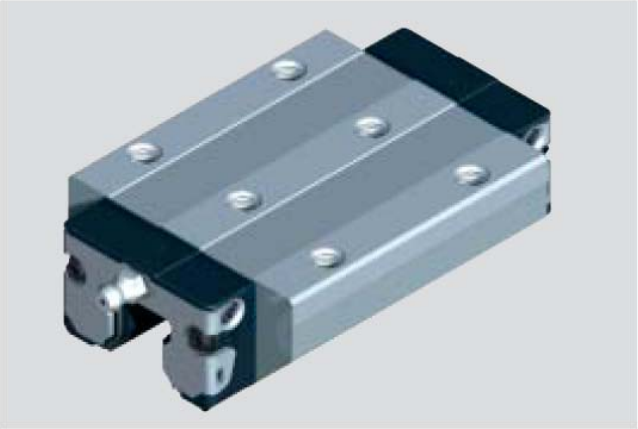
Rexroth Ball Rail Systems
Standard Runner Blocks, Steel Version

Runner Block 1653-

Standard Width, long

Versions:

- Runner block without ball retainer: for part numbers, see table
- Runner block with ball retainer: part numbers 1653-...-22



Dynamic characteristics

Speed v_{max} = 5 m/s

Acceleration a_{max} = 500 m/s²

Other technical data, see chapter "General Technical Data and Calculations".

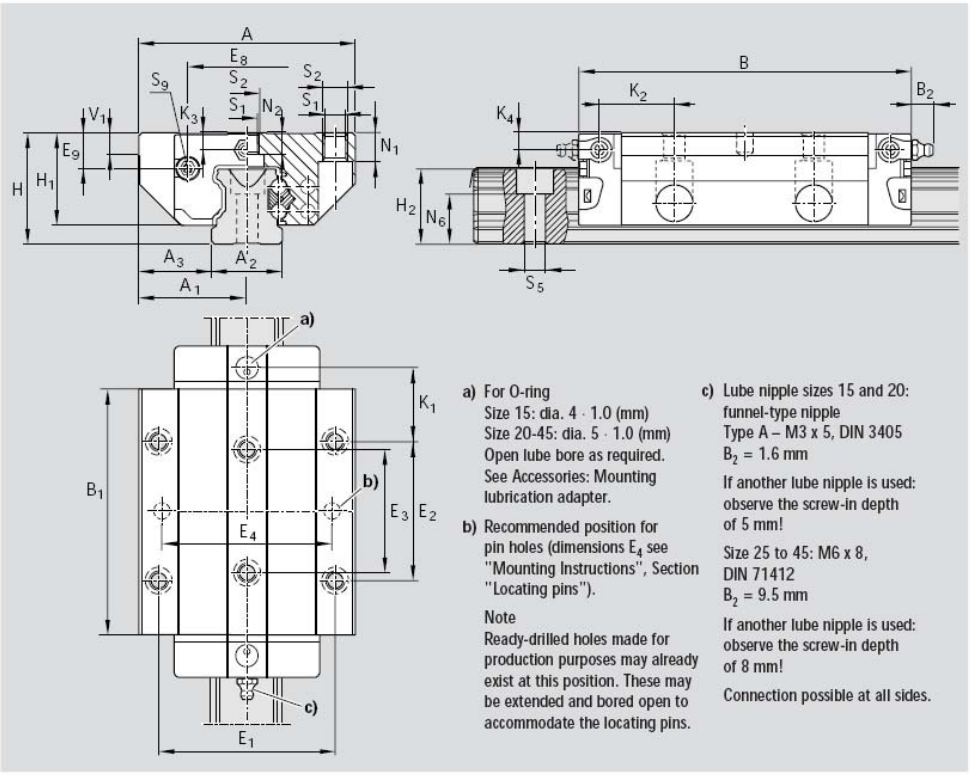
Part numbers

Size	Accuracy class	Part numbers for runner blocks for preload class			
		up to approx. 10 µm clearance	Preload 0.02 C	Preload 0.08 C	Preload 0.13 C
15	N	1653-194-20	1653-114-20		
20	UP		1653-819-20	1653-829-20	1653-839-20
	SP		1653-811-20	1653-821-20	1653-831-20
	P		1653-812-20	1653-822-20	1653-832-20
	H	1653-893-20	1653-813-20	1653-823-20	
	N	1653-894-20	1653-814-20	1653-824-20	
25	UP		1653-219-20	1653-229-20	1653-239-20
	SP		1653-211-20	1653-221-20	1653-231-20
	P		1653-212-20	1653-222-20	1653-232-20
	H	1653-293-20	1653-213-20	1653-223-20	
	N	1653-294-20	1653-214-20	1653-224-20	
30	UP		1653-719-20	1653-729-20	1653-739-20
	SP		1653-711-20	1653-721-20	1653-731-20
	P		1653-712-20	1653-722-20	1653-732-20
	H	1653-793-20	1653-713-20	1653-723-20	
	N	1653-794-20	1653-714-20	1653-724-20	
35	UP		1653-319-20	1653-329-20	1653-339-20
	SP		1653-311-20	1653-321-20	1653-331-20
	P		1653-312-20	1653-322-20	1653-332-20
	H	1653-393-20	1653-313-20	1653-323-20	
	N	1653-394-20	1653-314-20	1653-324-20	
45*	UP		1653-419-20	1653-429-20	1653-439-20
	SP		1653-411-20	1653-421-20	1653-431-20
	P		1653-412-20	1653-422-20	1653-432-20
	H	1653-493-20	1653-413-20	1653-423-20	
	N	1653-494-20	1653-414-20	1653-424-20	

* Under preparation

Note on dynamic load capacities and moments (see table)

Determination of dynamic load capacities and moments is based on a travel life of 100 000 m.
However, frequently this is determined on the basis of only 50 000 m.
In this case for comparison:
multiply values C, M_t and M_L by 1.26
in accordance with Rexroth table.



a) For O-ring
Size 15: dia. 4 · 1.0 (mm)
Size 20-45: dia. 5 · 1.0 (mm)
Open lube bore as required.
See Accessories: Mounting lubrication adapter.

b) Recommended position for pin holes (dimensions E_4 see "Mounting Instructions", Section "Locating pins").

Note
Ready-drilled holes made for production purposes may already exist at this position. These may be extended and bored open to accommodate the locating pins.

c) Lube nipple sizes 15 and 20:
funnel-type nipple
Type A – M3 x 5, DIN 3405
B_2 = 1.6 mm

If another lube nipple is used: observe the screw-in depth of 5 mm!

Size 25 to 45: M6 x 8, DIN 71412
B_2 = 9.5 mm

If another lube nipple is used: observe the screw-in depth of 8 mm!

Connection possible at all sides.

	Dimensions (mm)																		
Size	A	A_1	A_2	A_3	B	B_1	H	H_1	H_2[1]	H_2[2]	V_1	E_1	E_2	E_3	E_8	E_9	K_1	K_2	K_3	K_4
15	47	23.5	15	16.0	72.6	53.6	24	19.90	16.30	16.20	5.0	38	30	26	24.55	6.70	15.20	16.80	3.20	3.20
20	63	31.5	20	21.5	91.0	65.6	30	25.35	20.75	20.55	6.0	53	40	35	32.50	7.30	19.80	19.80	3.35	3.35
25	70	35.0	23	23.5	107.9	79.5	36	29.90	24.45	24.25	7.5	57	45	40	38.30	11.50	23.30	24.45	5.50	5.50
30	90	45.0	28	31.0	119.7	89.4	42	35.35	28.55	28.35	7.0	72	52	44	48.40	14.60	25.00	26.70	6.05	6.05
35	100	50.0	34	33.0	139.0	105.5	48	40.40	32.15	31.85	8.0	82	62	52	58.00	17.35	28.75	30.25	6.90	6.90
45	120	60	45	37.5	174.1	133.5	60	50.30	40.15	39.85	10.0	100	80	60	69.8	20.9	35.5	37.5	8.20	8.20

[1] Dimension H_2 with rail seal cover strip

[2] Dimension H_2 without rail seal cover strip

									Load capacities (N)[3]		Moments (Nm)			
	Dimensions (mm)							Mass	C	C_0	M_t	M_{t0}	M_L	M_{L0}
Size	N_1	N_2	$N_6^{\pm 0.5}$	S_1	S_2	S_5	S_9	(kg)	dyn.	stat.	dyn.	stat.	dyn.	stat.
15	5.2	4.4	10.3	4.3	M5	4.4	M2.5-3.5 deep	0.30	10 000	20 200	130	190	98	150
20	7.7	5.2	13.2	5.3	M6	6.0	M3-5 deep	0.55	24 400	35 200	310	450	225	330
25	9.3	7.0	15.2	6.7	M8	7.0	M3-5 deep	0.90	30 400	45 500	430	650	345	510
30	11.0	7.9	17.0	8.5	M10	9.0	M3-5 deep	1.50	40 000	57 800	690	1 000	495	715
35	12.0	10.2	20.5	8.5	M10	9.0	M3-5 deep	2.25	55 600	81 000	1 200	1 740	830	1215
45	15.0	12.4	23.5	10.4	M12	14.0	M4-7 deep	4.30	90 400	128 500	2 440	3 470	1700	2425

[3] Load capacities for version without ball retainer. Load capacities for version without ball retainer, see Product Overview with Load Capacities.