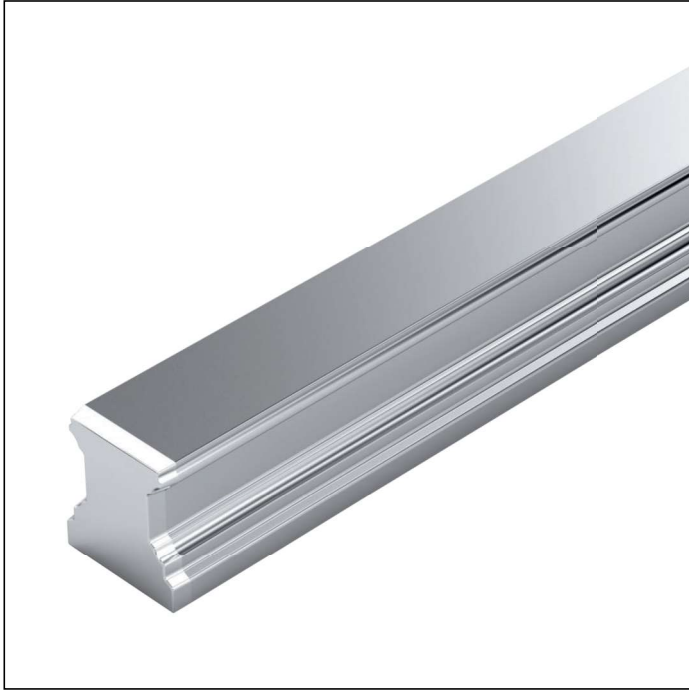


SNS for mounting from below



R1607 .0. ..

For mounting from below

Notes

▶ Follow the mounting instructions!
Please ask for the “Mounting Instructions for Ball Rail Systems”.

▶ Composite guide rails also available.

Further ball guide rails SNS and accessories

▶ Corrosion-resistant Resist NR and Resist CR ball guide rails

Options and part numbers

Size	Ball guide rail with size	Accuracy class					Number of sections, rail length L (mm), ...		Hole spacing T (mm)	Recommended rail length in accordance with formula $L = n_B \cdot T - 4 \text{ mm}$		
		N	H	P	SP	UP	One-piece	Composite		Maximum number of holes n_B		
15	R1607 10	4	3	2	1	9	31, ...	3., ...	60	64		
20	R1607 80	4	3	2	1	9	31, ...	3., ...	60	64		
25	R1607 20	4	3	2	1	9	31, ...	3., ...	60	64		
30	R1607 70	4	3	2	1	9	31, ...	3., ...	80	48		
35	R1607 30	4	3	2	1	9	31, ...	3., ...	80	48		
45	R1607 40	4	3	2	1	9	31, ...	3., ...	105	36		
55	R1607 50	4	3	2	1	9	31, ...	3., ...	120	32		
65	R1607 60	4	3	2	1	9	31, ...	3., ...	150	25		
e.g.	R1607 70	3					31, 1676					

Ordering example 1 (to L_{max})

Options:

- ▶ Ball guide rail SNS
- ▶ Size 30
- ▶ Accuracy class H
- ▶ One-piece
- ▶ Rail length
L = 1676 mm

Part number:

R1607 703 31, 1676 mm

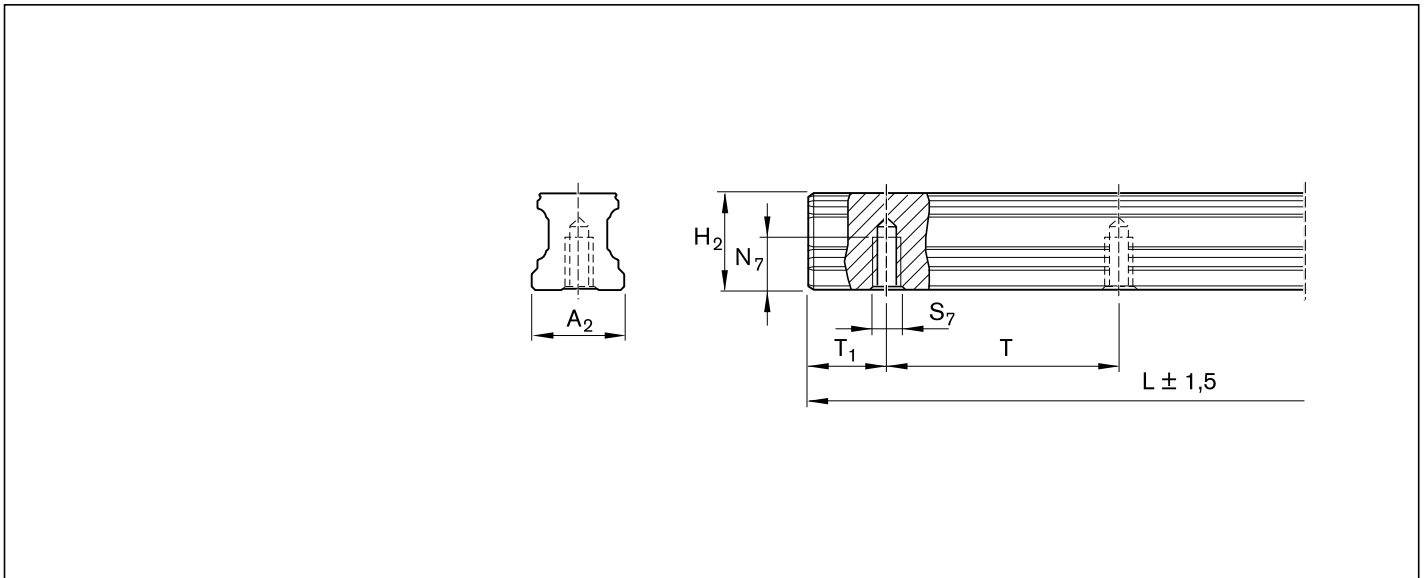
Ordering example 2 (above L_{max})

Options:

- ▶ Ball guide rail SNS
- ▶ Size 30
- ▶ Accuracy class H
- ▶ **2 sections**
- ▶ Rail length
L = 5116 mm

Part number:

R1607 703 32, 5116 mm



Size	Dimensions (mm)									Weight m (kg/m)
	A_2	$H_2^{1)}$	$L_{max}^{2)}$	N_7	S_7	T	T_{1min}	$T_{1S}^{3)}$	T_{1max}	
15	15	16.20	3 836	7.5	M5	60	10	28.0	50	1.4
20	20	20.55	3 836	9.0	M6	60	10	28.0	50	2.4
25	23	24.25	3 836	12.0	M6	60	10	28.0	50	3.2
30	28	28.35	3 836	15.0	M8	80	12	38.0	68	5.0
35	34	31.85	3 836	15.0	M8	80	12	38.0	68	6.8
45	45	39.85	3 776	19.0	M12	105	16	50.5	89	10.5
55	53	47.85	3 836	22.0	M14	120	18	58.0	102	16.2
65	63	59.85	3 746	25.0	M16	150	20	73.0	130	22.4

- 1) Dimension H_2 without cover strip
- 2) One-piece ball guide rails are available for size 20 – 45 in accuracy classes N, H and P with size 20 – 25 up to 5816 mm being available on request.
Size 30 – 35 up to 5836 mm available on request.
Size 45 up to 5771 mm available on request.
- 3) Preferred dimension T_{1S} with tolerances ± 0.75 is recommended.

FNS – Flange, normal, standard height R1651 ... 2.



Dynamic characteristics

Travel speed: $v_{\max} = 5 \text{ m/s}$

Acceleration: $a_{\max} = 500 \text{ m/s}^2$

(If $F_{\text{comb}} > 2.8 \cdot F_{\text{pr}}$: $a_{\max} = 50 \text{ m/s}^2$)

Note on lubrication

► Pre-lubricated

Note

For all SNS/SNO ball guide rails.

Options and part numbers

Size	Ball runner block with size	Preload class				Accuracy class						Seal with ball runner blocks						
		C0	C1	C2	C3	N	H	P	XP	SP	UP	without ball chain			with ball chain			
												SS	LS ¹⁾	DS	SS	LS ¹⁾	DS	
15	R1651 1	9				4	3	-	-	-	-	20	21	-	22	23	-	-
			1			4	3	2	8	1	9	20	21	-	22	23	-	-
				2		-	3	2	8	1	9	20	21	-	22	23	-	-
					3	-	-	-	8	1	9	20	21	-	22	23	-	-
20	R1651 8	9				4	3	-	-	-	-	20	21	-	22	23	-	-
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y	-
				2		-	3	2	8	1	9	20	21	2Z	22	23	2Y	-
					3	-	-	-	8	1	9	20	21	2Z	22	23	2Y	-
25	R1651 2	9				4	3	-	-	-	-	20	21	-	22	23	-	-
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y	-
				2		-	3	2	8	1	9	20	21	2Z	22	23	2Y	-
					3	-	-	-	8	1	9	20	21	2Z	22	23	2Y	-
30	R1651 7	9				4	3	-	-	-	-	20	21	-	22	23	-	-
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y	-
				2		-	3	2	8	1	9	20	21	2Z	22	23	2Y	-
					3	-	-	-	8	1	9	20	21	2Z	22	23	2Y	-
35	R1651 3	9				4	3	-	-	-	-	20	21	-	22	23	-	-
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y	-
				2		-	3	2	8	1	9	20	21	2Z	22	23	2Y	-
					3	-	-	-	8	1	9	20	21	2Z	22	23	2Y	-
45	R1651 4	9				4	3	-	-	-	-	20	-	-	22	-	-	-
			1			4	3	2	8	1	9	20	-	2Z	22	-	2Y	-
				2		-	3	2	8	1	9	20	-	2Z	22	-	2Y	-
					3	-	-	-	8	1	9	20	-	2Z	22	-	2Y	-
e.g.	R1651 7		1			3						20						

1) With accuracy classes N and H and XP in preload class C1 only.

Order example

Options:

- FNS ball runner block
- Size 30
- Preload class C1
- Accuracy class H
- With standard seal, without ball chain

Part number:

R1651 713 20

Preload classes

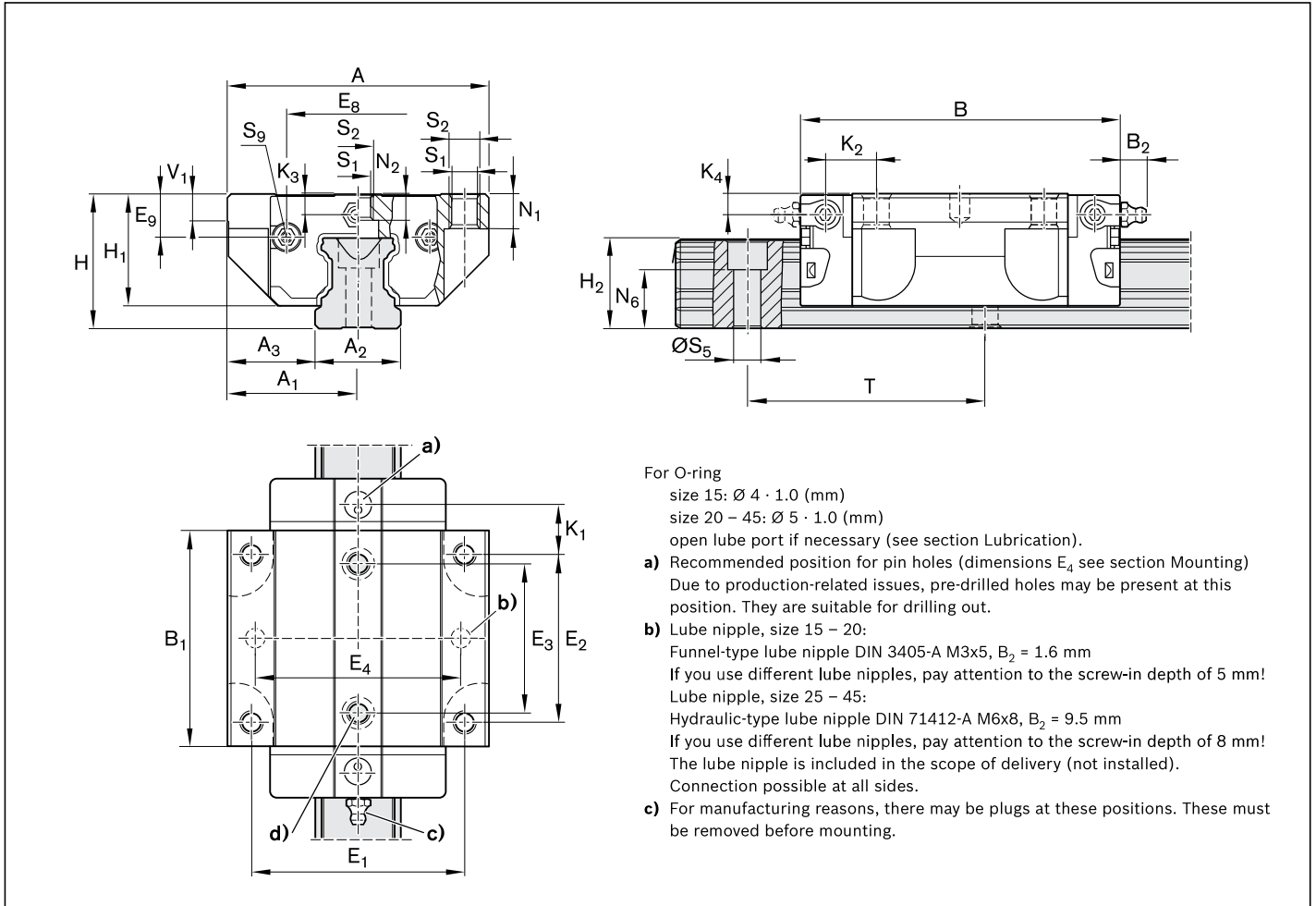
C0 = Without preload (clearance)
 C1 = Moderate preload
 C2 = Average preload
 C3 = High preload

Seals

SS = standard seal
 LS = low-friction seal
 DS = double-lipped seal

Key

Gray digits
 = No preferred variant/combination
 (Some delivery times may be longer)

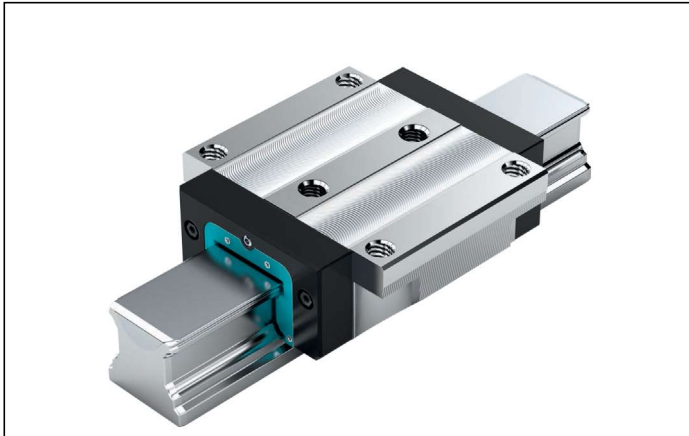


Size	Dimensions (mm)																		
	A	A ₁	A ₂	A ₃	B ^{+0.5}	B ₁	E ₁	E ₂	E ₃	E ₈	E ₉	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾	K ₁	K ₂	K ₃	K ₄
15	47	23.5	15	16.0	58.2	39.2	38	30	26	24.55	6.70	24	19.90	16.30	16.20	8.00	9.6	3.20	3.20
20	63	31.5	20	21.5	75.0	49.6	53	40	35	32.50	7.30	30	25.35	20.75	20.55	11.80	11.8	3.35	3.35
25	70	35.0	23	23.5	86.2	57.8	57	45	40	38.30	11.50	36	29.90	24.45	24.25	12.45	13.6	5.50	5.50
30	90	45.0	28	31.0	97.7	67.4	72	52	44	48.40	14.60	42	35.35	28.55	28.35	14.00	15.7	6.05	6.05
35	100	50.0	34	33.0	110.5	77.0	82	62	52	58.00	17.35	48	40.40	32.15	31.85	14.50	16.0	6.90	6.90
45	120	60.0	45	37.5	137.6	97.0	100	80	60	69.80	20.90	60	50.30	40.15	39.85	17.30	19.3	8.20	8.20

Size	Dimensions (mm)										Weight (kg)	Load capacities ³⁾ (N)		Load moments ³⁾ (Nm)			
	N ₁	N ₂	N ₆ ^{±0.5}	S ₁	S ₂	S ₅	S ₉	T	V ₁	m		C	C ₀	M _t	M _{t0}	M _L	M _{L0}
15	5.2	4.40	10.3	4.3	M5	4.5	M2.5x3.5	60	5.0	0.20	9 860	12 700	95	120	68	87	
20	7.7	5.20	13.2	5.3	M6	6.0	M3x5	60	6.0	0.45	23 400	29 800	300	380	200	260	
25	9.3	7.00	15.2	6.7	M8	7.0	M3x5	60	7.5	0.65	28 600	35 900	410	510	290	360	
30	11.0	7.90	17.0	8.5	M10	9.0	M3x5	80	7.0	1.10	36 500	48 100	630	830	440	580	
35	12.0	10.15	20.5	8.5	M10	9.0	M3x5	80	8.0	1.60	51 800	80 900	1 110	1 740	720	1 130	
45	15.0	12.40	23.5	10.4	M12	14.0	M4x7	105	10.0	3.00	86 400	132 000	2 330	3 560	1 540	2 350	

- 1) Dimension H₂ with cover strip
 - 2) Dimension H₂ without cover strip
 - 3) Load capacities and load moments for ball runner blocks **without** ball chain. Load capacities and load moments for ball runner blocks **with** ball chain 12
- Determination of the dynamic load capacities and load moments is based on a 100,000 m travel life according to DIN ISO14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, **M_t** and **M_L** by 1.26 according to the table.

FNS – Flange normal standard height, R1651 ... 1.

**Dynamic characteristics**Speed: $v_{\max} = 3 \text{ m/s}$ Acceleration: $a_{\max} = 250 \text{ m/s}^2$ (If $F_{\text{comb}} > 2.8 \cdot F_{\text{pr}}$: $a_{\max} = 50 \text{ m/s}^2$)**Note on lubrication**

▶ Not pre-lubricated

Note

Can be used on all ball guide rails SNS.

Options and part numbers

Size	Ball runner block with size	Preload class				Accuracy class					Seal with ball runner blocks without ball chain
		C0	C1	C2	C3	N	H	P	SP	UP	
55	R1651 5	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
65	R1651 6	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
e.g.	R1651 5		1			3					10

Order example

Options:

- ▶ FNS ball runner block
- ▶ Size 55
- ▶ Preload class C1
- ▶ Accuracy class H
- ▶ With standard seal, without ball chain

Part number:

R1651 513 10

Preload classes

C0 = Without preload (clearance)

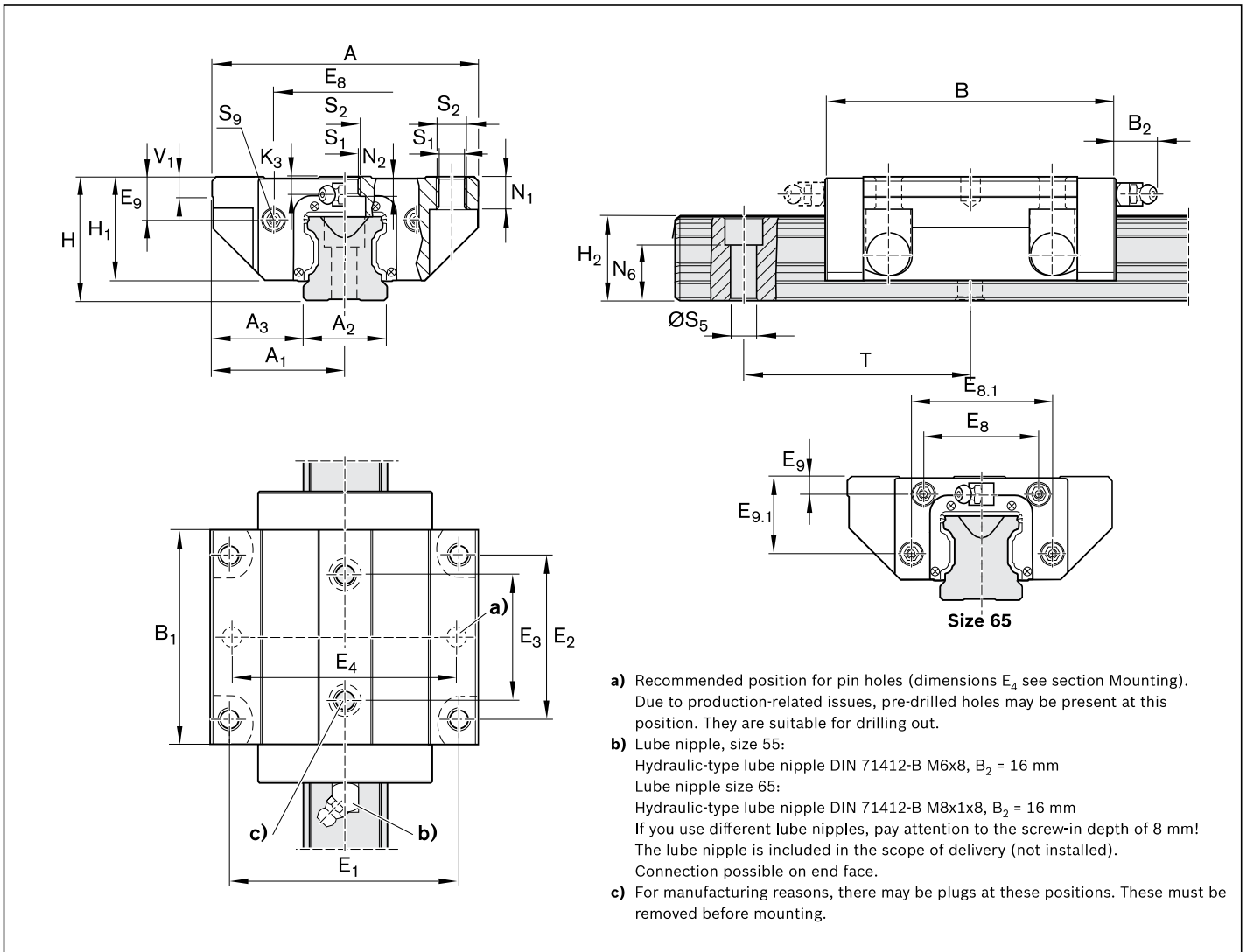
C1 = Moderate preload

C2 = Average preload

C3 = High preload

Seals

SS = standard seal



Size	Dimensions (mm)																
	A	A ₁	A ₂	A ₃	B ^{+0.5}	B ₁	E ₁	E ₂	E ₃	E ₈	E _{8.1}	E ₉	E _{9.1}	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾
55	140	70	53	43.5	159	115.5	116	95	70	80	-	22.3	-	70	57	48.15	47.85
65	170	85	63	53.5	188	139.6	142	110	82	76	100	11.0	53.5	90	76	60.15	59.85

Size	Dimensions (mm)												Weight (kg)	Load capacities ³⁾ (N)		Load moments ³⁾ (Nm)			
	K ₃	N ₁	N ₂	N ₆ ^{±0.5}	S ₁	S ₂	S ₅	S ₉	T	V ₁	m	C		C ₀	M _t	M _{t0}	M _L	M _{L0}	
55	9	18	13.5	29.0	12.4	M14	16	M5x8	120	12	5.20	109 000	174 000	3 480	5 550	2 320	3 690		
65	16	23	14.0	38.5	14.6	M16	18	M4x7	150	15	10.25	172 000	280 000	6 810	11 100	4 560	7 400		

- 1) Dimension H_2 with cover strip
- 2) Dimension H_2 without cover strip
- 3) Load capacities and load moments for ball runner blocks **without** ball chain.
Determination of the dynamic load capacities and load moments is based on a 100,000 m travel life according to DIN ISO14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, **M_t** and **M_L** by 1.26 according to the table.