Linear guides

TOSS®

Type LF

Linear ball guide
Design sizes
10/16

Linear guide for low to medium loads.

Technical data:

Type	10 - LF	16 - LF
Design type	Linear ball guide	
Stroke length [mm]	10, 25, 50, 80, 100, 125, 160, 200 (on both sides)	
Mounting position	Any	
Adm. temperature range [°C]	-10 to +70	
Ball - ∅ [mm]	3	
Materials	Base body, upper part, cover: Al Guides: Steel rods, hardened and ground 100 Cr 6	
Attention: The stroke must be limited externally!		

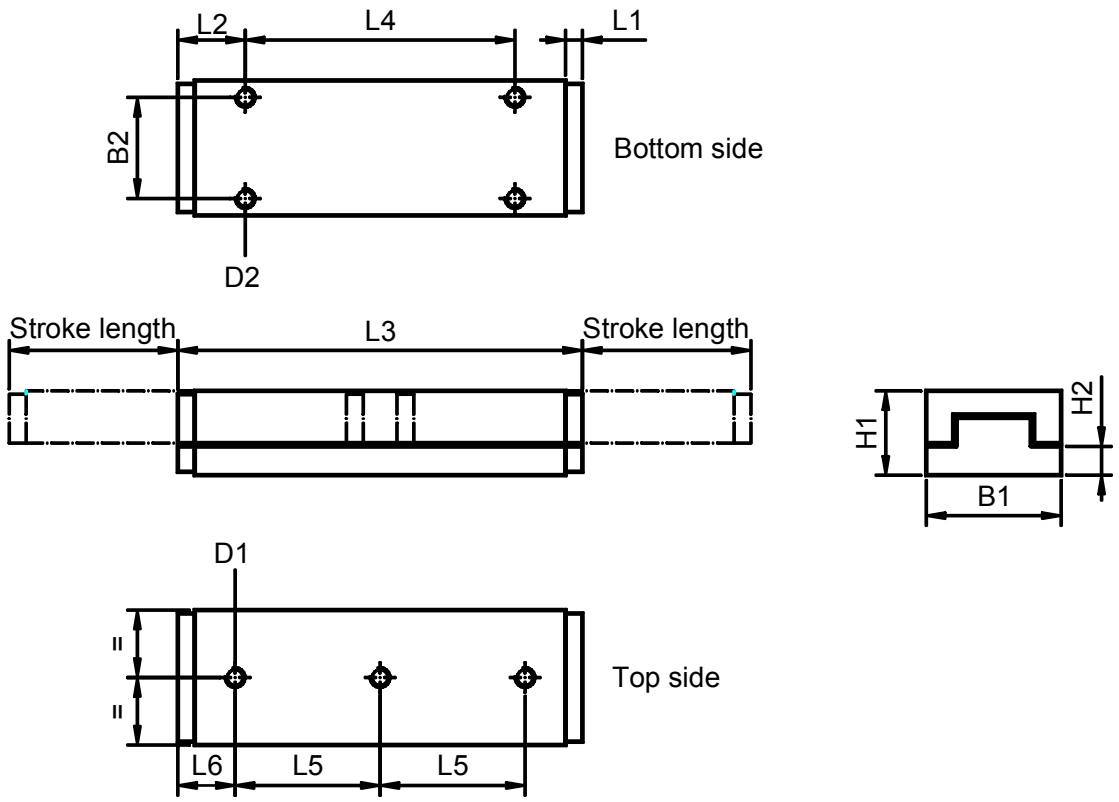
Weights: (gramme)

Size	Stroke length [mm]							
	2 x 10	2 x 25	2 x 50	2 x 80	2 x 100	2 x 125	2 x 160	2 x 200
10	120	150	230	310	360	450	570	680
16	165	200	300	405	460	580	730	860

Delivery time on request

Linear guides

Type LF



Dimensions:

Size	B1 [mm]	B2 [mm]	D1/depth [mm]	D2/depth [mm]	H1 [mm]	H2 [mm]	L1 [mm]	L2 [mm]
10	35	25	M6/5,0	M5/6,0	22	6,5	5	20
16	40	30	M6/5,5	M6/8,0	25	8,5	5	20

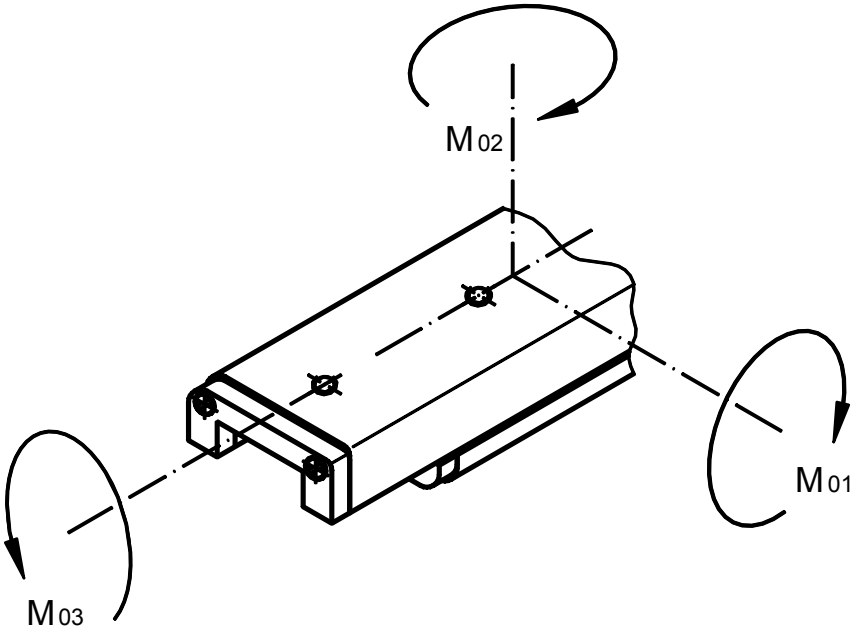
Size		Stroke length [mm]							
		2 x 10	**2 x 25**	**2 x 50**	**2 x 80**	**2 x 100**	**2 x 125**	**2 x 160**	**2 x 200**
10 / 16	L3	65	80	120	160	185	230	290	345
	L4	25	40	80	2 x 60	2 x 72,5	2 x 95	2 x 125	2 x 152,5
	L5	31	2 x 23	2 x 43	3 x 42	3 x 50	3 x 65	3 x 85	4 x 78
	L6	17	17	17	17	17,5	17,5	17,5	16,5

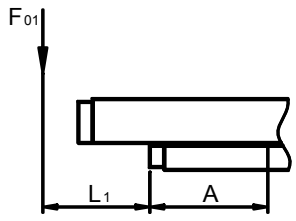
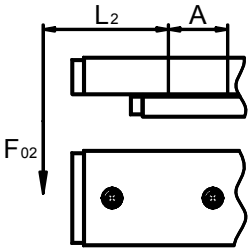
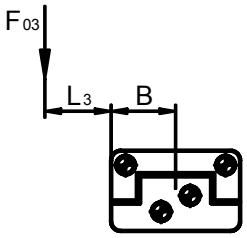
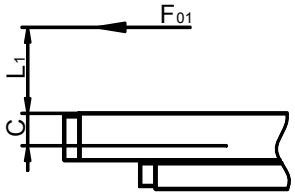
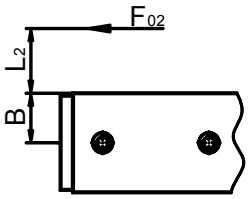
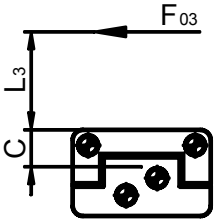
Linear guides

TOSS®

Admissible stress

Type LF



Longitudinal torque	Lateral torque	Transverse torque
		
$F_{01} \leq \frac{M_{01\ zul.}}{L_1 + A}$	$F_{02} \leq \frac{M_{02\ zul.}}{L_2 + A}$	$F_{03} \leq \frac{M_{03\ zul.}}{L_3 + B}$
		
$F_{01} \leq \frac{M_{01\ zul.}}{L_1 + C}$	$F_{02} \leq \frac{M_{02\ zul.}}{L_2 + B}$	$F_{03} \leq \frac{M_{03\ zul.}}{L_3 + C}$

Linear guides

Admissible stress

Stroke length [mm]	10		25		50		80		100		125	
Type	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm
10 - LF	3,80	0,98	3,80	0,98	5,00	1,27	6,40	1,47	7,40	1,56	8,30	1,56
16 - LF	4,20	1,08	4,20	1,08	5,50	1,40	7,04	1,62	8,14	1,72	9,13	1,72

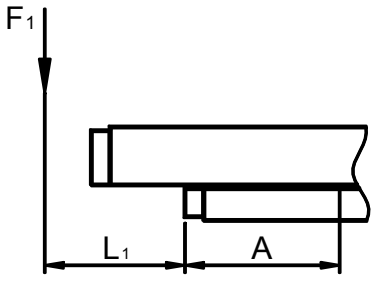
Stroke length [mm]	160		200	
Type	M_1/M_2 Nm	M_3 Nm	M_1/M_2 Nm	M_3 Nm
10 - LF	10,80	1,56	12,70	1,56
16 - LF	11,90	1,72	14,00	1,72

Correction factors:

Type	Stroke length	A	B	C
	[mm]	[mm]	[mm]	[mm]
10 - LF	10	54	17	10,4
	25	54		
	50	82,5		
	80	110		
	100	128,5		
	125	149,5		
	160	192		
	200	229		

Type	Stroke length	A	B	C
	[mm]	[mm]	[mm]	[mm]
16 - LF	10	54	19,5	11,5
	25	54		
	50	82,5		
	80	110		
	100	128,5		
	125	149,5		
	160	192		
	200	229		

Example of calculation:



Stress - longitudinal torque M_1

Given qty: 10 - LF with a stroke length of 100 mm
Lever arm L_1 = 50 mm = 0,05 m
Longitudinal torque M_1 = 7,4 Nm
Correction factor A = 128,5 mm = 0,1285 m

Required qty: $F_1 \leq \frac{M_1}{L_1 + A} = \frac{7{,}4 \text{ Nm}}{0{,}05 \text{ m} + 0{,}1285 \text{ m}} = 41{,}5 \text{ N}$

All data based on tests conducted by TOSS.