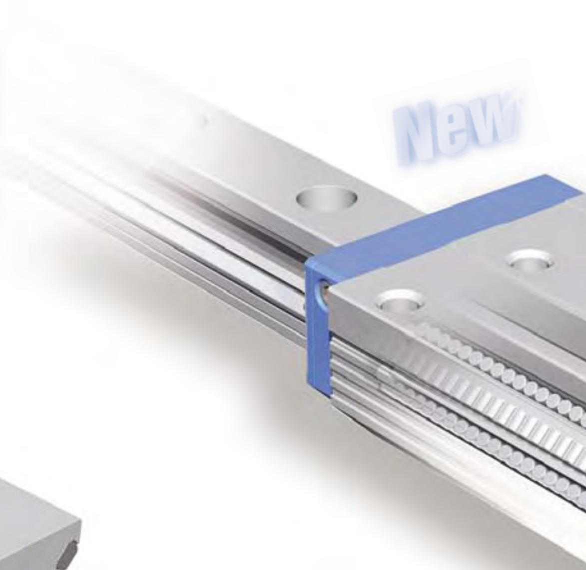
Franke aluminium linear guides
... an invention prevails

free of maintenance

light-weight

long lifetime

Franke Dynamic
Series FD



Franke Power
Series FP

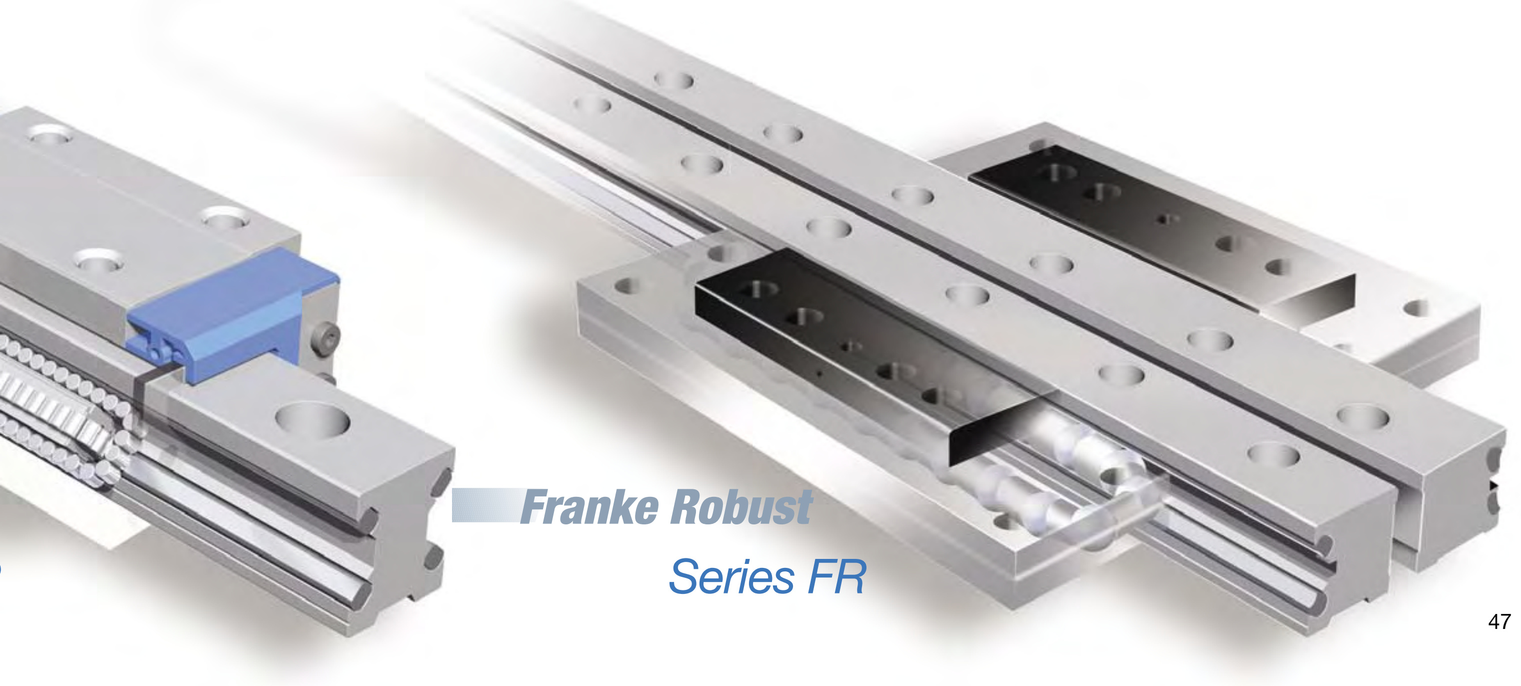
Components for innovative constructions

Franke aluminium linear guides are perfectly suited for aluminium profile structures and machine building systems in all fields of handling, pick-and-place, packaging, food industries, clean room or medical technique. Due to the smooth and silent running combined with high precision and load capacity Franke aluminium linear guides are the first choice among designers and engineers.

The special benefit of the Franke system is to customize the guide system according to your application. Please consult us for further information. We are pleased to adapt the Franke guide system to your specific application.

Series	FD Franke Dynamic	FP Franke Power	FR Franke Robust
System	sealed crossed needle rollers	recirculating rollers	recirculating balls
Sizes	12 15 20 25 35 45	15* 20* 25 35* 45*	6 8 10 13
Load capacity [kN] Co C	3 4 5 10 18 26 3 4 5 9 13 21	10 25 9 23	37 58 85 138 24 38 62 103
V max [m/s]	10	3	3
Applications (predominantly)	Packaging machines Food industries Medical technique Portal robots Clean room	Handling Tool engineering Machinery Medical technique Portal robots	Handling Robots Portal robots
Your benefit light (aluminium) compact endless coupling best cost- performance-ratio	dynamical silent smooth running adjustable re-adjustable numerous variants	powerful load capacity stiff robust non-corrosive non-magnetic versions	robust compact design high load capacity variable guide width exchangeable raceways

*on request

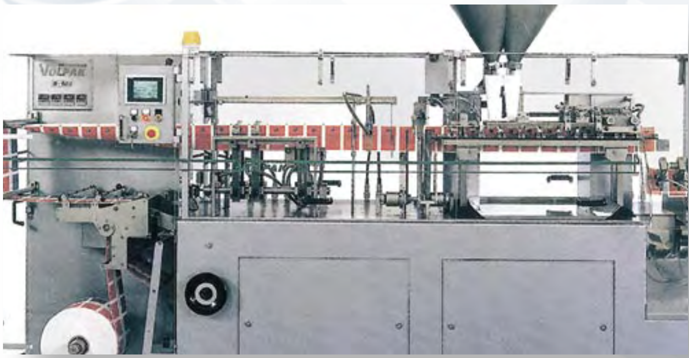


Application examples for linear systems
Franke Dynamic Series FD

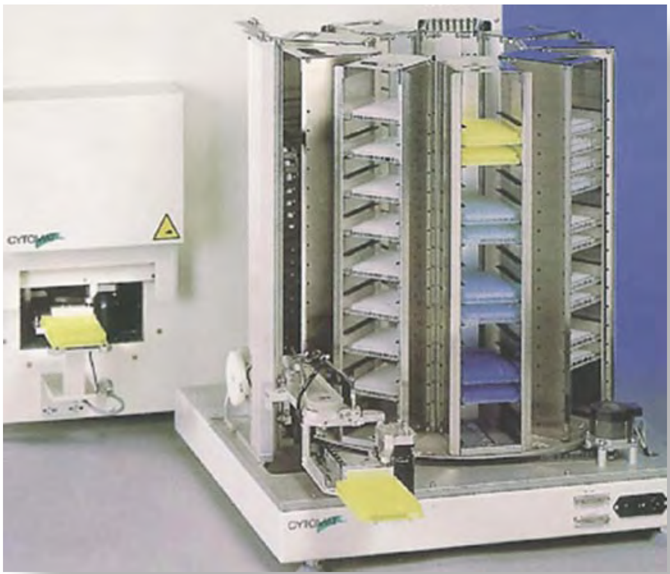
Aluminium roller guides have been sucessful in various branches and applications.

They are reliable components in machinery, packaging, food industries, handling, roboting and transport.

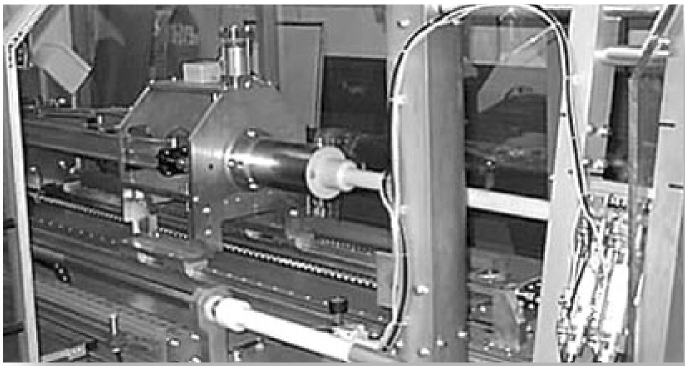
Take advantage of the performance and universality of Franke guide systems. We are gladly prepared to make a quotation for your special application.



Food industries / Packaging
Aluminium roller guide in food industries. Non-corrosive components make the guide system suitable for food and packaging.



Medical technique
Aluminium roller guide in a climate chamber. The guide system has to face temperatures from 0 to 90° C and a humidity of 90%.

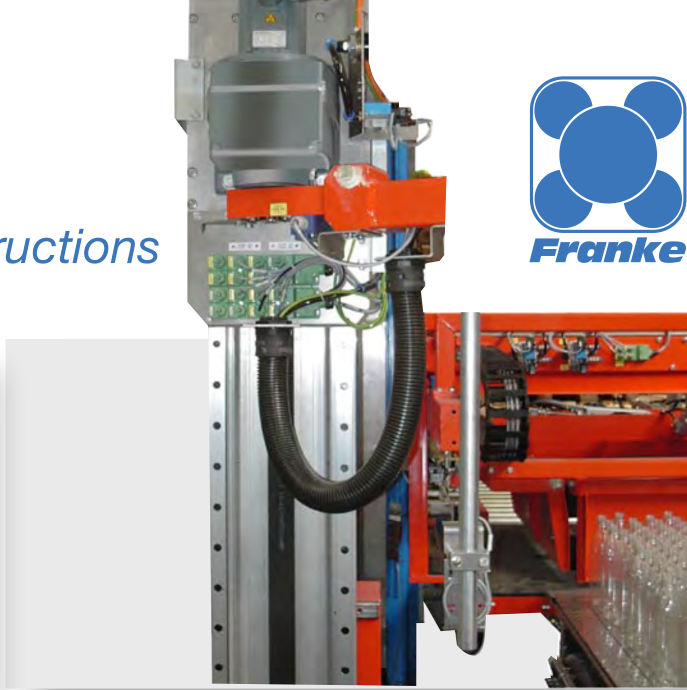


Food industries
The reel machine for synthetic skins was developped according to the state of art. Fast and easy-running aluminium roller guides are used for the central horizontal movement. The large-dimensioned running rollers rest on needle bearings and sustain loads from any direction.

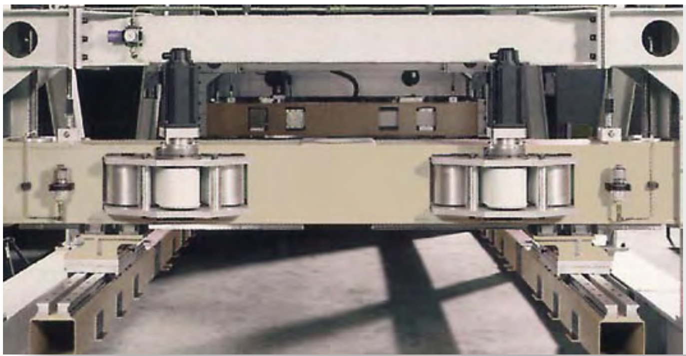
Clean room
Aluminium roller guide in a glass engraving machine. Work piece carrier and the motorized coordinate tables are equipped with roller guides. The very good running behaviour and precision of the installation allows extremely fine engraving.

Components for innovative constructions

Machinery
Aluminium roller guide for transfer systems. The rails are coupled, single machine parts can be easily connected or disconnected.



Food industries
The specific benefits such as light weight, high load capacity and dynamic movement are also found with the non-corrosive version of the Franke Power guide system. This version can be used where high hygienical standards are required.



Machinery
Aluminium roller guide in a supply unit for presses. Aluminium construction guarantees light weight.

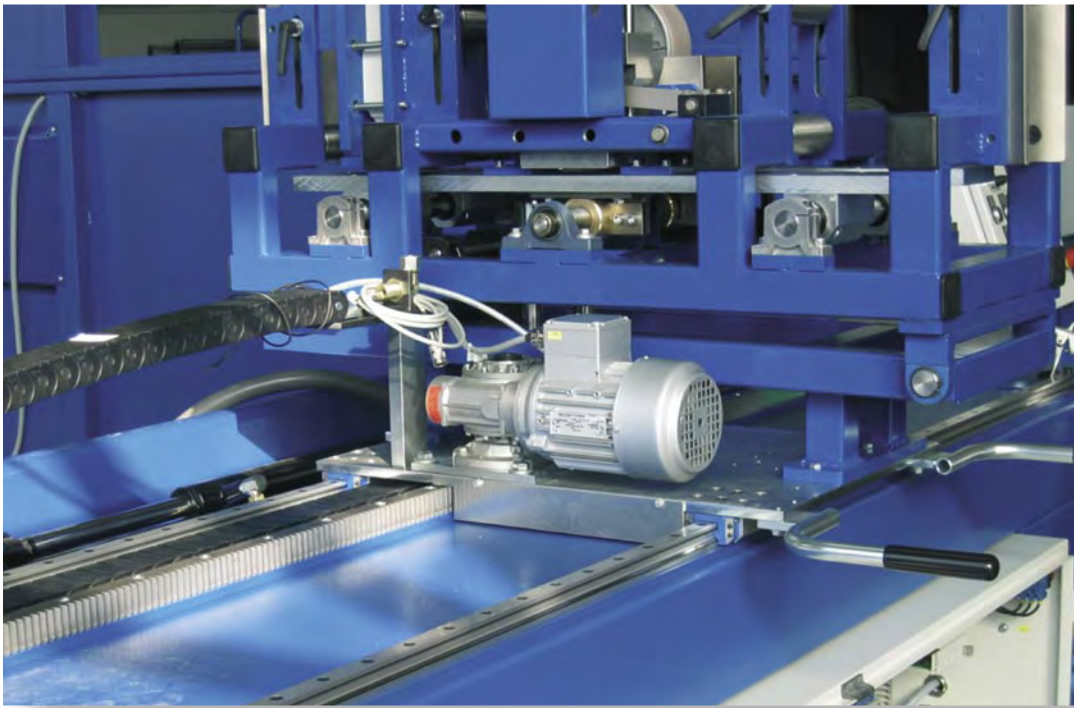
Pick and place
Franke aluminium roller guide and linear module used for quick and high-precision linear movements in a bitumen machine.

Handling
Franke aluminium roller guide in an ink jet printer. The main requirements are high respective accuracy with easy and silent run.

Pick and place
Multiaxis positioning unit for a welding machine. Tools and the material can be moved individually by aluminium roller guides.

... heavy-duty with aluminium guide systems

Franke Power Series FP



Machinery

Take-up machine for coils. The machine is used in industrial winding for the preassembly of cables. With the help of a powered winder products like cables, tubes, steel cables or rings are winded on coils with appropriate accessories and are measured and cut at the same time. A high stiffness and dynamic load rating of the guide is necessary.

The new Franke aluminium recirculating roller cassette can meet all the demands concerning stiffness and load rating in the standard steel version. In this example loads of 250 kg act centrically on the guide and are divided on four cassettes.

Franke Robust Series FR

Robotics

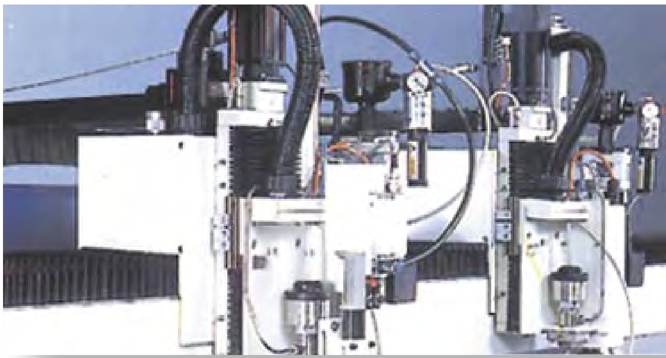
Franke linear guides with recirculating elements are perfectly suited for various applications in machinery, robots, portals and transport. The technical features and economical benefits of Franke aluminium linear guides will convince you.
Please consult us for further information.

Application examples for linear tables / linear modules

Franke linear tables and modules comprise several series.

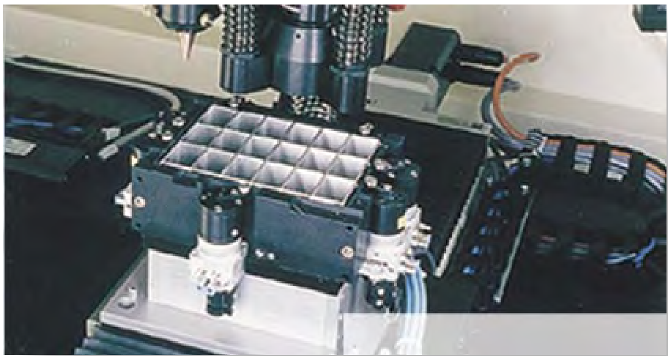
The modular design of the components facilitates the set-up of multi-axis positioning systems.

Well-performing CNC control systems complete our programme offering ready-to- use units completely mounted and well adapted to the intended application.



Automation

Franke linear table in a laser cutting plant. The linear table moves the machining head over the work piece quickly and precisely.The positioning accuracy is about 0.01 mm.



Laser tooling

Franke linear tables as multi-axis positioning system in a laser working installation.

Automation

Franke linear tables in a production line for motor housings. The double axis unit moves a dosing pin for sealing material which is applied to the contours of the housing parts.

Pick and Place

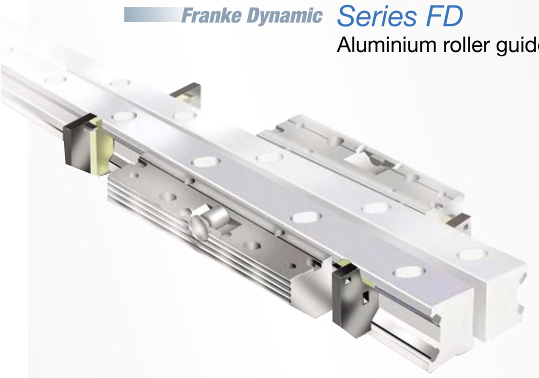
Franke linear tables in a pin-mounting machine. The metal cover of the tables protect the guide system against pins that fall down from the mounting plate.

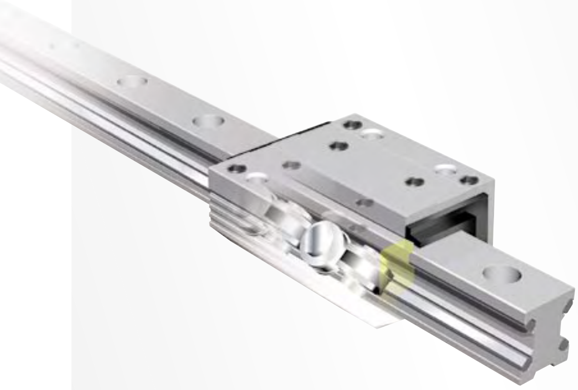
Automation

Franke linear modules of series FTC in a water torch. The cutting head is displaced by means of the modules according to the shape instructions.

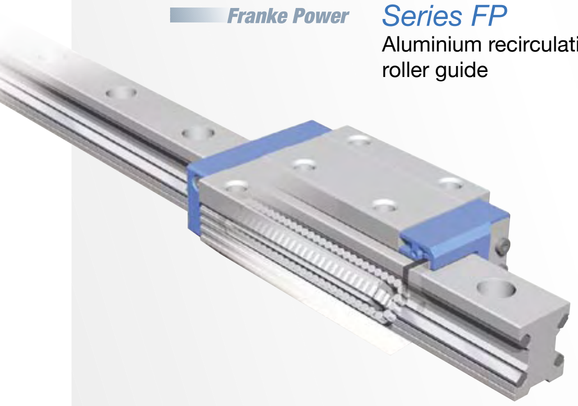
Survey of Franke linear systems

Franke Dynamic **Series FD**
Aluminium roller guide





Franke Power **Series FP**
Aluminium recirculating roller guide

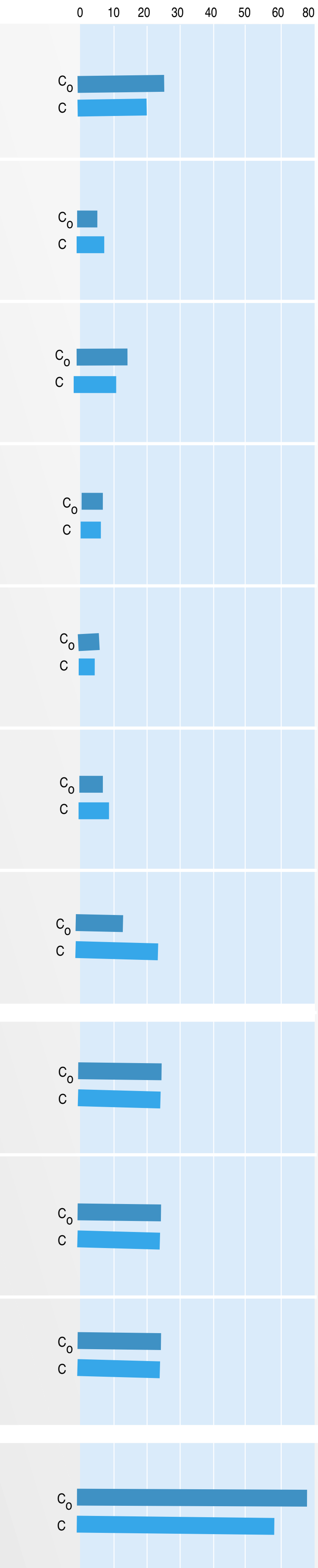


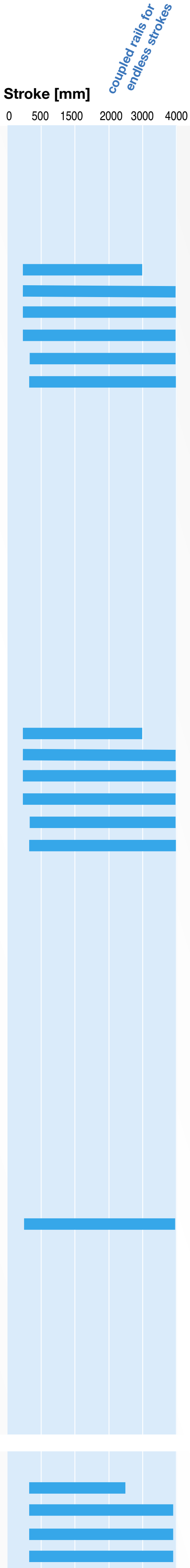
Franke Robust **Series FR**
Aluminium recirculating ball guide

Series	Features	Traverse speed	Running behaviour	Accuracy	Heavy-duty	Stiffness
FDA Standard	For high loads and high traverse speed. Special version with clamping, re-lubrication nipples, heat protection or for vaccuum application.	top	top	very good	very good	very good
FDB LowCost	For light loads and particularly economical solutions.	top	top	good	good	good
FDC Non-corrosive Standard	For applications in humid or aggressive environment e.g. liquids.	top	very good	very good	very good	very good
FDD Non-magnetic	For all applications where magnetic material could have a disturbing influence on the production process and on its results.	very good	very good	top	very good	very good
FDE Grease free	For all applications with extreme hygienic requirements as e.g. in the food-producing industry or in clean room (e.g. in the chip production).	good	good	top	good	very good
FDG Non-corrosive LowCost	For application in humid or aggressive environment e.g. in liquids. Economically favourable.	top	top	very good	good	good
FDH dynamic	For applications with high acceleration	top	top	very good	very good	good
FPA Standard	High load capacity and moment load capacity from all directions, sealed on all sides, metal wipers on both end.	good	very good	very good	very good	top
FPC Non-corrosive	High load capacity and moment load capacity from all directions, non-corrosive steel parts.	good	very good	very good	very good	top
FPD Non-magnetic	High load capacity and moment load capacity from all directions, perfectly suited for medical technique or other magnetical environments.	good	very good	very good	very good	top
FRA	with recirculating elements	good	very good	very good	top	top

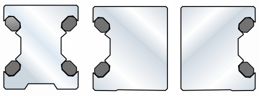
● top ◕ very good ◑ good ◔ sufficient

Load rating [kN]	Series	Stroke [mm]	Features	Page	Accessories	Page
	Double Rail **Pair of single rail**			56-57	**Metal wipers**	90
	FDA...D FDA...E **Standard**	12, 15, 20, 25, 35, 45	Raceways made of high alloy spring steel	58-59		
				60-61	**Stop screws**	90
				62-63		
	FDC...D FDC...E **Non-corrosive**	12, 15, 20, 25, 35, 45	Raceways made of non-corrosive steel	64-65	**Bellows**	90
				66-67		
				68-69	**Coupled rails**	91
	FDD...D FDD...E **Non-magnetic**	25	Raceways made of non-magnetic steel	70-71	**Series Covers**	91
	Single rail FRA...E	6, 8, 10, 13	Raceways made of high alloy spring steel	80-81		

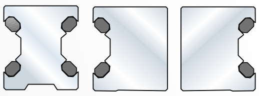




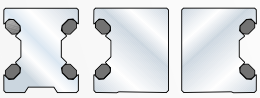
FDA...D FDA...E Standard



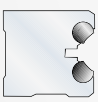
FDC...D FDC...E Non-corrosive



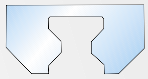
FDD...D FDD...E Non-magnetic



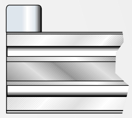
Single rail FRA...E



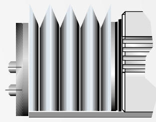
Metal wipers



Stop screws

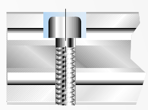


Bellows

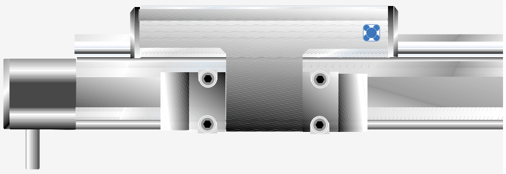
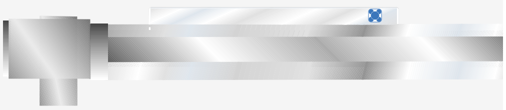
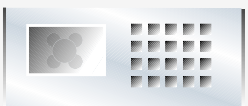


Coupled rails

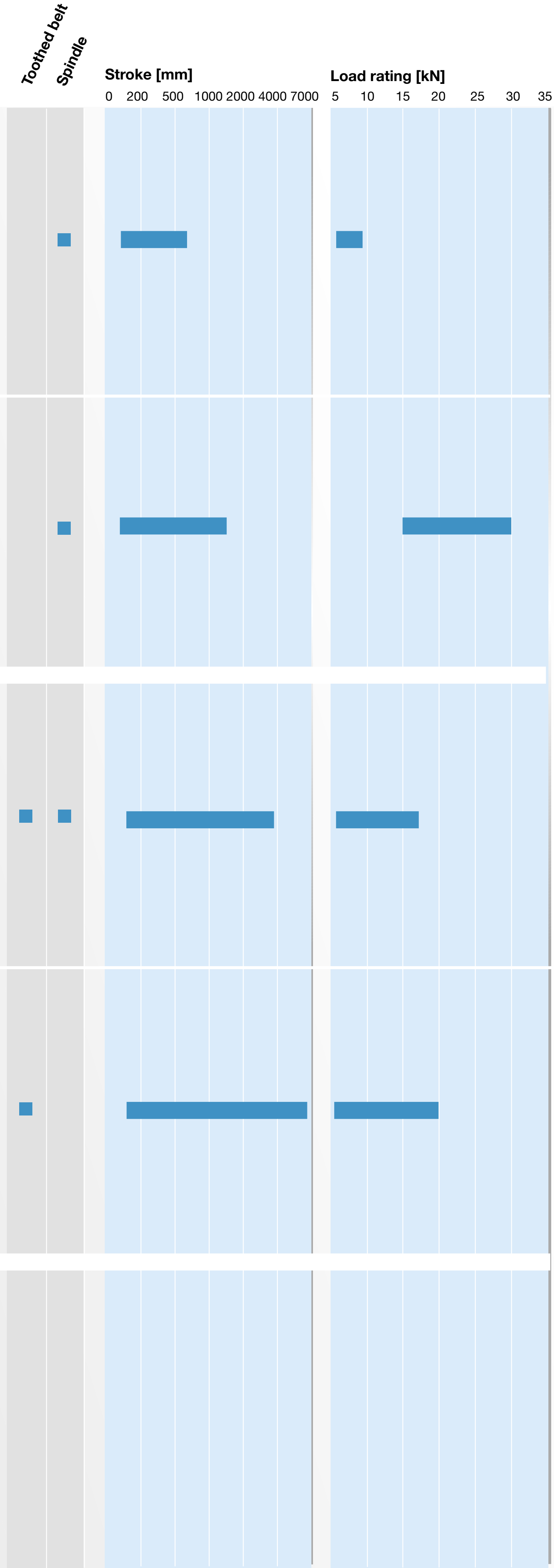
Series Covers

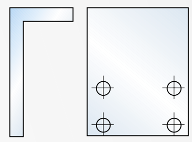
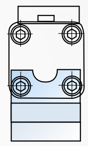
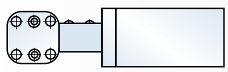
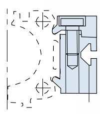


Survey of Franke linear tables / linear modules

	Series	Features	High load capacity	Accuracy	Traverse speed
Linear table 	**Linear tables FTA light-duty**	Compact linear tables with integrated roller guide and spindle drive. Aluminium body with metal cover. For light and medium loads with high requirements for positioning and repetitive accuracy	very good	very good	good
	**Linear table FTB heavy-duty**	Linear tables with recirculating elements and spindle, aluminium body and bellows. For maximum loads and very high requirements for positioning and repetitive accuracy.	top	top	good
Linear modules 	**Linear modules FTC economical**	Linear modules with toothed belt or spindle drive and outer aluminium roller guide for highly dynamical applications up to 5m/s with light and medium loads. Very smooth and silent run.	good	very good	top
	**Linear modules FTD powerful**	Compact linear modules with integrated aluminium roller guides and toothed belt drive. Suitable for high speed up to 10m/s, dynamic acceleration up to 40m/s².	very good	very good	top
CNC-control system 	**CNC-control system**	CNC/SPS-control units for 1 to 8 axes. Wide selection range and individual design of the technical features. Hard- and software especially for your application, ready-to-use with Franke positioning systems such as linear modules and tables.			

top · very good · good · sufficient

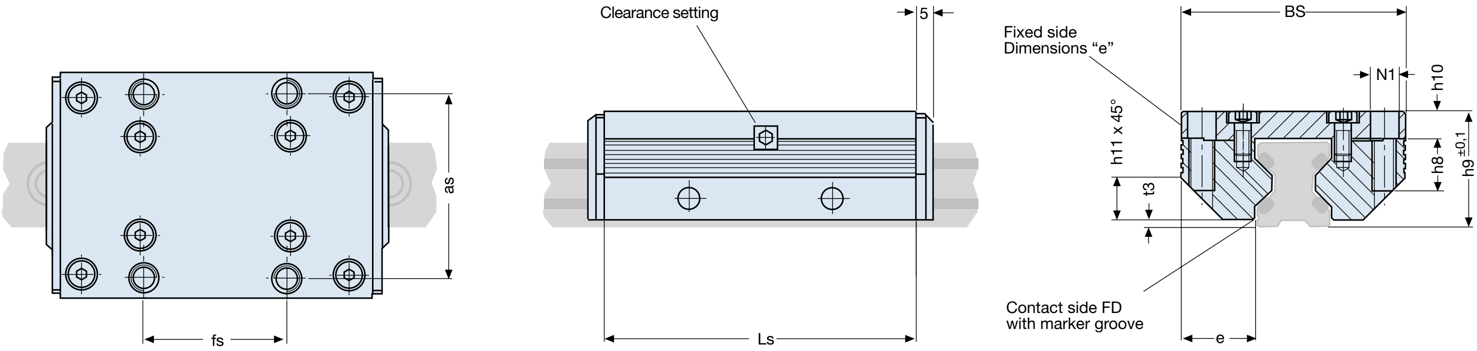


Page	Accessories	Page
82 - 83	**Mounting angle** 	
84 - 85	**Central support** 	
86 - 87	**Connection shaft** 	92 - 95
88 - 89	**Motor fastening** 	
97 - 98	**T-groove connection** 	

Aluminium Cassette

Franke Dynamic *Standard*

Series FDA...K



Size	Load rating		Moment load rating				Dimensions			Other dimensions of cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Kassette
12	2800	3000	27	25	43	40	64	37	19	30	25	12,50	8	4,0	5,5	1,4	M4	0,1	84494A
15	4200	3400	37	45	58	72	78	47	24	38	30	15,75	10	5,0	8,0	2,0	M5	0,2	84396A
20	5400	5400	76	76	111	111	92	63	30	53	40	21,00	12	7,0	11,0	2,0	M6	0,4	84441A
25	9000	10100	158	142	222	198	98	70	36	57	45	23,50	16	8,5	13,0	2,5	M8	0,5	84363A
35	12500	18000	423	294	559	388	135	100	48	82	62	34,00	20	10,5	20,0	3,5	M10	1,4	84364A
45	21200	25900	827	678	983	806	165	120	60	100	80	37,50	24	13,5	22,0	4,0	M12	2,5	84365A

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in needle bearings
- Plastic plate on both front sides with felt seal (metal wipers optional, see page 90)

Features:
- Maximum load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- High dynamic load capacity
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed — up to 10 m/s
- Acceleration — up to 40 m/s²

Temperature range:
- - 20° up to +100°C, short time operation +120°C

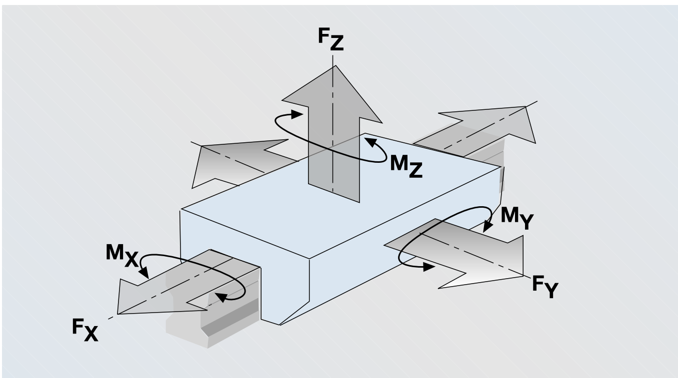
Lubrication:
- Maintenance-free due to lifetime-lubrication with grease Shell Retinax LX2

Fastening:
- with screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

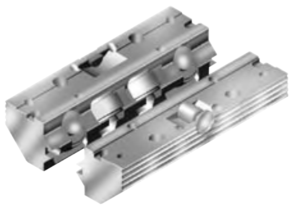
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

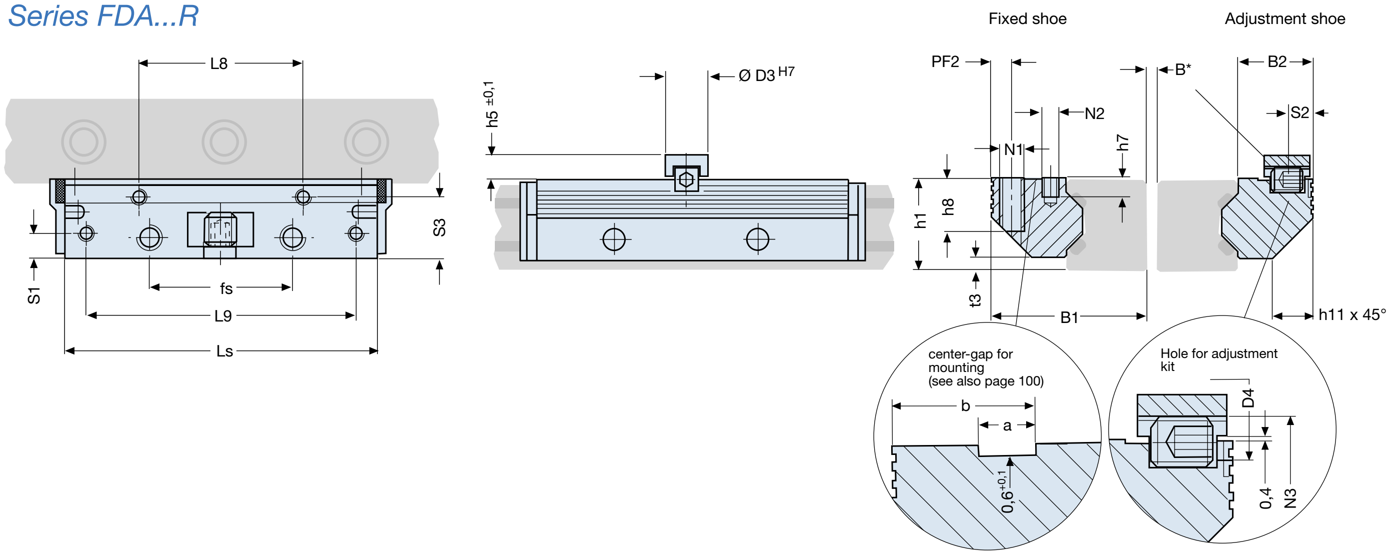


Aluminium roller shoes

Franke Dynamic Standard



Series FDA...R

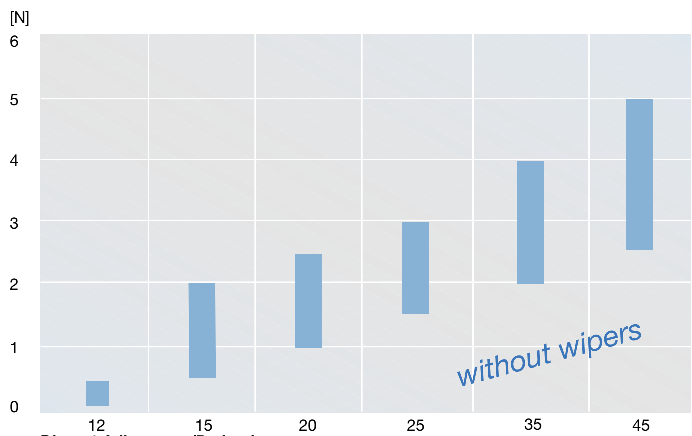


	Moment load rating RSP				Dimensions			Other dimensions RSP																	Weight	Order number
	Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	
	1,5(B+30,3)	1,4(B+30,3)	43	40	64	24,4	15,0	4,5	9,5	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,07	84495A
	1,7(B+36,5)	2,1(B+36,5)	58	72	78	30,9	19,0	5,0	12,5	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,12	84395A
	2,7(B+47,0)	2,7(B+47,0)	111	111	92	40,9	23,0	7,5	16,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,23	84442A
	5,0(B+58,4)	4,5(B+58,4)	222	198	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367A
	9,0(B+85,0)	6,3(B+85,0)	559	388	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368A
	12,9(B+109,0)	10,6(B+109,0)	983	806	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369A

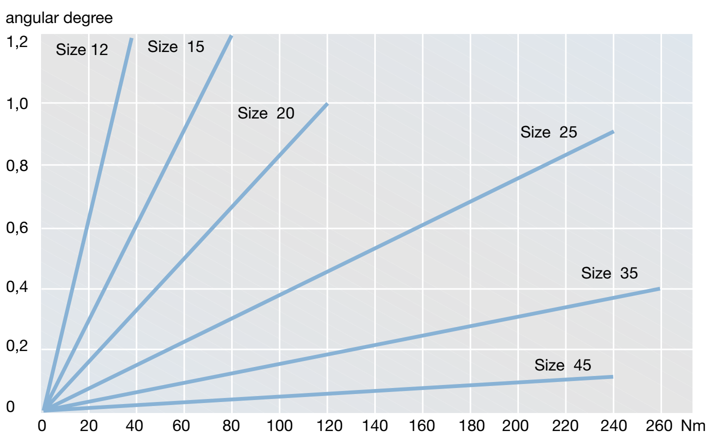
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Bearing steel	Plastic plate with felt wipers

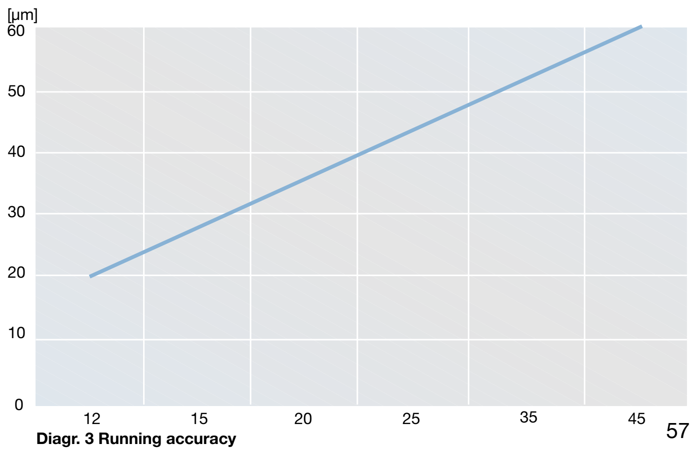
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

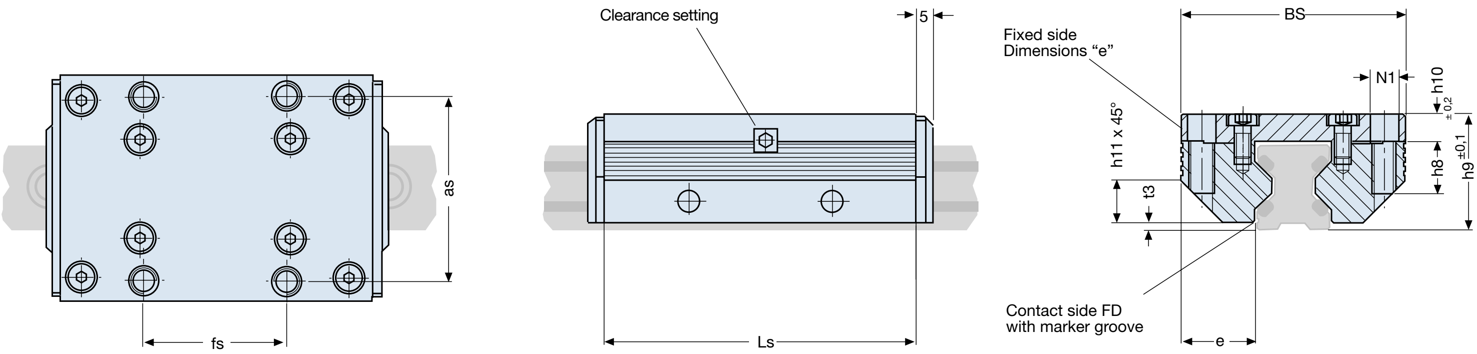


Diagr. 3 Running accuracy

Aluminium Cassette

Franke Dynamic Low Cost

Series FDB...K



Size	Load rating		Moment load rating				Dimensions			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
12	620	170	1,6	5,7	2,4	8,9	64	37	19	30	25	12,50	8	4,0	5,5	1,4	M4	0,1	84494L
15	700	230	2,5	7,5	4,0	12,0	78	47	24	38	30	15,75	10	5,0	8,0	2,0	M5	0,2	84396L
20	940	300	4,0	13,0	6,0	19,0	92	63	30	53	40	21,00	12	7,0	11,0	2,0	M6	0,4	84441L
25	1500	700	11,0	23,0	15,0	32,0	98	70	36	57	45	23,50	16	8,5	13,0	2,5	M8	0,5	84363L
35	3100	1400	32,0	72,0	42,0	95,0	135	100	48	82	62	34,00	20	10,5	20,0	3,5	M10	1,4	84364L
45	6300	2700	86,0	200,0	103,0	238,0	165	120	60	100	80	37,50	24	13,5	22,0	4,0	M12	2,5	84365L

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in ball bearings
- Plastic plate on both front sides with felt seal (metal wipers optional, see page 90)

Features:
- Medium load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed up to 10 m/s
- Acceleration up to 40 m/s²

Temperature range:
- - 20° up to +100°C, short time operation +120°C

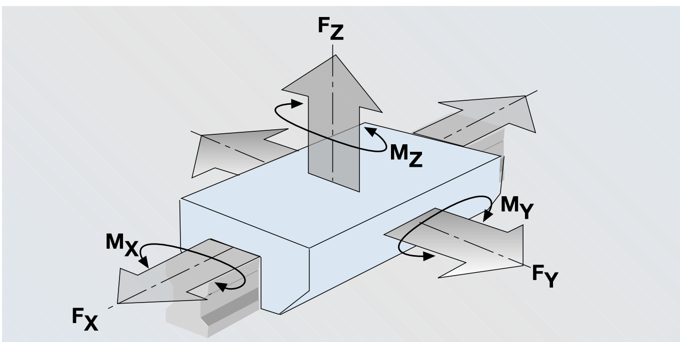
Lubrication:
- Maintenance-free due to lifetime-lubrication with grease Shell Retinax LX2

Fastening:
- with screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

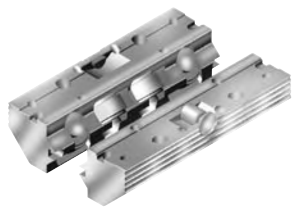
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

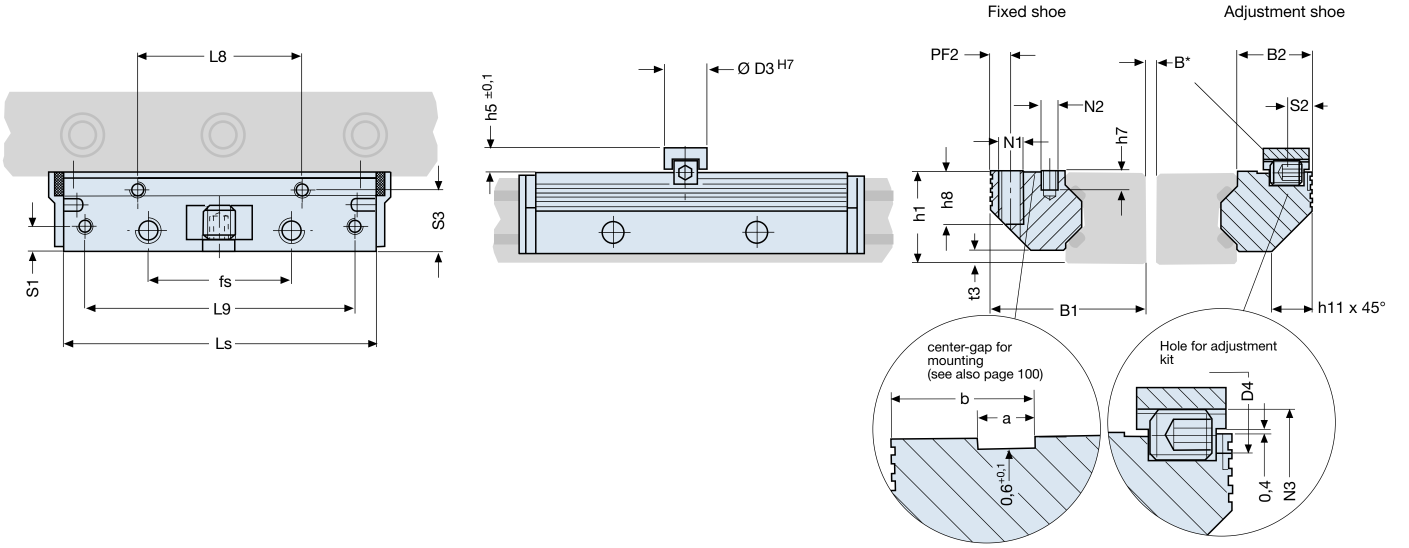


Aluminium roller shoes

Franke Dynamic Low Cost



Series FDB...R

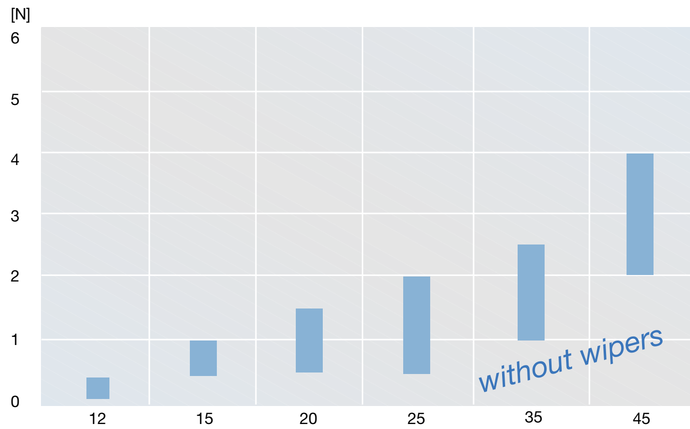


Moment load rating RSP				Dimensions			Other dimensions RSP																		Weight	Order number
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
0,08(B+30,3)	0,30(B+30,3)	2,4	8,9	64	24,4	15,0	4,5	9,5	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,07	84495L
0,10(B+36,5)	0,35(B+36,5)	4,0	12,0	78	30,9	19,0	5,0	12,5	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,12	84395L
0,15(B+47,0)	0,50(B+47,0)	6,0	19,0	92	40,9	23,0	7,5	16,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,23	84442L
0,35(B+58,4)	0,70(B+58,4)	15,0	32,0	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367L
0,70(B+85,0)	1,50(B+85,0)	42,0	95,0	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368L
1,40(B+109,0)	3,10(B+109,0)	103,0	238,0	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369L

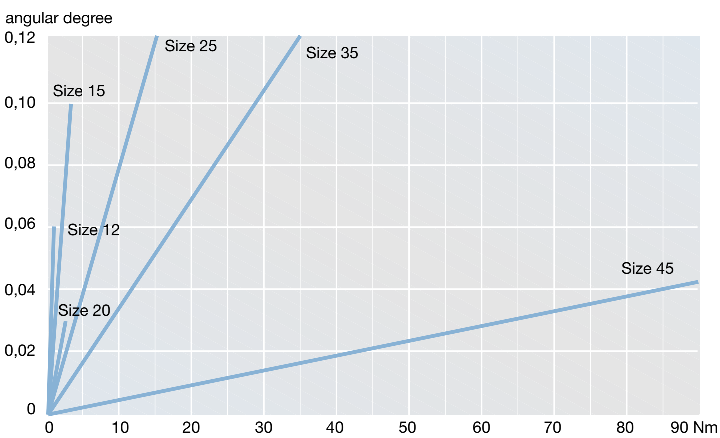
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Bearing steel	Plastic plate with felt wipers

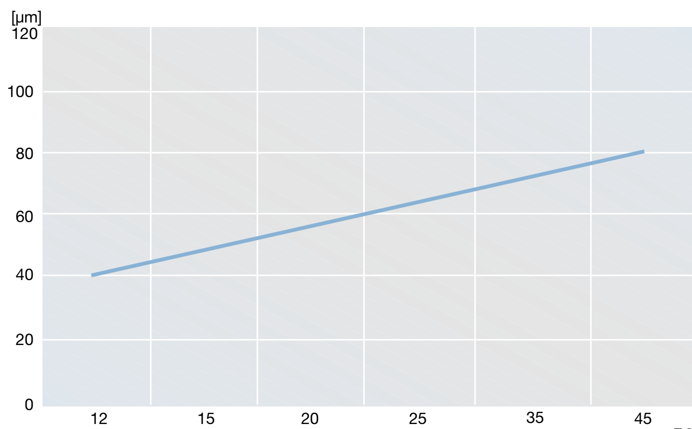
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

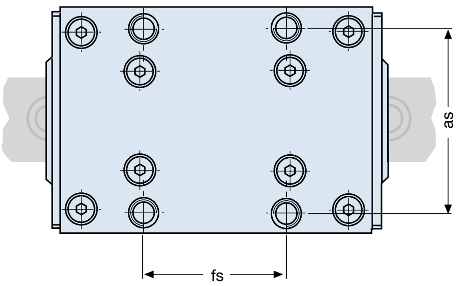


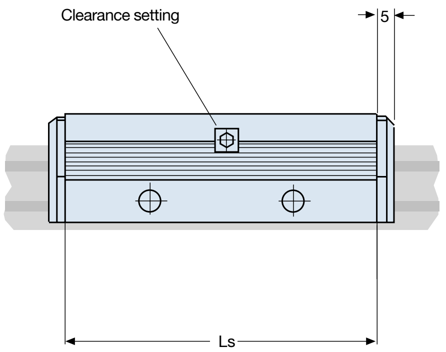
Diagr. 3 Running accuracy

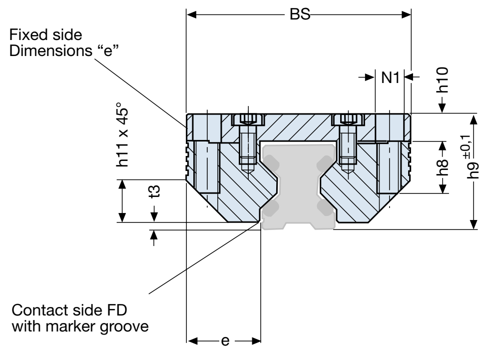
Aluminium Cassette

Franke Dynamic non-corrosive

Serie FDC...K







Size	Load rating		Moment load rating				Dimension			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
15	1800	2200	23	19	37	30	78	47	24	38	30	15,75	10	5,0	8,0	2,0	M5	0,2	84396AN
20	2000	2500	35	28	52	41	92	63	30	53	40	21,00	12	7,0	11,0	2,0	M6	0,4	84441AN
25	3400	4700	75	53	105	75	98	70	36	57	45	23,50	16	8,5	13,0	2,5	M8	0,5	84363AN
35	5600	7400	173	131	229	174	135	100	48	82	62	34,00	20	10,5	20,0	3,5	M10	1,4	84364AN
45	13100	16500	526	420	626	500	165	120	60	100	80	37,50	24	13,5	22,0	4,0	M12	2,5	84365AN

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in needle bearings stainless steel
- Plastic plate on both front sides with felt seal (metal wipers optional, see page 90)

Features:
- Maximum load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- High dynamic load capacity
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed up to 10 m/s
- Acceleration up to 40 m/s²

Temperature range:
- - 20° up to +100°C, short time operation +120°C

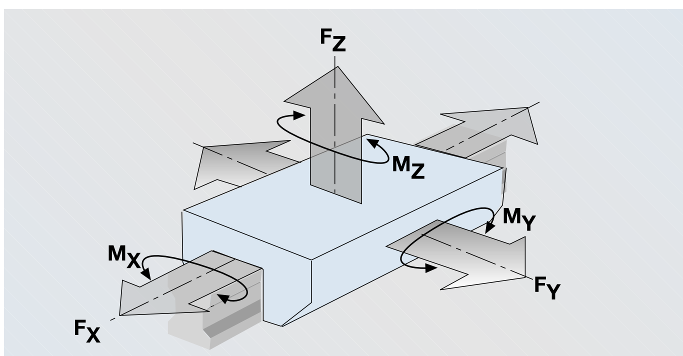
Lubrication:
- Maintenance-free due to lifetime-lubrication with grease Shell Retinax LX2

Fastening:
- With screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

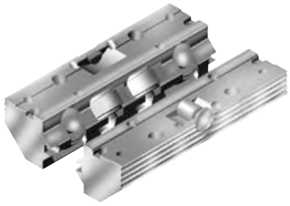
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

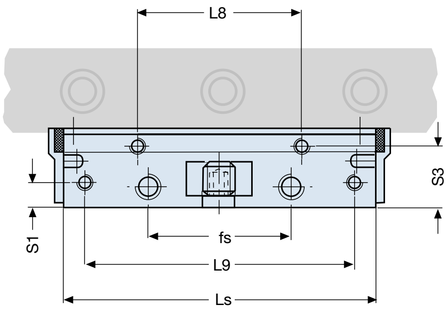


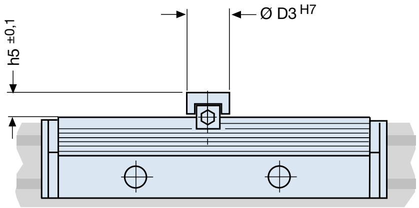
Aluminium roller shoes

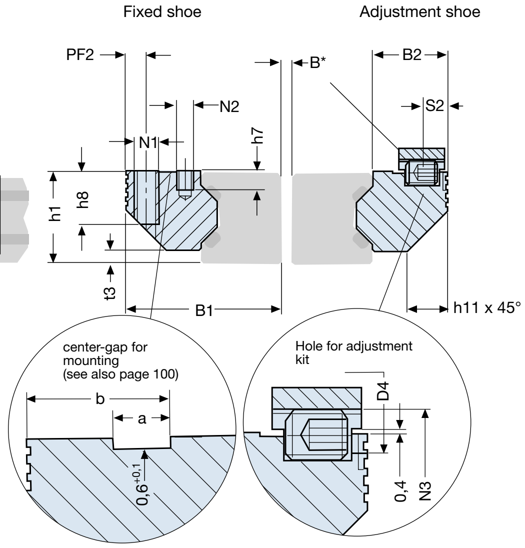
Franke Dynamic *non-corrosive*



Serie FDC...R





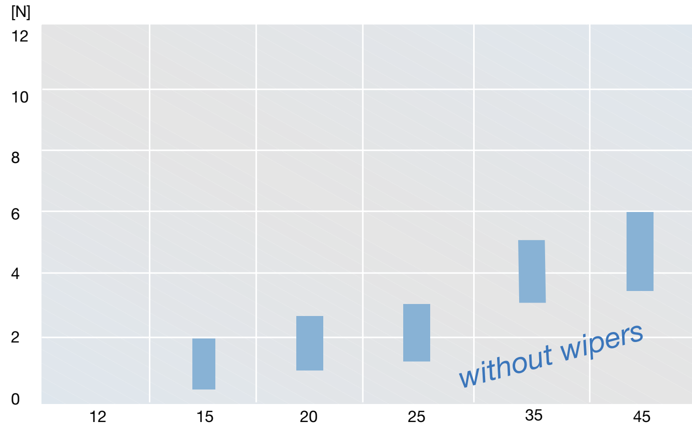


	Moment load rating RSP				Dimensions								Other dimensions RSP													Weight	Order number
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
1,1(B+36,5)	0,9(B+36,5)	37	30	78	30,9	19,0	5,0	12,5	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,12	84395AN
1,3(B+47,0)	1,0(B+47,0)	52	41	92	40,9	23,0	7,5	16,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,23	84442AN
2,4(B+58,4)	1,7(B+58,4)	105	75	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367AN
3,7(B+85,0)	2,8(B+85,0)	229	174	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368AN
8,2(B+109,0)	6,6(B+109,0)	626	500	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369AN

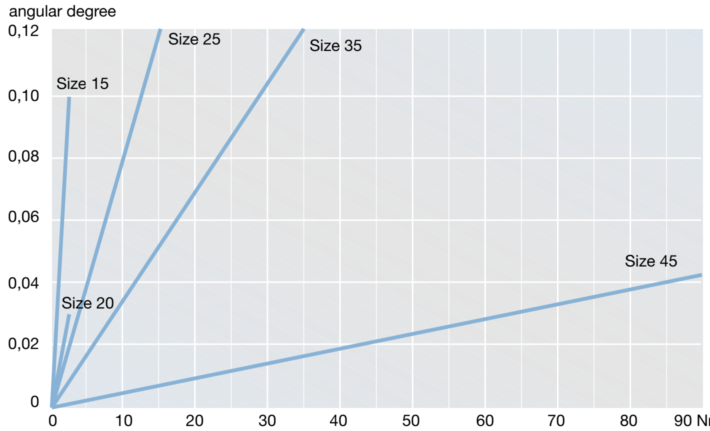
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Alumunium	non-corrosive steel	Plastic plate with felt wipers

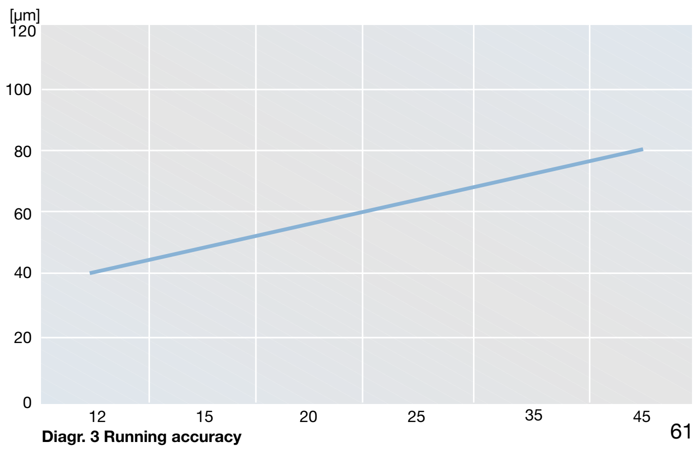
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

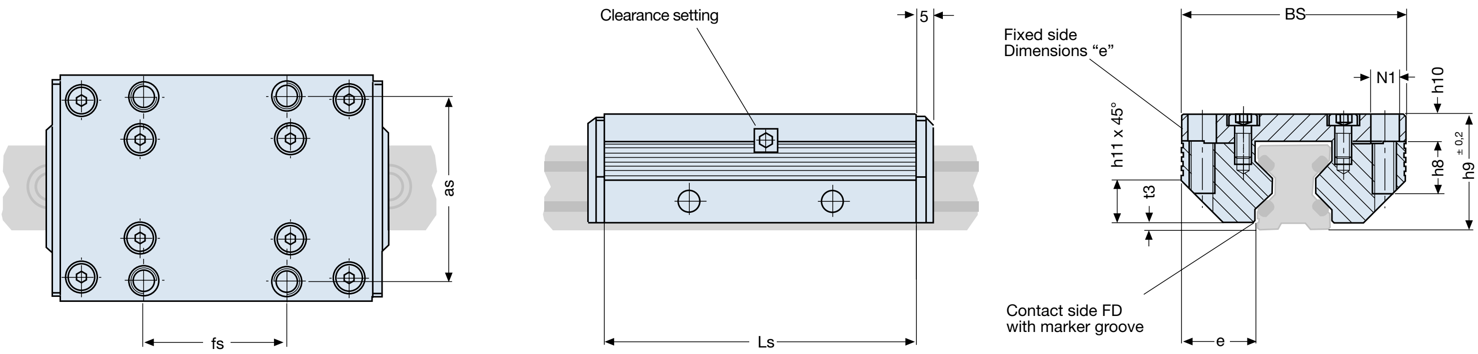


Diagr. 3 Running accuracy

Aluminium Cassette

Franke Dynamic *non-magnetic*

Serie FDD...K



Size	Load rating		Moment load rating				Dimensions			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
25	1200	1600	25	18	35	25	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,5	84363P

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in needle bearings, anti-magnetic
- Plastic plate on both front sides with felt seal

Features:
- Maximum load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size
  Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed up to 2 m/s
- Acceleration up to 10 m/s²

Temperature range:
- - 20° up to +100°C, short time operation +120°C

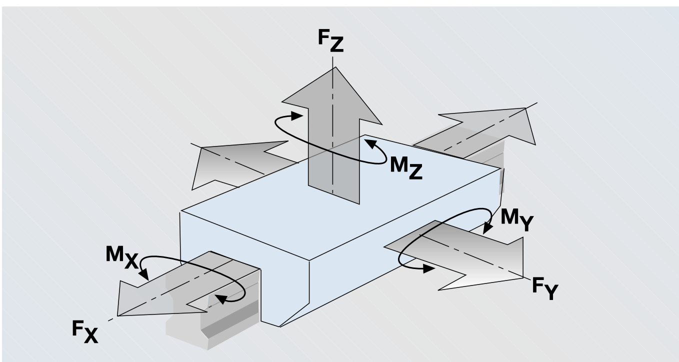
Lubrication:
- Maintenance-free due to lifetime-lubrication with grease Shell Retinax LX2

Fastening:
- With screws quality 8.8,
  tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

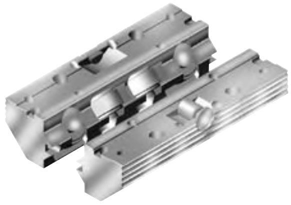
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

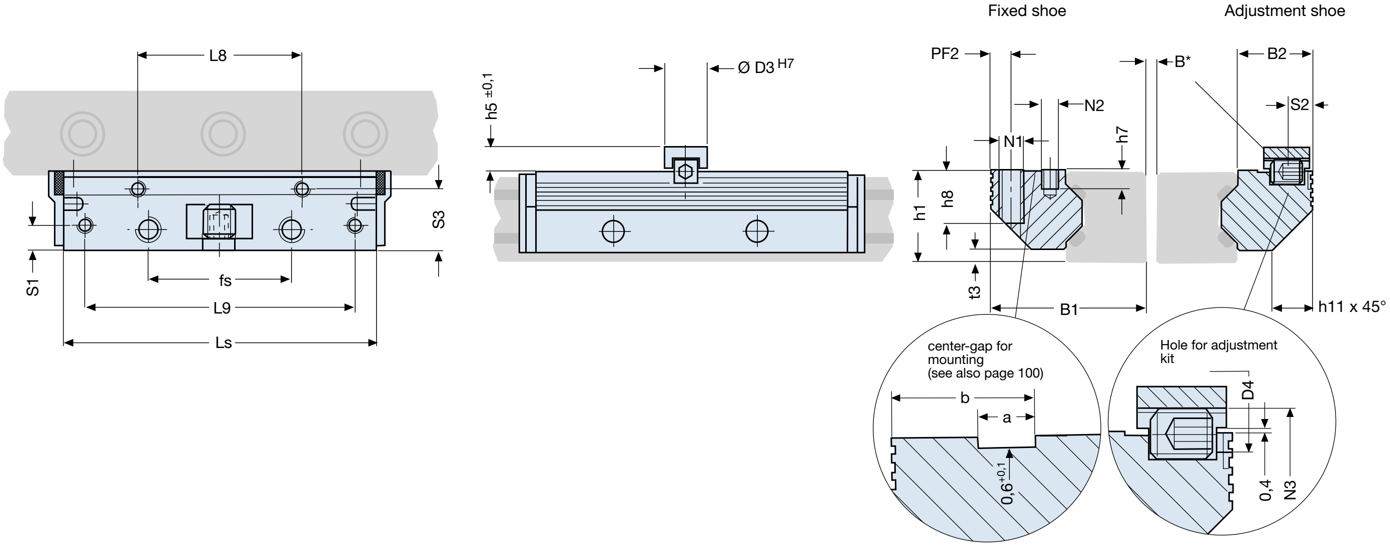


Aluminium roller shoes

Franke Dynamic *non-magnetic*



Serie FDD...R

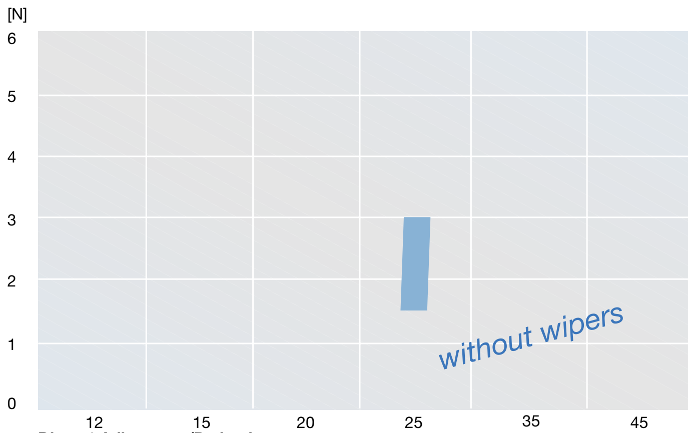


Moment load rating RSP				Dimensions					Other dimensions RSP																Weight	Order number
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
0,8(B+58,4)	0,6(B+58,4)	222	198	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367P

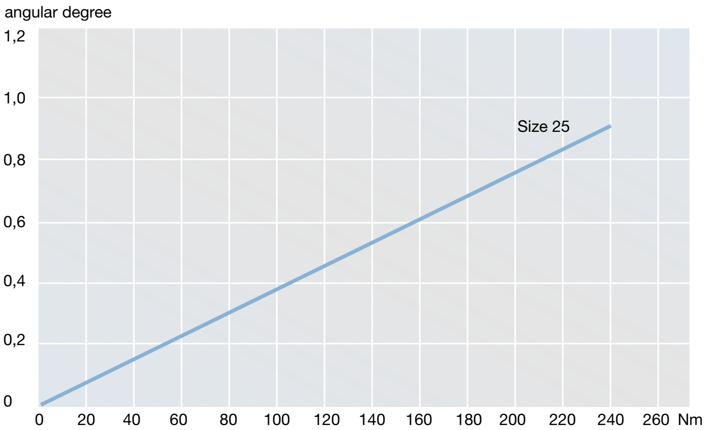
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Anti-magnetic steel with special coating	Plastic plate PA6 with felt wipers

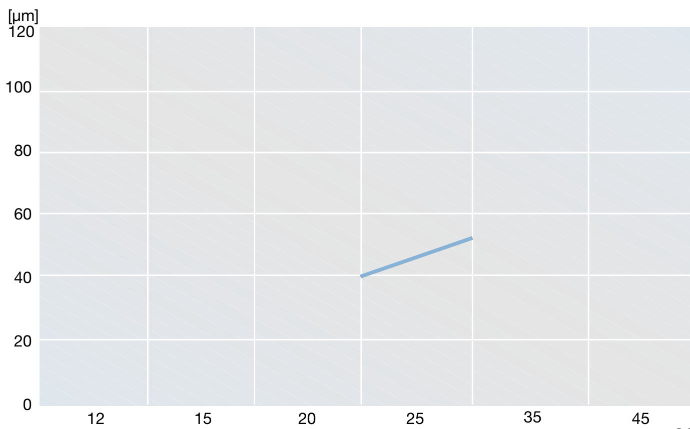
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

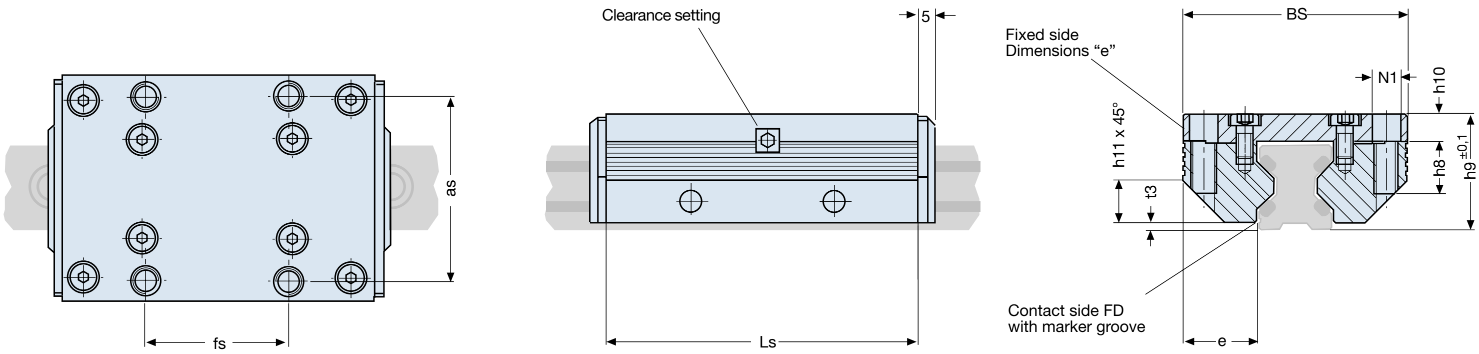


Diagr. 3 Running accuracy

Aluminium Cassette

Franke Dynamic *without lubricant*

Serie FDE...K



Size	Load rating		Moment load rating				Dimensions			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
12	350	400	4	3	6	5	64	37	19	30	25	12,50	8	4,0	5,5	1,4	M4	0,1	84494T
15	600	700	8	6	12	10	78	47	24	38	30	15,75	10	5,0	8,0	2,0	M5	0,2	84396T
20	700	900	12	9	17	14	92	63	30	53	40	21,00	12	7,0	11,0	2,0	M6	0,4	84441T
25	1200	1600	25	18	35	25	98	70	36	57	45	23,50	16	8,5	13,0	2,5	M8	0,5	84363T
35	2000	2500	58	44	76	58	135	100	48	82	62	34,00	20	10,5	20,0	3,5	M10	1,4	84364T
45	4400	5500	180	140	210	170	165	120	60	100	80	37,50	24	13,5	22,0	4,0	M12	2,5	84365T

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in needle bearings
- Plastic plate on both front sides with felt seal (metal wipers optional, see page 90)

Features:
- Maximum load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed up to 1 m/s
- Acceleration up to 10 m/s²

Temperature range:
- \- 20° up to +100°C, short time operation +120°C

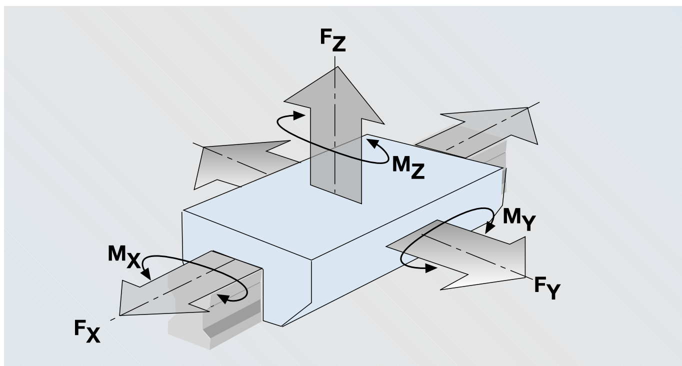
Lubrication:
- Lubricant-free

Fastening:
- With screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

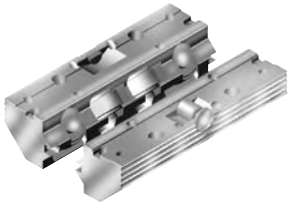
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

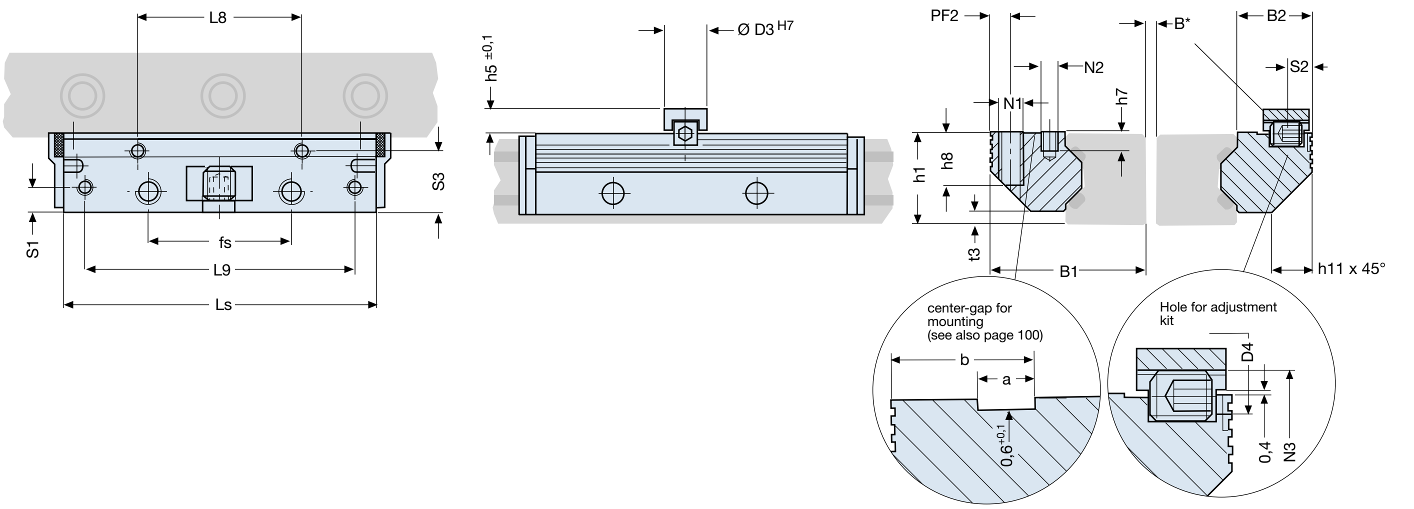


Aluminium roller shoes

Franke Dynamic *without lubricant*



Serie FDE...R



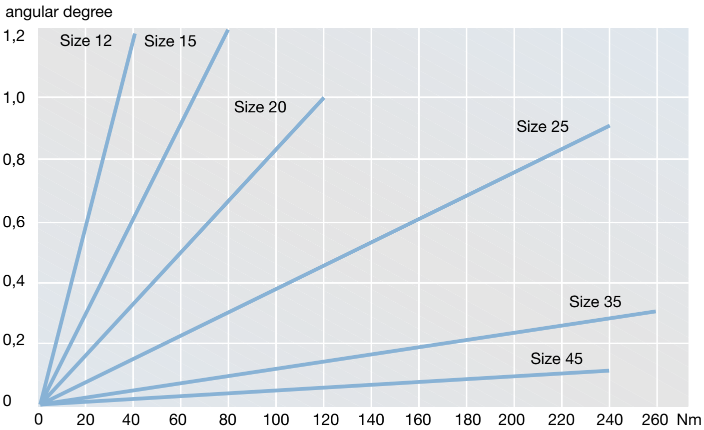
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	Weight RSP	Order number RSP
Moment load rating RSP				Dimensions					Other dimensions RSP																	
0,20(B+30,3)	0,20(B+30,3)	6	5	64	24,4	15,0	4,5	9,5	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,07	84495T
0,35(B+36,5)	0,30(B+36,5)	12	10	78	30,9	19,0	5,0	12,5	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,12	84395T
0,40(B+47,0)	0,33(B+47,0)	17	14	92	40,9	23,0	7,5	16,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,23	84442T
0,80(B+58,4)	0,60(B+58,4)	35	25	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367T
1,20(B+85,0)	0,90(B+85,0)	76	58	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368T
2,70(B+109,0)	2,20(B+109,0)	21	17	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369T

Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

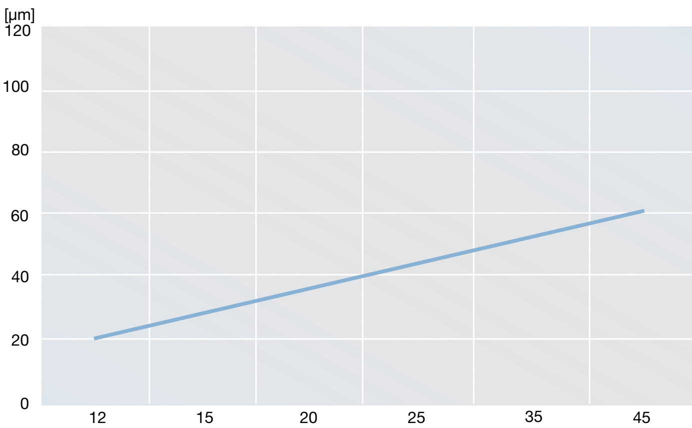
	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Bearing steel	Plastic plate

Material

Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

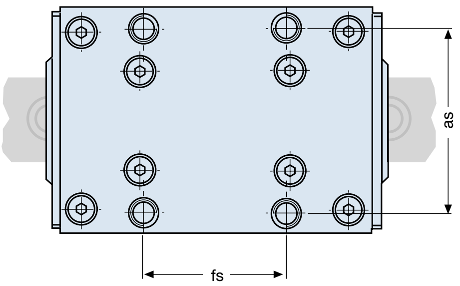


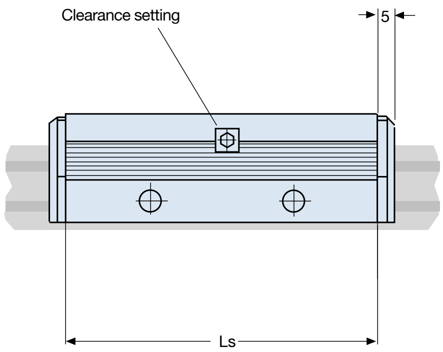
Diagr. 3 Running accuracy

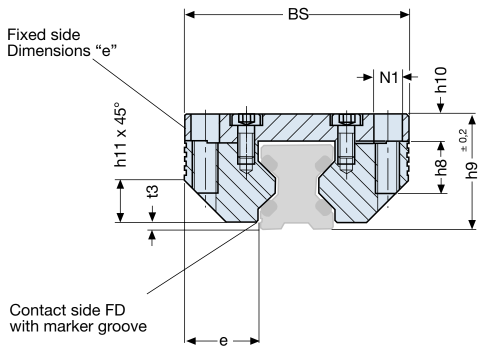
Aluminium Cassette

Franke Dynamic *non-corrosive - LowCost*

Series FDG...K







Size	Load rating		Moment load rating				Dimensions			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
12	620	170	1,6	5,7	2,4	8,9	64	37	19	30	25	12,50	8	4,0	5,5	1,4	M4	0,1	84494LN
15	700	230	2,5	7,5	4,0	12,0	78	47	24	38	30	15,75	10	5,0	8,0	2,0	M5	0,2	84396LN
20	940	300	4,0	13,0	6,0	19,0	92	63	30	53	40	21,00	12	7,0	11,0	2,0	M6	0,4	84441LN
25	1500	700	11,0	23,0	15,0	32,0	98	70	36	57	45	23,50	16	8,5	13,0	2,5	M8	0,5	84363LN
35	3100	1400	32,0	72,0	42,0	95,0	135	100	48	82	62	34,00	20	10,5	20,0	3,5	M10	1,4	84364LN
45	6300	2700	86,0	200,0	103,0	238,0	165	120	60	100	80	37,50	24	13,5	22,0	4,0	M12	2,5	84365LN

Technical information cassettes and roller shoes (RSP)

Consist of:
- Aluminium body
- 8 rollers in ball bearings
- Plastic plate on both front sides with felt seal (metal wipers optional, see page 90)

Features:
- Medium load capacity, smooth and silent run
- 45° - position of the rollers for loads from all directions
- Clip-on wipers with felt seal (metal wipers optional)
- Adjustable preload
- Endless stroke lengths by coupling of rails (see page 91)
- Calculation programme to find the most suitable guide size. Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Traverse speed:
- Traverse speed up to 10 m/s
- Acceleration up to 40 m/s²

Temperature range:
- - 20° up to +100°C, short time operation +120°C

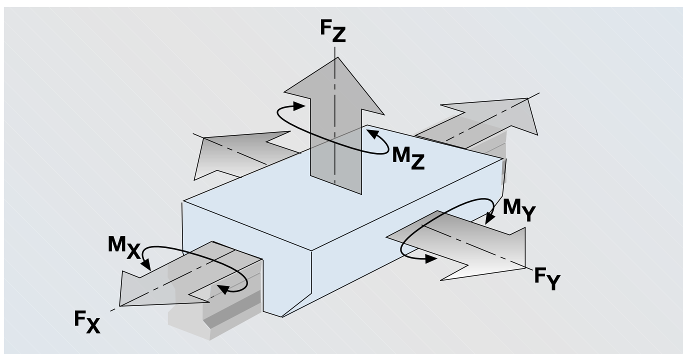
Lubrication:
- Maintenance-free due to lifetime-lubrication with grease Shell Retinax LX2

Fastening:
- With screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

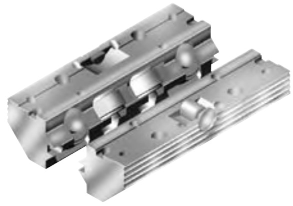
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

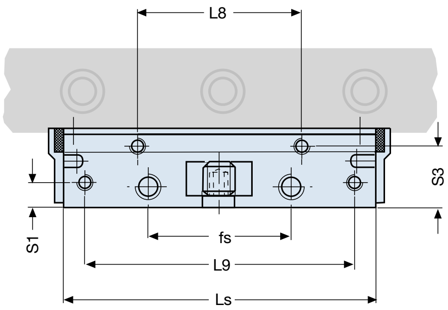


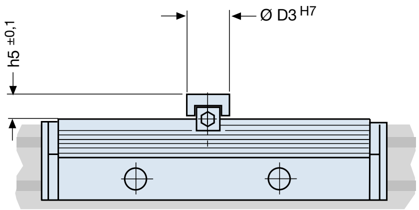
Aluminium roller shoes

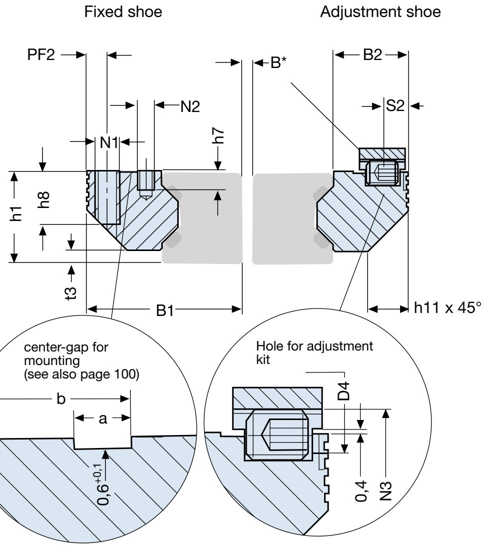
Franke Dynamic non-corrosive - LowCost



Series FDG...R





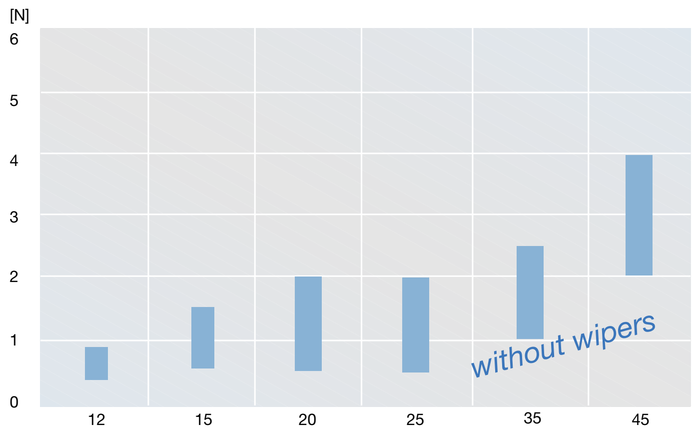


	Moment load rating RSP				Dimensions			Other dimensions RSP																	Weight	Order number
	Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
	0,08(B+30,3)	0,30(B+30,3)	2,4	8,9	64	24,4	15,0	4,5	9,5	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,07	84495LN
	0,10(B+36,5)	0,35(B+36,5)	4,0	12,0	78	30,9	19,0	5,0	12,5	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,12	84395LN
	0,15(B+47,0)	0,50(B+47,0)	6,0	19,0	92	40,9	23,0	7,5	16,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,23	84442LN
	0,35(B+58,4)	0,70(B+58,4)	15,0	32,0	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367LN
	0,70(B+85,0)	1,50(B+85,0)	42,0	95,0	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368LN
	1,40(B+109,0)	3,10(B+109,0)	103,0	238,0	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369LN

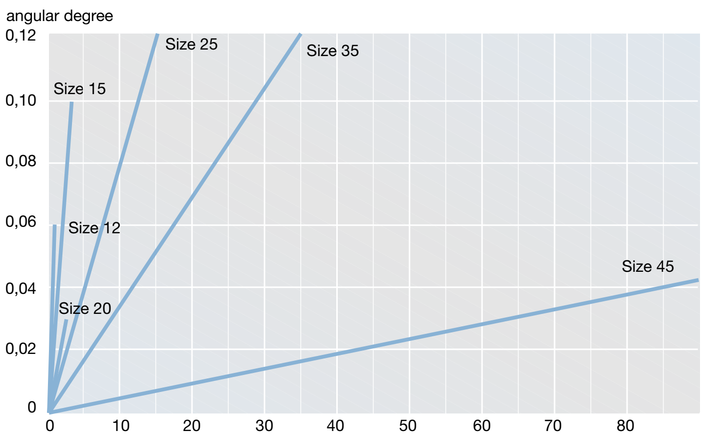
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Non-corrosive steel	Plastic plate with felt wipers

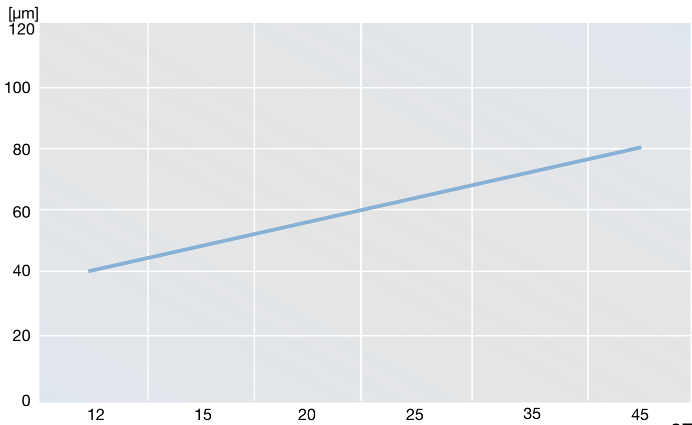
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

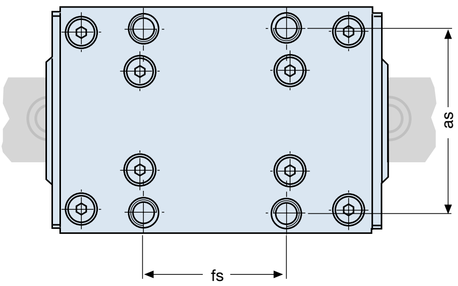


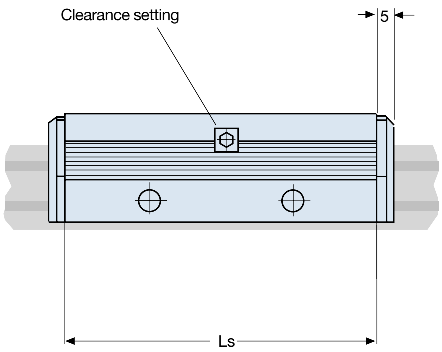
Diagr. 3 Running accuracy

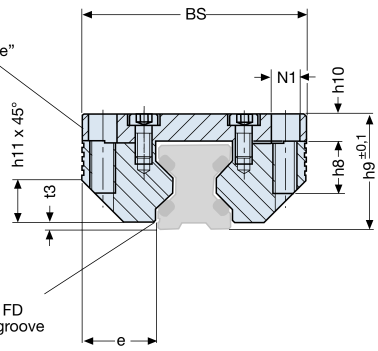
Aluminium Cassette

***Franke Dynamic** High dynaymic*

Series FDH...K







Size	Load rating		Moment load rating				Dimensions			Other dimensions Cassette								Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1	Cassette	Cassette
25	7500	3700	58	118	81	165	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,5	84363S
35	13400	8100	189	315	250	416	135	100	48	82	62	34,00	20	10,5	20	10,5	M10	1,4	84364S
45	24300	14400	461	777	548	924	165	120	60	100	80	37,50	24	13,5	22	4,0	M12	2,5	84365S

Technical information cassettes and roller shoes (RSP)

Components:
- Aluminium basic body
- 8 double row ball bearings
- Plastic plate with felt wiper on front side (metal wipers optional see page 90).

Features:
- Ideal for highly dynamical application
- Rollers are arranged at an angle of 45° and sustain loads from whatever direction
- Clipped wipers with felt inlay (metal wipers optional)
- Adjustable preload
- Long stroke distances (rails can be joined endless, see page 91)
- Calculation programme to find the most suitable guide size. Our calculation programme can be found on our homepage www.franke-gmbh.com. We are gladly prepared to calculate the guide size for you.

Dynamics:
- Speed of displacement up to 10 m/s
- Acceleration up to 40 m/s²

Temperature range:
- - 20°C up to 100°C, for a short time up to +120°C

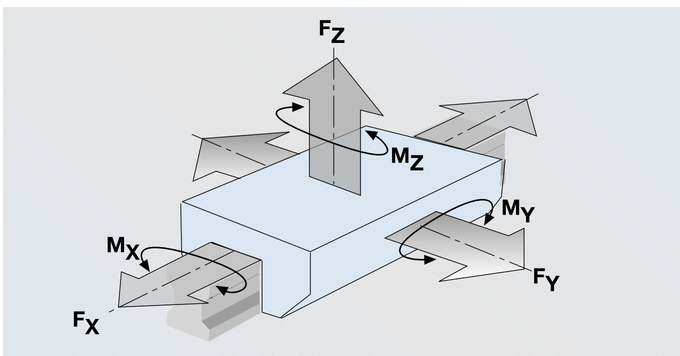
Lubrication:
- Free from maintenance due to lifetime lubrication with ball bearing grease

Fastening:
- With screws quality 8.8, tightening torques see technical information (page 101)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

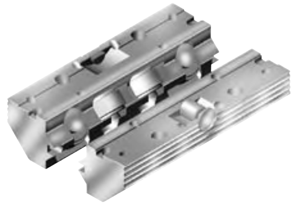
Running accuracy:
- The running accuracy in diagr. 3 refers to a rail length of one meter.

Stiffness:
- The stiffness of the guide system referring to the x-axis can be seen in diagr. 2. Values are shown for double rail and cassette.

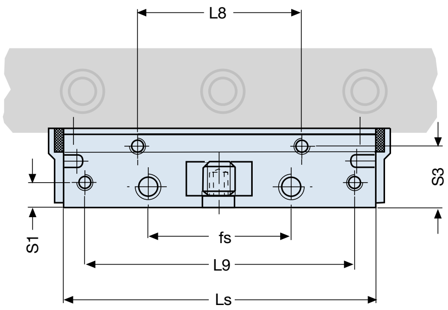


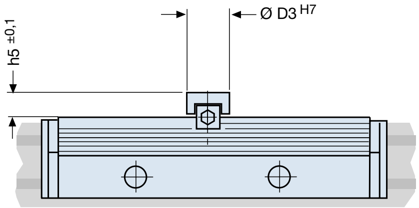
Aluminium roller shoes

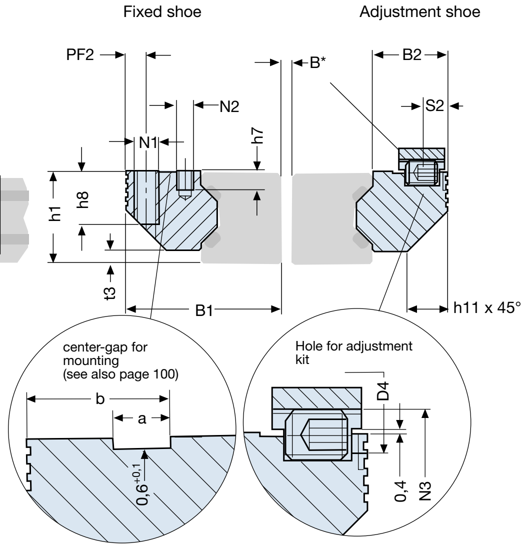
Franke Dynamic High dynaymic



Series FDH...R





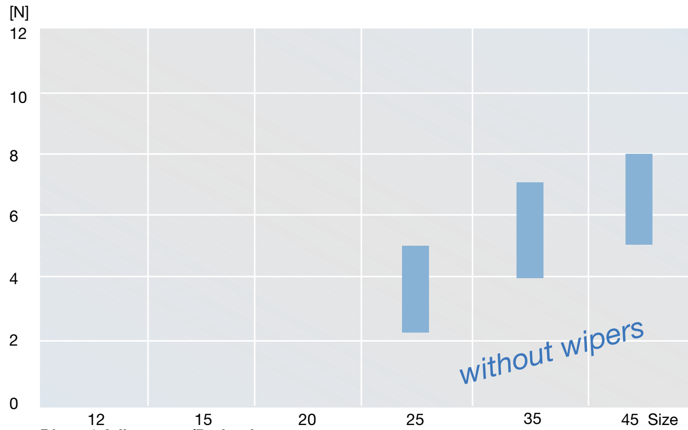


Moment load rating RSP				Dimensions					Other dimensions RSP																Weight	Order number
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
1,8 (B+58,4)	3,7 (B+58,4)	81	165	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,34	84367S
4,0 (B+85,0)	6,7 (B+85,0)	250	416	135	68,9	37,5	12,5	26,0	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	0,99	84368S
7,2 (B+109,0)	12,2 (B+109,0)	548	548	165	82,4	46,5	15,5	31,0	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	1,79	84369S

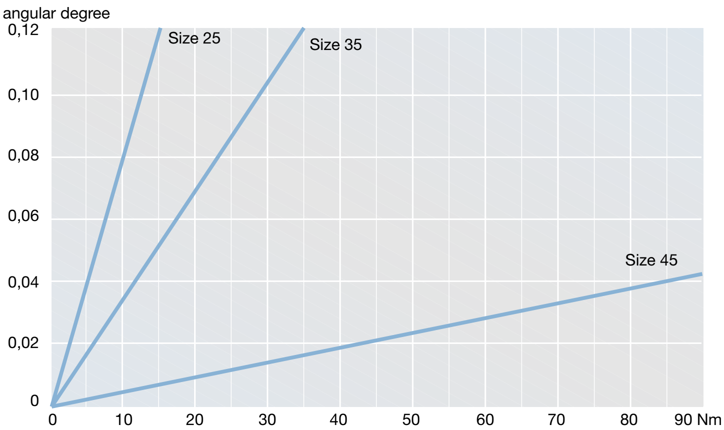
Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium	Bearing steel	Plastic plate with belt wipers

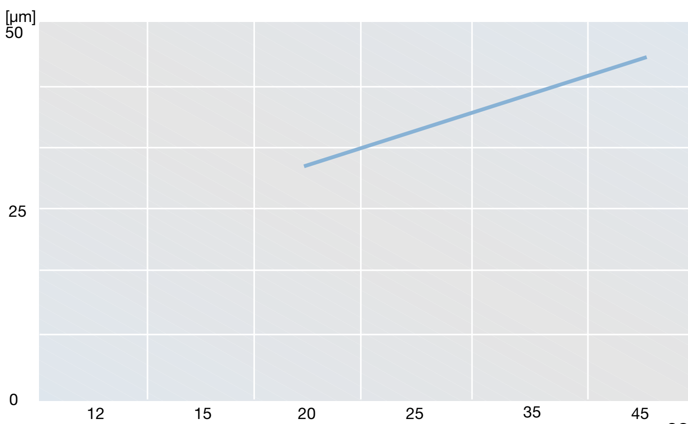
Material



Diagr. 1 Adjustment/Preload



Diagr. 2 Stiffness

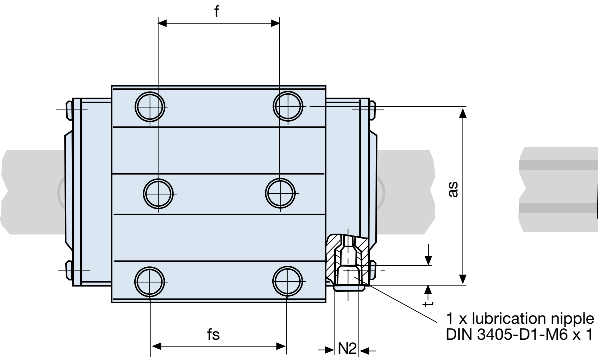


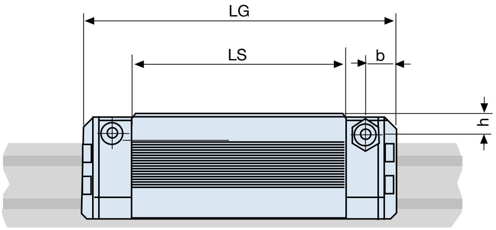
Diagr. 3 Running accuracy

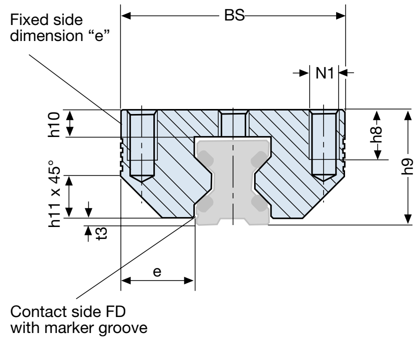
Aluminium recirculating roller guide

Franke Power

Series FP







Size	Load rating		Moment load rating				Dimensions					Other dimensions Cassette											Weight	Order number
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	LG	Bs	h9	as	fs	f	e	h8	h10	h11	t3	N1	N2	h	t	b	Cassette	Cassette
Standard																									
FPA15	9100	10000	107	98	75	68	45	75	47	24	38	30	26	15,75	10	5	5,8	2,0	M5	M3	3,3	4	9	0,12	**84041A***
FPA25	23400	25000	392	368	245	230	70	102	70	36	57	45	40	23,50	16	8	10,0	2,5	M8	M6	6,0	6	9	0,39	**84042A**
non-corrosive																									
FPC15	7000	7000	89	75	58	53	45	75	47	24	38	30	26	15,75	10	5	5,8	2,0	M5	M3	3,3	4	9	0,12	**84041N***
FPC25	18000	22000	345	324	216	202	70	102	70	36	57	45	40	23,50	16	8	10,0	2,5	M8	M6	6,0	6	9	0,39	**84042N**
non-magnetic																									
FPD25	12000	18000	282	265	176	166	70	102	70	36	57	45	40	23,50	16	8	10,0	2,5	M8	M6	6,0	6	9	0,39	**84042P**

* on preparation

Dimensions [mm], Load rating [N], Moments [Nm], Weight [kg]

Technical details
Cassette

Consist of:
- Aluminium body
- 4 recirculating rows of rollers in O-arrangement
- self-adjuting raceways made of spring steel
- metal wipers on both ends
- sealed on all sides
- lubrication nipple DIN 3405

Features:
- maximum stiffness
- high load capacity combined with smooth running
- 65 % less weight compared to steel guide systems
- 45° O-arrangement for equal load capacity from all directions
- high dynamical load capacity
- we are gladly prepared to calculate the right guide dimension for your application

Traverse speed:

Traverse speed	up to 3 m/s
Acceleration	up to 40 m/s²

Temperature range:
- - 20° up to +80°C

Lubrication:
- lubrication with grease KLÜBER ISOFLEX TOPAS NCA 5051 (recommended) via integrated lubrication nipple DIN 3405
- due to load situation and application environment we recommend to relubricate the cassette every 2000 – 10000 km with 1 – 2 gr. of grease.

Fastening:

		Size 15	Size 25
with screws quality 8.8			
cassette with 6 fastening screws			
tightening torques	guide rails:	M4 = 2,5 Nm	M6 = 8,5 Nm
	cassette:	M5 = 5,0 Nm	M8 = 21,5 Nm

Mounting surface:
The contact and support surfaces exert an substantial influence on functioning and precision of linear guides. Machining errors on the mating structure are added to the running errors of the guide system. Due to its self adjusting running bars the Franke aluminium recirculating roller guide can be mounted directly upon un-machined aluminium profiles. To reach the running accuracy documented in Diagr. 3 (page 71) the mating structure should have the following tolerances:

	Size 15	Size 25
max. tolerance of linearity of the rails	0,10	0,10 mm/m
max. tolerance of contact surface	0,10	0,10 mm/m
With double track arrangement:		
max. tolerance of linearity of the rails	0,03	0,03 mm/m
max. tolerance of contact surface	0,10	0,10 mm/m

Adjustment / preload :

- Cassettes are adjusted to the rails with preload. The slide resistance shown in diagr. 1 refers to the adjusted system consisting of cassette and rail. With serial application the slide resistance can be adjusted to your requirements. Please consult us for further information.

Stiffness:

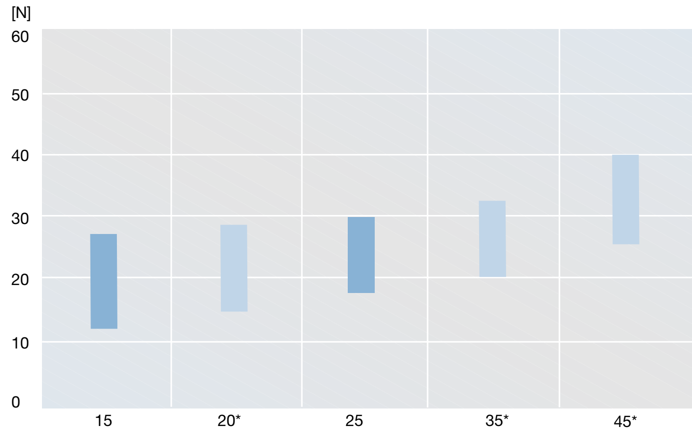
- The stiffness of the system is shown in diagr. 2.

Running accuracy:

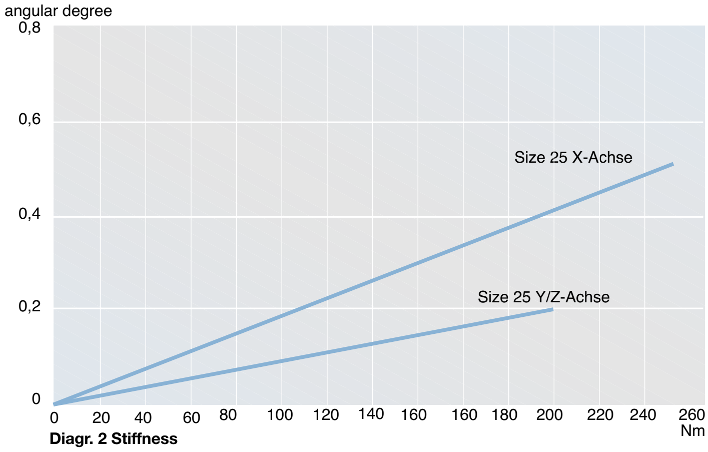
- The running accuracy of the guide system is shown in diagr. 3 (valid for one meter of rail).

Load capacity:

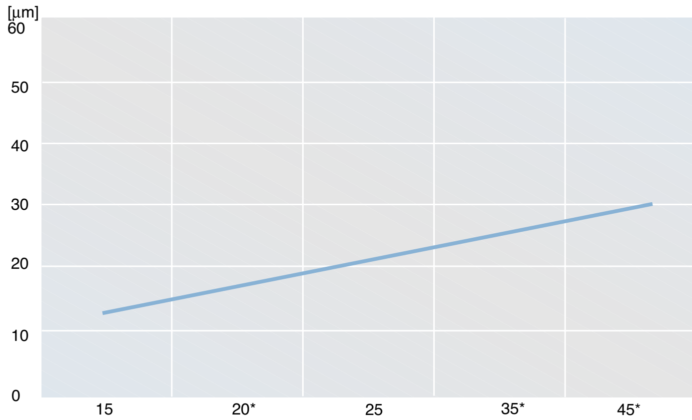
Due to the high load capacity of the integrated raceways made of spring steel the cassette has a static load capacity of 25.000 N (without linear movement). The load capacity of the running system (dynamic) is 7.500 N for each cassette.



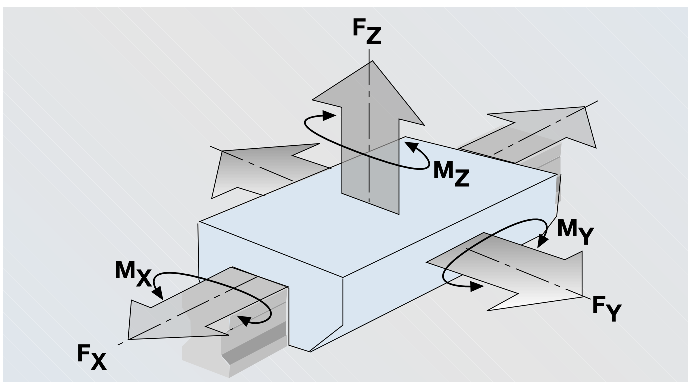
Diagr. 1 Slide resistance



Diagr. 2 Stiffness



Diagr. 3 Running accuracy



	Basic body	Cilindric rollers	Running bars	Wipers
Standard	anodized Aluminium	Bearing steel	High alloy spring steel	TEEE with metal wipers
Niro	anodized Aluminium	Non-corrosive steel	Non-corrosive steel	TEEE with metal wipers
Amagnetisch	anodized Aluminium	Non-corrosive steel non-magnetic	Non-corrosive steel non-magnetic	TEEE with metal wipers

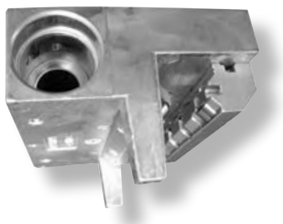
Diagr. 4 Material

* in preparation

Aluminium Cassettes / roller shoes

Franke Dynamic *Special versions*

Special types

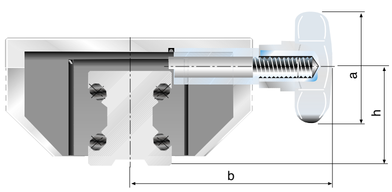


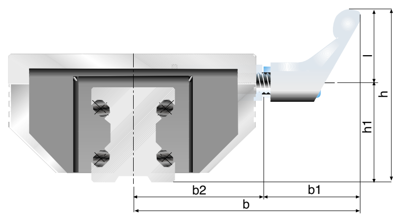
Aluminium roller guides are very variable. Depending on the case of application we design special versions to meet your requirements.

Please consult us for further information.

Clamping devices

manually fixable





Size	Ø a	b	h	clamp force	Order no. Star grip
15	25	41	19,0	200	84396AK
20	25	49	23,0	250	84441AK
25	32	56	28,0	250	84363AK
35	50	83	38,5	350	84364AK
45	63	101	48,0	750	84365AK

Size	b	b1	b2	h	h1	l	Thread	Order no. Lever clamp
15	59,5	35	24,5	64,0	19,0	45	M5	84396AH
20	67,5	35	32,5	68,0	23,0	45	M5	84441AH
25	71,0	35	36,0	73,0	28,0	45	M6	84363AH
35	96,0	45	51,0	101,5	38,5	63	M8	84364AH
45	116,0	55	61,0	126,0	48,0	78	M10	84365AH

Dimensions [mm], Force [N] with normaal power at the moment only the standard version available

The cassette with star grip can be fixed at any optional place along the guide path. The clamping device does not exert forces on the guide system.

The clamping device is used in fixtures which are movable manually, clamping and stop ledgers, feeding of tools and work pieces. Also available with clamping lever. Please consult us.

High temperature

Heat-resistant

Size	Order number	
	Cassette	Roller shoes
12	on request	on request
15		
20		
25		
35		
45		

For applications in high temperature environment.

The cassette can be used with temperatures up to 200° C.

Please consult us.

Vacuum

Vacuum-fit

Size	Order number	
	Cassette	Roller shoes
12	on request	on request
15		
20		
25		
35		
45		

For applications in vacuum fields.

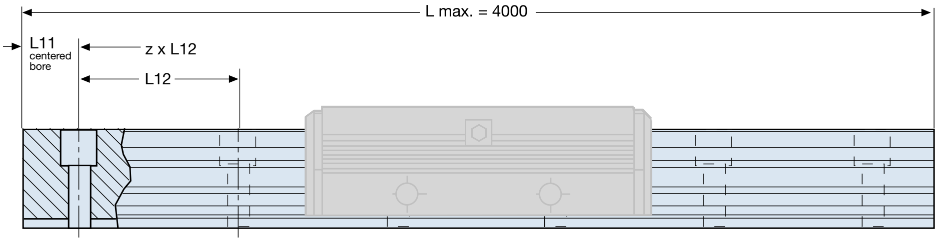
Special bore shapes and grease for high vacuum.

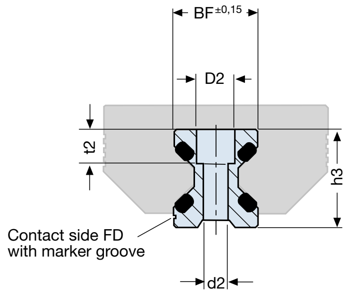
Please consult us.

Aluminium double rail

Standard

Series FDA for cassettes series FDA, FDB, FDE, FDH and Franke Power FPA





Size	BF	D2	d2	h3	L11	L12	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	0,4
15	15,50	8	4,5	18,7	10	60	6,0	0,8
20	21,00	10	5,5	22,6	10	60	8,0	0,9
25	23,00	11	6,6	27,0	10	60	10,0	1,8
35	32,00	15	9,0	37,0	12	80	11,5	3,2
45	45,00	18	11,0	46,0	16	105	14,5	5,5

Dimensions [mm], Weight [kg/m]

Length L [mm]	Order number					
	Gr. 12*	15	20	25	35	45
200	64912A	63167A	69062A	62554A		
250	64913A	63168A	69063A	62555A		
300	64914A	63169A	69064A	62556A	62587A	62622A
350	64915A	63170A	69065A	62557A	62588A	62623A
400	64916A	63171A	69066A	62558A	62589A	62624A
450	64917A	63172A	69067A	62559A	62590A	62625A
500	64918A	63173A	69068A	62560A	62591A	62626A
550	64919A	63174A	69069A	62561A	62592A	62627A
600	64920A	63175A	69070A	62562A	62593A	62628A
650	64921A	63176A	69071A	62563A	62594A	62629A
700	64922A	63177A	69072A	62564A	62595A	62630A
750	64923A	63178A	69073A	62565A	62596A	62631A
800	64924A	63179A	69074A	62566A	62597A	62632A
850	64925A	63180A	69075A	62567A	62598A	62633A
900	64926A	63181A	69076A	62568A	62599A	62634A
950	64927A	63182A	69077A	62569A	62600A	62635A
1000	64928A	63183A	69078A	62570A	62601A	62636A
1100	64929A	63184A	69079A	62571A	62602A	62637A
1200	64930A	63185A	69080A	62572A	62603A	62638A
1300	64931A	63186A	69081A	62573A	62604A	62639A
1400	64932A	63187A	69082A	62574A	62605A	62640A
1500	64933A	63188A	69083A	62575A	62606A	62641A
1600	64934A	63189A	69084A	62576A	62607A	62642A
1700	64935A	63190A	69085A	62577A	62608A	62643A
1800	64936A	63191A	69086A	62578A	62609A	62644A
1900	64937A	63192A	69087A	62579A	62610A	62645A
2000	64938A	63193A	69088A	62580A	62611A	62646A
2100	64939A	63194A	69089A	62581A	62612A	62647A
2200	64940A	63195A	69090A	62582A	62613A	62648A
2300	64941A	63196A	69091A	62583A	62614A	62649A
2400	64942A	63197A	69092A	62584A	62615A	62650A
2500	64943A	63198A	69093A	62585A	62616A	62651A
2600	64944A	69052A	69094A	63132A	62617A	62652A
2700	64945A	69053A	69095A	63133A	62618A	62653A
2800	64946A	69054A	69096A	63134A	62619A	62654A
2900	64947A	69055A	69097A	63135A	62620A	62655A
3000	64948A	69056A	69098A	63136A	62621A	62656A
3200		69057A	69099A	63137A	63142A	62657A
3400		69058A	69100A	63138A	63143A	62658A
3600		69059A	69101A	63139A	63144A	62659A
3800		69060A	69102A	63140A	63145A	62660A
4000		69061A	69103A	63141A	63146A	62661A

For endless strokes the rails can be coupled

*** For cassettes series FDB12K (Low Cost) the order number changes from "A" to "L"**

Technical information pair of double rails

Consists of:
- Aluminium body
- 4 raceways made of high alloy spring steel
- Plastic covers for bore holes

Features:
- Fastening screw holes centered due to rail length
- Other bore shapes on request. Please consult us.

Length:
- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:
- With screws quality 8.8 and washers DIN433

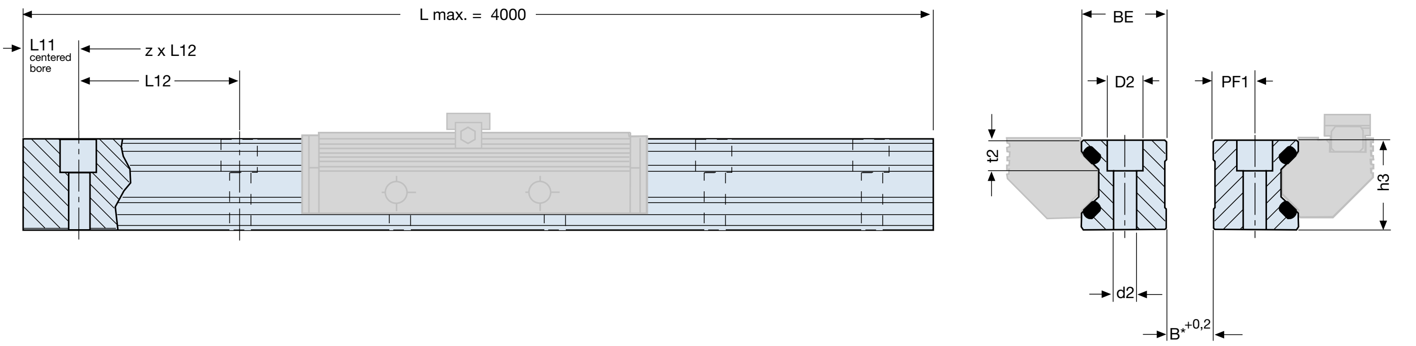
Rail body	Raceways	Fastening bores
high density anodized Aluminium	non-corrosive steel X12CrNiAl177	centered due to rail length

Material

Pair of Aluminium single rails

Standard

Series FDA for pairs of roller shoes series FDA, FDB, FDE, FDH



Size	BE	D2	d2	h3	L11	L12	PF1	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	5,5	0,8
15	15,25	8	4,5	18,7	10	60	7,0	6,0	1,6
20	20,00	10	5,5	22,6	10	60	9,5	7,0	2,0
25	25,00	11	6,6	27,0	10	60	12,0	10,0	3,8
35	35,00	15	9,0	37,0	12	80	17,0	11,5	7,0
45	45,00	18	11,0	46,0	16	105	22,0	14,5	11,2

* B = variable guide width

Dimensions [mm], Weight [kg/m]

Length L [mm]	Order number Gr. 12*	15	20	25	35	45
200	64954A	63199A	69010A	62701A		
250	64955A	63200A	69011A	62702A		
300	64956A	63201A	69012A	62703A	62734A	62769A
350	64957A	63202A	69013A	62704A	62735A	62770A
400	64958A	63203A	69014A	62705A	62736A	62771A
450	64959A	63204A	69015A	62706A	62737A	62772A
500	64960A	63205A	69016A	62707A	62738A	62773A
550	64961A	63206A	69017A	62708A	62739A	62774A
600	64962A	63207A	69018A	62709A	62740A	62775A
650	64963A	63208A	69019A	62710A	62741A	62776A
700	64964A	63209A	69020A	62711A	62742A	62777A
750	64965A	63210A	69021A	62712A	62743A	62778A
800	64966A	63211A	69022A	62713A	62744A	62779A
850	64967A	63212A	69023A	62714A	62745A	62780A
900	64968A	63213A	69024A	62715A	62746A	62781A
950	64969A	63214A	69025A	62716A	62747A	62782A
1000	64970A	63215A	69026A	62717A	62748A	62783A
1100	64971A	63216A	69027A	62718A	62749A	62784A
1200	64972A	63217A	69028A	62719A	62750A	62785A
1300	64973A	63218A	69029A	62720A	62751A	62786A
1400	64974A	63219A	69030A	62721A	62752A	62787A
1500	64975A	63220A	69031A	62722A	62753A	62788A
1600	64976A	63221A	69032A	62723A	62754A	62789A
1700	64977A	63222A	69033A	62724A	62755A	62790A
1800	64978A	63223A	69034A	62725A	62756A	62791A
1900	64979A	63224A	69035A	62726A	62757A	62792A
2000	64980A	63225A	69036A	62727A	62758A	62793A
2100	64981A	63226A	69037A	62728A	62759A	62794A
2200	64982A	63227A	69038A	62729A	62760A	62795A
2300	64983A	63228A	69039A	62730A	62761A	62796A
2400	64984A	63229A	69040A	62731A	62762A	62797A
2500	64985A	63230A	69041A	62732A	62763A	62798A
2600	64986A	69000A	69042A	63147A	62764A	62799A
2700	64987A	69001A	69043A	63148A	62765A	62800A
2800	64988A	69002A	69044A	63149A	62766A	62801A
2900	64989A	69003A	69045A	63150A	62767A	62802A
3000	64990A	69004A	69046A	63151A	62768A	62803A
3200		69005A	69047A	69052A	69157A	69804A
3400		69006A	69048A	69053A	69158A	69805A
3600		69007A	69049A	63154A	63159A	62659A
3800		69008A	69050A	63155A	63160A	62807A
4000		69009A	69051A	63156A	63161A	62808A

For endless strokes the rails can be coupled

*** For cassettes series FDB12R (Low Cost) the order number changes from "A" to "L"**

Technical informationen pair of single rails

Consists of:

- Aluminium body
- 4 raceways made of high alloy spring steel
- Plastic covers for bore holes

Features:

- Free selection of guide width
- The roller shoes can be placed in between or outside the rail pair

Length:

- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:

- With screws quality 8.8 and washers DIN433

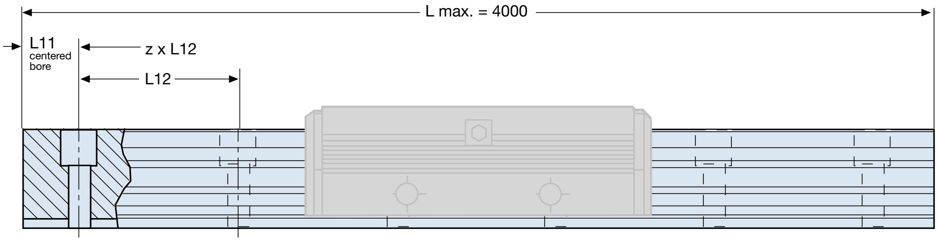
Rail body	Raceways	Fastening bores
high density anodized Aluminium	non-corrosive steel X12CrNiAl177	centered due to rail length

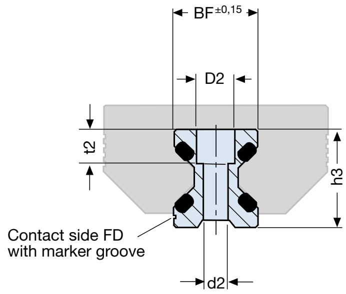
Material

Aluminium double rail

Non-corrosive

Series FDC for cassettes series FDC, FDG und Franke Power FPC





Size	BF	D2	d2	h3	L11* = min	L12	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	0,4
15	15,50	8	4,5	18,7	10	60	6,0	0,8
20	21,00	10	5,5	22,6	10	60	8,0	0,9
25	23,00	11	6,6	27,0	10	60	10,0	1,8
35	32,00	15	9,0	37,0	12	80	11,5	3,2
45	45,00	18	11,0	46,0	16	105	14,5	5,5

Dimensions [mm], Weight [kg/m]

Length L [mm]	Order number Gr. 12*	15	20	25	35	45
200	64912LN	63167N	69062N	62554N		
250	64913LN	63168N	69063N	62555N		
300	64914LN	63169N	69064N	62556N	62587N	62622N
350	64915LN	63170N	69065N	62557N	62588N	62623N
400	64916LN	63171N	69066N	62558N	62589N	62624N
450	64917LN	63172N	69067N	62559N	62590N	62625N
500	64918LN	63173N	69068N	62560N	62591N	62626N
550	64919LN	63174N	69069N	62561N	62592N	62627N
600	64920LN	63175N	69070N	62562N	62593N	62628N
650	64921LN	63176N	69071N	62563N	62594N	62629N
700	64922LN	63177N	69072N	62564N	62595N	62630N
750	64923LN	63178N	69073N	62565N	62596N	62631N
800	64924LN	63179N	69074N	62566N	62597N	62632N
850	64925LN	63180N	69075N	62567N	62598N	62633N
900	64926LN	63181N	69076N	62568N	62599N	62634N
950	64927LN	63182N	69077N	62569N	62600N	62635N
1000	64928LN	63183N	69078N	62570N	62601N	62636N
1100	64929LN	63184N	69079N	62571N	62602N	62637N
1200	64930LN	63185N	69080N	62572N	62603N	62638N
1300	64931LN	63186N	69081N	62573N	62604N	62639N
1400	64932LN	63187N	69082N	62574N	62605N	62640N
1500	64933LN	63188N	69083N	62575N	62606N	62641N
1600	64934LN	63189N	69084N	62576N	62607N	62642N
1700	64935LN	63190N	69085N	62577N	62608N	62643N
1800	64936LN	63191N	69086N	62578N	62609N	62644N
1900	64937LN	63192N	69087N	62579N	62610N	62645N
2000	64938LN	63193N	69088N	62580N	62611N	62646N
2100	64939LN	63194N	69089N	62581N	62612N	62647N
2200	64940LN	63195N	69090N	62582N	62613N	62648N
2300	64941LN	63196N	69091N	62583N	62614N	62649N
2400	64942LN	63197N	69092N	62584N	62615N	62650N
2500	64943LN	63198N	69093N	62585N	62616N	62651N
2600	64944LN	69052N	69094N	63132N	62617N	62652N
2700	64945LN	69053N	69095N	63133N	62618N	62653N
2800	64946LN	69054N	69096N	63134N	62619N	62654N
2900	64947LN	69055N	69097N	63135N	62620N	62655N
3000	64948LN	80277N	69098N	63136N	62621N	62656N
3200		80278N	69099N	63137N	63142N	62657N
3400		80279N	69100N	63138N	63143N	62658N
3600		80280N	69101N	63139N	63144N	62659N
3800		80281N	69102N	63140N	63145N	62660N
4000		80282N	69103N	63141N	63146N	62661N

For endless strokes the rails can be coupled

*** Size 12 only for Cassettes Series FDG**

Technical information
pair of double rails

Consists of:
- Aluminium body
- 4 raceways made of non-corrosive steel
- Plastic covers for bore holes

Features:
- Fastening screw holes centered due to rail length
- Other bore shapes on request. Please consult us.

Length:
- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:
- With screws quality 8.8 and washers DIN433

Rail body	Raceways	Fastening bores
high density anodized Aluminium	non-corrosive steel X12CrNiAl177	centered due to rail length

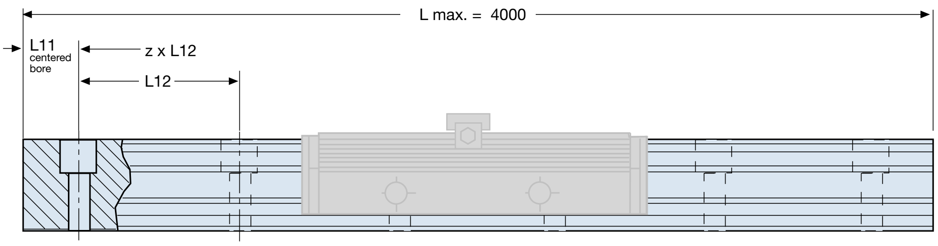
Material

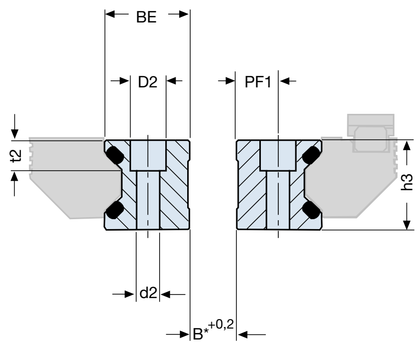
Standard

Pair of Aluminium single rails

Non-corrosive

Series FDC for pairs of roller shoes series FDC, FDG





Size	BE	D2	d2	h3	L11	L12	PF1	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	5,5	0,8
15	15,25	8	4,5	18,7	10	60	7,0	6,0	1,6
20	20,00	10	5,5	22,6	10	60	9,5	7,0	2,0
25	25,00	11	6,6	27,0	10	60	12,0	10,0	3,8
35	35,00	15	9,0	37,0	12	80	17,0	11,5	7,0
45	45,00	18	11,0	46,0	16	105	22,0	14,5	11,2

* B = variable guide width

Dimensions [mm], Weight [kg/m]

Length L [mm]	Order number Pair of rails Gr. 12*	15	20	25	35	45
200	64954LN	63199N	69010N	62701N		
250	64955LN	63200N	69011N	62702N		
300	64956LN	63201N	69012N	62703N	62734N	62769N
350	64957LN	63202N	69013N	62704N	62735N	62770N
400	64958LN	63203N	69014N	62705N	62736N	62771N
450	64959LN	63204N	69015N	62706N	62737N	62772N
500	64960LN	63205N	69016N	62707N	62738N	62773N
550	64961LN	63206N	69017N	62708N	62739N	62774N
600	64962LN	63207N	69018N	62709N	62740N	62775N
650	64963LN	63208N	69019N	62710N	62741N	62776N
700	64964LN	63209N	69020N	62711N	62742N	62777N
750	64965LN	63210N	69021N	62712N	62743N	62778N
800	64966LN	63211N	69022N	62713N	62744N	62779N
850	64967LN	63212N	69023N	62714N	62745N	62780N
900	64968LN	63213N	69024N	62715N	62746N	62781N
950	64969LN	63214N	69025N	62716N	62747N	62782N
1000	64970LN	63215N	69026N	62717N	62748N	62783N
1100	64971LN	63216N	69027N	62718N	62749N	62784N
1200	64972LN	63217N	69028N	62719N	62750N	62785N
1300	64973LN	63218N	69029N	62720N	62751N	62786N
1400	64974LN	63219N	69030N	62721N	62752N	62787N
1500	64975LN	63220N	69031N	62722N	62753N	62788N
1600	64976LN	63221N	69032N	62723N	62754N	62789N
1700	64977LN	63222N	69033N	62724N	62755N	62790N
1800	64978LN	63223N	69034N	62725N	62756N	62791N
1900	64979LN	63224N	69035N	62726N	62757N	62792N
2000	64980LN	63225N	69036N	62727N	62758N	62793N
2100	64981LN	63226N	69037N	62728N	62759N	62794N
2200	64982LN	63227N	69038N	62729N	62760N	62795N
2300	64983LN	63228N	69039N	62730N	62761N	62796N
2400	64984LN	63229N	69040N	62731N	62762N	62797N
2500	64985LN	63230N	69041N	62732N	62763N	62798N
2600	64986LN	69000N	69042N	63147N	62764N	62799N
2700	64987LN	69001N	69043N	63148N	62765N	62800N
2800	64988LN	69002N	69044N	63149N	62766N	62801N
2900	64989LN	80267N	69045N	63150N	62767N	62802N
3000	64990LN	80268N	69046N	63151N	62768N	62803N
3200		80269N	69047N	63152N	63157N	62804N
3400		80271N	69048N	63153N	63158N	62805N
3600		80272N	69049N	63154N	63159N	62659N
3800		80273N	69050N	63155N	63160N	62807N
4000		80276N	69051N	63156N	63161N	62808N

For endless strokes the rails can be coupled

* **Size 12 only for pairs of roller shoes series FDG**

Technical information pair of single rails

Consists of:

- Aluminium body
- 4 raceways made of non-corrosive steel
- Plastic covers for bore holes

Features:

- Free selection of guide width
- The roller shoes can be placed in between or outside the rail pair

Length:

- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:

- With screws quality 8.8 and washers DIN433

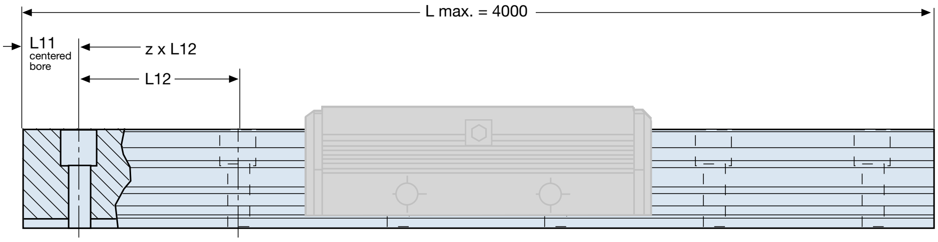
	Rail body	Raceways	Fastening bores
Standard	high density anodized Aluminium	non-corrosive steel X12CrNiAl177	centered due to rail length

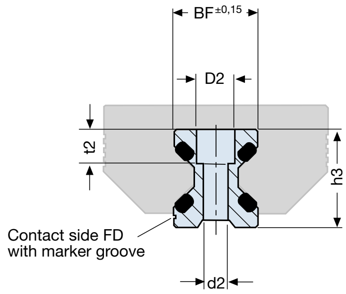
Material

Aluminium double rail

Non-magnetic

Series FDD for cassettes series FDD and Franke Power FPD





Size	BF	D2	d2	h3	L11* = min	L12	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	0,4
15	15,50	8	4,5	18,7	10	60	6,0	0,8
20	21,00	10	5,5	22,6	10	60	8,0	0,9
25	23,00	11	6,6	27,0	10	60	10,0	1,8
35	32,00	15	9,0	37,0	12	80	11,5	3,2
45	45,00	18	11,0	46,0	16	105	14,5	5,5

Dimensions [mm], Weight [kg/m]

Length L [mm]	Order number Gr. 12	15	20	25	35	45
200				62554P		
250				62555P		
300				62556P		
350				62557P		
400				62558P		
450				62559P		
500				62560P		
550				62561P		
600				62562P		
650				62563P		
700				62564P		
750				62565P		
800				62566P		
850				62567P		
900				62568P		
950				62569P		
1000				62570P		
1100				62571P		
1200				62572P		
1300				62573P		
1400				62574P		
1500				62575P		
1600				62576P		
1700				62577P		
1800				62578P		
1900				62579P		
2000				62580P		
2100				62581P		
2200				62582P		
2300				62583P		
2400				62584P		
2500				62585P		
2600				63132P		
2700				63133P		
2800				63134P		
2900				63135P		
3000				63136P		
3200				63137P		
3400				63138P		
3600				63139P		
3800				63140P		
4000				63141P		

For endless strokes the rails can be coupled

Technical information pair of double rails

Consists of:

- Aluminium body
- 4 raceways made of non-magnetic steel
- Plastic covers for bore holes

Features:

- Fastening screw holes centered due to rail length
- Other bore shapes on request. Please consult us.

Length:

- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:

- With screws quality 8.8 and washers DIN433

Rail body	Raceways	Fastening bores
high density anodized Aluminium	non-magnetic steel	centered due to rail length

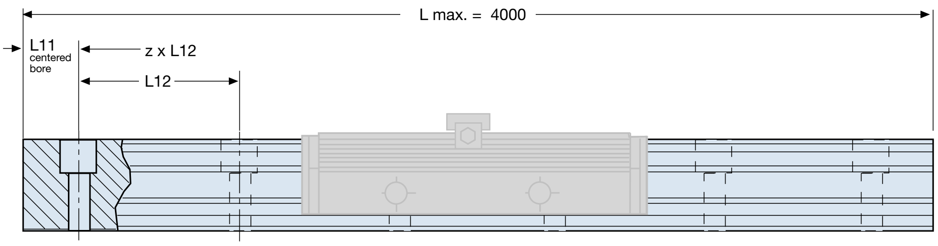
Material

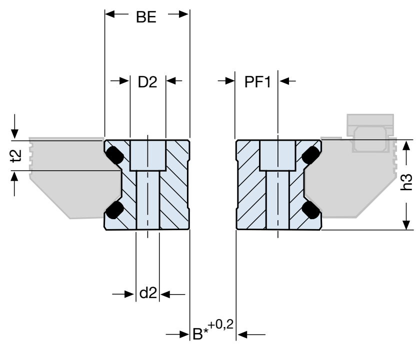
Standard

Pair of Aluminium single rail

Non-magnetic

Series FDD for cassettes series FDD





Size	BE	D2	d2	h3	L11	L12	PF1	t2	Weight
12	12,00	6	3,4	14,7	10	40	5,5	5,5	0,8
15	15,25	8	4,5	18,7	10	60	7,0	6,0	1,6
20	20,00	10	5,5	22,6	10	60	9,5	7,0	2,0
25	25,00	11	6,6	27,0	10	60	12,0	10,0	3,8
35	35,00	15	9,0	37,0	12	80	17,0	11,5	7,0
45	45,00	18	11,0	46,0	16	105	22,0	14,5	11,2

* B = variable guide width

Dimensions [mm], Weight [kg/m]

Technical information pair of single rails

Consists of:

- Aluminium body
- 4 raceways made of non-magnetic steel
- Plastic covers for bore holes

Features:

- Free selection of guide width
- The roller shoes can be placed in between or outside the rail pair

Length:

- In one piece for all catalogue lengths and intermediate lengths
- For endless strokes the rails can be coupled

Fastening:

- With screws quality 8.8 and washers DIN433

Length L [mm]	Order number Gr. 12	15	20	25	35	45
200				62701P		
250				62702P		
300				62703P		
350				62704P		
400				62705P		
450				62706P		
500				62707P		
550				62708P		
600				62709P		
650				62710P		
700				62711P		
750				62712P		
800				62713P		
850				62714P		
900				62715P		
950				62716P		
1000				62717P		
1100				62718P		
1200				62719P		
1300				62720P		
1400				62721P		
1500				62722P		
1600				62723P		
1700				62724P		
1800				62725P		
1900				62726P		
2000				62727P		
2100				62728P		
2200				62729P		
2300				62730P		
2400				62731P		
2500				62732P		
2600				63147P		
2700				63148P		
2800				63149P		
2900				63150P		
3000				63151P		
3200				63152P		
3400				63153P		
3600				63154P		
3800				63155P		
4000				63156P		

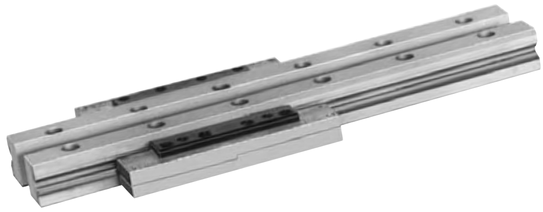
For endless strokes the rails can be coupled

	Rail body	Raceways	Fastening bores
Standard	high density anodized Aluminium	non-magnetic steel	centered due to rail length

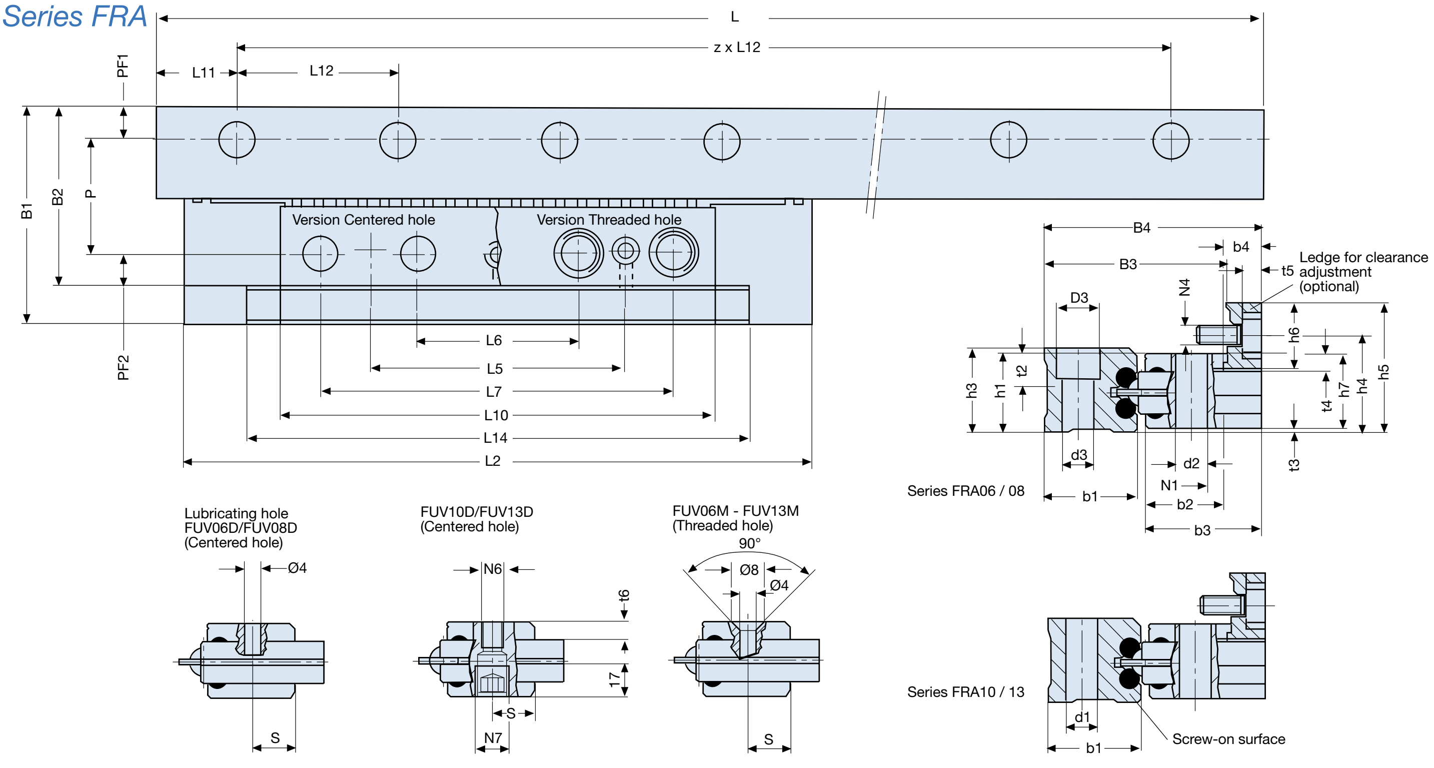
Material

Linear guides with re-circulating elements

Franke Robust



Series FRA



Re-circulating element

Single rail

Series	Wide								Height				Length						
	B1	B2	B3	B4	b1	D3	d1	d3	h1	h3	h4	h5	Lmax.	L11	L12	P	PF1	t2	t3
FRA06E	44,5	36,5	38,0	44,5	20,0	10,0	-	5,5	16,0	16,7	20,7	27,7	2500	25	50	24,5	7,0	7,0	1´0
FRA08E	57,3	47,3	48,8	57,3	26,3	11,0	-	6,6	21,0	22,2	26,0	32,5	4000	50	100	31,8	8,5	8,5	1,0
FRA10E	63,0	51,4	51,4	62,9	24,4	-	9,0	-	23,8	25,0	29,4	39,4	4000	50	100	31,4	10,0	-	1,0
FRA13E	79,5	65,1	65,1	80,1	31,6	-	12,0	-	31,2	33,0	37,2	48,7	4000	50	100	41,1	12,0	-	1,2

Load rating																							
2 recir. elem.	C	b2	b3	b4	h6	h7	L2	L5	L6	L7	L10	L14	d2	N1	N4	N6	N7	PF2	S	t4	t5	t6	t7
FRA06UD	15500	15,0	23,1	8,0	14,0	15,0	124	-	25	70	82,0	82	6,0	-	M05	-	-	5	5,0	3,0	4,0	-	-
FRA06UM	15500	15,0	23,1	8,0	14,0	15,0	124	50	25	70	82,0	82	-	M06	M05	-	-	5	7,0	3,0	4,0	-	-
FRA08UD	31000	19,5	29,5	10,0	15,5	20,0	153	-	32	84	100,0	104	6,6	-	M06	-	-	7	7,0	5,0	4,8	-	-
FRA08UM	31000	19,5	29,5	10,0	15,5	20,0	153	58	32	84	100,0	104	-	M08	M06	-	-	7	9,5	5,0	4,8	-	-
FRA10UD	50000	24,4	36,0	11,5	20,0	22,8	194	-	50	110	134,2	155	9,0	-	M06	M06	M06	10	10,0	5,4	6,0	9,0	9,0
FRA10UM	50000	24,4	36,0	11,5	20,0	22,8	194	80	50	110	134,2	155	-	M10	M06	-	-	10	11,0	5,4	6,0	-	-
FRA13UD	81000	31,6	46,0	15,0	23,0	30,0	242	-	60	140	169,0	178	11,0	-	M08	M05	G1/8	12	12,0	7,6	8,0	8,0	12,0
FRA13UM	81000	31,6	46,0	15,0	23,0	30,0	242	100	60	140	169,0	178	-	M12	M08	-	-	12	15,0	7,6	8,0	-	-

Dimensions [mm],Load rating [N], Moments [Nm], Weight [kg]

Seal: The re-circulating elements are equipped with wipers.

Running accuracy: Best running accuracy and uniform run are achieved if the tolerances regarding parallelism and evenness of the support and the contact shoulder are within the tolerances which are determined for our guide system.

Fastening: with scews quality 8.8 washers DIN125

Load capacity: Load rating see table. We are gladly prepared to calculate load capacity and lifetime for you.

Traverse speed:
Traverse speed up to 3 m/s
Acceleration, retardation up to 30 m/s≤

Mounting position: Optional

Lengths: We supply one-piece guide rails in the lengths which are given in the table as well as any intermediary length. For endless stroke length the rails can be coupled.

Friction coefficient: 0,02. With well mounted race tracks the coefficient can be reduced after 50 working hours to 0,01.

Lubrication: with bearing lubrication through lubrication nipples.
We supply re-circulating elements with lubrication bores which are closed towards the screw-on surface. If you put in the closing screws for a second time please use an appropriate sealing mean.

Material:

Rails:	aluminium
raceways:	high alloy spring steel
Re-circulating elements:	steel and zinc-diecasting body

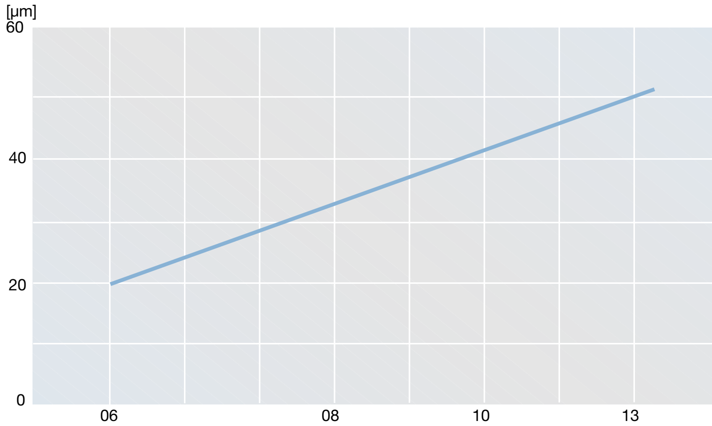
Franke

Length Single rail [mm]	Order number FRA06E	FRA08E	FRA10E	FRA13E
300	62865A	62896C	83533C	
350	62866A	62897C	83534C	83573C
400	62867A	62898C	83535C	83574C
450	62868A	62899C	83536C	83575C
500	62869A	62900C	83537C	83576C
550	62870A	62901C	83538C	83577C
600	62871A	62902C	83539C	83578C
650	62872A	62903C	83540C	83579C
700	62873A	62904C	83541C	83580C
750	62874A	62905C	83542C	83581C
800	62875A	62906C	83543C	83582C
850	62876A	62907C	83544C	83583C
900	62877A	62908C	83545C	83584C
950	62878A	62909C	83546C	83585C
1000	62879A	62910C	83547C	83586C
1100	62880A	62911C	83548C	83587C
1200	62881A	62912C	83549C	83588C
1300	62882A	62913C	83550C	83589C
1400	62883A	62914C	83551C	83590C
1500	62884A	62915C	83552C	83591C
1600	62885A	62916C	83553C	83592C
1700	62886A	62917C	83554C	83593C
1800	62887A	62918C	83555C	83594C
1900	62888A	62919C	83556C	83595C
2000	62889A	62920C	83557C	83596C
2100	62890A	62921C	83558C	83597C
2200	62891A	62922C	83559C	83598C
2300	62892A	62923C	83560C	83599C
2400	62893A	62924C	83561C	83600C
2500	62894A	62925C	83562C	83601C
2600		62926C	83563C	83602C
2700		62927C	83564C	83603C
2800		62928C	83565C	83604C
2900		62929C	83566C	83605C
3000		62930C	83567C	83606C
3200		62114C	83568C	83607C
3400		62115C	83569C	83608C
3600		69116C	83570C	83609C
3800		69117C	83571C	83610C
4000		69118C	83572C	83611C
Weight [kg/m]	0,7	1,2	1,9	2,9
Recirculating elements				
with centered hole	**FRA06UD**	**FRA08UD**	**FRA10UD**	**FRA13UD**
	80587A	80588A	80589A	80590A
with threaded hole	**FRA06UM**	**FRA08UM**	**FRA10UM**	**FRA13UM**
	80545A	80546A	80547A	80548A
Weight [kg/each]	0,2	0,4	0,8	1,7

Standard

Basic body	Rollers	Wipers
Anodized Aluminium	100Cr6	Felt

Material

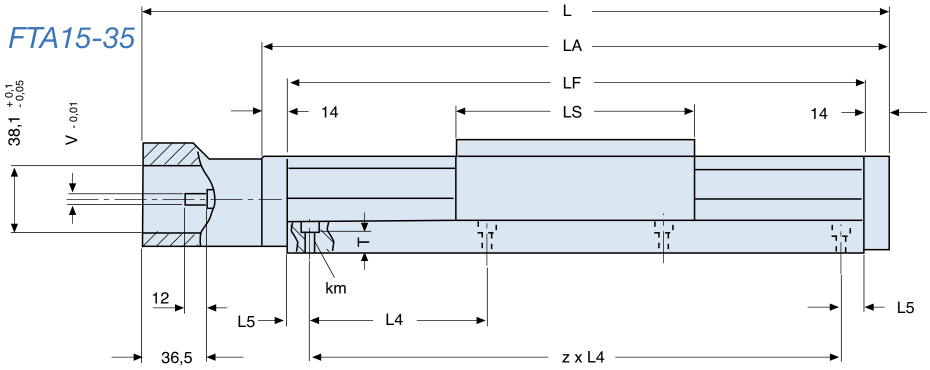


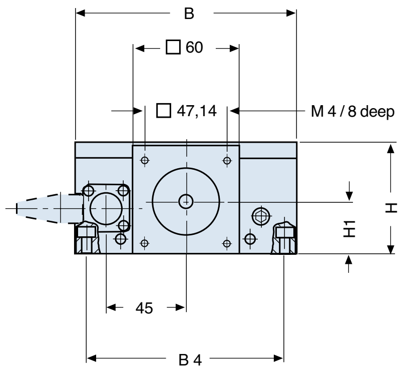
Running accuracy

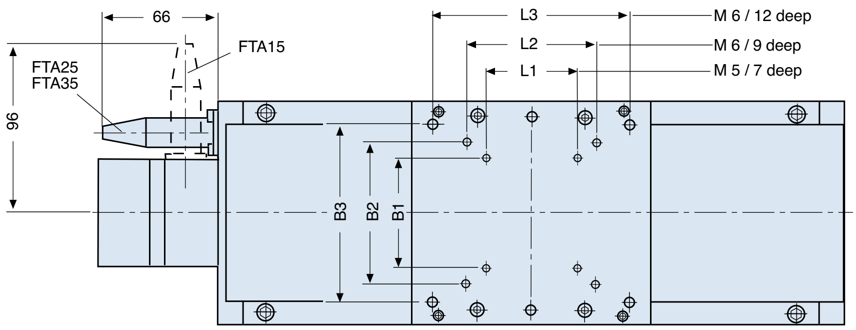
Linear tables

light-duty, with metal cover

Series FTA15-35







	Main dimensions				Bore configuration										Mount.dim. motor	
Size	**L**	**LS**	**B**	**H**	**B1**	**B2**	**B3**	**B4**	**L1**	**L2**	**L3**	**L4**	**DIN74**	**T**	**H1**	**ØV**
15	352-952	135	125	63	100	-	-	112	112	-	-	100	5	6	29,0	6
25	392-992	175	165	75	100	120	-	150	112	150	-	120	6	6	31,0	6
35	452-1048	230	220	90	100	120	160	200	112	150	200	160	6	6	32,5	6

Dimensions [mm]

Consist of:
- Anodized aluminium body
- Integrated aluminium roller guide
- Recirculating ball screw spindle drive

Features:
- Light and compact design
- Smooth and silent running
- Metal cover, metal strip
- Strokes up to 700mm

Spindle:
- Preloaded ball screw spindle, 5mm pitch
- Other spindles on request

Mounting position:
- Optional, with vertical position we recommend a brake

Positioning accuracy:
- Due to spindle pitch ±0,025/300 mm (IT7)
- Other accuracies on request

Repetitive accuracy:
- ≤ 0,01mm

Lubrication:
- Lifetime lubrication with bearing grease (see page 104)

Load capacity:
- See table (loads, moments)
- With loads without acceleration or moment loads static safety S≥3. with dynamic moments S ≥6. We are gladly prepared to calculate the static safety and lifetime in your application.

Operation temperature:
- -10°C to +75°C (other temperatures on request)

Options:
- Limit switches integrated inside the table
- Reference switches
- Adapting plates for motors of your choice
- Other motors on request
- Complete positioning systems including Franke CNC-control units and software (1-8 axes), see page 97-98. Please consult us.

FTA15

Stroke	Load rating C [N]	Moments		Lenght					Traverse speed max. [m/min.]	RPM Spindle max. [min.⁻¹]	Spindel-Ø x -pitch	Fast. screw DIN912 with wash. DIN433 [Anz.x Gr.]	Weight [kg]	Order number
		Mcx [Nm]	Mcy,Mcz [Nm]	L5	L	LA	LF	Z [Number]						
100	3000	187	228	78	352	284	256	1	15	3000	12x5	4xM5	3,0	92600A
200	3000	187	228	28	452	384	356	3	15	3000	12x5	8xM5	3,8	92601A
300	3000	187	228	78	552	484	456	3	15	3000	12x5	8xM5	4,8	92602A
400	3000	187	228	28	652	584	556	5	15	3000	12x5	12xM5	5,6	92603A
500	3000	187	228	78	752	684	656	5	11	2200	12x5	12xM5	6,4	92604A
600	3000	187	228	28	852	784	756	7	11	2200	12x5	16xM5	7,4	92605A
700	3000	187	228	78	952	884	856	7	10	2000	12x5	16xM5	8,5	92606A

Dimensions [mm], Load rating [N], Moments [Nm]

FTA25

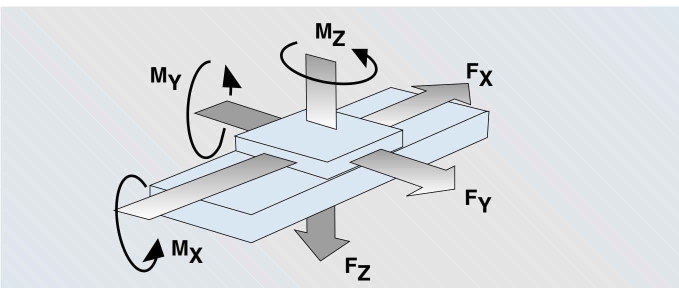
Stroke	Load rating C [N]	Moments		Lenght					Traverse speed max. [m/min.]	RPM Spindle max. [min.⁻¹]	Spindel-Ø x -pitch	Fast. screw DIN912 with wash. DIN433 [Anz.x Gr.]	Weight [kg]	Order number
		Mcx [Nm]	Mcy,Mcz [Nm]	L5	L	LA	LF	Z [Number]						
100	6000	433	551	88	392	324	296	1	15	3000	12x5	4xM6	8,4	92607A
200	6000	433	551	18	492	424	396	3	15	3000	12x5	8xM6	9,6	92608A
300	6000	433	551	68	592	524	496	3	15	3000	12x5	8xM6	10,8	92609A
400	6000	433	551	118	692	624	596	3	15	3000	12x5	8xM6	12,0	92610A
500	6000	433	551	48	792	724	696	5	11	2200	12x5	12xM6	12,2	92611A
600	6000	433	551	98	892	824	796	5	11	2200	12x5	12xM6	14,4	92612A
700	6000	433	551	28	992	924	896	7	10	2000	12x5	16xM6	15,6	92613A

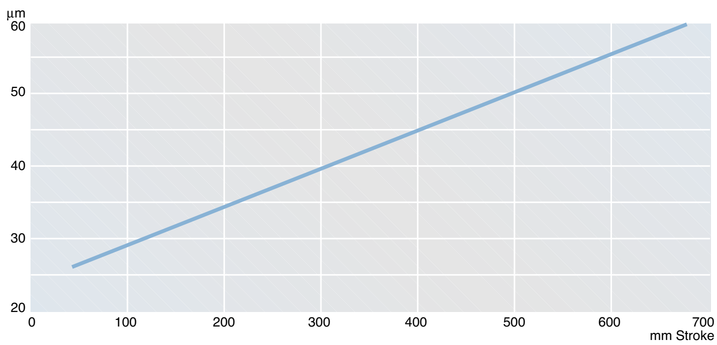
Dimensions [mm], Load rating [N], Moments [Nm]

FTA35

Stroke	Load rating C [N]	Moments		Lenght					Traverse speed max. [m/min.]	RPM Spindle max. [min.⁻¹]	Spindel-Ø x -pitch	Fast. screw DIN912 with wash. DIN433 [Anz.x Gr.]	Weight [kg]	Order number
		Mcx [Nm]	Mcy,Mcz [Nm]	L5	L	LA	LF	Z [Number]						
100	9000	995	1308	98	452	384	356	1	15	3000	12x5	4xM6	17,0	92614A
200	9000	995	1308	148	552	484	456	1	15	3000	12x5	4xM6	19,1	92615A
300	9000	995	1308	38	652	584	556	3	15	3000	12x5	8xM6	21,2	92616A
400	9000	995	1308	88	752	684	656	3	11	2200	12x5	8xM6	23,3	92617A
500	9000	995	1308	138	852	784	756	3	11	2200	12x5	8xM6	25,4	92618A
600	9000	995	1308	28	952	884	856	5	10	2000	12x5	12xM6	27,5	92619A
700	9000	995	1308	76	1048	980	952	5	10	2000	12x5	12xM6	29,6	92620A

Dimensions [mm], Load rating [N], Moments [Nm]

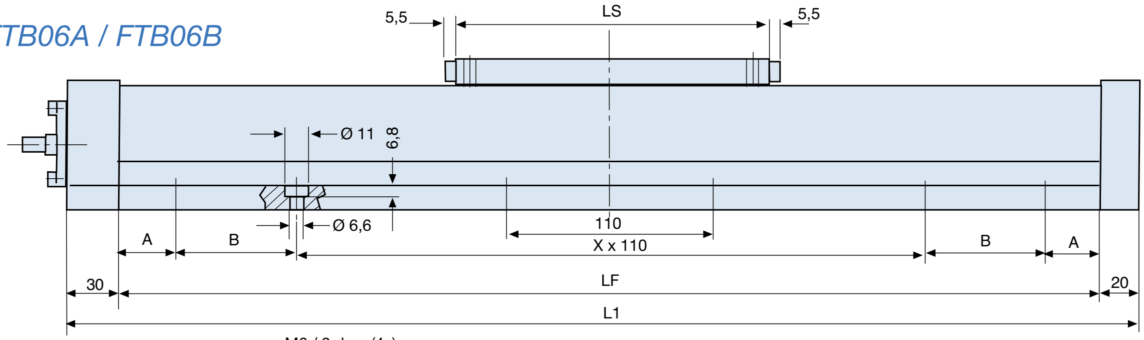


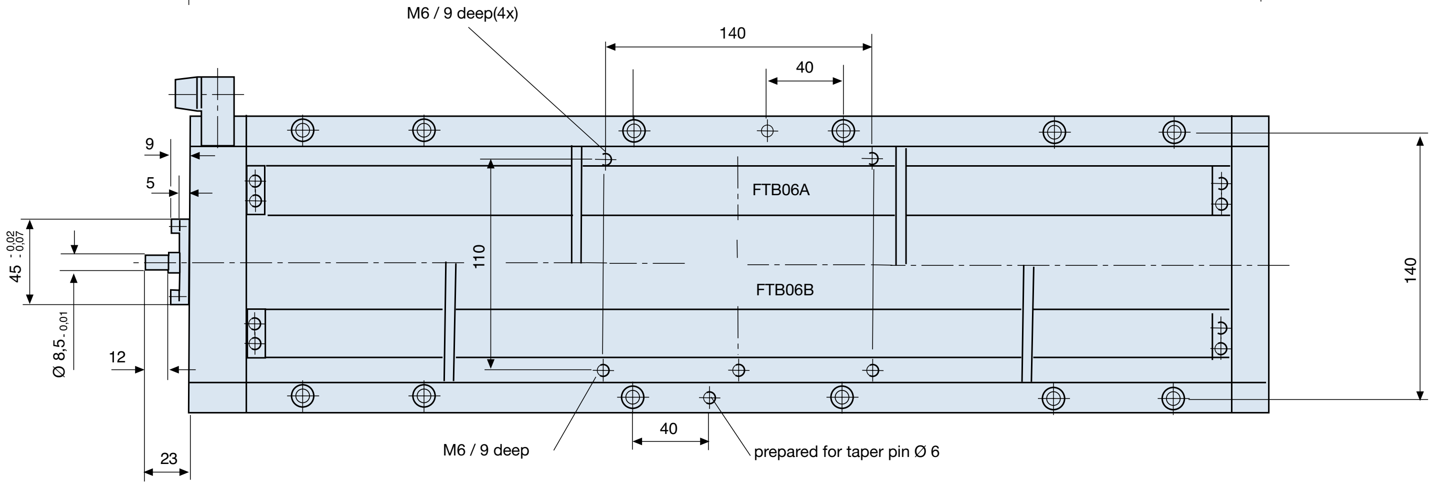


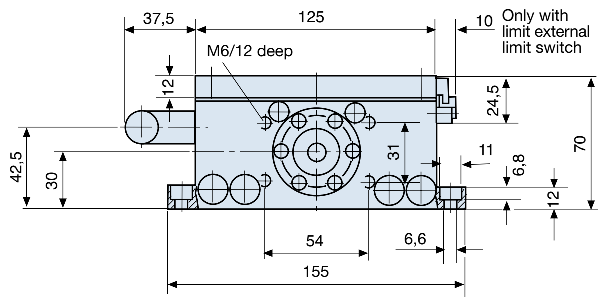
Linear tables

Heavy-duty, with metal cover

Series FTB06A / FTB06B







Components:
- Anodized aluminium body
- Integrated aluminium re-circulating ball guide system
- Ball screw

Features:
- Light and compact
- Smooth and silent run
- Metal cover, lateral cover by metal tape for perfect all-around protection
- Strokes up to 1500 mm

Spindle:
- Preloaded ball screw, pitch 5mm
- Other spindles respectively other pitches on request

Mounting position:
- Optional, for vertical operation we recommend a stop respectively a brake

Positioning accuracy:
- According to the spindle and pitch precision ± 0,025/300 mm (IT7).
- Other precision on request

Repetitive accuracy:
- ≤ 0,01 mm

Lubrication:
- Lifetime lubrication with ball bearing grease (see also page 104)

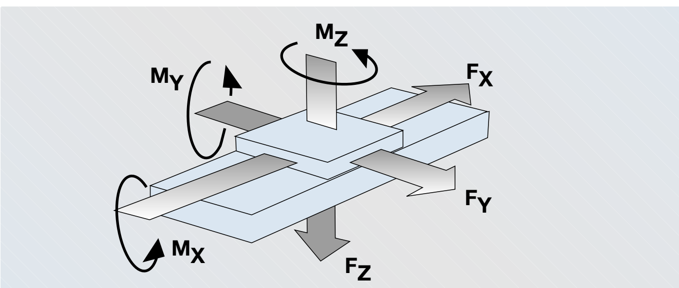
Load capacity:
- see table (load rating, moments)
  With simple load without acceleration or moment loads
  Safety S≥ 3. With dynamic moment loads we recommend S≥6.

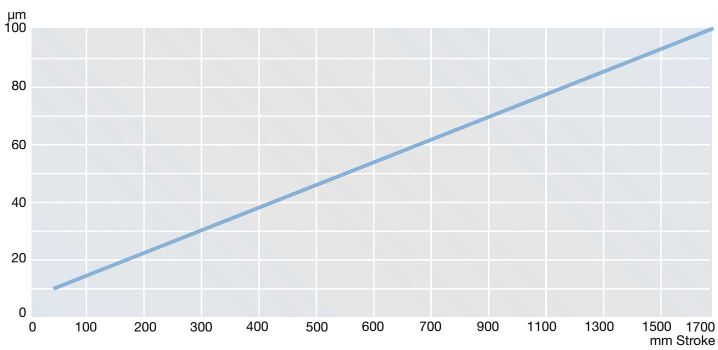
Operating temperature:
- -10 up to +75°C (enlarged temperature range on request).

Options:
- Inductive proximity switch integrated inside the table, adjusted to stroke end position
- Reference switch
- Attachment sets for motors according to the customer's demand
- Motors according to application, either stepping or AC motors
- Attachment of measuring systems (linear scale or shaft encoder)
- Complete automation units including Franke CNC/SPS control systems (1-8 axes) see page 97-98. Please consult us.

Stroke	Load rating	Moments		Dimensions						Spindle		Speed of displ. (m/min.)		Spindle RPM (min-1)		Fastening Screws DIN912	Weight	Order number
	C	Mcx	Mcy, Mcz	A	B	LS	LF	L1	X x 110	Ø	Steig.	Stand.	max.	Stand.	max.	(No.xSiz.)		
FTB06A																		
100	15000	670	220	30,0	72,5	165	315	365	1 x 110	16	5	8	15	1600	3000	8 x M6	6,4	92621A
200	15000	670	220	42,5		165	415	465	3 x 110	16	5	8	15	1600	3000	8 x M6	7,5	92622A
300	15000	670	220	92,5		165	515	565	3 x 110	16	5	8	15	1600	3000	8 x M6	8,6	92623A
400	15000	670	220	32,5		165	615	665	5 x 110	16	5	8	15	1600	3000	12 x M6	9,7	92624A
500	15000	670	220	82,5		165	715	765	5 x 110	16	5	8	15	1600	3000	12 x M6	10,8	92625A
700	15000	670	220	72,5		165	915	965	7 x 110	16	5	6	14	1200	2800	16 x M6	13,0	92626A
1000	15000	670	220	30,0	82,5	165	1215	1265	9 x 110	16	10	12	25	1200	2500	24 x M6	16,3	92627A
1200	15000	670	220	30,0	72,5	165	1415	1465	11 x 110	16	10	8	12	800	1200	28 x M6	18,5	92628A
1500	15000	670	220	32,5		165	1715	1765	15 x 110	16	10	6	8	600	800	32 x M6	21,8	92629A
FTB06B																		
100	30000	1380	1930	50		280	430	480	3 x 110	16	5	8	15	1600	3000	8 x M6	7,5	92630A
200	30000	1380	1930	100		280	530	580	3 x 110	16	5	8	15	1600	3000	8 x M6	8,6	92631A
300	30000	1380	1930	40		280	630	680	5 x 110	16	5	8	15	1600	3000	12 x M6	9,7	92632A
400	30000	1380	1930	90		280	730	780	5 x 110	16	5	8	15	1600	3000	12 x M6	10,8	92633A
500	30000	1380	1930	30		280	830	880	7 x 110	16	5	8	15	1600	3000	16 x M6	11,9	92634A
700	30000	1380	1930	20		280	1030	1080	9 x 110	16	5	6	14	1200	2800	20 x M6	14,1	92635A
1000	30000	1380	1930	60		280	1330	1380	11 x 110	16	10	12	25	1200	2500	24 x M6	17,4	92636A
1200	30000	1380	1930	50		280	1530	1580	13 x 110	16	10	8	12	800	1200	28 x M6	19,6	92637A
1500	30000	1380	1930	30		280	1830	1880	15 x 110	16	10	6	8	600	800	32 x M6	22,9	92638A

Dimensions [mm], Load rating [N], Moments [Nm]

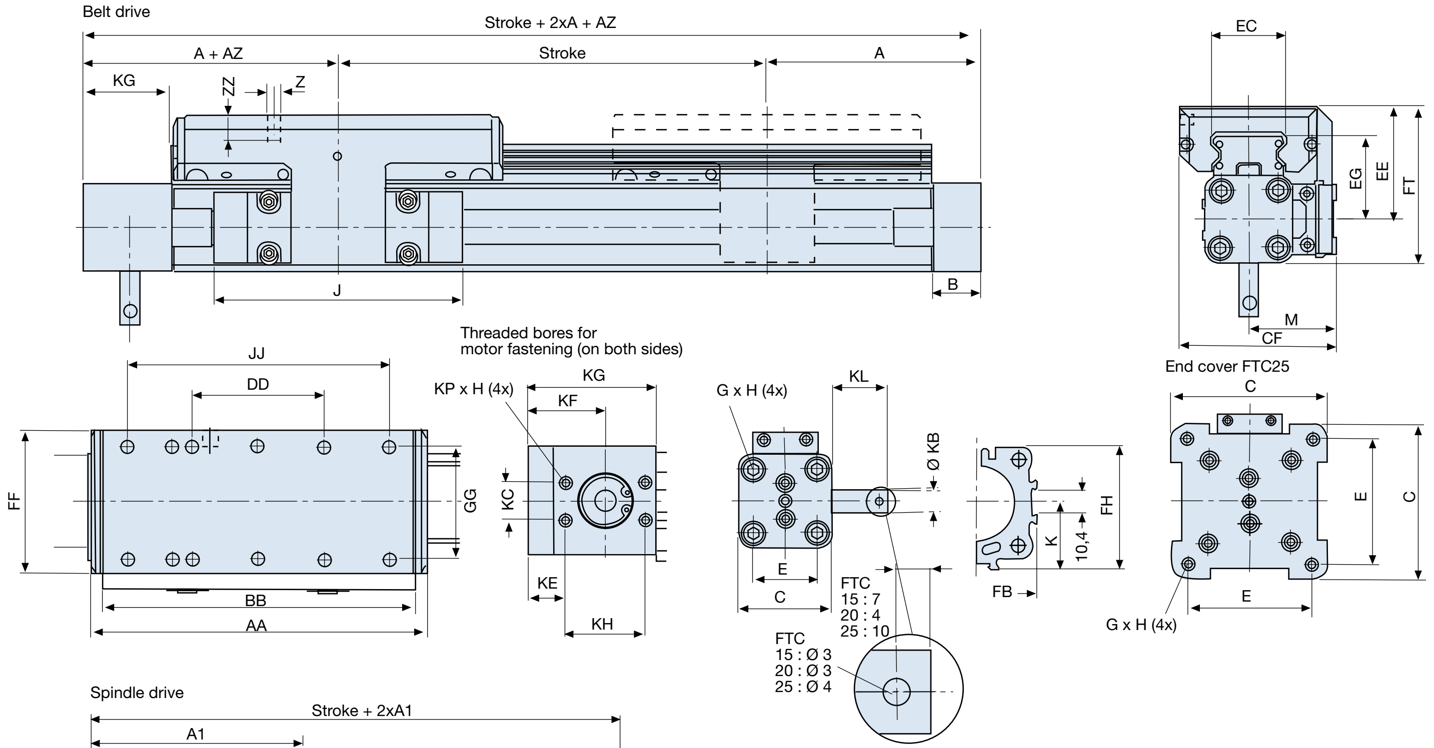


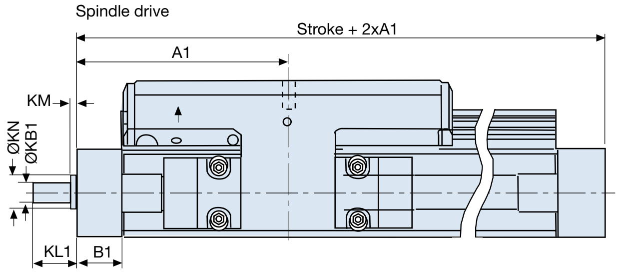


Linear modules

Economical

Series FTC15-25





Size	A	A1	B	B1	C	E	G	H	J	K	M	Z
15	125	100	22	22,0	41	27	M5	10	117	21,5	40,5	M6
20	150	125	25	25,5	52	36	M6	12	152	28,5	49,0	M6
25	200	175	25	33,0	87	70	M6	12	200	43	62	M6

Size	AA	AZ	BB	DD	CF	EC	EE	EG	FB	FF	FH	FT	GG	JJ	KB	KB1	KC	KE	KF	KG	KH	KL	KL1	KM	KN	KP	ZZ
15	154	10	144	60	72,5	32,5	53	39	40	64	39,5	73,5	50	120	10j6	6	15	22,0	37,0	57	30	24	17	2	13	M5	12
20	197	11	187	80	91,0	42,0	62	48	52	84	51,7	88,0	64	160	10j6	10	18	17,5	36,5	61	38	26	31	2	20	M6	12
25	276	24	266	120	117,0	63,0	75	57	76	110	77,0	118,5	90	240	16j6	15	32	23,5	48,5	85	50	34	43	3	28	M8	16

Dimensions [mm]

Consist of:
- Anodized Aluminium body
- External Aluminium roller guide
- Integrated toothed belt

Features:
- Fast and dynamic movements
- Light and compact design
- Cassettes with felt seal
- Strokes up to 3400 mm
- Optional mounting position, brake recommended for vertical mounting position
- Traverse speed up to 5m/s
- Toothed belt inside aluminium housing with steel cover (IP54)
- Temperature range -30°C up to 80°C
- Low maintenance due to lifetime lubrication

Load capacity:
- See survey on page 54-55
- We are gladly prepared to calculate the loads in your application

Options:
- Motor-/gear assembly by hollow shaft
- Custom specified Motor-/gear assemblies
- With stepper- or servomotors
- Counterwise actuating direction (1) or bi-parting version (2 carriers)
- Unit switches fixed at dovetail grooves
- Multi axis assemblies including intermediate drive shafts, adapter plates and profile mountings
- Solutions for integrated Automation applications including
- Franke CNC/PLC-controller (1-8 axis)

Material: Grooved profiled tube from aluminium, anodized, toothed belt from polyurethane steel cord fabric, belt wheels from aluminium, cover tape from corrosion-free tempering steel, roller guide, and slider from anodized aluminium, rolling elements from ball bearing steel 100 Cr 6, carrying rail from anodized aluminium and steel.

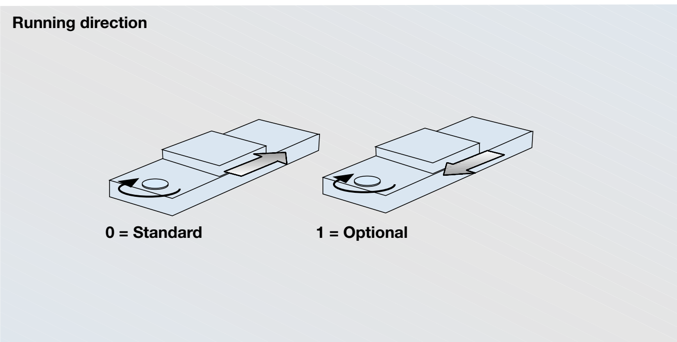
Further Informations: accessories, technical information page 104.

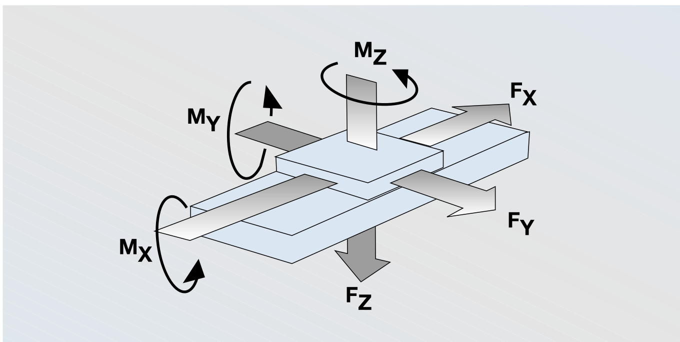
Stroke [mm]	FTC15 with tooth belt	FTC15 with spindle	FTC20 with tooth belt	FTC20 with spindle	FTC25 with tooth belt	FTC25 with spindle
	Order number					
100	92700A	92700S	92734A	92734S	92768A	92768S
200	92701A	92701S	92735A	92735S	92769A	92769S
300	92702A	92702S	92736A	92736S	92770A	92770S
400	92703A	92703S	92737A	92737S	92771A	92771S
500	92704A	92704S	92738A	92738S	92772A	92772S
600	92705A	92705S	92739A	92739S	92773A	92773S
700	92706A	92706S	92740A	92740S	92774A	92774S
800	92707A	92707S	92741A	92741S	92775A	92775S
900	92708A	92708S	92742A	92742S	92776A	92776S
1000	92709A	92709S	92743A	92743S	92777A	92777S
1100	92710A	92710S	92744A	92744S	92778A	92778S
1200	92711A		92745A	92745S	92779A	92779S
1300	92712A		92746A	92746S	92780A	92780S
1400	92713A		92747A	92747S	92781A	92781S
1500	92714A		92748A	92748S	92782A	92782S
1600	92715A		92749A	92749S	92783A	92783S
1700	92716A		92750A	92750S	92784A	92784S
1800	92717A		92751A	92751S	92785A	92785S
1900	92718A		92752A	92752S	92786A	92786S
2000	92719A		92753A	92753S	92787A	92787S
2100	92720A		92754A		92788A	92788S
2200	92721A		92755A		92789A	92789S
2300	92722A		92756A		92790A	92790S
2400	92723A		92757A		92791A	92791S
2500	92724A		92758A		92792A	92792S
2600	92725A		92759A		92793A	92793S
2700	92726A		92760A		92794A	92794S
2800	92727A		92761A		92795A	92795S
2900	92728A		92762A		92796A	92796S
3000	92729A		92763A		92797A	92797S
3100	92730A		92764A		92798A	92798S
3200	92731A		92765A		92799A	92799S
3300	92732A		92766A		92800A	92800S
3400	92733A		92767A			

Performance:

			FTC15 with tooth belt	FTC15 with spindle	FTC20 with tooth belt	FTC20 with spindle	FTC25 with tooth belt	FTC25 with spindle
Load rating: stat. / dyn. Co / C		N		3400/4200		5400/5400		15100/13500
Max. moment (M_{CX} /M_{CY},M_{CZ})		Nm		81/190		133/338		483/922
Max speed	(m/s)		2	0,25	3	0,25/0,5	5	0,25/0,5/1,25/2,5
Linear way per revolution of motor		(mm)	60	5	60	5/10	100	5/10/25
Grundgewicht (Hub 0) / Zus.Masse je m Hub / bewegt. Masse		(kg)	1,8/0,43/0,75	1,9/0,36/0,75	3,7/0,7/1,18	3,6/0,59/1,18	8,2/1,32/2,5	8,8/1,01/2,5
Max. RPM of drive axis		(min^{-1})		2000		3000		3000
Max. acting force F_x	< 1 m/s	(N)	55	250	150	600	425	1500
at speed	1-2 m/s	(N)	50	250	120	600	375	1500
	> 2 m/s	(N)	-	-	100	-	300	-
Driving moment (without load)			0,4	0,2	0,2	0,2 / 0,3	0,6	0,3 / 0,4 / 0,5
Max. permissible driving moment	< 1 m/s	(Nm)	0,9	-	2,3	1,5/2,8	10,0	4,2/7,5/20
at speed	1-2 m/s	(Nm)	0,9	0,6	2,0	-	9,5	-
	> 2 m/s	(Nm)	-	-	1,8	-	7,5	-
Max. acceleration / retardation		(m/s^2)	10	10	10	10	10	10
Repetitive accuracy		(mm/m)		±0,05		±0,05		±0,05
Positioning accuracy*		(mm/m)		±0,15		±0,15		±0,15
Running accuracy		(mm)		±0,03/300		±0,03/300		±0,03/300

* depending on several factors

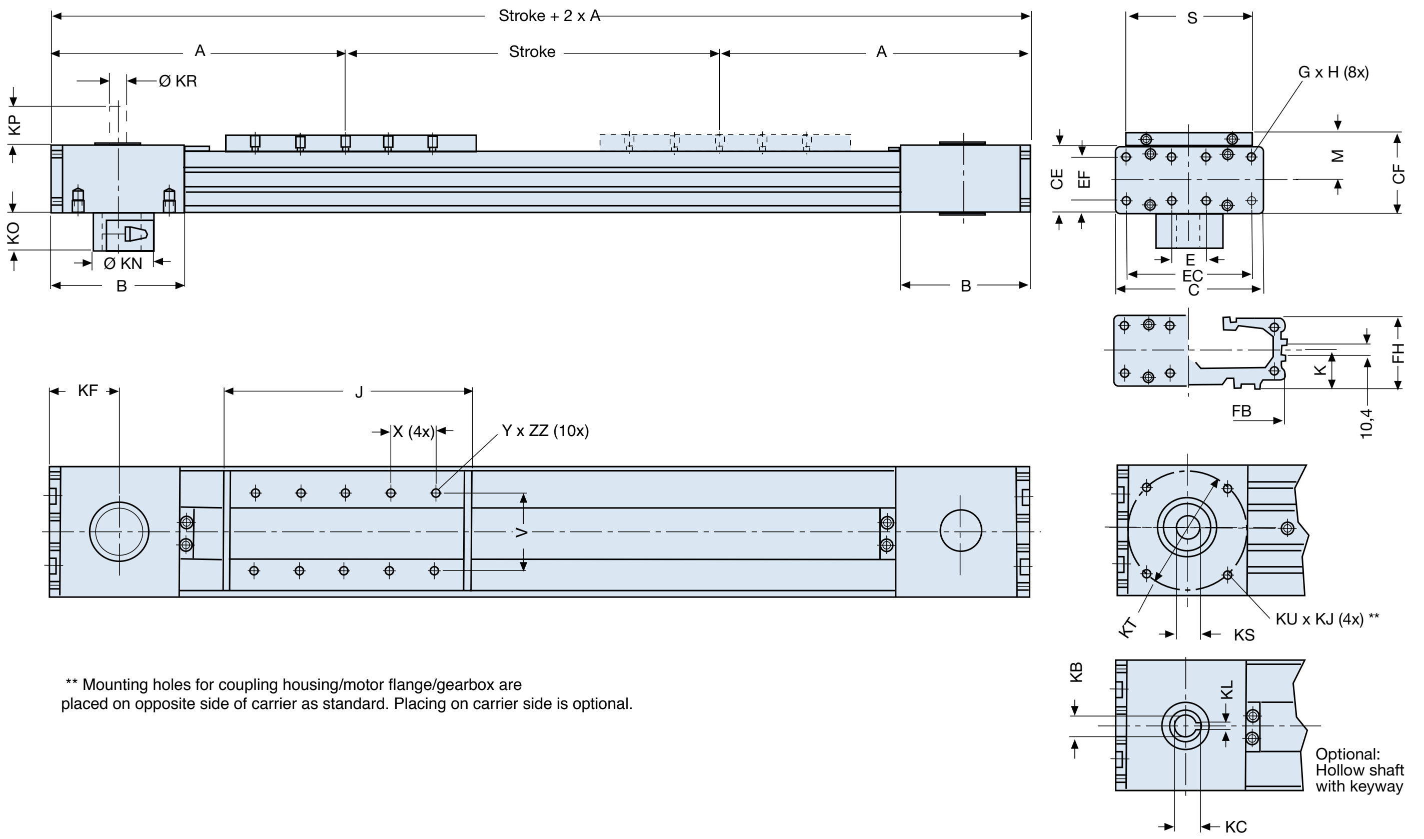




Linear modules

Powerful

Series FTD15-35



** Mounting holes for coupling housing/motor flange/gearbox are placed on opposite side of carrier as standard. Placing on carrier side is optional.

Main dimensions

Size	A	B	C	E	G	H	J	K	M	S	V	X	Y	CE	CF	EC	EF	FB	FH	KF	KB*	KC	KL	KJ	KN	KO	KP	KR	KS*	KT	KU	ZZ
15	218	88	93	25	M5	10	178	21,5	31	85	64	40	M6	42	52,5	79	27	92	39,5	49,0	16^{H7}	18,3	5	8	34	21,7	30	16^{h7}	16^{H7}	82	M8	8
20	262	112	116	28	M6	12	218	28,5	38	100	64	40	M6	56	66,5	100	36	116	51,7	62,0	22^{H7}	24,8	6	12	53	30,0	30	22^{h7}	22^{H7}	106	M10	10
35	347	147	175	18	M6	12	263	43,0	49	124	90	60	M6	87	92,5	158	70	164	77,0	79,5	32^{H7}	35,3	10	19	75	41,0	35	32^{h7}	32^{H7}	144	M12	10

Dimensions [mm]* other dimensions for KS and KB on request

Components:

- Slotted profile with dovetail grooves
- Integrated aluminium roller guide
- Integrated toothed belt drive

Characteristics:

- High speed and accelerations
- Compact design
- Strokes up to 7000 mm
- Ideal for multi-axis applications
- Aluminium roller guide and toothed belt-drive in slotted profile integrated and covered with stainless steel sealing band
- Ambient temperature range: -30°C up to 80°C
- Optional mouunting position.
  For vertical movements we recommend a brake
- Speed up to 10 m/s
- Acceleration up to 40 m/s²
- Low maintenance due to lifetime lubrication

Options:

- Integrated planetery gearbox
  Motor-/gear assembly by hollow shaft with keyway
- Custom specified motor-/gear assemblies
- With stepper- or servomotors
- Counterwice actuating direction (1) or bi-parting version
- (2 carriers)
- Unit switches fixed at dovetail grooves
  Multi axis assemblies including intermediate drive shafts,
- adapter plates and profile mountings
- Solutions for integrated automation applications including
- Franke CNC/PLC-controller (1-8 axis)

Material: Grooved profiled tube from aluminium, anodized, toothed belt from polyurethane steel cord fabric, belt wheels from aluminium, cover from corrosion-free tempering steel, roller guide and slider from anodized aluminium, rolling elements from ball bearing steel 100 Cr 6, carrying rail from anodized aluminium and steel, temperature range.

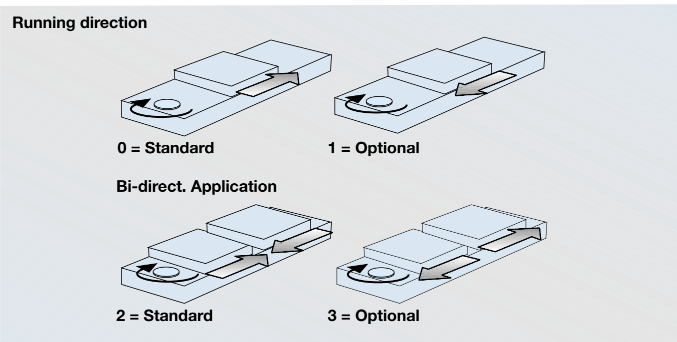
Further informations: accessories, technical information page 104.

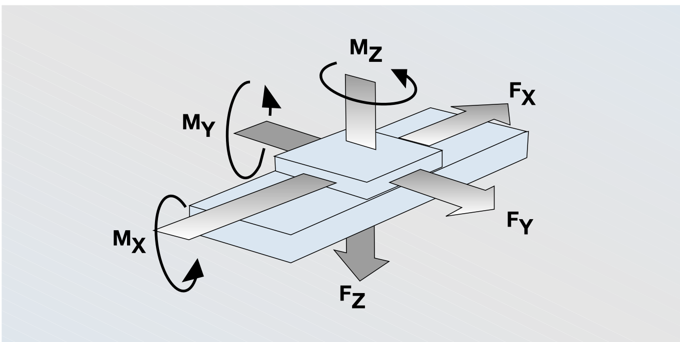
Stroke [mm]	FTD15	FTD20	FTD35
	Order number		
100	92900A	92925A	92950A
200	92901A	92926A	92951A
300	92902A	92927A	92952A
400	92903A	92928A	92953A
500	92904A	92929A	92954A
600	92905A	92930A	92955A
700	92906A	92931A	92956A
800	92907A	92932A	92957A
900	92908A	92933A	92958A
1000	92909A	92934A	92959A
1200	92910A	92935A	92960A
1400	92911A	92936A	92961A
1600	92912A	92937A	92962A
1800	92913A	92938A	92963A
2000	92914A	92939A	92964A
2500	92915A	92940A	92965A
3000	92916A	92941A	92966A
3500	92917A	92942A	92967A
4000	92918A	92943A	92968A
4500	92919A	92944A	92969A
5000	92920A	92945A	92970A
5500	92921A	92946A	92971A
6000	92922A	92947A	92972A
6500	92923A	92948A	92973A
7000	92924A	92949A	92974A

Performance:

			FTD15	FTD20	FTD35
Load rating: stat. / dynamisch Co / C		N	3400 / 4200	5400 / 5400	18000 / 12500
Max. moment M_{CX} / M_{CY}, M_{CZ}		Nm	45 / 274	76 / 460	294 / 1233
Max. speed		m/s	10	10	10
Max. acceleration / retardation		(m/s^2)	40	40	40
Max. acting force F_X	< 1m/s	(N)	1070	1870	3120
at speed	1-3 m/s	(N)	890	1560	2660
	> 3 m/s		550	1030	1940
Driving moment (without load)		(Nm)	1,2	2,2	3,2
Mass (stroke 0) / add per m / carriage		(kg)	3,8 / 4,3 / 1,0	7,7 / 6,7 / 1,9	22,6 / 15,2 / 4,7
Max. permissible driving moment	< 1 m/s	(Nm)	31	71	174
at speed	1-3 m/s	(Nm)	25	60	148
	> 3 m/s	(Nm)	16	39	108
Max. acceleration / retardation		(mm)	180	240	350
Max. speed at shaft (rpm)		(min^{-1})	3000	2500	1700
Repetitive accuracy		(mm/m)	+/-0,05	+/-0,05	+/-0,05
Positioning accuracy*		(mm/m)	+/-0,15	+/-0,15	+/-0,15
Running accuracy		(mm)	+/-0,03 / 300	+/-0,03 / 300	+/-0,03 / 300

* depending on several factors

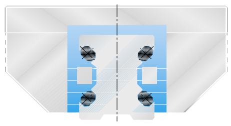


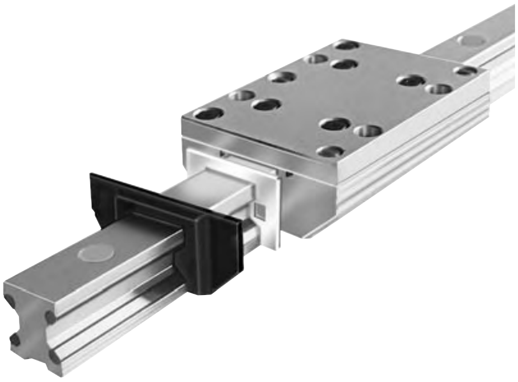


Accessories

Aluminium Roller guides

Metal wipers Series FD





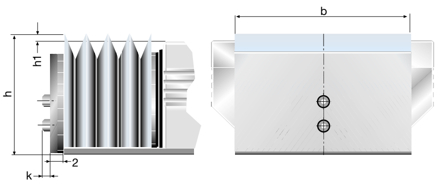
Size	Order number
12	69126A
15	69127A
20	69128A
25	69129A
35	69130A
45	69131A

Dimensions [mm]

The metal wipers can be inserted into the plastic cover in addition to the standard felt wiper.

They prevent the guide system from rough dirt in welding or wood working applications.

Bellows Series FD



Size	b	h	h1	k	Order number
15	42	31,0	7,0	2,8	on request
20	47	35,0	5,0	2,8	on request
25	55	42,5	6,5	2,8	on request
35	68	55,0	7,0	3,5	on request
45	87	67,0	7,0	3,5	on request

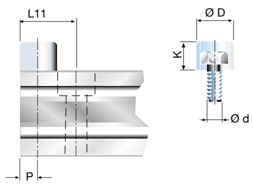
Dimensions [mm]

Our bellows for aluminium roller guides protect the guide system from coarse contamination. The length is optional. Fixing on the cassette and end plate is effected by a bonded burdock zip.

Material: Synthetic fabric with polyurethane coating on one side.

Temperature: Contact warmth + 80°C radiation warmth +120°C

Stop screws Series FD / FP



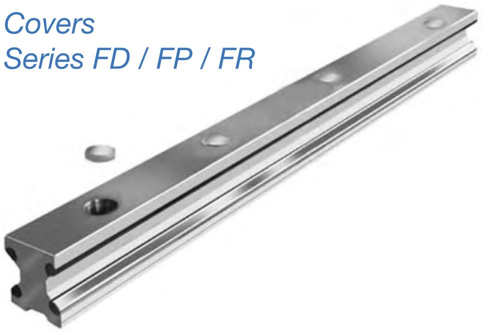
Size	d	D	K min.	L11	P	Order number
12	M5	12	8	15,0	6,0	63504A
15	M5	12	8	16,0	6,0	63504A
20	M5	12	8	17,0	6,0	63504A
25	M6	15	10	20,5	7,5	63505A
35	M8	19	13	26,5	9,5	63506A
45	M10	24	16	33,0	12,0	63507A

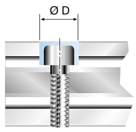
Dimensions [mm]

The stop screws are screwed into threads (option) on the guide rails. The stopping energy is reduced by a rubber cap. We offset the bore shape by the amount of half a bore hole spacing, with guide rails where the initial bore distances are less than L11 min.

Material: Chloroprene caoutchouc, black

Covers
Series FD / FP / FR





Size	Cylindric screw DIN912	D	Order-number
12	M3	6	87752A
15	M4	8	87753A
20	M5	10	87754A
25	M6	11	87755A
35	M8	15	87756A
45	M10	18	87757A

Dimensions [mm]

Material: To have the wipers work properly the fastening screws of the rails have to be covered.

Mounting: Put the covers into the mounting holes of the rail. Cover the rail by means of a plastic plate and hammer the covers evenly into the rails with a plastic mallet, remove the burrs. The covers are supplied together with the rails.

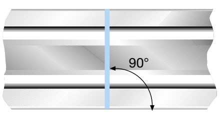
Wear resistant plastics, resistant to oil and ageing.

Exchangeable running bars
Series FR

The running bars of the guide rails series FR can be dismounted and exchanged without unmounting the rails. A very cost-effective solution to increase the life circle of the guide system.

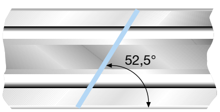
Please consult us for further information.

Coupled rails
Series FD / FP / FR



For long strokes our rails can be coupled. The bores will be centered due to the overall rail length.

The standard coupling is done by a straight cut with a 90° angle.



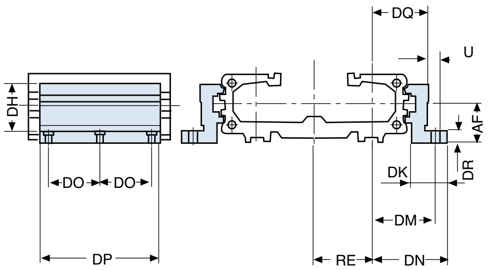
For smoother running the rail ends of the rails series FR can be cutted with a 52,5° angle on request.

Please consult us.

Accessories

Linear modules FTD

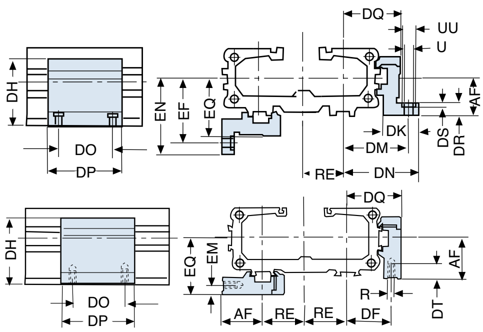
Intermediate drive shaft



Size	R	U	AF	DF	DH	DK	DM	DN	DO	DP	DQ	DR	DT	EF	EM	EN	EQ	RE	Order number
	Main dimensions																		
MAE																			
15	M5	5,5	22	27	38	26	40	47,5	40	92	34,5	8	10	41,5	28,5	49	36	26	92981A
20	M5	5,5	30	33	46	27	46	54,5	40	92	40,5	10	10	48,5	35,5	57	43	32	92982A
35	M6	7,0	48	40	71	34	59	67,0	45	112	52,0	10	11	64,0	45,0	72	57	44	92983A

Dimensions [mm], Weight [kg]

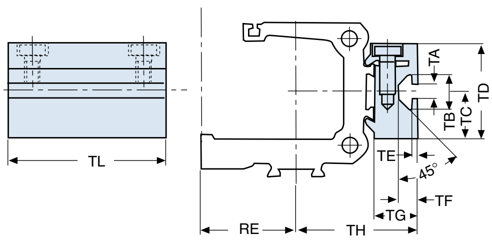
Proximity sensors profile-mounting



Size	R	U	UU	AF	DF	DH	DK	DM	DN	DO	DP	DQ	DR	DS	DT	EF	EM	EN	EQ	RE	Order number
	Main dimensions																				
E1																					
15	M5	5,5	10	22	27	38	26	40	47,5	36	50	34,5	8	5,7	10	41,5	28,5	49	36	26	92821A
20	M5	5,5	10	30	33	46	27	46	54,5	36	50	40,5	10	5,7	10	48,5	35,5	57	43	32	92826A
35	M6	7,0	-	48	40	71	34	59	67,0	45	60	52,0	10	-	11	64	45	72	57	44	92831A
D1																					
15	M5	5,5	10	22	27	38	26	40	47,5	36	50	34,5	8	5,7	10	41,5	28,5	49	36	26	92820A
20	M5	5,5	10	30	33	46	27	46	54,5	36	50	40,5	10	5,7	10	48,5	35,5	57	43	32	92825A
35	M6	7,0	-	48	40	71	34	59	67,0	45	60	52,0	10	-	11	64	45	72	57	44	92830A

Dimensions [mm], Weight [kg]

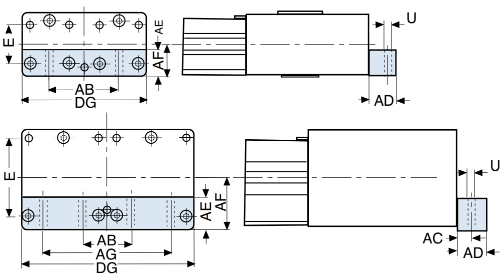
T-nut profile



Size	RE	TA	TB	TC	TD	TE	TF	TG	TH	TL	Order number
	Main dimensions										
T											
15	26	5,0	11,5	16	32	1,8	6,4	14,5	34,5	50	92835A
20	32	5,0	11,5	16	32	1,8	6,4	14,5	40,5	50	92836A
35	44	8,2	20,0	20	43	4,5	12,3	20,0	58,0	80	92837A

Dimensions [mm], Weight [kg]

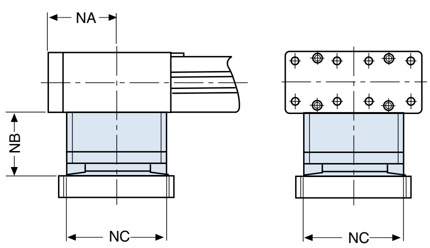
End cap mounting



Size	E	Ø U	AB	AC	AD	AE	AF	AG	DG	Order number
	Main dimensions									
C1										
15	27	6,6	52	16	25	25	22	-	91	92978A
20	36	9	64	18	25	25	30	-	114	92979A
35	70	9	48	12,5	30	30	48	128	174	92980A

Dimensions [mm], Weight [kg]

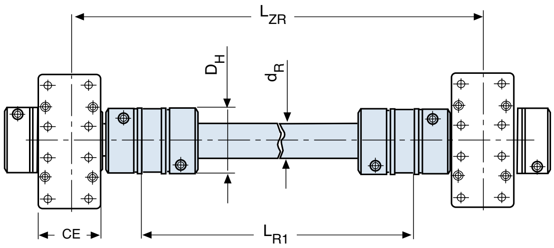
Integreated planetary gear box



Size	Gear reduction i	Base torque Nm	Efficiency R	Reversal clearance	Nom.-incoming RPM	Max. incoming RPM	Main dimensions NA	NB	NC	Weight	Order number
P											
15	3/5/10	< 0,14	> 97 %	< 12	3700	6000	49,0	43,0	76	2,6	92994A/B/C
20	3/5/10	< 0,51	> 97 %	< 12	3400	6000	62,0	47,0	92	4,9	92995A/B/C
35	3/5/10	< 1,50	> 97 %	< 12	2600	6000	79,5	49,5	121	9,6	92996A/B/C

Dimensions [mm], Weight [kg]

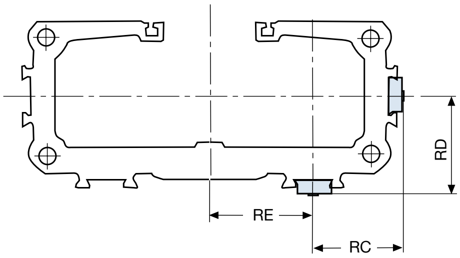
Connection shaft



Size	Max. Moments [Nm]	Main dimensions DH	KB max. **	LD	L_{R1}	L_{ZR}	d_R	Order number
15	60	55	16_{h7}	5	<3000	L_{R1}+112	30x4.0	92997...
20	60	55	22_{h7}	5	<3000	L_{R1}+126	30x4.0	92998...
35	160	65	32_{h7}	5	<3000	L_{R1}+167	35x4.0	92999...

Dimensions [mm], Weight [kg]

Elect. connection

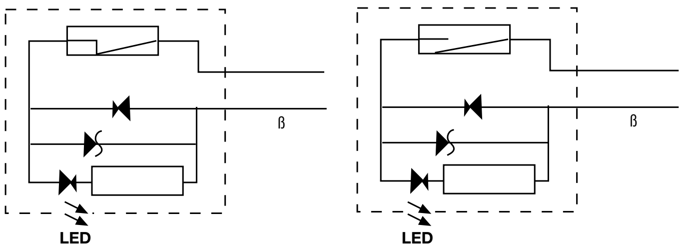


Series	Dimensions RC	RD	Order number RS Reed Opener	RS Reed Opener	ES PNP Closer	ES NPN Closer
15	25	27	Typ:	Typ:	Typ:	Typ:
20	31	34	RS-K	RS-K	ES-S	ES-S
25	34	48	92841A	92842A	92844A	92845A
			RS-S	RS-S		
			92847A	92843A		
Connecting cable 5 m with plug and open end						
For signal trasmitter Type ES-S/RS-S						92846A

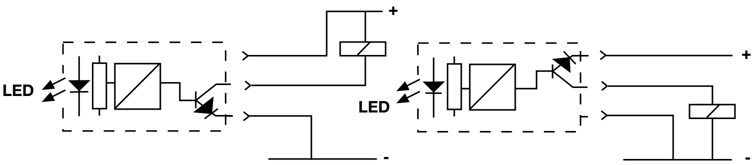
Dimensions [mm], Weight [kg]

Elect. connection Typ RS

Opener Closer

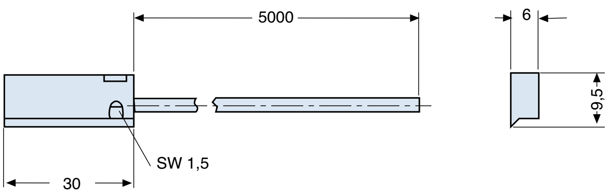


Elect. connection Typ ES



For electrical sensing of the carrier position, e.g. at the end positions, proximity sensors may be fitted.
Position sensing is contactless and is based on magnets fitted as standard to the carrier. A yellow LED indicates operating status.
Type RS: In the type RS contact is made by a mechanical reed switch encapsulated in glass. Direct connection with 2-pole cable, 5m long, open ended (Type RS-K). With 3-pole connector M8, cable length ca. 100mm (Type RS-S).
Type ES: In the type ES contact is made by an electronic switch - without bounce or wear and protected from pole reversal. The output is short circuit proof and insensitive to shocks and vibrations. Connection is by 3-pole connector for easy disconnection. Fitted with connection cable 100mm long with connector.
A 5m cable with connector and open end can be ordered separatly.

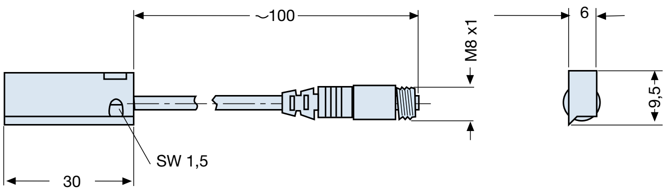
Dimensions Typ RS-K

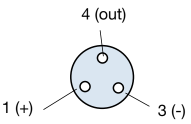


Codes Electrical codes	Sign	Unit	Remark Typ RS	Type ES
Operating voltage	UB	V	10-244AC/DC(NO)	10-30DC
			10-150AC/DC(NC)	
			10-70AC/DC(DC)**	
Connecting technique			two wires	three wires
Exit function closer			normally open (NO)	PNP/Closer
Opener			normally closed (NC)	NPN/CloserMax.
perm switching currentl.	I max.	mA	200	200
Max. switching capacity		VA (W)	10VA	-
Function display			LED, yellow	

Dimensions [mm], Weight [kg]

Dimensions Typ ES-S / RS-S





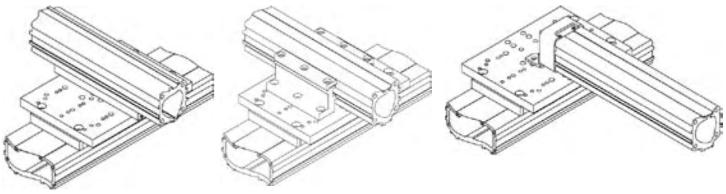
PIN-(overview) DIN EN 50044

Electrical Service Life, protective measures: Magnetic switches are sensitive to excessive currents and inductions. With high switching frequencies and inductive loads such as relays, solenoid valves or lifting magnets, service life will be greatly reduced.
With resistive and capacitative loads with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths an voltages over 100V. In the switching of inductive loads such as relays, solenoid valves and lifting magnets, voltage peaks (transients) are generated which must be suppressed by protective diodes, RC loops or varistors.

Application examples
Linear modules

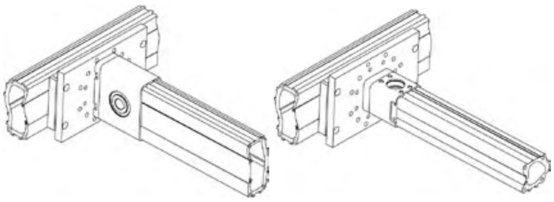
Adapting plate type MA1-..*

for adapting of slider to slider,
slider to profile or slider to end cap



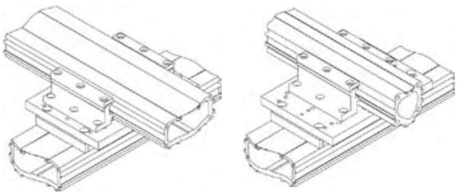
Adapting plate type MA2-..*

for adapting of slider
to end cap

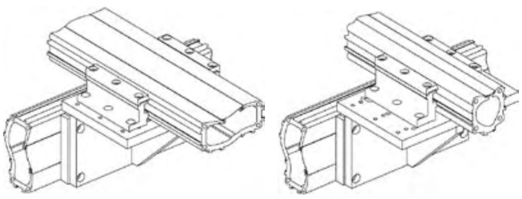


Adapting plate type MA3-..*

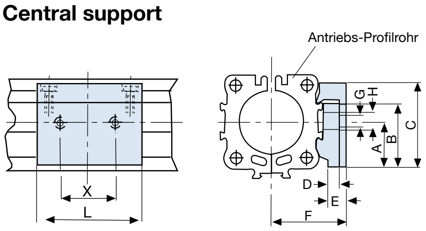
for adapting of slider to profile
or slider to end cap with 90° degree angle



Profil mounting type Typ MAE-..

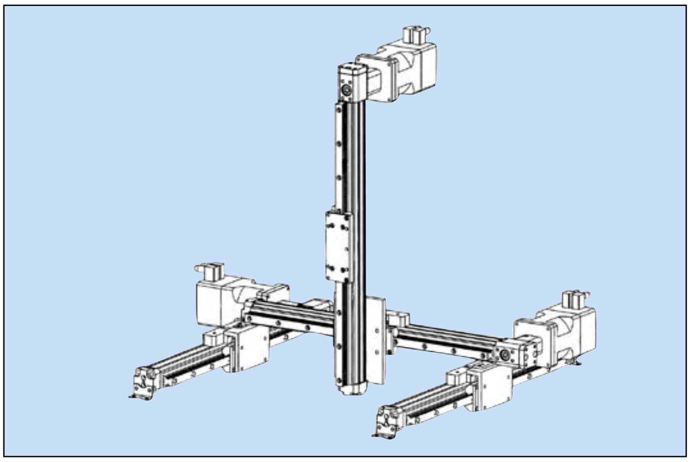


Central support



Series	A	B	C	D	E	F	G	H	L	X	Order number
FTC15/FTD15	16	23	32	8,5	10,5	30,5	6,6	11	60	27	92502A
FTC20/FTD20	16	23	32	8,5	10,5	36,5	6,6	11	60	27	92502A
FTC25/FTD35	20	33	43	8	14	52	6,6	11	60	27	92503A

Dimensions [mm]

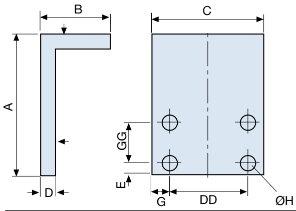


Mounting angle

Possible combinations

X-axisY-axis (straight)

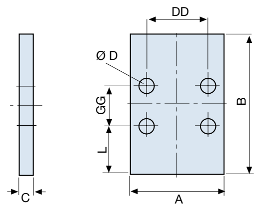
Only with coverfastening from A2, C2; and central support from E2 without D1



Series	A	B	C	D	E	GG	DD	G	ØH	Order number
FTC15	100	60	100	12	7	50	60	20	6,6	92801A
FTC20	120	70	110	12	10	64	80	15	6,6	92802A
FTC25	150	80	135	12	10	90	120	7,5	6,6	92803A

Dimensions [mm]

Adapter plate



Possible combinations

X-axis   Z-axis

Only with cover fastening from A2, C2; and central support from E2 without D1

Series	A	B	C	ØD	DD	GG	L	Order number
FTC15	100	325	12	6,6	60	50	112	92804A
FTC20	110	376	15	6,6	80	64	132	92805A
FTC25	135	463	20	6,6	120	90	164	92806A

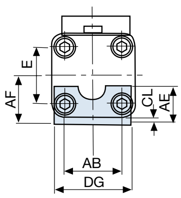
Dimensions [mm]

Cover fixtures, central support

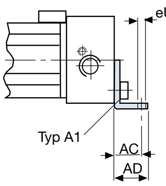
At the end covers there are four inner threadings each in the front sides for fixation of the module. The distance between the holes is square so that fastening can be made either from the bottom, from top or laterally.

Material: Series FTC 15, 20 galvanized steel
Series FTC 25 anodized aluminium
we deliver in pairs.

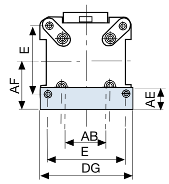
Central support E1 and D1: The cenral support can also be mounted from underneath the module. Non-corrosive versions on request.



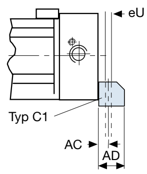
A1
FTC15-20

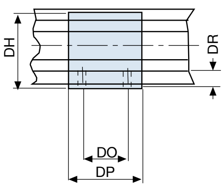


Cover fixtures

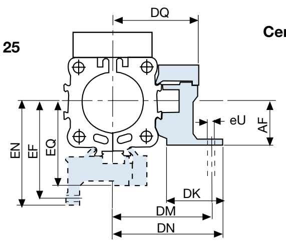


C1
FTC25

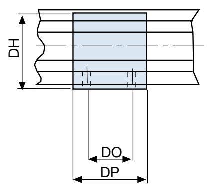




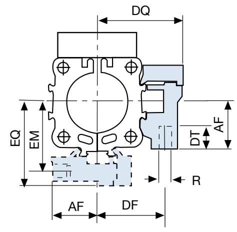
E1
FTC15, 20, 25



Central support



D1
FTC15, 20, 25



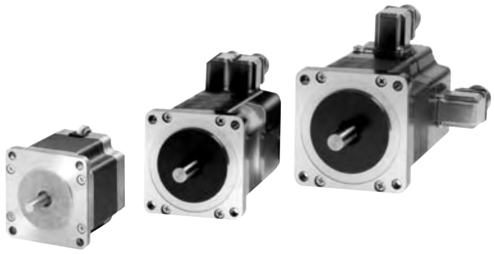
Series	Dim. AE A1	Dim. AE C1	Dim. AE E1	Dim. AF A1	Dim. AF C1	Dim. AF D1	Dim. AF E1
FTC15	18	-	8	22	-	22	22
FTC20	20	-	10	30	-	30	30
FTC25	-	30	10	-	48	48	48

Dim.	E	ØU	AB	AC	AD	CL	DG	R	U	DF	DH	DK	DM	DN	DD	DP	DQ	DT	EF	EM	EN	EQ
FTC15	27	5,8	27	16	22	2,5	39	M5	5,5	27	38	26	40	47,5	36	50	34,5	10	41,5	28,5	49	36
FTC20	36	6,6	36	18	26	3,0	50	M5	5,5	33	46	27	46	54,5	36	50	40,5	10	48,5	35,5	57	43
FTC25	70	9,0	40	12,5	24	-	86	M6	7	40	71	34	59	67	45	60	52,0	11	64	45,0	72	57

Typ	Cover fixtures Order number A1	Cover fixtures Order number C1	Central support Order number D1	Central support Order number E1
FTC15	92810A	-	92820A	92821A
FTC20	92813A	-	92825A	92826A
FTC25	-	92816A	92830A	92831A

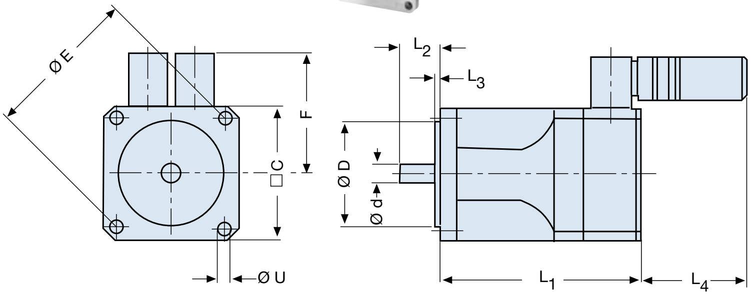
Dimensions [mm]

Motorisation



AC-Servomotor Typ DBL.....

- Neodynium magnets for highly dynamic function
- Long life by virtue of brushless design
- Built-in resolver
- Low motor inertia
- Vibration class N according to DIN ISO 2373
- Insulation material class F according to DIN 57530
- Protection class IP 64
- Integrated sockets for resolver and power connections
- CE-conformity



Type	C	D_{i6}	d_{k6}	E	F	L_1	L_1 (-G*)	L_2	L_3	L_4	U
	Main dimensions										
..2H00040	50	40	9	63	62,5	122	155	24	2,5	75	5,8
..2H00080	50	40	9	63	62,5	152	185	24	2,5	75	5,8
..3N00130	74	60	11	90	69,5	134	167	23	2,5	75	5,8
..4N00260	97	95	19	115	81	155	190	40	3,0	75	5,8
..4N00530	97	95	19	115	81	185	220	40	3,0	75	9,0
..4N00750	97	95	19	115	81	230	265	40	3,0	75	9,0
..5N01050	127	130	24	165	-	186	229	50	3,5	-	11,0
..5N01700	127	130	24	165	-	237	280	50	3,5	-	11,0

*G = with brake

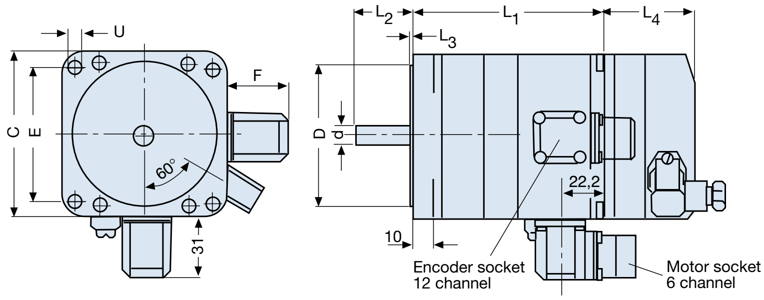
Dimensions [mm]

Rated speed n_N [min^{-1}]	Cont. torque at stall M_0 [Nm]	Motor inertia J [kgcm^2]	Cont. current at stall I_0 [A]	Peak current I_{omax} [A]	Torque const. K [Nm/A]	Rated mains voltage UN [V]	Holding torque* M [Nm]*	Oper. volt.* U [VDC]*	Nom. of inertia J [kgcm^2]*	Weight G [kg]	Order number Stand.	Order number incl. Brake
6000	0,4	0,08	0,93	4,30	0,43	400	1,2	24	0,07	1,1	E8022	E8023
6000	0,8	0,13	1,49	6,80	0,54	400	1,2	24	0,07	1,5	E8024	E8025
6000	1,3	0,80	1,30	7,50	0,74	400	2,5	24	0,38	2,3	E8026	E8027
3000	2,6	2,10	1,90	8,60	1,36	400	5,0	24	1,06	4,5	E8028	E8029
3000	5,3	2,80	3,20	15,00	1,65	400	5,0	24	1,06	5,7	E8030	E8031
3000	7,5	4,30	4,10	19,00	1,85	400	5,0	24	1,06	7,6	E8032	E8033
3000	10,5	8,10	6,50	30,00	1,60	400	12,0	24	3,60	9,8	E8034	E8035
3000	17,0	11,30	10,40	48,00	1,64	400	12,0	24	3,60	14,0	E8036	E8037

Dimensions [mm]

3-Phase stepper motor Type VDRM.....LWC

- Quiet and virtually resonance -free run
- Resolutions from 200 up to 1000 steps/rotation
- Micro-step-mode from 2000 up to 10000 steps/rotation
- Insulation material class F according to DIN 57530
- Protection class IP 56
- Integrated sockets for power connections
- CE-conformity



Type	C	D_{i6}	d_{k6}	E	F	L_1	L_4	L2	L3	U
	Main dimensions									
.... 368	57,2	38,1	8	47,14	31	110	41,0	21	2	5,2
.... 397	85,0	60,0	12	70,00	31	110	46,5	30	2	6,5
.... 3910	85,0	60,0	12	70,00	31	140	46,5	30	2	6,5
.... 3913	85,0	60,0	14	70,00	31	170	46,5	30	2	6,5
.... 31117	110,0	56,0	19	89,00	31	180	52,7	40	3	9,0
.... 31122	110,0	56,0	19	89,00	31	228	52,7	40	3	9,0

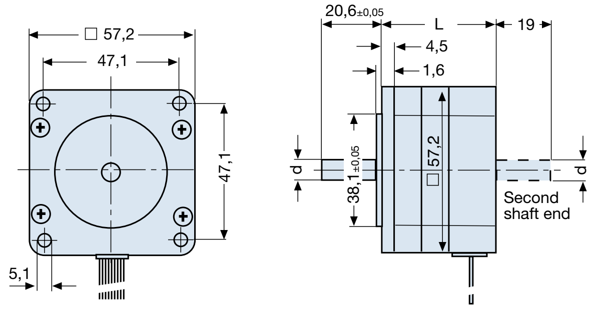
Dimensions [mm]

Peak torque M_{max} [Nm]	Cont. torque at stall M_H [Nm]	Motor inertia J [kgcm^2]	max. start-frequency F [KHz]	Cont. current at stall I_N [A]	Rated mains voltage U [V]	Encoder-line count	Step count	Order number Standard	Order number inc. Brake
1,50	1,74	0,38	6,0	0,8	325	1000	200/400/500 1000/2000/4000 5000/10000	E7769	E8040
2,00	2,26	1,10	5,3	1,8	325	1000		E7714	E8041
4,00	4,52	2,20	5,3	2,0	325	1000		E7593	E8042
6,00	6,78	3,30	5,3	2,3	325	1000		E7721	E8043
12,00	13,92	10,50	4,7	4,1	325	1000		E8038	E8044
16,50	19,14	16,00	4,7	4,8	325	1000		E8039	E8045

Dimensions [mm]

2-Phase stepper motor Type VDRM...../50-L4A

- High quality motor design
- Maintenance free, long life
- Resolution 200 or 400 steps/rotation
- Powerful technique
- Insulation material class B
- CE-conformity



Type	d	L
	Main dimensions	
....264	6,35	41
....266	6,35	55
....268	8,00	77

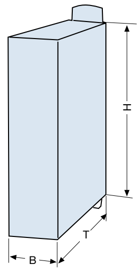
Dimensions [mm]

Peak torque M_{max} [Nm]	Cont. torque at stall M_H [Nm]	Motor inertia J [kgcm^2]	Weight M [kg]	Step count I_N [A]	Rated mains voltage U [V]	Encoder line count	Order number
0,40	0,45	0,09	0,50	200/400	35	4	E7770
0,87	1,00	0,22	0,70	200/400	35	4	E7743
1,30	1,50	0,38	1,05	200/400	35	4	E8046

Dimensions [mm]

Single axis CNC-controller Type FTE100-Servostar...

- Wide range of mains supply voltage
- Up to 20 Amps with integral mains filter
- All CE, UL and cUL conformities
- 2 analog inputs
- 6 digital in-/outputs
- Feedback from resolver or high resolution sin/cos encoder
  Integrated interface for stepper controllers
- CAN-Open integrated
- Fully programmable RS323 interface
- Integrated position controller with memory for 180 motion tasks
- Integrated interface for stepper controllers, master-slave,
- electrical gear, ...
- Extension soccets for PROFIBUS, I/O-extension, SERCOS, ... (optional)

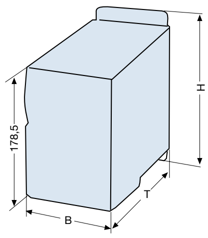


Type	Features	Rated supply voltage U_N [V]	Rated power supply (S1) P_N [kVA]	Rated output current I_N [A]	Peak output current I_{max} [A]	Dimensions H	B	T	Weight G	Order number
TSC100-Servostar 341	I_N = 1,5 A		1,0	1,5	3,0	275	70	265	4,0	91699I
TSC100-Servostar 343	I_N = 3,0 A		2,0	3,0	6,0	275	70	265	4,0	91699K
TSC100-Servostar 346	I_N = 6.0 A		4,0	6,0	12,0	275	70	265	4,0	91699L
TSC100-Servostar 610	I_N = 10,0 A		7,0	10,0	20,0	275	70	265	4,0	91699F
Optionen:										
Power supply LOGO Power	24VDC / 1,3 A									91703A
Profibus	Profibus DP expansion cards									91699G
I/O-expansion card	14 dig. inputs, 8dig. outputs									91699H
Cable:										
Motor-/Resolver cable set	5m long, protected, with soccet									91700W
Motor-/Resolver cable set	10m long, protected, with soccet									91700Y
Motor-/Resolver cable set	15m long, protected, with soccet									91700B
Motor-/Resolver cable set	25m long, protected, with soccet									91700D
RS232-Cabel	Interface cable PC-TSC100									91702A
Limit switch cable	5m long									91701A

Dimensions [mm], Weight [kg]

Single axis CNC-controller Type FTE100-Twin Line...

- Integrated mains filters, cooler, ventilator
- CE, UL conformities
- Fully programmable RS323 interface for PC-connection
- optional: HMI-terminal plugable on frontside
- Programming system by IE1131
- Programming languages: KOP, FUP, AWL,...
- Integrated position controller with memory for 64 motion tasks
- Point to point mode, speed mode, electrical gear
- acceleration and deceleration ramps programmable
- integrated PLC functions
- Extension sockets for PROFIBUS, RS485... (optional)

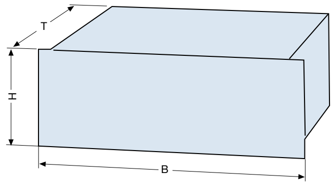


Type	Features	Rated supply voltage U_N [V]	Rated power supply P_N [kVA]	Rated output current I_N [A]	Peak output current I_{max} [A]	Dimensions H	B	T	Weight G	Order number
TSC100-Twin Line TLC 411 F	I_N = 3,0 A		0,35	2,0	1,5	212,5	108	184,5	2,7	91690D
TSC100-Twin Line TLC 412 F	I_N = 7,0 A		0,75	5,0	3,0	212,5	108	184,5	2,7	91690E
Optionen:										
Power supply LOGO Power	24VDC / 2,5 A									91703B
RS 485	RS485-Interface module									-
Profibus	Profibus DP-module									-
Control Tool CT	PC-programming-software									-
Cable:										
Motor cable	5m long, protected, with soccet									91700E
Motor cable	10m long, protected, with soccet									91700F
Motor cable	15m long, protected, with soccet									91700G
Motor cable	20m long, protected, with soccet									91700H
RS232-cable	interface cable PC-TSC100									91702B
Limit switch cabel	5m long									91701A

Dimensions [mm], Weight [kg]

Continuous path control Type FTE320 (1-3 axis)

- Continuous path control unit to control 3 power amplifiers for
- stepper motors or servo motors
- Up to 3 integr. amplifiers for Servo- or stepper motors
- Integrated operating panel with foil keyboard, LCD display
- Emergency power off module
- menu driven user interface (multisignal)
- Command set for program flow control, register arithmetic, text
- display
- Axis management with linear-, circular- and helix-interpolation
- Integrated PLC device
- Encoder interface for incremental or absolute path measuring systems
- 20 opto decoupled inputs, 32 outputs, (24VDC max. 300mA)
- Analog voltage signal ± 10 V
- RS252 interface
- 19” design with integrated power supply



Type	Features	Main dimensions Height (HE)	Width (“)	Depth (mm)	Weight (kg)	Order number
		4	19	415	10	
FTE320-2x12/5/320R	2-axis, Servo, 5A/320V	4	19	415	12	91709A
FTE320-3x12/5/320R	3-axis, Servo, 5A/320V	4	19	415	10	91710A
FTE322-2x20/3/35	2-axis, 2PH-stepper motors, 3A/35V	4	19	415	12	91711A
FTE322-3x20/3/35	3-axis, 2PH-stepper motors, 3A/35V	4	19	415	10	91712A
FTE323-2x30/5.5/130	2-axis, 3PH-stepper motors, 5,5A/130V	4	19	415	12	91713A
FTE323-3x30/5.5/130	2-axis, 3PH-stepper motors, 5,5A/130V					91714A

Dimensions [mm], Weight [kg]

Continuous path control Type FTE400 (4-8 axis)

- Continuous path control unit to control 4 or 8 power amplifiers
- for stepper motors or servo motors
- Menu driven user interface with 7-inch screen or LCD-display
- Command set for program flow control, register arithmetic, text
- display, cutter compensation and engraving commands
  Axis management with linear-, circular- and helical-interpolation
  electrical gears and counter axis
- Program management on memory card 32kB to 256KB
  Integrated a PLC device (SM2) can be integrated
  Encoder interface for incremental path measuring systems
  16 opto decoupled inputs and 8 relay outputs
- Expandable up to 64 inputs and 64 outputs
  Analog voltage signal ±10V DC
- Clock signal and direction signal up to 30 kHz
- RS252 interface
- 19” design with integrated power supply

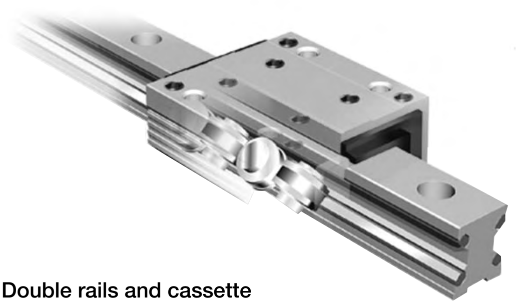
Type	Features	Main dimensions Height (HE)	Width (")	Depth (mm)	Weight (kg)	Order number
		8	19	415	15	
FTE420GT4-4x12/5/320R	4-axis Servo, 5A/320V	8	19	415	15	91715A
FTE422GT4-4x20/3/35	4-axis, 2PH-step.motor, 3A/35V	8	19	415	15	91716C
FTE423GT4-4x30/5.5/130	4-axis, 3PH-step.motor, 5,5A/130V					91717A
Software						
SM-Trans	comfortable data transfer PC tp controller					91685A
SM-CAM	conversion program for DXF / HPGL into CNC program					91685B
Cable:						
Motor cable (2PH)	5m lang, protected, with socket					91700I
Motor cable (3PH)	5m lang, protected, with socket					91700K
Servomotor cable set	5m lang, motor- und resolvercable protected, with socket					91700L
Servomotor cable set	10m long, motor- und resolvercable protected, with socket					91700M
RS232-cable	Interface cable PC-FTELimit switch cable					91702A
	5m long					E7703

Dimensions [mm], Weight [kg]

Franke Dynamic Series FD

1. Versions and system description

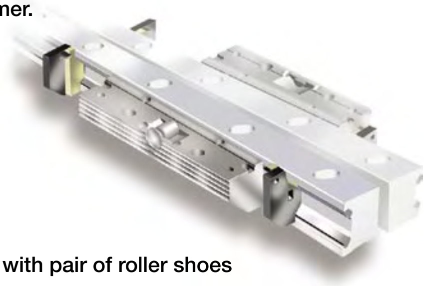
Generally the first decision has to be whether the guide system should be built with double rails and cassettes, or whether individual rails with roller shoes are to be used.
Double rails with cassette (picture 1):
Linear guides in the version double rail with cassette are already adjusted without clearance ex works. Cassettes and rails have standard connecting bores.



Picture 1: Double rails and cassette

Single rails with pair of roller shoes (picture 2):

Single rails and roller shoes are an integrated part of the design and have the advantage of a variable guide width. The mating plate is defined by the customer.



Picture 2: Single rails with pair of roller shoes

The cassette and roller shoes of standard series FDA run on four crosswise arranged rollers with needle bearings. The race-ways are made of spring steel. For special applications and requirements other series e.g. with stainless steel race wires or customized solutions are available.
Franke aluminium roller guides have a lifetime lubrication. Traverse speeds up to 10m/s und accelerations of 40m/s² are possible. The linear guides can be used in a temperature range between -20°C and +100°C. For the use in other temperatures please contact our technical support.

Franke aluminium roller guides are adjustable and re-adjustable. The double rails which are mounted in our works are adjusted without clearance. As measuring value for adjustment we recommend you to find out the slide resistance per cassette in unloaded condition.

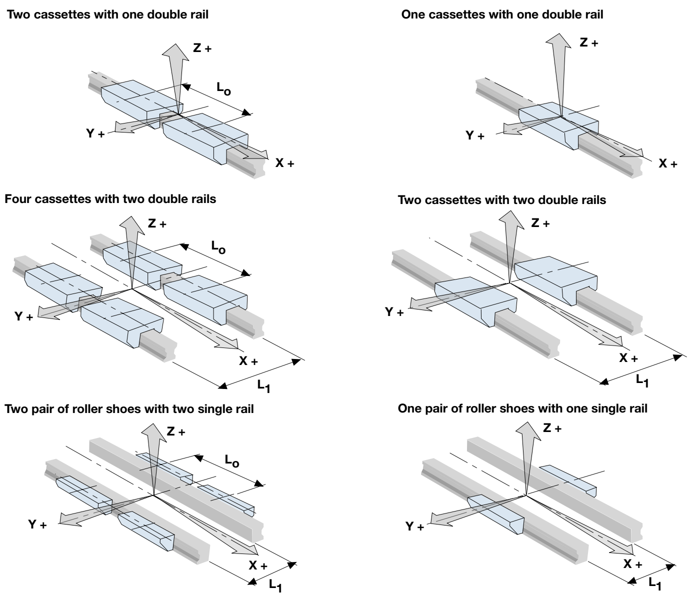
Picture 3: Measuring slide resistance

For the adjustment the roller shoe is un-tightened on the adjusting side and the screws are put against without tension. On the longitudinal side of the cassette respectively of the roller shoe a threaded pin with hexagon socket is integrated. When this pin is turned the roller shoe is displaced relative to the cassette respectively to the slider plate, this way exerting an influence on the adjustment.
The adjustment values for the different series are shown in the diagram on according the product page. If you need more information on our linear guides please take a look at our mounting instruction.

2. Guide selection

Parameters for the right choice:

- Choice of the arrangement (see picture 4)
- All forces and moments (dynamic/static)
- Load type (static, changing…)
- Environmental influences (e.g. temperature, humidity) or special operating conditions (e.g. clean room, vacuum)
- Traverse speed and acceleration
- Stroke length
- Target lifetime in km



Picture 4: Survey of the arrangements

All forces and moments have to be in the range of tolerance. The relevant values can be found on the according catalogue page.
Recommended safety (screw quality 8.8):
- Compressive load: S > 1.2
- Tensile loading: S > 2.5
- Moment loads: S > 4.0

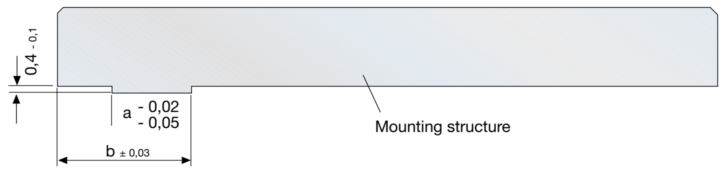
For the calculation we recommend you to use the Franke online calculation program on our homepage „www.franke-gmbh.com“. We are also gladly prepared to calculate the best linear guide solution for your application. Please fill in the form on page 105.

3. Hints for the mating plate

3.1 Mating plate for series FD
For single rails with roller shoes an additional mating plate has to be designed. The roller shoes form the slider together with the mating plate.

Technical information

Hints for the design of the connection plate: The roller shoes ar provided with centring grooves for better alignment during mounting. If you want to use it you need centring shoulders according to the data given in table 1.



Picture 5: Centring shoulder

Size	a	b
12	4,5	9,6
15	5,0	12,6
20	7,5	16,1
25	10,5	17,6
35	12,5	26,1
45	15,5	31,1

Table 1: Dimensions centring shoulder [mm]

Additional measures, tolerances and accuracies are listed on the according catalogue pages.

3.2 Multi-track arrangements
With multi-track arrangements we recommend you to define a stationary and a movable side of the guide. This way tolerance in parallelism can be compensated best. For example the movable side can be equipped with driver and locking device. The stationary side has the guiding function the movable side compensates tolerances in parallelism and height (example see picture 6). We recommend you to place the drive near the guiding side because this side has to sustain the driving torque.

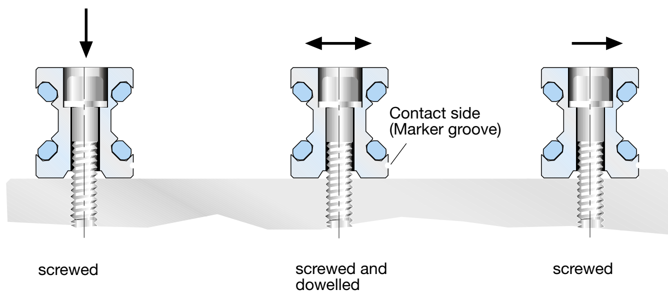
Picture 6: Stationary and moveable rest side

3.3 Contact surface
The contact and support surfaces exert a substantial influence on functioning and precision of linear guides. Inaccuracies are added to the running errors of the guide system. With double track arrangements precise alignment in terms of parallelism and height is necessary. To guarantee the running accuracy of the guide please observe the prescribed values for the contact and support surface (table 2).

Size	12-20	25-45
Max. Tolerance parallelism [mm]	0,03	0,05
Max. Contact support surface [mm]	0,10	0,20

Table 2: Accuracy contact and support surface

3.4 Mounting of the rails
According to the load situation the guide rails have to be:
1. screwed
2. screwed and dowelled
3. put against a contact shoulder and screwed (picture 7).

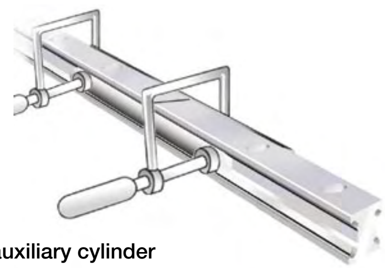


Picture 7: Mounting of the rails

The load capacity of the guides is influenced by the connection between the guide elements and the mating structure. The units are fixed to the mating structure by the bore holes in the rails and the guides. Hereby the screw quality should be 8.8, washers DIN433.

Mounting of coupled rails:

Rails with a length over L=4000mm are coupled together according to the Franke standard. Spacing according to the Franke standard guarantees a uniform bore shape over the whole guide length and its optimum utilisation. Customized solutions are also possible, for further Information please contact our technical support.
Butt jointed rails are matched to each other and must be assembled with consecutive marks in order (e.g. A/1-1/1-2/2-2/E). It is not possible to arrange them at will. The marker groove has to be continuously on the same side. The rails have to be aligned without a gap. An auxiliary cylinder can be used in order to align the joints exactly (picture 8). Please find the dimensions for the cylinder in table 3. The cylinders are put in the raceways at the joint of the rails and clamped by means of a clamping device.



Picture 8: Coupled rails / auxiliary cylinder

Size	Auxiliary cylinder mm
12	11
15	11
20	14
25	16
35	27
45	35

Table 3: Dimensions auxiliary cylinder [mm]

The right tightening torques for screws see table 4.

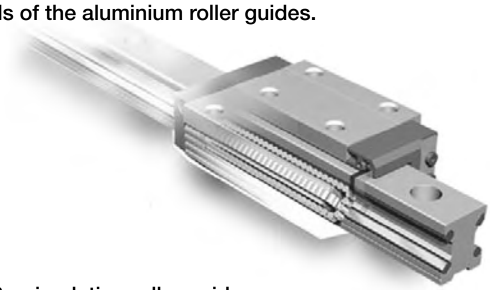
Screw	Tightening moment
M3	1,1
M4	2,5
M5	5,0
M6	8,5
M8	21,0
M10	41,0
M12	71.0

Table 4: Tightening torques for screws

Franke Power *Series FP*

1. Versions and system description

Franke linear guides series FP consist of double rails with cassettes. An integrated re-circulating system inside the cassette provides a high load rating and stiffness. The guide rails of series FP can be exchanged with the rails of the aluminium roller guides.

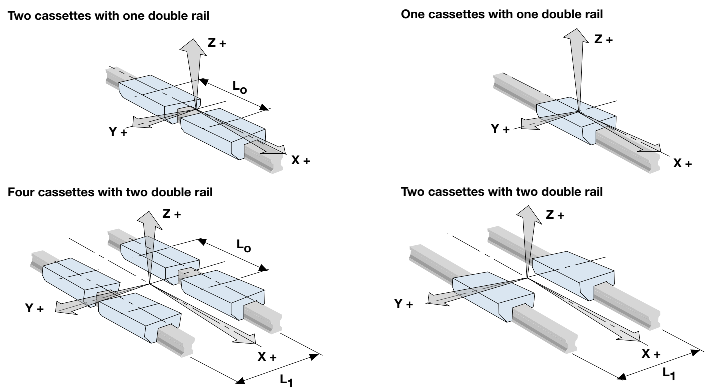


Picture 1: Re-circulating roller guides

Franke aluminium re-circulating roller guides are available with one preload. Traverse speeds of 3m/s and accelerations of 30m/s² are possible. The guides can be used in a temperature range between -20°C and +80°C.

2. How to choose a linear guide

Parameters for the right choice:
- Choice of the arrangement (see picture 3)
- All forces and moments (dynamic/static)
- Load type (static, changing…)
- Environmental influences (e.g. temperature, humidity) or special operating conditions (e.g. clean room, vacuum)
- Traverse speed and acceleration
- Stroke length
- Target lifetime in km



Picture 2: Survey of arrangements

All forces and moments have to be in the range of tolerance. The relevant values can be found on the according catalogue page.

Recommended safety (screw quality 8.8):
- Compressive load: S > 1.2
- Tensile loading: S > 2.5
- Moment loads: S > 4.0

We are also gladly prepared to calculate the best linear guide solution for your application. Please fill in the form on page 105.

3. Hints for the connecting plate

3.1 Multi-track arrangements
With multi-track arrangements we recommend you to define a stationary and a movable side of the guide. This way tolerance in parallelism can be compensated best. For example the movable side can be equipped with driver and locking device. The stationary side has the guiding function the movable side compensates tolerances in parallelism and height (example see picture 3). We recommend you to place the drive near the guiding side because this side has to sustain the driving torque.

Picture 3: Stationary and moveable rest side

3.2 Contact surface
The contact and support surfaces exert a substantial influence on functioning and precision of linear guides. Inaccuracies are added to the running errors of the guide system.
With double track arrangements precise alignment in terms of parallelism and height is necessary. To guarantee the running accuracy of the guide please observe the prescribed values for the contact and support surface (table 1).

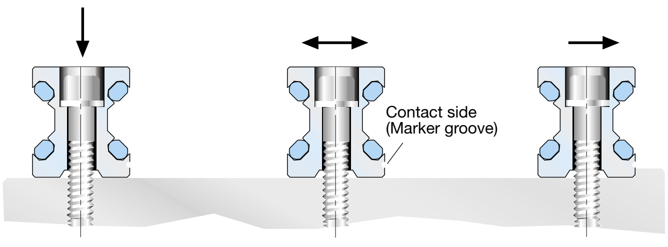
Technical information

Size	25
Max. Tolerance parallelism [mm]	0,05
Max. Contact support surface [mm]	0,20

Table 1: Accuracy contact and support surface

Additional measures, tolerances and accuracies are listed on the according catalogue pages.

3.3 Mounting of the rails
According to the load situation the guide rails have to be:
1. screwed
2. screwed and dowelled
3. put against a contact shoulder and screwed (picture 4).

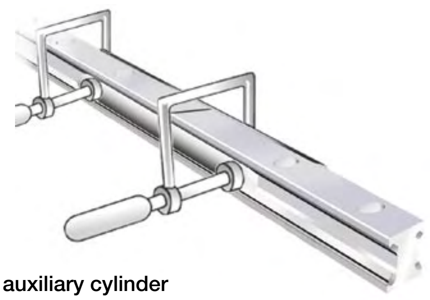


Picture 4: Mounting of the rails

The load capacity of the guides is influenced by the connection between the guide elements and the mating structure. The units are fixed to the mating structure by the bore holes in the rails and the guides. Hereby the screw quality should be 8.8, washers DIN433

Mounting of coupled rails:
Rails with a length over L=4000mm are coupled together according to the Franke standard. Spacing according to the Franke standard guarantees a uniform bore shape over the whole guide length and its optimum utilisation. Customized solutions are also possible, for further Information please contact our technical support.

Butt jointed rails are matched to each other and must be assembled with consecutive marks in order (e.g. A/1-1/1-2/2-2/E). It is not possible to arrange them at will. The marker groove has to be continuously on the same side. The rails have to be aligned without a gap. An auxiliary cylinder can be used in order to align the joints exactly (picture 5). Please find the dimensions for the cylinder in table 2. The cylinders are put in the raceways at the joint of the rails and clamped by means of a clamping device.



Picture 5: Coupled rails / auxiliary cylinder

Size	Auxiliary cylinder mm
12	11
15	11
20	14
25	16
35	27
45	35

Table 2: Dimensions auxiliary cylinder [mm]

Please observe the prescribed tightening torques in table 3.

Screw	Tightening moment
M3	1,1
M4	2,5
M5	5,0
M6	8,5
M8	21,0
M10	41,0
M12	71.0

Table 3: Tightening torques for screws

4. Lubrication

Franke aluminium re-circulating roller guides are lubricated ex works. We recommend you to re-lubricate with about 1-2g grease after about 2000km operational performance.

Franke Robust *Series FR*

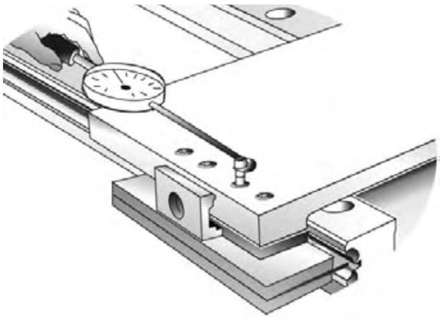
1. Versions and system description

Franke aluminium guides series FR consist of two single rails and re-circulating ball elements. The re-circulating ball elements are mounted on a mating plate. Both together form the slider. The design of the mating plate can be chosen freely.

Picture 1: Linear guides with re-circulating ball element

Linear guides of series FR are especially robust and highly loadable. The maximum traverse speed is 3m/s, the maximum acceleration is 30m/s². The guides can be used in a temperature range between -10°C and +80°C.

The clearance of Franke linear guides with re-circulating ball elements can be adjusted. For clearance setting loosen the fastening screws of the slider plate on the adjustment side. For clearance setting the re-circulating element can be displaced relative to the slider plate by means of the adjustment screws on the adjustment ledge. Measure the slide resistance in unloaded condition (picture 2).

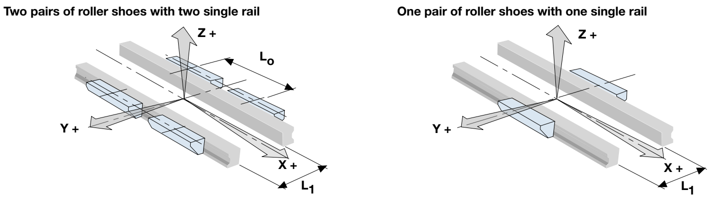


Picture 2: Measuring slide resistance

The adjustment values for the different series are shown in the diagram on the according the product page. If you need more information on our linear guides please take a look at our mounting instruction.

2. How to choose a linear guide

Parameters for the right choice:
- Choice of the arrangement (see picture 3)
- All forces and moments (dynamic/static)
- Load type (static, changing…)
- Environmental influences (e.g. temperature, humidity) or special operating conditions (e.g. clean room, vacuum)
- Traverse speed and acceleration
- Stroke length
- Target lifetime in km



Picture 3: Survey of arrangements

All forces and moments have to be in the range of tolerance. The relevant values can be found on the according catalogue page.

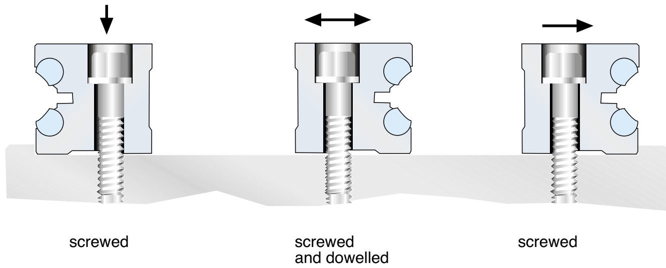
Recommended safety (screw quality 8.8):
- Compressive load: S > 1.2
- Tensile loading: S > 2.5
- Moment loads: S > 4.0

We are gladly prepared to calculate the best linear guide solution for your application. Please fill in the form on page 105.

3. Mounting of coupled rails

3.1 Contact surface
The contact and support surfaces determine significantly the performance and accuracy of the guide. Inaccuracies are added to the running errors of the guide system. Check the linearity and parallelism of the mating structure. The maximum permissible error is 0.04 mm over the whole stroke distance.

3.2 Mounting of the rails
The rails should be screwed against a shoulder. The two rails have to be aligned in parallel direction to each other. Check the linearity and parallelism of the two rails. The maximum accumulated error must be <0.06mm.



Picture 4: Mounting of the rails

The load capacity of the guides is influenced by the connection between the guide elements and the mating structure. The units are fixed to the mating structure by the bore holes in the rails and the guides. Hereby the screw quality should be 8.8, washers DIN433.
Hint: In case of wear the race wires can be exchanged. The race wires of one rail always have to be exchanged completely. Please re-order the new race wires according to the original order, respectively with the item number of the rail.

3.3 Mounting of coupled rails
Rails with a length over L=4000mm are coupled together according to the Franke standard. Spacing according to the Franke standard guarantees a uniform bore shape over the whole guide length and its optimum utilisation. Customized solutions are also possible, for further Information please contact our technical support.
Coupled rails are particularly adapted to each other. When coupling rails please take care that they all belong to the same consignment. Observe the mounting position of the rails: The upper side of the rail is marked with a heel.

The mounting gap of coupled rails with beveled joint must be at least 1mm. A gap of 0.8mm to 1.2mm is permissible to compensate drilling tolerances on the rail. The mounting temperature should be approximately 20°.
Observe the prescribed tightening torques in table 1.

Screw	Tightening moment
M5	6,0
M6	10,0
M8	25,0
M10	49,0

Table 1: Tightening torques screws FR

If you need more information on our linear guides please take a look at our mounting instruction.

4. Lubrication

Franke linear guides with re-circulation ball elements have always to be coated by a lubricant film.

The system should be re-lubricated every 500-700 operating hours, respectively 1-2 times per year. Re-circulating ball elements of have bores for a central lubrication system as standard. In this case re-lubrication is made by means of the bores on the screw-on surface.

Technical information

Linear systems

References switches, measuring system: The standard version of our linear tables is equipped with inductive limit and reference switches PNP-nc 10-30 VDC. Optionally PNP-no NPN-no and NPN-nc - switches are available. The attachment/integration of a length-measuring system with sinusoidal or rectangular signals is possible on request. Encoders can be mounted on the motor. We will be glad to consult you in finding the appropriate system for your application.

Multi-axis units: Franke-linear and rotary tables can easily be combined to multi-axis units. The angles and adapter-plates which are necessary for the mounting of the units will be constructed according to your requirements. We deliver completely mounted units cabled and adjusted, on request with further accessories.

Motors: many types of stepping and servomotors can be connected with our linear and rotary tables. Flanges and clutches are to be modified respectively. The customer can contribute own motors as well.

Motor reversal, gear: In our standard version the motor is mounted in extension of the stroke axis. Motor reversal via toothed belt or reversal gear can be supplied for special applications e.g. with limited mounting space.

Maintenance, lubrication: It is indispensable to supervise the bearings in the linear and rotary tables for lubrication. Re-lubrication periods depend on the environmental conditions and are mainly influenced by the ageing properties of the lubricant. For long-time lubrication completely synthetic lubricants are to be preferred. In our works we use the completely synthetic special grease ISOFLEX TOPAS NCA 52 (make KLÜBER). As alternative we recommend high-grade greases of lithium soap based on mineral oil.
Where lubricants are to be mixed up the consistency regarding kind of basic oil, thickener, basic oil viscosity and NLGI class has to be ensured. With extreme operating conditions (vacuum, radiation, high temperatures) we recommend you to consult us or a lubricant producer.

Franke linear tables: Franke linear tables are almost maintenance-free. Except for the ball screw our linear tables get lifetime lubrication in our works. Under normal operating conditions the ageing resistance of the lubricant exceeds the lifetime of the table. Ex works the ball screw is provided with a grease-filling which is not lifetime lubrication. It is a fact that some grease will leak by the ball screw shaft, therefore re-lubrication is necessary depending on the application. We recommend you to re-lubricate with about 1-2g grease after about 700 operating hours. At the same time as the re-lubrication we recommend you to check the inner space of the table and the guide paths for contamination and to clean them if possible. With this we recommend you to apply some grease to the guide paths.

Accuracy

Running accuracy: The running accuracy is defined by the highest possible deviation of an optional point on the moved table surface from the ideal straight line when traversing the total stroke distance (responding to the accuracy of the substructure). Positioning accuracy: The positioning accuracy is defined by the deviation from a pre-selected point which is approached by a previously defined reference (zero) point. Repetitive accuracy: The repetitive accuracy is defined by multiple exact approaches at a pre-selected point which has to be reached. For the exact repetitive approach at programmed coordinates a reliable measuring system with direct measurements is of importance. Resolution: The resolution is defined by the smallest possible traverse distance of a positioning unit. It is determined e.g. by the spindle pitch, transmission, stepping angle, division of the measuring system. By means of the resolution deviations in the positioning and repetitive accuracy can be neutralized. Therefore the resolution should always be higher than the deviation from the permissible positioning accuracy.

Design
Franke linear tables are designed for the application in automation for the measuring and testing sector as well as for rationalization in handling and mounting. The selection range includes strokes from 100mm up to 1500mm; the movement is effected by means of a spindle. The ribbed aluminium structure in combination with the Franke guide system allows high load rating and moment loads whereas the weight is extremely low.

Limit switch/reference points
Franke linear tables of series FTA and FTB are equipped with a cam strip and continuous control cams on the outer side of the slider part. Setting of the cams according to the required reference points and changing of these points is possible without dismantling the table. The limit switches of the tables FTA are in a fixed position which is adjusted for full stroke length. Linear tables series FTC and FTD are equipped with moveable control cams which are placed at the right slider part underneath the side cover. To adjust the cams the side cover has to be dismounted. After adjusting the cams the fixing of the side cover fastens the cams.

Your application

Linear systems

Company:

Name:

Department:

Address:

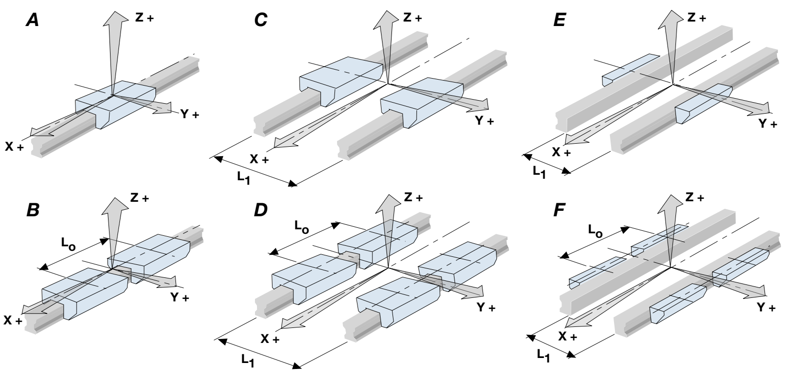
Phone:

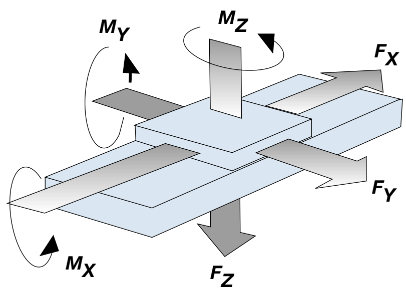
Telefax:

Email:

Branche:

Application:
short description





Arrangement: A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ Series:

Length: L_o and L_1 L_O =
L_1 =

Forces: always from the cassette plate (centre of coordinates)

		Static	Dynamic
+ or -	F_x + or -Y - coordinates		
(+ or -)	Z - coordinates (+ or -)	☐	☐
+ or -	F_Y + or -X - coordinates		
(+ or -)	Z - coordinates (+ or -)	☐	☐
+ or -	F_z + or -X - coordinates		
(+ or -)	Y - coordinates (+ or -)	☐	☐

Example: **+ F_x = 100 N**
+ x = 100 mm -y = 500 mm ☒

The loads resulting from accelerations have to be calculated by
F_a = m · 9,81 m/s²

Environment: ☐ Horizontal ☐ Vertical

☐ Humidity ☐ High temperature

☐ Rough dirt ☐ Impact

Order number:

Technical data:

Axes: ______________________ [Number]

Positioning accuracy: ______________________ [mm]

Repitive accuracy: ______________________ [mm]

Speed max: ______________________ [m/min.]

Life (desired): L ______________________ [km]

With multi-axis-units we need your loads data for each table:

Loads:

Forces Moments

F_X = ____________ [N] ____________ M_X= ____________ [Nm]

F_Y = ____________ [N] ____________ M_Y= ____________ [Nm]

F_Z= ____________ [N] ____________ M_Z= ____________ [Nm]

Environment:
(Dirt, humidity ...)