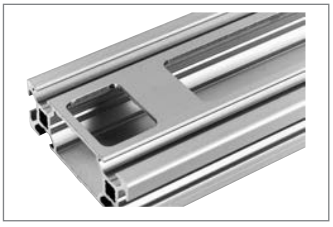
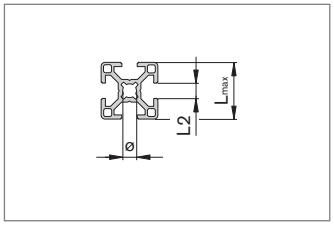
Technical data



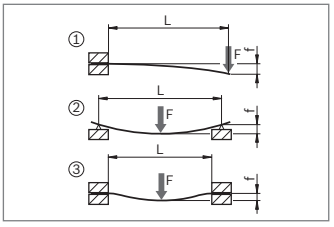
Standard profile finishing (Quick & Easy) (p. 18-2)



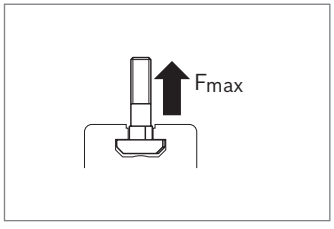
Individual profile finishing (Quick & Easy) (p. 18-7)



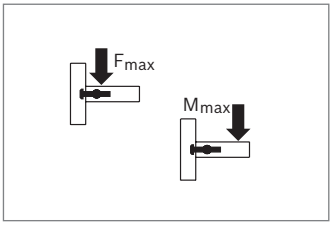
Technical data for strut profiles (p. 18-12)



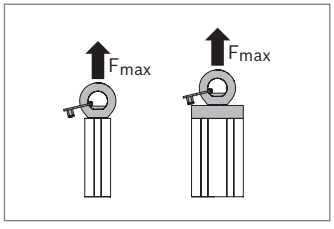
Profile deflection (p. 18-14)



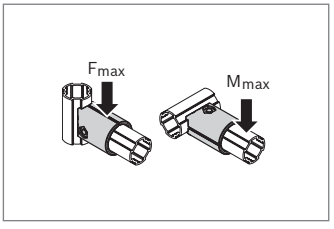
Profile slot load-bearing capacity (p. 18-15)



Load capacity of profile connection (p. 18-16)



Lifting eye bolt load capacity data (p. 18-22)



EcoShape load capacity (p. 18-23)

18

Standard profile finishing (Quick & Easy)

Standard profile finishing is used for Rexroth connection technology and attachment of accessories:

- Central bolt (corner connection)
- Quick connector
- Bolt connector
- Cross connector
- Feet and wheels

It offers decisive advantages:

- One general material number for all finishing processes at profile cross-sections
- Available for all profiles
- Any combinations possible
- Drilling of blind holes possible

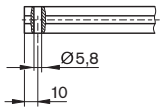
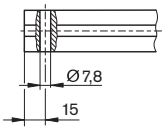
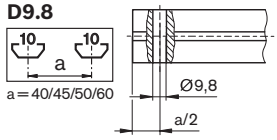
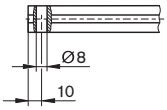
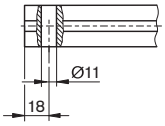
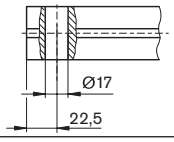
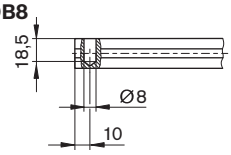
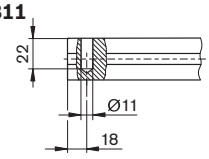
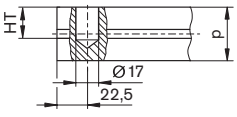
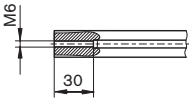
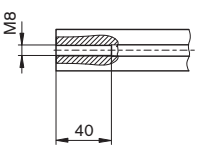
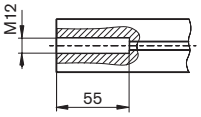
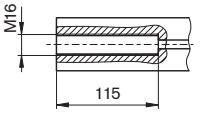
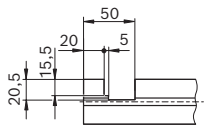
This opens up completely new possibilities!

The order key has a simple structure:
There are fixed specifications for the parameters for exact finishing of each profile. See table.

For information on slot designations and available standard profile finishing, please refer to chapter 2.

Order key for through-holes, blind holes, standard milling:
Material number / length / slot designation = finishing at profile start / finishing at profile end; ...

Order key for threads:
Material number / length / Z = Mx at profile start / Mx at profile end

Standard profile finishing		6	8	10
Through-hole for corner connections with central bolt		**D5.8** 	**D7.8** 	**D9.8** 
Through-hole for bolt connectors and quick connectors		**D8** 	**D11** 	**D17** 
Blind hole For longitudinal end connectors and quick connectors in closed profiles		**DB8** 	**DB11** 	**DB17**  **p** 40 45 50 60 **HT** 31 34 36 41
Threads in all core holes for accessories		**M6** 	**M8** 	**M12**  **M16** 
Standard milling for cross connectors				**F1** 

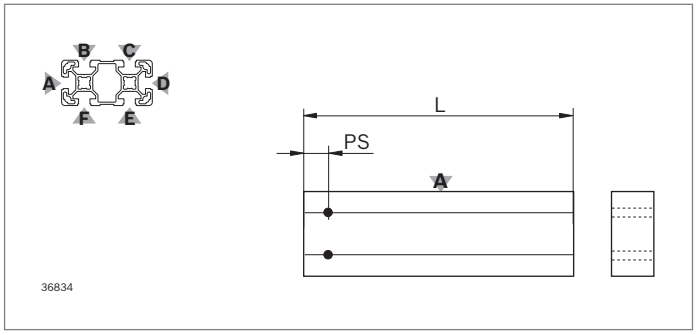


Through-hole Dx

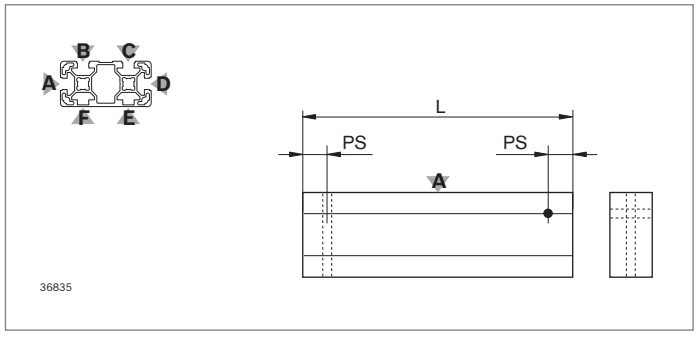
Use:

- **D5.8; D7.8; D9.8** for corner connections with central bolt
- **D8; D11; D17** for bolt connectors and quick connectors

Fixed specifications:
Distance from profile end (PS)

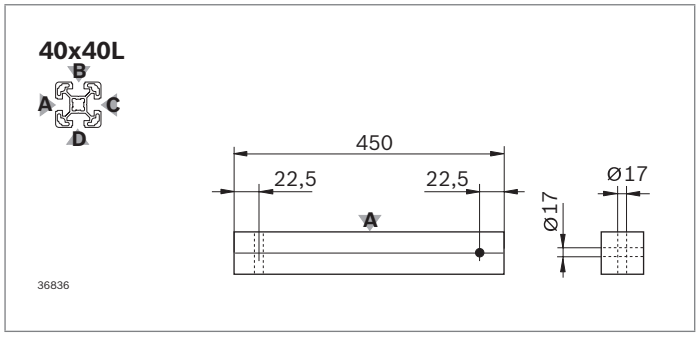


Example:
3 842 993 728 / 255 / B=D17/–; C=D17/–
Profile 40x80L / L = 255 mm /
Slot B: Through-hole D17 at profile start / without finishing at profile end;
Slot C: Through-hole D17 at profile start / without finishing at profile end
Fixed: PS = 22.5 mm (p. 18-2)

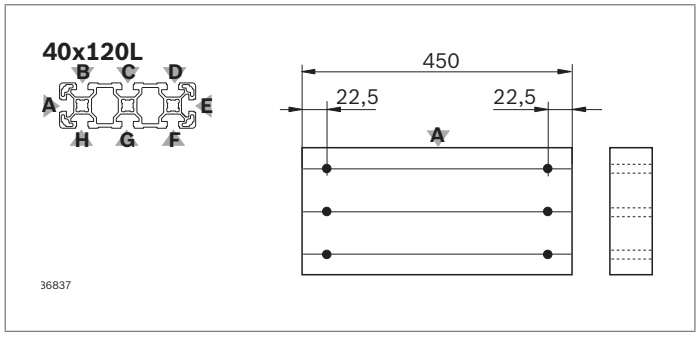


Example:
3 842 993 729 / 255 / B=–/D17; D=D17/–
Profile 40x80L 4N / L = 255 mm /
Slot B: Without finishing at profile start / through-hole D17 at profile end;
Slot D: Through-hole D17 at profile start / without finishing at profile end
Fixed: PS = 22.5 mm (p. 18-2)

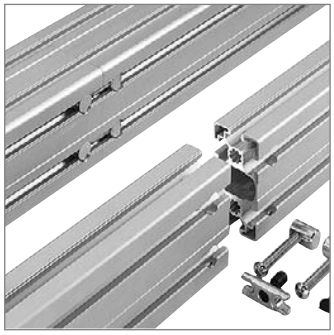
Other examples



Example:
3 842 993 724 / 450 / A=D17/–; B=–/D17



Example:
3 842 993 716 / 450 / B=D17/D17; C=D17/D17; D=D17/D17

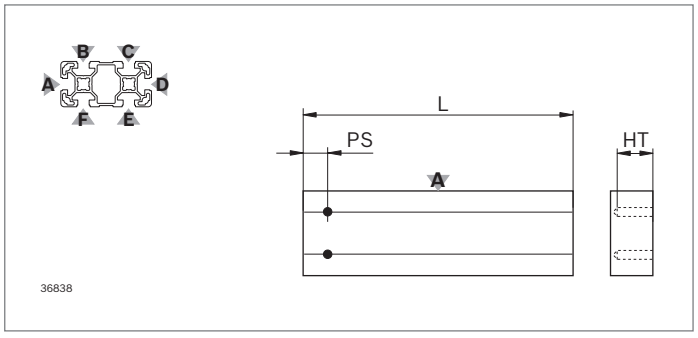


Blind hole DBx

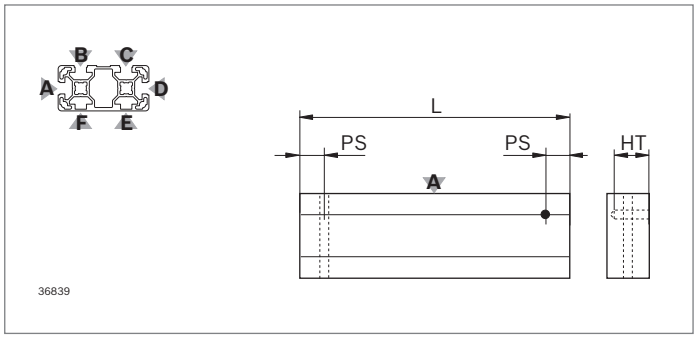
Use:
DB8; DB11; DB17 for quick connectors in closed profiles and longitudinal end connectors

Advantage:
In case of closed slots, the profile surface is not broken.

Fixed specifications:
- Distance from profile end (PS)
- Depth of blind hole (HT)



Example:
3 842 993 728 / 255 / B=DB17/–; C=DB17/–
Profile 40x80L / L = 255 mm /
Slot B: Blind hole DB17 at profile start / without finishing at profile end;
Slot C: Blind hole DB17 at profile start / without finishing at profile end
Fixed: PS = 22.5 mm, HT = 34 mm (p. 18-2)



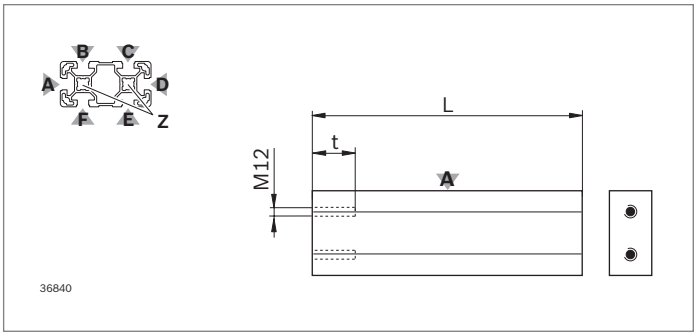
Example:
3 842 993 729 / 255 / B=–/DB17; D=D17/–
Profile 40x80L 4N / L = 255 mm /
Slot B: Without finishing at profile start / blind hole DB17 at profile end;
Slot D: Through-hole D17 at profile start / without finishing at profile end
Fixed: PS = 22.5 mm, HT = 34 mm (p. 18-2)



Thread Mx

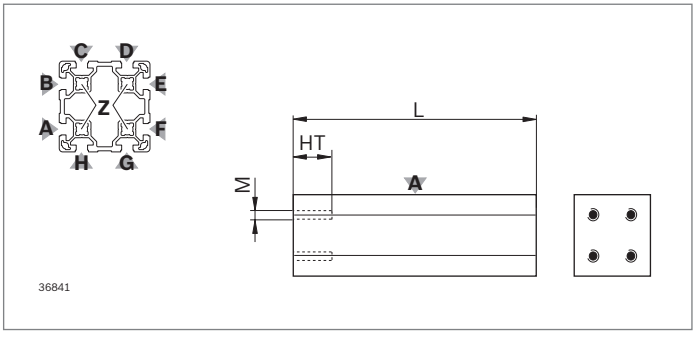
Use:
M6; M8; M12; M16 in all core holes of the profile, e.g. for screw fitting of feet and wheels

Fixed specifications:
Thread depth



Example:
3 842 993 728 / 255 / Z=M12/–

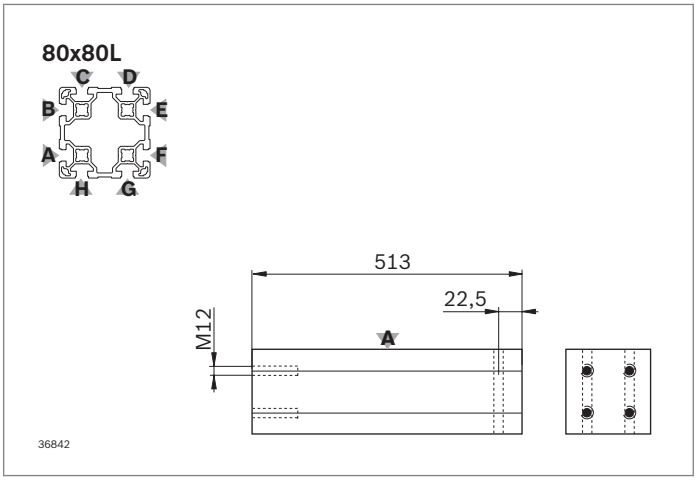
Profile 40x80L / L = 255 mm /
Thread M12 in all core holes at profile start /
no finishing at profile end
Fixed: Thread depth HT = 55 mm (p. 18-2)



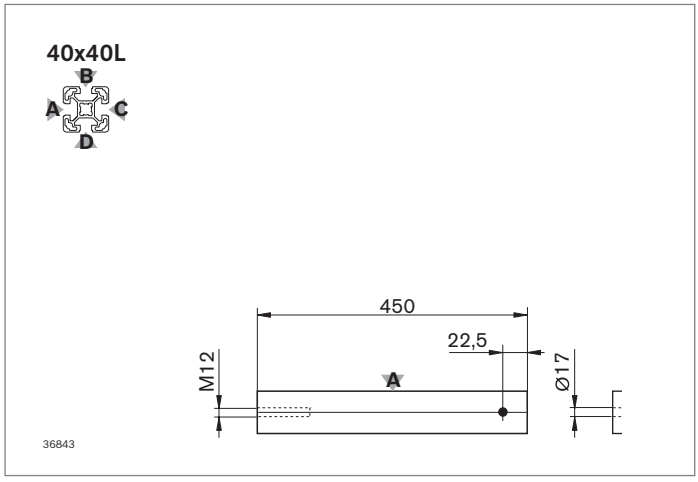
Example:
3 842 993 674 / 255 / Z=M12/–

Profile 80x80L / L = 255 mm /
Thread M12 in all core holes at profile start /
no finishing at profile end
Fixed: Thread depth HT = 55 mm (p. 18-2)

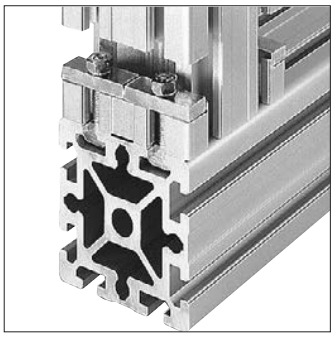
Other examples



Example:
3 842 993 674 / 513 / Z=M12/–; A=–/D17; B=–/D17



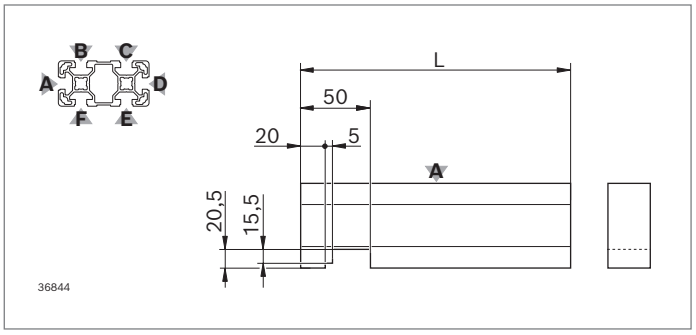
Example:
3 842 993 724 / 450 / Z=M12/–; B=–/D17



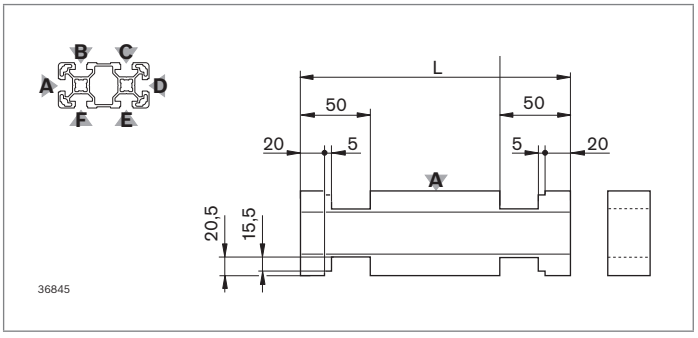
Standard milling F1

Use:
F1 for cross connectors

Fixed specifications:
- Start point of milling (PS)
- End point of milling (PE)
- Depth of milling (HT)

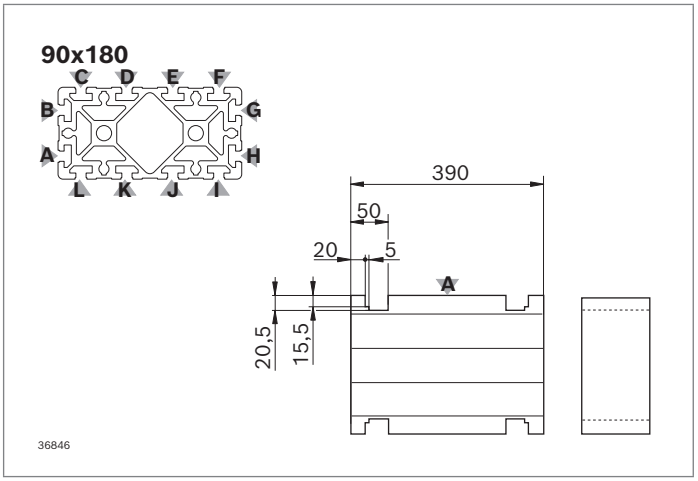


Example:
3 842 993 728 / 383 / D=F1/–
Profile 40x80L / L = 383 mm /
Slot D: Cross milling at profile start /
without finishing at profile end

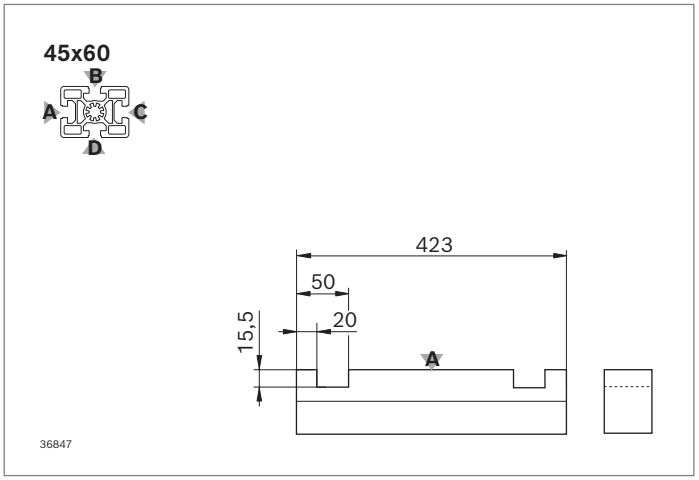


Example:
3 842 993 729 / 383 / A=F1/F1; D=F1/F1
Profile 40x80L 4N / L = 383 mm /
Slot A: Cross milling at profile start / cross milling at profile end
Slot D: Cross milling at profile start / cross milling at profile end

Other examples

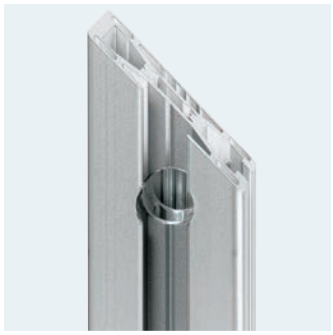


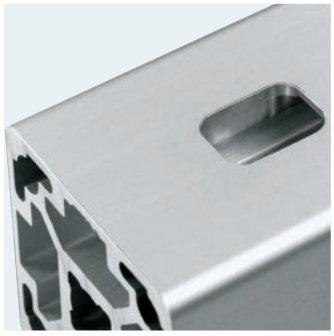
Example:
3 842 993 676 / 390 / A=F1/F1; G=F1/F1

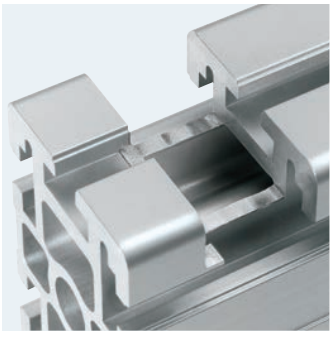


Example:
3 842 993 743 / 423 / A=F1/F1

Individual profile finishing (Quick & Easy)







With individual profile finishing, Quick & Easy offers the following advantages:

- Precise finishing at virtually every point along the profile
- Maximum variance of available finishing procedures
- Available for numerous profiles
- Finishing possible in almost any combination including sequential finishing
- Variable finishing options from one source

The following finishing options are available:

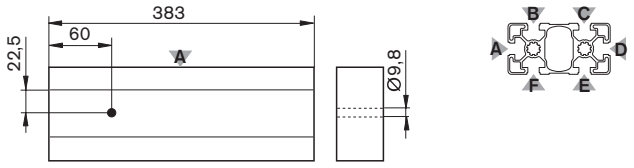
- Through-hole
- Blind holes
- Stepped drilling
- Cross milling (transversely to the longitudinal axis)
- Lengthwise milling (in longitudinal axis)
- Miter cuts

Notice:
Depending on the selected finishing options, minimum and maximum lengths must be observed when ordering.

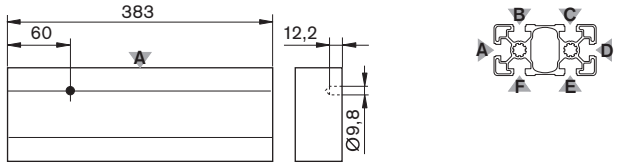


Order examples for profile 45x90, L = 383 mm

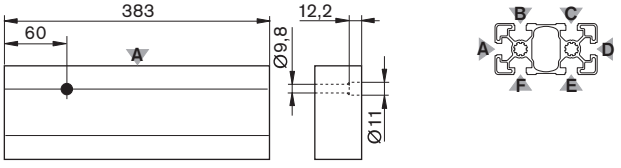
DI **Through-hole next to the slot**
3 842 993 661 / 383 / [B=DI; PS=60; OS=22.5; DM=9.8]



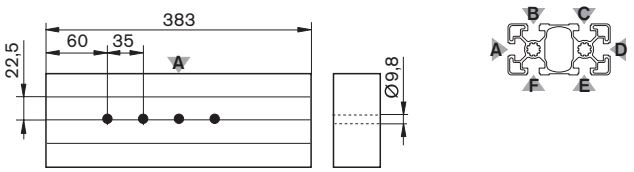
Blind hole
3 842 993 661 / 383 / [B=DI; PS=60; DM=9.8; HT=12.2]



Stepped drilling
3 842 993 661 / 383 / [B=DI; PS=60; DM=11.0; HT=12.2]; [B=DI; PS=60; DM=9.8]



DIS **Sequence of through-holes**
3 842 993 661 / 383 / [B=DIS; PS=60; OS=22.5; DM=9.8; SN=4; SD=35]



Drill hole

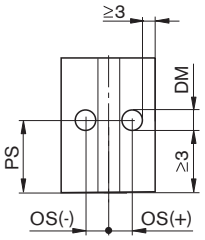
Drill hole DI

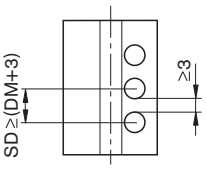
- Through-hole with diameter (**DM**) at any points of the profile (**PS, OS**). Please note the information on OS in the table.
- Blind hole by additional specification of drilling depth (**HT**)
- Stepped drilling by two drill holes at the same position of the profile
- Observe required minimum wall thickness (PS_{min}, PS_{max})!

Drilling sequence DIS

- Regular sequence of identical drilling (**SN**, **SD**)
- Observe required minimum wall thickness (SD_{min})!

End finishing	Abbreviation	Parameter	
Drill hole	**DI**	**PS**	Center point of hole
			PS_{min} = DM/2 + 3 mm; PS_{max} = L – (DM/2 + 3 mm)
		OS (optional)	Offset starting point
			Select OS so that the hole does not cut through any slot edges
		DM	Hole diameter
			DM, see table
		HT (optional)	Depth of drilling. Through-holes made if no information provided.
			HT_{max}, see table
Drilling sequence	**DIS**	**PS, OS, DM, HT**	As for drill hole DI
		SN	Number of finishes
			SN_{max} = INT((L – 3 – PS – DM/2)/ SD) + 1
		SD	Distance between adjacent finishes
			SD_{min} = DM + 3





Admissible drilling diameters and depths (in mm)

DM	5.8	6.4	7.8	8.0	8.4	9.8	11.0	17.0
HT_{max}	40.0	45.0	45.0	45.0	45.0	50.0	60.0	75.0

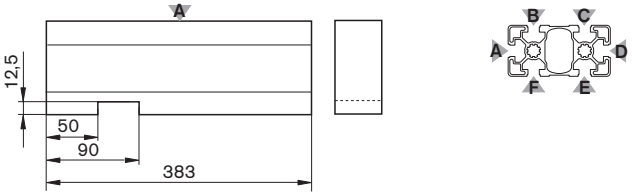
ATTENTION: If HT_{max} is not sufficient to drill through the profile, you must order two opposite bores!

Order key:
Material number / length / [slot designation=DI; PS=...; *OS=...*; **DM=...;** *HT=...*; **]** *[...]*
Material number / length / [slot designation=DIS; PS=...; *OS=...*; **DM=...;** *HT=...*; **SN=...; SD=...];** *[...]*

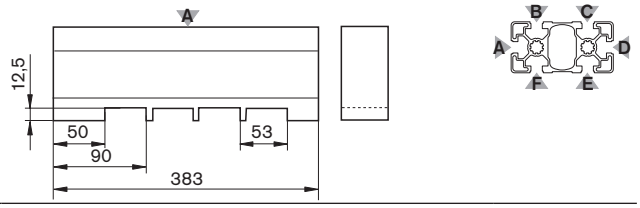


Order examples for profile 45x90, L = 383 mm

MT **Cross milling on profile side slot D**
3 842 993 661 / 383 / [D=MT; PS=50; HT=12.5; PE=90]



MTS **Cross milling sequence on profile side slot D**
3 842 993 661 / 383 / [D=MTS; PS=50; HT=12.5; PE=90; SN=4; SD=53]



Cross milling

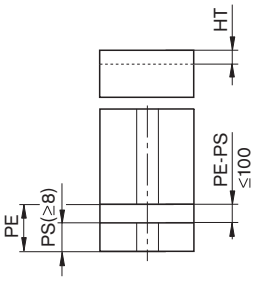
Cross milling MT

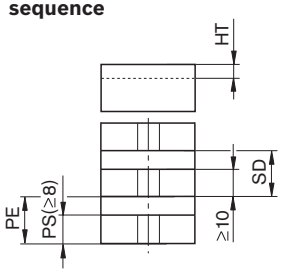
- Cross milling at any point of the profile (slot designation **PS**) with variable depth (**HT**) and length (**PE – PS**); the width corresponds to the profile width.
- Observe required minimum wall thickness (PS_{min}, PS_{max})!

Cross milling sequence MTS

- Regular sequence of identical cross milling (**SN**, **SD**)
- Observe required minimum wall thickness (SD_{min})!

End finishing	Abbreviation	Parameter	
Cross milling	**MT**	**PS**	Starting point of milling (Profile cut surface distance – Cross milling leading edge)
			PS_{min} = 8 mm PS_{min} = 60 mm on the underside of the profile
		HT	Depth of milling
			HT_{max} = 5.5 mm (slot 6 mm) HT_{max} = 9.0 mm (slot 8 mm) HT_{max} = 12.5 mm (slot 10 mm)
		PE	Starting point of milling (Profile cut surface distance – Cross milling trailing edge)
			PE_{max} = L – 8 mm 8 mm ≤ PE – PS ≤ 100 mm
Cross milling sequence	**MTS**	**PS, HT, PE**	As for cross milling MT
		SN	Number of finishes
			SN_{max} = INT((L – 8 – PE)/SD)+1
		SD	Distance between adjacent finishes
			SD_{min} = (PE – PS) + 10



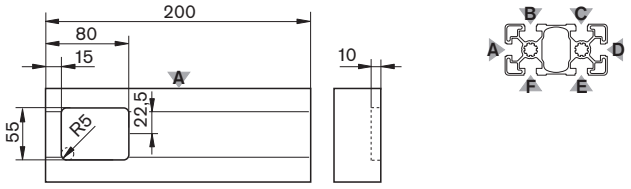


Order key:
Material number / length / [slot designation=MT; PS=...; HT=...; PE=...]; *[...]*
Material number / length / [slot designation=MTS; PS=...; HT=...; PE=...; SN=...; SD=...]; *[...]*

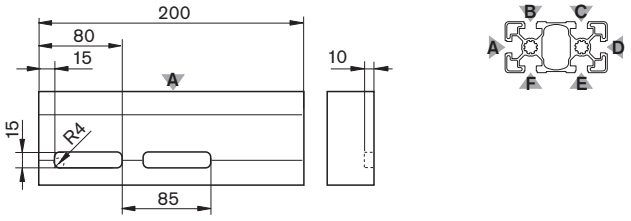


Order examples for profile 45x90, L = 200 mm

MI **Lengthwise milling**
3 842 993 661 / 200 / [B=MI; PS=15; OS=22.5; DM=55; HT=10; PE=80; RG=5]



MIS **Sequence of lengthwise milling**
3 842 993 661 / 200 / [C=MIS; PS=15; DM=15; HT=10; PE=80; RG=4; SN=2; SD=85]



Lengthwise milling

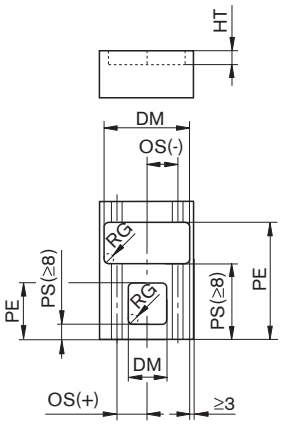
Lengthwise milling MI

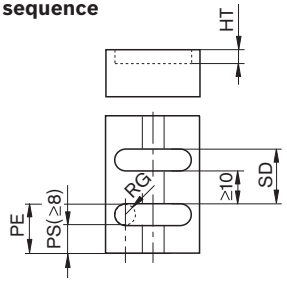
- Lengthwise milling at any point of the profile (slot designation **PS**, **OS**) with variable depth (**HT**), width (**DM**) and length (**PE – PS**). The milling corner radius is defined by the radius of the milling tool (**RG**).
- Observe required minimum distances (PS_{min}, PS_{max}, DM_{max})!

Lengthwise milling sequence MIS

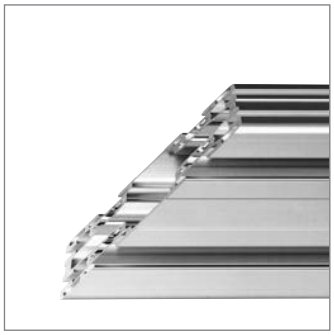
- Regular sequence of identical lengthwise milling (**SN**, **SD**)
- Observe required minimum wall thickness! (SD_{min})

End finishing	Abbreviation	Parameter	
Lengthwise milling	**MI**	**PS**	Starting point of milling
			PS_{min} = 8 mm PS_{min} = 60 mm on the underside of the profile (see order tables for guidance)
		OS (optional)	Offset starting point
		DM	Milling width
			DM_{min} = 8 mm DM_{max} = profile width/ height – 6 mm At least 3 mm of profile must remain on both sides
		HT	Depth of milling.
			HT_{max} = 5.5 mm (slot 6 mm) HT_{max} = 9.0 mm (slot 8 mm) HT_{max} = 12.5 mm (slot 10 mm)
		PE	End point of milling
			PE_{max} = L – 8 mm 8 mm ≤ PE – PS ≤ 100 mm
		RG	Radius of milling geometry
			RG = 3 mm; 4 mm; 5 mm; 8 mm
Lengthwise milling sequence	**MIS**	**PS, OS, DM, HT, PE, RG**	As for lengthwise milling MI
		SN	Number of finishes
			SN_{max} = INT(L – 8 – PE/SD) + 1
		SD	Distance between adjacent finishes
			SD_{min} = (PE – PS) + 10



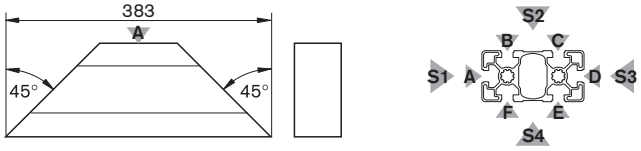


Order key:
Material number / length / [slot designation=MI; PS=...; *OS=...*; **DM=...; HT=...; PE=...; RG=R..];** *[...]*
Material number / length / [slot designation=MIS; PS=...; *OS=...*; **DM=...; HT=...; PE=...; RG=R..; SN=...; SD=...];** *[...]*

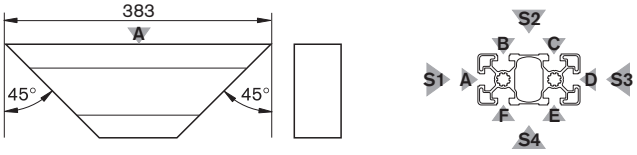


Order examples for profile 45x90, L = 383 mm

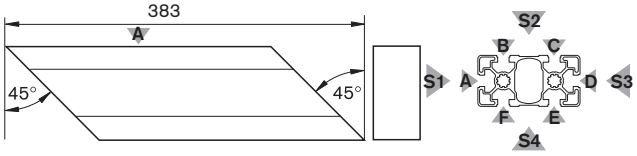
MT **Miter cut on both sides through side S3 (side with slot D)**
3 842 993 661 / 383 / [FS=S3; DG=45]; [BS=S3; DG=45]



Miter cut on both sides through side S1 (side with slot A)
3 842 993 661 / 383 / [FS=S1; DG=45]; [BS=S1; DG=45]



Miter cut on through side S1 (FS) and S3 (BS)
3 842 993 661 / 383 / [FS=S1; DG=45]; [BS=S3; DG=45]

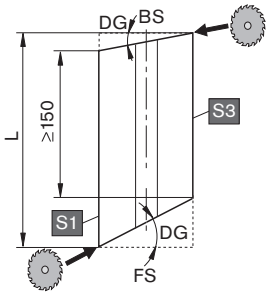


Miter cut

Miter cut

- Cutting of profiles at any angle
- Profile sides are numbered in clockwise direction. S1 is the left profile side according to the illustrated position on the ordered side; the following sides are designated with S2, S3 and S4.
- Miter cut is started at the indicated side. Possible sides: S1 and S3.
- Observe the maximum admissible miter bracket and minimum length

End finishing	Abbreviation	Parameter	
Miter cut	–	**FS**	Front side: Designation of the profile end the miter cut is to be performed at S1, S3: Profile side on which the miter cut begins
			FS = S1; FS = S3
		BS	Back side: Opposite profile end S1, S3: Profile side on which the miter cut begins
			BS = S1; BS = S3
		DG	Miter bracket
			DG > 0 The angle is always specified as a positive value; orientation results from FS/BS and the side on which the miter cut begins. Note the maximum permissible miter angle. For a single-sided miter $L_{min}1$. For a double-sided miter $L_{min}2$.



Order key:
Material number / length / [FS=side; DG=miter angle]; *[BS=side; DG=miter angle]*

Technical data for strut profiles

EN AW – Al MgSi		Material designation according to DIN EN 573 for Rexroth strut profiles
EN AW – 6063		Material number according to DIN EN 573
R_m	= 245 N/mm²	Minimum tensile strength (in direction of pressure)
$R_{p0.2}$	= 195 N/mm²	0.2 % proof stress (in direction of pressure)
A_5 A_{10}	= 10 % = 10 %	Ductile yield A_5 or A_{10}
E	= 70000 N/mm²	Modulus of elasticity E
75 HB		Brinell hardness
$\alpha_{(-50 \ldots +20\ °C)}$ $\alpha_{(+20 \ldots 100\ °C)}$	= 21.8 x 10^{-6} 1/K = 23.4 x 10^{-6} 1/K	Longitudinal expansion coefficient
μ	= 0.34	Poisson's ratio
E6/EV1 – 12 μm – 300 HV		Anodizing process – layer thickness – layer hardness

Permitted dimensional tolerance t (mm) for profiles from different deliveries

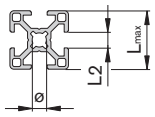
L_{max}	11–20	22,5–30	40	45–60
t	±0.15	±0.2	+0.6	±0.3

L_{max}	80	90	120	160
t	+0.8	±0.4	+1.0	+1.6

L_{max}	180	270	360
t	±0.6	±1.0	±1.5

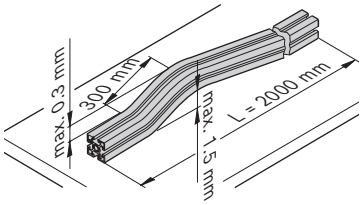
L2	6	8	10
t	+0.3	+0.3	+0.4

Ø	5.5	7.3	10	15
t	−0.1 +0.2	−0.1 +0.2	±0.15	±0.15

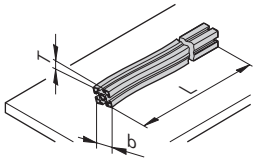


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Deviation limits and form tolerances according to DIN EN 12020-2
Rexroth profiles generally fall well within the generally applicable tolerances specified in the standard. They are specifically defined for the individual products.



Longitudinal straightness tolerance of profile



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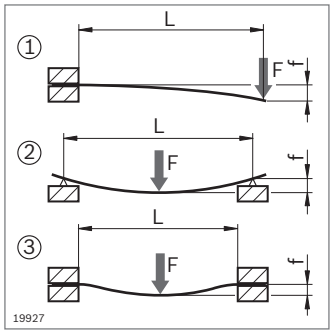
Longitudinal torsional tolerance of profile

Width *b* in (mm)	**Torsional tolerance *T* for nominal length *L* in (mm)**					
	L ≤ 1000	1000 < L ≤ 2000	2000 < L ≤ 3000	3000 < L ≤ 4000	4000 < L ≤ 5000	5000 < L ≤ 6000
≤ 75	1.0	1.2	1.5	1.8	2.0	2.0
75 ... 100	1.0	1.2	1.5	2.0	2.2	2.5
100 ... 125	1.0	1.5	1.8	2.2	2.5	3.0
125 ... 150	1.2	1.5	1.8	2.2	2.5	3.0
150 ... 200	1.5	1.8	2.2	2.6	3.0	3.5
200 ... 350	1.8	2.5	3.0	3.5	4.0	4.5

Resistance table R999002460

The table gives you an overview of the general resistance of Rexroth aluminum profiles in contact with various media.

Profile deflection

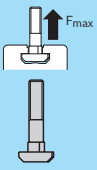
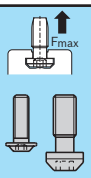
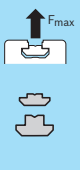
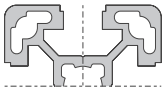
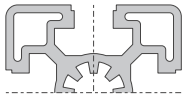
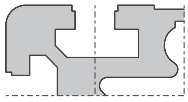


$f_{①} = \frac{F \times L^3}{3\ E \times I \times 10^4}$ $f_{②} = \frac{F \times L^3}{48\ E \times I \times 10^4}$ $f_{③} = \frac{F \times L^3}{192\ E \times I \times 10^4}$	Profile deflection due to force F for static load cases ①②③
$f_{①} = \frac{m' \times g \times L^4}{8\ E \times I \times 10^4}$ $f_{②} = \frac{5 \times m' \times g \times L^4}{384\ E \times I \times 10^4}$ $f_{③} = \frac{m' \times g \times L^4}{384\ E \times I \times 10^4}$	Profile deflection due to the profile's own weight
$\sigma_{①} = \frac{(m' \times g \times L + F) \times L}{W \times 10^3}$ $\sigma_{②} = \frac{(m' \times g \times L + F) \times L}{4\ W \times 10^3}$ $\sigma_{③} = \frac{(m' \times g \times L + F) \times L}{8\ W \times 10^3}$	Control of max. occurring bending stress $\sigma_{b\ max}$
$\sigma_{b\ max} < \sigma_{b\ zul.}$! $\sigma_{b\ zul.} = \frac{R_{p0,2}}{S_{F\ erf.}}$	$S_{F\ erf}$: Safety value required to avoid deformation (flow) $\sigma_{b\ zul}$: Max. permissible bending stress

f (mm)	W (cm^3)
F (N)	E = 70000 N/mm^2
L (mm)	m' (kg/mm); m' = m/1000; m (p. 2-3 ... 2-6)
I (cm^4)	g = 9.81 $m/s^2 \approx 10\ m/s^2$

Profile slot load-bearing capacity

Static load limit values of slot (beginning of plastic deformation) **for connectors with the largest thread in each case**

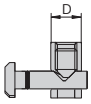
			 T-bolt	 T-nut	 Central bolt	 Swivel-in sliding block	 Sliding block
6		20x20, 20x20R 10x40 20x40, 20x60 20x40x40	1700 N	1700 N	2000 N	–	3000 N
8		30x30, 30x30R 30x30°, 30x45°, 30x60° 11x20, 15x120 30x45, 30x60, 30x60x60 30x90, 30x120	4000 N	4000 N	5000 N	2200 N	6000 N
10		90x90SL 40x40L, 40x40L R 40x30°, 40x45°, 40x60° 40x80L, 40x120L, 40x160L 40x80x80L 80x80L 80x120L, 80x160L 45x45L, 45x45L R 45x30°, 45x45°, 45x60° 15x22.5, 15x180, 22.5x45 45x90L, 45x90x90L 45x135L 50x50L, 50x50L R 50x100L, 50x150L 100x100L, 100x200L 60x60L	6000 N 7000 N	6000 N 7000 N	9000 N 10000 N	8000 N 9000 N	11000 N 12000 N
		45x45 60x60 90x90L 22.5x180 45x60 45x90, 45x180 90x180L 90x135L	12000 N	12000 N	15000 N	13000 N	17000 N
		45x270 60x90 90x90 90x180 90x360	18000 N	18000 N	22000 N	18000 N	24000 N

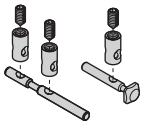
Load capacity of profile connection

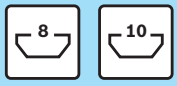
The specified tightening and loading limit values were determined as an example in (dry) trials. Safety factors and building regulations in accordance with the law and accepted engineering practices must be observed.

Static load limit values of the connection (beginning of plastic deformation)

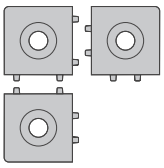
	D	Slot				
	8	6 / 6	2.5 Nm		450 N	18 Nm
	11	8 / 8	12 Nm		500 N	40 Nm
	11	8 / 10	12 Nm		2000 N	70 Nm
	17	10 / 10	25 Nm		4000 N	140 Nm
Quick connector (p. 3-56)	9.8	10 / 10	6 Nm		800 N	50 Nm

	D	Slot				
	8	6 / 6	2.5 Nm		250 N	6 Nm
	11	8 / 8	12 Nm		500 N	40 Nm
	11	8 / 10	12 Nm		500 N	40 Nm
Quick connector with round head (p. 3-59)	17	10 / 10	25 Nm		2500 N	140 Nm

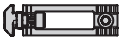
	Slot							
	30x30	8	12 Nm	1100 N	35 Nm	24 Nm	650 N	40 Nm
	40x40L	10	25 Nm	1500 N	110 Nm	100 Nm	1000 N	80 Nm
	45x45L	10	25 Nm	1500 N	120 Nm	110 Nm	1000 N	95 Nm
	45x45	10	25 Nm	1500 N	140 Nm	145 Nm	1100 N	180 Nm
Quick connector, bendable (p. 3-61)	50x50L	10	25 Nm	1500 N	150 Nm	160 Nm	1100 N	180 Nm

		Slot			F_{max}	M_{max}	M_{max}
	ø11, L=30	8	↻	6 Nm	2500 N	60 Nm	20 Nm
	ø17, L=40	10	↻	25 Nm	4000 N	180 Nm	40 Nm
	ø17, L=45	10	↻	25 Nm	4000 N	180 Nm	60 Nm
	ø17, L=50	10	↻	25 Nm	4000 N	200 Nm	65 Nm
	ø17, L=60	10	↻	25 Nm	4000 N	200 Nm	80 Nm
	ø17, L=80	10	↻	25 Nm	5000 N	800 Nm	170 Nm
	ø17, L=90	10	↻	25 Nm	5000 N	800 Nm	200 Nm
	ø17, L=100	10	↻	25 Nm	5000 N	1000 Nm	480 Nm
Bolt connector (p. 3-64)	ø28, L=22.5	10	↻	25 Nm	2000 N	–	–

		Slot			F_{max}	M_{max}
	S6	6	↻	10 Nm	500 N	8 Nm
	S8	8	↻	25 Nm	800 N	43 Nm
	S12	10	↻	35 Nm	1300 N	80 Nm
Central bolt (p. 3-43)	M12	10	↻	35 Nm	3000 N	80 Nm

6 8 10		Slot				M_{max}	$M_{max}/2$ $M_{max}/2$
	20/2	6	↻	10 Nm		18 Nm	
	20/3	6	↻	10 Nm			23 Nm
	30/2	8	↻	25 Nm		80 Nm	
	30/3	8	↻	25 Nm			85 Nm
	40/2	10	↻	35 Nm		60 Nm	
	40/3	10	↻	35 Nm			70 Nm
	45/2	10	↻	35 Nm	45x45L	150 Nm	
					45x45	200 Nm	
	45/3	10	↻	35 Nm	45x45L		170 Nm
					45x45		240 Nm
	50/2	10	↻	35 Nm		120 Nm	
Cubic connector (p. 3-45)	50/3	10	↻	35 Nm			140 Nm

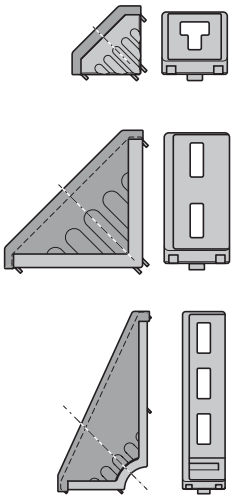
8 10		Profile	Slot			F_{max}	M_{max}	M_{max}
	SV8	30x...	8	↻	6 Nm	1000 N	35 Nm	15 Nm
	SV 10L	45x... L	10	↻	15 Nm	3500 N	110 Nm	30 Nm
	SV 10	40x..., 45x...	10	↻	25 Nm (M8) 5 Nm (M5)	3500 N	110 Nm	30 Nm
Tensioning connector (p. 3-13)		60x...	10	↻	15 Nm	3500 N	195 Nm	60 Nm

8 10	Slot				F_{max}	M_{max}	M_{max}
	8 / 8	↻	2.5 Nm (M4) 10 Nm (M8)		1000 N	35 Nm	15 Nm
	8 / 10	↻	2.5 Nm (M4) 10 Nm (M8)		1000 N	35 Nm	15 Nm
Slot connector (p. 3-14)	10 / 10	↻	7 Nm (M6) 12 Nm (M10)		3000 N	110 Nm	30 Nm

8 10	Slot			F_{max}	M_{max}
	8 / 8	↻	12 Nm	2200 N	50 Nm
	10 / 10	↻	15 Nm	2800 N	100 Nm
Inner bracket (p. 3-15)					

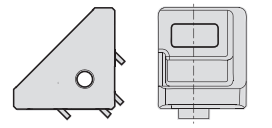
6 8 10	Slot			F_{max}	M_{max}
	6 / 6	↻	3 Nm	600 N	10 Nm
	8 / 8	↻	12 Nm	2500 N	50 Nm
Inner bracket R (p. 3-16)	10 / 10	↻	15 Nm	3000 N	100 Nm





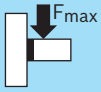
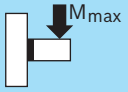
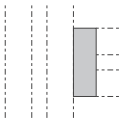
	Slot			F_{max}	M_{max}	M_{max}	M_{max}
20/20	6	↻	3 Nm	700 N	6 Nm	25 Nm	–
20/40	6	↻	3 Nm	1400 N	15 Nm	50 Nm	8 Nm
30/30	8	↻	10 Nm	1250 N	25 Nm	75 Nm	–
30/60	8	↻	10 Nm	2500 N	100 Nm	170 Nm	25 Nm
30/120	8	↻	10 Nm	3750 N	100 Nm		47 Nm
60/60-8	8	↻	10 Nm	5000 N	320 Nm	370 Nm	110 Nm
60/60-10	10	↻	25 Nm	3000 N	125 Nm	150 Nm	–
40/40	10	↻	25 Nm	3000 N	55 Nm	145 Nm	35 Nm
40/80	10	↻	25 Nm	6000 N	180 Nm	400 Nm	60 Nm
40/160	10	↻	25 Nm	9000 N	250 Nm		60 Nm
80/80	10	↻	25 Nm	14000 N	500 Nm	1000 Nm	400 Nm
45/45	10	↻	25 Nm	3000 N	60 Nm	160 Nm	–
45/90	10	↻	25 Nm	6000 N	180 Nm	400 Nm	60 Nm
45/180	10	↻	25 Nm	9000 N	250 Nm		65 Nm
90/90	10	↻	25 Nm	12000 N	370 Nm	800 Nm	200 Nm
43x42	10	↻	25 Nm	2000 N	–	160 Nm	–
50/50	10	↻	25 Nm	4000 N	125 Nm	250 Nm	38 Nm
50/100	10	↻	25 Nm	7500 N	300 Nm	600 Nm	73 Nm
100/100	10	↻	25 Nm	15000 N	550 Nm	1100 Nm	480 Nm

Bracket (p. 3-19)

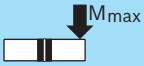
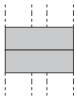


	Slot			F_{max}	M_{max}	M_{max}
S 20x20	6	↻	2.5 Nm	700 N	3.6 Nm	25 Nm
S 30x30	8	↻	8.5 Nm	1250 N	16 Nm	75 Nm
S 40x40	10	↻	25 Nm	3000 N	36 Nm	160 Nm
S 45x45	10	↻	25 Nm	3000 N	36 Nm	160 Nm

Bracket S (p. 7-8)

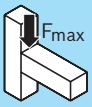
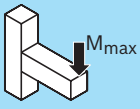
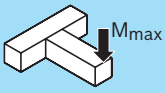
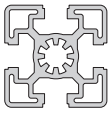
		Slot		 Fmax	 Mmax
	30x30	8	↻ 25 Nm (M8) / 5 Nm (M5)	4000 N	80 Nm
	40x40	10	↻ 35 Nm (S12) / 10 Nm (M6)	9000 N	150 Nm
	45x45	10	↻ 35 Nm (S12) / 10 Nm (M6)	9000 N	200 Nm
	50x50	10	↻ 35 Nm (S12) / 10 Nm (M6)	10000 N	170 Nm

T-connector (p. 3-53)

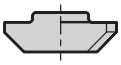
		Slot		 Mmax
	30x30	8	↻ 25 Nm (M8) / 5 Nm (M5)	81 Nm
	40x40	10	↻ 35 Nm (S12) / 10 Nm (M6)	170 Nm
	45x45	10	↻ 35 Nm (S12) / 10 Nm (M6)	200 Nm
	50x50	10	↻ 35 Nm (S12) / 10 Nm (M6)	180 Nm

End connector (p. 3-51)

Profile connection load capacity with radial compensation (p. 2-94)

				Slot		 Fmax	 Mmax	 Mmax
	30x30		S8	8	↻ 25 Nm	600 N	37 Nm	28 Nm
				8 / 8	↻ 12 Nm	600 N	37 Nm	28 Nm
	40x40		M12 S12	10	↻ 30 Nm	1000 N	47 Nm	55 Nm
				10 / 10	↻ 22 Nm	1000 N	47 Nm	55 Nm
 	45x45		S12 M12	10	↻ 35 Nm	1200 N	53 Nm	59 Nm
				10 / 10	↻ 25 Nm	1200 N	53 Nm	59 Nm





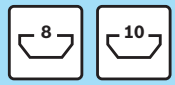
	Slot		
M4	6	↻	3 Nm
M4	8	↻	3 Nm
M5	8	↻	5 Nm
M6	8	↻	10 Nm
M4	10	↻	3 Nm
M5	10	↻	5 Nm
M6	10	↻	10 Nm
M8	10	↻	25 Nm

T-nut (p. 3-4)



	Slot		
M8	10	↻	25 Nm

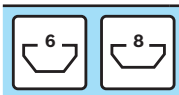
Collar screw (p. 3-5)

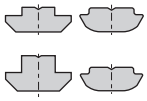




	Slot		
M6	8	↻	10 Nm
M8	10	↻	25 Nm

Flange nut,
T-bolt (p. 3-6)





	Slot		
M4	6	↻	3 Nm
M5	6	↻	5 Nm
M4	8	↻	3 Nm
M5	8	↻	5 Nm
M6	8	↻	10 Nm
M8	8	↻	25 Nm
M5	10	↻	5 Nm
M6	10	↻	10 Nm
M8	10	↻	25 Nm

Sliding block (p. 3-7)
Swivel-in sliding block (p. 3-8)

Lifting eye bolt load capacity data

	Page	 One cable, vertical	 Two cables, vertical	 Two cables, ß 0 ... 45	 Two cables, ß 45 ... 60	 Two cables, asymmetrical	 Three or four cables, ß 0 ... 45	 Three or four cables, ß 45 ... 60	 Three or four cables, asymmetrical
Lifting eye bolt M12x40	3-67	750 kg	1500 kg	1000 kg	750 kg	750 kg	1400 kg	1100 kg	750 kg
Lifting eye bolt with plate 45x90	3-68	750 kg	1500 kg	1000 kg	750 kg	750 kg	1500 kg	1100 kg	750 kg
Lifting eye bolt with plate 90x90	3-68	750 kg	1500 kg	1000 kg	750 kg	750 kg	1500 kg	1100 kg	750 kg
Lifting eye bolt with plate 40x80	3-68	750 kg	1500 kg	1000 kg	750 kg	750 kg	1500 kg	1100 kg	750 kg
Lifting eye bolt with plate 80x80	3-68	750 kg	1500 kg	1000 kg	750 kg	750 kg	1500 kg	1100 kg	750 kg

EcoShape load capacity

The specified tightening and loading limit values were determined as an example in (dry) trials. Safety factors and building regulations in accordance with the law and accepted engineering practices must be observed.

Static load limit values of the connection (beginning of plastic deformation)

Page		↻	F_{max}	M_{max}	M_{max}	T_{max}	F_{max}	F_{max}	F_{max}
2-81	Threaded sleeve D28L, M12	25 Nm	–	–	–	–	2400 N	300 N	–
2-81	90° connector D28L	10 Nm	2500 N	50 Nm	25 Nm	15 Nm	–	–	–
2-81	90° connector D28L, inside	10 Nm	2500 N	30 Nm	20 Nm	–	–	–	–
2-81	Parallel connector D28L	10 Nm	2500 N	35 Nm	16 Nm	–	–	–	–
2-82	45° connector D28L	10 Nm	2500 N	–	–	–	–	–	–
2-82	45° connector D28L, inside	10 Nm	2500 N	–	–	–	–	–	–
2-82	Strut D28L, 45°	10 Nm	+2500 N	200 Nm	–	–	–	–	–
2-82	Cross connector D28L	10 Nm	2500 N	30 Nm	35 Nm	–	–	–	–
2-83	0°-90° connector D28L	10 Nm	–	–	–	–	–	–	–
2-83	D28L corner bracket	10 Nm	–	20 Nm	20 Nm	–	–	–	–
2-83	90° connector R25, inside	10 Nm	–	–	–	–	–	–	–
2-84	Retaining ring D28L	2 Nm	500 N	–	–	–	–	–	–
2-85	Adapter N10/45	5 Nm	3000 N	–	–	–	–	–	–
2-85	Adapter N10/30	5 Nm	800 N	–	–	–	–	–	–
2-86	Adapter mount D28L	–	35 N	–	–	–	–	–	–
2-86	Container mount	1.8 Nm	35 N	–	–	–	–	–	–
2-87	Tube clamp D28L, N10	25 Nm	1800 N	100 Nm	–	–	–	–	–
2-87	Hinge D28L/D28L	10 Nm	300 N	–	–	–	–	–	–
2-87	D28L/- hinge	10 Nm	300 N	–	–	–	–	–	–
2-88	Variofix block Zn	10 Nm	1500 N	–	–	–	–	–	–
2-88	Mounting bracket D28L	–	200 N	–	–	–	–	–	–
2-89	Ring D50	–	–	–	–	–	–	–	200 N