0182/1
- With slide clamping unit (Lateral) Part N° 28.0182/2

ADJUSTING UNIT VEW 45 X 90 F

Part N° 28.0181/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm stroke)

Basic weight 2,310 kg
Weight/100 mm stroke 0,750 kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustable of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

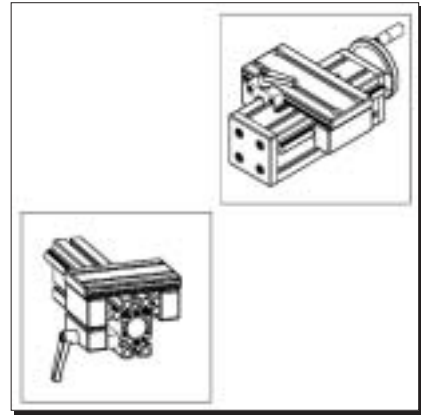
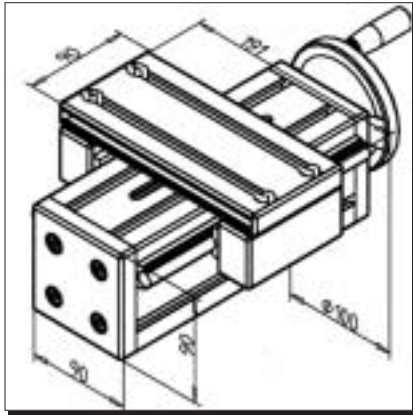
- Slide plate made of profile 32 x 180
- Different slide length
- Digital display
- Angular drive
- Shafts stainless

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0181/1

ADJUSTING UNIT VEW 90

Part N° 28.0183/0



TECHN. DATA/ITEMS SUPPLIED

- Slide plate made of profile 19 x 90
- ACME Screw 16 x 4
- Basic length 120 mm (0 mm Hub)

Basic weight	3,030	kg
Weight/100 mm stroke	1,120	kg

Please indicate desired length of stroke

APPLICATIONS

- Adjustment of conveyor systems
- Adjustment of feeders
- Adjustable devices

SPECIAL DESIGNS

- Slide plate made of profile 32 x 180
- Different length of stroke
- Digital display
- Angular drive
- Shafts stainless

OPTIONS:

- With slide clamping unit (Top) Part N° 28.0183/1
- With slide clamping unit (Lateral) Part N° 28.0183/2

PROFILE BENDING

With our new CNC-bending machine we opened a wide field of new applications:

- Decorative structures for exhibitions or office furniture
- Functional designs for swivelling constructions,
- Machine guards exactly suited to the machine-shape
- Security-fences
- Curved roller-conveyors
- Holders e.g. for lamps in workstations



Technical features

For standard-applications no subsequent anodizing is necessary. However there will occur small visible cracks in the anodized layer in the bended area. For high optical demands subsequent anodizing of the bended profiles is necessary.











The grooves of the bended profiles do not change with the process. But power-lock fasteners require a minimum radius of 400 mm.

G-Type profiles and UL- profiles are not appropriate for bending.

Thanks to the CNC-Control of our high performance bending machine various radii on the same bar are possible.

Accuracy: ± 1 mm



Profile	Position	min. Radius
P 19 x 45 und P 45 x 19	 	R 250 R 1000
P 19 x 32	 	R 200 R 300
P 32 x32 F		R 300
P 45 x 32 F	 	R 350 R 400
P 45 x 45 F und P 45 x 45		R 400
P 45 x 90	 	R 500 R 1000

Many constructions required by industry are repeated. We can offer numerous solutions based upon our experience to assist you with your applications. All the turn-key solutions mentioned below are examples which can easily be modified to suit your needs. We supply both as a complete assembly or as a processed kit of parts for you to assemble in your factory.

- WORK-STATION
- BELT CONVEYORS AND ROLLER CONVEYORS
- LONGITUDINAL STOPS
- MACHINE PROTECTION

3

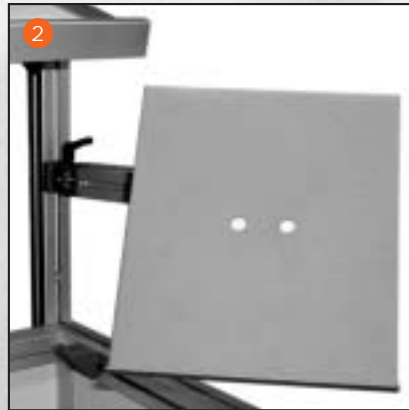
TURN-KEY SOLUTIONS



WORKSTATION

Our construction modul "Workstation" of our CADmenu draws fully automatic your individual workstation including correct parts list

CUSTOMISED WORKSTATION COMPONENTS



1. Workbench

A great variety standing and sitting workstations can be designed due to free dimension planning.

2. Swivelling tray

Horizontally and vertically slewable with fixing bracket

3. Springpull with sliding eyelet

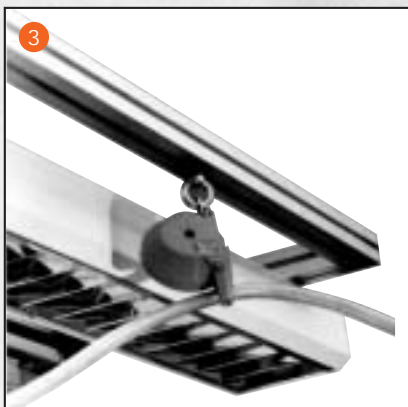
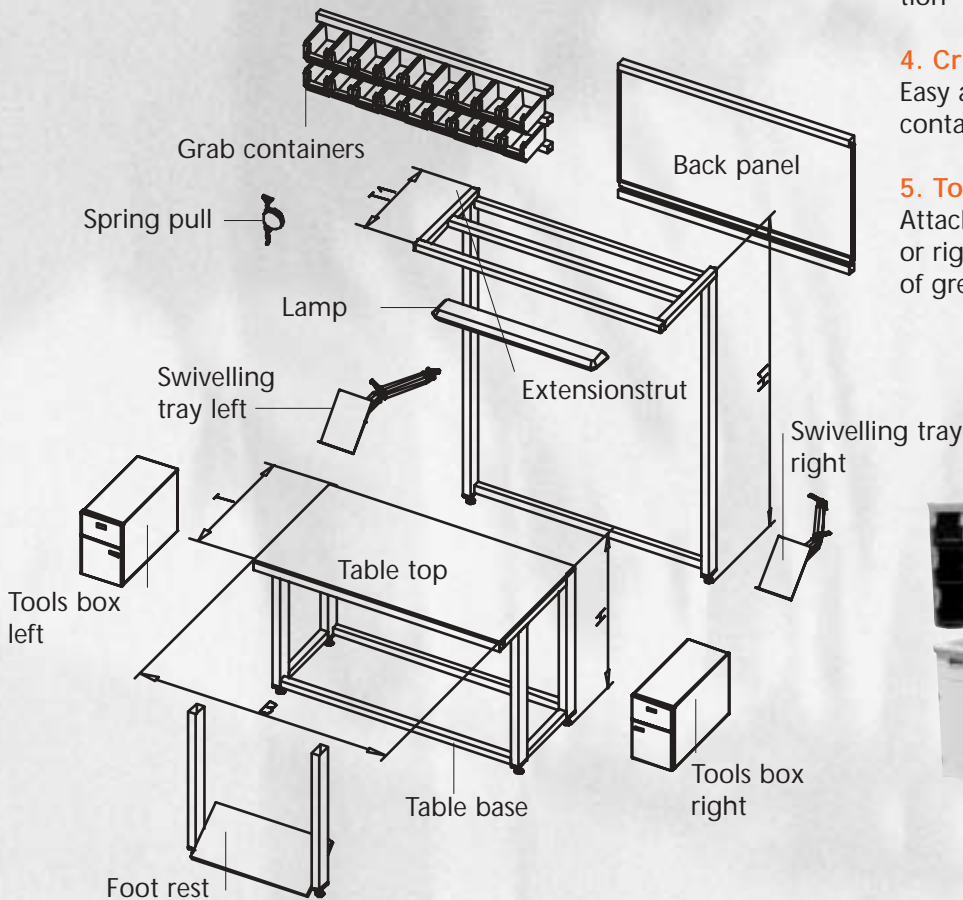
For hanging tools in correct position

4. Cross beams

Easy attachment of standard grab containers of all kinds and sizes.

5. Tool box

Attachable to the table base left or right with lockable door. Made of grey sheet steel



INQUIRY CUSTOMISED WORKTABLE

Dimensions

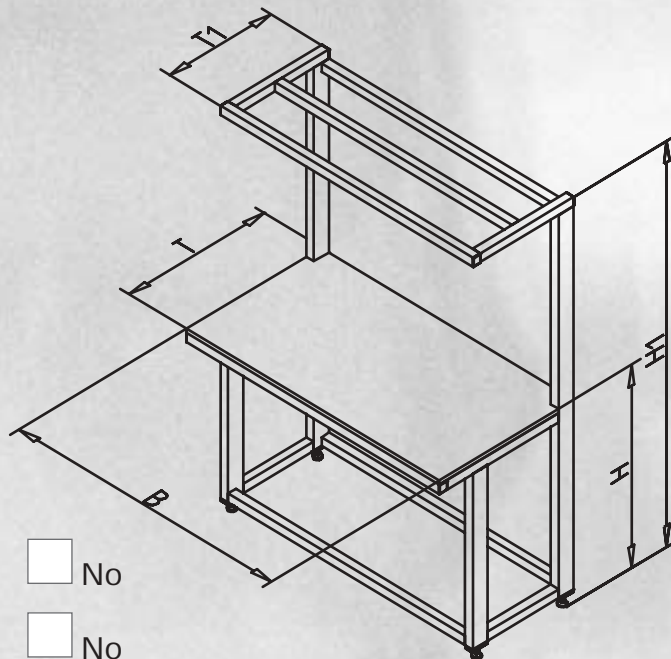
Width B mm

Height H mm

Depth T mm

Total height H1 mm

Extension strut T1 mm



Options

Extension strut Yes No

Foot rest Yes No

Foot rest, adjustable Yes No
 from mm up to mm

Grab containers Yes No Size

Tools box right Yes No

Tools box left Yes No

Pressed air connection Yes No

Lamp Yes No

Back panel Yes No Material

Table top Yes No Material

Spring pull Yes No

Swivelling tray Yes No

Company

Please call me back

Name

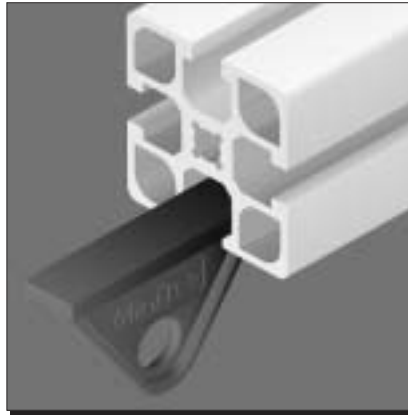
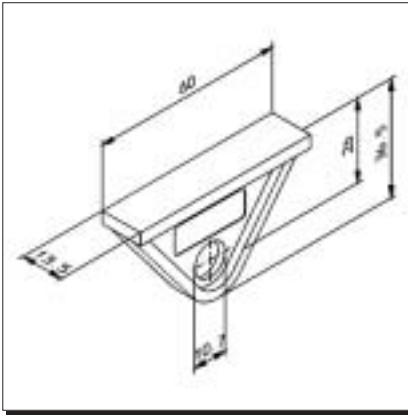
Please send me an offer

Phone number

Fax number

SLIDING EYELET

Part N° 21.1769/0



TECHN. DATA/ITEMS SUPPLIED

- ABS, grey
- Suitable for all MniTec profiles

Load max.	100	N
Weight	0,045	kg

APPLICATIONS

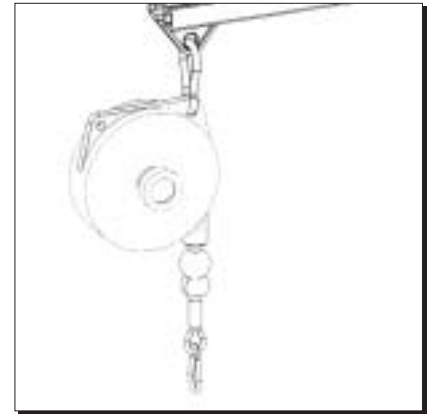
- Provisions of tools

ASSEMBLY

- Slip into profile groove
- With snap hook Part N° 21.1699/0

BALANCER

Part N° 29.0111/0



TECHN. DATA/ITEMS SUPPLIED

- For tool weights 2-3 kg
- Higher weights on request

Weight	0,750	kg
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APPLICATIONS

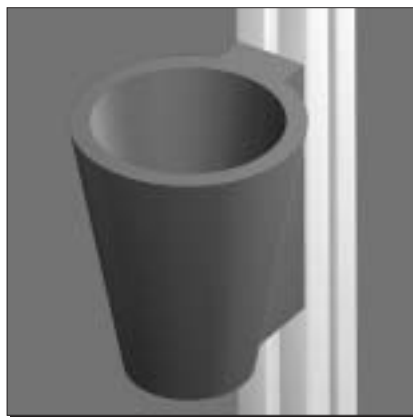
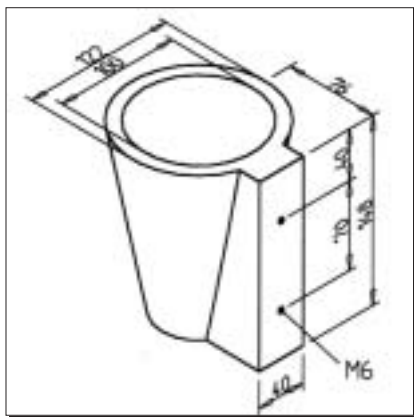
- Provision of tools

ASSEMBLY

- Insert with snap hook Part N° 21.1699/0 in sliding eyelet Part N° 21.1769/0

TOOLS BAG

Part N° 26.3000/0



TECHN. DATA/ITEMS SUPPLIED

- Hard rubber, heavy construction, black

Weight 1,050 kg

APPLICATIONS

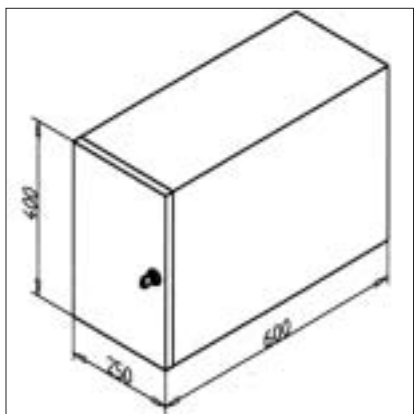
- Placing at disposed of heavy tools and jigs, e.g. drill, screw-driver, pneumatic tools

ASSEMBLY

- Screw onto profile groove with screws from supply schedule; bore Ø 6,5 mm required

TOOLS BOX (LEFT)

Part N° 29.4712/0



TECHN. DATA/ITEMS SUPPLIED

- Steel sheet, painted RAL 7012

- Measurements: 400 x 250 x 600 mm (H x B x T)

- Safety cylinder lock

Weight 7,850 kg

APPLICATIONS

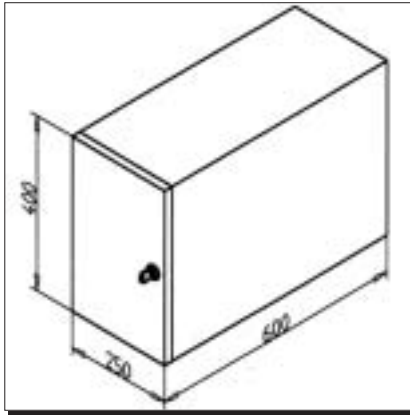
- For tools, measuring equipment and other equipment used on work tables, work benches or machine

ASSEMBLY

- Fasten at profile groove

TOOLS BOX (RIGHT)

Part N° 29.4712/1



TECHN. DATA/ITEMS SUPPLIED

- Steel sheet, painted RAL 7012
 - Measurements: 400 x 250 x 600 mm (H x B x T)
 - Safety cylinder lock
- Weight 7,850 kg

APPLICATIONS

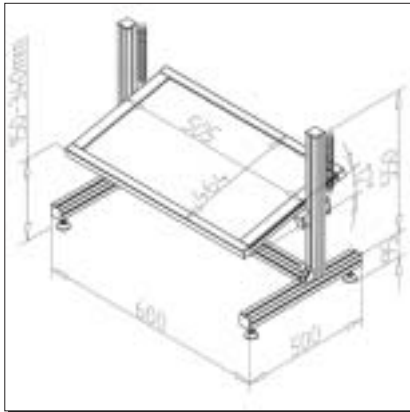
- For tools, fair equipment and other equipment used on work tables, work benches or machine frames

ASSEMBLY

- Fasten at profile groove

FREE-STANDING FOOTREST

Part N° 29.0117/0



TECHN. DATA/ITEMS SUPPLIED

- Frame: profiles 45 x 45
- Foot-rest: Chip-board, hardcoated
- Assembled, ready for use
- Height adjustable 150 - 340 mm

Weight

APPLICATIONS

- workstations
- Transfersystems
- Assembly lines

ASSEMBLY

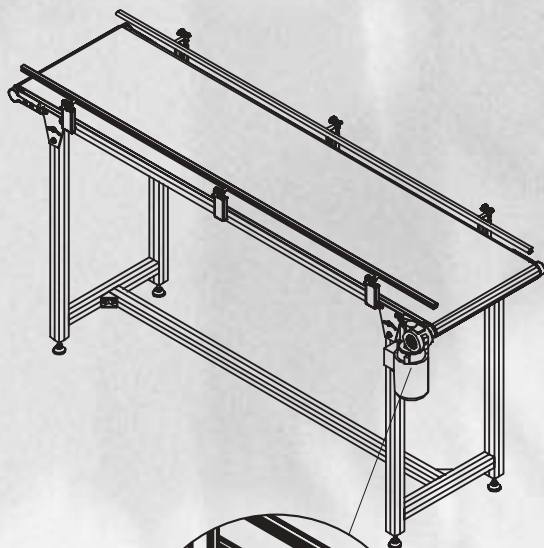
- Free-standing
- Beneath
- Workplaces



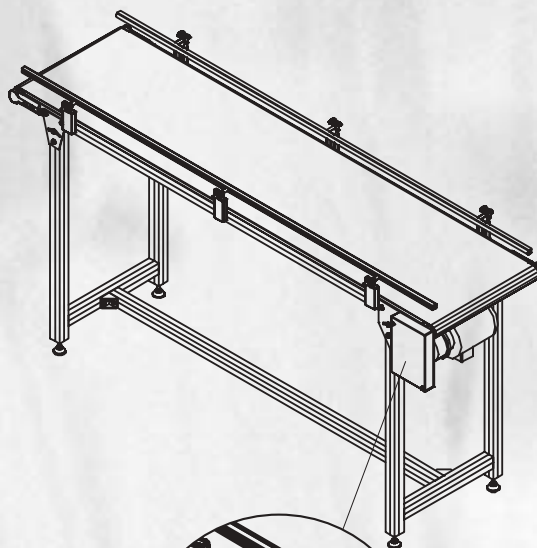
BELT CONVEYOR

The belt conveyor module in our MiniTec CADmenu construction software designs your belt conveyor automatically according to your requirements. Furthermore it calculates the deflection, suggests the number of supports and generates the respective part list - within a few minutes. Assembly can be carried out quickly and easily as a result of our proven components.

Motor arrangement

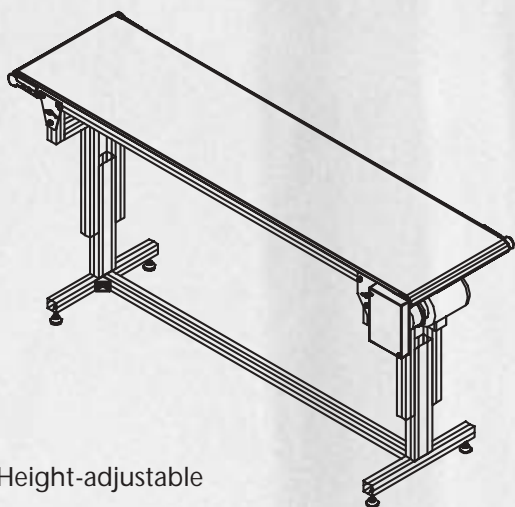


Plug-on motor



Flanged motor

Subconstructions



Height-adjustable



Standard

REQUEST FOR OFFER: BELT CONVEYORS AND ROLLER TRACKS

Standard dimension

Axial distance A mm

Belt width L mm

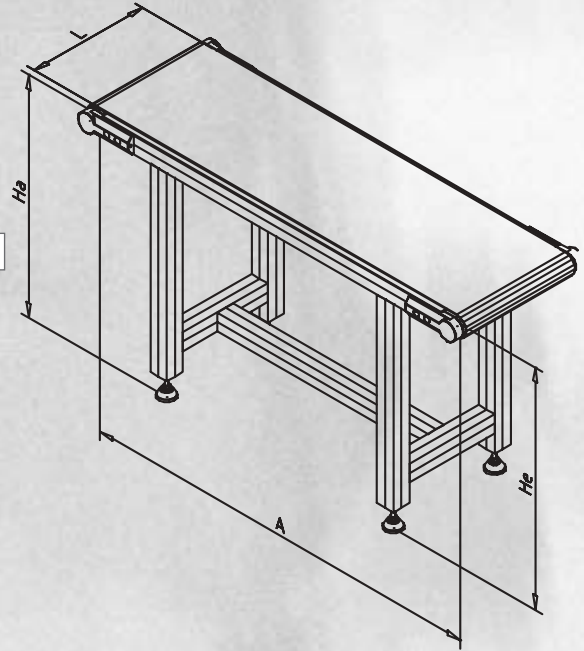
Conditions of usage

Goods to be conveyed

Weight/piece kg

Total belt load kg

Temperature °C



Subconstruction

Charging side height He mm

Discharging side height Ha mm

Number of supports Pcs.

Height adjustable sup. from mm to mm

No. of lateral guide support Pcs. (max. distance: 1000 mm)

Lateral guide one side both sides

Floor anchor Yes No

Rollers Yes No

Feet Yes No

Options

Belt PVC PU

Supporting sheet Aluminium Inox

Drive

Motor arrangement Flanged Plug-on motor

Motor Type Part no.

Speed m/min.

Adjustable speed from m/min. up to m/min.

Company

Please call me back

Name

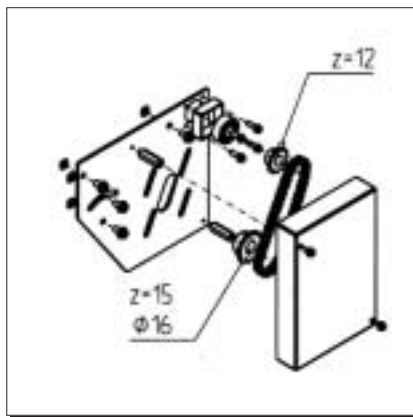
Please send me an offer

Phone no.

Fax no.

MOTOR ATTACHMENT KIT Ø 16

Part N° 29.5030/0



TECHN. DATA/ITEMS SUPPLIED

- Motor plate and cover, steel, powder coated, grey
- Housing with self aligning
- Chain wheel bored for motor-shaft Ø 16
- 2 chain wheels with driving chain
- Fixing kit

Weight 3,060 kg

APPLICATIONS

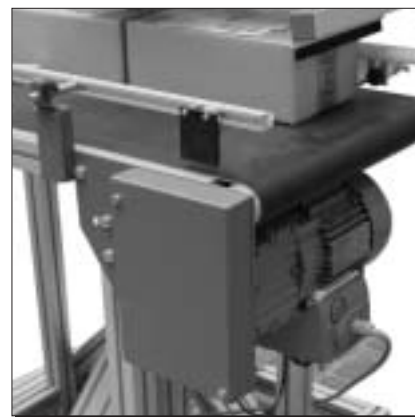
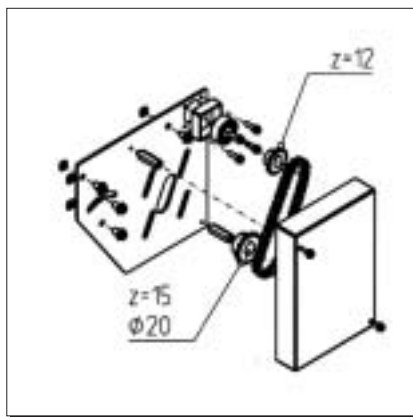
- Belt-conveyors made of MiniTec aluminium profiles
- Suitable for attachment of spur wheel back-geared motors; flange Ø 120 mm
- Belt driving cylinder Part N° 29.5022/0 and belt tensioning cylinder Part N° 21.0994/0

ASSEMBLY

- Screw flange plate on basic frame; mount housing with bearing
- Insert belt driving cylinder; on the opposite side use conveyor bearing Part N° 21.0993/0
- Mount motor and chain wheels and tension chain
- Mount cover

MOTOR ATTACHMENT KIT Ø 20

Part N° 29.5031/0



TECHN. DATA/ITEMS SUPPLIED

- Motor plate and cover, steel, powder coated, grey
- Housing with self aligning
- Chain wheel bored for motor-shaft Ø 16
- 2 chain wheels with driving chain
- Fixing kit

Weight 3,060 kg

APPLICATIONS

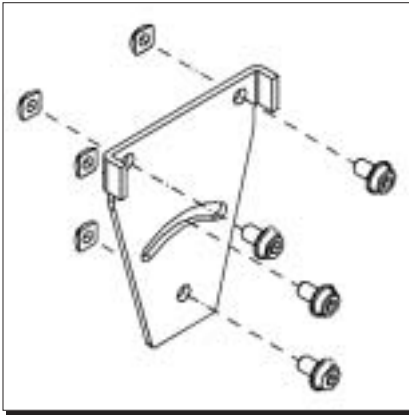
- Belt-conveyors made of MiniTec aluminium profiles
- Suitable for attachment of spur wheel back-geared motors; flange Ø 120 mm
- Belt driving cylinder Part N° 29.5022/0 and belt tensioning cylinder Part N° 21.0994/0

ASSEMBLY

- Screw flange plate on basic frame; mount housing with bearing
- Insert belt driving cylinder; on the opposite side use conveyor bearing Part N° 21.0993/0
- Mount motor and chain wheels and tension chain
- Mount cover

SWIVEL PLATE

Part N° 29.5001/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, powder coated, grey
- Fixing kit

Weight 0,377 kg

APPLICATIONS

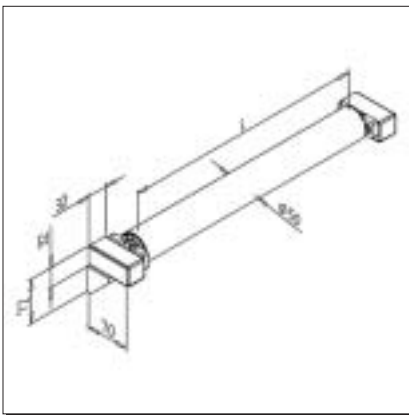
- Attachment of the subconstruction on MiniTec belt conveyor
- Also suitable for inclined belt conveyors
- The swivel plate is also used as a counterbearing to tighten the belt
- Range: $\pm 35^\circ$

ASSEMBLY

- Fasten at the conveyor profiles at the subconstruction with fixing kit from supply schedule

SUPPORT ROLLER KIT

Part N° 29.5002/0



TECHN. DATA/ITEMS SUPPLIED

- Support roller kit, PVC
- Ball bearings on both sides
- Two profile supports
- 2 mounting angles
- Fixing kit

Weight 0,487 kg

Please specify dimension L (belt width)

APPLICATIONS

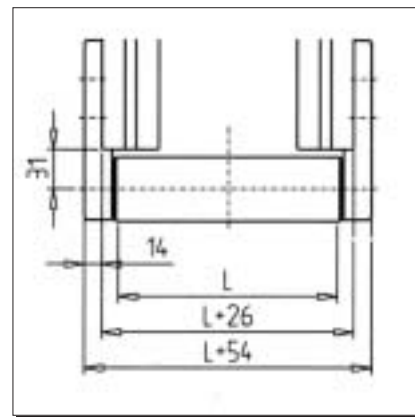
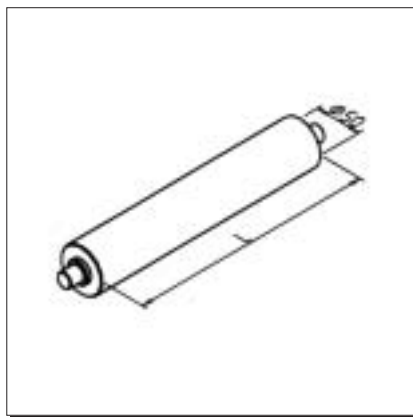
- MiniTec belt conveyor systems
- As a support for the lower side of long belt conveyors
- We recommend to install one support roller for each intermediate support on the belt conveyor
- Use this support roller kit only with belt width > 115 mm

ASSEMBLY

- Preassemble the profile roller support on the conveyor supports; use the angles
- Clip the support roller in fixing kit
- Slide the roller in appropriate position and tighten the screws

BELT TENSIONING CYLINDER 45

Part N° 21.0994/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium
 - Turned spherically
 - Journal \varnothing 17
- Weight 4,800 kg/m
- Please specify dimension L (belt width)

APPLICATIONS

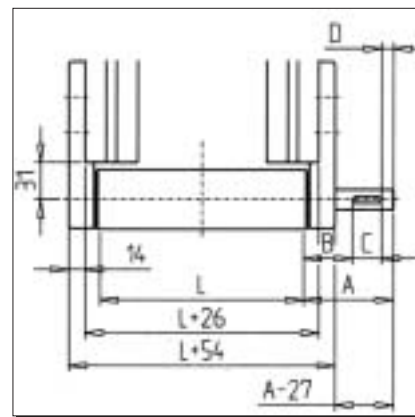
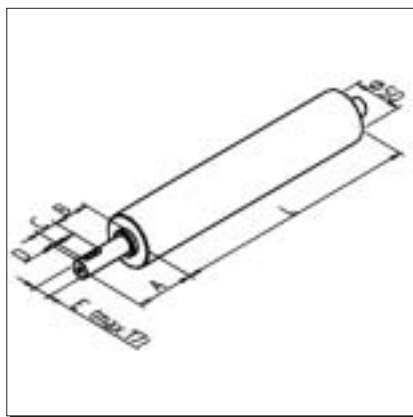
- MiniTec belt conveyor systems
- Use suitable conveyor bearing Part N° 21.0993/0

ASSEMBLY

- Insert the axle in the conveyor bearing assembly bore
- The cylinder is fixed axially by the self-aligning ball bearings
- The self-aligning ball bearings compensate light misalignments

BELT DRIVING CYLINDER 45

Part N° 21.0995/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc-plated
 - Turned spherically
 - Journal max. \varnothing 17
- Weight 15,300 kg/m
- Please indicate belt width L and dimensions A, B, C, D and E (if < 17 mm)

APPLICATIONS

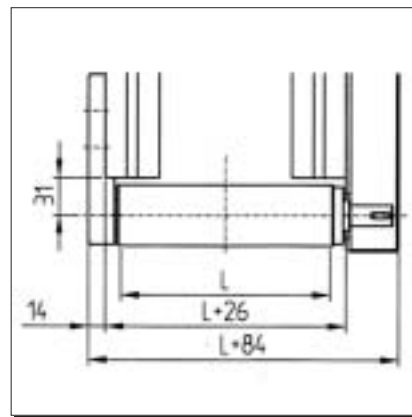
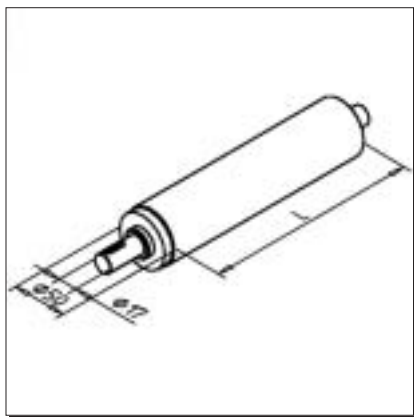
- MiniTec belt conveyor systems
- Use suitable conveyor bearing Part N° 21.0993/0

ASSEMBLY

- Insert belt driving cylinder in conveyor bearing with bore Part N° 21.0993/1
- Mount on opposite conveyor bearing Part N° 21.0993/0
- The self-aligning ball bearings compensate light misalignments

BELT DRIVING CYLINDER 45 FOR MOTOR KIT

Part N° 29.5022/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, zinc-plated
- Turned spherically
- Axle \varnothing 17, driving side suitable for fastening the chain wheel of motor attachment kit

Weight 15,300 kg/m

Please specify dimension L (belt width)

APPLICATIONS

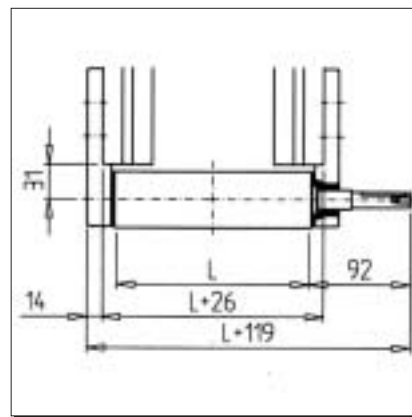
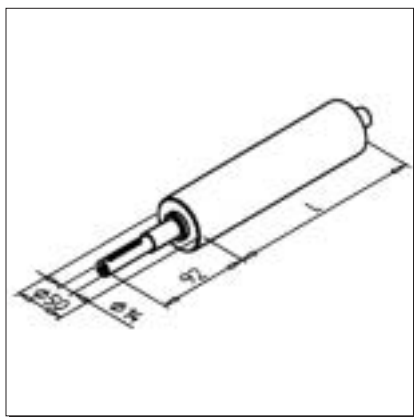
- Can only be used with the MiniTec belt conveyor kit Part N° 29.5030/0 or Part N° 29.5031/0

ASSEMBLY

- Insert the belt driving cylinder in the bearing housing on the motor side
- Mount the conveyor bearing Part N° 21.0993/0 on the opposite side
- The self-aligning ball bearings compensate light misalignments

BELT DRIVING CYLINDER 45 FOR PLUG-ON MOTOR

Part N° 29.5023/0



TECHN. DATA/ITEMS SUPPLIED

- Steel zinc-plated
- Turned spherically
- Axle \varnothing 14, driving side suitable for fastening the plug-on motor

Weight 15,300 kg/m

Please specify dimension L (belt width)

APPLICATIONS

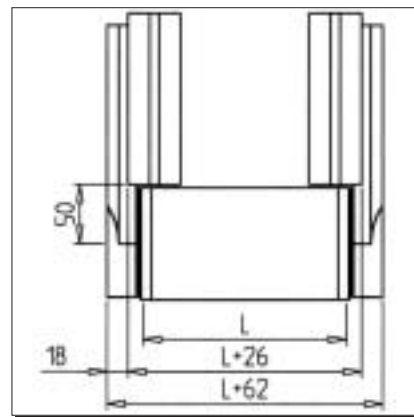
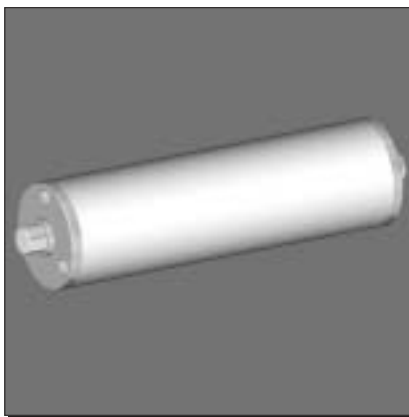
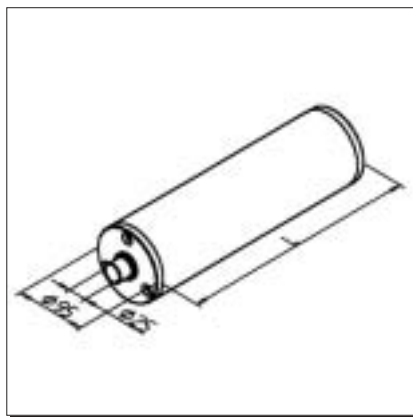
- MiniTec belt conveyor systems DSGM with torque support
- Suitable for MiniTec plug-on motor with torque support

ASSEMBLY

- Insert the belt driving cylinder in the conveyor bearing for plug-on motor Part N° 29.5029/0
- Mount the conveyor bearing Part N° 21.0993/0 on the opposite side

BELT TENSIONING CYLINDER 90

Part N° 21.0982/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium with shaft made of steel
- Turned spherically
- Axle \varnothing 25

Weight 15,800 kg/m

Please specify dimension L (belt width)

APPLICATIONS

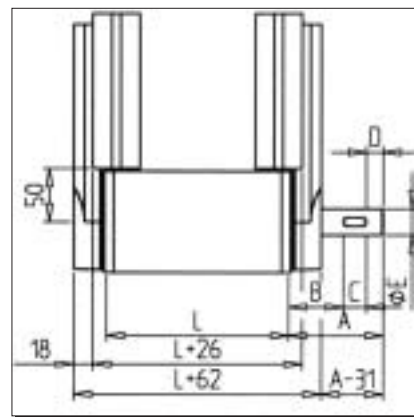
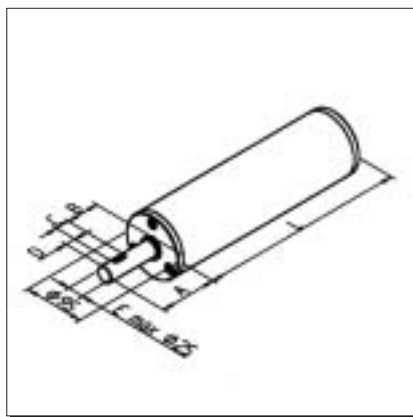
- MiniTec belt conveyor systems
- Use suitable conveyor bearing Part N° 21.0985/00

ASSEMBLY

- Insert axes in the bore of the self-aligning bearings of the conveyor bearing
- The cylinder is fixed axially by the self-aligning ball bearings
- The self-aligning ball bearings compensate light misalignments

BELT DRIVING CYLINDER 90

Part N° 21.0981/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium with shaft made of steel
- Turned spherically
- Axle max. \varnothing 25

Weight 16,200 kg/m

Please indicate belt width L and dimensions A, B, C, D and E (if < 25 mm)

APPLICATIONS

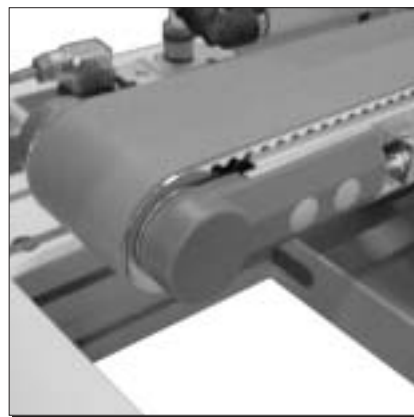
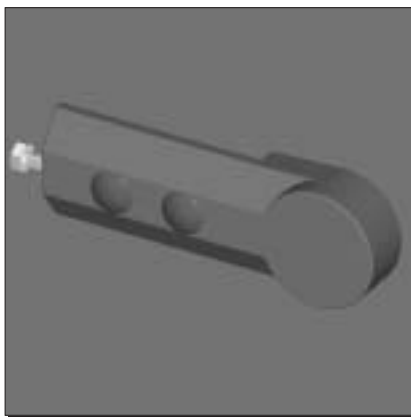
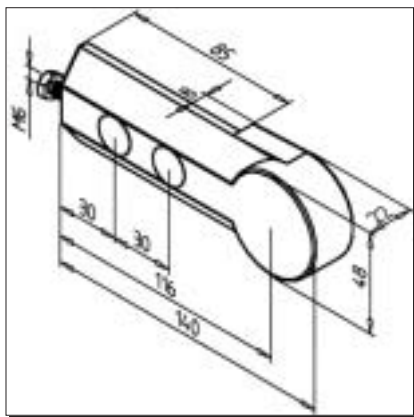
- MiniTec belt conveyor systems
- Use suitable conveyor bearing Part N° 21.0985/0 and Part N° 21.0985/1

ASSEMBLY

- Insert belt driving cylinder in conveyor bearing with bore Part N° 21.0985/10
- Mount on opposite conveyor bearing Part N° 21.0985/00
- The self-aligning ball bearings compensate light misalignments

CONVEYOR BEARING 45

Part N° 21.0993/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Self-aligning ball bearing with $\varnothing 17$ mm, both sides sealed

Weight 0,275 kg

Please specify dimension L (belt width)

APPLICATIONS

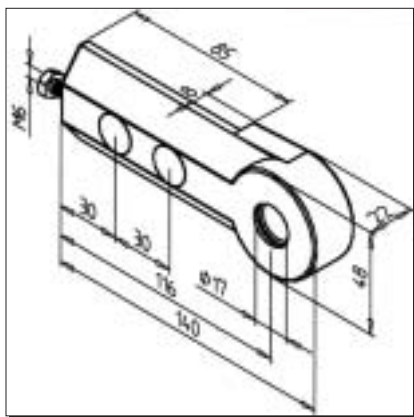
- Bearing for belt-tensioning cylinders

ASSEMBLY

- Pretighten at the profile groove
- If swivel plates **Part N° 29.5001/0** for support fastening are used, they serve as counter bearing for tightening purpose; if not, use multi block or angles
- Tighten the conveyor belt by unscrewing the set screw, if necessary reset the tool as often as needed
- Firmly tighten the conveyor bearing
- Recommended locking torque: 25 Nm

CONVEYOR BEARING 45 WITH BORE

Part N° 21.0993/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- With bore for shaft end (add on motor)
- Self-aligning ball bearing with bore $\varnothing 17$ mm, both sides sealed

Weight 0,268 kg

APPLICATIONS

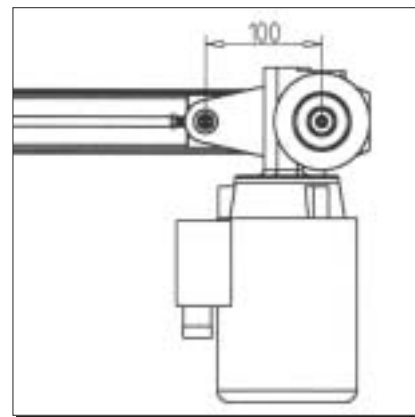
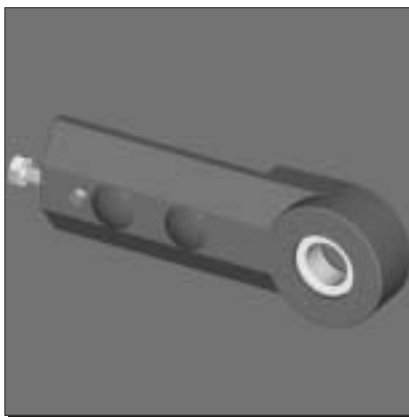
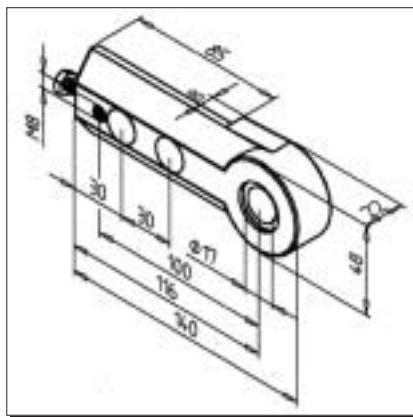
- Bearing for belt-tensioning cylinders
- Attachmant of plug-on motors or chain wheels on shafts; max. $\varnothing 17$ mm

ASSEMBLY

- Pretighten at the profile groove
- If swivel plates **Part N° 29.5001/0** for support fastening are used, they serve as counter bearing for tightening purpose; if not, use multiblocks or angles
- Tighten the conveyor belt by unscrewing the set screw, if necessary reset the tool as often as needed
- Firmly tighten the conveyor bearing
- Recommended locking torque: 25 Nm

CONVEYOR BEARING 45 FOR PLUG ON MOTOR

Part N° 29.5029/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Self-aligning ball bearing Ø 17 mm, both sides sealed
- With thread M8 for torque support
- Fixing kit

Weight 0,269 kg

APPLICATIONS

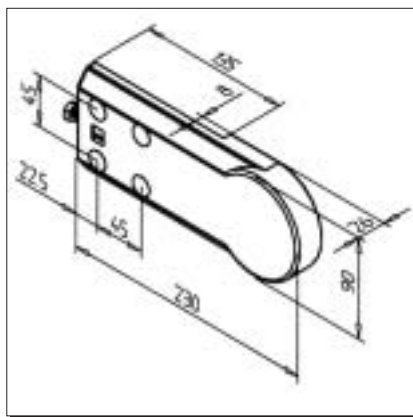
- MiniTec belt-conveyors with plug on motor (hollow shaft)

ASSEMBLY

- Fasten the torque support on thread M8
- Preassemble conveyor bearing at profile end
- If swivel plates Part N° 29.5001/0 for floor fastening are used, they serve as counter bearing for tightening purpose; if not, use multiblock or angles
- Tighten the conveyor belt by unscrewing the set screw, if necessary reset the tool as often as needed
- Firmly tighten the conveyor bearing
- Recommended locking torque: 25 Nm

CONVEYOR BEARING 90

Part N° 21.0985/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
- Self-aligning ball bearing with bore Ø 25 mm, both sides sealed

Weight 0,900 kg

APPLICATIONS

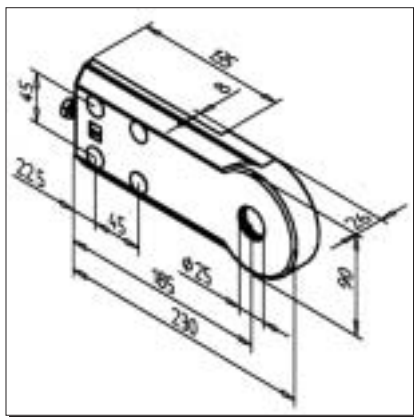
- Bearing of belt-tensioning cylinders 90 in MiniTec belt-conveyors

ASSEMBLY

- Preassemble conveyor bearing at profile end
- As counter bearing for tightening of connection plate 32 x 90 or 45 x 90
- Tighten the conveyor belt by unscrewing the set screw, if necessary reset the tool as often as needed
- Firmly tighten the conveyor bearing
- Recommended locking torque: 25 Nm

CONVEYOR BEARING 90 WITH BORE

Part N° 21.0985/1



TECHN. DATA/ITEMS SUPPLIED

- Aluminium GD, powder coated, grey
 - With bore for shaft end (add on motor)
 - Self-aligning ball bearing with bore \varnothing 25 mm, both sides sealed
- | | |
|--------|----------|
| Weight | 0,900 kg |
|--------|----------|

APPLICATIONS

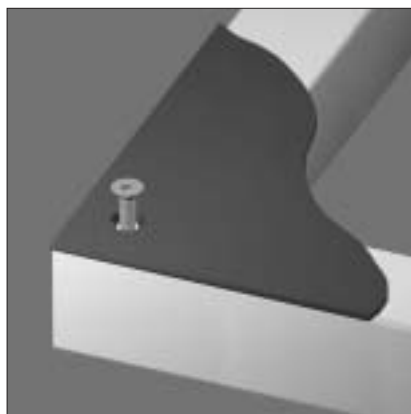
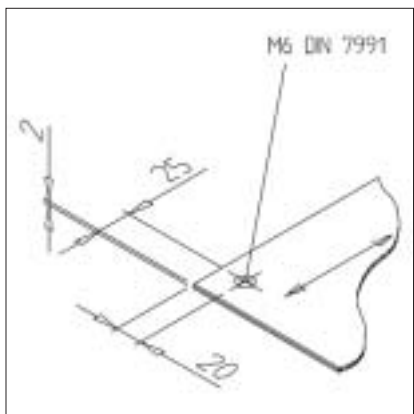
- Bearing of belt driving cylinders in MiniTec belt-conveyors
- Attachment of motors, chain wheels or belt pulleys on shaft, \varnothing max 25 mm

ASSEMBLY

- Preassemble conveyor bearing on profile end
- As counter bearing for tightening use connecting plate 32 x 90 or 45 x 90
- Tighten the conveyor belt by unscrewing the set screw, if necessary reset the tool as often as needed
- Firmly tighten the conveyor bearing
- Recommended locking torque: 25 Nm

SUPPORTING SHEET

Part N° 29.5010/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium, anodized
 - Thickness: 2 mm
 - bored, ready for use
- | | |
|--------|-------------------------|
| Weight | 5,400 kg/m ² |
|--------|-------------------------|

APPLICATIONS

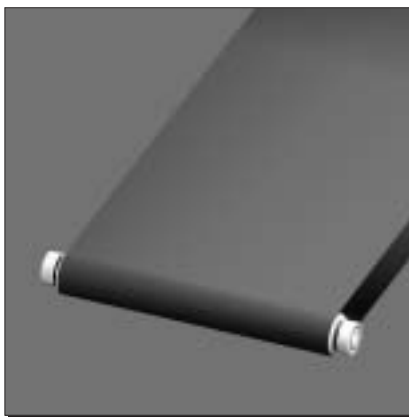
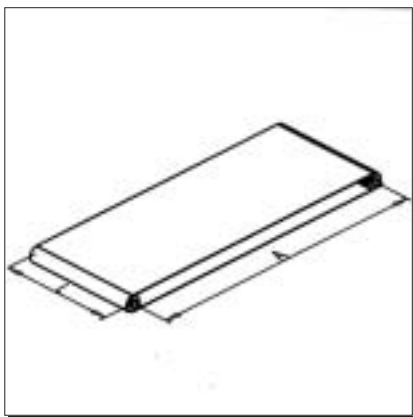
- Support for conveyor belts
- For MiniTec conveyor systems

ASSEMBLY

- Screw with counter sunk screws M6 x 16 and square nut M6 on profile

CONVEYOR BELT PVC

Part N° 29.5014/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, black

Please specify dimension L (belt width) and dimension EL (endless length)

APPLICATIONS

- For MiniTec belt conveyor systems
- High performance conveyor belts, seamless welded
- Special designs possible upon request: e.g. picking surface, struts etc.

- Pull belt over belt driving cylinder and belt tensioning cylinder

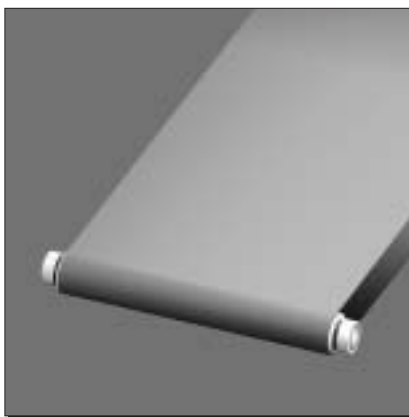
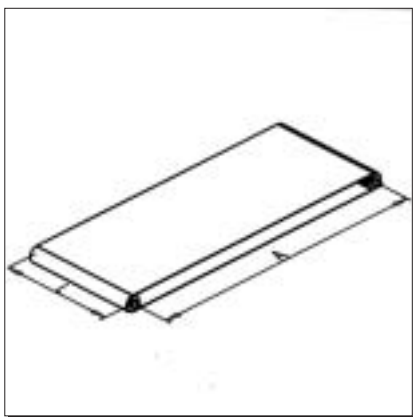
- Mount belt tensioning cylinder and belt driving cylinder and tighten belt

Calculation of endless length EL:

- For cylinder 45: $EL = 2 \times A + 165 \text{ mm}$
- For cylinder 90: $EL = 2 \times A + 305 \text{ mm}$

CONVEYOR BELT PU

Part N° 29.5015/0



TECHN. DATA/ITEMS SUPPLIED

- PU, blue

Please specify dimension L (belt width) and dimension EL (endless length)

APPLICATIONS

- For MiniTec belt conveyor systems
- High performance conveyor belts, seamless welded
- Special designs possible upon request: e.g. picking surface, struts, etc.

- Pull belt over belt driving cylinder and belt tensioning cylinder

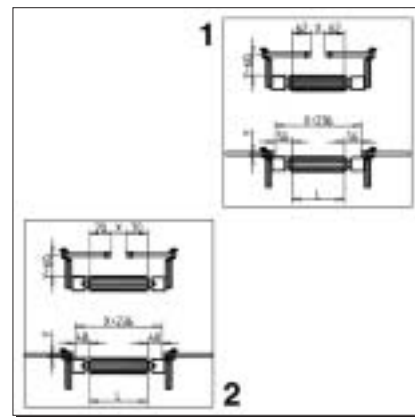
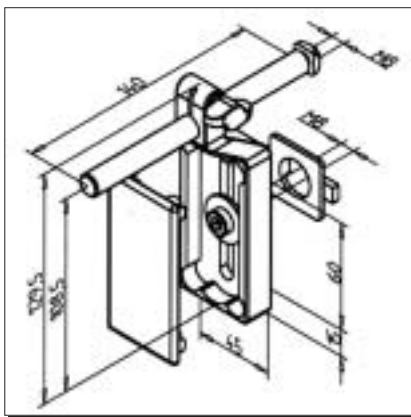
- Mount belt tensioning cylinder and belt driving cylinder and tighten belt

Calculation of endless length EL:

- For cylinder 45: $EL = 2 \times A + 165 \text{ mm}$
- For cylinder 90: $EL = 2 \times A + 305 \text{ mm}$

LATERAL GUIDE SUPPORT 140

Part N° 29.5028/0



TECHN. DATA/ITEMS SUPPLIED

- PA 6 GF, grey
- Distance bolt, stainless steel
- Securing against torsion AL GD
- Fixing kit

Weight	0,142 kg
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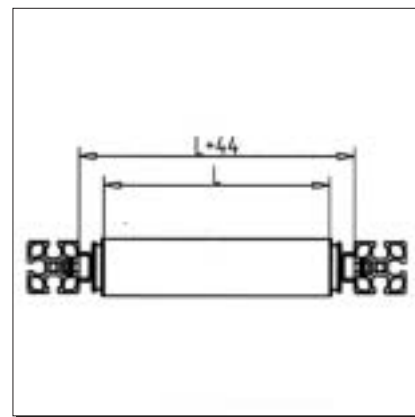
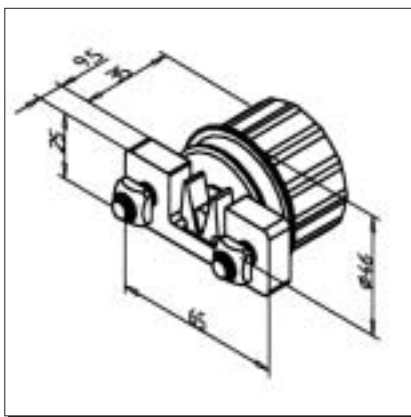
APPLICATIONS

- Adjustable lateral guides for MiniTec belt conveyors
- Other designs on request
- We recommend: approx. 500 mm distance between the supports

- Fasten support on lateral profiles
- Set the height H and tighten the screws
- Mount the lateral guide Part N° 29.5024/0
- Adjust lateral distance bolt

BEARING ASSEMBLY FOR TRANSPORT ROLLERS

Part N° 21.1056/0



TECHN. DATA/ITEMS SUPPLIED

- Housing PA with slide-bearing
- Axle bolt, steel
- Roller support, PA 6
- Fixing kit
- For transport rollers of 60 - 1000 mm

Weight	0,420 kg
Load max. (roller)	20 kg

APPLICATIONS

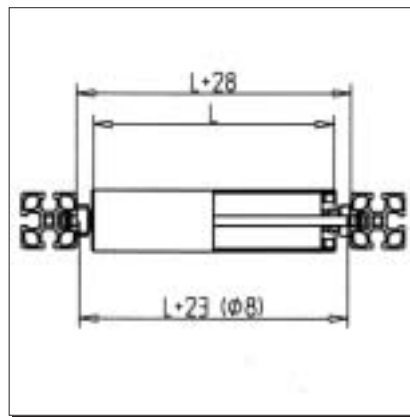
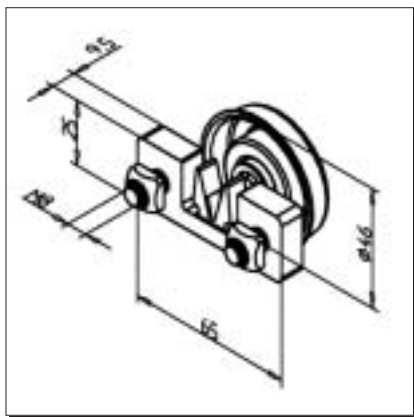
- Roller conveyors at any length
- Drive via round belt Ø 5 mm possible
- The rollers can be replaced individually

ASSEMBLY

- Attachment of the roller support on all profiles possible
- Mount roller support
- Press bearing assembly into the tube
- Insert axle bolt
- Clip in transport roller

BEARING ASSEMBLY S

Part N° 21.1722/0



TECHN. DATA/ITEMS SUPPLIED

- Housing steel with ball bearing
- Securing clip, steel
- Roller support, PA 6
- Fixing kit
- For transport rollers of 60 - 1000 mm

Weight	0,420	kg
Load max. (roller)	33	kg

APPLICATIONS

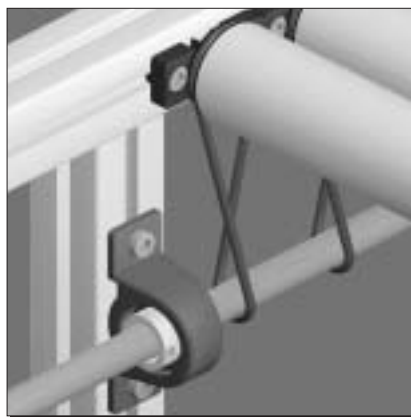
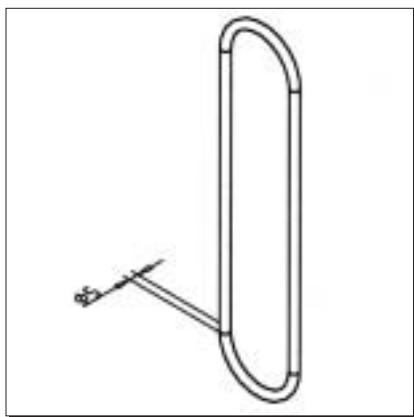
- Roller conveyors at any length
- The rollers can be replaced individually

ASSEMBLY

- Attachment of the roller support on all profiles possible
- Mount roller carrier
- Press bearing assembly into the tube
- Insert shaft Ø 8 and secure with securing clip
- Clip in transport roller

DRIVING BELT PU

Part N° 21.1050/7



TECHN. DATA/ITEMS SUPPLIED

- PU, green
- Ø = 5 mm
- Length = 550 mm

APPLICATIONS

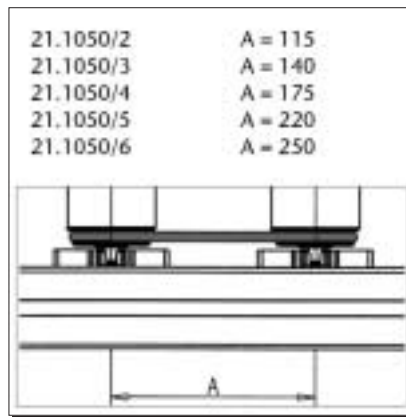
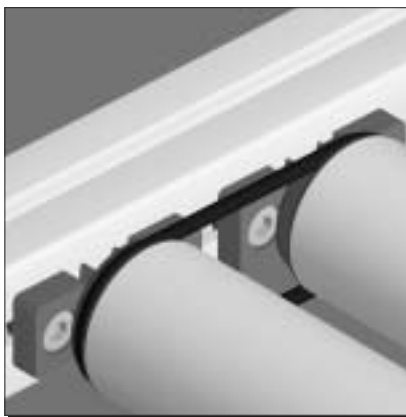
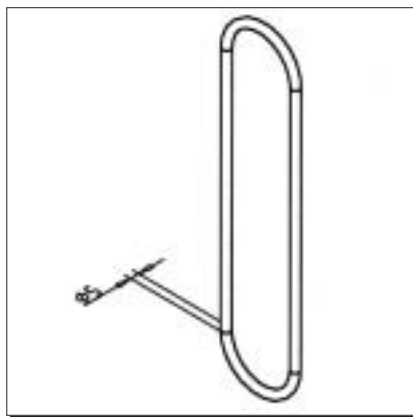
- Drive of transport rollers via groove in bearing assembly
- Usable with bearing-assembly only **Part N° 21.1056/0**

ASSEMBLY

- Strip driving belt over driving shaft
- Lay driving belt in groove of transport roller
- Bind rollers at insufficient places with driving belt NBR **Part N° 21.1050/1** to **Part N° 21.1050/6**; see page 301
- Clip roller in roller support

DRIVING BELT NBR

Part N° 21.1050/1



21.1050/2	A = 115
21.1050/3	A = 140
21.1050/4	A = 175
21.1050/5	A = 220
21.1050/6	A = 250

TECHN. DATA/ITEMS SUPPLIED

- NBR, black
- Ø = 5 mm
- A = 80 mm

For other length see selection table on the right

APPLICATIONS

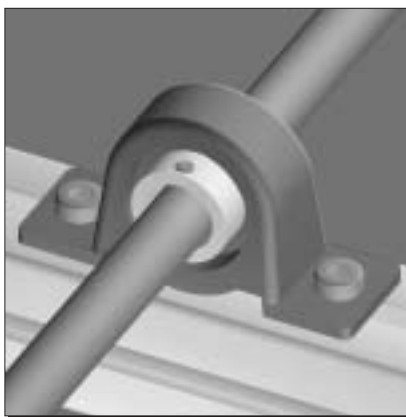
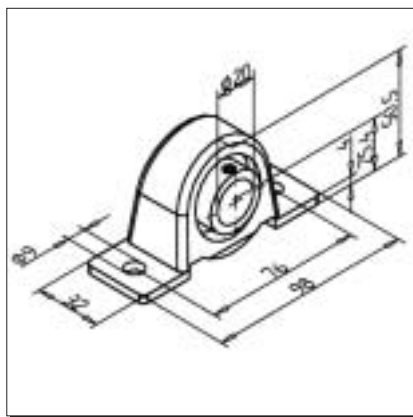
- Attachment of transport rollers at insufficient places via groove in bearing assembly from roller to roller

ASSEMBLY

- Insert belt in groove of the first roller and clip roller in the bearing
- Strip belt over second roller and clip in roller support

SUPPORT BEARING 20

Part N° 50.0128/0



TECHN. DATA/ITEMS SUPPLIED

- Pillow block, steel, zinc-plated
- Fixing kit
- Bore Ø 20 mm

Load:
dyn. C 975 N

Weight 0,190 kg

APPLICATIONS

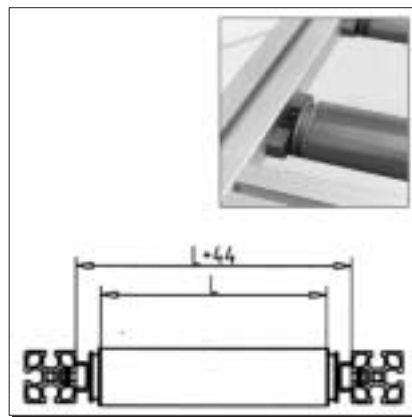
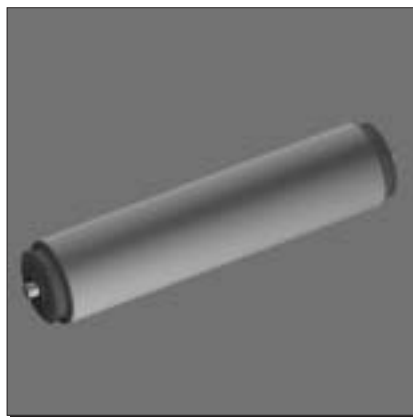
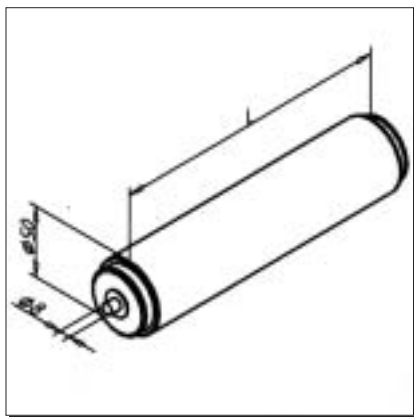
- Driving of roller-conveyors with driving belts

ASSEMBLY

- With fixing kit from supply schedule
- Lead shaft trough bearing and secure with set screw

TRANSPORT ROLLER PVC

Part N° 21.1717/0



TECHN. DATA/ITEMS SUPPLIED

- Completely mounted transport roller, PVC-tube

Please indicate dimension L

APPLICATIONS

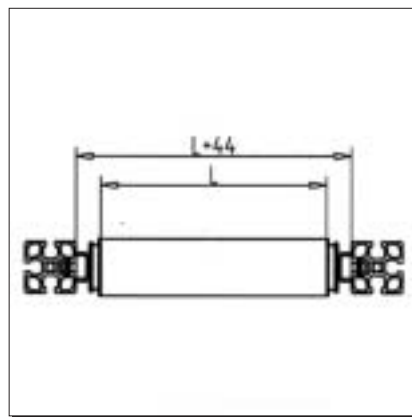
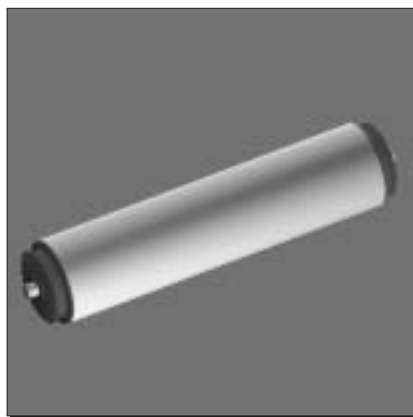
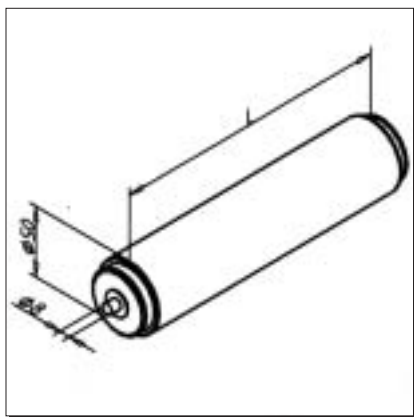
- Producing of roller conveyors with or without drive
- Drive possible via driving belt Ø 5mm
- The rollers can be replaced individually

ASSEMBLY

- Clip in roller support
- As roller support we recommend door catch Part N° 21.1756/1

TRANSPORT ROLLER AL

Part N° 21.1716/0



TECHN. DATA/ITEMS SUPPLIED

- Transport roller completely assembled, Alu-tube

Please indicate dimension L

APPLICATIONS

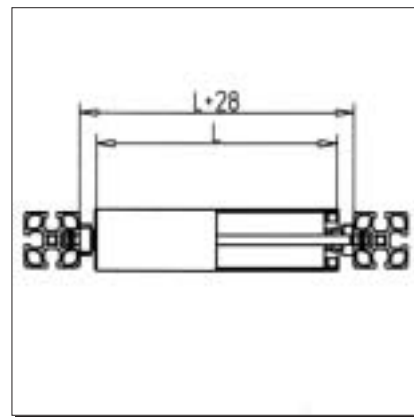
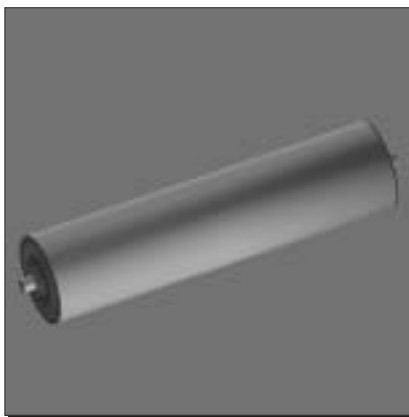
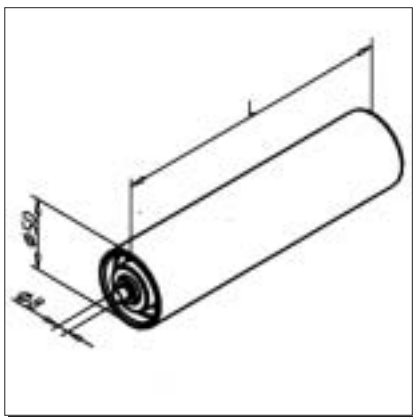
- Producing of roller conveyors with or without drive
- Drive possible via driving belt Ø 5mm
- The rollers can be replaced individually

ASSEMBLY

- Clip in roller support
- As roller support we recommend door catch Part N° 21.1756/1

TRANSPORT ROLLER S PVC

Part N° 21.1719/0



TECHN. DATA/ITEMS SUPPLIED

- Transport roller completely assembled, PVC-tube

- With ball bearings and shaft

Please indicate dimension L

APPLICATIONS

- Producing of roller conveyors without drive

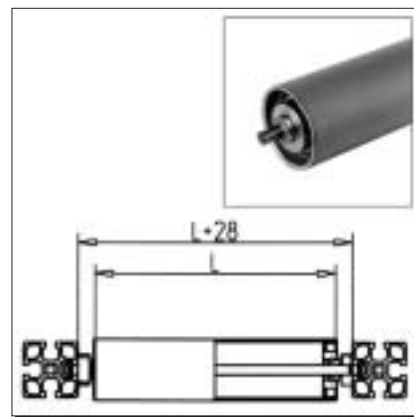
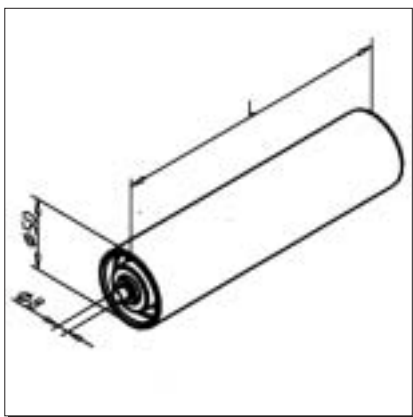
ASSEMBLY

- Clip in roller support

- As roller support we recommend door catch Part N° 21.1756/1

TRANSPORT ROLLER S AL

Part N° 21.1718/0



TECHN. DATA/ITEMS SUPPLIED

- Transport roller completely assembled, Alu-tube

- With ball bearings and shaft

Please indicate dimension L

APPLICATIONS

- Producing of roller conveyors without drive

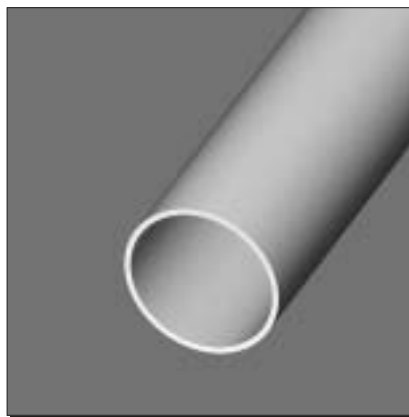
ASSEMBLY

- Clip in roller support

- As roller support we recommend door catch Part N° 21.1756/1

TUBE AL 50 X 2

Part N° 20.1041/0



TECHN. DATA/ITEMS SUPPLIED

- AlMgSi 0,5 F22, natural
- Recommended tube length: max. 1000 mm

Weight	0,820	kg/m
Length	6	m

Please indicate desired tube length

APPLICATIONS

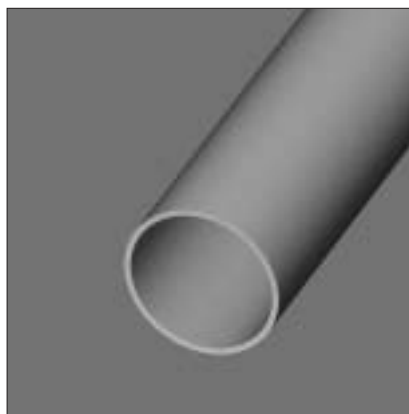
- Transport rollers at any length for driven or non-driven roller conveyors

ASSEMBLY

- Use bearing assembly S Part N° 21.1722/0 or bearing assembly for transport roller Part N° 21.1056/0

TUBE PVC 50 X 2

Part N° 20.1050/0



TECHN. DATA/ITEMS SUPPLIED

- PVC, blue
- Recommended tube length: max. 1000 mm

Weight	0,420	kg/m
Length	3	m

Please indicate desired tube length

APPLICATIONS

- Transport rollers at any length for driven or non-driven roller conveyors

ASSEMBLY

- Use bearing assembly S Part N° 21.1722/0 or bearing assembly for transport roller Part N° 21.1056/0



LONGITUDINAL STOPS



LONGITUDINAL STOPS



MiniTec longitudinal stops are proven turn-key solutions based on MiniTec standard elements of the MiniTec profile system. Its modular structure enables optimum solutions for any kind of application. All stops are equipped with a height-adjustable foot including bores for floor mounting. Connection to the machine via adaptor plate with fixing bores. Digital LCD display attached directly to the machine at operators height. Simple dimension modifications, e.g. for saw blade thickness or distance between stop and tool can be carried out via display

Standard lengths up to 6000 mm
(measuring length: 5500 mm), other
dimensions on request

Width carrying rollers: 200-600 mm

**Distance between carrying
rollers:** 200 mm

Height adjustment: ± 100 mm

Standard height: 850 mm

Standard connection: right

Length measuring: magnetic tape

Measuring accuracy: ± 0.15 mm

Measuring display: LCD

Slide guide:

Linear guide LR with 4 precision bearings, clearance adjusted, shafts $\varnothing 12$ mm, hardened special steel Cf 53, Mat. no. 1.1213

Slide clamping:

Motor drive: automatically at stop position,
manual drive: via switch (pneumatic)
or via clamping lever.

Motor drive:

AC-motor with positioning control system, integrated in housing. Displacement speed: 0.6 m/s

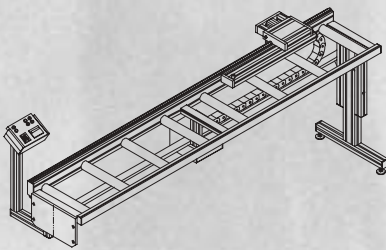
Input for motor drive:

Input terminal with foil keyboard and LCD-display, fixed in switch-box plate at operator height next to the machine.

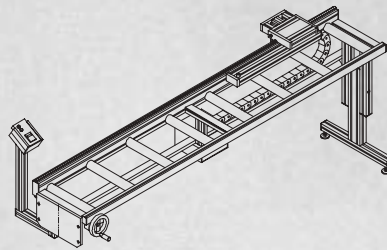
LONGITUDINAL STOPS



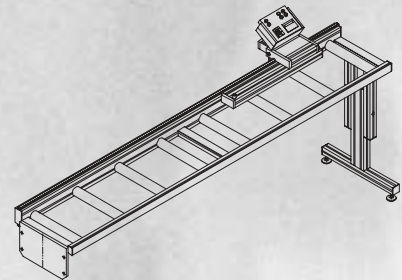
First cuts can easily be carried out: The top of the stop can be swung out of the conveyor by 180°. Adjustable measuring length compensation including scale, L = 400 mm, fixed onto slide.



Motorized drive with stationary display, integrated in the switch-box



Manual handwheel drive with stationary 230 V - display

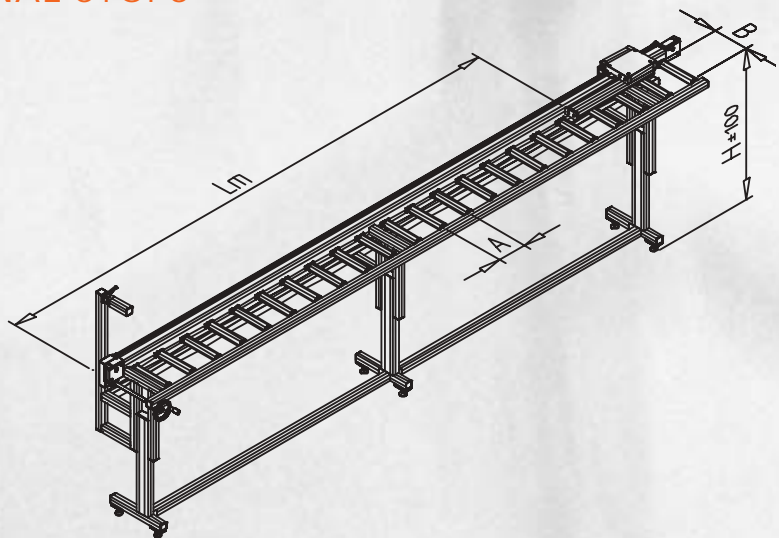


Manual slide displacement with battery-driven digital display on slide

DATA REQUIRED LONGITUDINAL STOPS

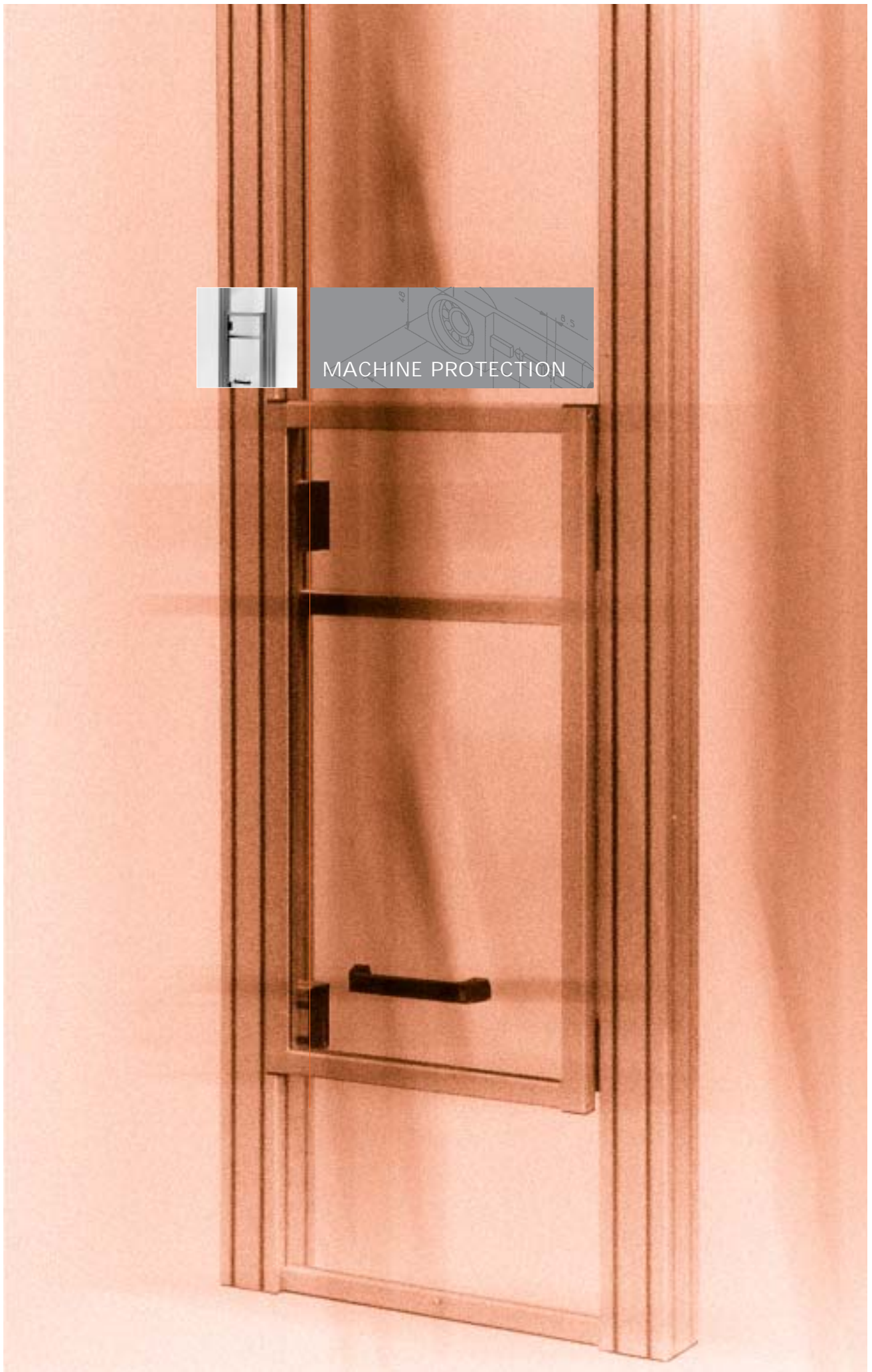
Dimensions

- Measuring length Lm mm
- Roller distance A mm
- Roller width B mm
- Height H mm
- Load dN



Control

- Drive motoric handwheel manual
- Stop right left

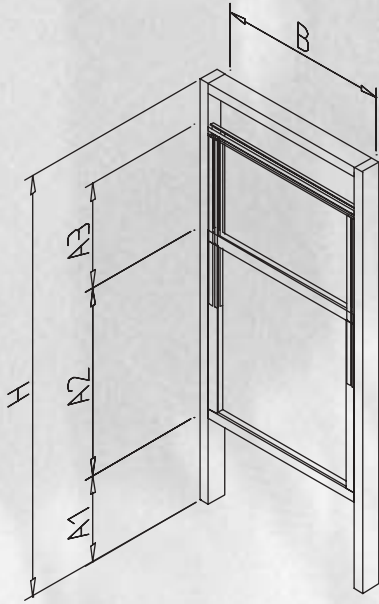


MACHINE PROTECTION

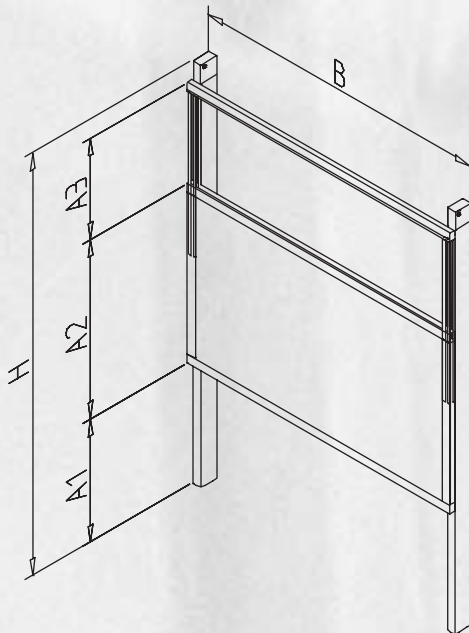
LIFTING-DOOR FOR MACHINE PROTECTION

Completely assembled and ready for installation on your premises. Vertical profiles with 2 counterweights and cable pulleys.

Lifting door for workstation



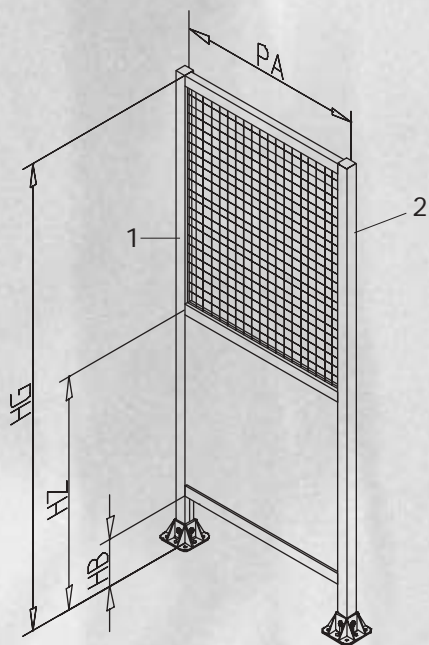
Lifting door for machine protection



GUARD UNIT FOR MACHINE PROTECTION

Guard unit with integrated frame

- Items supplied:**
- 1 vertical column profile (1)
 - 2 horizontal clamp profiles
 - 1 panel element, assembled:
 - Corrugated mesh, mesh 40 mm, wire size 4 mm, galvanized

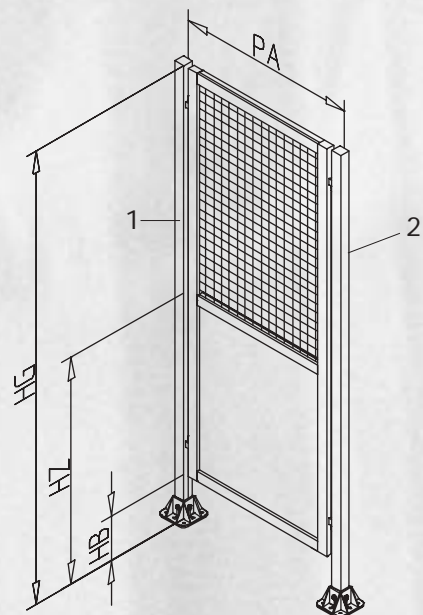


The vertical profile (2) belongs to the next unit. When used as a single element order one additional vertical profile.



Guard unit with exchangeable panel element

- Items supplied:**
- 1 framed panel element, assembled:
corrugated mesh, mesh 40 mm, wire size 4 mm, galvanized.
 - 1 vertical profile (1) with floor-fixing and 2 guard unit fixing angles.



The vertical profile (2) belongs to the next unit. When used as a single element, order one additional vertical profile.

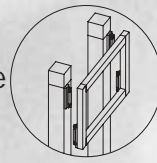


MACHINE PROTECTION REQUEST FOR OFFER

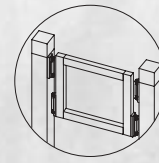
Lifting door

Lifting door arrangement

Outside



Inside



Lifting field width B mm

Lifting field height A2 mm

Stroke A3 mm

Stand-up dimension A1 mm

Actuation Manual Pneumatic

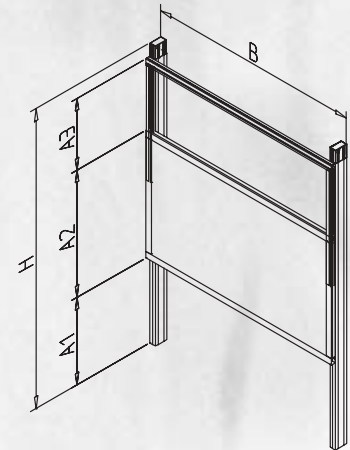
Panel element Part no.

Strokes per hour

Additional fixed element

Top yes no

Bottom yes no



Guard unit

Protective field frame

Fixed

Changeable frame

Total height HG mm

Clearance from floor HB mm

Post spacing PA mm

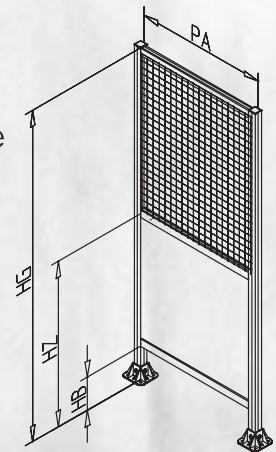
Intermediate strut yes no

High strut HZ mm

Panel element, top Part no. (e.g. mesh, acrylic, PVC)

Panel element, bottom Part no. (e.g. mesh, acrylic, PVC)

Feet Base foot Base plate Without

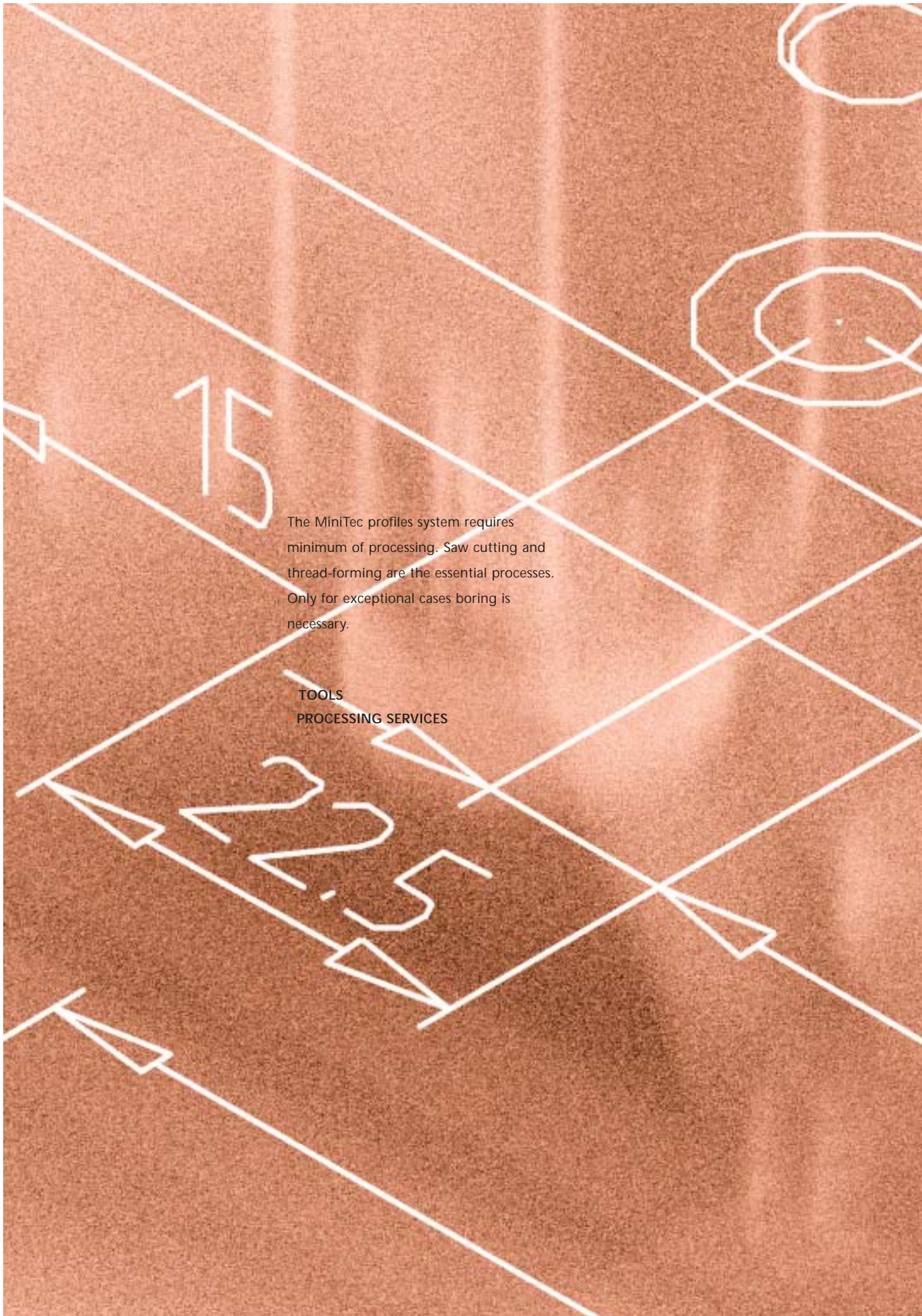


Company Please call me back

Name Please send me an offer

Phone no.

Fax no.

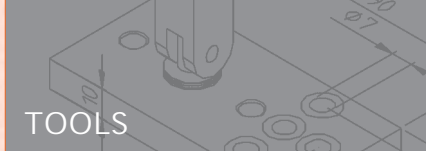


The MiniTec profiles system requires minimum of processing. Saw cutting and thread-forming are the essential processes. Only for exceptional cases boring is necessary.

- TOOLS
- PROCESSING SERVICES

4

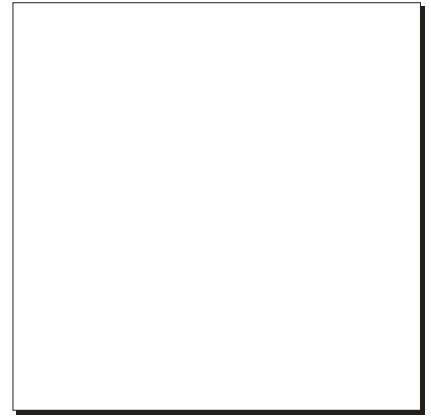
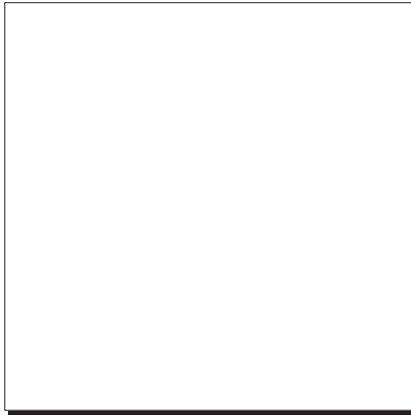
TOOLS + PRO- CESSING SERVICES



TOOLS

BALL-HEADED KEY 4 A/F

Part N° 26.1817/0



TECHN. DATA/ITEMS SUPPLIED

- Chrome plated, with handle PA GF,green
- 4 A/F

APPLICATIONS

- Pretightening of MiniTec power-lock fastener

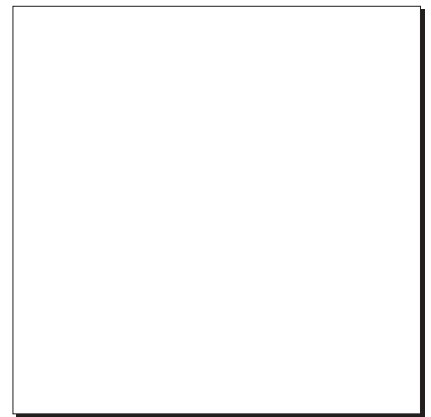
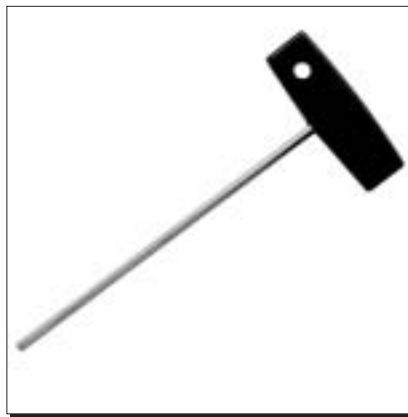
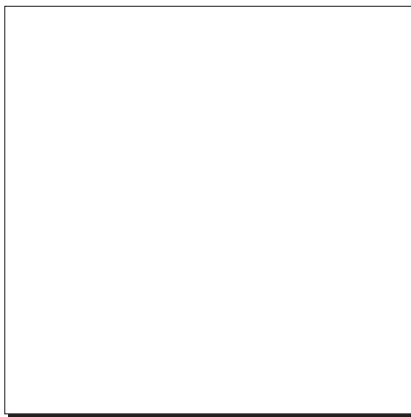
OTHER DESIGNS

Ball-headed key 5 A/F
Part N° 26.1084/0

- Pretightening of bolt- and butt-fasteners

T-HANDLE KEY 4A/F

Part N° 26.1810/0



TECHN. DATA/ITEMS SUPPLIED

- Chrome plated
- Handle, PA GF, black

APPLICATIONS

- Tightening of MiniTec power-lock fastener

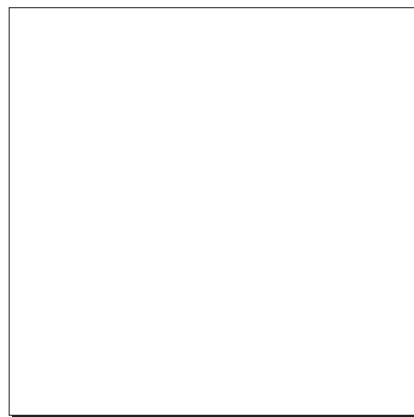
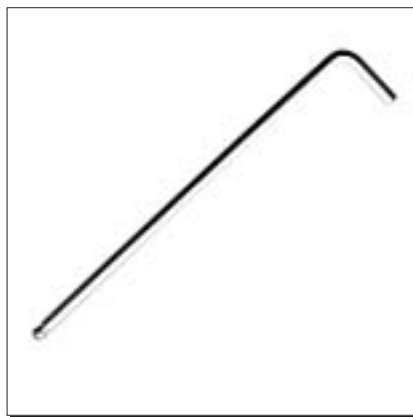
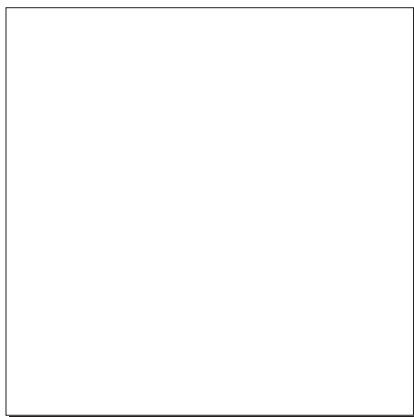
OTHER DESIGNS

T-handle key 5 A/F
Part N° 26.1083/0

- Tightening of hex socket cap screws and counter sunk screws M8

COMBI L-KEY 4 A/F

Part N° 26.1811/0



TECHN. DATA/ITEMS SUPPLIED

- Chrome plated, one end ball headed

APPLICATIONS

- Pretightening and final tightening of MiniTec power-lock fastener

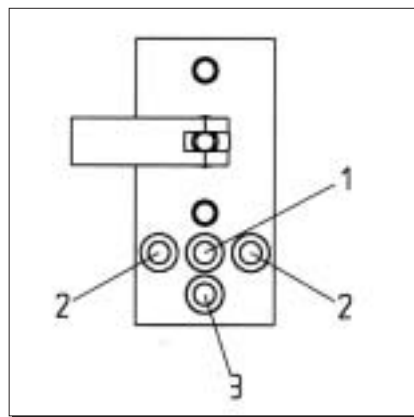
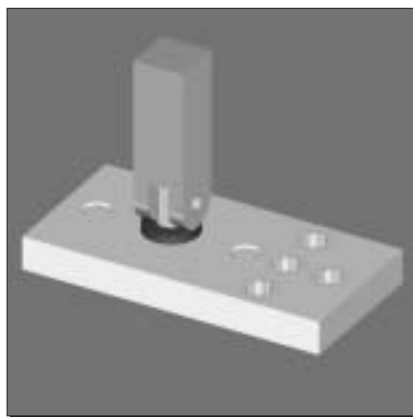
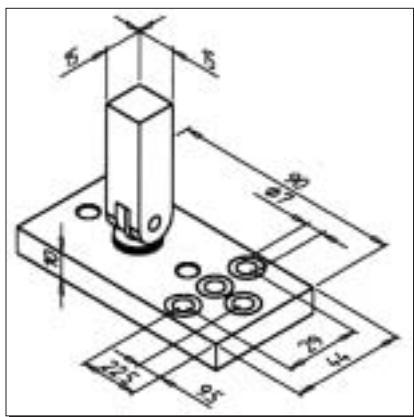
OTHER DESIGNS

Combi L-key 5A/F
Part N° 26.1085/0

- Pretightening of hex socket cap screws and counter sunk screws M8

DRILLING JIG

Part N° 26.1092/0



TECHN. DATA/ITEMS SUPPLIED

- Aluminium
- Steel drill bushes Ø 7 mm

Weight 0,220 kg

APPLICATIONS

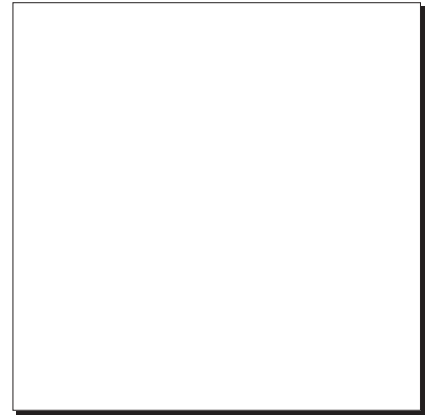
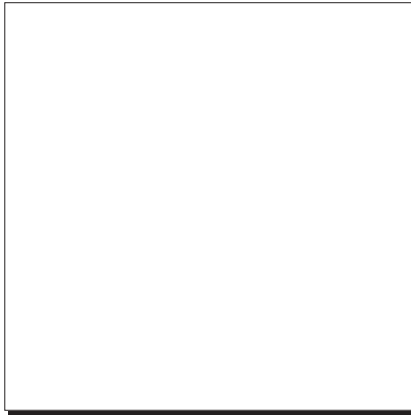
- Positioning of step drilling for screw-connection
- Precise positioning of drillings for pneumatic connections on profile surface
- Screw connection of profiles 32 x 32

APPLICATION

- Clamp drilling jig on profile groove and bore through bushes
- 1- Step-drilling
- 2- Pneumatic connections
- 3- Screw connection 32 x 32

THREAD FORMER M8

Part N° 26.1082/0



TECHN. DATA/ITEMS SUPPLIED

- HSS-E
 Length 95 mm

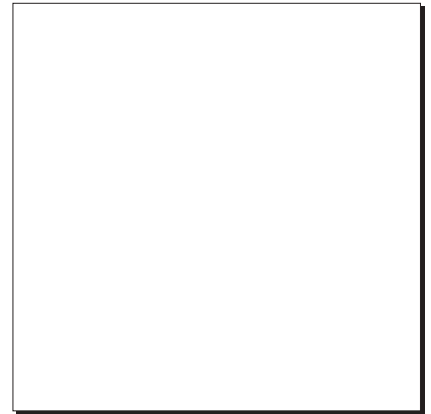
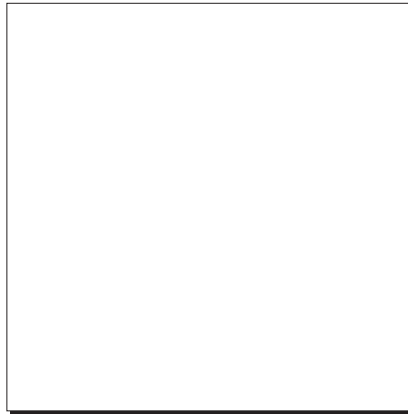
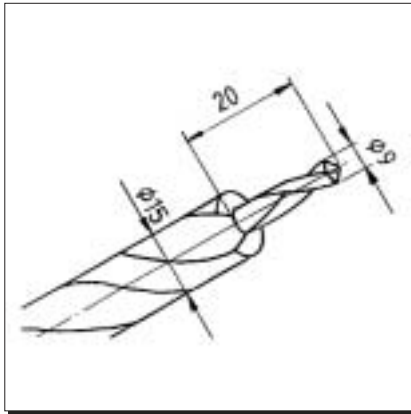
APPLICATIONS

- Roll-tap forming of M8 threads in core bores of all profiles

APPLICATION

STEP DRILL 15

Part N° 26.1815/0



TECHN. DATA/ITEMS SUPPLIED

- HSS-steel
 - Steps Ø 9 mm, 20 mm
 - Shaft cylindric
 Length 165 mm

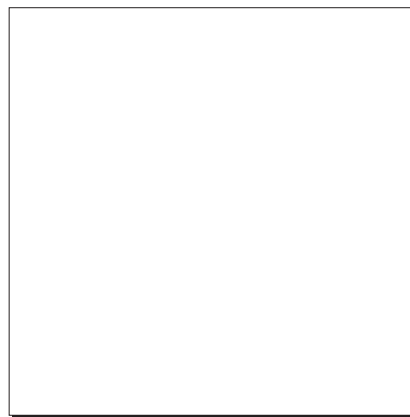
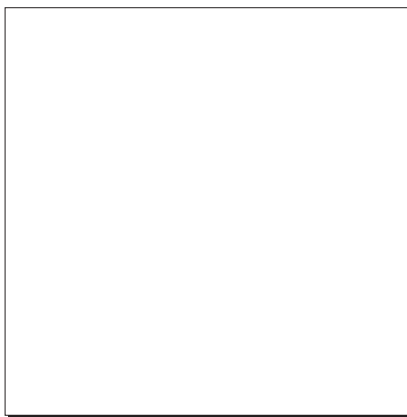
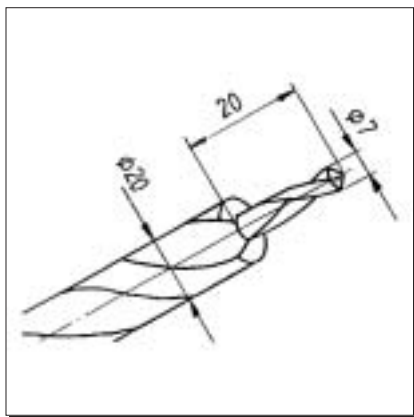
APPLICATIONS

- Step drilling for bolt- and butt-fastener 15

APPLICATION

STEP DRILL 20

Part N° 26.1813/0



TECHN. DATA/ITEMS SUPPLIED

- HSS-steel
 - Steps Ø 7 mm, 20 mm
 - Shaft cylindric
- | | |
|--------|--------|
| Length | 165 mm |
|--------|--------|

APPLICATIONS

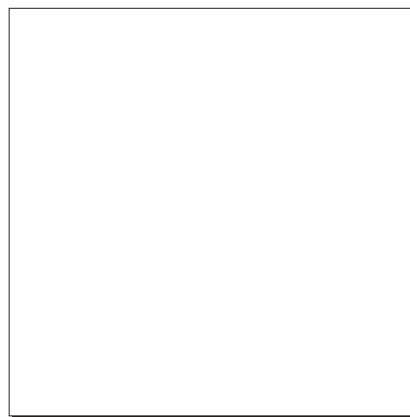
- Step drilling for bolt- and butt-fastener

APPLICATION



THREAD FORMING MACHINE

Part N° 26.1910/0



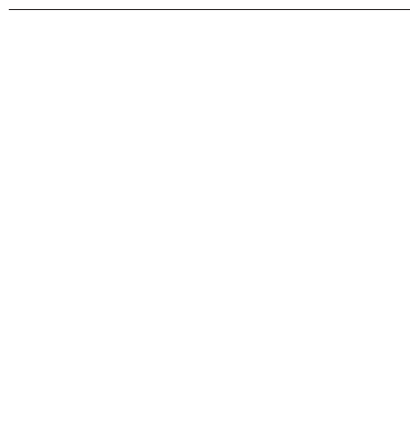
TECHN. DATA/ITEMS SUPPLIED

- Automatic changing of turning direction
 - Quick reverse movement 230 V, 280 W
 - For threads up to M10
 - Complete with chuck
 - Spindle housing: Ø 43 mm
- | | |
|--------|----------|
| Weight | 2,300 kg |
|--------|----------|

APPLICATIONS

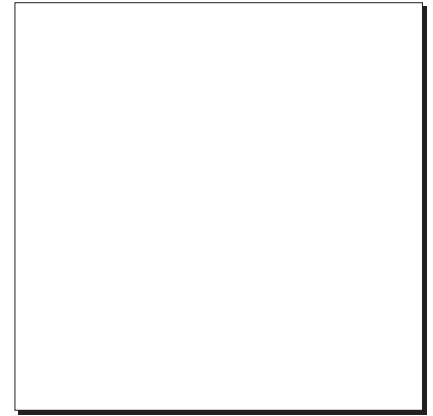
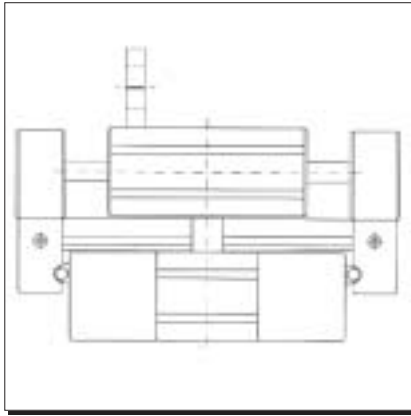
- Cost effective forming of threads in core bores of profiles
- To be used together with thread forming jig

APPLICATION



AUTOMATIC THREAD FORMING MACHINE

Part N° 26.1970/0



TECHN. DATA/ITEMS SUPPLIED

- Made of MiniTec aluminium profiles
- 2-axis slide with machine seating for thread forming or drilling machines with spindle housing Ø 43 mm
- Complete with support frame
- Without machine

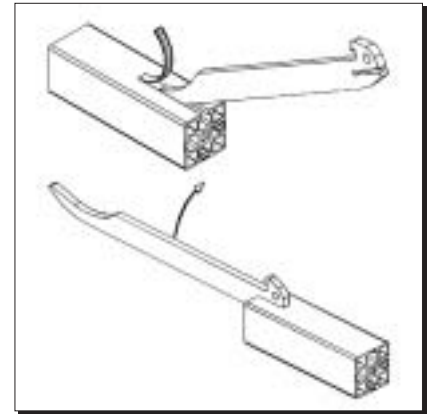
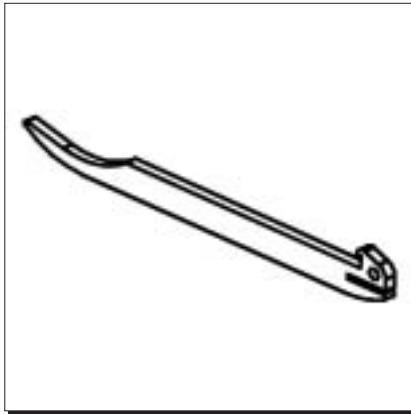
APPLICATIONS

- Rational thread forming
- Rational re boring of central bores
- Can be delivered with 1 - 4 slides for up to 4 machines

APPLICATION

TEAR-OFF LEVER

Part N° 26.0815/0



TECHN. DATA/ITEMS SUPPLIED

- Steel, chrome plated

Weight 0,456 kg

APPLICATIONS

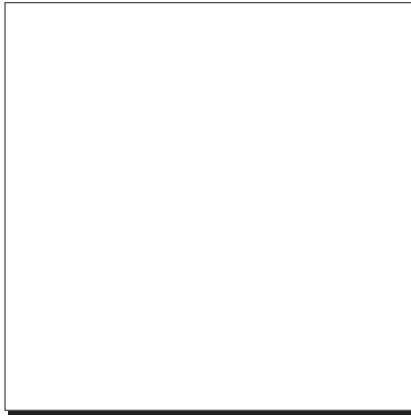
- Rational opening of the MiniTec aluminium profiles G groove covers, e.g. for the installation of panel elements, attachment of linear guides etc.
- Rational opening of the MiniTec aluminium profiles G groove covers for the assembly of MiniTec power-lock fasteners

APPLICATION

- Slick the slot end of the tool at the profile end on the groove cover and break it open towards the top; break off the groove cover by pulling up and down
- The produced opening is designed for the assembly of MiniTec power-lock fasteners. After tightening cut out is covered with a cap G Part N° 22.1056/0
- Slick bended end under the groove cover and open in desired length. Opened grooves can be covered again with cover profiles

DEBURRING TOOL

Part N° 26.0813/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic handle
 - Changable deburring tool
- Weight 0,090 kg

APPLICATIONS

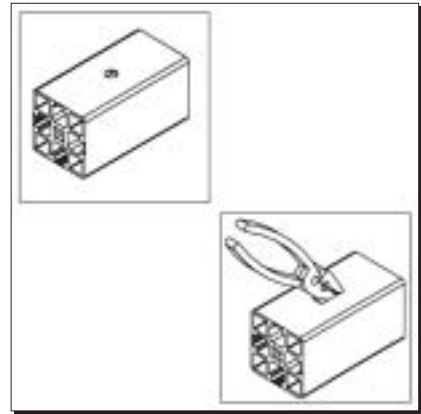
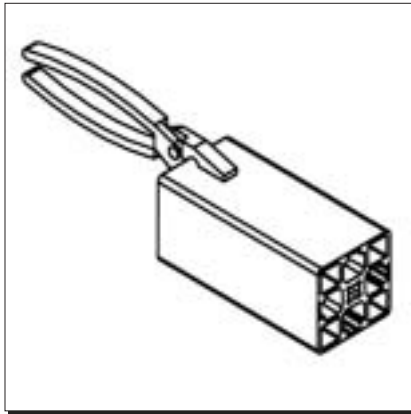
- For deburring of the profile groove after opening the grooves of profiles G
- For deburring of bores

APPLICATION

- Set tool and slide along area to be deburred

TEAR-OFF PLIERS FOR G PROFILES

Part N° 26.0814/0



TECHN. DATA/ITEMS SUPPLIED

- Plastic handle
- Weight 0,150 kg

APPLICATIONS

- For opening the profile grooves of MiniTec profiles G groove covers

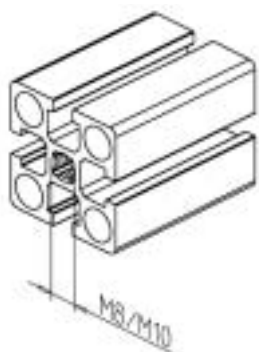
- Set pincers onto profile cover and break by swivelling several times



PROCESSING SERVICES

PROCESSING SERVICES

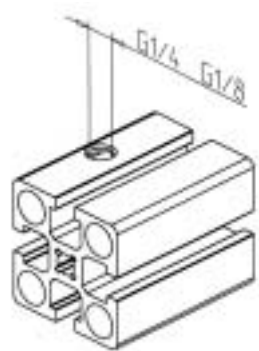
The MiniTec profile system requires minimum of processing. Saw cutting and thread-forming are the essential processes, only for exceptional cases drillline is necessary.



Thread M8 M10

Thread M8 x 20
in core bore
for power-lock fastener

Part N° 25.1087/0



Thread G1/4 G1/8

Thread M10 x 25
in core bore
for feet

Part N° 25.1088/0

Thread G 1/4
on profile surface
for pneumatics

Part N° 25.1089/0

Thread G 1/8
on profile surface
for pneumatics

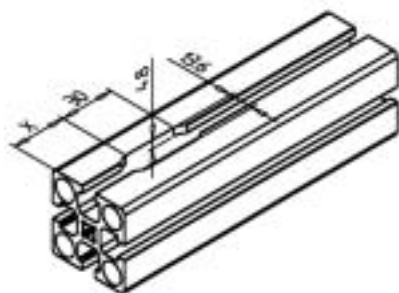
Part N° 25.1090/0

Thread G 1/4
in core bore \varnothing 11,7 mm
for plug, pneumatics

Part N° 25.1091/0

Through bore \varnothing 7 mm
for screw connection

Part N° 25.1092/0



Processing Insertion tide

Insertion tide
on profile surface
for subsequent insertion of
power-lock fastener

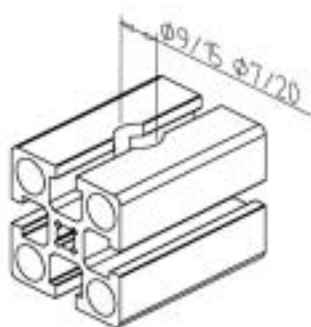
Part N° 25.0315/0

Bore \varnothing 9 / \varnothing 15
for bolt and butt fastener 15

Part N° 25.1085/0

Bore \varnothing 7 / \varnothing 20
for bolt and butt fastener

Part N° 25.1097/0



Bore

Saw cut, square, minimized burr
Profile to \varnothing 32 x 19
Profile to \varnothing 32 x 32, handle profil
Profile to \varnothing 45 x 32
Profile to \varnothing 45 x 45
Profile to \varnothing 45 x 90
Profile to \varnothing 90 x 180
Angle profil 89 x 89

Part N° 25.1093/0

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