



The **STRONG** dimension...

Heavy duty linear units
D-Line

Heavy duty linear units D-Line



The **STRONG** dimension in handling systems for heavy loads has a name: D-Line

This whole new range of linear units is based on BLOCAN® heavy-duty profiles (D-profiles).

D-Line puts into practice all the advantages of the latest developments in aluminium-alloy technology. This ensures a low specific weight, thus keeping the drive unit as small as possible – which is of great benefit when using axis that operate in sequence. Increased dynamic performance for the efficient use of short cycle times.

FEM calculation helps to create highly-efficient geometric arrangements designed to produce profiles with extra bend-resistance. In comparison to conventional steel linear units, the use of D-Line delivers weight reductions of around 35%.

Modular design breaks the limits to ensure that you obtain the best-possible configuration for your particular situation.

Guide shafts or ball rail? Timing belt or rack? Individual axis or gantry system?

No need to worry, as D-Line can adapt to your specific system. Machining of profiles is not necessary due to a new developed compensating element (patented) for connection between guide table and runner blocks.

A wide selection of accessories and standardised chassis components complete our range. We will be pleased to discuss your application.



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Timing-belt drive

The guide body of the linear unit consist of extruded aluminium profiles from the familiar BLOCAN®- system range of D-profiles. These are supplied in standard lengths of 6 m. See the max. travel data in the ordering tables. It is technically possible two join two profiles to each other at

the ends to obtain a greater stroke length (of up to 14 m). You should however consult with our Technical Department before doing so.

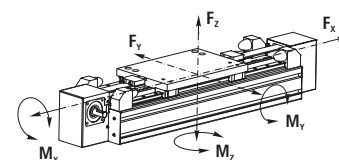
Optional fixing holes can be made in the guide tables to customer specifications on request.

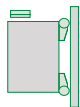





Technical description

Timing belt:	Timing belt with steel reinforcement (GT-8M) Pitch: 8 mm Width: 60 mm
Pulley box:	Steel, black, powder-coated
Guide table:	EN AW 5083
Guide profile:	Extruded aluminium, clear anodised
Guide shafts:	Heat-treated steel, inductively hardened HRC 62 hard-chrome plated surface
Guide rails:	hardened, ground, precision-class N
Shaft bearings:	sealed single-row grooved ball bearings
AktiveØ pulley wheel:	122.23 mm
Circumf. pulley wheel:	383.80 mm
Positioning accuracy:	±0,15 mm/300mm travel
max. travel speed	5 m/s (Track roller) / 3 m/s (Ball rail)

Load data* of timing belt units

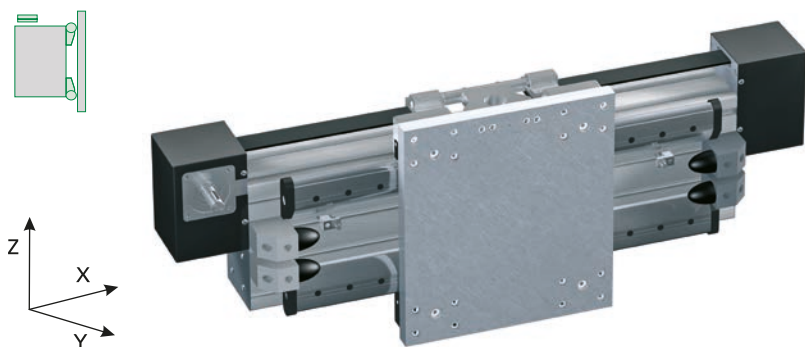
*With reference to carriage (static values, guide element resting on full surface)



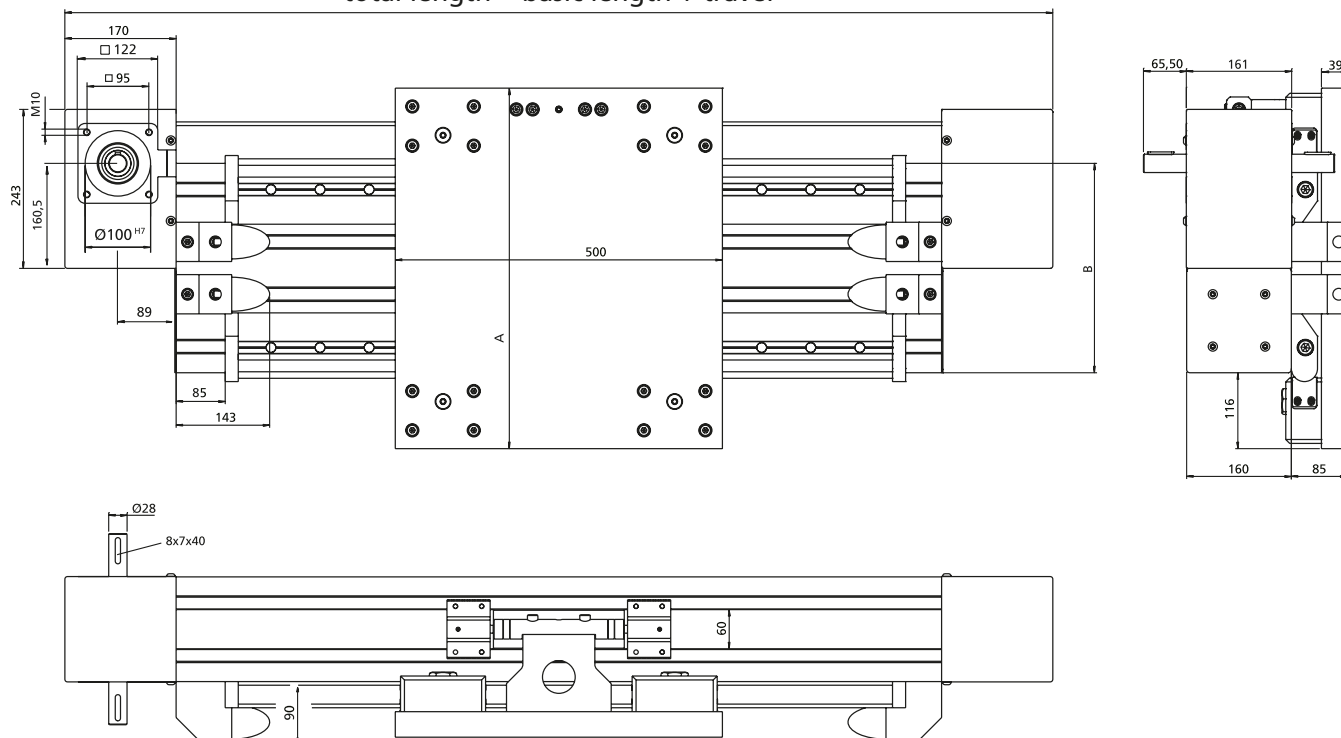
Type	Fx	Fy	Fz	Mx	My	Mz
 D-160x240	4700 N	14000 N	14000 N	1200 Nm	550 Nm	1200 Nm
 D-160x320	4700 N	14000 N	14000 N	1200 Nm	550 Nm	1200 Nm
 D-160x320	4700 N	14000 N	14000 N	1200 Nm	1200 Nm	550 Nm
 D-160x160	4700 N	30000 N	10000 N	1300 Nm	2450 Nm	6880 Nm
 D-160x240	4700 N	30000 N	10000 N	2500 Nm	2450 Nm	6880 Nm
 D-160x320	4700 N	30000 N	10000 N	3800 Nm	2450 Nm	6880 Nm
D-160x160	4700 N	10000 N	30000 N	1300 Nm	6880 Nm	2450 Nm
D-160x320	4700 N	10000 N	30000 N	3800 Nm	6880 Nm	2450 Nm

Order information:

- Longer travel lengths available on request
- On request, this unit is also available as roller guide without timing belt drive



total length = basic length + travel

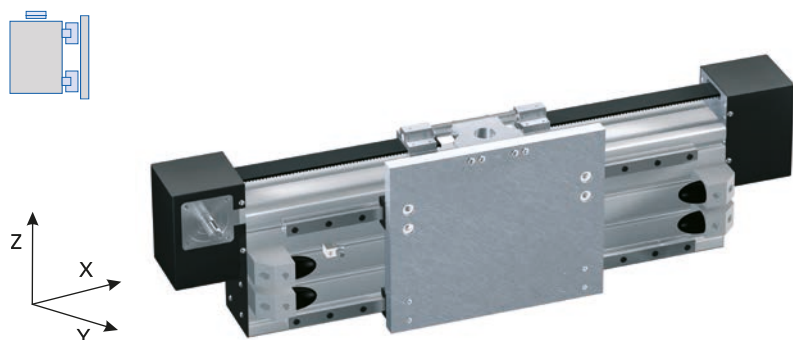


Type	Basic length	A	B	Max. travel	Weight [kg]	
					Basic length	per 1m travel
D-160x240	1126	471	240	5214	129.0	55.0
D-160x320	1126	551	320	9214	135.2	62.3

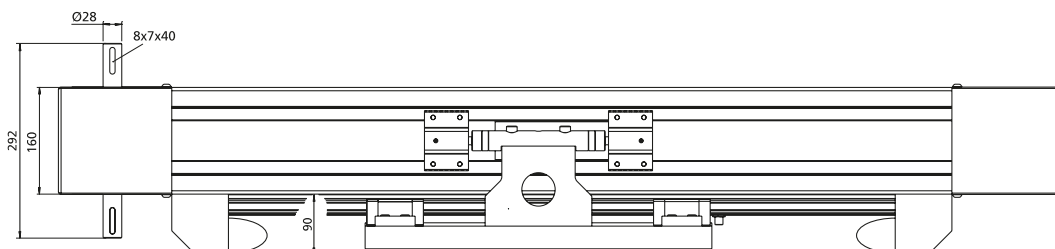
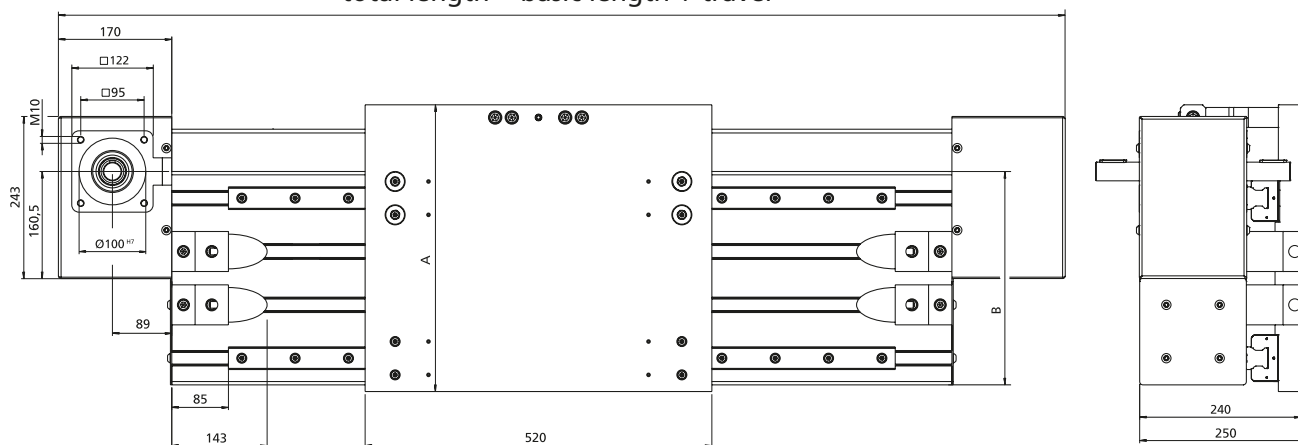


Timing-belt drive, ball rail guide

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total length = basic length + travel

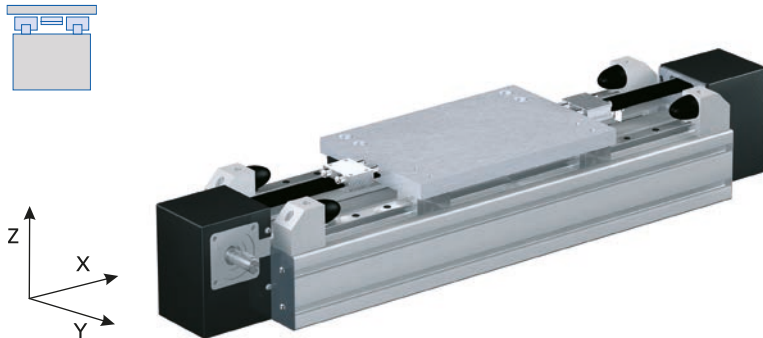


Type	Basic length	A	B	Max. travel	Weight [kg]	
					Basic length	per 1m travel
D-160x160	1146	270	160	5194	98.6	35.6
D-160x240	1146	350	240	5194	118.6	43.3
D-160x320	1146	430	320	9194	128.0	50.6

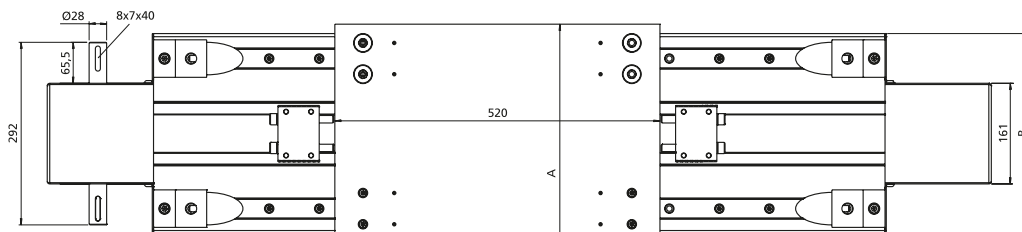
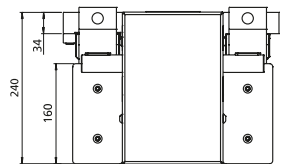
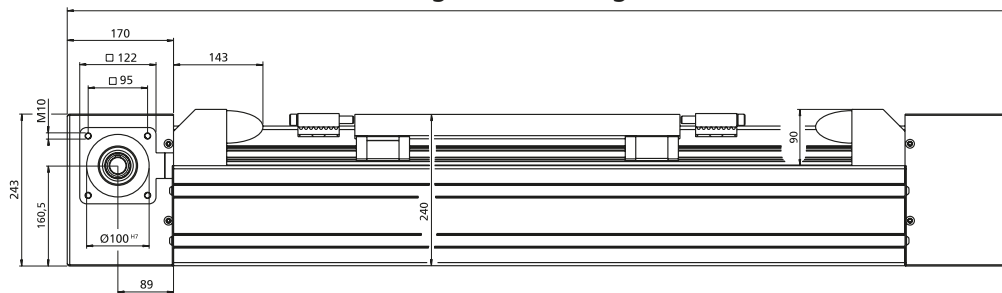
Timing-belt drive, ball rail guide

Order information:

- Longer travel lengths available on request
- On request, this unit is also available as roller guide without timing belt drive



Total length = basic length + travel



Type	Basic length	A	B	max. travel	Weight [kg]	
					Basic length	per 1m travel
D-160x160	1146	185	160	5194	92.2	35.6
D-160x320	1146	345	320	9194	121.6	50.6



Rack and pinion drive

The guide body of the linear unit consist of extruded aluminium profiles from the familiar BLOCAN®- system range of D-profiles.

These are supplied in standard lengths of 6 m. See the max. travel data in the ordering tables. It is technically possible two join two profiles to each other at the ends to obtain a greater travel length (of up to 50 m).

You should however consult with our Technical Department before doing so.

Rack and pinions with angled teeth are used on versions with ballball rail guides.

Technical description

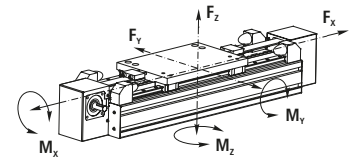
	Roller guide	Ball rail system
Rack:	Inductively hardened	
Pinion:	Hardened teeth, teeth and collar ground	
Module:	4	3
Graduated circle:	on request	Ø 63.66 mm
Number of teeth:	on request	20
Guide table:	EN AW 5083	
Guide profile:	Extruded aluminium, clear anodised	
Guide shafts:	Heat-treated steell, inductively hardened HRC 62 hard-chrome plated surface	-
Guide rails:	-	hardened, ground, precision-class N
Positioning accuracy:	±0,2 mm/300mm travel	
max. travel speed:	5 m/s	3 m/s

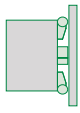

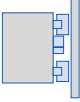

Load data* of linear units with rack and pinion drive

The maximum load along the X-axis depends on the motor.

*referring to the guide table

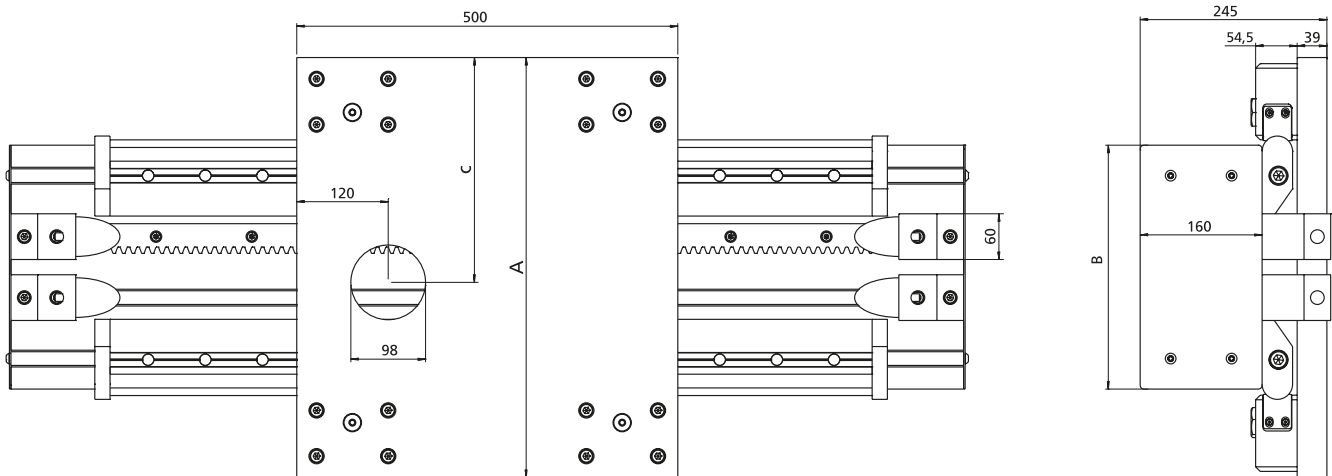
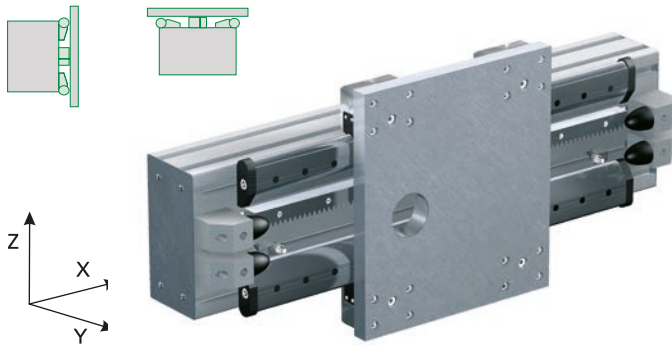
(values static, linear unit is completely supported)



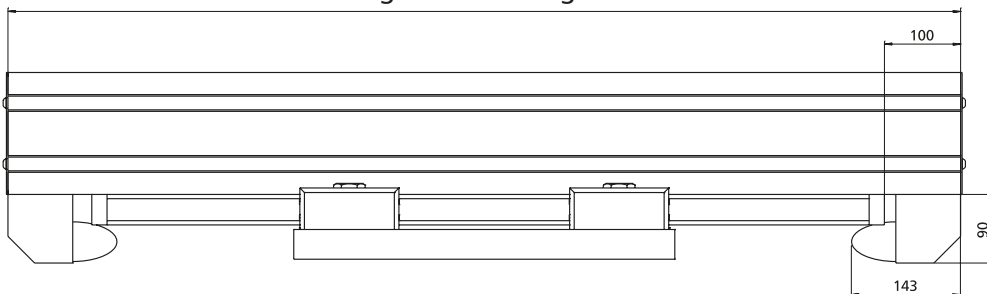
Type	max. input torque	Fy	Fz	Mx	My	Mz	
 D-160x320	381 Nm	10000 N	10000 N	1200 Nm	550 Nm	1200 Nm	
 D-160x320	381 Nm	10000 N	10000 N	1200 Nm	1200 Nm	550 Nm	
 D-80x240	194 Nm	30000 N	10000 N	2500 Nm	1700 Nm	5180 Nm	
	D-160x240	194 Nm	30000 N	10000 N	2500 Nm	1700 Nm	5180 Nm
	D-160x320	194 Nm	30000 N	10000 N	3800 Nm	1700 Nm	5180 Nm
 D-80x240	194 N	10000 N	30000 N	2500 Nm	5180 Nm	1700 Nm	
	D-160x240	194 N	10000 N	30000 N	2500 Nm	5180 Nm	1700 Nm
	D-160x320	194 N	10000 N	30000 N	3800 Nm	5180 Nm	1700 Nm

Order information:

- Longer travel lengths available on request
- On request, this unit is also available as roller guide without rack and pinion drive



Total length = basic length + travel



Type	Basic length	A	B	C	max. travel	Weight [kg]	
						Basic length	per 1m travel
D-160x320	786	551	320	295	9214	92.6	73.4

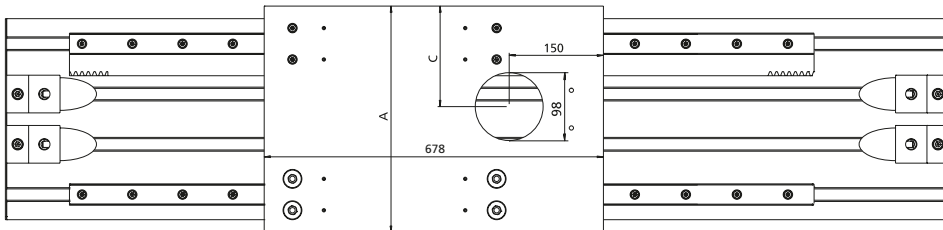
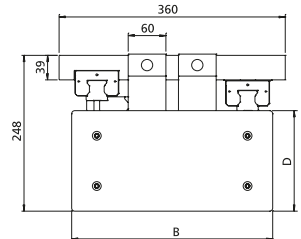
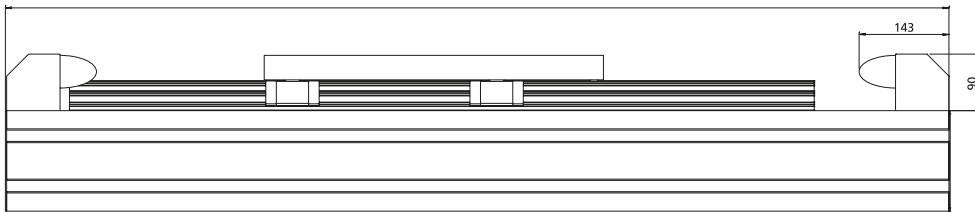
Rack and pinion drive, ball rail guide

Order information:

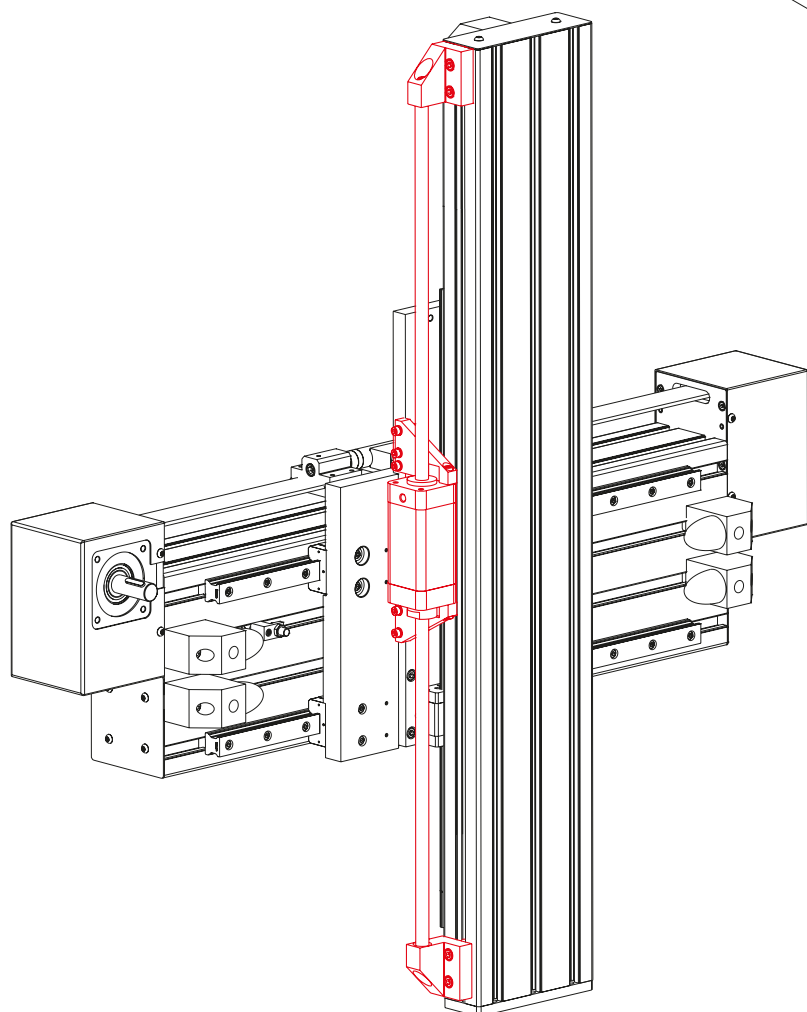
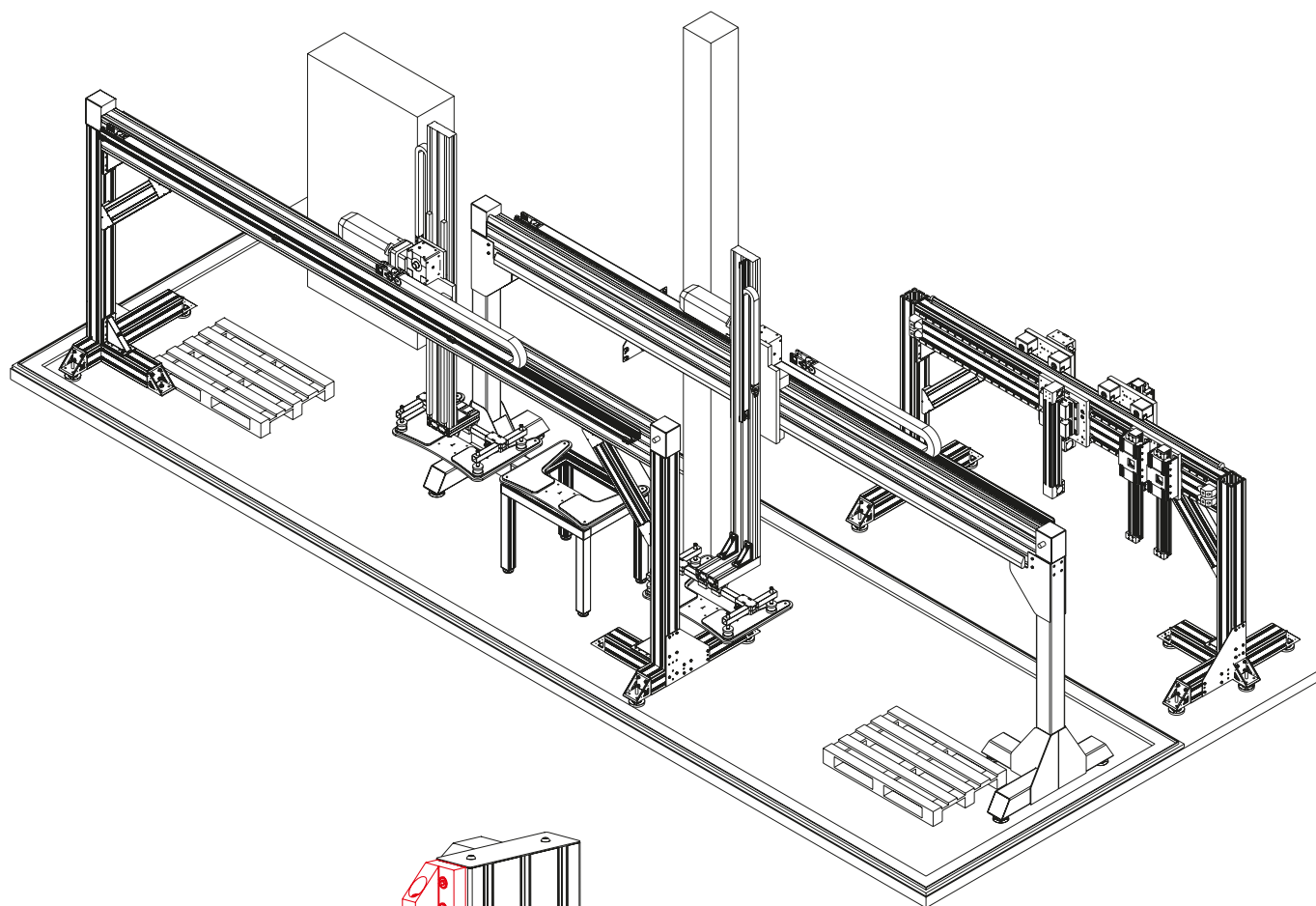
- Longer travel lengths available on request
- On request, this unit is also available as roller guide without rack and pinion drive



Total length = basic length + travel



Type	Basic length	A	B	C	D	max. travel	Weight [kg]	
							Basic length	per 1m travel
80x240	924	280	240	160	80	5076	40.7	43.6
160x240	924	280	240	160	160	5076	47.7	53.6
160x320	924	360	320	160	160	9076	58.2	60.6



Accessories

Track roller module



Track roller module



Guide shafts and housing profile



Rack



Rack



Bumper



Guide shaft



Runner block



Connecting element for limit switch



Pulley box



Pulley box with drive pins



Connecting element for proximity limit switch





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D-Line system components

Brakes / Holding of linear axes

Holding

This means, when the machine is switched off, e.g. the Z-axis is moved to its initial position and then it is secured against falling down. In this way, it will be possible to replace for instance the motor or the gear unit easily.

Slowing down

That means, if the power or control unit fail or an emergency switch off is caused, the axis will be slowed down during its travel.

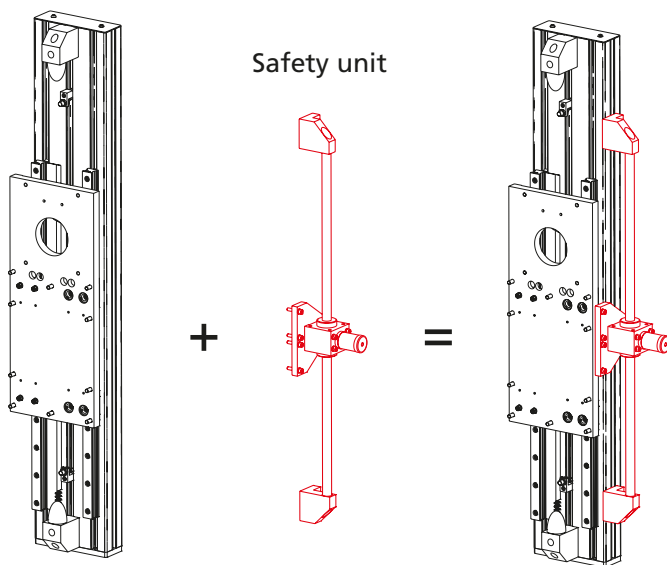
Holding of linear axes

Typical machine with linear axes are gantries, linear robots, machining centres and integrated production systems. If in case of tooling or maintenance the access to the work area or the dangerous area is required, all dangerous drives have to be stopped and the slide units, especially the vertical axes must be hold in fixed position. This is often done using additional holding brakes which will engage when the drive control regulates the speed of the slide down to zero. If the machine fails, e.g. because of power or control failure and depending on the programming of the EMERGENCY-OFF, additionally the remaining kinetic energy must be reduced in controlled way.

Revised Machine Directive

The European Directive 98/37/EG (Machine Directive) regulates the introduction of machines into the European market. It was first issued in 1992 and now it has been revised. The new Machine Directive is planned to be implemented in the first half year of 2006. After that, a 24-month time period starts. Within this period, the member states have to implement this directive into national legislation. From the middle of 2007, another 18-month transient period starts. Within this period, both directives, the old and the new one, can be applied. In 2009 at latest, the products and documents must definitely comply with the new directive.

Further information on gravity loaded axes (vertical axes) are available on request. They include information about the risk analysis, example for measures and an allocation to the customary brake units.

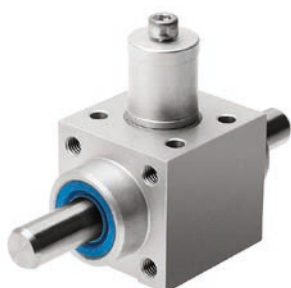


Vertical linear axis - roller guide or ball rail guide

Safety unit

The D-Line linear axes can also subsequently be equipped with a safety unit. Here, we distinguish between three versions. KPE for holding (e.g. meanwhile maintenance), KEC for braking (e.g. at a stopover) or KEC-S for braking (e.g. at a stopover) and brakes (e.g. emergency stop) of linear axes.

Holding of linear axes, version KPE



Static holding force 5000 N

- Unit clamps the shaft without

Note:
Not certified for the application in safety-relevant controls.

Braking of linear axes, version KPC



Static holding force 3200 N

- Unit clamps and holds the shaft without pressure also in case of power failure
- Hold a bar at a stopover

Note:
Not certified for the application in safety-relevant controls.

Holding and braking – safe holding of linear axes, version KEC-S



Static holding force 3200 N

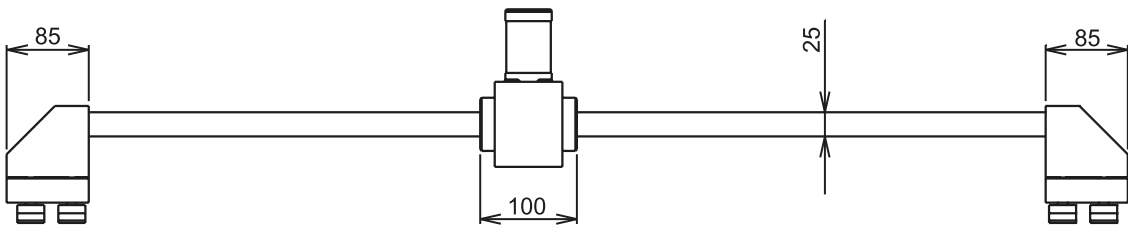
- Unit clamps and holds the shaft without pressure also in case of power failure in case of safety-relevant applications
- Application of a brake unit (dynamic application). Slowing down or stopping of movements, interruption of a movement if the dangerous area is entered

Note:
Certified for the application in safety-relevant control units by the Berufsgenossenschaftlichen Institut für Arbeitssicherheit (BGIA) (institute of the professional association).

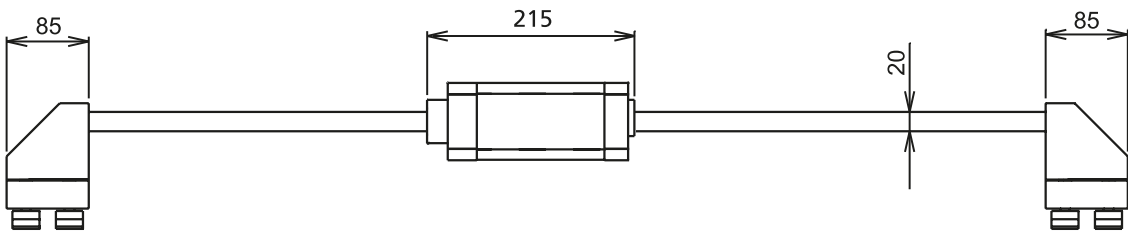
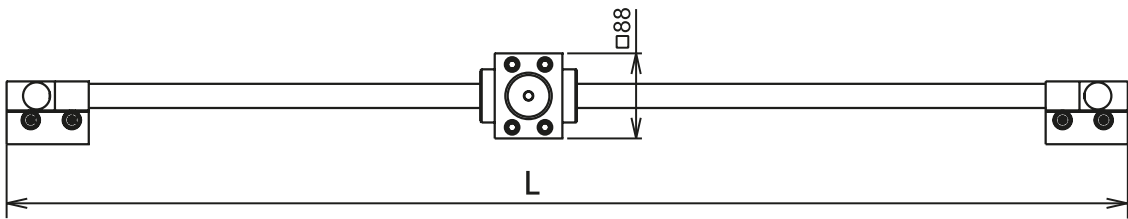
D-Line system components

Safety unit

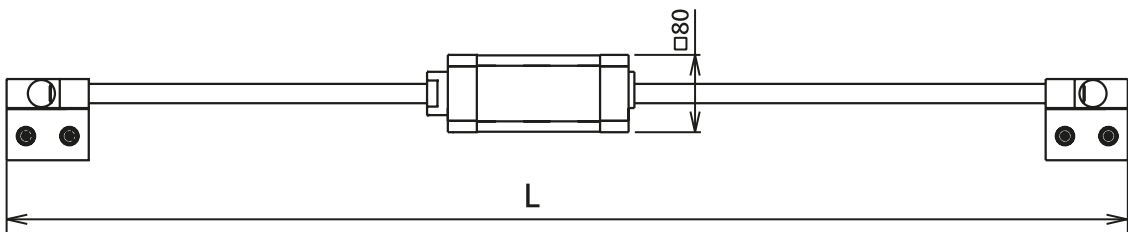
- Diagram without fixtures for the slide guide



KPE

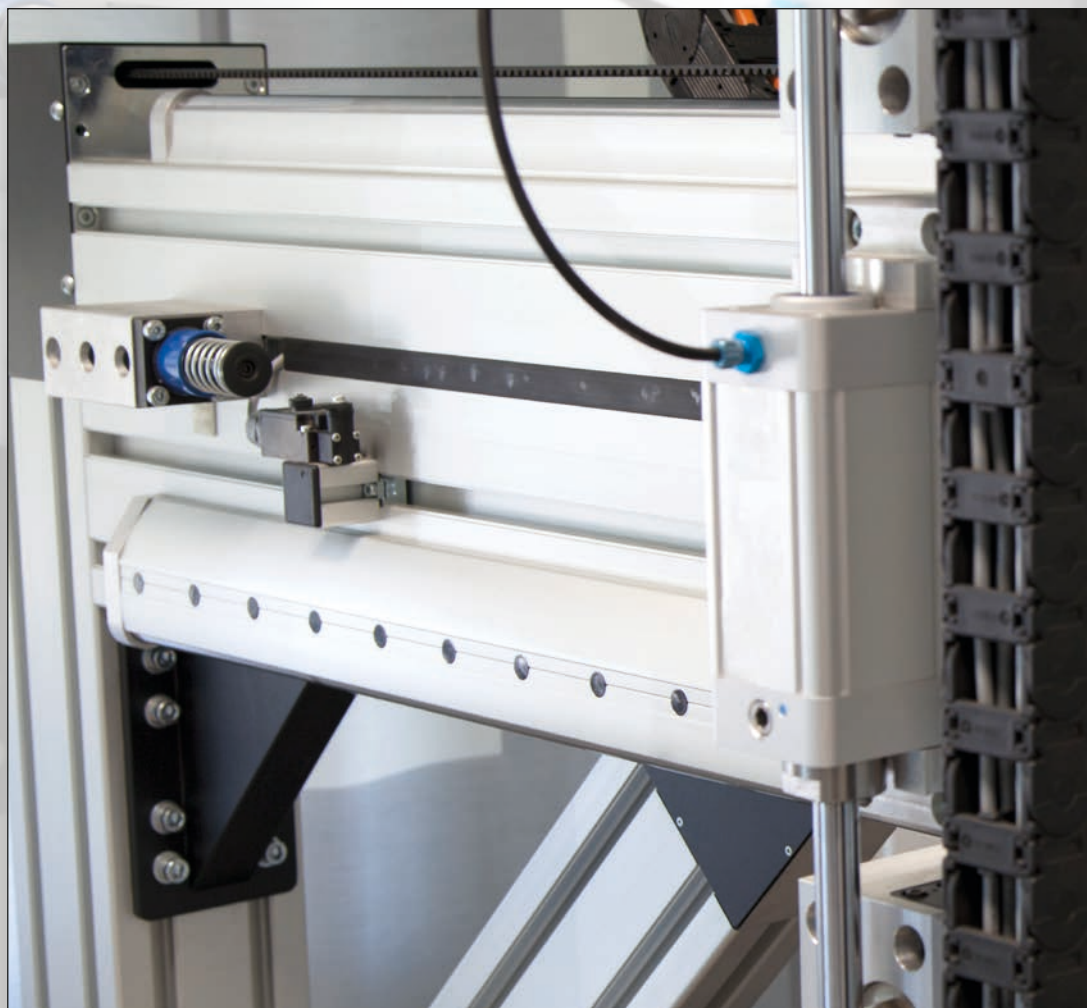


KPC /
KPC-S





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D-Line System profiles

Heavy duty with maximum stability

The basis of the heavy duty linear units are the well-known heavy duty profiles from the product range group BLOCAN®-Profile assembling system.

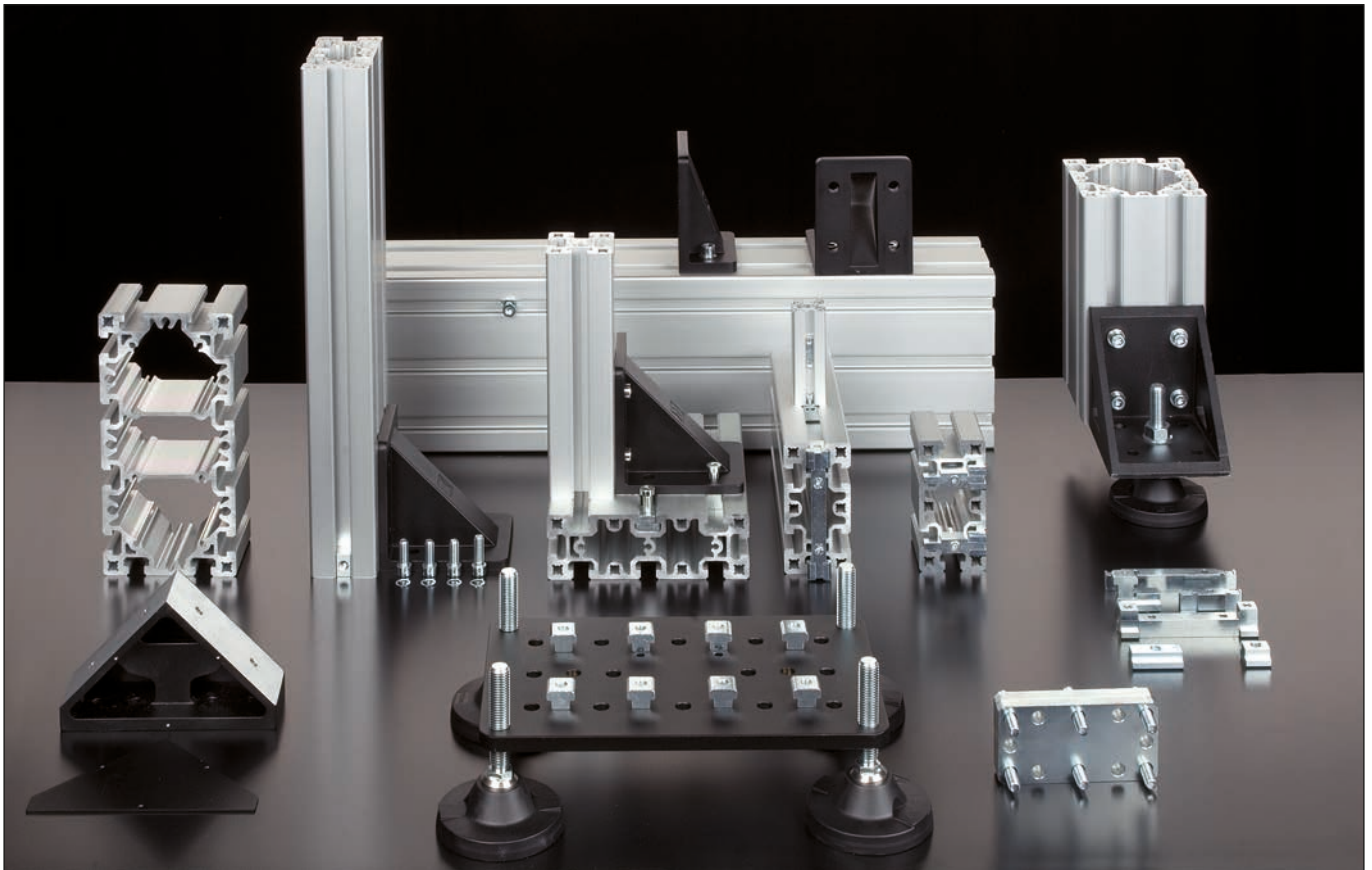
The aluminium profiles 80x80, 80x160, 80x240, 160x160, 160x240 and 160x320 mm combine very high bending and torsion resistance with relatively little weight. This way, even big gantry cranes and machine support structures that used to be mounted exclusively on steel structures, can be now built with lightweight aluminium profiles.

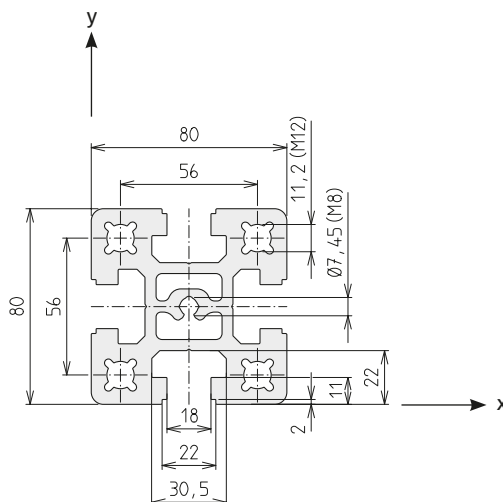
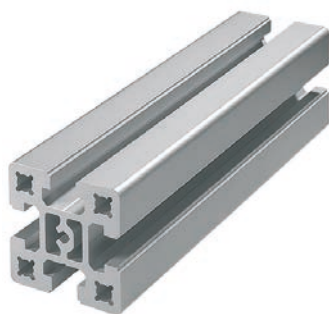
By means of DIN slot stones add-on parts can be fitted to the 18 mm wide profile slots.

Also our existing BLOCAN® products (with a 10 mm profile slot) can be attached without difficulties to the new profiles by means of accessories. Thus, we carry on our RK modular system philosophy which permeates all our product ranges.

A further highlight in this profile range, are the special designed press mount connectors for the heavy duty area.

The name is self explanatory: the profiles are connected under pressure thus guaranteeing a high load bearing capacity. The connection can be disassembled again at any time. Here, no machining of the aluminium profiles is needed thus decreasing considerably the assembly costs in comparison with other profile systems and steel structures.

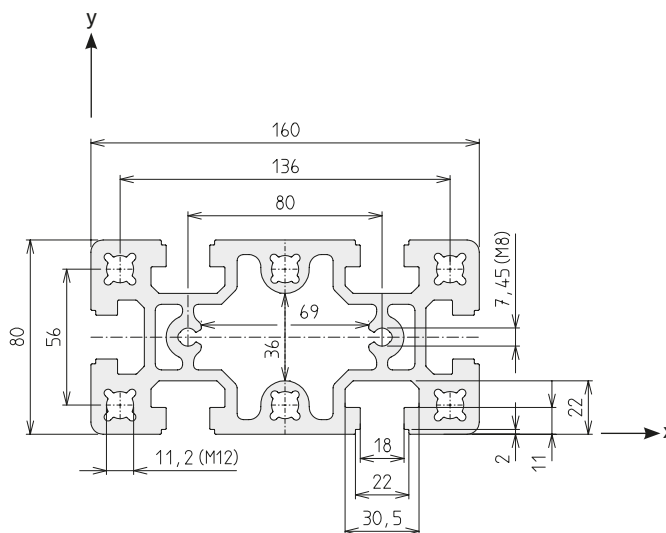
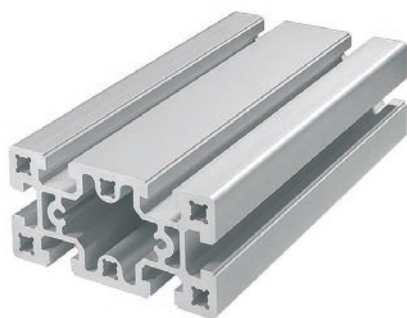


D-80x80


Code No. profile D-80x80			Anod. coating
4C45000	cut	max. 6000 mm	natural
4C45001	bar	à 6000 mm	natural

Surface	3200	mm ²
I _x	198,0	cm ⁴
I _y	199,3	cm ⁴
W _x	49,6	cm ³
W _y	49,8	cm ³
Weight	8581	g/m

Connection	Required qty per connection	Slot geometry	Press mount connector	Code No. / pcs
Press mount connector longit+transv.	1 pcs	D	-N- 80	4C16701

D-80x160


Code No. profile D-80x160			Anod. coating
4C15000	cut	max. 6000 mm	natural
4C15001	bar	à 6000 mm	natural

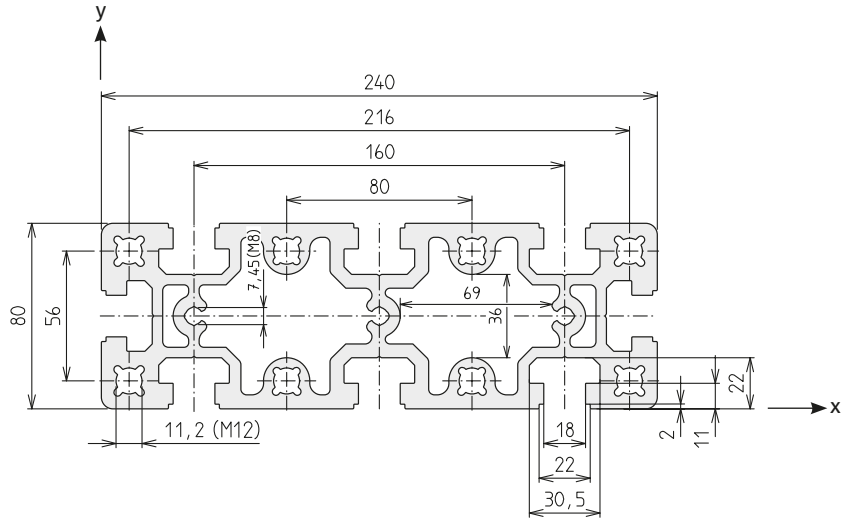
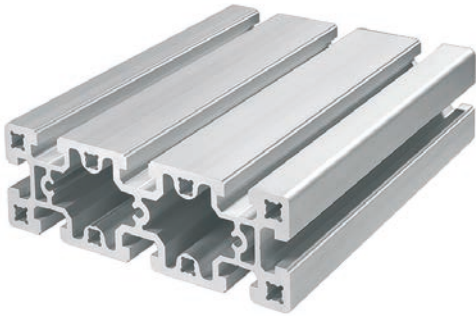
Surface	5212	mm ²
I _x	367,5	cm ⁴
I _y	1397,0	cm ⁴
W _x	91,6	cm ³
W _y	174,6	cm ³
Weight	14073	g/m

Connection	Required qty per connection	Slot geometry	Press mount connector	Code No. / pcs
longit.	1 pcs	D	-N- 160	4C16700
transv.	2 pcs		-N- 80	4C16701

Note: Drillings are designed for self-tapping screw channels (M8/M12)

D-Line System profiles

D-80x240

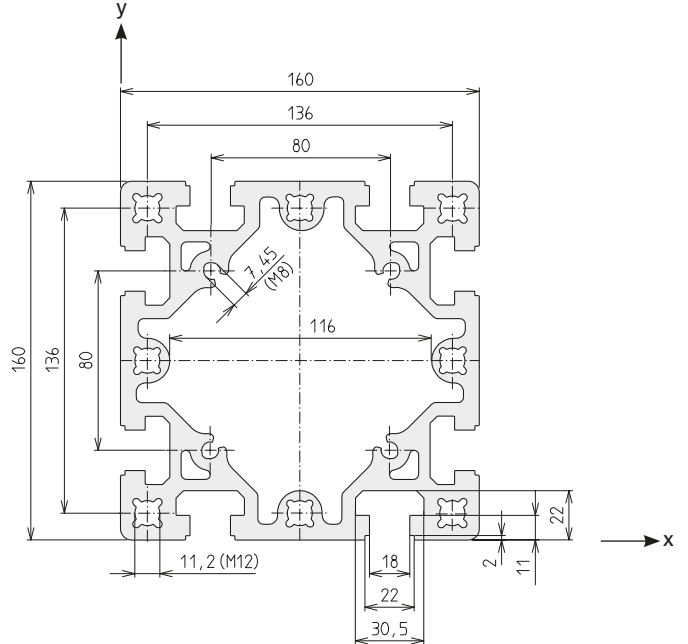
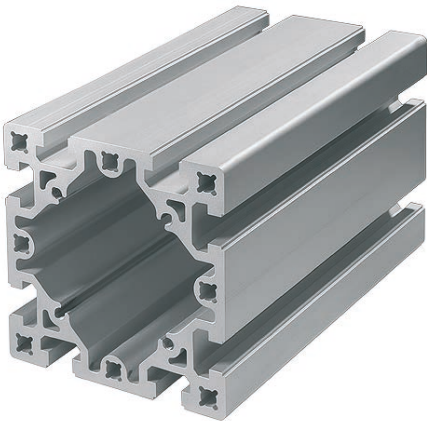


Code No. profile D-80x240			Anod. coating
4C55000	cut	max. 6000 mm	natural
4C55001	bar	à 6000 mm	natural

Surface	7422	mm ²
I _x	540,8	cm ⁴
I _y	4268,2	cm ⁴
W _x	135,2	cm ³
W _y	355,7	cm ³
Weight	20015	g/m

Connection	Required qty per connection	Slot geometry	Press mount connector	Code No. / pcs
longit.	1 pcs	D	-N- 240	4C56700
transv.	3 pcs		-N- 80	4C16701

D-160x160

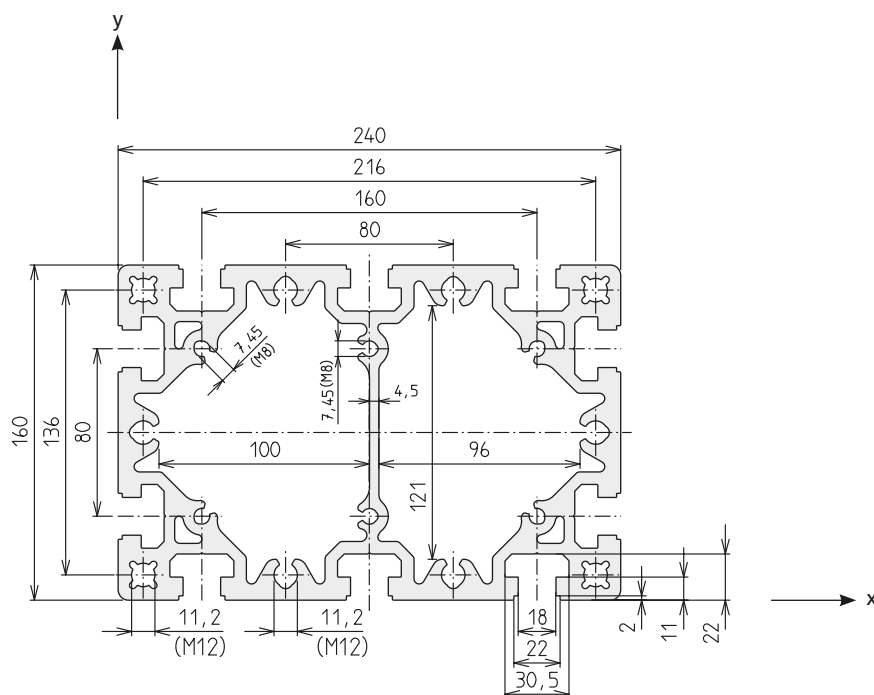
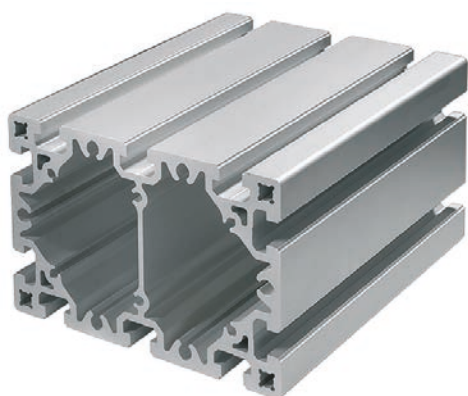


Code No. profile D-160x160			Anod. coating
4C25000	cut	max. 6200 mm	natural
4C25001	bar	à 6300 mm	natural

Surface	8131	mm ²
I _x	2493,6	cm ⁴
I _y	2493,6	cm ⁴
W _x	311,7	cm ³
W _y	311,7	cm ³
Weight	21955	g/m

Connection	Required qty per connection	Slot geometry	Press mount connector	Code No. / pcs
longit+transv.	2 pcs	D	-N- 160	4C16700

Note: Drillings are designed for self-tapping screw channels (M8/M12)

D-160x240


Code No. profile D-160x240			Anod. coating
4C65000	cut	max. 6000 mm	natural
4C65001	bar	à 6000 mm	natural

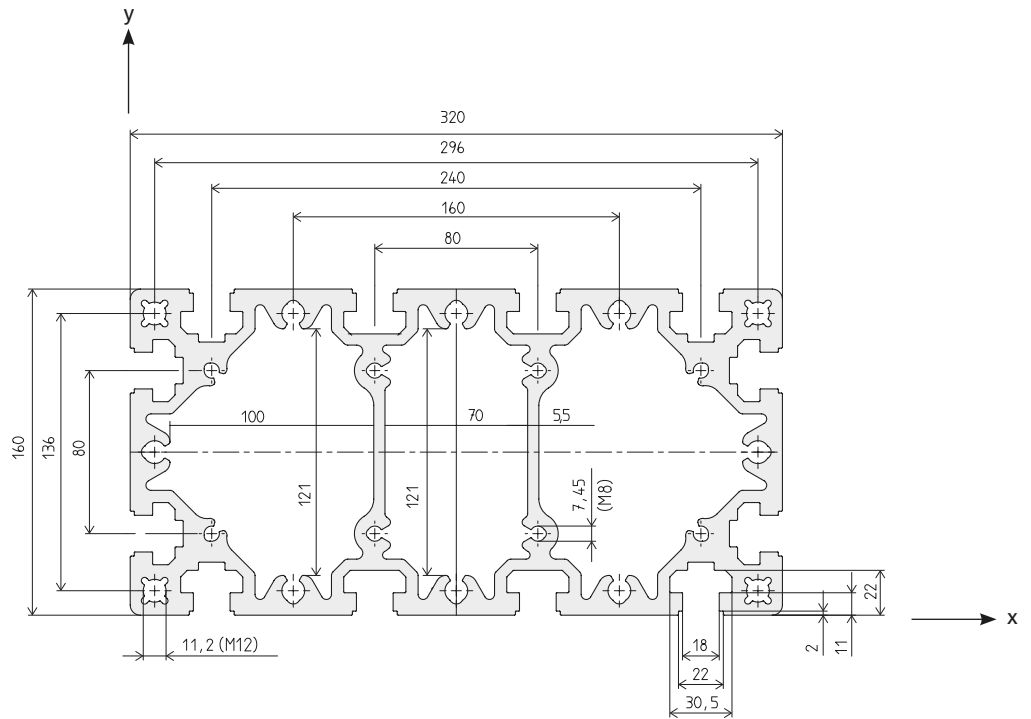
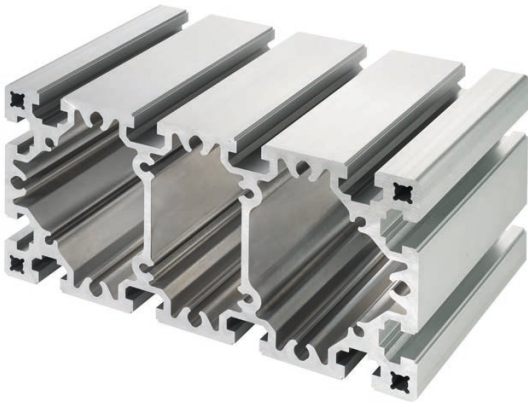
Connection	Required qty per connection	Slot geometry	Press mount connector	Code No./ pcs
 longit.	2 pcs	D	-N- 240	4C56700
 transv.	3 pcs		-N- 160	4C16700

Surface	10986	mm ²
I _x	3601,5	cm ⁴
I _y	7333,4	cm ⁴
W _x	450,2	cm ³
W _y	611,1	cm ³
Weight	29647	g/m

Note: Drillings are designed for self-tapping screw channels (M8/M12)

D-Line System profiles

D-160x320



Code No. profile D-160x320			Anod. coating
4C35000	cut	max. 6200 mm	natural
4C35001	bar	à 6300 mm	natural

Surface	13671	mm ²
I _x	4656,0	cm ⁴
I _y	15618,3	cm ⁴
W _x	582,0	cm ³
W _y	976,1	cm ³
Weight	36912	g/m

Connection	Required qty per connection	Slot geometry	Press mount connector	Code No. / pcs
longit.	4 pcs	D	-N- 160/320	4C36700
transv.	4 pcs		-N- 160	4C16700

Note: Drillings are designed for self-tapping screw channels (M8/M12)

Press mount connector

- simple, cost-effective and high profile connection
- no profile machining necessary
- can be disconnected at any time and reused
- minimal effort required in construction

Material: Galvanised steel

Includes:

The Order No. includes one press mount connector. Depending on the orientation of the connection (longitudinal or transverse), the appropriate number of press mount connectors must be ordered.

Please note the information and the connection pictograms in the profile data on page 21–24

Type -N-



Code No.	Type	Weight	for profile (required quant. per connection)
4C16701	-N-80	0.30 kg	80x80 (1x), 80x160 (2x), 80x240 (3x)
4C16700	-N-160	0.52 kg	80x160 (1x), 160x160 (2x), 160x240 (3x), 160x320 (4x)
4C36700	-N-160/320	0.52 kg	160x320 (4x)
4C56700	-N-240	0.73 kg	80x240 (1x), 160x240 (2x)

Type -R-



Code No.	Type	Weight	for profile (required quant. per connection)
4C16711	-R-80	0.25 kg	80x80 (1x), 80x160 (2x), 80x240 (3x)
4C16710	-R-160	0.48 kg	80x160 (1x), 160x160 (2x), 160x240 (3x), 160x320 (4x)
4C36710	-R-160/320	0.48 kg	160x320 (4x)
4C56710	-R-240	0.69 kg	80x240 (1x), 160x240 (2x)

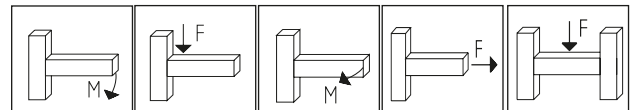
Load data

D-profiles with press mount connector -static-



Press mount connector -N-

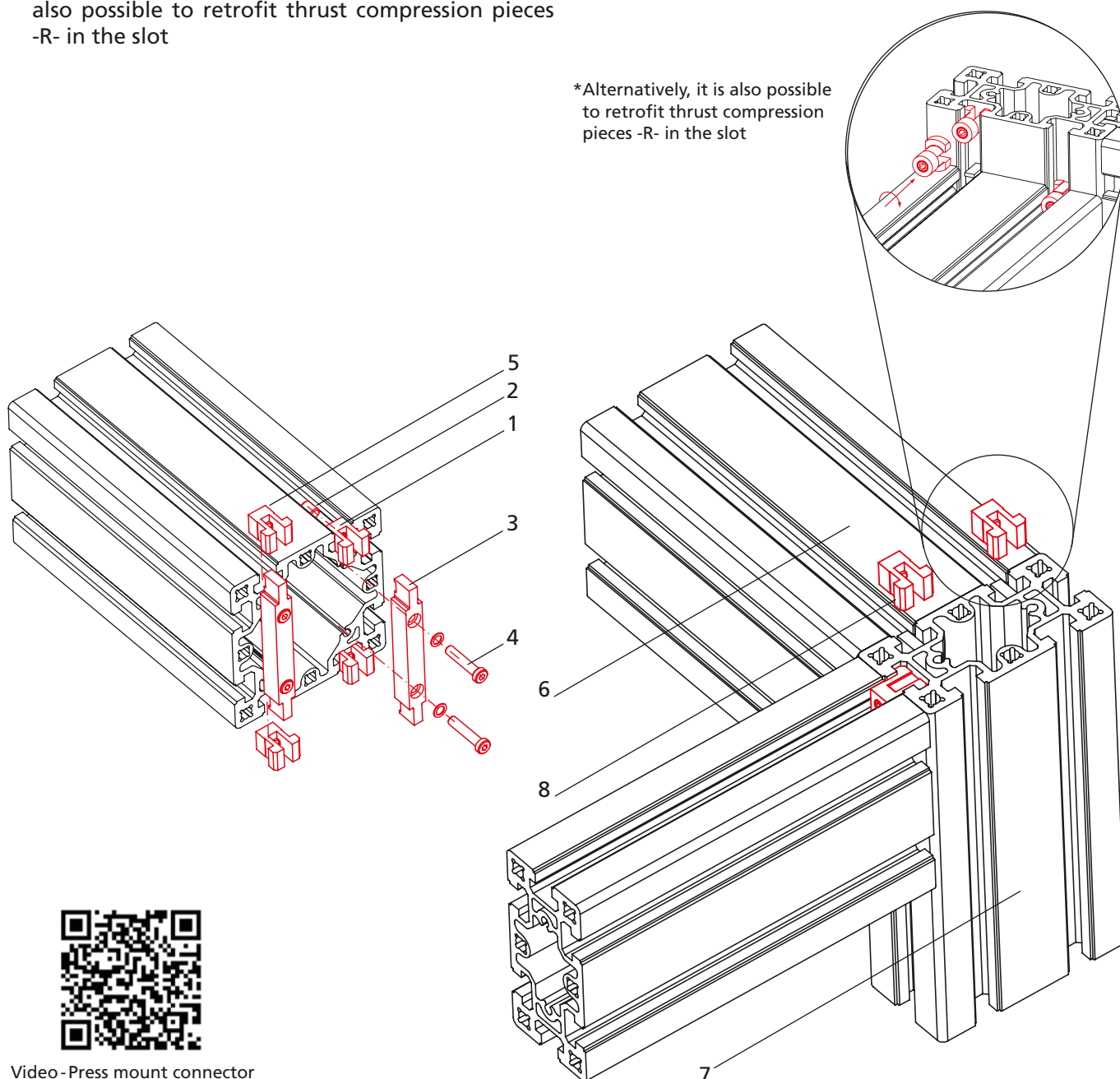
Press mount connector -R-



Comprised press mount connector	Version	Profile	Weight	M [Nm]	F [N]	M [Nm]	F [N]	F [N]	
1x	Press mount connector Typ -N-	80x80	0.30 kg	560	2900	560	11000	4300	
1x		80x160 (longit.)	0.52 kg	1700	7500	1120	28000	11000	
2x		80x160 (transv.)	0.60 kg	1700	10000	1120	28000	15000	
1x		80x240 (longit.)	0.73 kg	2800	6000	1120	28000	9000	
3x		80x240 (transv.)	0.90 kg	3000	8600	1680	33000	12900	
2x		160x160	1.04 kg	3200	15000	3200	56000	22000	
2x		160x240 (longit.)	1.46 kg	5600	12000	5000	56000	18000	
3x		160x240 (transv.)	1.56 kg	5800	18000	5200	79000	27000	
4x		160x320 (longit.)	2.08 kg	7800	18000	4000	62000	36000	
4x		160x320 (transv.)	2.08 kg	8000	28000	6500	98000	42000	
1x		Press mount connector Typ -R-	80x80	0.25 kg	560	2900	560	11000	4300
1x			80x160 (longit.)	0.48 kg	1700	7500	1120	28000	11000
2x	80x160 (transv.)		0.50 kg	1700	10000	1120	28000	15000	
1x	80x240 (longit.)		0.69 kg	2800	6000	1120	28000	9000	
3x	80x240 (transv.)		0.75 kg	3000	8600	1680	33000	12900	
2x	160x160		0.96 kg	3200	15000	3200	56000	22000	
2x	160x240 (longit.)		1.38 kg	5600	12000	5000	56000	18000	
3x	160x240 (transv.)		1.44 kg	5800	18000	5200	79000	27000	
4x	160x320 (longit.)		1.92 kg	7800	18000	4000	62000	36000	
4x	160x320 (transv.)		1.92 kg	8000	28000	6500	98000	42000	

Assembly steps (press mount connector -N-)

1. Screw set screw M10 (2) into thrust compression piece -N- (1)
2. Place the thrust compression piece -N- (1) into the profile for the connection strip (3) as an assembly aid
3. Align the connection strip (3) and fix it in the screw channel with M8 socket head cap screws (4). It is recommended to create the thread with a thread forming tap. Tighten it just until the connector is fixed, max. 5 Nm. However, oiled screws can be screwed directly into the profile. *Alternatively, it is also possible to retrofit thrust compression pieces -R- in the slot
4. Remove the thrust compression pieces (5) and push them into the slot(s) of the profile to be fixed*
5. Insert the profile with the connection strips (6) into the profile with the thrust compression pieces (7)
6. Push the thrust compression pieces (8) into the connection strip
7. Tighten the set screws M10 (2) to 25 Nm (Type -N and -R- 80 to 12 Nm)

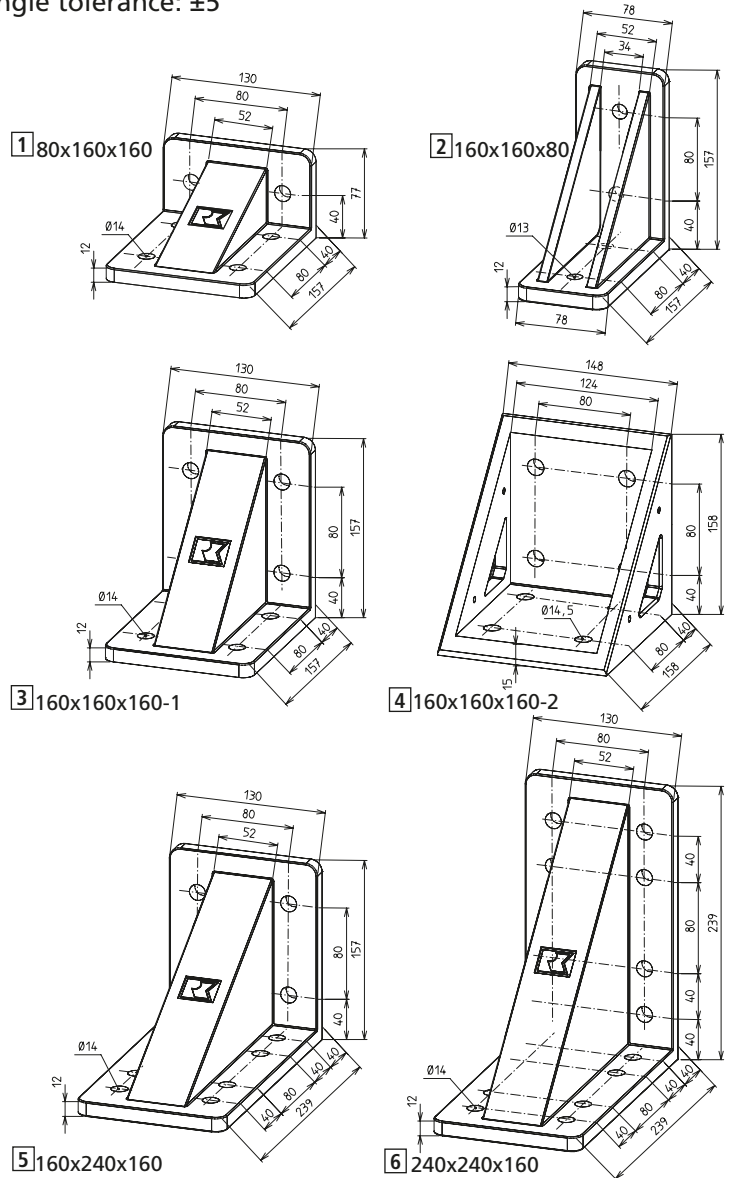


Video - Press mount connector

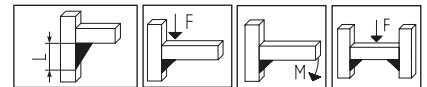
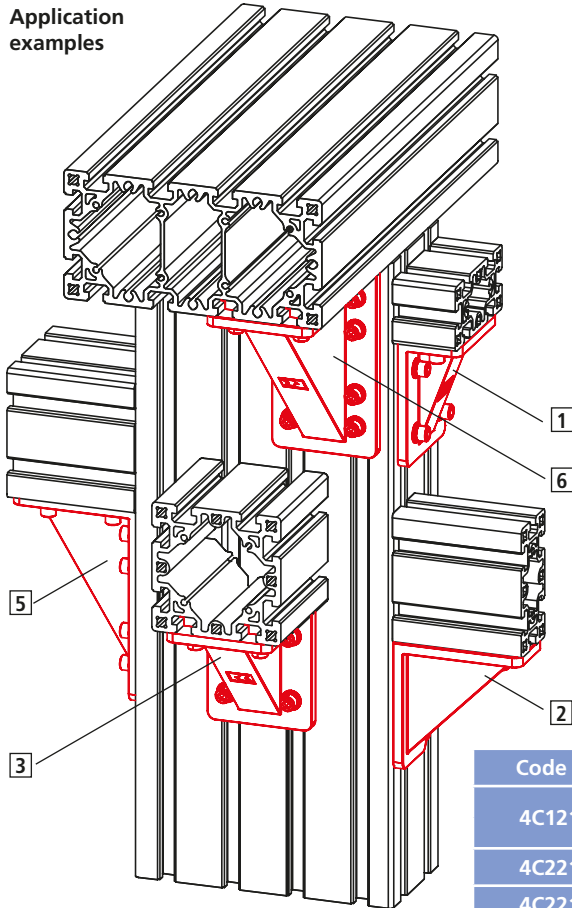
Right-angle connections

Angle bracket

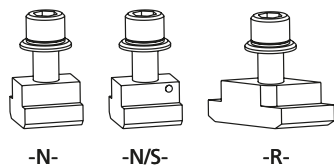
Material: Gravity die-cast aluminium, Angle tolerance: $\pm 5'$



Application examples



Code No.	Type	Weight	L [mm]	F [N]	M [Nm]	F [N]
4C12100	80x160x160	1.0 kg	80	11000	810	30000
			160	26200	810	55000
4C22100	160x160x80	1.2 kg	160	13100	1500	29000
4C22101	160x160x160-1	1.5 kg	160	22000	3100	58000
4C22102	160x160x160-2	2.1 kg	160	22000	2500	36000
4C22103	160x240x160	2.1 kg	160	24000	2700	53000
			240	35000	2800	75000
4C22104	240x240x160	2.8 kg	240	40300	6200	75000



Fixing sets for angle bracket (one screw with slot stone and washer)

Code No.	Type	Weight
4C16200	M12x30, slot stone -N-	0.14 kg
4C16201	M12x30, slot stone -N/S-	0.14 kg
4C16202	M12x30, slot stone -R-	0.13 kg

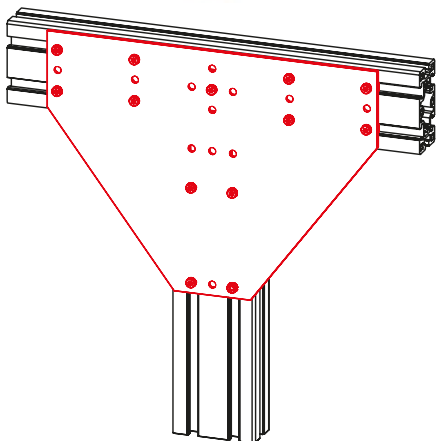


RK ROSE+KRIEGER



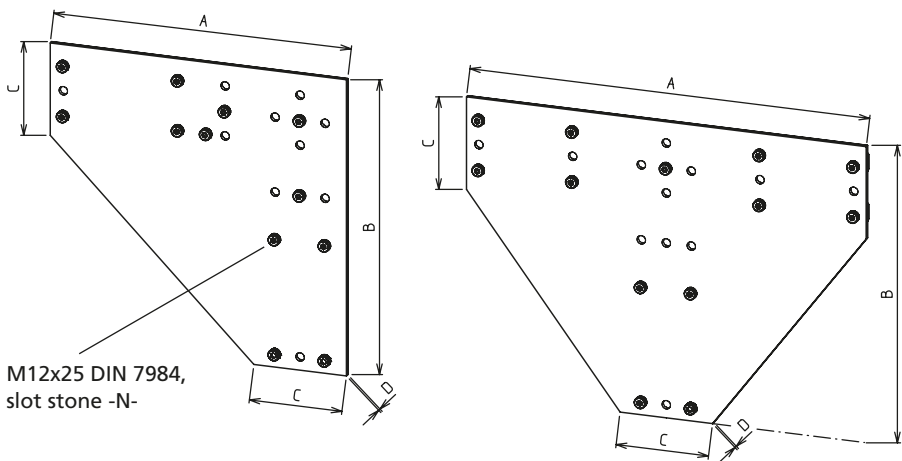
D-Line system components

Bracing plate



- The bracing plates are for the superficial bracing of a profile connection

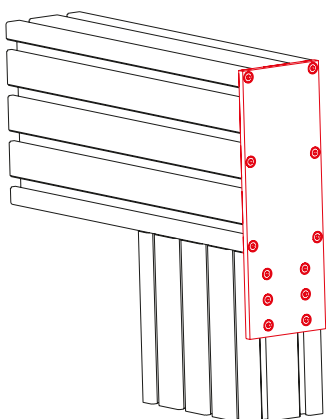
Material: Black powder-coated steel
Includes: Complete with fastenings



[mm]

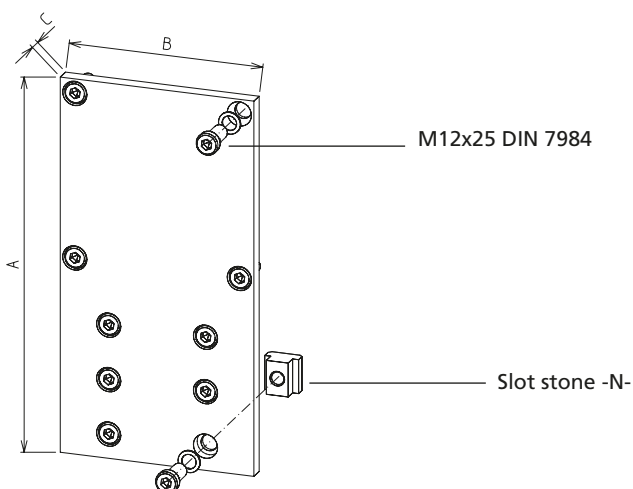
Code No.	Type	A	B	C	D	Weight
4C12110	-L-	474	474	148	6	9.3 kg
4C12111	-T-	640	474	148	6	12.0 kg

Corner connecting plate



- The corner connecting plate is for supporting the press mount connectors (e.g. relieving high tensile loads)

Material: Black powder-coated steel
Includes: Complete with fastenings



[mm]

Code No.	Type	A	B	C	Weight
4C22400	160x160	310	160	12	5.3 kg
4C22401	160x320	470	160	12	7.7 kg

Frame joint

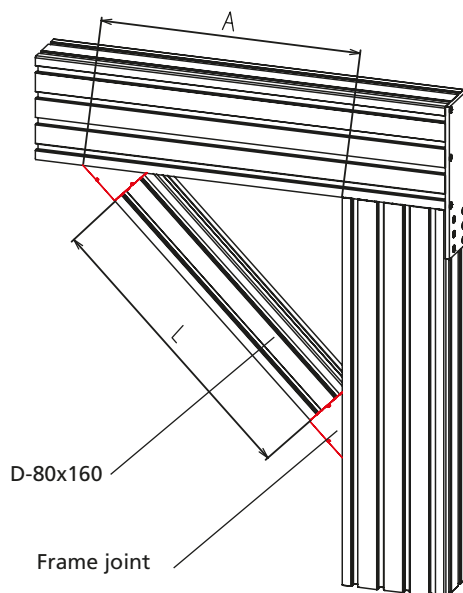
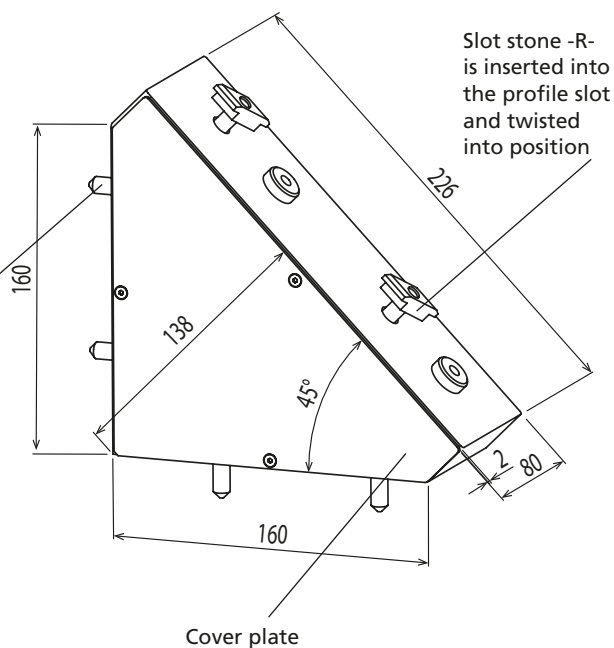
- For supporting a structure at a 45° angle under high loads

Material: Black powder-coated gravity die-cast aluminium
Includes: One complete frame joint with fastenings

2 cover plates with fastenings available as an accessory



The set screw is screwed into the screw channel of the D-80x160



Cut to size D-80x160:
 $L = (A : 0,707) - 355$

[mm]

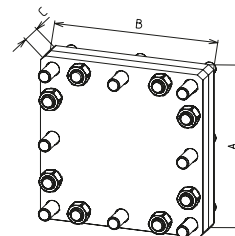
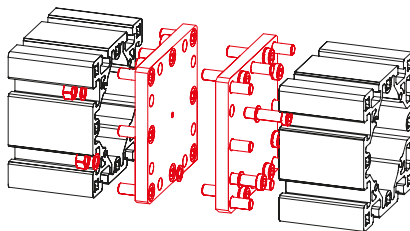
Code No.	Type	Weight
4C12105	Frame joint 45°	1.8 kg
4C12106	Two cover plates	0.6 kg

D-Line system components

Connecting plate

- For the flange connection of profile ends
- For extending profiles and extending existing structures

Material:
Galvanised steel
Includes:
Complete fixing set for one connection



[mm]

Code No.	Type	A	B	C	Weight
4C46410	80x80	80	160	30	1.7 kg
4C16410	80x160	80	160	30	3.3 kg
4C56410	80x240	80	240	30	4.9 kg

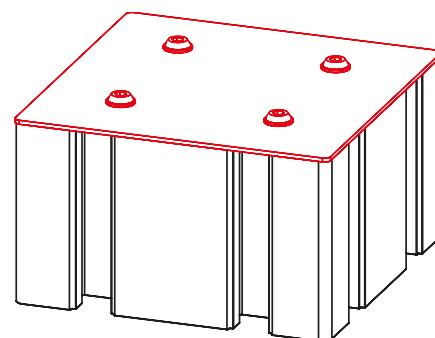
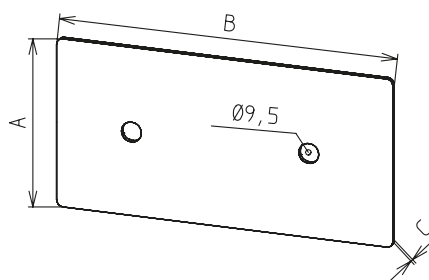
[mm]

Code No.	Type	A	B	C	Weight
4C16411	160x160	160	160	30	6.5 kg
4C66410	160x240	160	240	40	14.3 kg
4C16412	160x320	160	320	40	16.6 kg

Cover plates

- For covering the profile ends
- Fixed with socket head button screws

Material: Black powder-coated galvanised steel



[mm]

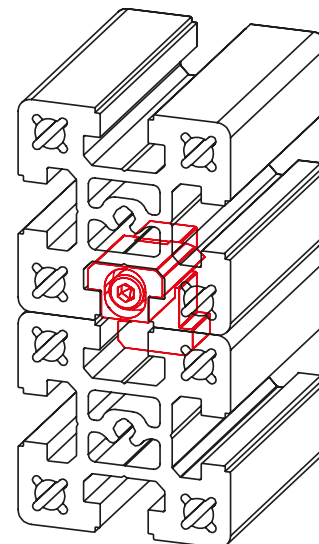
Code No.	Type	A	B	C	Weight
4C42410	80x80	80	80	2	0.1 kg
4C12410	80x160	80	160	2	0.2 kg
4C52410	80x240	80	240	2	0.3 kg
4C22410	160x160	160	160	2	0.4 kg
4C62410	160x240	160	240	2	0.6 kg
4C32410	160x320	160	320	2	0.8 kg

Keyed clamp connector -P-

- For parallel flange mounting of profiles
- No profile machining necessary

Material:
Galvanised steel

Includes:
Complete fixing set for one connection

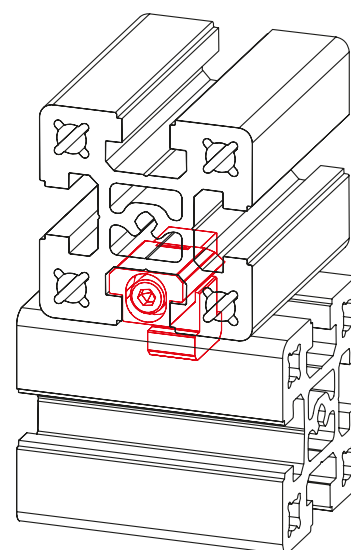


Code No.	Type	Weight
4C16502	Keyed clamp connector -P-	0.22 kg

Keyed clamp connector -Q-

- Simple realisation of cross connections
- No profile machining necessary

Material: Galvanised steel
Includes: Complete fixing set for one connection



Code No.	Type	Weight
4C16501	Keyed clamp connector -Q-	0.22 kg

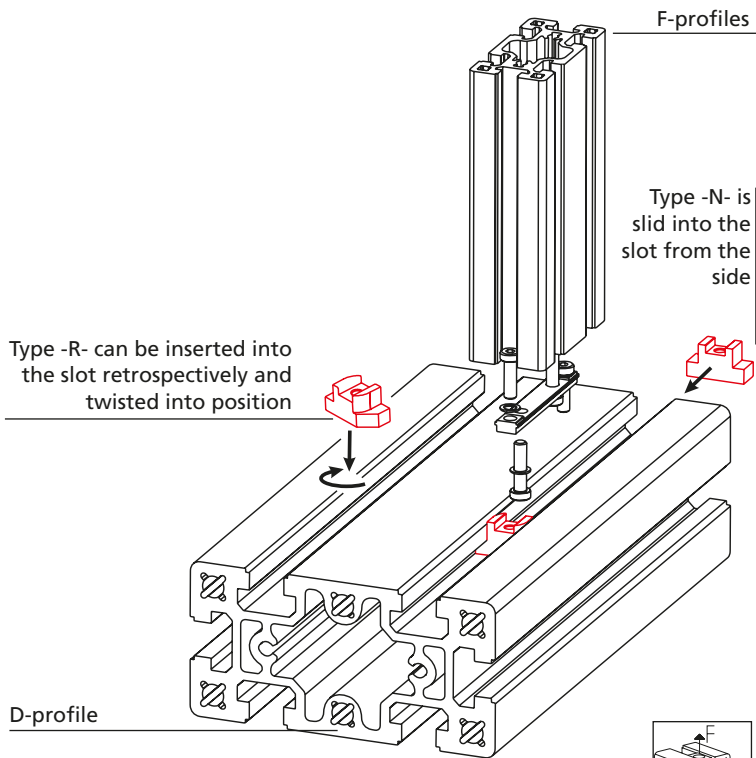
D-Line system components

Adapter slot stone



- For connecting the elements of the profile assembly system with the 10 mm-wide slot to the D-profiles with the 18 mm-wide slot

Material: Galvanised steel
Includes:
 1 adapter slot stone



Code No.	Type	Version	F [N]
4C12201	-N-	Slot 18 to 10 mm*	10000
4C12202	-R-	Slot 18 to 10 mm*	9000

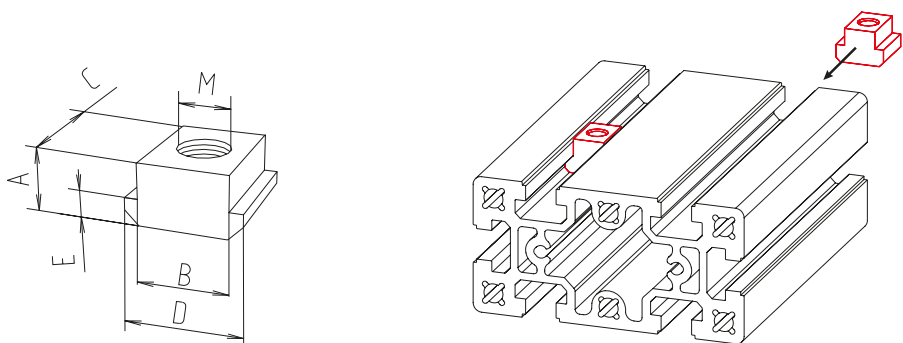
*Slot 18 mm = D-profiles
 Slot 10 mm = F-profiles

Slot stone -N- (similar to DIN 508)



- For fixing accessories to a profile.
- This slot stone should be slid into place before assembly

Material: Galvanised steel
 Strength class 8

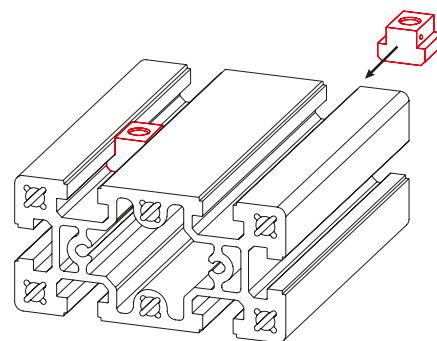
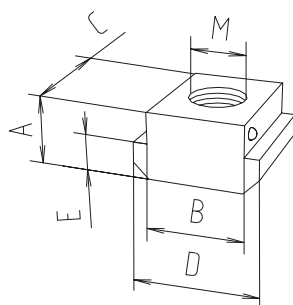


Code No.	Type	A	B -0,3/-0,6	C	D	E	M	Weight	F [N]
4C12203	M8	18.5	18	28	28	10	M8	0.1 kg	20000
4C12204	M10	18.5	18	28	28	10	M10	0.1 kg	25000
4C12205	M12	18.5	18	28	28	10	M12	0.1 kg	35000

**Slot stone -N/S-
(similar to DIN 508)**

- Same geometry and function as slot stone -N-
- A spring clip prevents the slot stone from slipping
- For easier attachment mounting

Material: Galvanised steel
Strength class 8

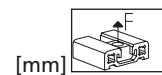
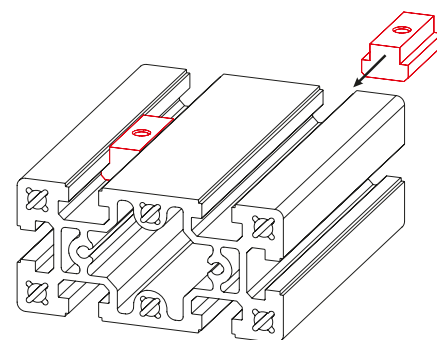
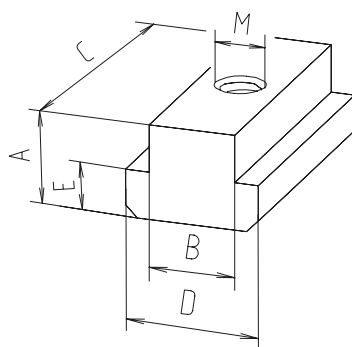


Code No.	Type	A	B -0,3/-0,6	C	D	E	M	Weight	F [N]
4C12206	M8	18.5	18	28	28	10	M8	0.1 kg	20000
4C12207	M10	18.5	18	28	28	10	M10	0.1 kg	25000
4C12208	M12	18.5	18	28	28	10	M12	0.1 kg	35000

**Slot stone -N/L-
(similar to DIN 508)**

- Same geometry and function as slot stone -N-
- Higher perm. force due to the longer version

Material: Galvanised steel
Strength class 8



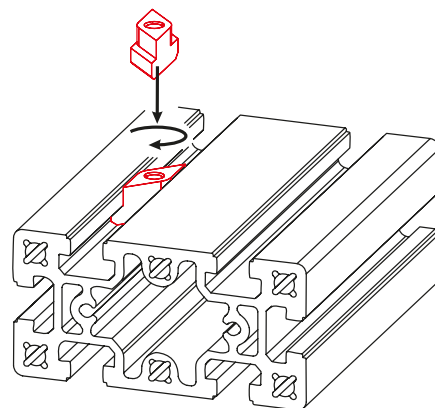
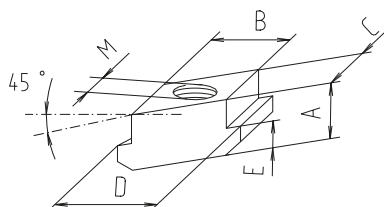
Code No.	Type	A	B -0,3/-0,6	C	D	E	M	Weight	F [N]
4C12209	M10	18.5	18	56	28	10	M10	0.2 kg	25000
4C12210	M12	18.5	18	56	28	10	M12	0.2 kg	35000

D-Line system components

Slot stone -R-

- The slot stone is inserted anywhere in the profile slot
- The action of tightening the slot stone turns it into its final clamping position

Material: Galvanised steel
Strength class 8

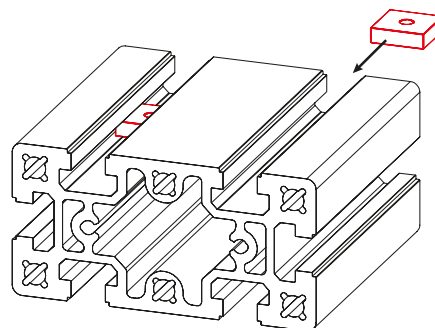
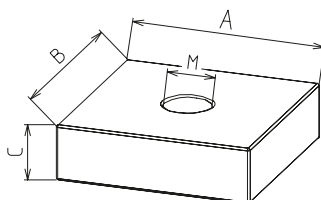
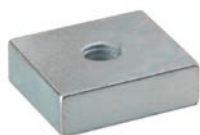


Code No.	Type	A	B -0,3/-0,6	C	D	E	M	Weight	F [N]
4C12211	M8	18.5	18	18	28	10	M8	0.1 kg	20000
4C12212	M10	18.5	18	18	28	10	M10	0.1 kg	25000
4C12213	M12	18.5	18	18	28	10	M12	0.1 kg	35000

Slot stone -VF-

- For fixing attachments under low loads
- Slide into the profile slot from the side

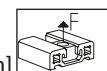
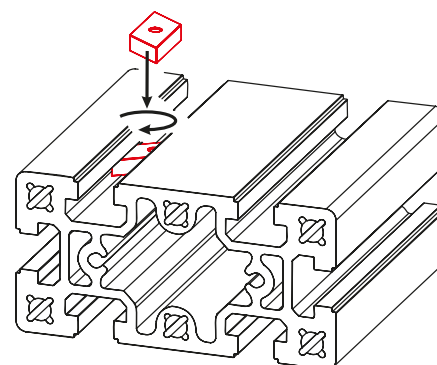
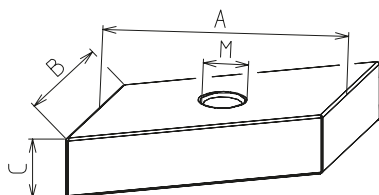
Material: Galvanised steel



Code No.	Type	A	B	C	M	Weight
4C16204	M6	28	28	8	M6	0.05 kg
4C16203	M8	28	28	8	M8	0.04 kg

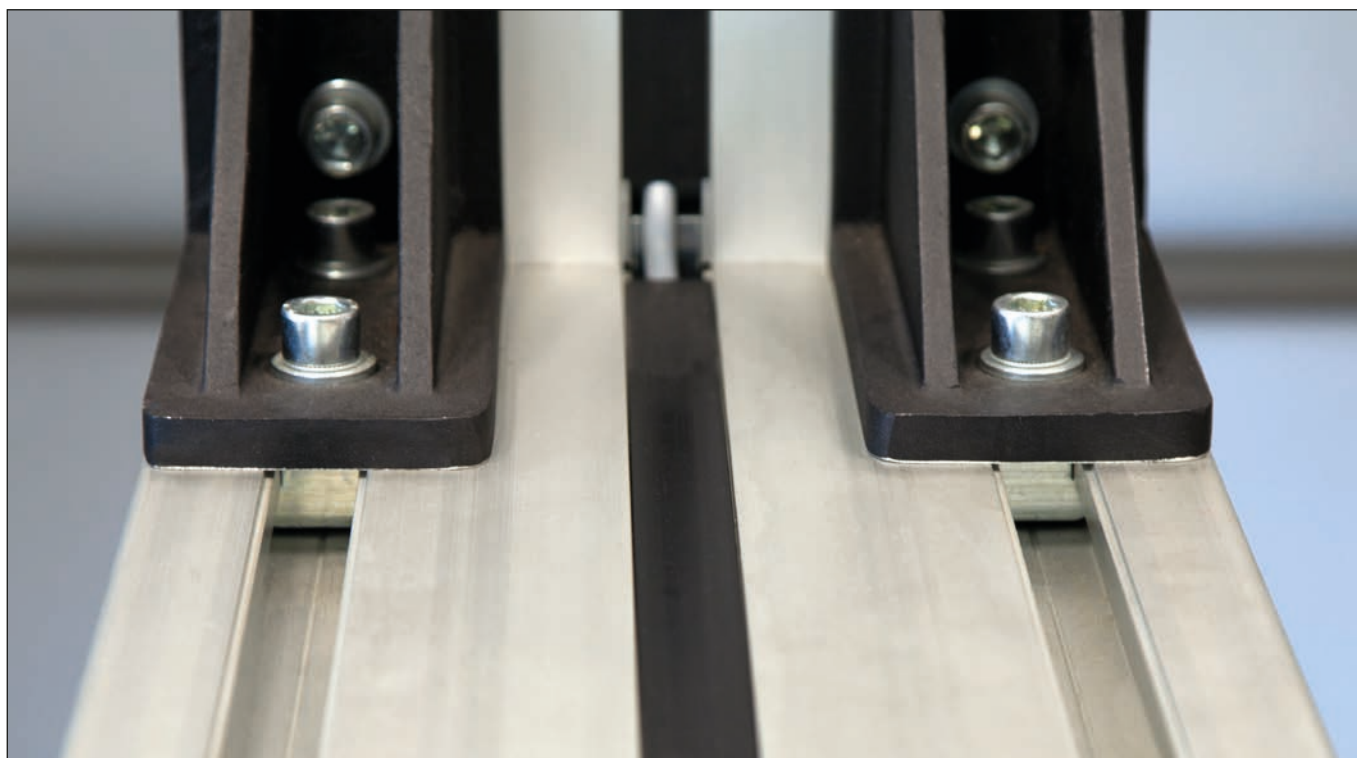
Slot stone -RF-

- For fixing attachments under low loads
- The slot stone is inserted anywhere in the profile slot
- The action of tightening the slot stone turns it into its final clamping position

Material: Galvanised steel


[mm]

Code No.	Type	A	B	C	M	Weight
4C16205	M6	28	18	8	M6	0.04 kg
4C16206	M8	28	18	8	M8	0.04 kg



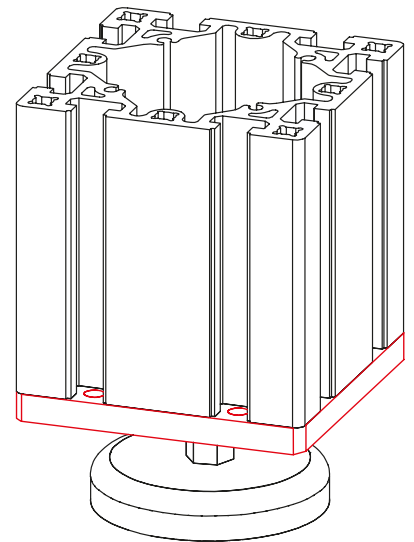
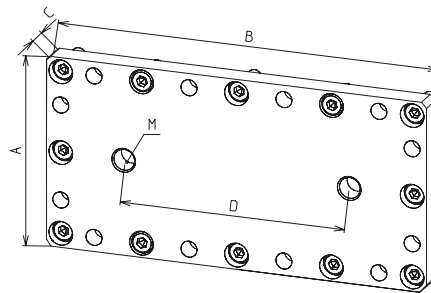
Connecting plate

Foot connecting plate

- Connecting plate with tapped holes for levelling foot
- Also suitable for eye bolt
- Starting from type 160x240 the plate has 2 tapped holes

Material:
Galvanised steel

Includes:
Connecting plate with complete fixation set for the fixation to a profile
*The profile 80 x 80 has a screw hole of $\varnothing 7.45$ (M8). If a connecting plate/levelling foot M12 is used, this channel has to be drilled out. Preferably, the mentioned drill rig should be used for that.



Setting range 0-28mm,
Max. pressure force 20 KN

Code No.	Type	A	B	C	D	M	Weight
4C46405	80x80*	80	80	15	0	12	0.7 kg
4C16405	80x160	80	160	15	0	20	1.4 kg
4C56405	80x240	80	240	15	130	12	2.2 kg
4C26405	160x160	160	160	15	0	20	2.9 kg
4C66405	160x240	160	240	20	130	20	5.8 kg
4C36405	160x320	160	320	20	190	20	7.7 kg
4006652	Drill rig for profile D-80 x 80 / levelling foot M12						

[mm]

Base plate

- For taking high supporting forces
- The four levelling feet help to align a structure exactly
- If necessary, the feet can be screwed to the floor

Material: Black powder-coated galvanised steel base plate, reinforced black polyamide foot, galvanised spindle, galvanised fastenings

Includes: Complete base plate with four levelling feet and fastenings for the connection of one profile



Fig. 1

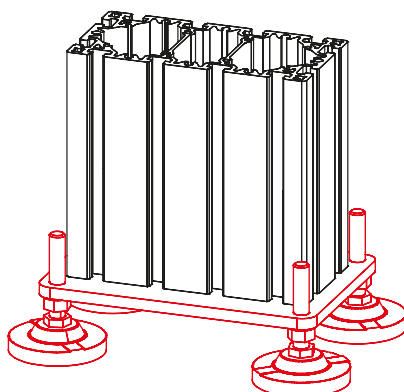
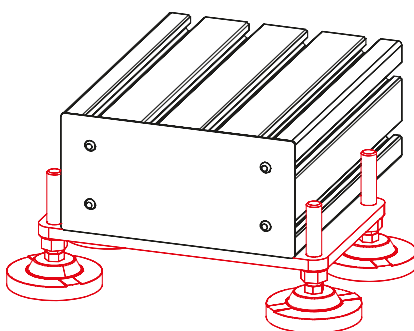


Fig. 2



Base plate with slot stones for the cross connection of one profile 160x320

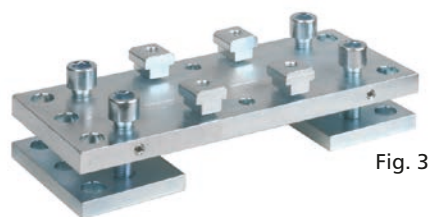
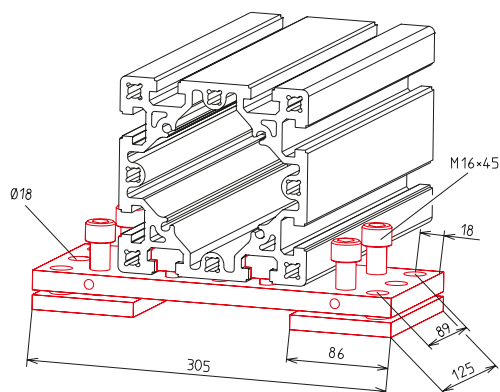
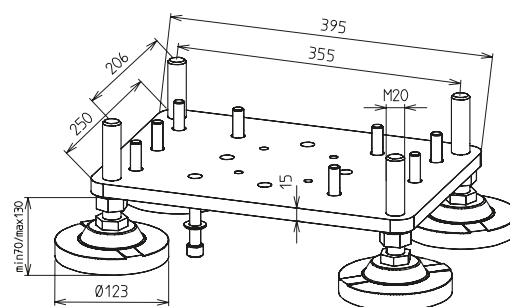


Fig. 3



F_{max} per foot
45000 N



Code No.	for profile	Weight	Fig.
4C26406	160x160	13.3 kg	1
4C36408	160x240	13.6 kg	1
4C36406	160x320	13.7 kg	1
4C36407	160x320 with slot stones	14.7 kg	2
4C26407	160, adjustable	8.2 kg	3

D-Line system components

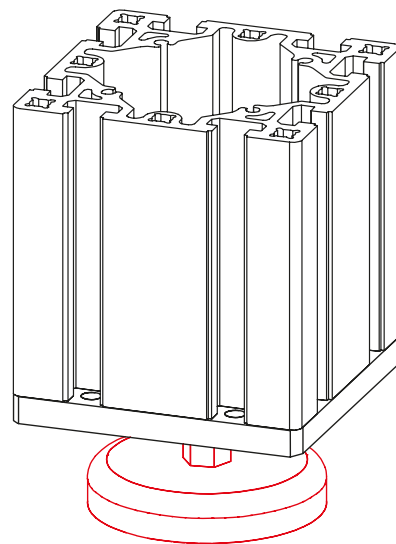
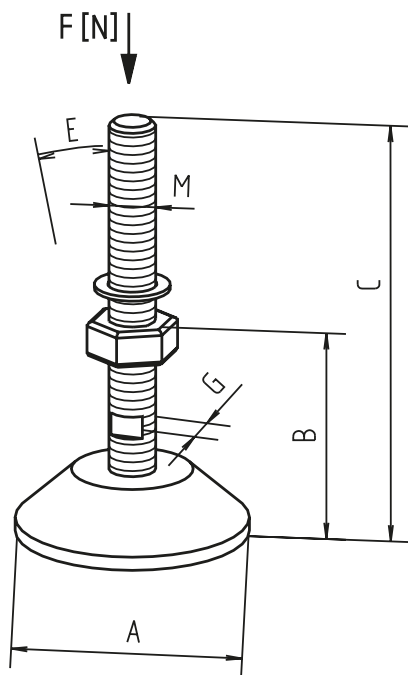
Order instruction:

- Purchase only in lot sizes and a multiple of that see product table below

- The levelling feet are available in different versions

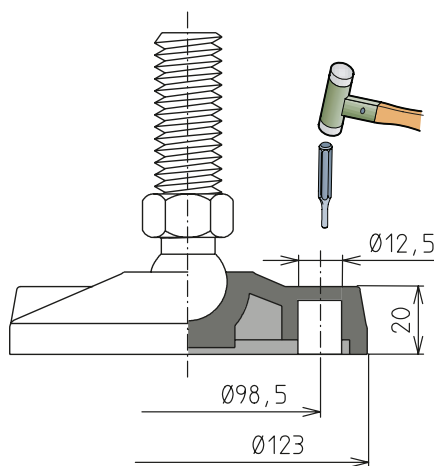
Material:

Black plastic foot, galvanised spindle



*With vibration absorber

**With this version, 2 fixing holes can be punched through



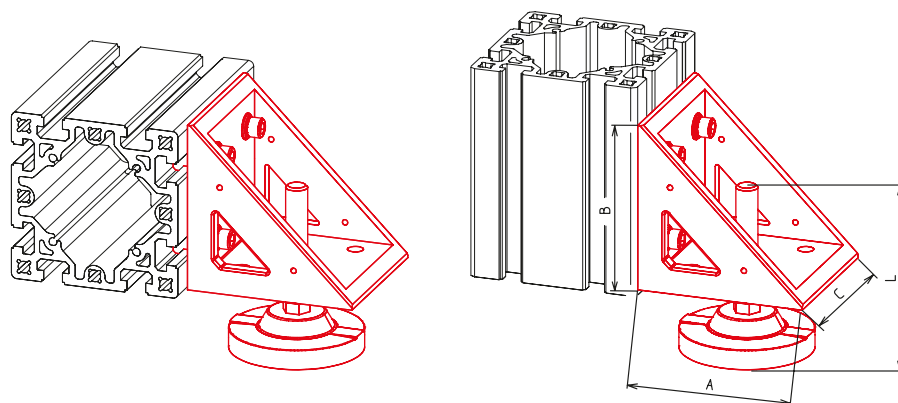
[mm]

Code No.	Type	lot sizes	A	B	C	M	E	G	Weight	F [N]
4016301	M8	-	47	15	40	M8	15°	-	0,03	1500
4016303	M12	-	80	24	117	M12	15°	12	0,14	7000
4046312	M20*	-	123	70	215	M20	15°	16	0,70	10000
4696302	M20	-	123	61	207	M20	15°	16	0,60	20000
Foot with fixing hole** (see sketch)										
4C16300	M20		123	70	155	M20	8°	22	0,60	45000
4016605	Fasteners 8x60	4, 8, 12... pcs	-	-	-	-	-	-	-	-

Levelling foot with fixing bracket

- This fixing bracket can be used if it is necessary for structural reasons to attach a foot to the side of the profile

Material: Gravity die-cast aluminium angle bracket,
fastenings: Galvanised spindlet
Includes:
One fixing bracket with levelling foot and fastenings



[mm]

Code No.	Type	A	B	C	L	Weight
4C22105	M20	158	158	148	155	3.3 kg

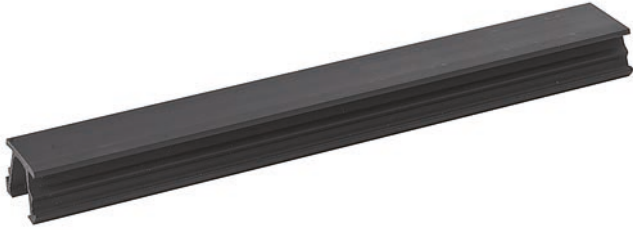


D-Line system components

Cover profile

- Flush slot cover
- Dirt/Dust protection
- Cable fixing in slot

Material: PVC, black

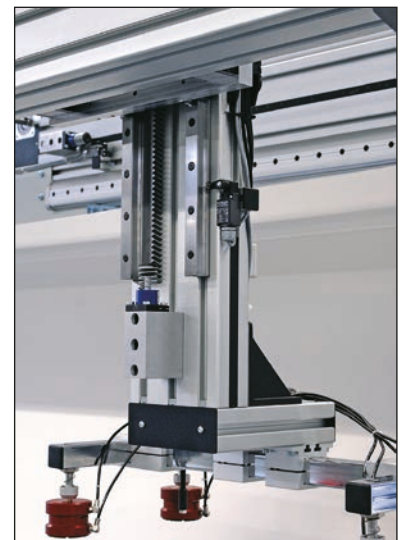
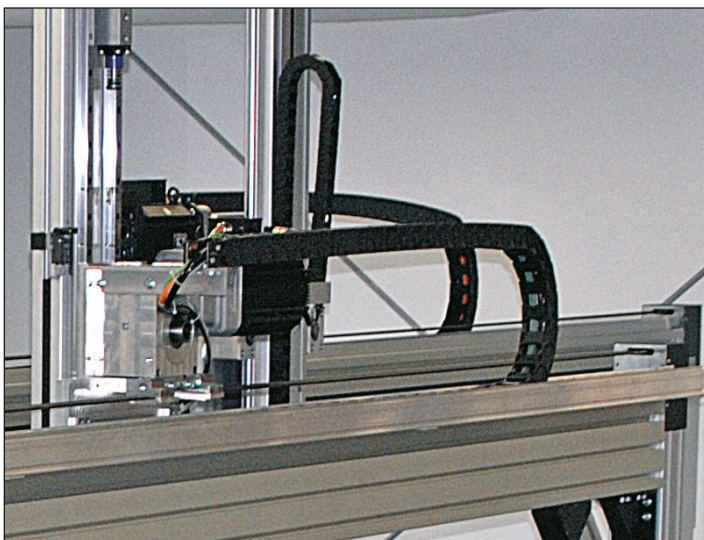


Code No.	Type
4C10501	2 m-bar

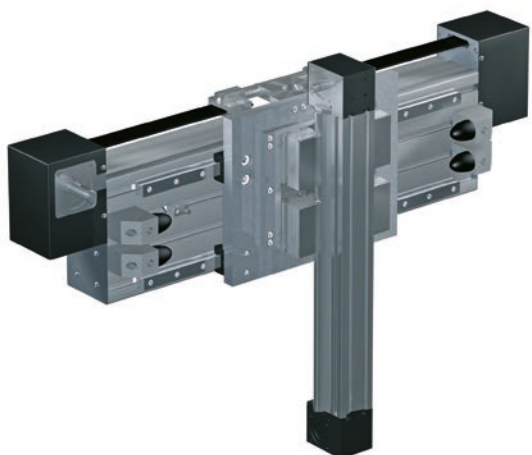
Power track chain

- A few parameters must be set in order to design a suitable power track chain. These include among others: The number and size of the cables to be laid and their smallest permissible bending radii, the weight of the cables, determination of the exact length of the chain and the test as to whether a delivery tray is required.
- We would be delighted to help in selecting a power track chain.

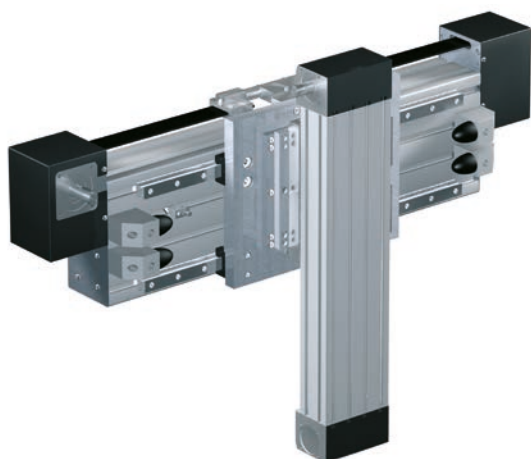
Material: PVC, black



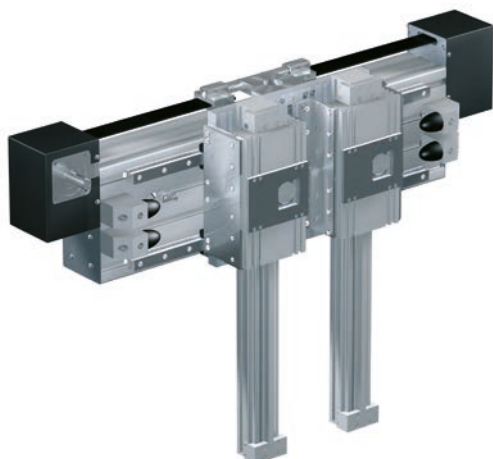
All D-Line products can also be combined with RK standard linear units



Example 1:
X-axis D-Line 160x320, ball rail guide with timing belt drive, Z-Achse with timing belt unit LMZ 100



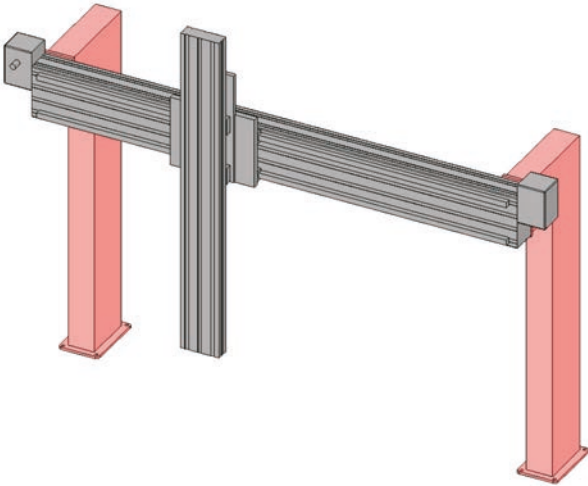
Example 2:
X-axis D-Line 160x320, ball rail system with timing belt drive, Z-axis with timing belt unit MultiLine II, optionally with roller guide or ball rail guide



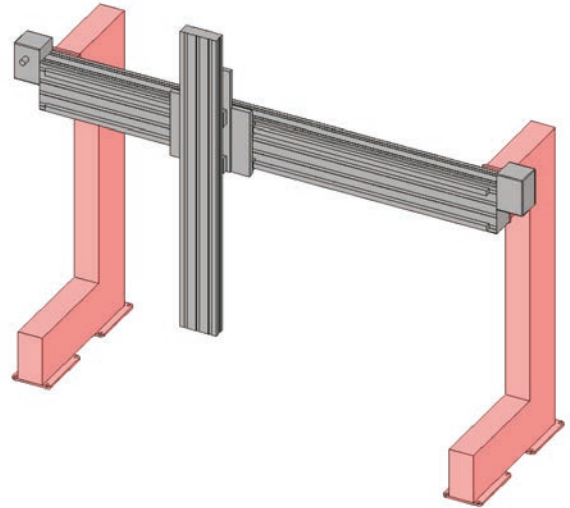
Example 3:
X-axis D-Line 160x320, ball rail guide with timing belt drive,
Z-axis with rack and pinion unit SQ II ZST, two units are fitted in parallel in this case

Stand variants

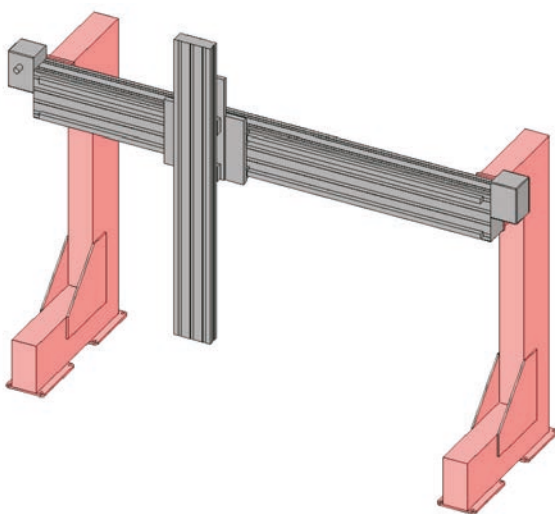
Gantry 1



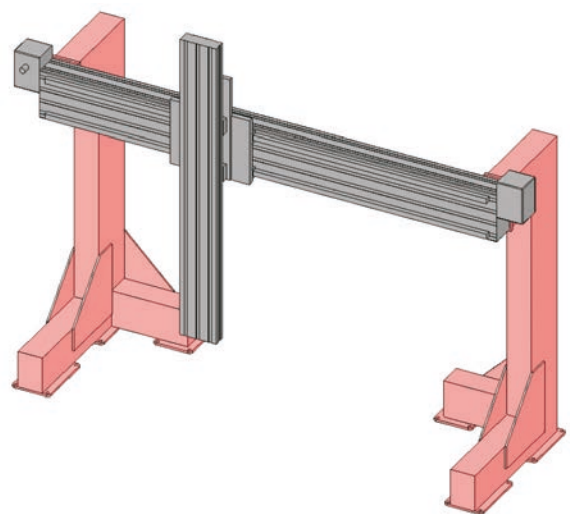
Gantry 2



Gantry 3

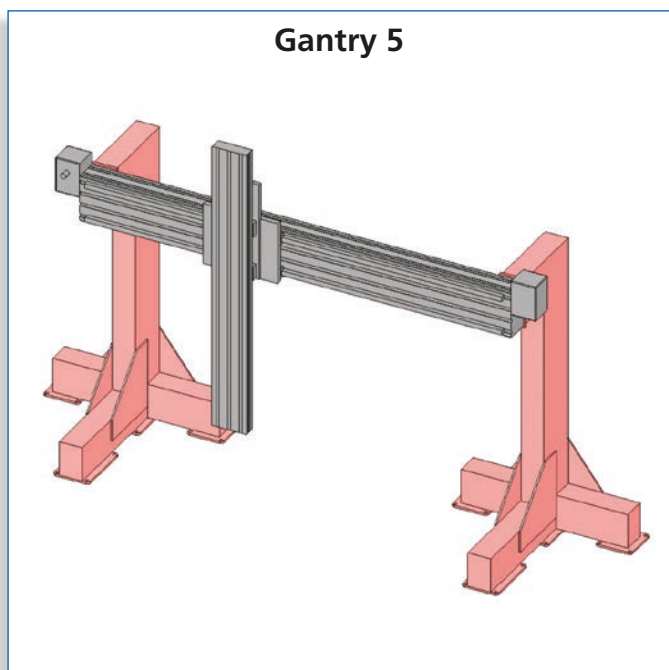


Gantry 4

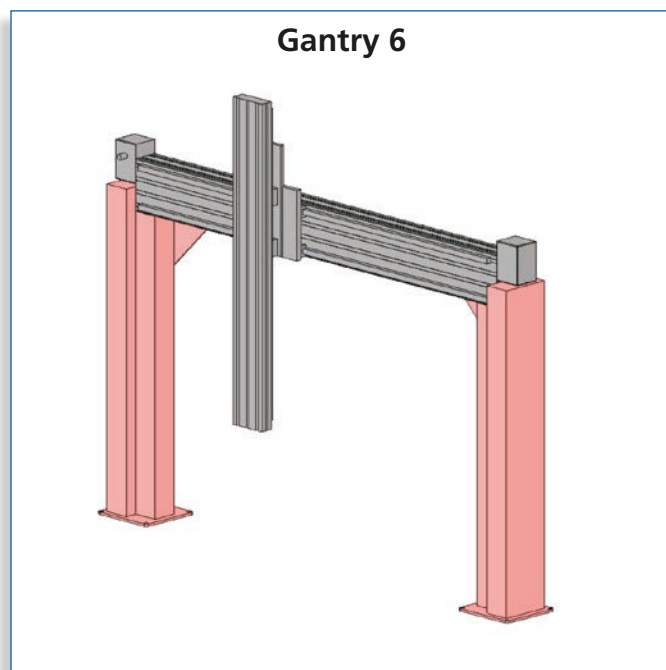




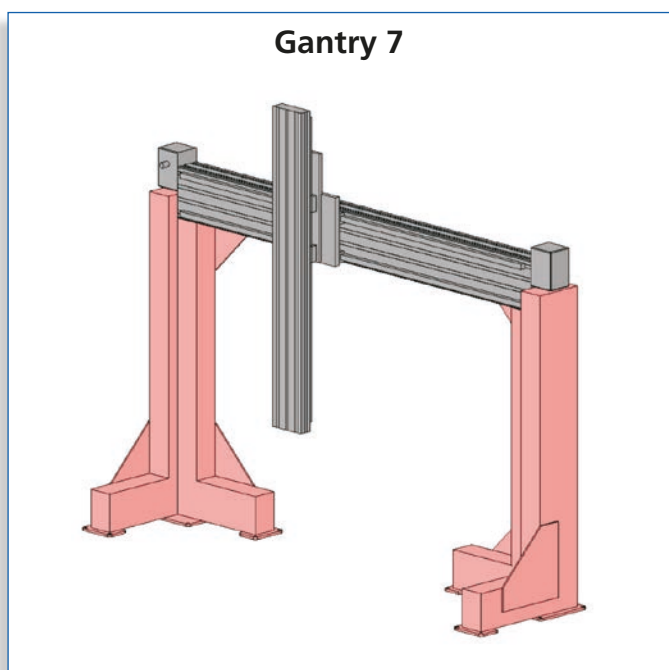
Gantry 5



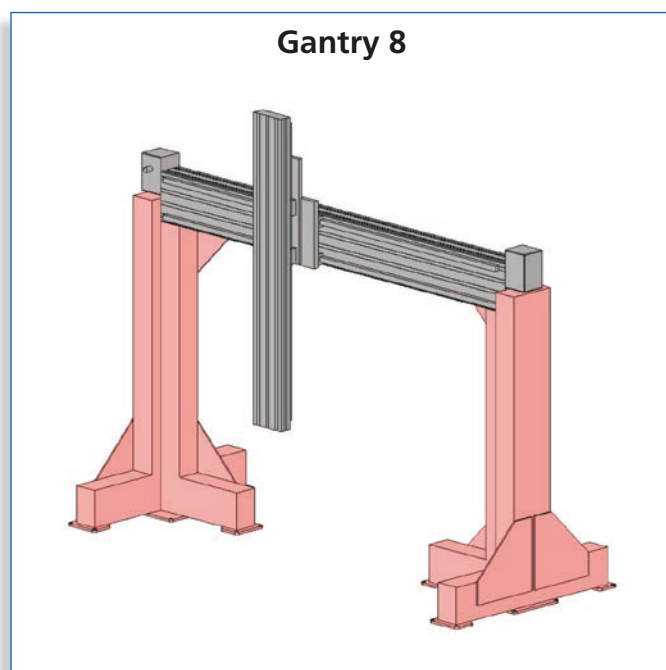
Gantry 6



Gantry 7



Gantry 8



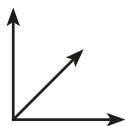
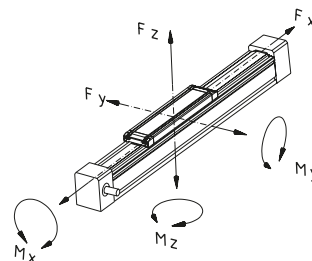
Enquiry form

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e-mail: anfrage.vertrieb@rk-online.de

Company:..... Cust. no.:.....
Street:..... Town/City:.....
Tel.:..... Fax:.....
Contact person: Dept.:.....
Observations:.....

Sketch:



Please tick as appropriate

Ambient factors/site of installation/special requirement:

Installation position:	<input type="radio"/> X-axis	<input type="radio"/> Y-axis	<input type="radio"/> Z-axis	
Location of guide table:	<input type="radio"/> horizontal	<input type="radio"/> vertical		
Drive system:	<input type="radio"/> Belt drive	<input type="radio"/> Rack and pinion	<input type="radio"/> without drive	
Guide:	<input type="radio"/> Roller guide	<input type="radio"/> Ball rail guide		
Transversing speed: m/s	Acceleration:..... m/s ²	
Transversing path: mm	cycle time t seconds	
Load data:	Force FxN	Torque MxNm
	Force FyN	Torque MyNm
	Force FzN	Torque MzNm
Positioning accuracy: mm	Repeating accuracy: mm	
Specified service life: hrs.	Spec. service life: km	

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- ✓ Elements made of aluminium, stainless steel and plastic
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MODULE TECHNOLOGY

- ✓ Machine frames
- ✓ Workstations
- ✓ Machine guards
- ✓ Multidimensional linear axis modules
- ✓ Complete drive solutions

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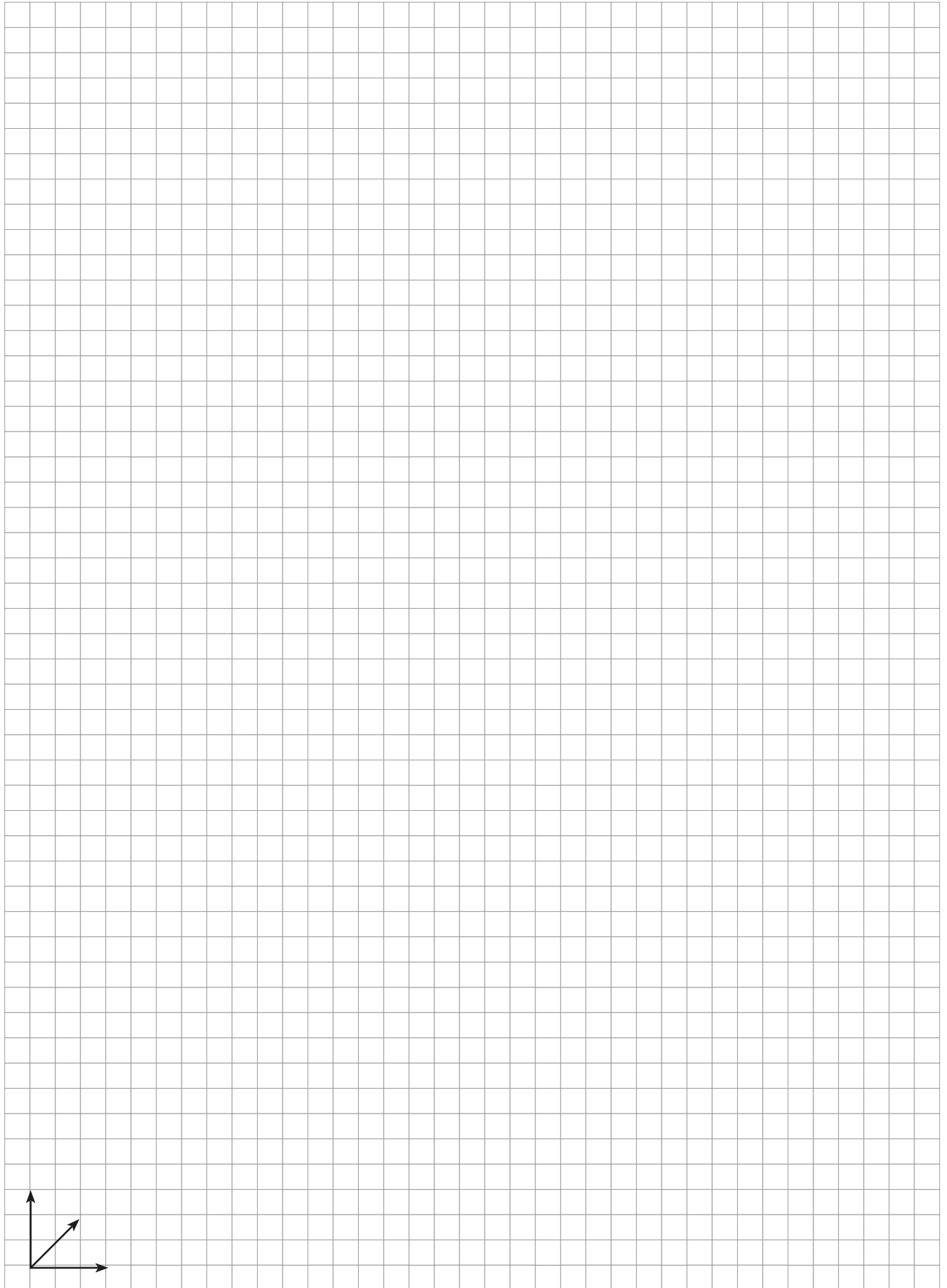
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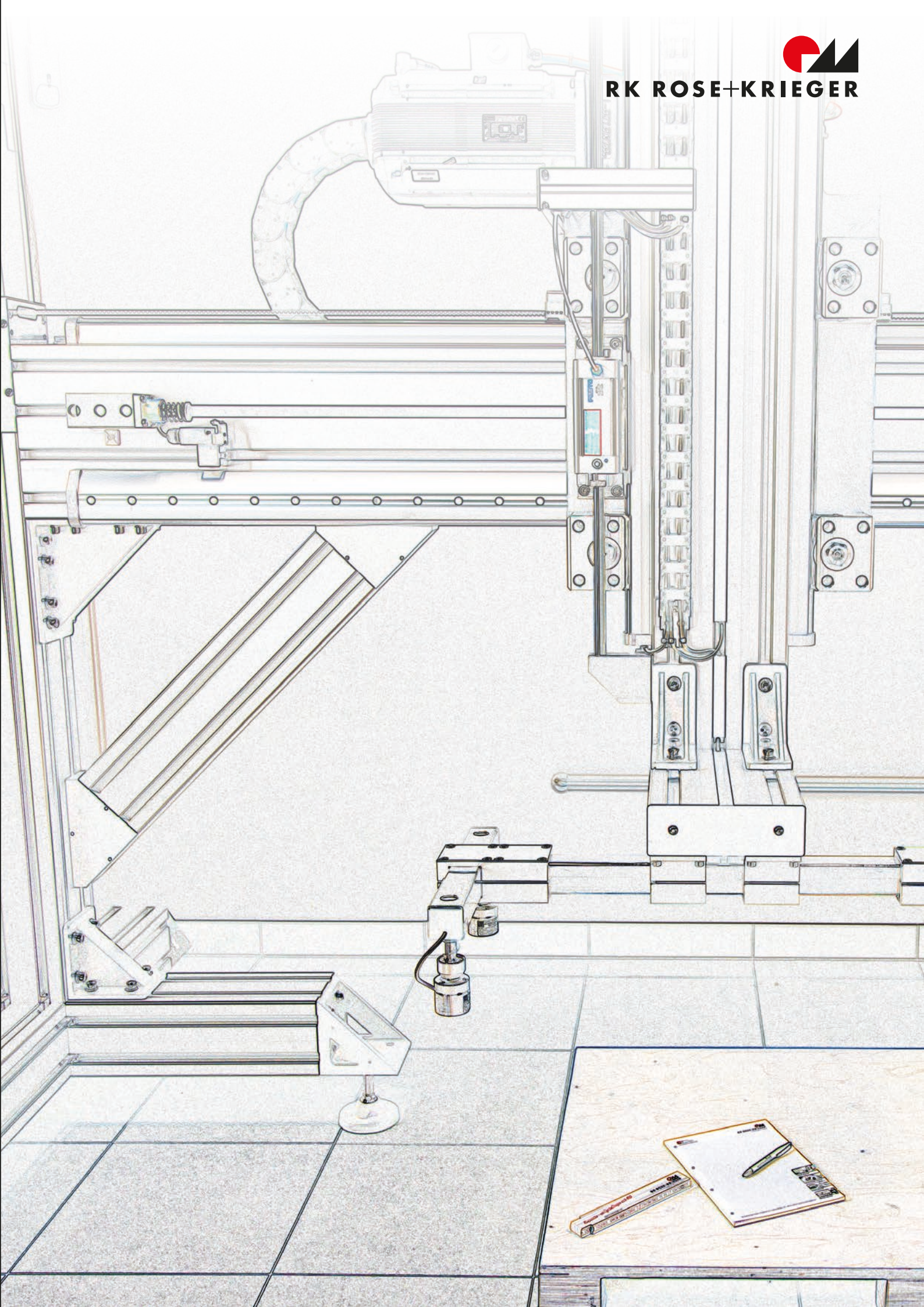


Sketches / Notes





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