
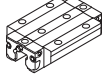


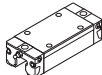


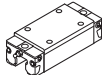







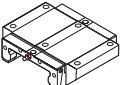


Design styles and versions

Ball runner block			Application area	Load-bearing capacity	Special feature
Standard ball runner blocks made of steel		FNS R1651¹⁾²⁾⁵⁾ R2001³⁾⁴⁾	For high rigidity requirements	High	For mounting from above and below
		FLS R1653¹⁾²⁾⁵⁾ R2002³⁾	For very high rigidity requirements	Very high	For mounting from above and below
		FKS R1665 R2000³⁾	For restricted space in the longitudinal direction	Medium	For mounting from above and below Supplementary to DIN 645-1
		SNS R1622¹⁾²⁾⁵⁾ R2011³⁾⁴⁾	For restricted space in the transverse direction	High	For mounting from above
		SLS R1623¹⁾²⁾⁵⁾ R2012³⁾	For restricted space in the transverse direction	Very high	For mounting from above
		SKS R1666 R2010³⁾	For restricted space in the longitudinal and transverse direction	Medium	For mounting from above
		SNH R1621¹⁾²⁾⁵⁾	For restricted space in the transverse direction and high rigidity requirements	High	Higher rigidity than SNS
		SLH R1624¹⁾²⁾⁵⁾	For restricted space in the transverse direction and high rigidity requirements	Very high	Higher rigidity than SLS
Standard ball runner blocks made of steel with Resist CR		FNN R1693²⁾	For restricted space in the vertical direction	High	Lower rigidity than FNS Not defined in DIN 645-1
		FKN R1663²⁾	For restricted space in the vertical and longitudinal direction	Medium	Lower rigidity than FKS Not defined in DIN 645-1
		SNN R1694²⁾	For restricted space in the vertical and transverse direction	High	Lower rigidity than SNS Not defined in DIN 645-1
		SKN R1664²⁾	For restricted space in the vertical, longitudinal and transverse direction	Medium	Lower rigidity than SKS Not defined in DIN 645-1

- 1) Heavy-duty ball runner blocks
- 2) BSHP ball runner block
- 3) Resist NR
- 4) Resist NR II
- 5) Resist CR

Refer to the product description for the abbreviations of the formats

Ball runner block		Application area	Load-bearing capacity	Special feature
Super ball runner blocks made of steel with Resist CR 	FKS R1661	For compensating large tolerances in the adjoining structure	Medium	At least 2 ball runner blocks per rail required
	SKS R1662	For compensating large tolerances in the adjoining structure	Medium	At least 2 ball runner blocks per rail required
Aluminum ball runner blocks 	FNS R1631²⁾	For lightweight construction to compensate higher tolerances of the adjacent construction	High	For mounting from above and below
	SNS R1632²⁾	For lightweight construction to compensate higher tolerances of the adjacent construction	High	For mounting from above
High-speed steel ball runner blocks 	FNS R2001 ... 9.2)	For very high travel speeds (up to 10 m/s)	High	For mounting from above and below
	FLS R2002 ... 9.2)	For very high travel speeds (up to 10 m/s)	High	For mounting from above and below
	SNS R2011 ... 9.2)	For very high travel speeds (up to 10 m/s)	High	For mounting from above
	SLS R2012 ... 9.2)	For very high travel speeds (up to 10 m/s)	High	For mounting from above
Wide ball runner blocks made of steel with Resist CR 	BNS R1671²⁾	For high torsional moments in one-rail applications	Very high	For mounting from above and below
	CNS R1672²⁾	For high torsional moments on one rail with laterally limited installation space	Very high	For mounting from above

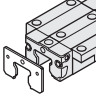
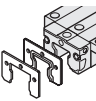
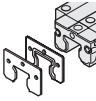
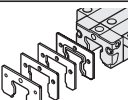
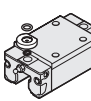
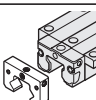
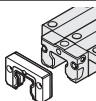
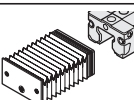
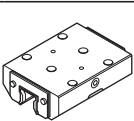
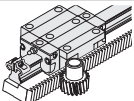
Design styles and versions

Ball guide rails			Application area	Mounting method	Special feature
Standard ball guide rails made of steel		SNS / SNO R1605 .3. .. R1605 .B. .. R1645 .3. .. 2) R2045 .3. .. 1)	Standard version, very harsh environmental conditions, robust strip clamp	For mounting from above	With cover strip and strip clamp Only one cover for all the holes. No holes required in end face for fastening of cover strip.
		SNS / SNO R1605 .6. .. R1605 .D. ..	Harsh environmental conditions, space-saving strip clamp	For mounting from above	With cover strip and protective cap Only one cover for all the holes.
		SNS / SNO R1605 .0. .. R1605 .C. .. R1645 .0. .. 2) R2045 .0. .. 1)	Economical	For mounting from above	With plastic caps No installation space needed on the end face.
		SNS R1606 .5. ..	More resistant to mechanical influencing factors (e.g. jolts) Very harsh environments	For mounting from above	With steel caps No installation space needed on the end face.
		SNS R1607 .0. .. R1647 .0. .. 2) R2047 .0. .. 1)	Mounting base easily accessible, best sealing effect for the end seals	For mounting from below	Use of larger screws than with bolting from above Higher lateral forces are permissible. No installation space needed on the end face.
Wide steel ball guide rails		BNS R1675 .0. .. R1673 .0. .. 2)	High moment load capacity	For mounting from above	With plastic caps No installation space needed on the end face.
		BNS R1676 .5. ..	High moment rigidity, more resistant to mechanical influencing factors (e.g. jolts) Very harsh environments	For mounting from above	With steel caps No installation space needed on the end face.
		BNS R1677 .0. ..	High moment rigidity, best sealing effect for the end seals	For mounting from below	Use of larger screws than with bolting from above Higher lateral forces are permissible than with the single-row series No installation space needed on the end face.

1) Resist NR II

2) Resist CR

Refer to the product description for the abbreviations of the formats

Accessories Add-on elements are available as options for the ball runner blocks.	Application area
Cover plate wiper 	The cover plate wiper is an additional element for wiping off coarse particles or dealing with contamination that has been deposited on the ball guide rail. When making your selection, pay attention to whether you will be using a ball guide rail with or without a cover strip.
Front seal Two-piece 	External end seals provide effective protection for the ball runner block, preventing dirt, small particles and liquids from working their way in. This further improves the sealing performance. This means that the sealing effect is improved even more. It is also possible to retrofit the two-piece front seal via the ball guide rail.
FKM seal One-piece and two-piece 	Better sealing performance than the end seal, but with higher friction. For use in environments with high contamination levels, metalworking fluids or aggressive media. Resistant to chemicals and high temperatures.
Seal Kit 	The seal kit is recommended in cases where both a scraper plate and end seal are required.
Lubrication adapter 	For oil and grease lubrication from above for SNH and SLH ball runner blocks (high versions).
Lube plate 	Makes possible other variants for lubricating ball runner blocks. Can be chosen for lube ports with a metric thread and pipe thread.
Front lube unit 	For applications requiring very long relubrication intervals. Under normal loads, they allow travel distances of up to 10,000 km without relubrication. The function is only assured where there is no exposure to liquids and little contamination. The maximum operating temperature is 60 °C.
Bellows 	Bellows can be covered in different variants such as with or without a lubrication plate. Heat-resistant bellows are metalized on one side which makes them non-flammable, and non-combustible, resistant to sparks, weld spatter or hot swarf. Short-term temperature stability is possible at up to 200 °C and an operating temperature of 80 °C.
Clamping and Braking elements 	The clamping units serve to prevent the ball rail system from moving when they are at rest. The braking units can be used to bring moving ball rail systems to a standstill and keep them stationary during rest phases. The following versions are available: Hydraulic, pneumatic and manual clamping elements.
Rack 	Gear racks and pinions are space-saving solutions for driving linear motion guides. For transmission of high forces within a small space and with low noise generation. All attachments such as gear reducers, motors and controllers are also available.