

# Track Roller Studs for Sheet Metal Structures

Series RZ and RZ..E



New.. New.. New.. New

Centric and eccentric track roller studs RZ and RZ..E supplement the extensive range of INA track rollers described in *Publication LFR*.

Track roller studs have a centering diameter, internal threads for a fixing bolt and radial grooves for snap rings that serve to locate track rollers axially. Hexagonal nuts are used for the axial location of wider track rollers. The nuts are screwed onto the protruding threads on the fixing bolts. Eccentric track roller studs also have a hexagonal socket. If the eccentric collar is rotated over the hexagonal socket with a wrench, the track roller outer surface will have a clearance-free contact with the mating track.

Track roller studs are particularly well-suited for sheet metal designs where the roller studs on the stud-type track rollers cannot be adequately supported. Combined with INA track rollers, custom-designed guidance systems that are easy to mount are also available for these applications. In addition, track roller studs can be used for a wide variety of linear guidance systems that are well adapted to the application.

## Drawer Storage System – Sample Design

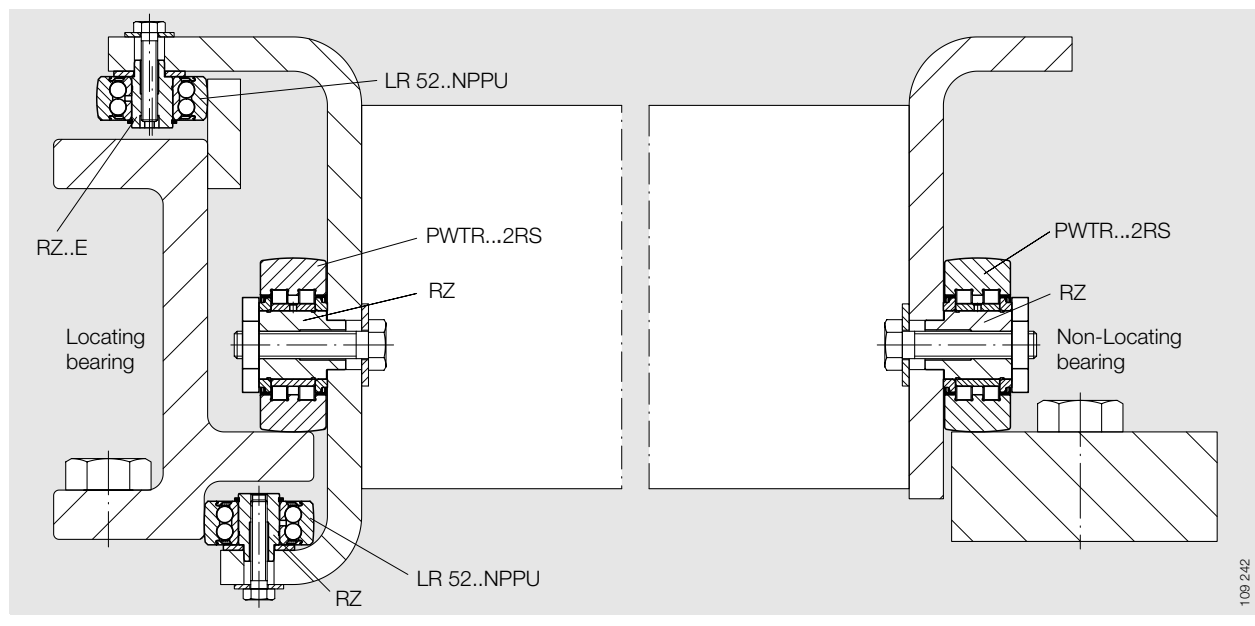
The drawer storage system is a sheet metal structure having standard profiles and both locating and non-locating bearing sides. The drawers are hung from above.

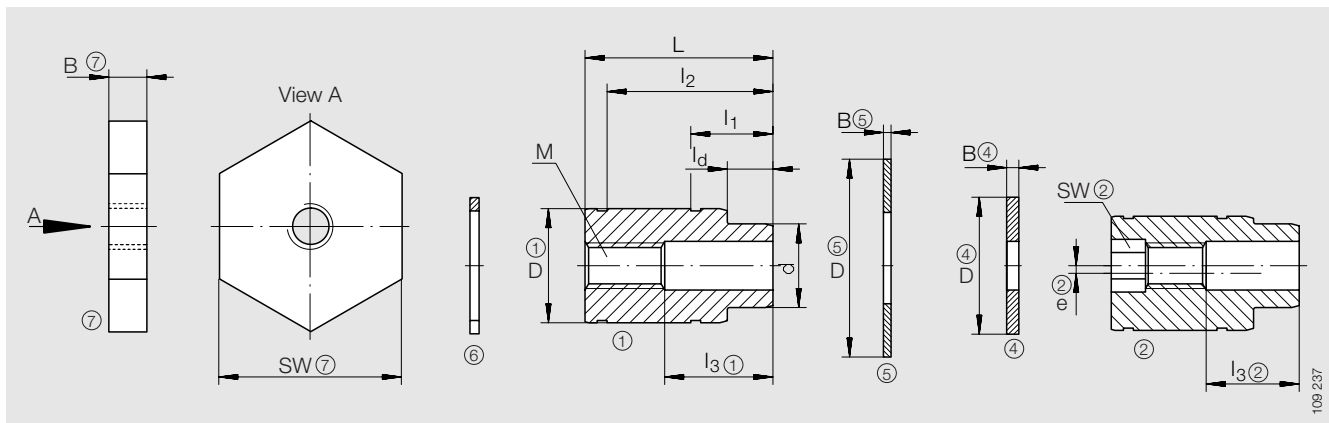
A lift mast profile with a welded piece of flat steel serves as the raceways on the locating bearing side. A slit square pipe is used as a wraparound. The part of the pipe that has been removed is mounted on the non-locating bearing side. The non-locating bearings run on a flat steel piece with a hardened surface. Track roller studs join the bearing with the surrounding structure.

Yoke type track rollers, series PWTR...2RS, support the main load on both sides. Their optimized profile reduces the Hertzian pressure of the mating track, preventing premature wear. Centric track roller studs guide the bearings. Hexagonal bolts and hexagonal nuts connect the studs and bearing inner ring to the surrounding structure.

Series LR 52..NPPU track rollers provide lateral guidance. The upper guidance rollers are mounted on eccentric track roller studs, and the lower rollers are mounted on centric track roller studs. Snap rings are used to secure the track rollers axially. The track rollers on the eccentric studs are preloaded clearance-free against the track via the hexagonal socket. Due to the minimum radial load from the preload, the bearings run without slipping.

A second drawer is positioned on the right in a mirror-image arrangement. This enclosed structure protects the bearings and the raceways from damaging external factors. Track roller studs allow an overall structure that is compact, easy to mount, and economical.





### Track Roller Studs

Part Number	①										②	③		④		⑤		⑥		⑦	
Designation	Track Roller Studs										Bolt <sup>2)3)</sup> DIN EN 24 014 DIN EN 24 017	Washer <sup>2)</sup> DIN 9021		Axial Bearing Washer		Snap Ring <sup>2)</sup> DIN 471		Nut			
	D	d <sup>1)</sup>	L	ld	l <sub>1</sub>	l <sub>2</sub>	M	l <sub>3</sub>	e	SW		D	B	D	B		B	SW			
RZ 15	15	11	25	6	11	22	M 6	15	-	-	M 6×..	18	1,6	26	1	15×1	5	24			
RZ 15 E	15	11	25	6	11	22	M 6	13	1	6	M 6×..	18	1,6	26	1	15×1	5	24			
RZ 25	25	18	32	7	12	27	M10	18	-	-	M10×..	30	2,5	42	1	25×1,2	6	32			
RZ 25 E	25	18	32	7	12	27	M10	15	1,5	10	M10×..	30	2,5	42	1	25×1,2	6	32			

1) Recommended bore tolerance H7.

2) Standard part – not included in shipment  
(See table below – Parts Included in Shipment and Standard Parts).

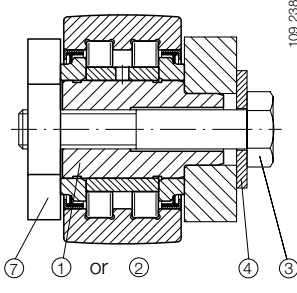
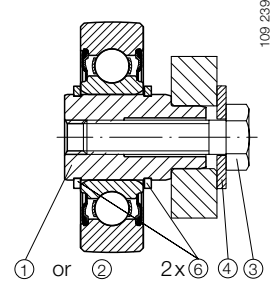
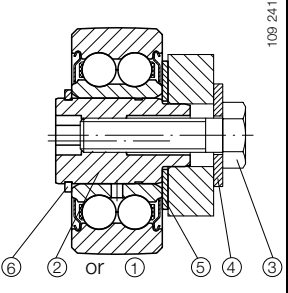
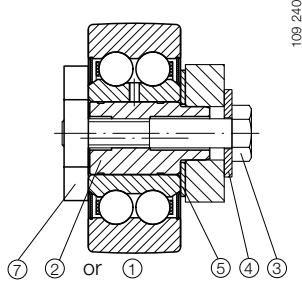
3) Bolt length is dependent on component thickness.  
without  $\varnothing$ :  $l_{smin} = \text{component thickness} + l_3 - l_d + \text{thread diameter}$   
with  $\varnothing$ :  $l_{smin} = \text{component thickness} + L - l_d + B$ .


**!** Track rollers sustain very heavy loads. The design and accuracy of the surrounding structure, particularly in the case of thin sheet metal, can affect the load carrying capacity, service life, and operation of the track rollers. Always check the stability and load carrying capacity of the mating parts.

### Parts Included in Shipment and Standard Parts

Track Roller Studs	Part Number	Designation	Item Number	Comments
RZ 15 or RZ 15 E	①	RZ 15	005-177-294	-
	②	RZ 15 E	005-177-278	-
	③	Bolt M6×.. DIN EN 24 014 or DIN EN 24 017 <sup>3)</sup>		not included in delivery
	④	Washer DIN 9 021-6,4		not included in delivery
	⑤	AS 1226	000-029-718	smallest package contains 10 pieces
	⑥	Snap ring DIN 471-15×1		not included in delivery
	⑦	MU RZ 15-SW 24	005-177-340	smallest package contains 5 pieces
RZ 25 or RZ 25 E	①	RZ 25	005-177-308	-
	②	RZ 25 E	005-177-316	-
	③	Bolt M10×.. DIN EN 24 014 or DIN EN 24 017 <sup>3)</sup>		not included in delivery
	④	Washer DIN 9021-10.5		not included in delivery
	⑤	AS 2542	000-019-526	smallest package contains 10 pieces
	⑥	Snap ring DIN 471-25×1.2		not included in delivery
	⑦	MU RZ 25-SW 32	005-177-359	smallest package contains 5 pieces

## Track Roller Studs

Track Roller Studs	Yoke Type Track Rollers <sup>1)</sup> Designation	Dimensions		Track Rollers <sup>1)</sup> Designation	Dimensions		Track Rollers <sup>1)</sup> Designation	Dimensions		Track Rollers <sup>1)</sup> Designation	Dimensions	
		D mm	C mm		D mm	C mm		D mm	C mm		D mm	C mm
RZ 15 or RZ 15 E	PWTR 15.2RS	35	18	LR 202 NPPU	40	11	LR 5202 KDDU	40	15,9	LFR 5302 KDD	53,3	15,9
	PWTR 1542.2RS	42	18	LR 202 NPP	40	11	LF 5202 KDD	40	15,9	–	–	–
	–	–	–	–	–	–	LR 5202 NPPU	40	15,9	–	–	–
RZ 25 or RZ 25 E	PWTR 25.2RS	52	24	LR 205 NPPU	62	15	LR 5205 KDDU	62	20,6	LR 5305 KDDU	72	25,4
	PWTR 2562.2RS	62	24	LR 205 NPP	62	15	LR 5205 KDD	62	20,6	LR 5305 NPPU	72	25,4
	–	–	–	–	–	–	LR 5205 NPPU	62	20,6	LFR 5206-20 KDD	82	23,8
	–	–	–	–	–	–	–	–	LFR 5206-25 KDD	87	23,8	
Designation of Parts												
Parts Required	① RZ ② RZ..E ③ Bolt DIN EN 24 014/17 ④ Washer DIN 9 021 ⑦ Nut MU RZ..-SW..			① RZ ② RZ..E ③ Bolt DIN EN 24 014/17 ④ Washer DIN 9 021 ⑥ 2 Snap Rings DIN 471			① RZ ② RZ..E ③ Bolt DIN EN 24 014/17 ④ Washer DIN 9 021 ⑤ AS.. ⑥ Snap Ring DIN 471			① RZ ② RZ..E ③ Bolt DIN EN 24 014/17 ④ Washer DIN 9 021 ⑤ AS.. ⑦ Nut MU RZ..-SW..		

1)  The design and accuracy of the surrounding structure can affect the load carrying capacity, service life, and operation of the track rollers. The data provided in *Publication LFR* for permissible loads apply for track rollers only. Always check the stability and load carrying capacity of the mating parts. Further information provided in *Publication LFR* should be noted.

### Sample Order:

Yoke type track roller  
 Centric track roller studs  
 Nuts for track roller studs  
 (Smallest package contains 5 pieces)

Order Code: PWTR 2562.2RS  
 RZ 25  
 MU RZ 25-SW 32

Must be purchased elsewhere:

Bolt DIN EN 24 014/DIN EN 24 017-M10×..  
 (dependent on component thickness)  
 Washer DIN 9 021-10,5



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