High-Speed Ball Runner Blocks made of steel

Product Description

Characteristic features

- Excellent dynamic characteristics:
  Travel speed: $v_{max} = 10$ m/s
  Acceleration: $a_{max} = 500$ m/s^2
- Same load capability in all four main load directions
- Long-term lubrication, up to several years
- Minimum quantity lubrication system with integrated reservoir for oil lubrication
- Lube ports with metal threads on all sides
- Limitless interchangeability; all ball guide rail versions can be combined at will with all ball runner block versions within each accuracy class
- Optimum system rigidity through preloaded O-arrangement
- Electrically insulating due to the use of ceramic balls
- Existing range of accessories fully utilizable
- Top logistics that are unique worldwide

Further highlights:

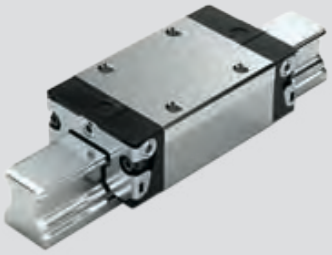
- High travel speed thanks to low mass of ceramic balls
- Attachments can be bolted to the ball runner blocks from above or below[1)]
- Improved rigidity under lift-off and side loading conditions when additional mounting screws are used in the two holes provided at the center of the runner block
- Mounting threads provided on end faces for fixing of all add-on elements
- High rigidity in all load directions – permits applications with just one runner block per rail
- Integrated all-round sealing
- High torque load capacity
- Optimized entry-zone geometry and high number of balls per track minimizes variation in elastic deflection
- Smooth running thanks to optimized ball recirculation and guidance
- Available in five common sizes
- Ball runner blocks pre-lubricated in factory

1) depends on type

Overview of High-Speed Ball Runner Blocks made of steel

FNS

SNS



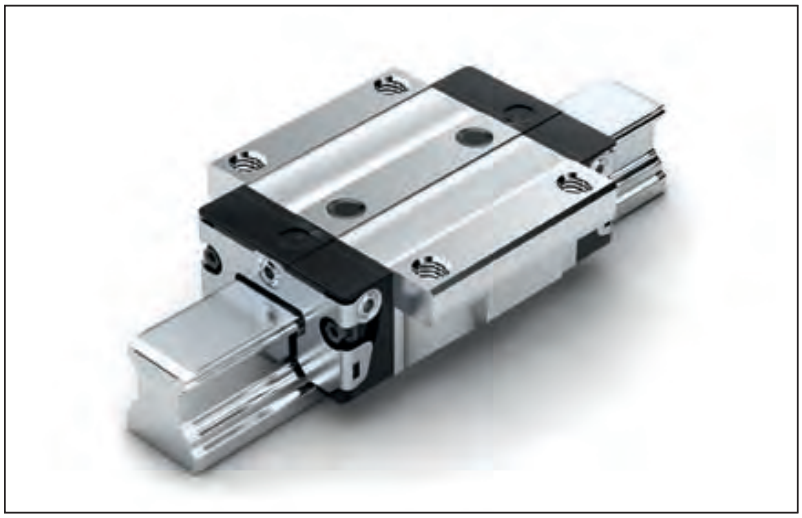
Ceramic balls
– Permit very high speeds

Definition Ball Runner Block design style		Code (example) F	N	S
Width	**F**langed	**F**		
	Slimline			
	Wide			
	Compact			
Length	**N**ormal		**N**	
	Long			
	Short			
Height	**S**tandard height			**S**
	High			
	Low			

High-Speed Ball Runner Blocks made of steel

FNS – Flanged, normal, standard height

R2001 ... 9.



Dynamic characteristics
Travel speed: $v_{max} = 10$ m/s
Acceleration: $a_{max} = 500$ m/s²
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s²)

Note on lubrication:
– Pre-lubricated

Note
Can be used on all Ball Guide Rails SNS.

Dimension drawing and dimensions
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Options and part numbers

Size	Ball runner block with size	Preload class C2	Accuracy class H	P	Seal for ball runner block without ball chain SS
15	R2001 1	2	3	2	90
20	R2001 8	2	3	2	90
25	R2001 2	2	3	2	90
30	R2001 7	2	3	2	90
35	R2001 3	2	3	2	90
e.g.	R2001 7	2	3		90

Ordering example
Options:
– Ball Runner Block FNS
– Size 30
– Preload class C2
– Accuracy class H
– With standard seal, without ball chain
Part number: R2001 723 90

Size	Load capacities[1] (N)		Load moments[1] (Nm)				Weight (kg)
	C	C_0	M_t	M_{t0}	M_L	M_{L0}	
15	5 300	9 100	50	88	27	48	0.20
20	12 700	16 500	160	210	88	110	0.45
25	15 500	20 600	210	290	120	160	0.60
30	21 500	28 000	360	490	190	250	1.05
35	28 500	36 700	600	780	300	380	1.50

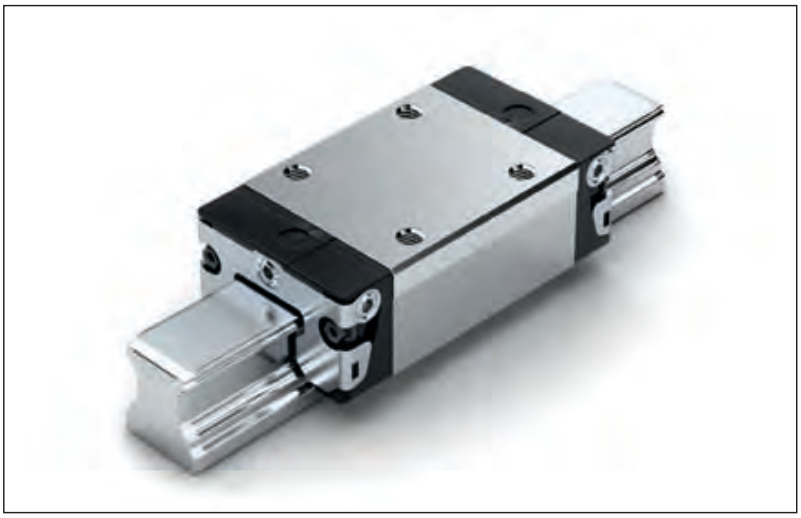
1) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the table by 1.26.

Preload classes
C2 = preload 8% C

Seals
SS = standard seal

SNS – Slimline, normal, standard height

R2011 … 9.



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Note on lubrication:
– Pre-lubricated

Note
Can be used on all Ball Guide Rails SNS.

Dimension drawing and dimensions
☞ 43.

Ordering example
Options:
– Ball Runner Block SNS
– Size 30
– Preload class C2
– Accuracy class H
– With standard seal, without ball chain
Part number: R2011 723 90

Options and part numbers

Size	Ball runner block with size	Preload class	Accuracy class		Seal for ball runner block without ball chain
		C2	H	P	SS
15	R2011 1	2	3	2	90
20	R2011 8	2	3	2	90
25	R2011 2	2	3	2	90
30	R2011 7	2	3	2	90
35	R2011 3	2	3	2	90
e.g.	R2011 7	2	3		90

Size	Load capacities[1] (N)		Load moments[1] (Nm)				Weight (kg)
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15	5 300	9 100	50	88	27	48	0.15
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30	21 500	28 000	360	490	190	250	0.80
35	28 500	36 700	600	780	300	380	1.15

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