

Double Rails

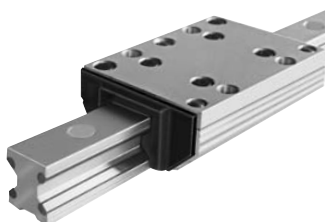
Series GDL-FD

Single Rails

Series GDL-FE

Characteristics for Double Rails and Single Rails

Characteristic	Unit	Description
Sealing		The roller shoe and cassettes are fitted with felt wiper rings, in a clip-on housing. See page 11 for spare wipers
Mounting		Rails and roller shoes with screw-quality 8.8, washer to DIN 433
Loads		See load data in the table. We are happy to calculate loads and service life for you on request
Acceleration, Deceleration	m/s ²	max. 40
Installation		In any position
Adjustment		The roller shoes can be adjusted/readjusted by the customer
Lengths		L = 300 mm to 4000 mm – For the stainless steel version size 15 L 300 mm to 3000 mm – Other lengths on request – For longer travel the guide rails can be joined together
Lubrication		Lifetime lubrication with roller bearing grease
Speed	m/s	up to 10
Materials Standard version		Rails – Aluminium, anodized Tracks – high alloy spring steel Roller cassettes/ roller shoes – Aluminium, anodized Rollers – Roller bearing steel
Materials Stainless steel version		Rails – Aluminium, anodized Tracks – Stainless spring steel Roller cassettes/ roller shoes – Aluminium, anodized Rollers – Stainless roller bearing steel
Operating temperature	°C	-20 to +100



Double Rails

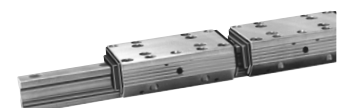
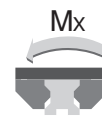
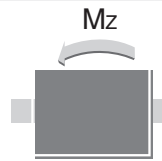
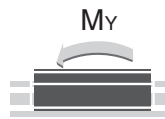
Series GDL-FD

Single Rails

Series GDL-FE

Loads, Moments and Weights											
Size		Version		Load [N]		M _y / M _z [Nm] *		M _x [Nm] *		Weight (Mass) [kg]	
				C	Co	stat.	dyn.	stat.	dyn.	Cassette	Double rail / m
12	Standard	2800	3000	43	40	27	25	0.10	0.4		
	Stainless	–	–	–	–	–	–	–	–		
15	Standard	4200	3400	58	72	37	45	0.17	0.8		
	Stainless	1800	2200	37	30	23	19	0.17	0.8		
20	Standard	5400	5400	111	111	76	76	0.35	0.9		
	Stainless	2000	2500	52	41	35	28	0.35	0.9		
25	Standard	9000	10100	222	198	158	142	0.51	1.8		
	Stainless	3400	4700	105	75	75	53	0.51	1.8		
35	Standard	12500	18000	559	388	423	294	1.39	3.2		
	Stainless	5600	7400	229	174	173	131	1.39	3.2		
45	Standard	21200	25900	983	806	827	678	2.53	5.5		
	Stainless	13100	16500	626	500	526	420	2.53	5.5		
12	Low Cost	620	170	2.4	8.9	1.6	5.7	0.09	0.4		
15	Low Cost	700	230	4	12	2.5	7.5	0.16	0.8		
20	Low Cost	940	300	6	19	4	13	0.32	0.9		
25	Low Cost	1500	700	15	32	11	23	0.46	1.8		
35	Low Cost	3100	1400	42	95	32	72	1.22	3.2		
45	Low Cost	6300	2700	103	238	86	200	2.47	5.5		

*) **Recommended safety factors**
 Condition: Screw 8.8
 Compression load: S>1.2
 Tensile load: S>2.5
 Torque load: S>4.0



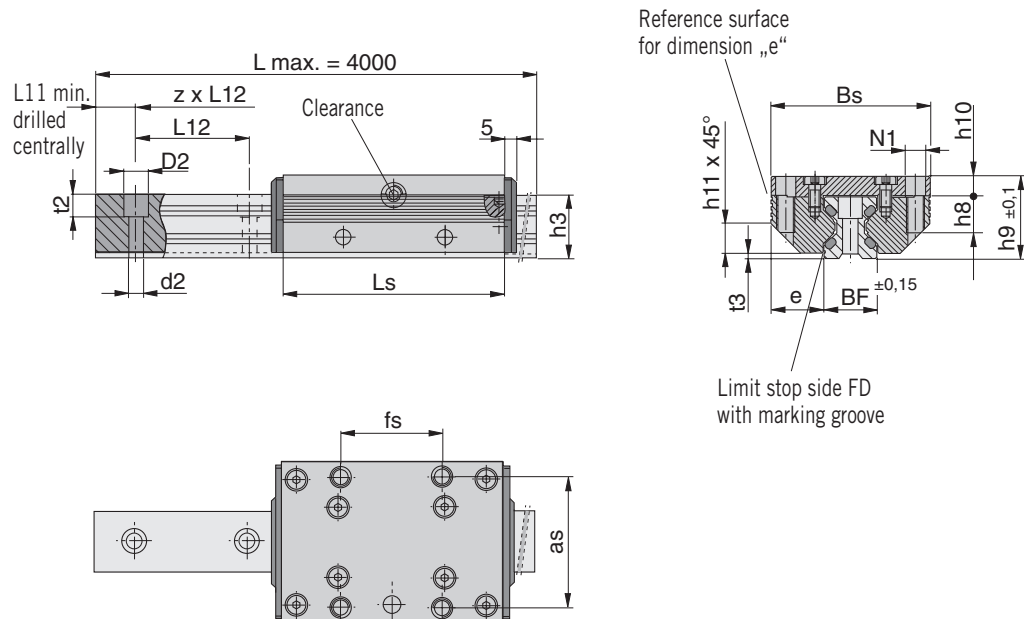
Double Rails

Series GDL-FD

Roller Cassettes

Series RK-FD

Dimensions (mm)



Dimension Table

Size	Ls	BF	Bs	h3	h9	as	fs	d2	D2
12	64	12	37	14.7	19	30	25	3.4	6
15	78	15.5	47	18.7	24	38	30	4.5	8
20	92	21.0	63	22.6	30	53	40	5.5	10
25	98	23.0	70	27.0	36	57	45	6.6	11
35	135	32.0	100	37.0	48	82	62	9.0	15
45	165	45.0	120	46.0	60	100	80	11.0	18

Size	e	h8	h10	h11	L11	L12	t2	t3	N1
12	12.50	8	4.0	6	min.10	40	5.5	1.4	M4
15	15.75	10	5.0	8	min.10	60	6	2.0	M5
20	21.00	12	7.0	11	min.10	60	7	2.0	M6
25	23.50	16	8.5	13	min.10	60	10	2.5	M8
35	34.00	20	10.5	20	min.12	80	11.5	3.5	M10
45	37.50	24	13.5	22	min.16	105	14.5	4.0	M12

Dimensions in mm

Order Instructions

Size	Version	Order-No.	
		Double rail GDL-FD	Cassette RK-FD
12	Standard	20929	20931
	Stainless	–	–
15	Standard	20506	20518
	Stainless	20897	20882
20	Standard	20507	20519
	Stainless	20898	20883
25	Standard	20508	20520
	Stainless	20899	20884
35	Standard	20829	20837
	Stainless	20900	20885
45	Standard	20830	20838
	Stainless	20901	20886
12	Low Cost	–	20993
15	Low Cost	–	20521
20	Low Cost	–	20522
25	Low Cost	–	20523
35	Low Cost	–	20839
45	Low Cost	–	20840

Double Rails

Series GDL-FD

**Roller
Cassettes**

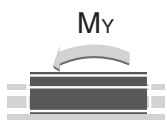
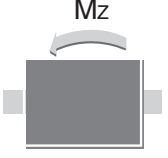

Series RK-FD

Pair of Single Rail

Series GDL-FE

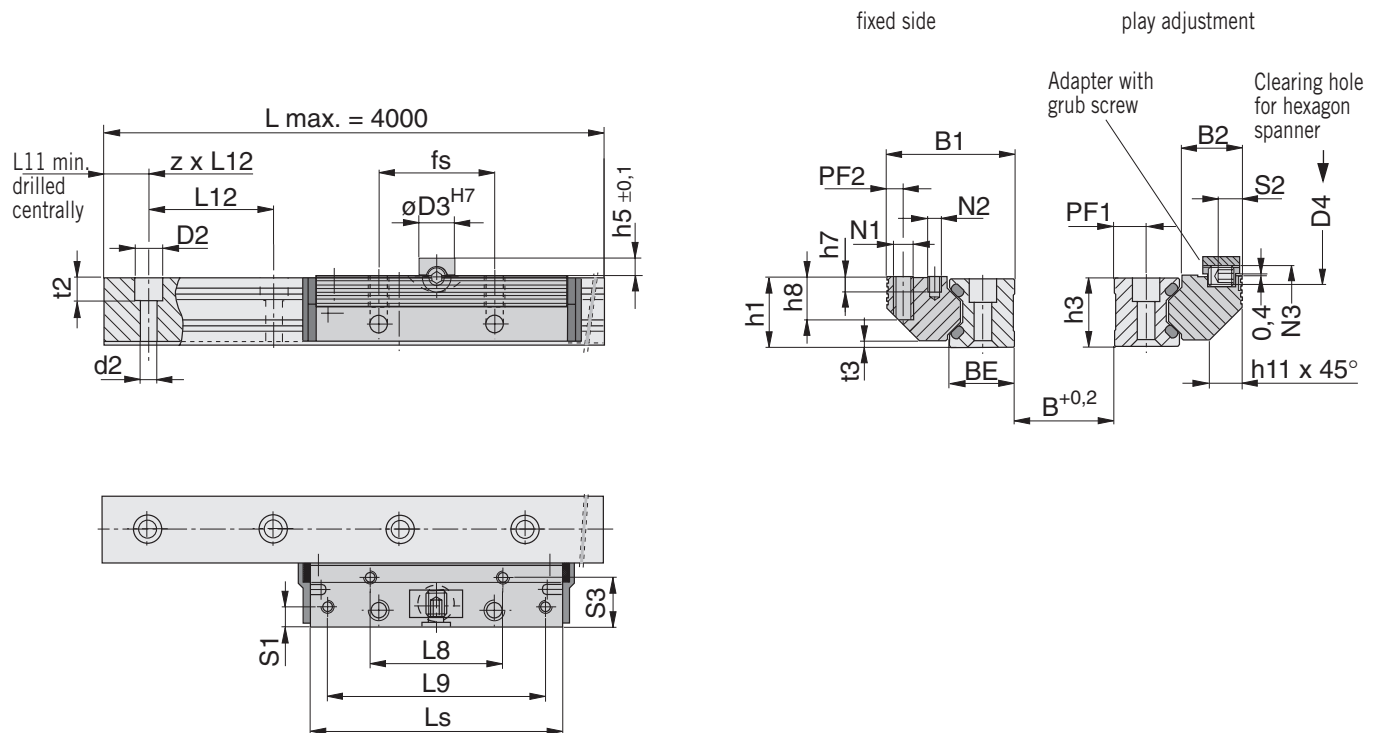
Pair of Roller Shoes

Series RS-FE

Loads, Moments and Weights											
		*) Recommended safety factors Condition: Screw 8.8 Compression load: $S > 1.2$ Tensile load: $S > 2.5$ Torque load: $S > 4.0$									
Size	Version	Load [N]		M_y / M_z [Nm] *		M_x [Nm] *		Weight (Mass) [kg]			
		C	Co	stat.	dyn.	stat.	dyn.	Pair Roller Shoes	Single Rail pair / m		
12	Standard	2800	3000	43	40	1.5 (B+30.3)	1.4 (B+30.3)	0.07	0.8		
	Stainless	-	-	-	-	-	-	-	-		
15	Standard	4200	3400	58	72	1.7 (B+36.5)	2.1 (B+36.5)	0.12	1.6		
	Stainless	1800	2200	37	30	1.1 (B+36.5)	0.9 (B+36.5)	0.12	1.6		
20	Standard	5400	5400	111	111	2.72 (B+47)	2.7 (B+47)	0.23	2.0		
	Stainless	2000	2500	52	41	1.3 (B+47)	1.0 (B+47)	0.23	2.0		
25	Standard	9000	10100	222	198	5.0 (B+58.4)	4.5 (B+58.4)	0.35	3.8		
	Stainless	3400	4700	105	76	2.4 (B+58.4)	1.7 (B+58.4)	0.35	3.8		
35	Standard	12500	18000	559	388	9.0 (B+85)	6.3 (B+85)	1.00	7.0		
	Stainless	5600	7400	229	174	3.7 (B+85)	2.8 (B+85)	1.00	7.0		
45	Standard	21200	25900	983	806	12.9 (B+109)	10.6 (B+109)	1.80	11.2		
	Stainless	13100	16500	626	500	8.2 (B+109)	6.6 (B+109)	1.80	11.2		
12	Low Cost	620	170	2.4	8.9	0.08 (B+30.3)	0.3 (B+30.3)	0.06	0.8		
15	Low Cost	700	230	4	12	0.1 (B+36.5)	0.35 (B+36.5)	0.11	1.6		
20	Low Cost	940	300	6	19	0.15 (B+47)	0.5 (B+47)	0.21	2.0		
25	Low Cost	1500	700	15	32	0.35 (B+58.4)	0.7 (B+58.4)	0.32	3.8		
35	Low Cost	3100	1400	42	95	0.7 (B+85)	1.5 (B+85)	0.92	7.0		
45	Low Cost	6300	2700	103	238	1.4 (B+109)	3.1 (B+109)	1.68	11.2		



Dimensions (mm)



Dimension Table

Size	Ls	BE	B1	B2	d2	D2	D3 ^{H7}	D4	fs	h1	h3	h5	h7	h8
12	64	12.00	24.5	11.9	3.4	6	8	3	25	15.0	14.7	4	6.0	8
15	78	15.25	30.9	15.2	4.5	8	10	4	30	19.0	18.7	5	7.5	10
20	92	20.00	40.9	20.4	5.5	10	10	4	40	23.0	22.6	5	8.0	12
25	98	25.00	48.4	22.9	6.6	11	14	6	45	27.5	27.0	7	5.0	16
35	135	35.00	68.9	32.9	9.0	15	14	6	62	37.5	37.0	7	7.5	20
45	165	45.00	82.4	36.4	11.0	18	14	6	80	46.5	46.0	7	9.5	24

Size	h11	L8	L9	L11	L12	t2	t3	N1	N2	N3	PF1	PF2	S1	S2	S3
12	6	29	57	min.10	40	5.5	1.4	M4	M3	M4	5.5	3.4	3.4	4.9	9.7
15	8	34	68	min.10	60	6	2.0	M5	M4	M6	7.0	4.4	4.9	5.9	12.4
20	11	42	80	min.10	60	7	2.0	M6	M5	M6	9.5	4.9	5.9	5.9	16.9
25	13	48	84	min.10	60	10	2.5	M8	M5	M8	12.0	6.4	7.4	8.9	19.4
35	20	67	117	min.12	80	11.5	3.5	M10	M6	M8	17.0	8.9	8.9	8.9	28.4
45	22	83	146	min.16	105	14.5	4.0	M12	M8	M8	22.0	9.9	9.9	8.9	30.9

Dimensions in mm

Pair of Single Rail

Series GDL-FE

Pair of Roller Shoes

Series RS-FE

Order Instructions

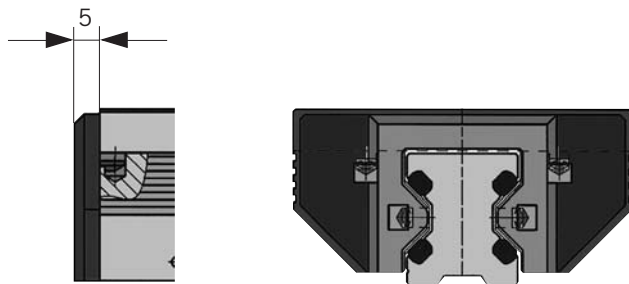
Size	Version	Order No.	
		Pair of Single Rails GDL-FE	Pair of Roller Shoes RS-FE
12	Standard	20928	20930
	Stainless	–	–
15	Standard	20500	20512
	Stainless	20892	20877
20	Standard	20501	20513
	Stainless	20893	20878
25	Standard	20502	20514
	Stainless	20894	20879
35	Standard	20825	20833
	Stainless	20895	20880
45	Standard	20826	20834
	Stainless	20896	20881
12	Low Cost	–	20995
15	Low Cost	–	20515
20	Low Cost	–	20516
25	Low Cost	–	20517
35	Low Cost	–	20835
45	Low Cost	–	20836



Standard Version with wiper

Integrated into an additional cover, the felt wiper is impregnated with oil. Depending on the degree of contamination, these wipers last for some 6000 km, after which the felt wipers can either be washed or replaced.

For optimal functionality, all holes in the guide rails should be filled with the plastic plugs.



Order Instructions Wiper-Spares

for size	for version – Standard – Low Cost – Stainless
12	20996
15	20813
20	20814
25	20815
35	20816
45	20817

Delivery information:

- Scope of supply – 1 pair
- with your order, please indicate whether a bonded, screwed or clipped version is required

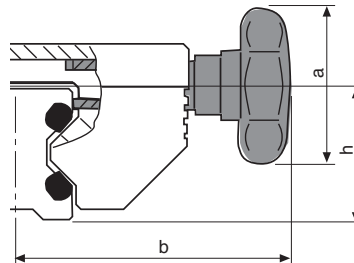
Accessories

Standard Version with Wiper

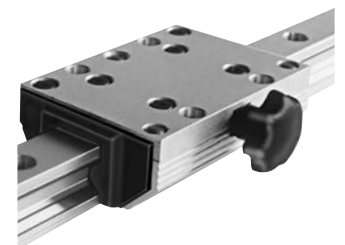


Version with Position Lock

This version features a rotating knob, which locks the carriage into position at any desired point of the track. The mechanism does not exert any force on the guide system. The position lock is used in applications where the carriage is moved manually, clamping applications and tooling stations



Version with Position Lock



Dimensions, Order Instructions for cassettes with Position Lock

for size	Dimension (mm)			Holding torque (N)	Order No.
	Øa	b	h		
12	–	–	–	–	–
15	25	41	19.0	200	by 20923
20	25	49	23.0	250	normally 20924
25	32	56	28.0	250	holding 20925
35	50	83	38.5	350	torque 20926
45	63	101	48.0	750	20927

Dimensions in mm