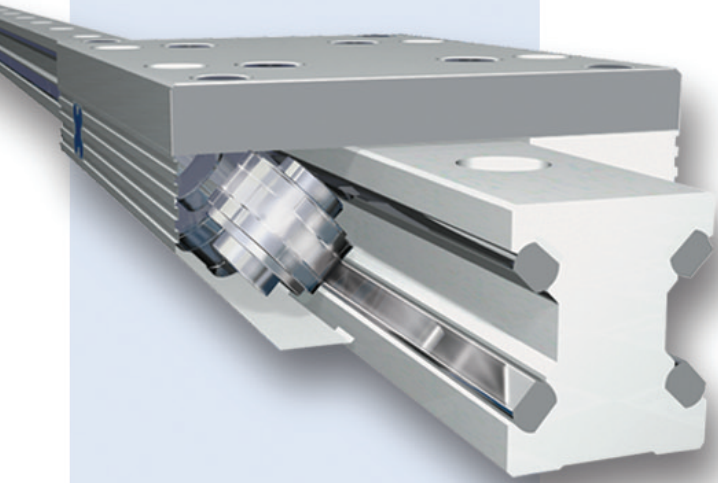




There are many linear guidesthe aluminium roller guide is unique



Either aluminium roller guides ...

1. The guided roller: patented technology for uniform and smooth run under whatever condition.

This Franke system is able to run very smoothly and silently even at speeds of 10m/s. The rollers are provided with a groove which is adapted exactly to the raceway profile thus keeping them exactly in their provided track.

The result is uniform and smooth run, longevity, and low noise independent of the load. Profiled, hardened, and polished races provide high running accuracy and longevity. The rollers rest on needle bearings and are arranged in the roller shoes. They are offset by 90° each. They are especially dimensioned for high load rating. Their rest principle is also the 4-point geometry. This enables them to sustain equally high forces from whatever direction. Their mounting position is optional.

2. Clearance/preload adjustable and re-adjustable for continuous adaptation to a specific load situation.

Franke aluminium roller guides are adjustable and re-adjustable. One of the two roller shoes is moved relative to the cassette plate by a simple adjustment screw until the desired value of preload is obtained. This adjustment can be changed at any time when the load conditions of your application are changed.

3. A clean thing: Re-lubrication is not necessary

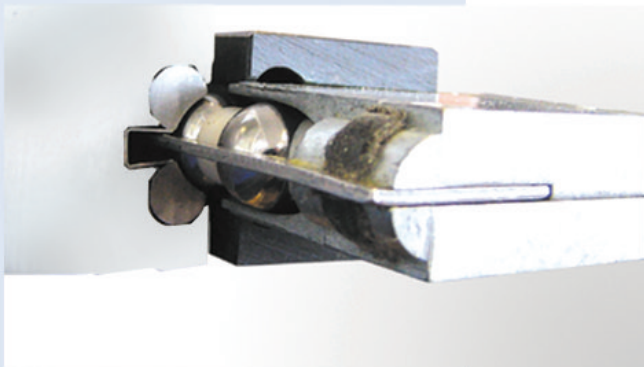
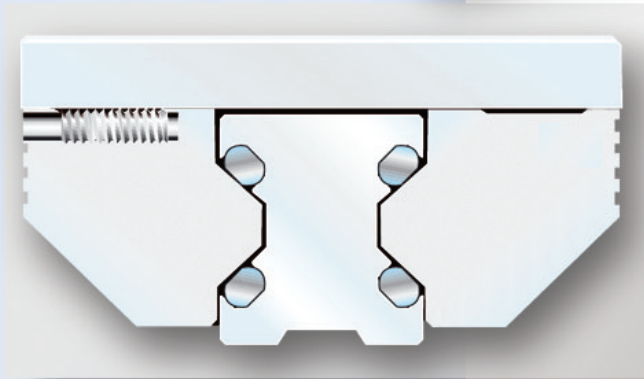
Covered bearings prevent the lubricant from coming out. So the outer surfaces of the guide remain clean. Franke aluminium roller guides are also suited for hygienically sensitive sectors as e.g. the medical and food technology, as well as the construction of packing machines. For particular applications we supply lubricant-free guides. Please consult us.

... or the re-circulating ball guide from aluminium

4. Light, strong, sturdy

Aluminium components with the Franke technology. The re-circulating ball elements from aluminium owe their load capacity and precision to the inserted races from non-corrosive steel. Light weight aluminium components are the best choice, especially with big robots and handling portals. Their inner elasticity is able to compensate errors in the substructure of the portals or vibrations of the fundaments. This type combines light own weight with high load capacity and precision.

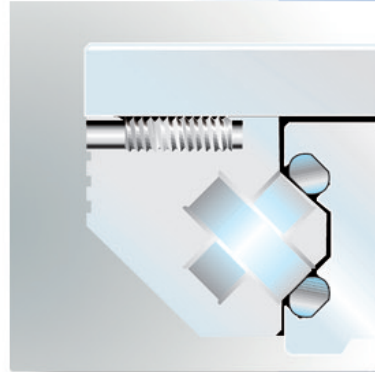
They can be modified to reach the suitability for cleanliness class 1.



...specifically branch-made solutions for optimum performance

Machine building

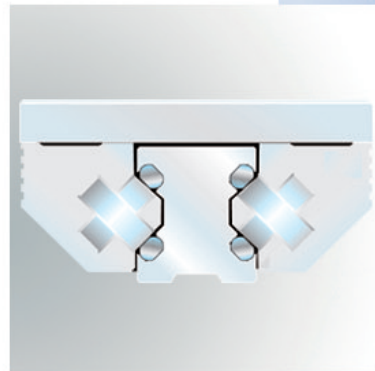
Franke aluminium roller guides can be used in many different fields of machine building. The 4-point system is able to adopt loads from whatever direction. The integrated adjusting mechanism allows continuous adaptation of the adjustment from clearance to preload which depends on the individual load condition. Later re-adjustment is possible at any time. We supply many different variants. Accessories such as clamping devices, bellows, and metal wipers complete our programme.



*compact
sturdy
long-lived*

Medical technology

Franke aluminium roller guides are used in the medical technology, e.g. in bearing locations of patient couches, as well as in feeding devices of surgical and intensive care equipment. The patented guided roller produces a uniform slide resistance. We supply a special type of Franke aluminium roller guides with antimagnetic structure which neutralizes the effect of magnetic fields; this way the measuring results are not influenced. The design of roller shoes and cassettes can be adapted to particular load situations. Please consult us.



*silent,
precise
high speed*

Pick and place/robots/clean room

The large rollers convince the customers by their excellent responsiveness with high acceleration. Stick-slip effects are not produced and the full performance of the guide system is reached immediately after starting up. Speeds of 10m/s are possible. The low weight of these components is the reason why high speeds are reached even with low driving energy. The guide system is mounted on profiled aluminium carriers thus bimetal effects are avoided and weight is reduced. The rails can be coupled to obtain endless lengths. Franke aluminium roller guides got the certificate of the air cleanliness class 10.000; they can be modified to reach class 1.



High dynamism with linear motors

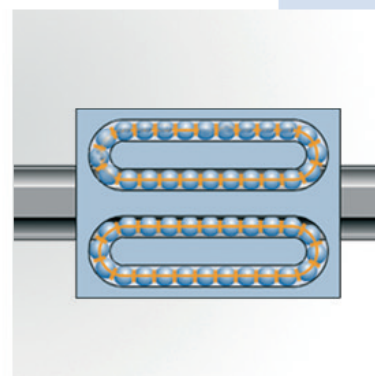
Individual rails and roller shoes are very variable. Due to the fact that the distance between the rails can freely be chosen, a linear motor which is guided by two compact roller shoes can be attached in between. A wide rail basis contributes also to a high moment load capacity. Both examples show the manifoldness of applications for the aluminium roller guide.

Food industry/Packaging industry

Franke aluminium roller guides are light, silent, and clean, they provide quick packing in whatever kind of receptacle. All hygienic requirements are met which is proved by a clean room certification. All components of the non-corrosive steel version are washable. Even aggressive media like salt, whey, and acid cannot damage the guide system.

Portal robots

Franke re-circulating ball guides from aluminium are used in conveyors, transfer equipment and portal robots. They are light and sturdy and form a perfect symbiosis with aluminium carriers. We developed a special system to obtain long stroke distances by endless coupling of rails. The Franke re-circulating ball system which has been used for 20 years presents very high load capacity and silent run.



*clean
neutral
long-lived*



Application examples Linear Guides



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

(Photo VOLPAK)

Aluminium roller guides are available in various series. You can select the series that suits your application best.

Due to the modular design the components of the different series can be combined individually.

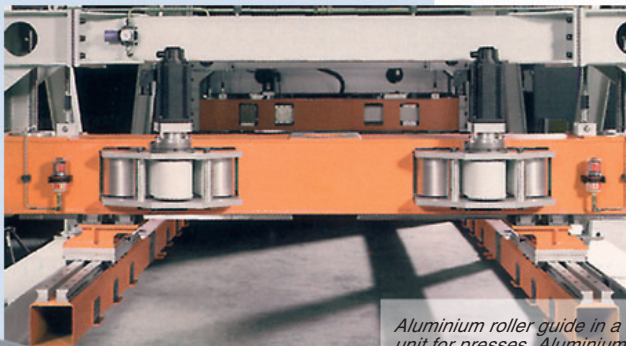
With serial request we also offer customized cassettes.

All series and sizes are available as double rails with cassettes or as single rails with roller shoes.



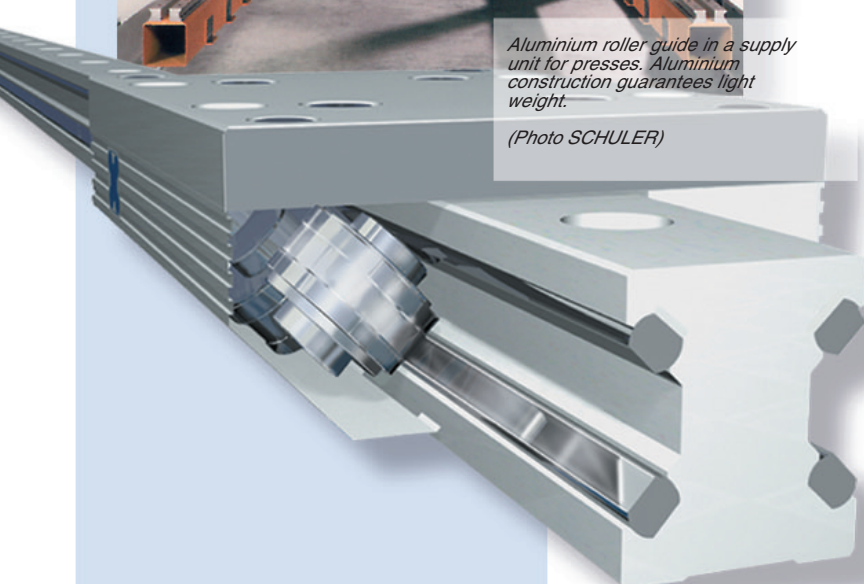
Aluminium roller guide in a filter folding machine. Very short strokes and high frequencies are possible because of the big dimensioned rollers of the guide.

(Photo RABOFSKY)



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

(Photo SCHULER)



... visit our website

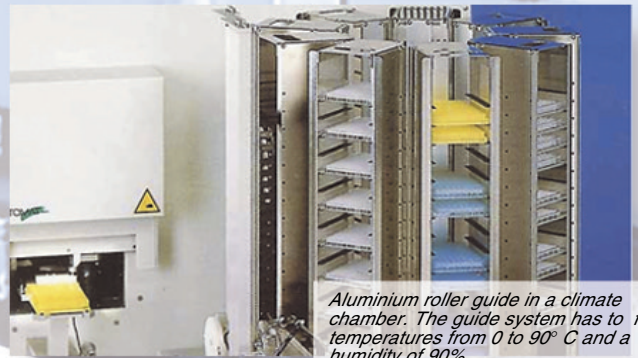
www.franke-gmbh.com

www.franke-linearguides.com



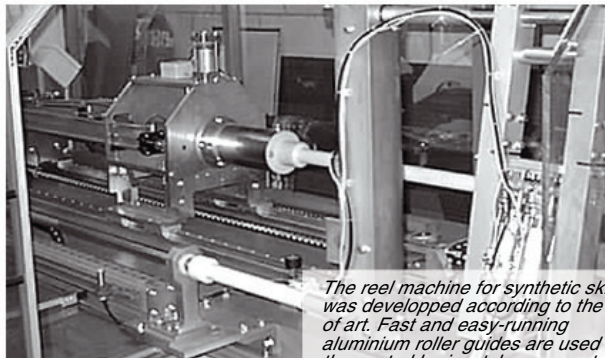
Franke aluminium roller guide and linear module used for quick and high-precision linear movements in a bitumen machine.

(Photo RÜMMER)



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

(Photo KENDRO)



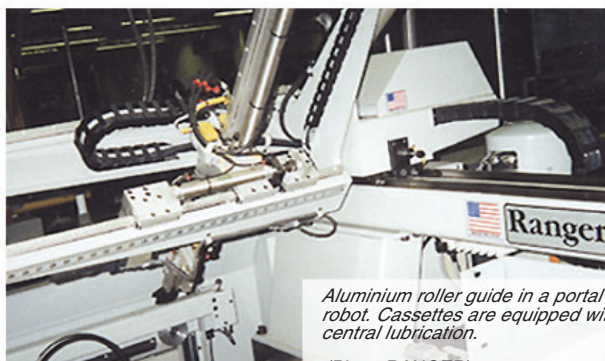
The reel machine for synthetic skins was developed according to the state of art. Fast and easy-running aluminium roller guides are used for the central horizontal movement. The large-dimensioned running rollers rest on needle bearings and sustain loads from any direction.

(Photo SMB)



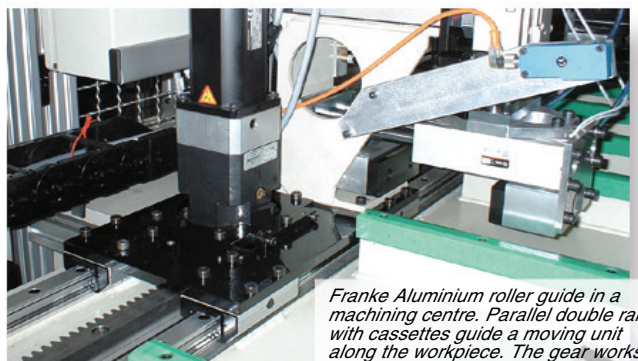
Aluminium roller guide in a rock saw. The rails are in one piece of 5 meter length.

(Photo KOLB)



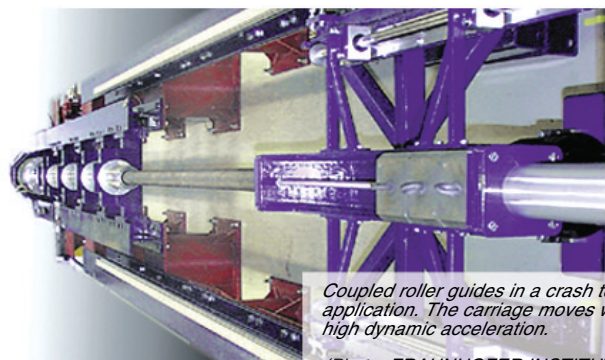
Aluminium roller guide in a portal robot. Cassettes are equipped with central lubrication.

(Photo RANGER)



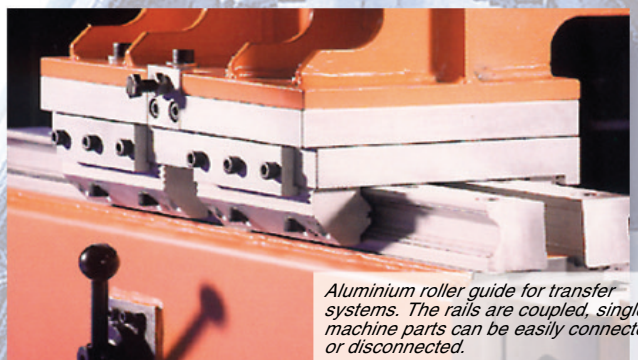
Franke Aluminium roller guide in a machining centre. Parallel double rails with cassettes guide a moving unit along the workpiece. The gear works by means of a control shaft.

(Photo KOSOMA)



Coupled roller guides in a crash test application. The carriage moves with high dynamic acceleration.

(Photo FRAUNHOFER INSTITUT)

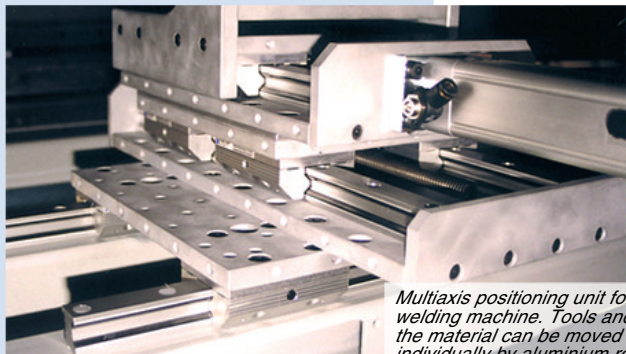


Aluminium roller guide for transfer systems. The rails are coupled, single machine parts can be easily connected or disconnected.

(Photo SCHULER)

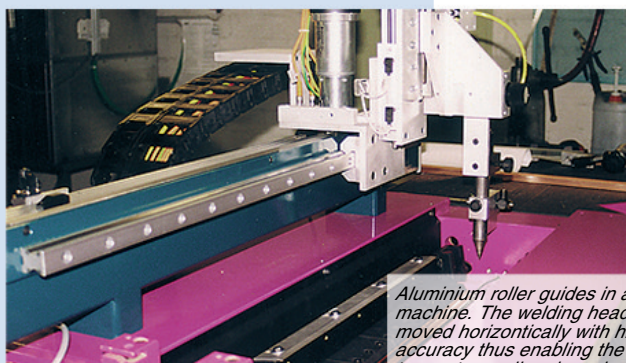


Application examples Linear Guides



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

(Photo SCHNELLDORFER)



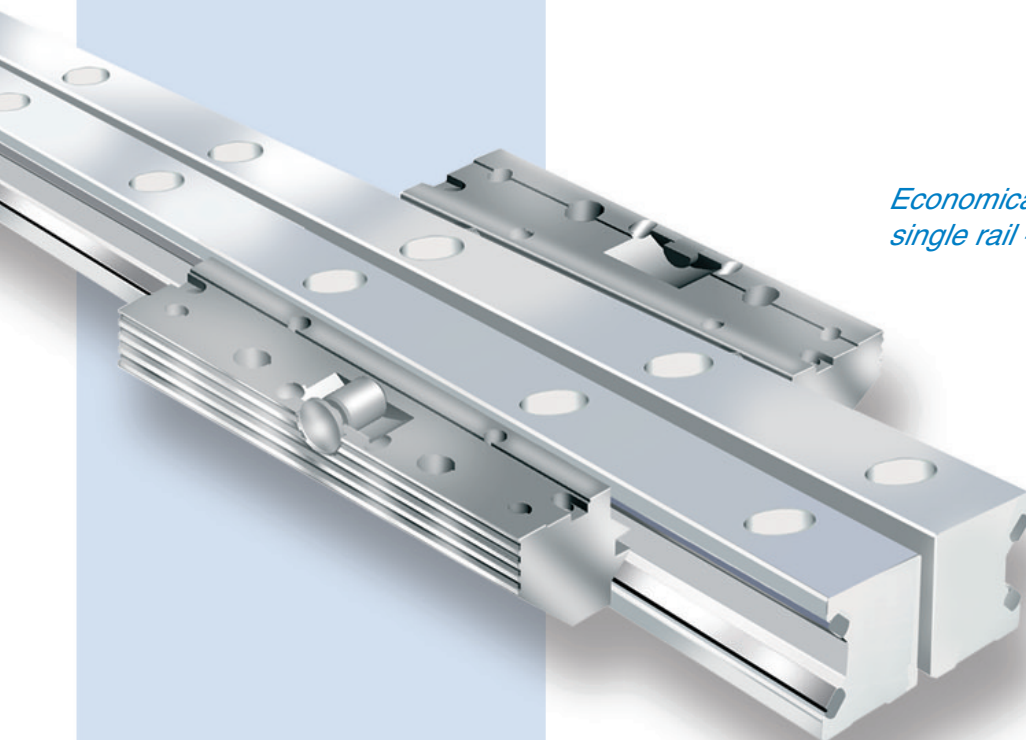
Aluminium roller guides in a welding machine. The welding head is moved horizontally with high accuracy thus enabling the machine to create small and precise welding marks.

(Photo SCHNELLDORFER)

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

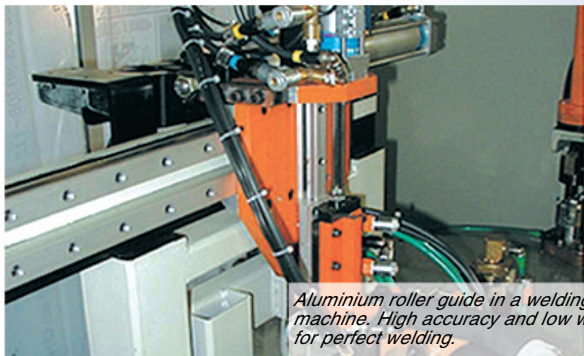
They are reliable components in machinery, packaging, food industries, handling, robotics and transport.

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

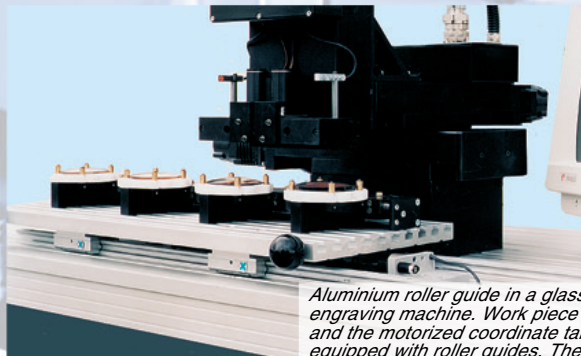


*Economical solution for series demand
single rail + pair of roller shoes*

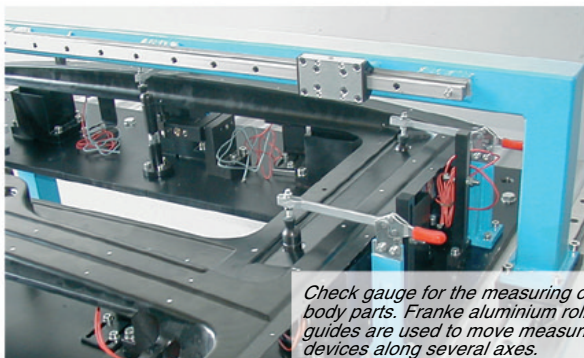
*... visit our website
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www.franke-linearguides.com*



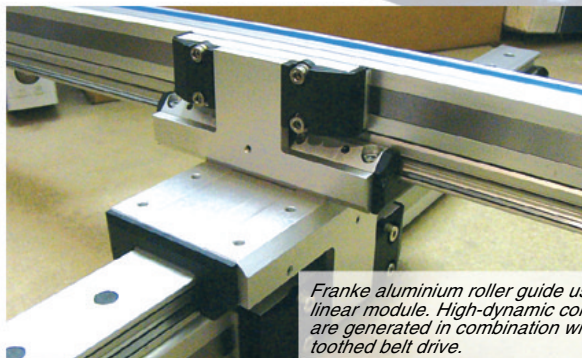
Aluminium roller guide in a welding machine. High accuracy and low weight for perfect welding.
(Photo HTC)



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.
(PhotoKasch)



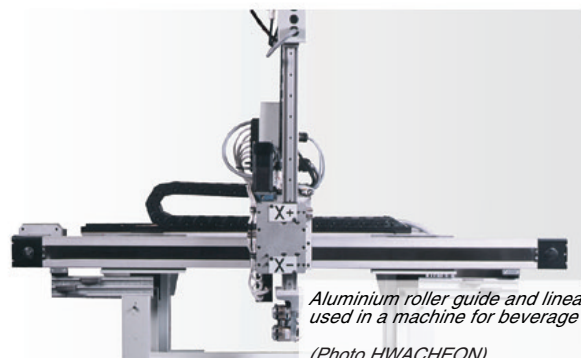
Check gauge for the measuring of car body parts. Franke aluminium roller guides are used to move measuring devices along several axes.
(Photo HTC)



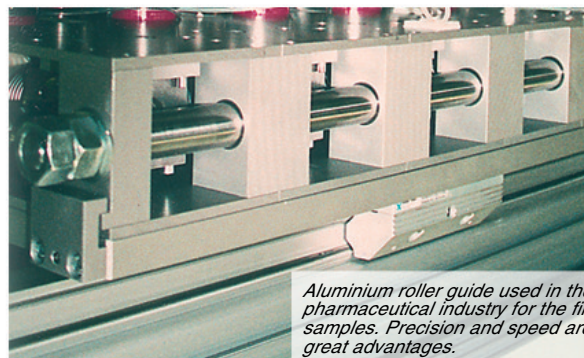
Franke aluminium roller guide used in a linear module. High-dynamic components are generated in combination with a toothed belt drive.
(Photo FRANKE)



Aluminium roller guide in the carriage of a cable producing machine. The projecting arm of the unit is safely guided by means of two double rails with two roller cassettes each. Due to the easy run of the guide it can be moved manually with low energy.
(Photo KABELMAT)



Aluminium roller guide and linear module used in a machine for beverage cans.
(Photo HWACHEON)



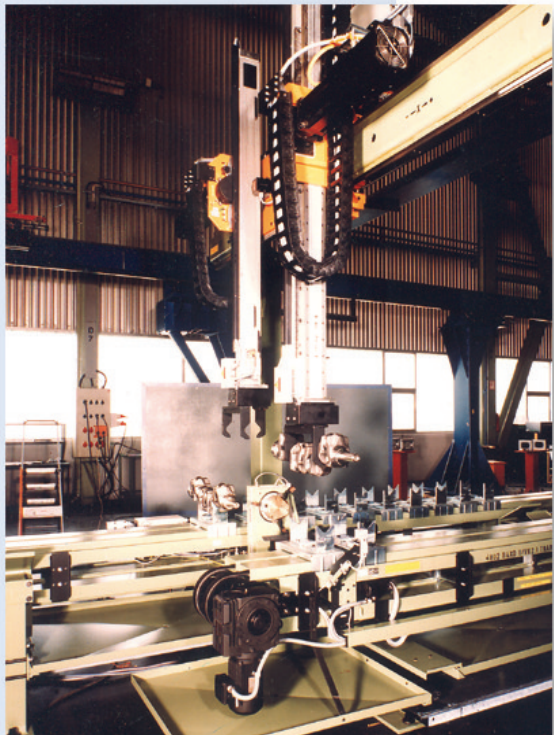
Aluminium roller guide used in the pharmaceutical industry for the filling of samples. Precision and speed are the great advantages.
(Photo KNOSKE)



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



Linear guides with recirculating elements



*Low weight with
guide rails made
of aluminium*

*High osculation,
high load capacity,
high safety*

*Suitable for
rough conditions,
takes shocks and impacts*

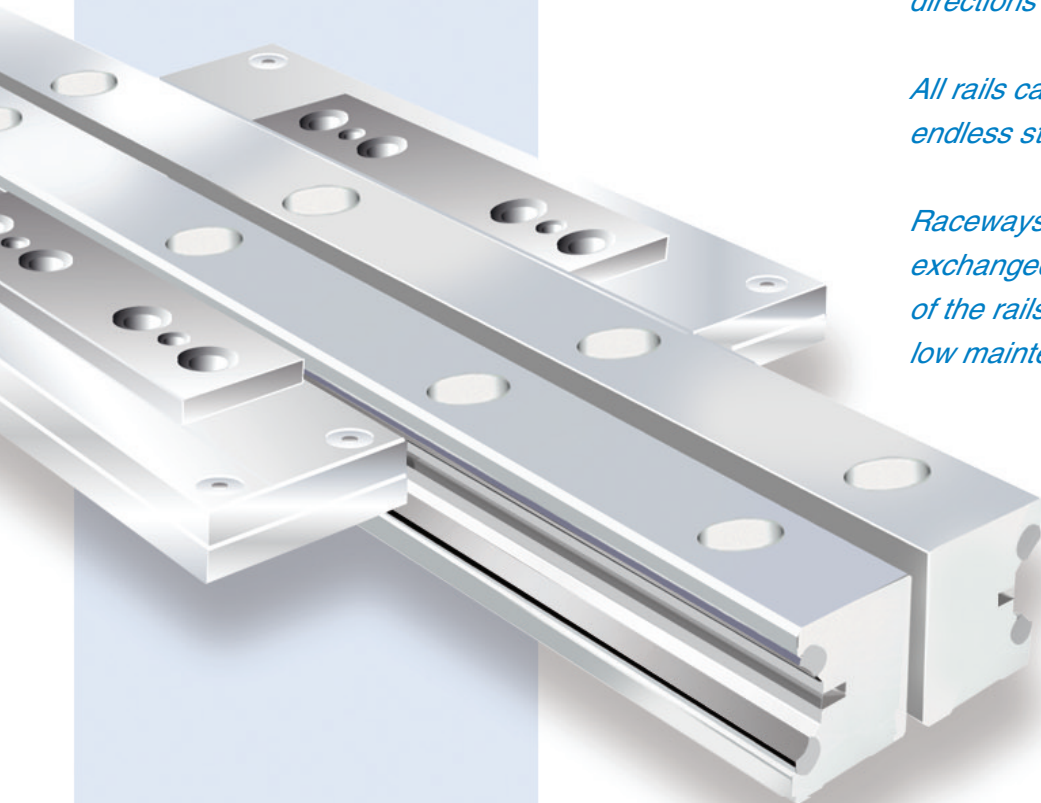
*High stiffness due to
optimized profiles and
ground raceways made of
spring steel*

*No bi-metal-effect when
mounted on aluminium
mating structure*

*Can take equal loads from all
directions*

*All rails can be coupled to
endless stroke lengths*

*Raceways can be
exchanged without dismantling
of the rails,
low maintenance cost*



*... visit our website
www.franke-gmbh.com
www.franke-linearguides.com*

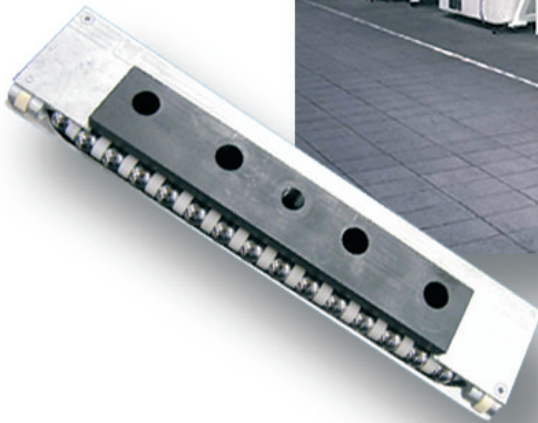
... Aluminium linear guides

Components for innovative constructions

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.



Technical details:

Seal: the recirculating elements are equipped with wipers.

Acceleration: max. 30 m/s²

Traverse speed: max. 2 m/s

Length: in one piece up to 4m, for longer strokes

the rails can be coupled endlessly.

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

Lubrication: with ball bearing grease lubrication through lubrication nipples.

Material: Rails: aluminium
Raceway: high alloy spring steel
Re-circulating elements: basic body from steel, housing from zinc die-casting





Survey of Franke Aluminium roller guides

	Series	Features	Speed	Running	Accuracy	Strength	Stiffness	Page
Aluminium Cassette	FDA / FEA Standard	For medium loads with stroke speed of up to 10m/s. Light-weight aluminium components and compact dimensions.	●	●	◐	◐	◐	46-47
	FDB / FEB LowCost	For light loads and particularly economical solutions.	●	●	◐	◐	◐	48-49
Aluminium roller shoes	FDC / FEC Non-corrosive Standard	The resistant with economical advantages. For applications in humid or aggressive environment e.g. liquids. Economically favourable.	●	◐	◐	◐	◐	50-51
	FDD / FED Antimagnetic	For all applications where magnetic material could have a disturbing influence on the production process and on its results.	◐	◐	●	◐	◐	52-53
Aluminium roller shoes	FDE / FEE 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)	◐	◐	●	◐	●	54-55
	FDG / FEG Niro LowCost	For application in humid or aggressive environment e.g. in liquids.	●	●	◐	◐	◐	56-57
Aluminium roller shoes	FDH / FEH dynamic	For applications with high acceleration	●	●	◐	◐	◐	58-59
	Linear guides with re-circulating elements	FEC		◐	◐	◐	●	●

● top ◐ very good ◐ good ◐ sufficient

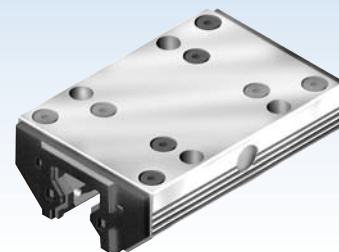


coupled rails for endless strokes

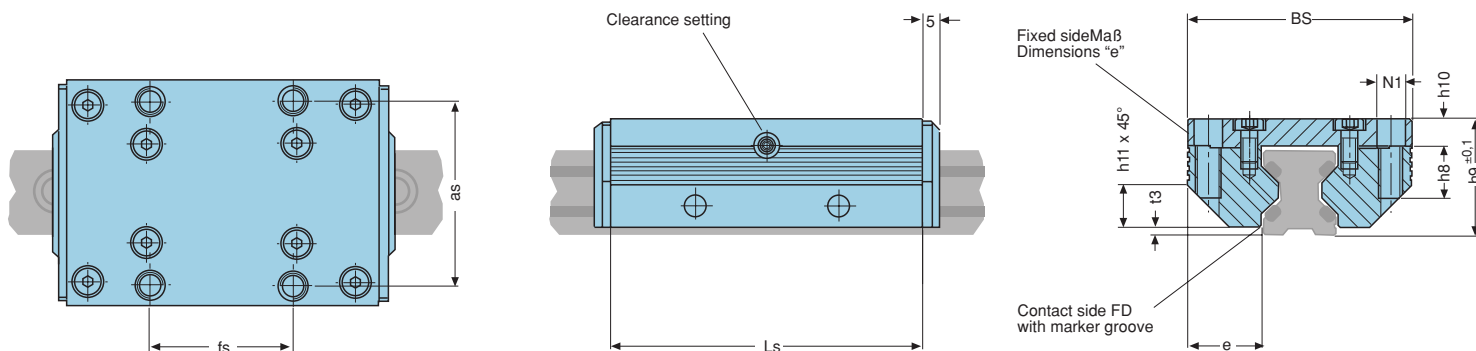
Load range [kN]	Series	one piece rail [mm]	Tech.details	Page	Accessories	Page
0-80	Double rail Pair of single rails	0-6000				
C ₀ C	FDA 	12, 15, 20, 25, 35, 45	Race ways of spring steel	62-63		
C ₀ C	FEA 	12, 15, 20, 25, 35, 45			Metal-wipers 	70
C ₀ C	FDC FEC 	FD + FE, 15, 20, 25, 35, 45	Race ways of non corrosive steel	64-65	Stop screws 	70
C ₀ C	FDD FED 	FD + FE, 25	Race ways of non magnetic steel	66-67		70
C ₀ C					Bellows 	70
C ₀ C	FDC FEC 	FD + FE, 15, 20, 25, 35, 45	Race ways of non corrosive steel	64-65	Coupled rails 	70
C ₀ C	Single rail FEC 	10, 13	Race ways of spring steel			71



Aluminium Cassette Standard



Series FDA



Size	Load rating		Moment load rating				Dimensions			other dimensions cassette							Weight Cassette	Order number Cassette	
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3			N1
12	2800	3000	27	25	43	40	64	37	19	30	25	12,50	8	4,0	6	1,4	M4	0,1	84494A
15	4200	3400	37	45	58	72	78	47	24	38	30	15,75	10	5,0	8	2,0	M5	0,3	84396A
20	5400	5400	76	76	111	111	92	63	30	53	40	21,00	12	7,0	11	2,0	M6	0,4	84441A
25	9000	10100	158	142	222	198	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,6	84363A
35	12500	18000	423	294	559	388	135	100	48	82	62	34,00	20	10,5	20	3,5	M10	1,5	84364A
45	21200	25900	827	678	983	806	165	120	60	100	80	37,50	24	13,5	22	4,0	M12	2,9	84365A

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

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 70)

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 71)
- Calculation programme to find the most suitable guide size
Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

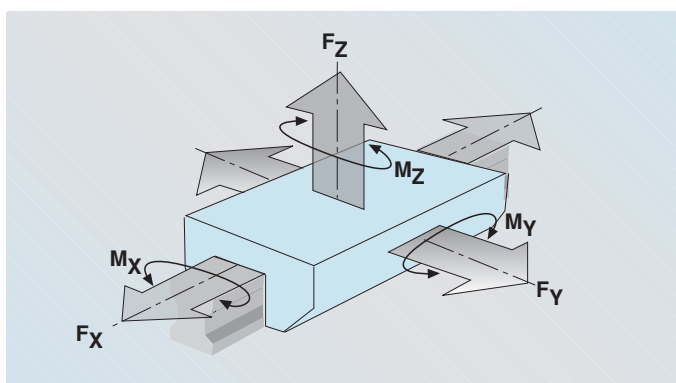
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

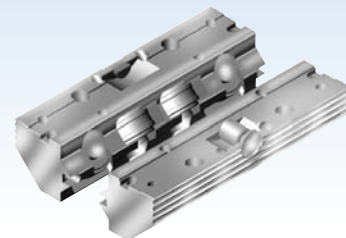
Stiffness:

- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).

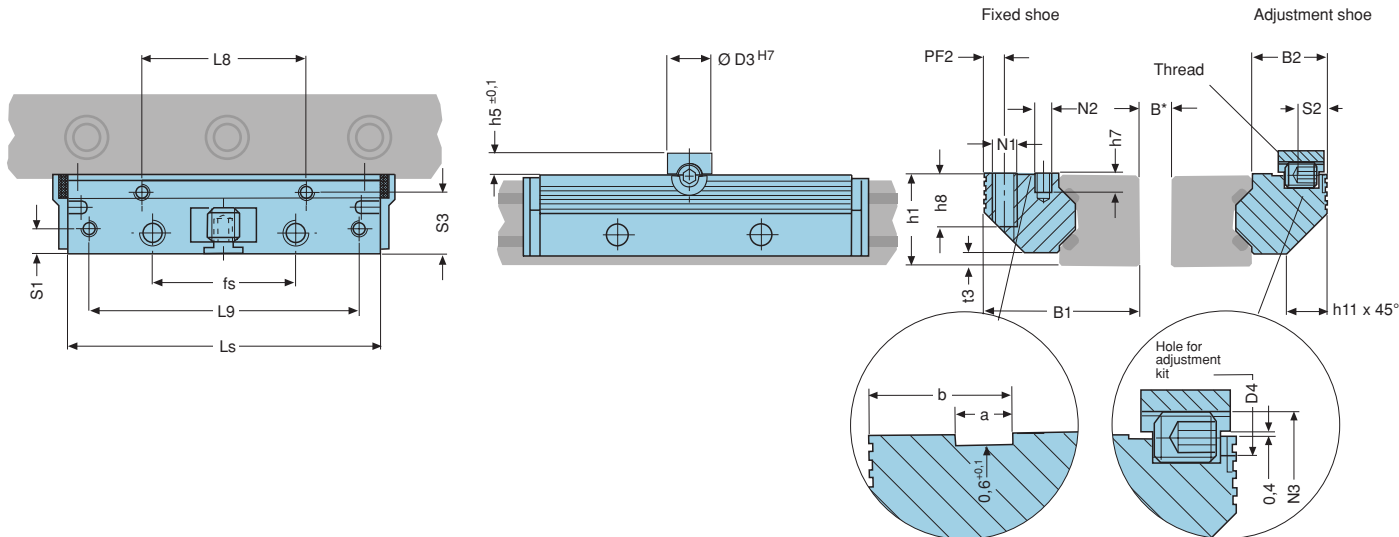


Aluminium roller shoes

Standard



Series FEA

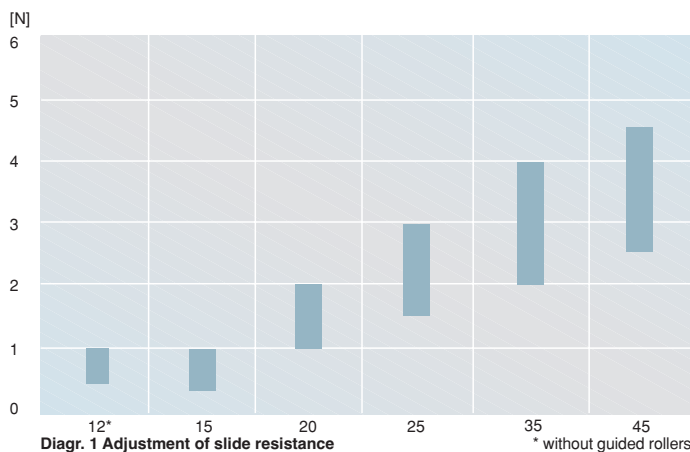


Moment load rating RSP				Dimensions				other dimensions RSP											Weight			Order number RSP		
Mocx	Mcy/Mocz	Mcy/Mcz	Mcy/Mcz	Ls	B1	h1	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	
1,5(B+30,3)	1,4(B+30,3)	43	40	64	24,4	15,0	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,06	84495A
1,7(B+36,5)	2,1(B+36,5)	58	72	78	30,9	19,0	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,20	84395A
2,7(B+47,0)	2,7(B+47,0)	111	111	92	40,9	23,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,30	84442A
5,0(B+58,4)	4,5(B+58,4)	222	198	98	48,4	27,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367A
9,0(B+85,0)	6,3(B+85,0)	559	388	135	68,9	37,5	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	1,40	84368A
12,9(B+109,0)	10,6(B+109,0)	983	806	165	82,4	46,5	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	2,80	84369A

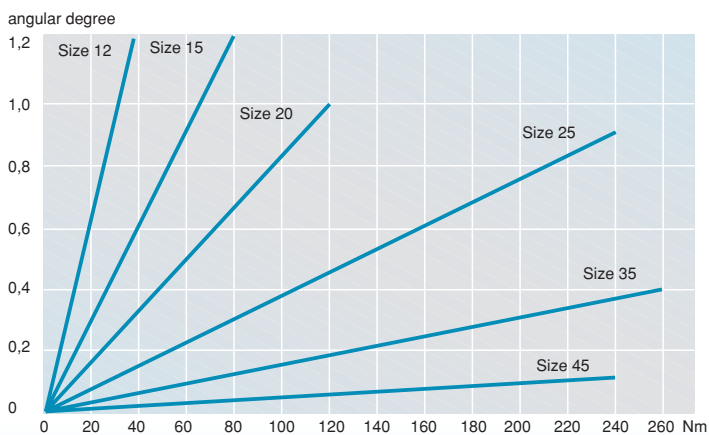
Dimensions [mm], Load rating, Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium AlMg Si0,5 F28	Bearing steel 100 Cr 6	Plastic plate PA6 with felt wipers

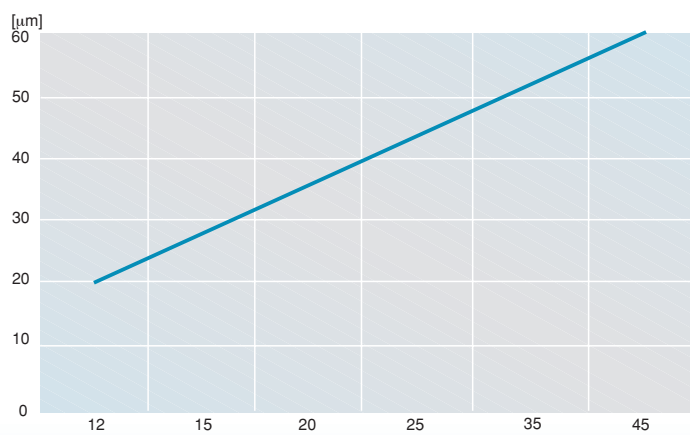
Material



Diagr. 1 Adjustment of slide resistance



Diagr. 2 Stiffness

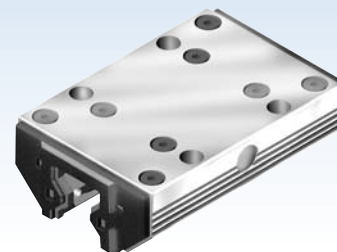


Diagr. 3 Running accuracy

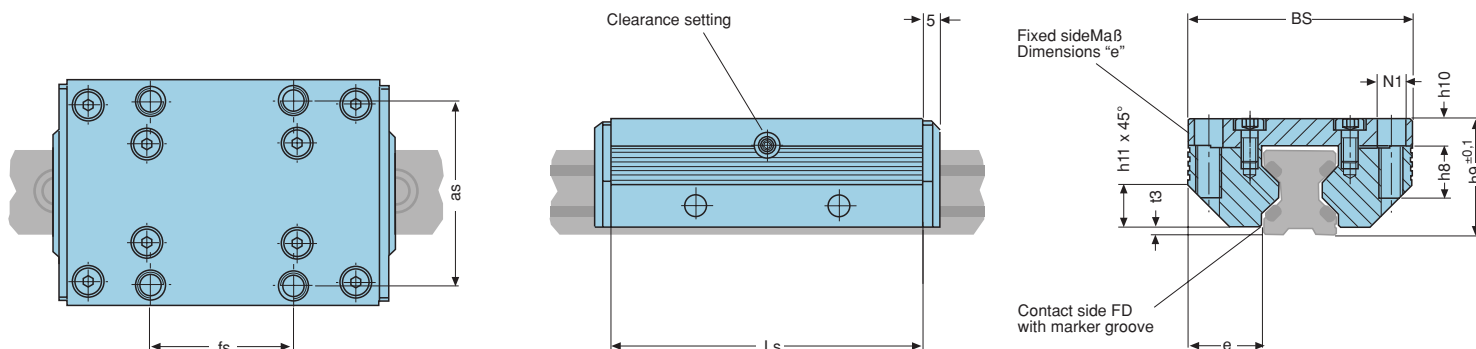


Aluminium Cassette

Low Cost



Series FDB



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

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

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 60)

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 74)
- Calculation programme to find the most suitable guide size
Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

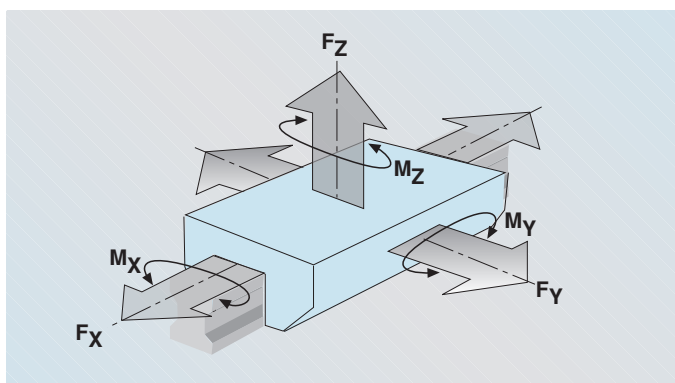
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

Stiffness:

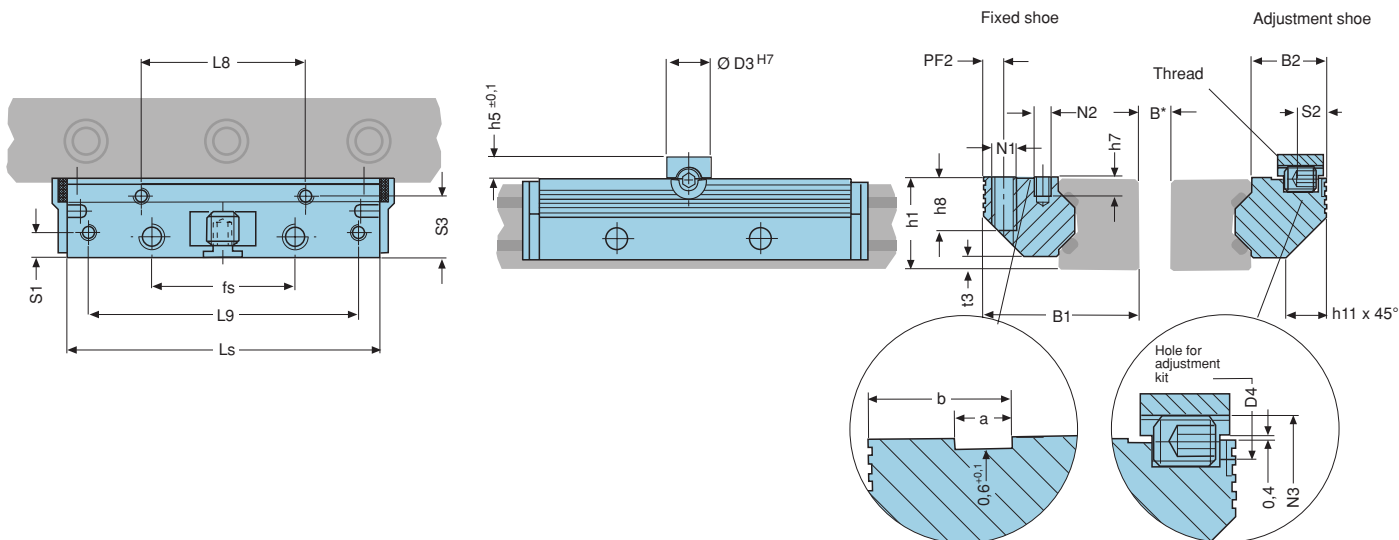
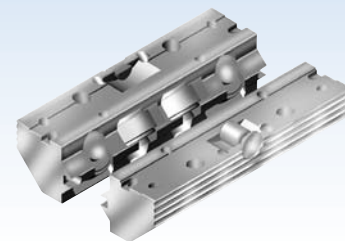
- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).



Aluminium roller shoes

Low Cost

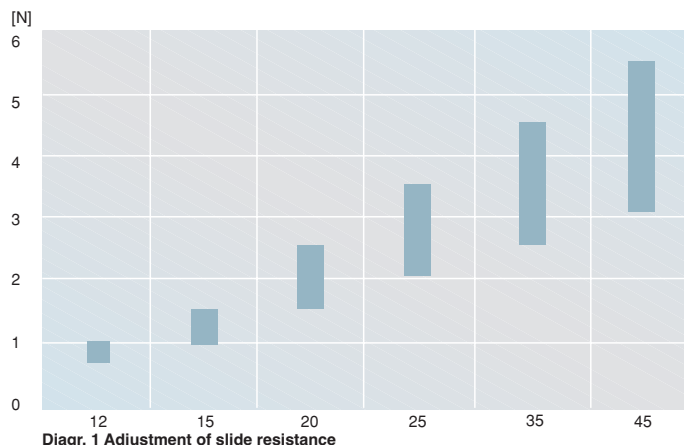
Series FEB



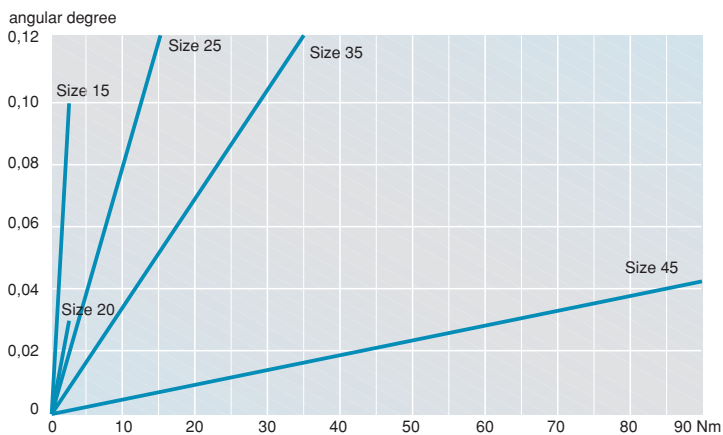
Moment load rating RSP				Dimensions				other dimensions RSP												Weight		Order number RSP		
Mocx	Mcx	Mcy/Mocx	Mcy/Mcx	Ls	B1	h1	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	
0,08(B+30,3)	0,30(B+30,3)	2,4	8,9	64	24,4	15,0	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,06	84495L
0,10(B+36,5)	0,35(B+36,5)	4,0	12,0	78	30,9	19,0	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,20	84395L
0,15(B+47,0)	0,50(B+47,0)	6,0	19,0	92	40,9	23,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,30	84442L
0,35(B+58,4)	0,70(B+58,4)	15,0	32,0	98	48,4	27,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367L
0,70(B+85,0)	1,50(B+85,0)	42,0	95,0	135	68,9	37,5	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	1,40	84368L
1,40(B+109,0)	3,10(B+109,0)	103,0	238,0	165	82,4	46,5	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	2,80	84369L

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

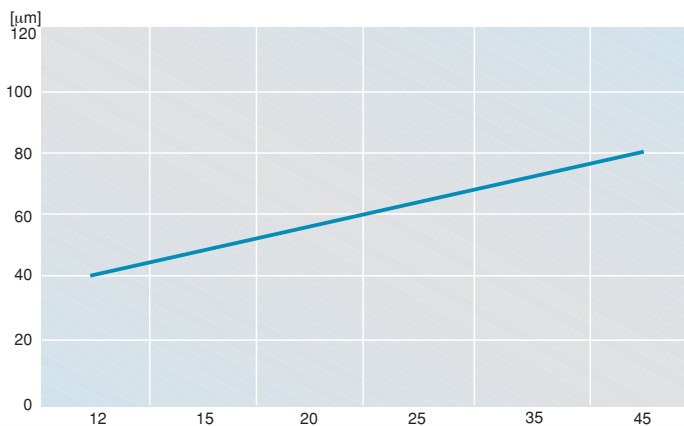
	Basic body	Rollers	Wipers
Standard	anodized Aluminium AlMg Si0,5 F28	Bearing steel 100 Cr 6	Plastic plate PA6 with felt wipers
Material			



Diagr. 1 Adjustment of slide resistance



Diagr. 2 Stiffness double rail with cassette

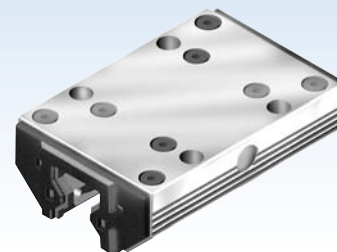


Diagr. 3 Running accuracy

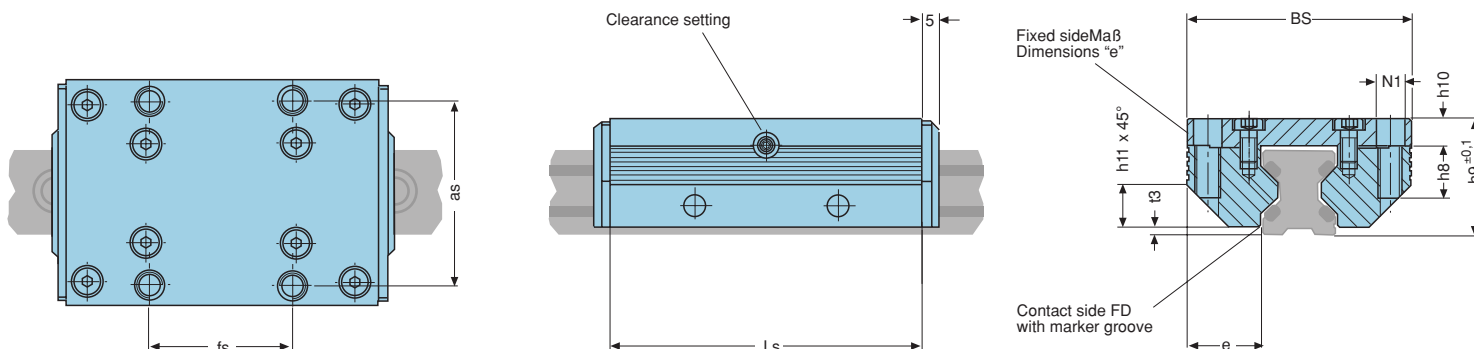


Aluminium Cassette

Non-corrosive



Series FDC



Size	Load rating		Moment load rating				Dimensions			other dimensions cassette							Weight	Order number	Kassette
	C	Co	Mox	Mcy	Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3			
12	1100	1200	11	10	17	16	64	37	19	30	25	12,50	8	4,0	6	1,4	M4	0,1	on request
15	1800	2200	23	19	37	30	78	47	24	38	30	15,75	10	5,0	8	2,0	M5	0,3	84396AN
20	2000	2500	35	28	52	41	92	63	30	53	40	21,00	12	7,0	11	2,0	M6	0,4	84441AN
25	3400	4700	75	53	105	75	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,6	84363AN
35	5600	7400	173	131	229	174	135	100	48	82	62	34,00	20	10,5	20	3,5	M10	1,5	84364AN
45	13100	16500	526	420	626	500	165	120	60	100	80	37,50	24	13,5	22	4,0	M12	2,9	84365AN

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

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 60)

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 71)
 - Calculation programme to find the most suitable guide size
- Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

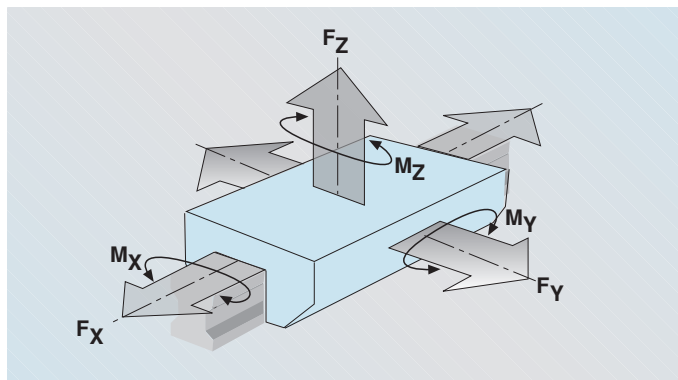
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

Stiffness:

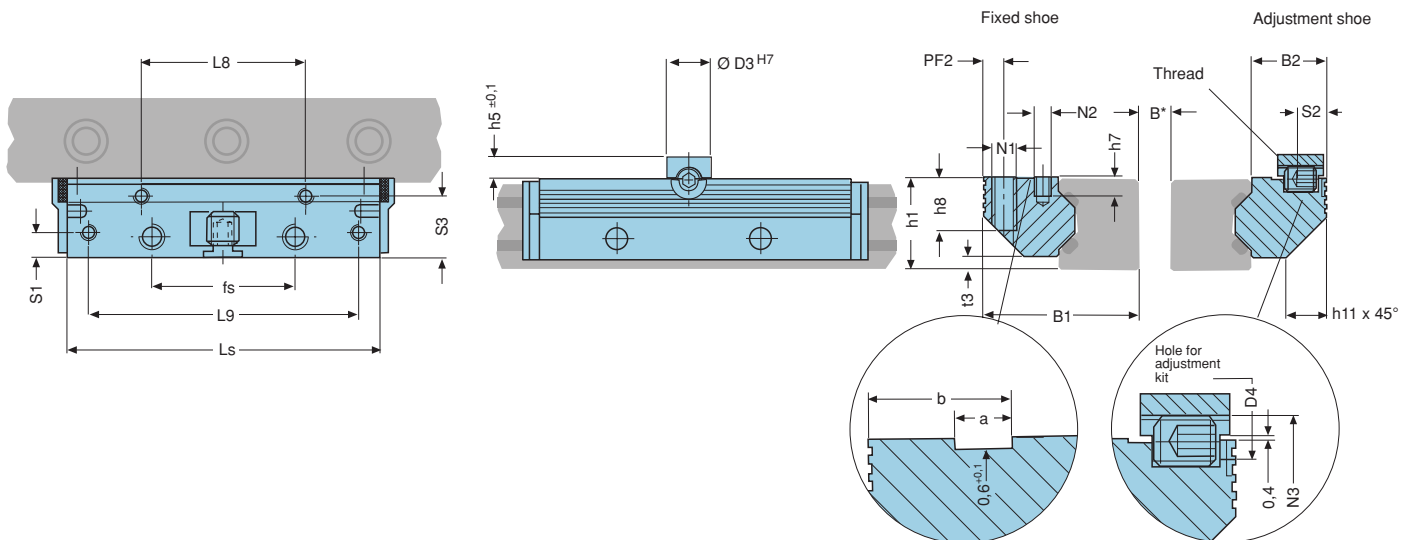
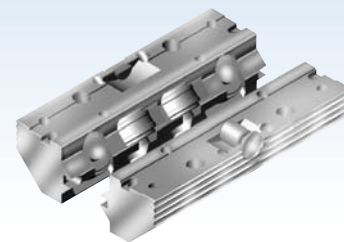
- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).



Aluminium roller shoes

Non-corrosive

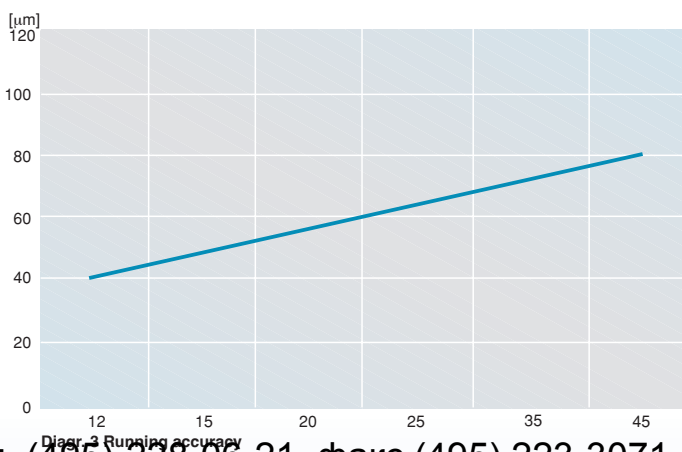
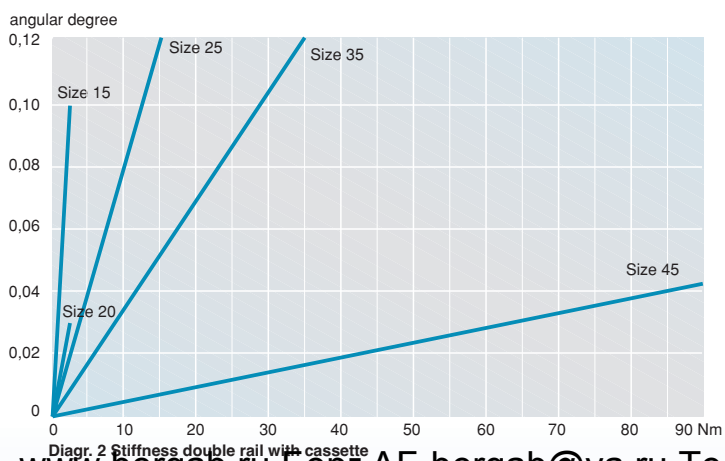
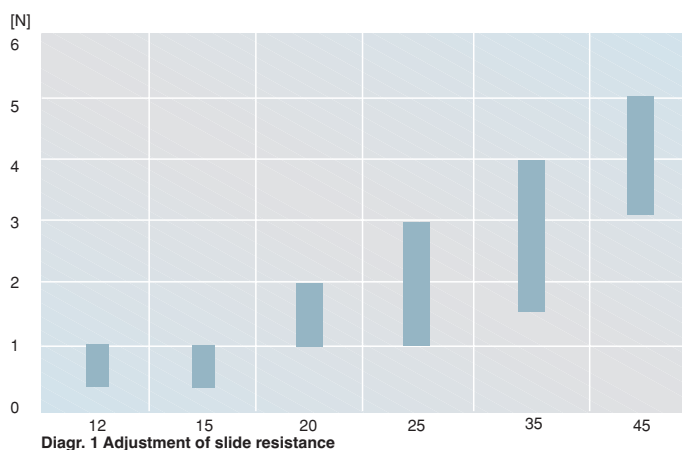
Series FEC



Moment load rating RSP		Dimensions			other dimensions RSP													Weight	Order number RSP					
Mocx	Mcy	Mcy/Mcz	Mcy/Mcz	Ls	B1	h1	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	
0,6(B+30,3)	0,6(B+30,3)	17	16	64	24,4	15,0	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,06	on request
1,1(B+36,5)	0,9(B+36,5)	37	30	78	30,9	19,0	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,20	84395AN
1,3(B+47,0)	1,0(B+47,0)	52	41	92	40,9	23,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,30	84442AN
2,4(B+58,4)	1,7(B+58,4)	105	75	98	48,4	27,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367AN
3,7(B+85,0)	2,8(B+85,0)	229	174	135	68,9	37,5	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	1,40	84368AN
8,2(B+109,0)	6,6(B+109,0)	626	500	165	82,4	46,5	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	2,80	84369AN

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

	Basic body	Rollers	Wipers
Standard	anodized Aluminium AIMg Si0,5 F28	Ball bearings Non-corrosive steel x65Cr13	Plastic plate PA6 with felt wipers
Material			

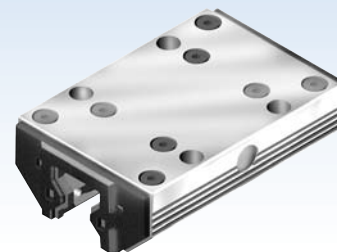


Linear guides

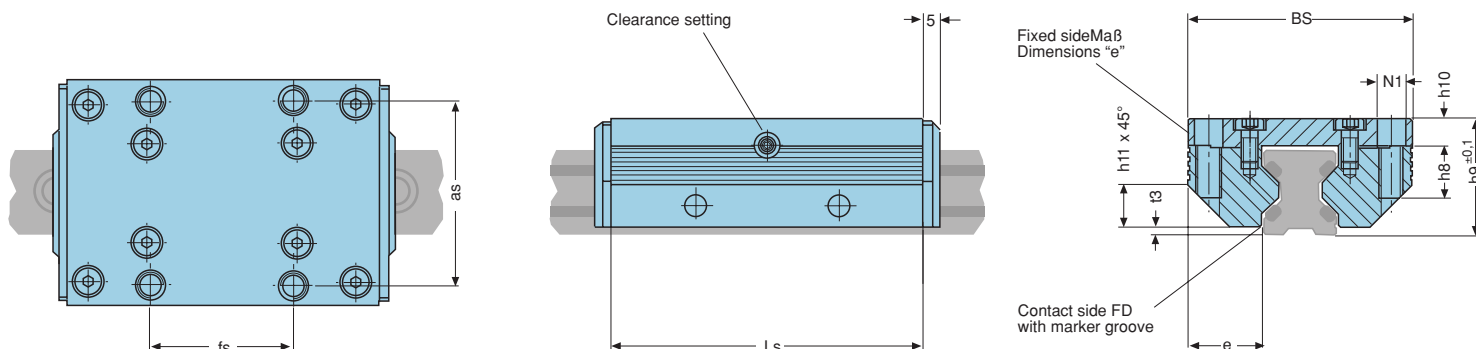


Aluminium Cassette

Anti-magnetic



Series FDD



Size	Load rating		Moment load rating				Dimensions			other dimensions cassette							Weight Cassette	Order number Cassette	
	C	Co	Mocx	Mcx	Mocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3			N1
25	1200	1600	25	18	35	25	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,6	84363P

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

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 71)
- Calculation programme to find the most suitable guide size
Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

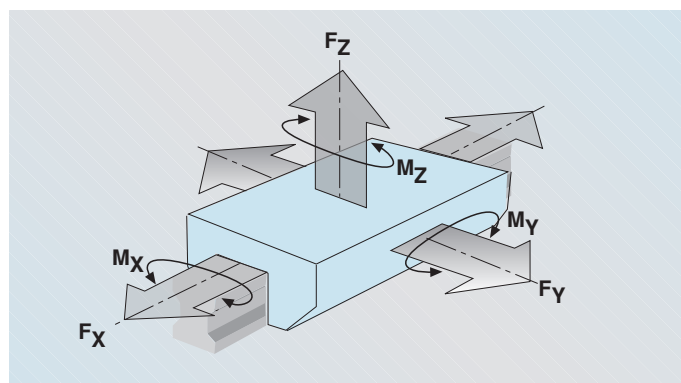
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

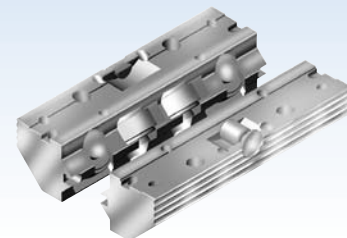
Stiffness:

- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).

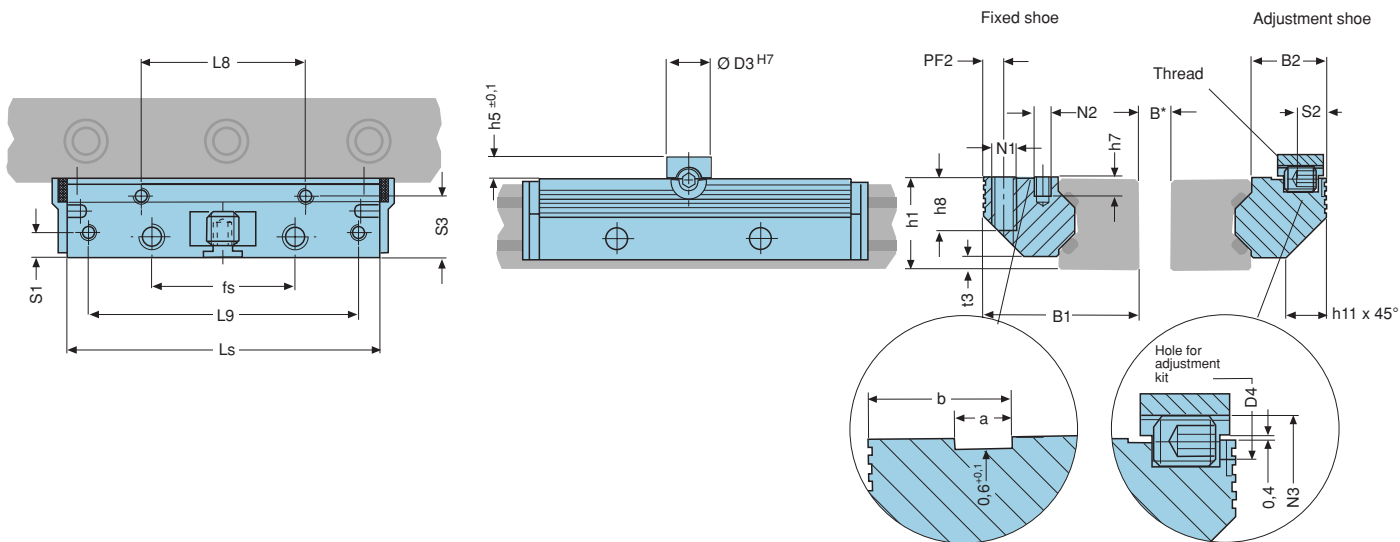


Aluminium roller shoes

Anti-magnetic



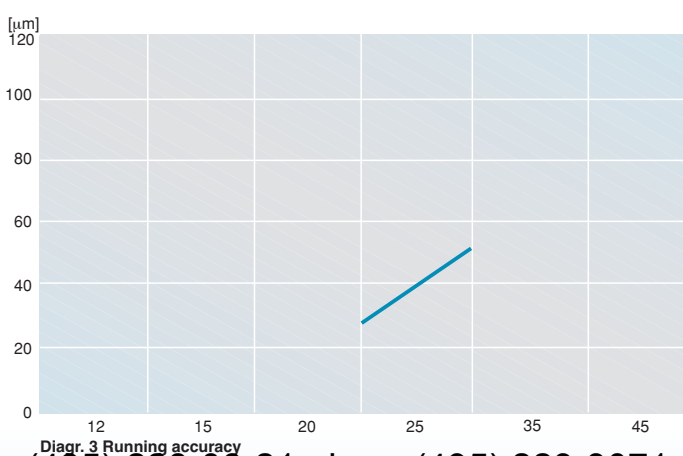
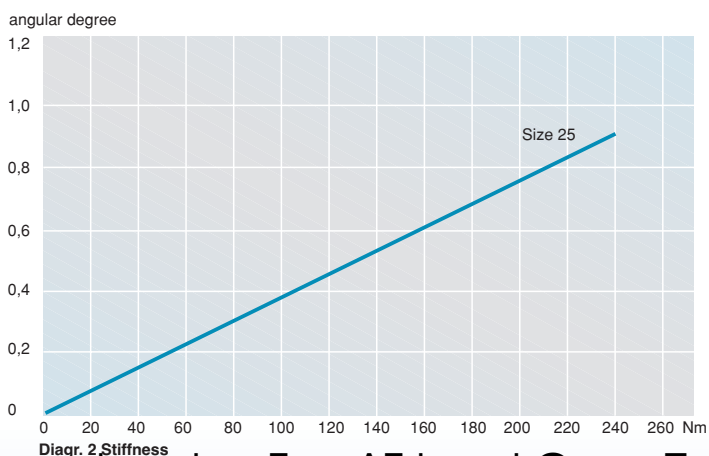
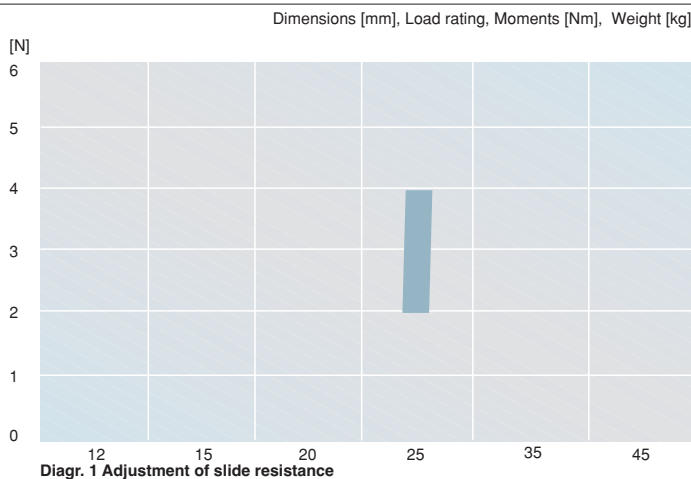
Series FED



Moment load rating RSP				Dimensions				other dimensions RSP													Weight	Order number		
Mocx	Mcy	Mocz	Mcy/Mcz	Ls	B1	h1	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	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367P

	Basic body	Rollers	Wipers
Standard	anodized Aluminium AlMg Si0,5 F28	Anti-magnetic steel with special coating	Plastic plate PA6 with felt wipers

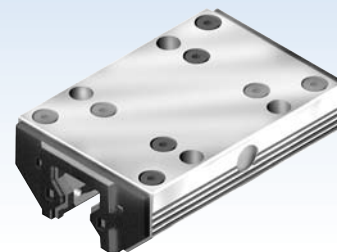
Material



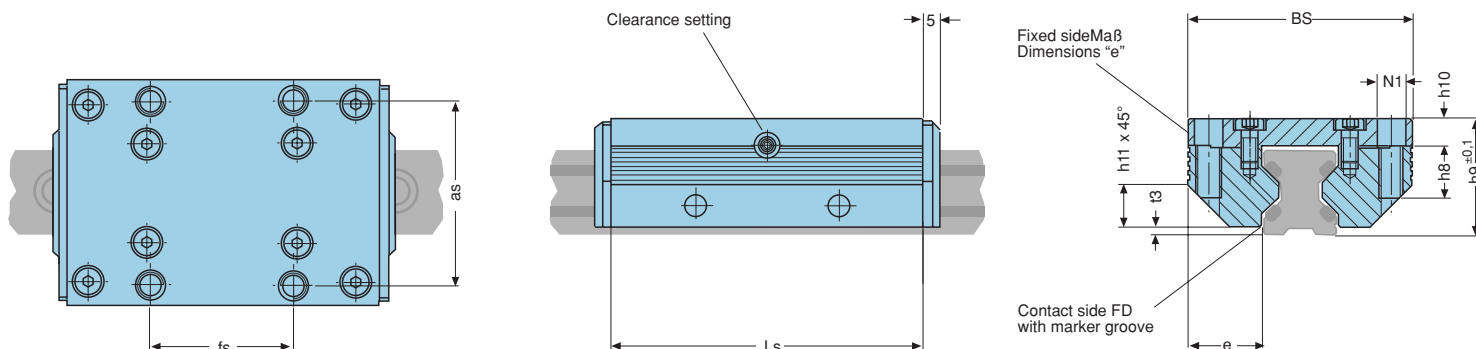


Aluminium Cassette

without lubricant



Series FDE



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

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

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 70)

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 71)
- Calculation programme to find the most suitable guide size
Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

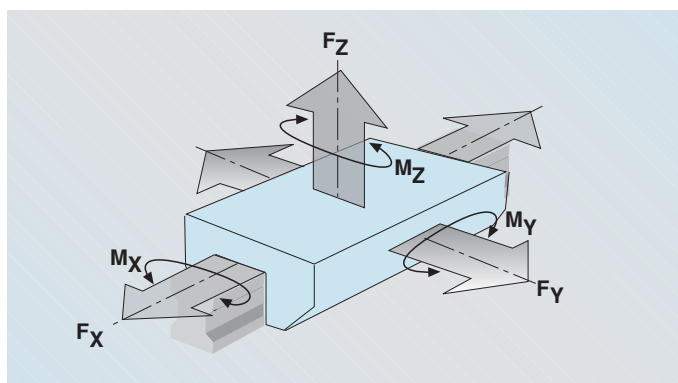
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

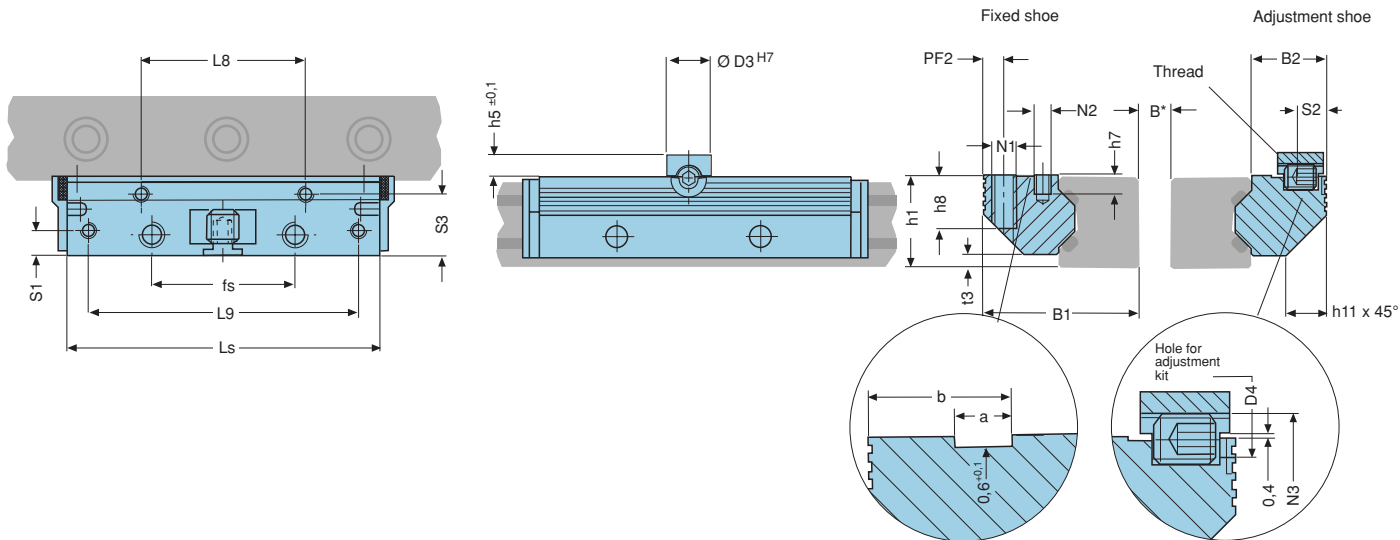
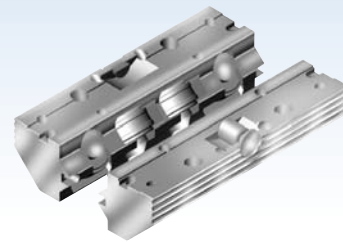
Stiffness:

- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).



Aluminium roller shoes without lubricant

Series FEE

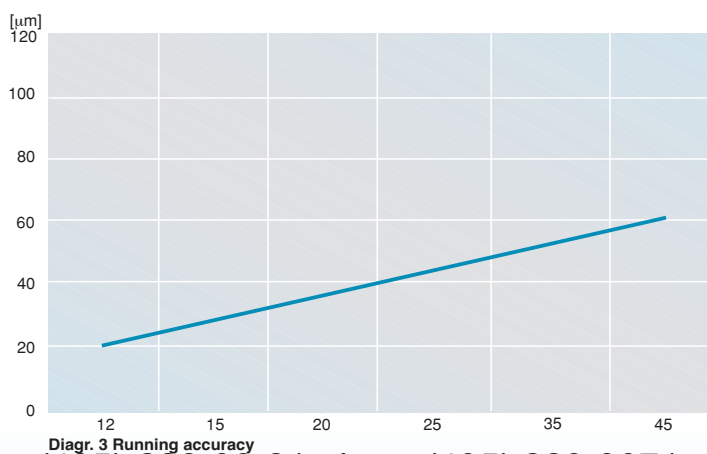
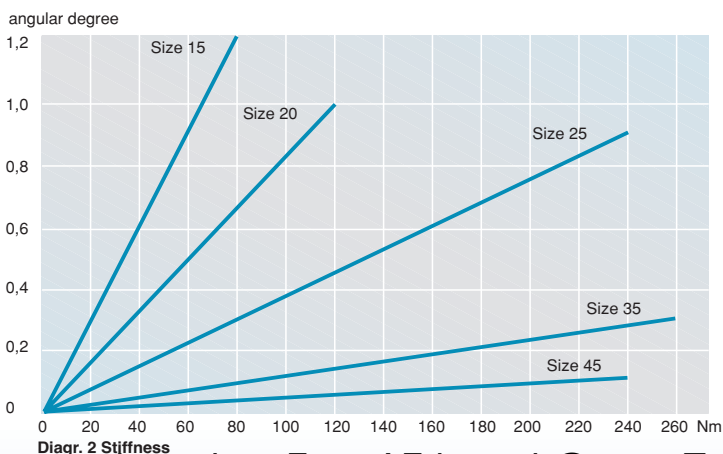
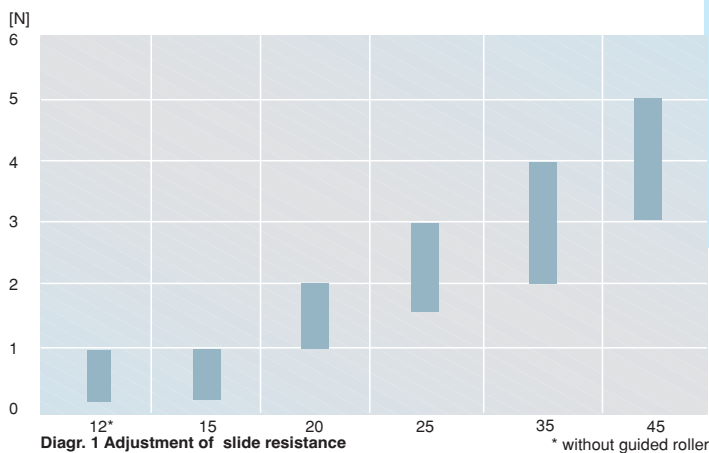


Moment load rating RSP				Dimensions				other dimensions RSP												Weight	Order number			
Mocx	Mcy	Mocx/Mocz	Mcy/Mcz	Ls	B1	h1	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
0,20(B+30,3)	0,20(B+30,3)	6	5	64	24,4	15,0	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,06	84495T
0,35(B+36,5)	0,30(B+36,5)	12	10	78	30,9	19,0	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,20	84395T
0,40(B+47,0)	0,33(B+47,0)	17	14	92	40,9	23,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,30	84442T
0,80(B+58,4)	0,60(B+58,4)	35	25	98	48,4	27,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367T
1,20(B+85,0)	0,90(B+85,0)	76	58	135	68,9	37,5	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	1,40	84368T
2,70(B+109,0)	2,20(B+109,0)	21	17	165	82,4	46,5	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	2,80	84369T

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

Standard	Basic body	Rollers	Wipers
	anodized Aluminium AlMg Si0,5 F28	Bearing steel 100 Cr6	Plastic plate PA6 with felt wipers

Material

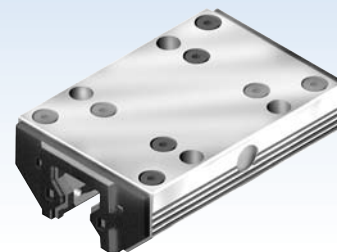


Linear guides

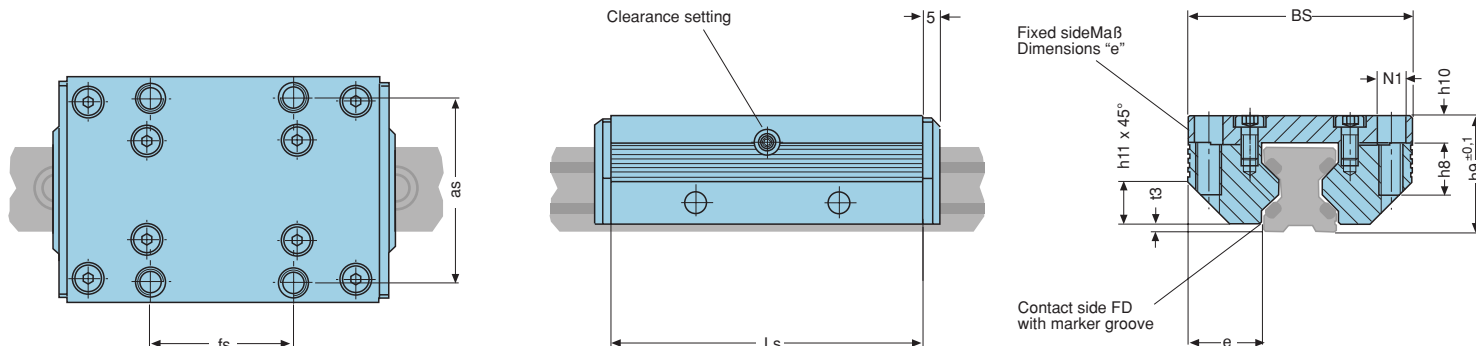


Aluminium Cassette

Non-corrosive Low Cost



Series FDG



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

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

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 70)

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 71)
 - Calculation programme to find the most suitable guide size
- Our calculation programme can be found in the download area of 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 74)
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/Preload:

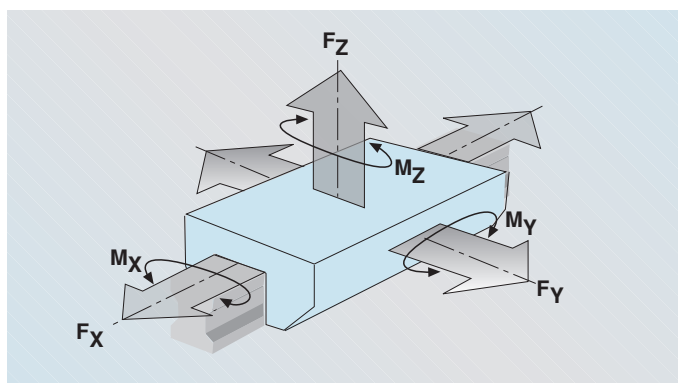
- Easy adjustment by threaded pin on the adjusting side of the cassette. Adjustment of pair of roller shoes by included adjustment plate and threaded pin. Recommended slide resistance see diagr. 1.
- The adjustment should always be made without wipers.

Running accuracy:

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

Stiffness:

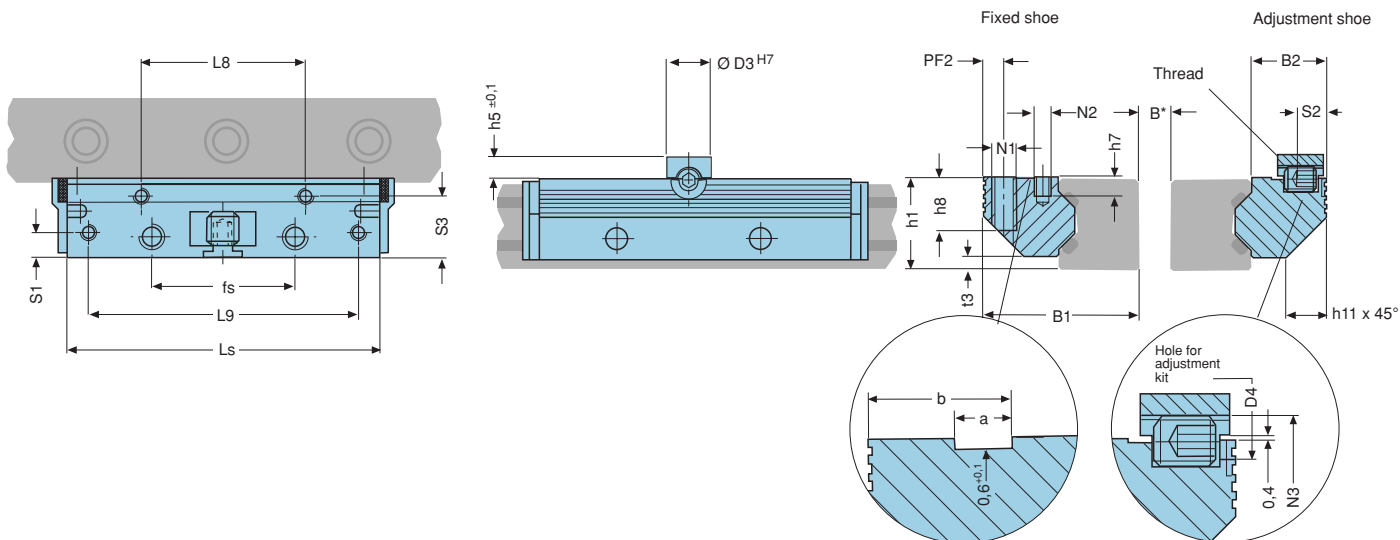
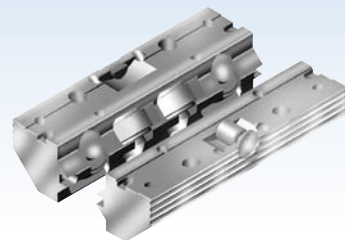
- With pairs of single rails the stiffness refers to one pair of single rails with one pair of roller shoes (see diagr. 2).



Aluminium roller shoes

Non-corrosive Low Cost

Series FEG

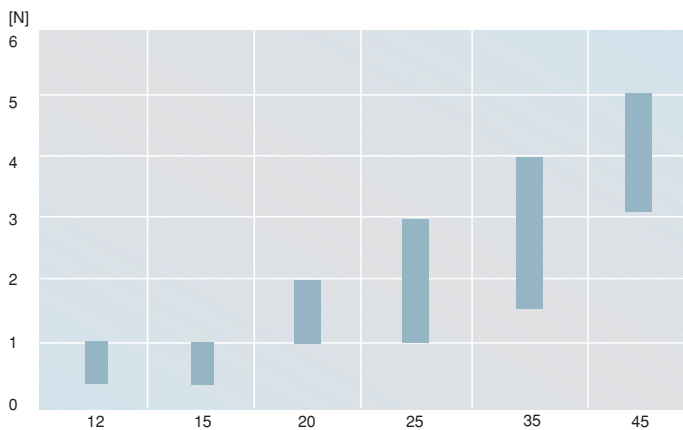


Moment load rating RSP				Dimensions				other dimensions RSP											Weight		Order number RSP			
Mocx	Mcy	Mcy/Mocx	Mcz/Mcy	Ls	B1	h1	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	
0,08(B+30,3)	0,30(B+30,3)	2,4	8,9	64	24,4	15,0	4	3,4	25	11,9	8	3	6,0	8	29	57	M4	M3	M4	3,4	4,9	9,7	0,06	84495LN
0,10(B+36,5)	0,35(B+36,5)	4,0	12,0	78	30,9	19,0	5	4,4	30	15,2	10	4	7,5	10	34	68	M5	M4	M6	4,9	5,9	12,4	0,20	84395LN
0,15(B+47,0)	0,50(B+47,0)	6,0	19,0	92	40,9	23,0	5	4,9	40	20,4	10	4	8,0	12	42	80	M6	M5	M6	5,9	5,9	16,9	0,30	84442LN
0,35(B+58,4)	0,70(B+58,4)	15,0	32,0	98	48,4	27,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	84367LN
0,70(B+85,0)	1,50(B+85,0)	42,0	95,0	135	68,9	37,5	7	8,9	62	32,9	14	6	7,5	20	67	117	M10	M6	M8	8,9	8,9	28,4	1,40	84368LN
1,40(B+109,0)	3,10(B+109,0)	103,0	238,0	165	82,4	46,5	7	9,9	80	36,4	14	6	9,5	24	83	146	M12	M8	M8	9,9	8,9	30,9	2,80	84369LN

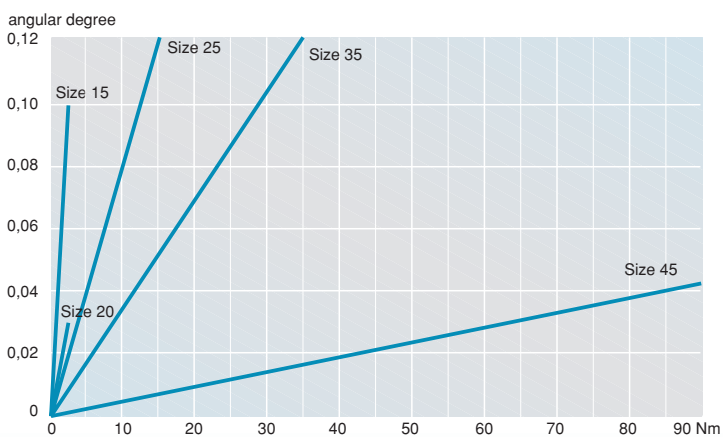
Dimensions [mm], Load rating, Moments [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	anodized Aluminium AlMg Si0,5 F28	Ball bearings Non-corrosive steel x65Cr13	Plastic plate PA6 with felt wipers

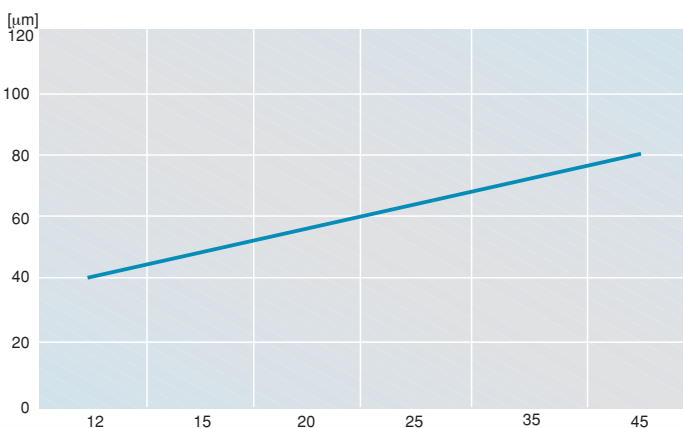
Material



Diagr. 1 Adjustment of slide resistance



Diagr. 2 Stiffness double rail with cassette

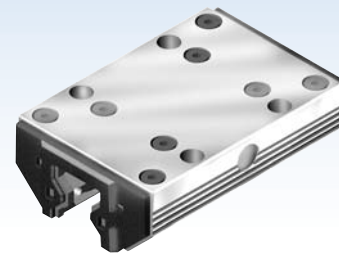


Diagr. 3 Running accuracy

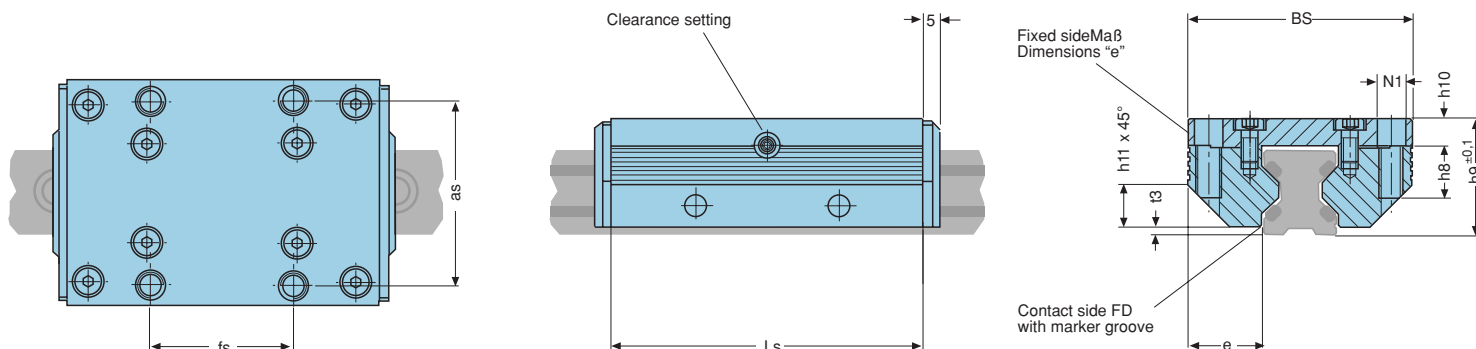


Aluminium Cassette

Angular ball bearing



Series FDH



Size	Load rating		Moment load rating				Dimensions			Other dimensions of cassette							Weight	Order no.	
	C	Co	Mocx	McxMocy/Mocz	Mcy/Mcz	Ls	Bs	h9	as	fs	e	h8	h10	h11	t3	N1			Cassette
25	7500	3700	58	118	81	165	98	70	36	57	45	23,50	16	8,5	13	2,5	M8	0,6	84363S
35	13400	8100	189	315	250	416	135	100	48	82	62	34,00	20	10,5	20	10,5	M10	1,6	84364S
45	24300	14400	461	777	548	924	165	120	60	100	80	37,50	24	13,5	22	4,0	M12	2,9	84365S

Dimension [mm], Load rating [N], Moment load rating [Nm], Weight [kg]

Technical information

cassettes and roller shoes (RSP)

Components:

- Aluminium basic body
- Eight double row ball bearings
- Plastic plate with felt wiper on front side (as option metal reamer see accessories on page 70).

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 71)
- Comfortable dimensioning via our calculation programme. The calculation programme is free you will find it in the download area of our homepage www.franke-gmbh.de. We shall be glad to make the calculation for you.

Dynamics:

- Speed of displacement up to 10 m/s
- Acceleration up to 40 m/s^2

Temperature range:

- 20°C up to 100°C , for a short time up to $+120^\circ\text{C}$

Lubrication:

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

Fastening:

- With screws quality 8.8, tightening torques see technical information
- Cassette with 4 fastening screws
- Pair of roller shoes with 12 fastening screws

Adjustment/preload:

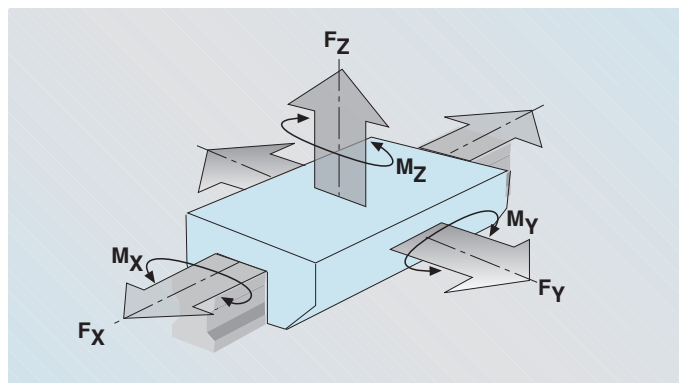
- Comfortable adjustment from outside. The cassette is adjusted by means of laterally integrated threaded pin; pair of roller shoes is adjusted by threaded piece and threaded pin which come with the consignment. Recommended adjustment values see diagram 1.
- Adjustment is made without wipers

Running accuracy:

- The running accuracy of the guide system is given for the rail length of 1 m (see diagram 3).

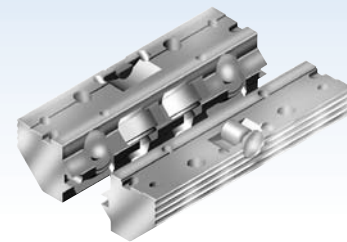
Stiffness:

- With single rails the stiffness is referred to a pair of single rails with a pair of roller shoes (see diagram 2).

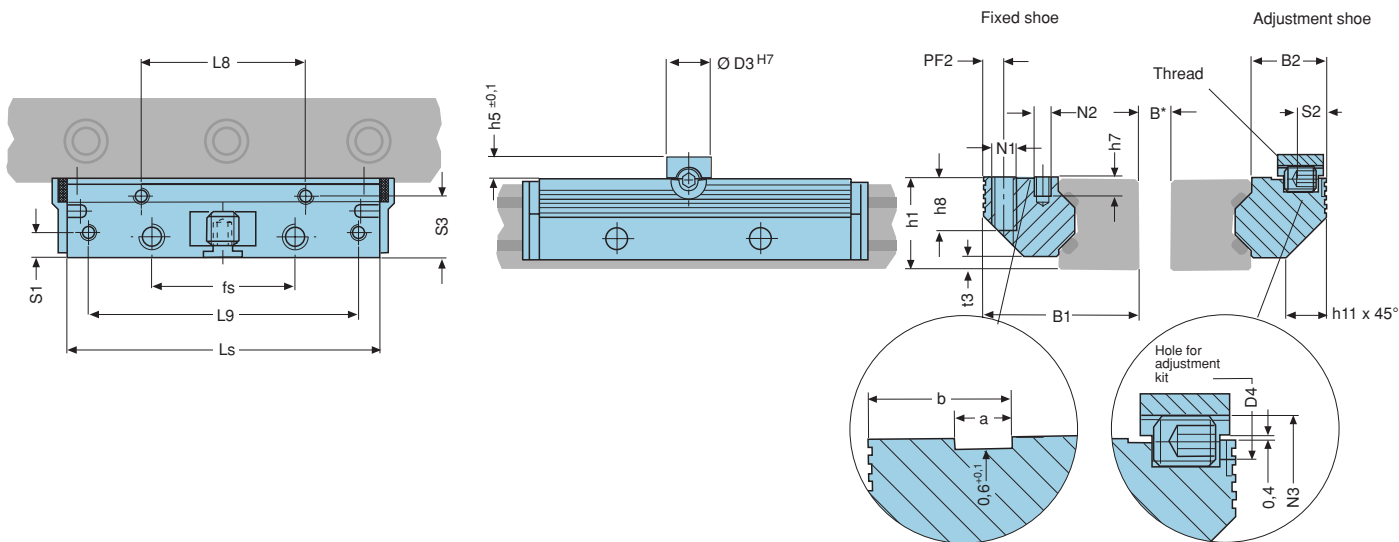


Aluminium roller shoes

Angular ball bearing



Series FEH



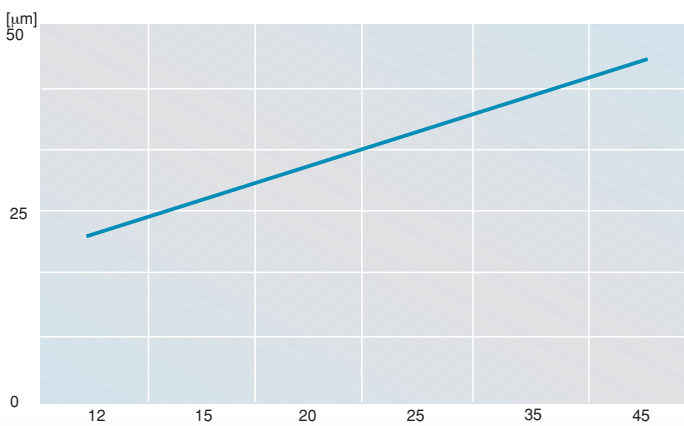
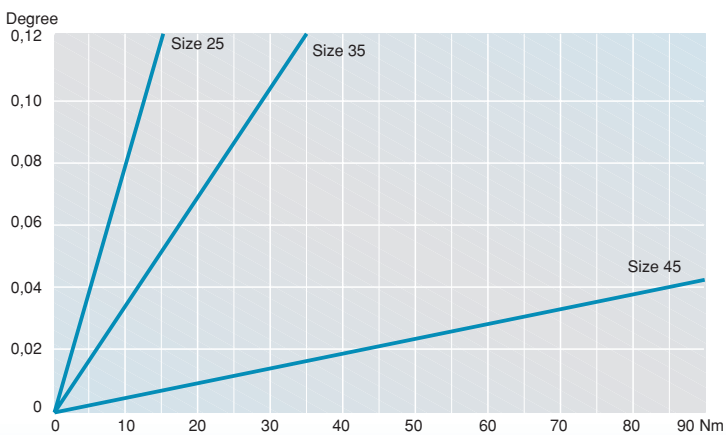
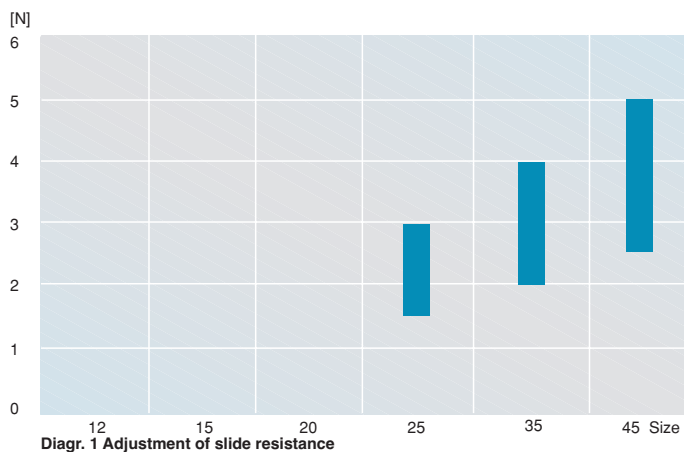
Moment load rating RSP				Dimensions			Other dimensions RSP														Weight Order no.					
Mocx	Mcx	Mocy Mocz	Mcy Mcz	Ls	B1	h1	a	b	h5	PF2	fs	B2	D3	D4	h7	h8	L8	L9	N1	N2	N3	S1	S2	S3	RSP	RSP
1,8 (B+58,4)	3,7 (B+58,4)	81	165	98	48,4	27,5	10,5	17,5	7	6,4	45	22,9	14	6	5,0	16	48	84	M8	M5	M8	7,4	8,9	19,4	0,50	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	1,40	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	2,80	84369S

* B = variable guide width

Dimension [mm], Load rating [N], Moment load rating [Nm], Weight [kg]

	Basic body	Rollers	Wipers
Standard	High strength anodized aluminium AIMg Si0,5 F28	Double row Ball bearing steel 100Cr6	Plastic plate PA6 with felt wiper

Materials



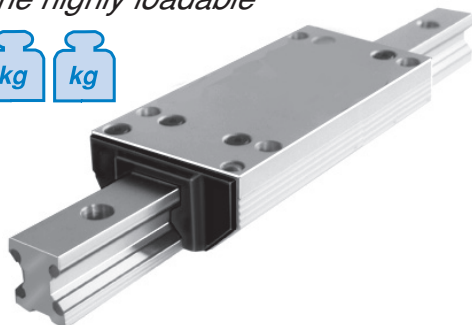


Aluminium Cassette / Aluminium roller shoes

Special version

Special types

the highly loadable



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

Dimensions [mm]

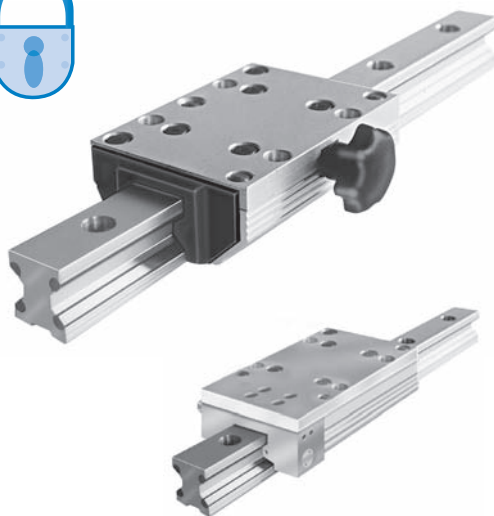
Aluminium roller guides are very variable. Depending on the case of application we supply e.g.:

- Cassettes with overlength for higher loads
- Cassettes for fastening from below

Please consult us.

Clamping devices

the manually fixable

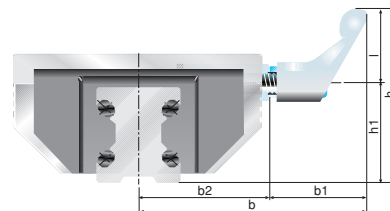
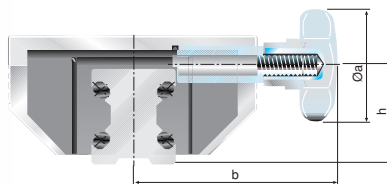


Size	Ø a	b	h	Lock force	Order nu. Star grip
15	25	41	19,0	200	84396AK
20	25	49	23,0	250	84441AK
25	32	56	28,0	250	84363AK
35	50	83	38,5	350	84364AK
45	63	101	48,0	750	84365AK

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

Size	b	b1	b2	h	h1	l Thread	Order nu. 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 normal power at the moment only the standard version available

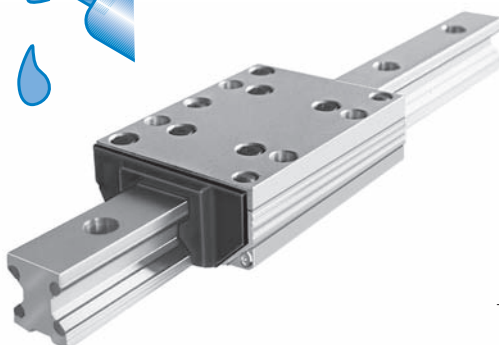


The cassette with star grip can be fixed at any optional place along the guide path. The clamping device does not exert forces on the guide system.

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.

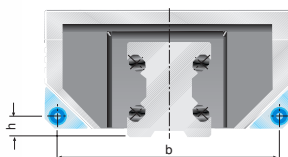
Central lubrication

the re-lubricatable



Size	b	h	Lubricating nipple DIN3405	Order number
15	42,0	4,4	D1AØ3,5	84396AF
20	56,3	5,2	D1AØ4,0	84441AF
25	61,8	6,6	D1AØ4,0	84363AF
35	87,9	9,4	D1AØ6,0	84364AF
45	106,0	11,0	D1AØ6,0	84365AF

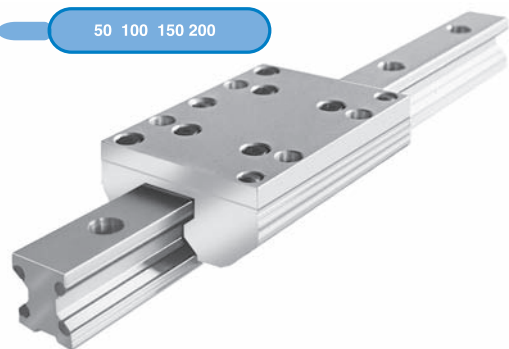
Dimensions [mm]



For long running periods and especially long life we recommend to use cassettes and roller shoes with relubrication facility. Relubrication in mounted condition becomes easy by the lubricating nipples on the front side.

High temperature
the heat-resistant

50 100 150 200



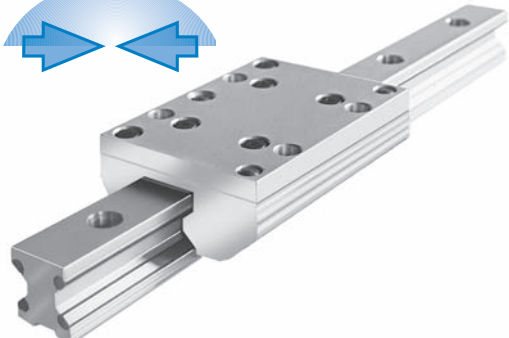
Size	Order number	
	Cassette	Roller shoes
12	on request	on request
15		
20		
25		
35		
45		

For applications in high temperature environment.

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

Please consult us.

Vacuum
the vacuum-fit



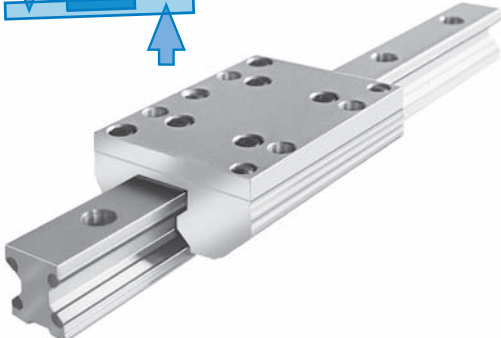
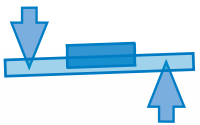
Size	Order number	
	Cassette	Roller shoes
12	on request	on request
15		
20		
25		
35		
45		

For applications in vacuum fields.

Special bore shapes and grease for high vacuum.

Please consult us.

Elastic roller
the equalizer

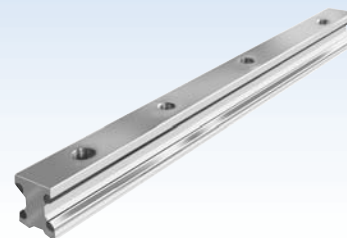


Size	Order number	
	Cassette	Roller shoes
25	84363E	84367E
45	84365E	84369E

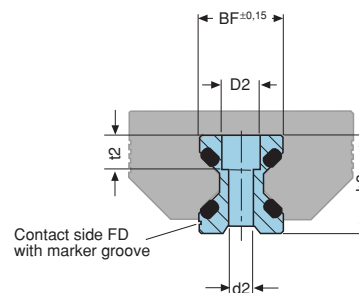
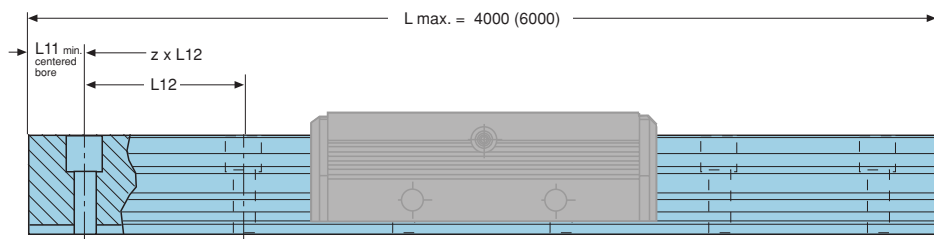
Cassette with 8 elastically supported rollers for special absorbability. Maximum loads, especially silent and easy running behaviour. Electrically insulated.



Aluminium double rail Standard



Series FDA



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	7,0	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]

Technical information double rail

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

Length L [mm]	Order number					
	Double rail for cassettes 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	64949A	69057A	69099A	63137A	63142A	62657A
3400	64950A	69058A	69100A	63138A	63143A	62658A
3600	64951A	69059A	69101A	63139A	63144A	62659A
3800	64952A	69060A	69102A	63140A	63145A	62660A
4000	64953A	69061A	69103A	63141A	63146A	62661A
4200				69138A	69148A	
4400				69139A	69149A	
4600				69140A	69150A	
4800				69141A	69151A	
5000				69142A	69152A	
5200				69143A	69153A	
5400				69144A	69154A	
5600				69145A	69155A	
5800				69146A	69156A	
6000				69147A	69157A	

Rail body	Raceways	Fastening bores
high density anodised aluminium	high alloy spring steel	centered due to rail length

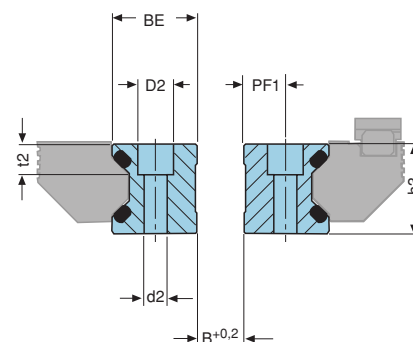
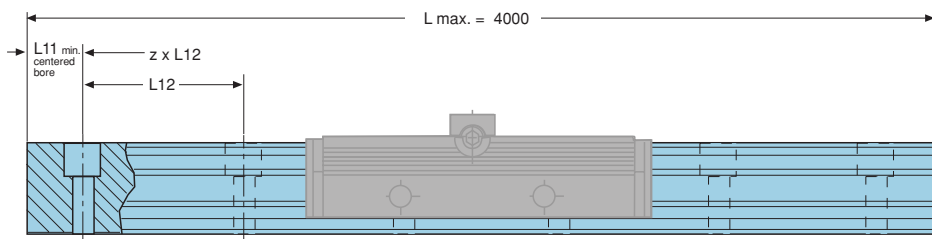
Standard

Pair of Aluminium single rails

Standard



Series FEA



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 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

Length L [mm]	Order number					
	Pair of rails 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	64991A	69005A	69047A	69052A	69157A	69804A
3400	64992A	69006A	69048A	69053A	69158A	69805A
3600	64993A	69007A	69049A	63154A	63159A	62659A
3800	64994A	69008A	69050A	63155A	63160A	62807A
4000	64995A	69009A	69051A	63156A	63161A	62808A

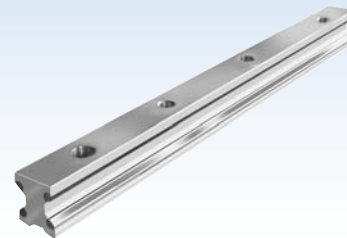
Linear guides

	Rail body	Raceways	Fastening bores
Standard	high density anodised aluminium	high alloy spring steel	centered due to rail length

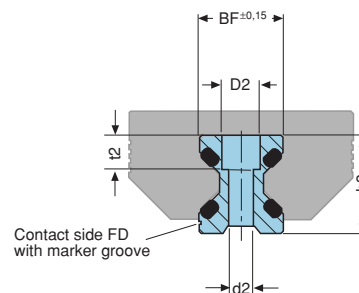
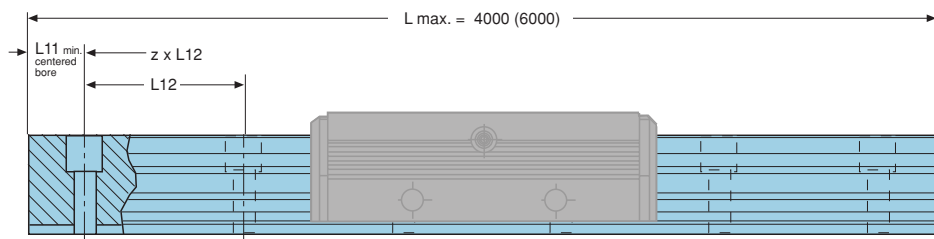


Aluminium double rail

Non-corrosive



Series FDC



Size	BF	D2	d2	h3	L11* = min	L12	l2	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	7,0	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]

Technical information double rail

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 at 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 anodised aluminium	non corrosive steel X65 Cr13	centered due to rail length

Material

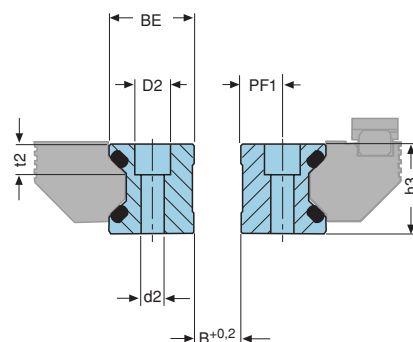
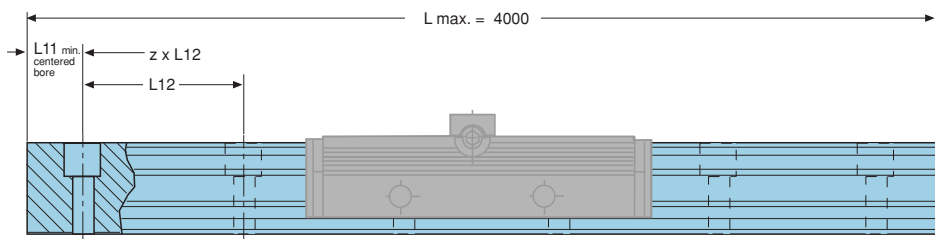
Length L [mm]	Order number					
	Double rail for cassettes Gr. 12	15	20	25	35	45
200	on request	63167N	69062N	62554N		
250		63168N	69063N	62555N		
300		63169N	69064N	62556N	62587N	62622N
350		63170N	69065N	62557N	62588N	62623N
400		63171N	69066N	62558N	62589N	62624N
450		63172N	69067N	62559N	62590N	62625N
500		63173N	69068N	62560N	62591N	62626N
550		63174N	69069N	62561N	62592N	62627N
600		63175N	69070N	62562N	62593N	62628N
650		63176N	69071N	62563N	62594N	62629N
700		63177N	69072N	62564N	62595N	62630N
750		63178N	69073N	62565N	62596N	62631N
800		63179N	69074N	62566N	62597N	62632N
850		63180N	69075N	62567N	62598N	62633N
900		63181N	69076N	62568N	62599N	62634N
950		63182N	69077N	62569N	62600N	62635N
1000		63183N	69078N	62570N	62601N	62636N
1100		63184N	69079N	62571N	62602N	62637N
1200		63185N	69080N	62572N	62603N	62638N
1300		63186N	69081N	62573N	62604N	62639N
1400		63187N	69082N	62574N	62605N	62640N
1500		63188N	69083N	62575N	62606N	62641N
1600		63189N	69084N	62576N	62607N	62642N
1700		63190N	69085N	62577N	62608N	62643N
1800		63191N	69086N	62578N	62609N	62644N
1900		63192N	69087N	62579N	62610N	62645N
2000		63193N	69088N	62580N	62611N	62646N
2100		63194N	69089N	62581N	62612N	62647N
2200		63195N	69090N	62582N	62613N	62648N
2300		63196N	69091N	62583N	62614N	62649N
2400		63197N	69092N	62584N	62615N	62650N
2500		63198N	69093N	62585N	62616N	62651N
2600		69052N	69094N	63132N	62617N	62652N
2700		69053N	69095N	63133N	62618N	62653N
2800		69054N	69096N	63134N	62619N	62654N
2900		69055N	69097N	63135N	62620N	62655N
3000		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

Pair of Aluminium single rails

Non-corrosive



Series FEC



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-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 at 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 anodised aluminium	non corrosive steel X65 Cr13	centered due to rail length

Material

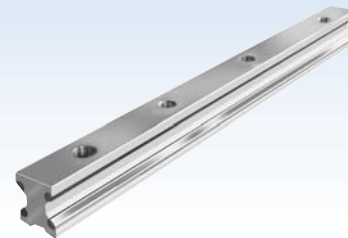
Length L [mm]	Order number					
	Pair of rails Gr. 12	15	20	25	35	45
200	on request	63199N	69010N	62701N		
250		63200N	69011N	62702N		
300		63201N	69012N	62703N	62734N	62769N
350		63202N	69013N	62704N	62735N	62770N
400		63203N	69014N	62705N	62736N	62771N
450		63204N	69015N	62706N	62737N	62772N
500		63205N	69016N	62707N	62738N	62773N
550		63206N	69017N	62708N	62739N	62774N
600		63207N	69018N	62709N	62740N	62775N
650		63208N	69019N	62710N	62741N	62776N
700		63209N	69020N	62711N	62742N	62777N
750		63210N	69021N	62712N	62743N	62778N
800		63211N	69022N	62713N	62744N	62779N
850		63212N	69023N	62714N	62745N	62780N
900		63213N	69024N	62715N	62746N	62781N
950		63214N	69025N	62716N	62747N	62782N
1000		63215N	69026N	62717N	62748N	62783N
1100		63216N	69027N	62718N	62749N	62784N
1200		63217N	69028N	62719N	62750N	62785N
1300		63218N	69029N	62720N	62751N	62786N
1400		63219N	69030N	62721N	62752N	62787N
1500		63220N	69031N	62722N	62753N	62788N
1600		63221N	69032N	62723N	62754N	62789N
1700		63222N	69033N	62724N	62755N	62790N
1800		63223N	69034N	62725N	62756N	62791N
1900		63224N	69035N	62726N	62757N	62792N
2000		63225N	69036N	62727N	62758N	62793N
2100		63226N	69037N	62728N	62759N	62794N
2200		63227N	69038N	62729N	62760N	62795N
2300		63228N	69039N	62730N	62761N	62796N
2400		63229N	69040N	62731N	62762N	62797N
2500		63230N	69041N	62732N	62763N	62798N
2600		69000N	69042N	63147N	62764N	62799N
2700		69001N	69043N	63148N	62765N	62800N
2800		69002N	69044N	63149N	62766N	62801N
2900		80267N	69045N	63150N	62767N	62802N
3000		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

Linear guides

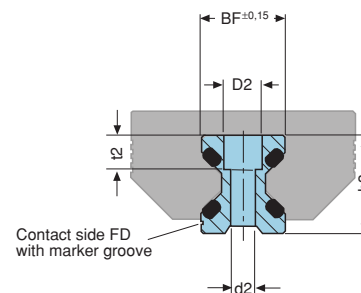
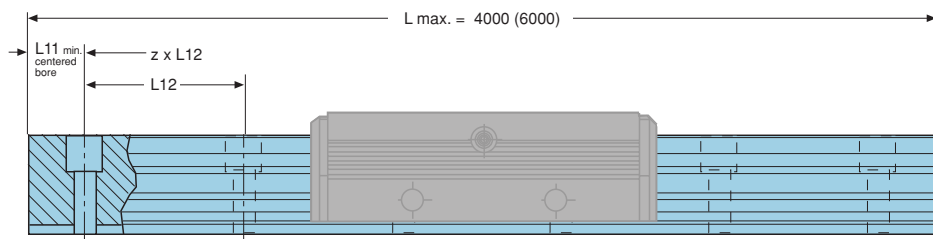


Aluminium double rail

Antimagnetic



Series FDD



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	7,0	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]

Technical information

double rail

Consists of:

- Aluminium body
- 4 raceways made of antimagnetic 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:

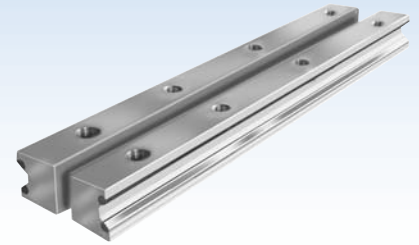
- With screws quality 8.8 and washers DIN433

	Rail body	Raceways	Fastening bores
Standard	high density anodised aluminium AlMgSi0,5F28	Duratherm	centered due to rail length

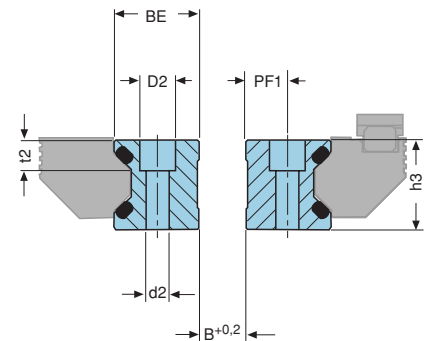
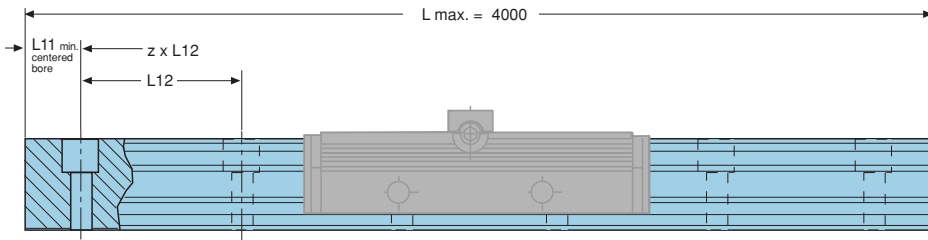
Length L [mm]	Order number					
	Double rail for cassettes Gr. 12	15	20	25	35	45
200	on request		62554P		on request	
250			62555P			
300			62556P			
350			62557P			
400			62558P			
450			62559P			
500			62560P			
550			62561P			
600			62562P			
650			62563P			
700			62564P			
750			62565P			
800			62566P			
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			

Pair of Aluminium single rails

Antimagnetic



Series FED



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 antimagnetic 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					
	Pair of rails Gr. 12	15	20	25	35	45
200	on request		62701P		on request	
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			

Standard

Rail body	Raceways	Fastening bores
high density anodised aluminium AlMgSi0,5F28	Duratherm	centered due to rail length

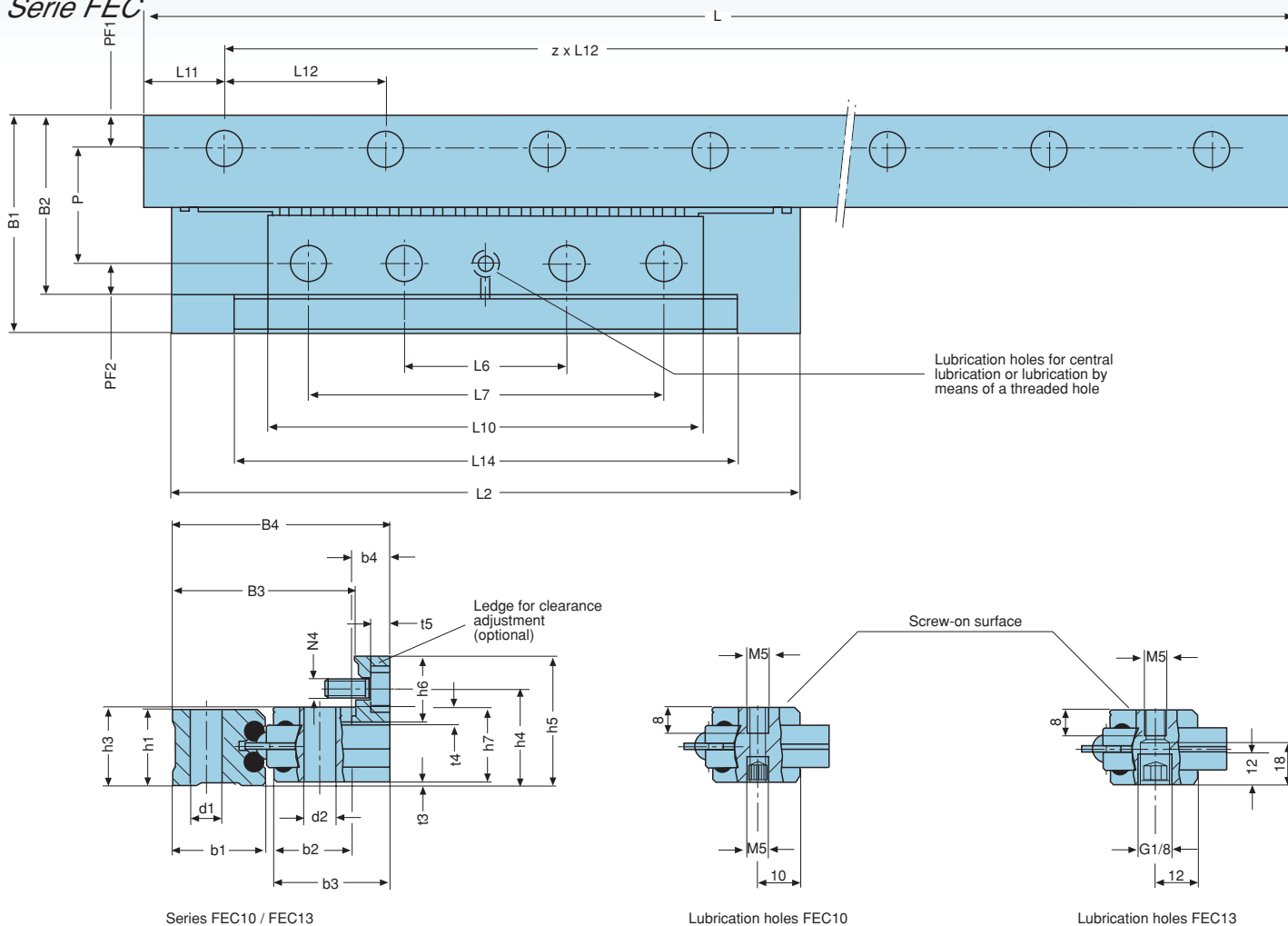
Linear guides



Linear guides with re-circulating elements

Aluminium

Serie FEC



Series FEC10 / FEC13

Lubrication holes FEC10

Lubrication holes FEC13

Serie	Weight	Wide					Height					Length					
		Meter	B1	B2	B3	B4	b1	d1	h1	h3	h4	h5	Lmax.	L11	L12	P	PF1
FEC10	1,9	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
FEC13	2,9	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

Re-circulating element, adjusting ledge

Series	Load rating	Weight	Re-circulating element, adjusting ledge														
			2 recir. elem. C	Piece	b2	b3	b4	h6	h7	L2	L6	L7	L10	L14	d2	N4	PF2
FUV10	50000	0,8	24,4	36,0	11,5	20,0	22,8	194	50	110	134,2	155	9	M6	10	5,4	6,0
FUV13	81000	1,7	31,6	46,0	15,0	23,0	30,0	242	60	140	169,0	178	11	M8	12	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 screws 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 up to 30 m/s²

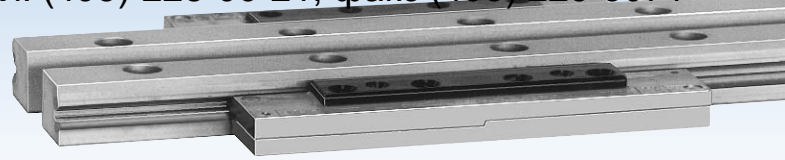
Mounting position: Optional

Lengths: We supply one-piece guide rails in the lengths which are given in the table as well as any intermediary length.

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

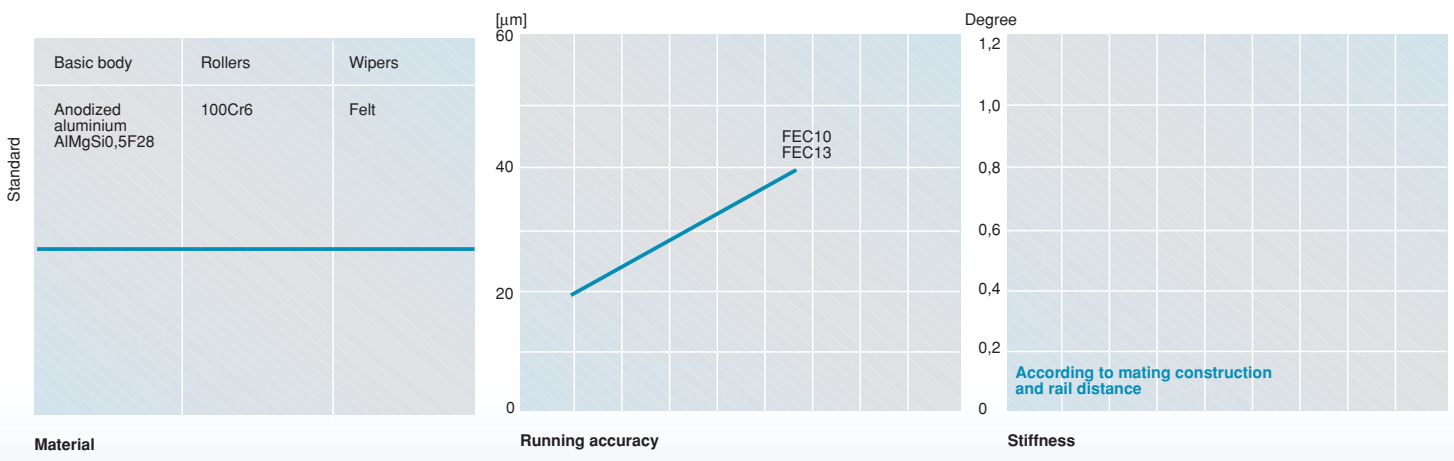
Lubrication: with bearing lubrication through lubrication nipples. We supply re-circulating elements with lubrication bores which are closed towards the screw-on surface. If you put in the closing screws for a second time please use an appropriate sealing mean.

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



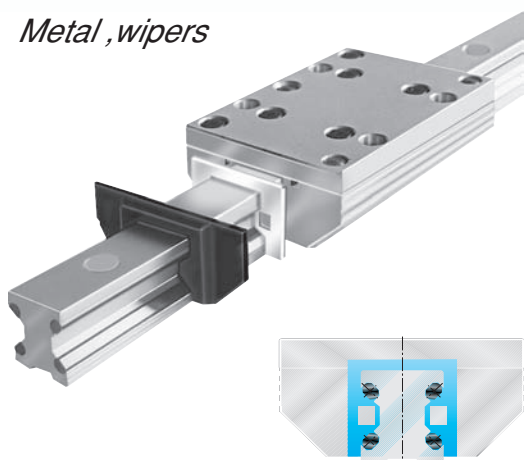
	Length [mm]	Order number	
		Aluminium FEC10	Aluminium FEC13
Single rail			
	300	83533C	
	350	83534C	83573C
	400	83535C	83574C
	450	83536C	83575C
	500	83537C	83576C
	550	83538C	83577C
	600	83539C	83578C
	650	83540C	83579C
	700	83541C	83580C
	750	83542C	83581C
	800	83543C	83582C
	850	83544C	83583C
	900	83545C	83584C
	950	83546C	83585C
	1000	83547C	83586C
	1100	83548C	83587C
	1200	83549C	83588C
	1300	83550C	83589C
	1400	83551C	83590C
	1500	83552C	83591C
	1600	83553C	83592C
	1700	83554C	83593C
	1800	83555C	83594C
	1900	83556C	83595C
	2000	83557C	83596C
	2100	83558C	83597C
	2200	83559C	83598C
	2300	83560C	83599C
	2400	83561C	83600C
	2500	83562C	83601C
	2600	83563C	83602C
	2700	83564C	83603C
	2800	83565C	83604C
	2900	83566C	83605C
	3000	83567C	83606C
	3200	83568C	83607C
	3400	83569C	83608C
	3600	83570C	83609C
	3800	83571C	83610C
	4000	83572C	83611C
Weight	kg/m	1,9	2,9
Series		FUV10	FUV13
Recircul. elem.		84019A	84018A
Weight	kg/each	0,4	0,8
Ledge		89367A	89368A

Linear guides



Aluminium Roller guides

Metal wipers

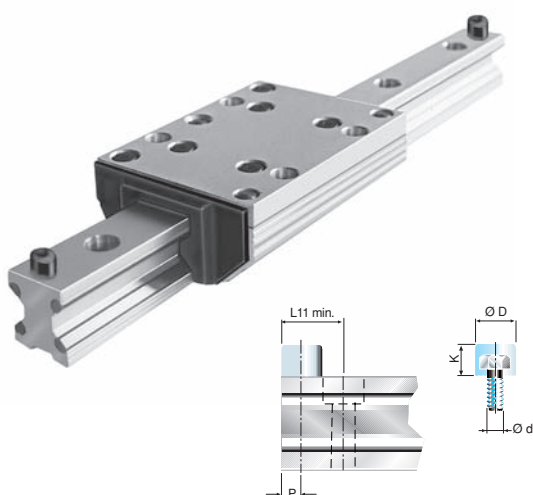


Size	Order number
12	69126A
15	69127A
20	69128A
25	69129A
35	69130A
45	69131A

Dimension [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.

Stop screws



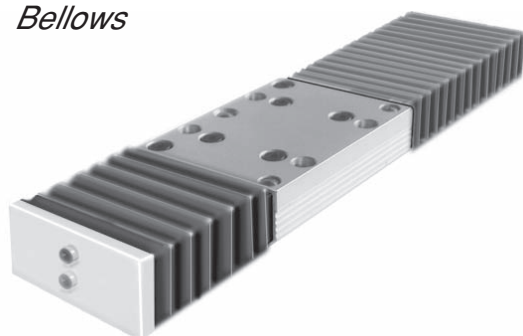
Size	d	D	K	L11 min.	P	Order number
12	M5	12	8	15,0	6,0	63504A
15	M5	12	8	16,0	6,0	63504A
20	M5	12	8	17,0	6,0	63504A
25	M6	15	10	20,5	7,5	63505A
35	M8	19	13	26,5	9,5	63506A
45	M10	24	16	33,0	12,0	63507A

Dimension [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

Bellows



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

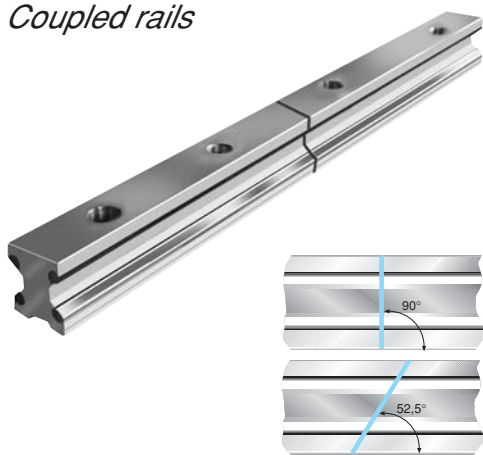
Dimension [mm]

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

Coupled rails



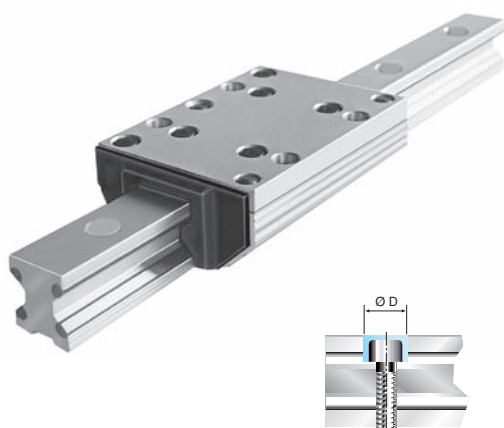
Size	Order number
12	on request
15	on request
20	on request
25	on request
35	on request
45	on request

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

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

Please consult us.

Covers



Size	Cylindric srew 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

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.

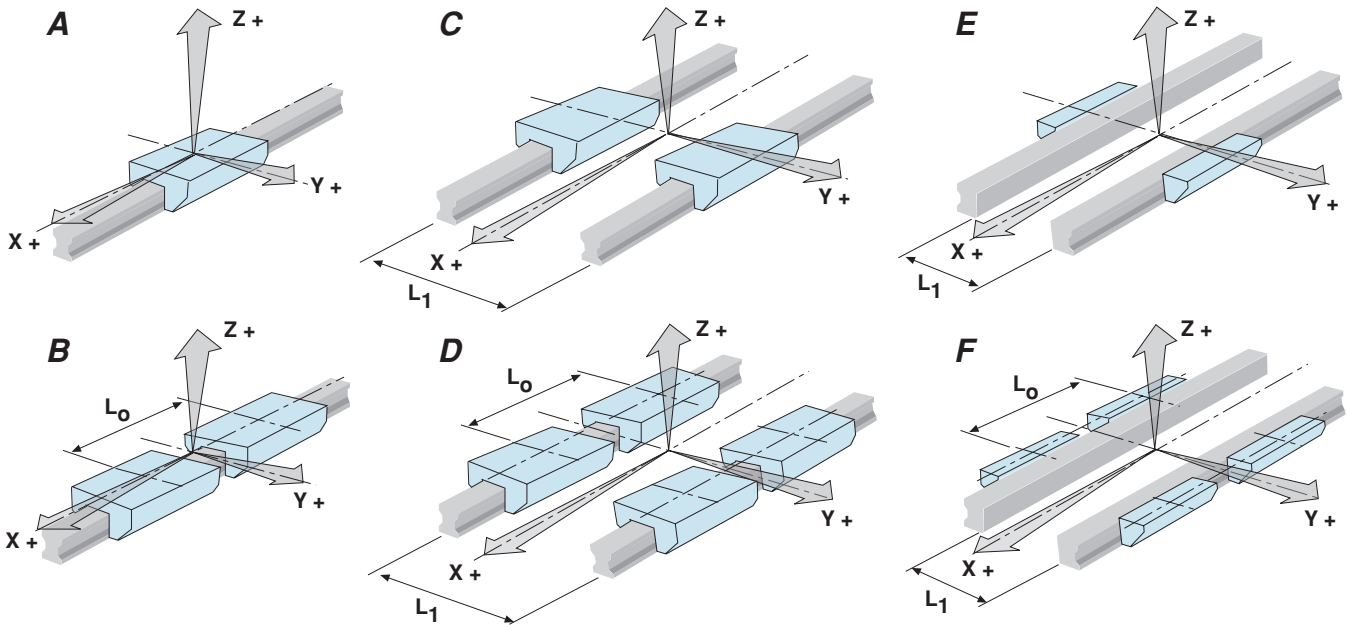
Wear resistant plastics, resistant to oil and ageing.



Your application

Company:
Name:
Department:
Address:
Telefon:
Telefax:
Email:
Branch:

Application:
 short description:



Arrangement: A B C D E F Series: _____

Length: L_0 and L_1 $L_0 =$ $L_1 =$

Forces: always from the cassette plate (centre of coordinate system)

+ or -	F_x + or -Y - coordinates (+ or -)Z - coordinates (+ or -)	<input type="checkbox"/>	<input type="checkbox"/>
+ or -	F_y + or -X - coordinates (+ or -)Z - coordinates (+ or -)	<input type="checkbox"/>	<input type="checkbox"/>
+ or -	F_z + or -X - coordinates (+ or -)Y - coordinates (+ or -)	<input type="checkbox"/>	<input type="checkbox"/>

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

The loads resulting from accelerations have to be calculated by $F_A = m \cdot 9,81$ m/s²

Mounting position: Horizontal Vertical

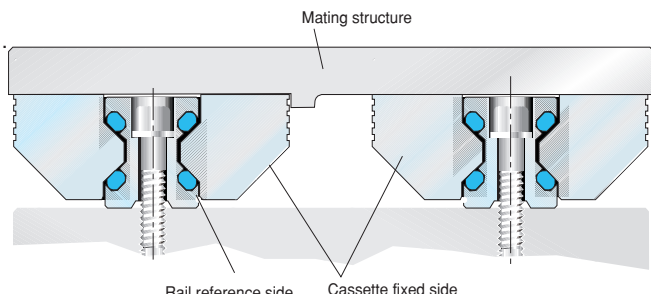
Environment: Humidity High temperature
 Rough dirt Impact

Please return the filled copy

Technical information

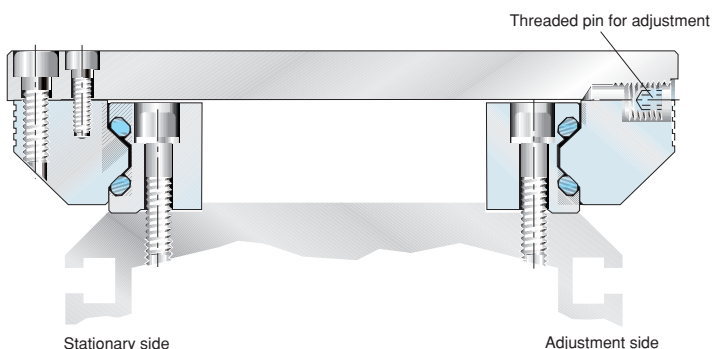
1. Construction hints

1.1 Double rail and cassette



With double track arrangement precise alignment in terms of parallelism and height is necessary.

1.2 Single rail and roller shoes



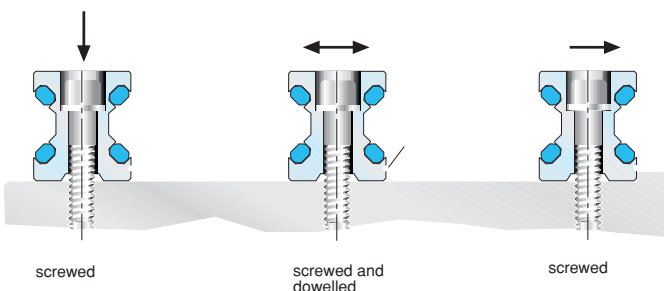
Aluminium roller guides consisting of single rails and roller shoes can be varied in the guide width. They are excellently suitable for assembly on profiled aluminium carriers, because their corrosion and temperature behaviour is homogenous.

2. Mounting instructions

The usable load capacity is influenced by the connection between the guide elements and the mating structure.

2.1 Double rails and cassettes

Depending on the load situation double rails should either be screwed or screwed and dowelled, resp. be put into grooves or against a shoulder.



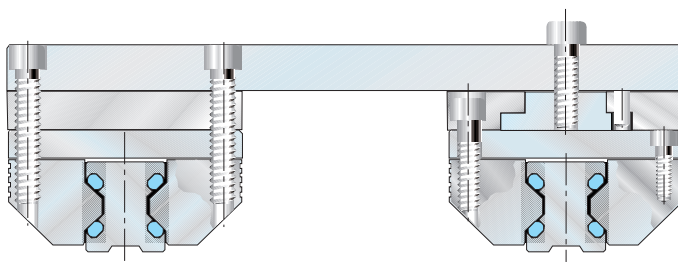
The rails rest against shoulders and are screwed resp. screwed and dowelled to the mating structure. After final checking of the linearity resp. parallelism the screws are tightened alternately from the centre outwards with the given torque.

Afterwards the total stroke distance is passed with the cassette. If it runs in uniform motion the mounting process can go on.

2.2 Stationary and movable rest side

With multitrack arrangement we recommend you to define a stationary and a movable side of the guide. This way tolerances in parallelism can be compensated best.

The example shows how this setup can be arranged. Afterwards the slider is moved along the guide path. When the movement is uniform you can proceed with mounting.



With this multitrack arrangement the movable side of the bearing is equipped with driver and locking device. The floating slider plate has a stationary and a movable rest side. The stationary side has the guiding function the movable side compensates tolerances in parallelism and height.

We recommend you to place the drive immediately near the guiding side because this side has to sustain the driving torque.

2.3 Single rails and roller shoes

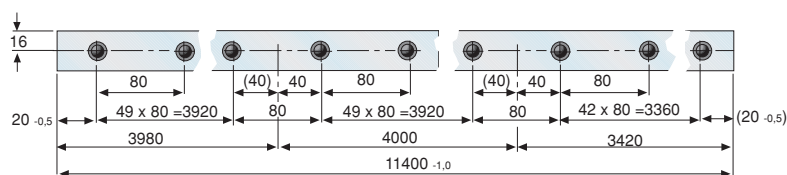
Where single rails and roller shoes are used the mating structure takes the function of the slider.

The guide rails are put against the contact shoulder and screwed resp. screwed and dowelled. After the final control of linearity resp. parallelism the screws are tightened alternately starting from the centre outwards. Afterwards the slider is moved along the guide path. When the movement is uniform you can proceed with mounting.

2.4 Spacing

Coupled rails with a length over $L=4000\text{mm}$ resp. 6000mm 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.

Spacing according to Franke standard e.g. FDK35 - 11400



For further mounting proceed as described under point 2.1.

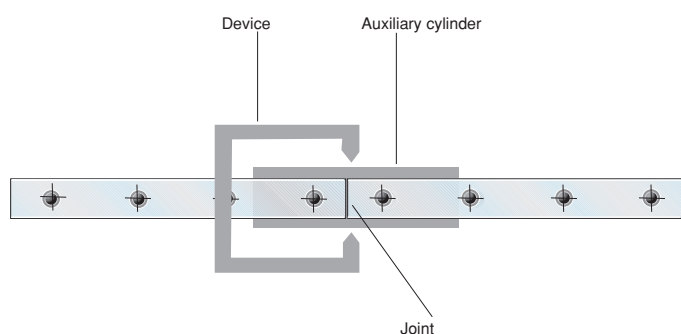
Technical information

2.5 Mounting

Clean contact and rest surfaces then put the rails lose on the guide path one behind the other one. With this the correct sequence of the production numbers has to be kept. (e.g.1.....2.....3.....4 etc.) The marking groove on the lower surface of the rail has always to be on the same side.

Now the complete guide path is aligned without gap and slightly fastened. The joints are to be aligned exactly. This is effected best by means of two auxiliary cylinders (length 200 mm). They are inserted into the raceway at the joints and clamped with a device.

For further mounting proceed as described under point 10.1.



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

3. Guide selection / Adjustment

3.1 Size of the guide system

To select the right guide size first the moments and forces acting on the bearing have to be determined. The guide size can be calculated with our calculation programme which you can download from our homepage.

Recommended safety (with screws quality 8.8):

Thrust load	$S > 1,2$
Tensile load	$S > 2,5$
Moment load	$S > 4,0$

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. Hereby there are a number of variants.

3.2 Screwed connections

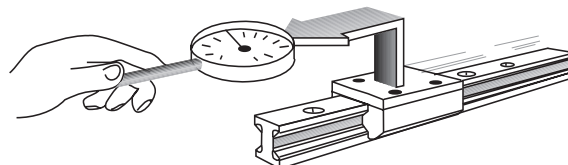
The units are fixed to the mating structure by the bore holes in the rails and the guides. Hereby the screw quality should be 8.8, washers DIN433.

To secure the screwed connections we recommend you to use suitable locking means.

Tightening moments:	Quality 8.8 [Nm]
M3	1,1
M4	2,5
M5	5,0
M6	8,5
M8	21,0
M10	41,0
M12	71,0

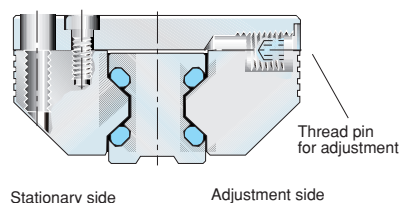
3.3 Slide resistance / adjustment

Aluminium roller guides are adjusted in such a way that the required stiffness under load is obtained. We recommend you to measure the slide resistance as shown below. However, before doing so the mating structure should be checked for dimensional accuracy and flatness.



The cassettes which are mounted on the rails are adjusted clearance-free ex works. This adjusting mode refers to the point on the rail where the cassette moves most smoothly. Adjustment is effected in the non-loaded condition. The adjustment forces are shown in the diagrams on the product pages in this catalogue.

3.4 Double rail and roller shoes



With multitrack arrangement the movable side of the bearing is equipped with driver and locking device. The floating slider plate has a stationary and a movable rest side. The stationary side has the guiding function, the movable side compensates tolerances in parallelism and height.

We recommend to place the drive closely near the guiding side because this side has to sustain the driving torque.

3.5 Single rails and roller shoes

Where single rails and roller shoes are used the mating structure takes the function of the slider.

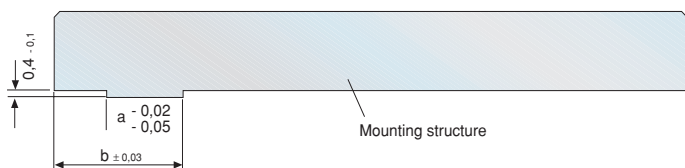
The guide rails are put against the contact shoulder and screwed resp. screwed and dowelled. After final control of linearity resp. parallelism the screws are tightened alternately starting from the center outwards. Afterwards the slider is moved along the guide path. When the movement is uniform you can proceed with mounting.

Principally clearance setting is effected in unloaded condition.

Technical information

Centering groove on the stationary side

The roller shoes are provided with centering grooves for better alignment during mounting. If you want to use it you need centering shoulders according to the data given below.



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

3.6 Running accuracy

The running accuracy is measured from the screw-on-surface of the cassette to the ideal straight line of stroke. It is 0,06 mm along the whole stroke length.

3.7 Contact and support surfaces

The contact and support surfaces exert an substantial influence on functioning and precision of linear guides. Depending on the functional requirements of the system the mating structure has to be machined with the corresponding degree of precision, because machining errors on the mating structure are added to the running errors of the guide system. In order to guarantee troublefree functioning we recommend to observe a max. accumulated deviation of < 0.1 mm per running meter of the guide distance on the mating structure.