

## FNS – Flanged, 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**

Can be used on all SNS/SNO ball guide rails. Ball runner blocks of size 55 and size 65 can be found in chapter “Heavy-duty ball runner block BSHP made of steel” after this chapter.

**Options and material numbers**

Size	Ball runner blocks with size	Preload class				Accuracy class						Seals on ball runner blocks					
		C0	C1	C2	C3	N	H	P	XP	SP	UP	without ball chain			with ball chain		
												SS	LS <sup>1)</sup>	DS	SS	LS <sup>1)</sup>	DS
15	R1651 1	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
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
<b>E.g.:</b>	R1651 7		1				3										

1) Only for accuracy classes N and H and for XP in preload class C1.

**Order example**

Options:

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

Material number:

R1651 713 20

**Preload classes**

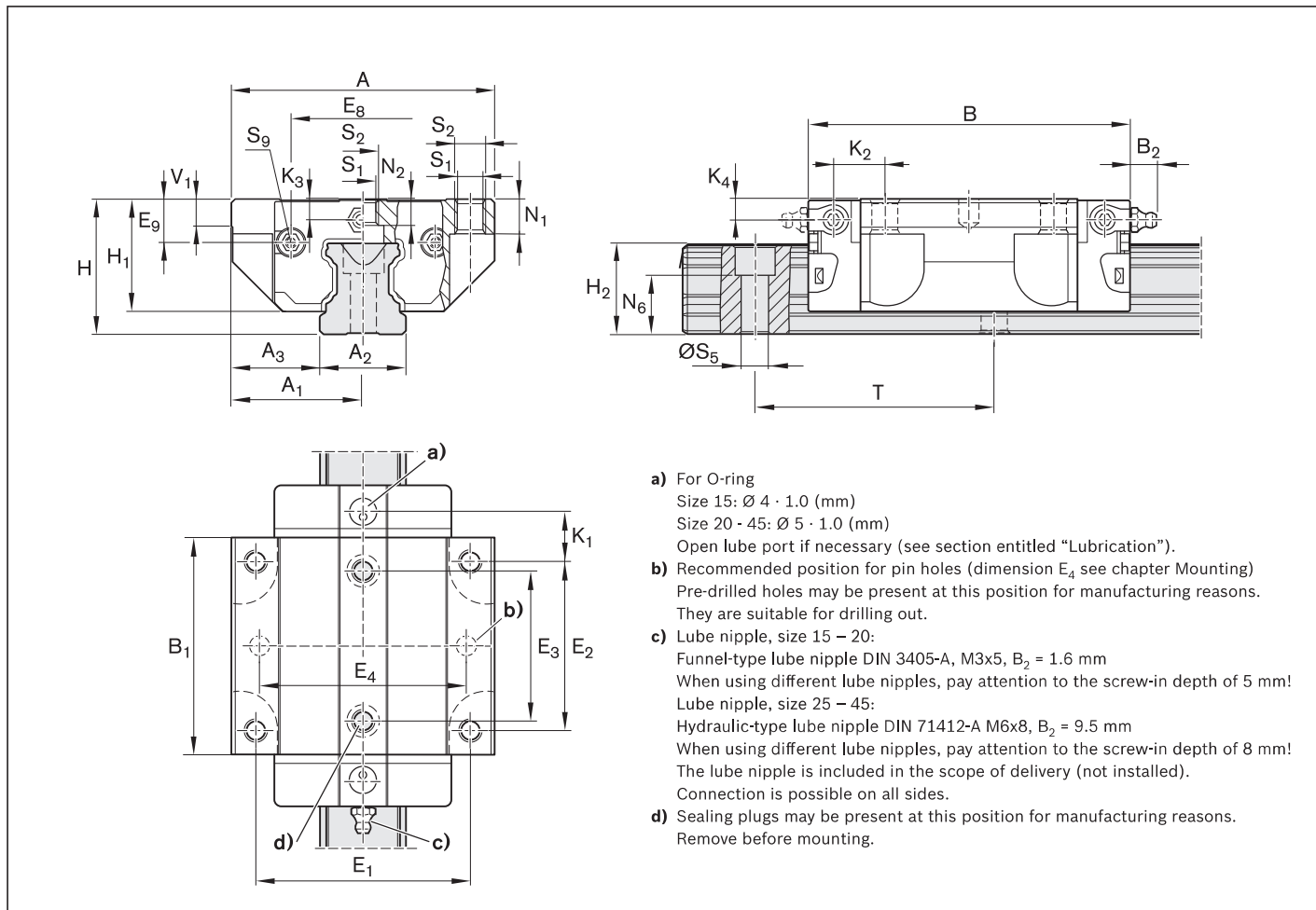
C0 = Without preload (clearance)  
 C1 = Moderate preload  
 C2 = Average preload  
 C3 = High preload

**Seals**

SS = Standard seal  
 LS = Low-friction seal  
 DS = Double-lip seal

**Key**

gray numbers  
 = No preferred variant / combination  
 (partially longer delivery times)




Size	Dimensions (mm)																		
	A	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	B <sup>+0.5</sup>	B <sub>1</sub>	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>	E <sub>8</sub>	E <sub>9</sub>	H	H <sub>1</sub>	H <sub>2</sub> <sup>1)</sup>	H <sub>2</sub> <sup>2)</sup>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>
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)										Mass (kg)	Load capacities <sup>3)</sup> (N)		Load moments <sup>3)</sup> (Nm)			
	N <sub>1</sub>	N <sub>2</sub>	N <sub>6</sub> <sup>+0.5</sup>	S <sub>1</sub>	S <sub>2</sub>	S <sub>5</sub>	S <sub>9</sub>	T	V <sub>1</sub>	m		C	C <sub>0</sub>	M <sub>t</sub>	M <sub>t0</sub>	M <sub>L</sub>	M <sub>L0</sub>
15	5.2	4.40	10.3	4.3	M5	4.5	M2.5x3.5	60	5.0	0.20	9860	12700	95	120	68	87	
20	7.7	5.20	13.2	5.3	M6	6.0	M3x5	60	6.0	0.45	23400	29800	300	380	200	260	
25	9.3	7.00	15.2	6.7	M8	7.0	M3x5	60	7.5	0.65	28600	35900	410	510	290	360	
30	11.0	7.90	17.0	8.5	M10	9.0	M3x5	80	7.0	1.10	36500	48100	630	830	440	580	
35	12.0	10.15	20.5	8.5	M10	9.0	M3x5	80	8.0	1.60	51800	80900	1110	1740	720	1130	
45	15.0	12.40	23.5	10.4	M12	14.0	M4x7	105	10.0	3.00	86400	132000	2330	3560	1540	2350	

1) Dimension H<sub>2</sub> with cover strip

2) Dimension H<sub>2</sub> without cover strip

3) Load ratings and load moments for ball runner block **without** ball chain. Load ratings and load moments for ball runner block **with** ball chain  12

Determination of the dynamic load capacities and load moments is based on a stroke travel of 100,000 m according to DIN ISO 14728-1.

Often only 50,000 m are actually stipulated. For comparison: Multiply the values **C**, **M<sub>t</sub>** and **M<sub>L</sub>** by 1.26 according to the table.