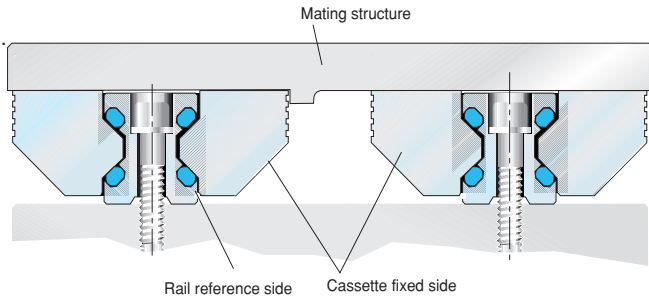


Technical information

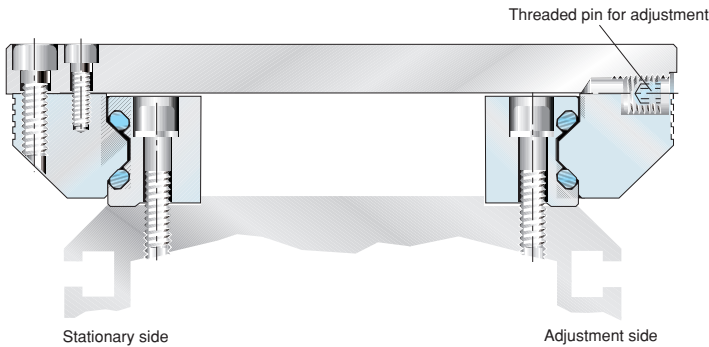
1. Construction hints

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



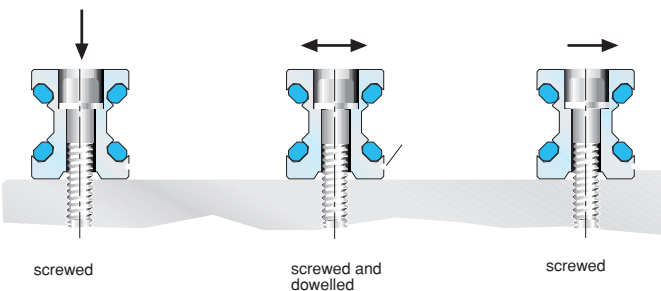
Aluminium roller guides consisting of single rails and roller shoes can be varied in the guide width. They are excellently suitable for assembly on profiled aluminium carriers, because their corrosion and temperature behaviour is homogenous.

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.



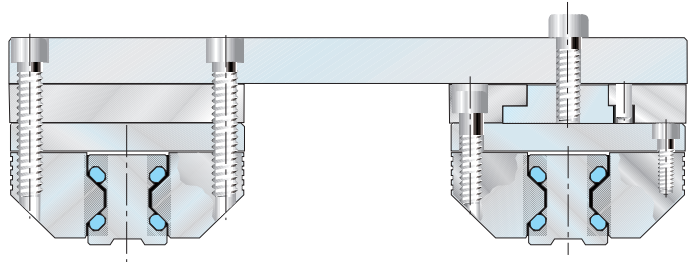
The rails rest against shoulders and are screwed resp. screwed and dowelled to the mating structure. After final checking of the linearity resp. parallelism the screws are tightened alternately from the centre outwards with the given torque.

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

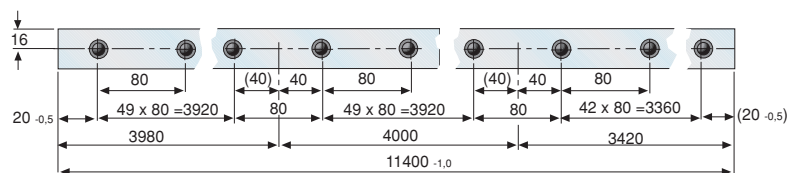
Where single rails and roller shoes are used the mating structure takes the function of the slider.

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 an 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.

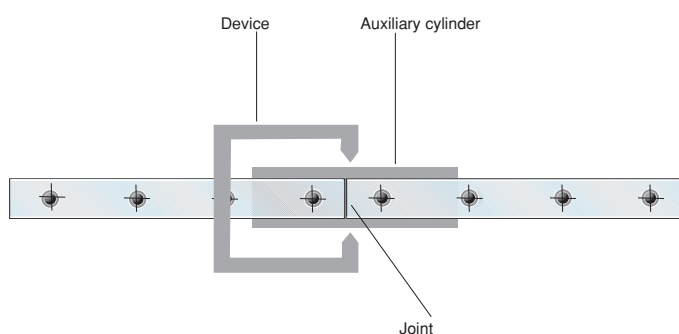
Technical information

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.

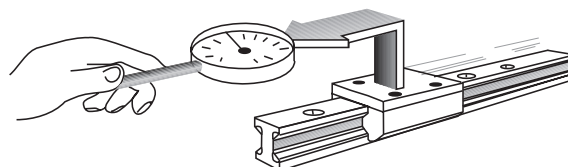
To secure the screwed connections we recommend you to use suitable locking means.

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

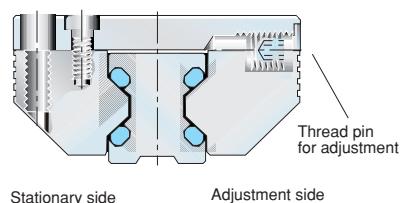
3.3 Slide resistance / adjustment

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.

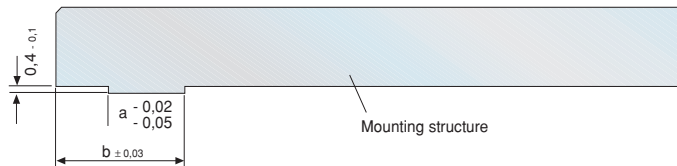
The guide rails are put against the contact shoulder and screwed resp. screwed and dowelled. After final control of linearity resp. parallelism the screws are tightened alternately starting from the center outwards. Afterwards the slider is moved along the guide path. When the movement is uniform you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