5.2 Type RN

Type RN

The type RN linear guideway is the logical optimised version of the R guideway. It has identical installed dimensions, but due to the larger contact surfaces of the guideway tracks is, however, higher performing. The reduced gap width between the guide rails also provides better protection against dirt.

Benchmark data

Track and surface quality

- Finely ground supporting and/or locating surfaces and tracks (90° V-profile)

Materials (standard)

- Rails made of through hardened tool steel 1.2842, hardness 58 - 62 HRC
- For non-corrosive guideways tool steel 1.4034 is used.
- Rolling element made of through hardened roller bearing steel, hardness 58 - 64 HRC.

Rolling element

- Roller

Speed

- 1 m/s
- 1 m/s with cage control

Acceleration

- 50 m/s^2
- 300 m/s^2 with cage control

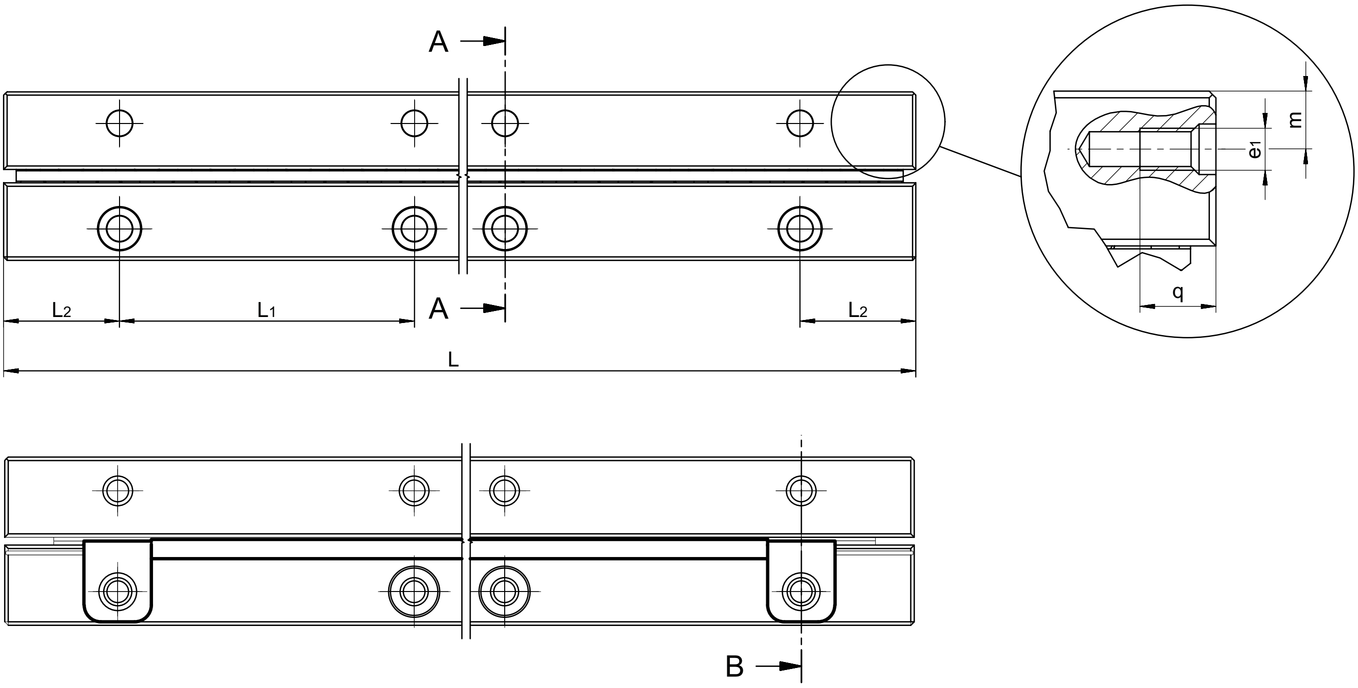
Accuracy

- RN linear guideways are available in three quality classes (see chapter 9)

Operating temperatures

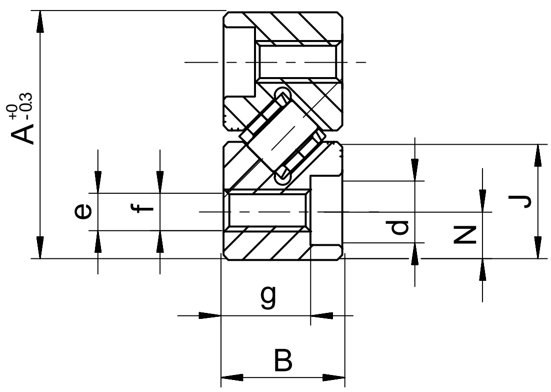
- -40° C to +80° C

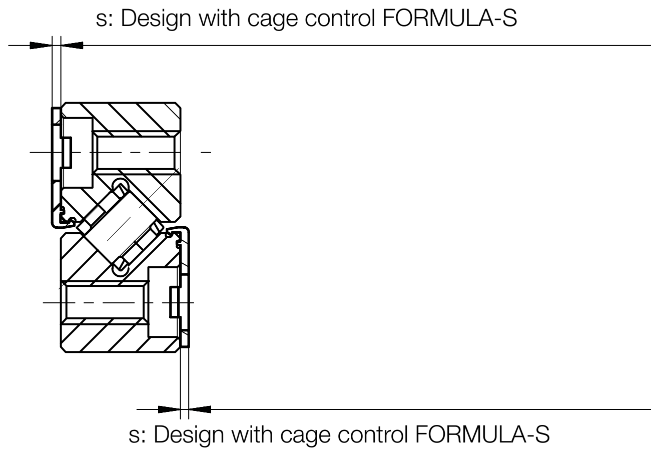
Dimensions and load capacities of type RN



Type	Size	L in mm	Weight in g	A (mm)	B (mm)	Dw (mm)	J (mm)	L_1 (mm)	L_2 (mm)	N (mm)	d (mm)	e (mm)	e_1 (mm)	f (mm)	g (mm)	m (mm)	q (mm)	s (mm)	Options (see chapter 7)	Accessories
RN	3	50	24	18	8	3	8.7	25	12.5	3.5	6	M4	M3	3.3	4.8	4.8	7	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 3 - KBS 3 End screw: - GAN 3 Fastening screw: - GD 3
		75	35																	
		100	47																	
		125	59																	
		150	71																	
		175	82																	
		200	94																	
		225	106																	
		250	118																	
		275	129																	
		300	141																	
RN	4	80	62	22	11	4.5	10.5	40	20	4.5	8	M5	M3	4.3	6.9	5.5	7	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 4 - KBS 4 End screw: - GAN 4 Fastening screw: - GD 4
		120	93																	
		160	124																	
		200	155																	
		240	186																	
		280	217																	
		320	248																	
		360	279																	
		400	310																	
RN	6	100	151	31	15	6.5	14.8	50	25	6	9.5	M6	M5	5.2	9.8	7.5	9	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 6 - KBS 6 End screw: - GA 6 Fastening screw: - GD 6
		150	226																	
		200	301																	
		250	377																	
		300	452																	
		350	527																	
		400	603																	
		450	678																	
		500	753																	

A-A





Type	Size	L in mm	Weight in g	A	B	Dw	J	L_1	L_2	N	d	e	e_1	f	g	m	q	s	Options (see chapter 7)	Accessories
				mm																
RN	**9**	**200**	659	44	22	9	21.1	100	50	9	10.5	M8	M6	6.8	15.8	11.5	9	-	SQ SSQ RF EG ZG HA DU	Cage: - KBN 9 End screw: - GA 9 Fastening screw: - GD 9
		300	988																	
		400	1'318																	
		500	1'647																	
		600	1'976																	
		700	2'306																	
		800	2'635																	
RN	**12**	**200**	1'086	58	28	12	27.6	100	50	12	13.5	M10	M8	8.5	19.8	15	12	-	SQ SSQ RF EG ZG HA DU	Cage: - KBN 12 End screw: - GA 12 Fastening screw: - GD 12
		300	1'628																	
		400	2'171																	
		500	2'714																	
		600	3'257																	
		700	3'800																	
		800	4'342																	
		900	4'885																	
		1'000	5'428																	

The types in bold are standard. Other lengths and types RN 15, RN 18 and RN 24 are available on request

Maximum lengths for type RN

Type / Size	Quality class	Max. lengths in standard material (in mm)	Max lengths in non-corrosive material (in mm)
RN 3	NQ	700	600
	SQ		
	SSQ	600	
RN 4	NQ	900	900
	SQ		
	SSQ	600	600
RN 6	NQ	1'500	1'400
	SQ		1'200
	SSQ	1'200	900
RN 9	NQ	1'500	1'400
	SQ		1'200
	SSQ	1'200	900
RN 12	NQ	1'500	1'400
	SQ		1'200
	SSQ	1'200	900

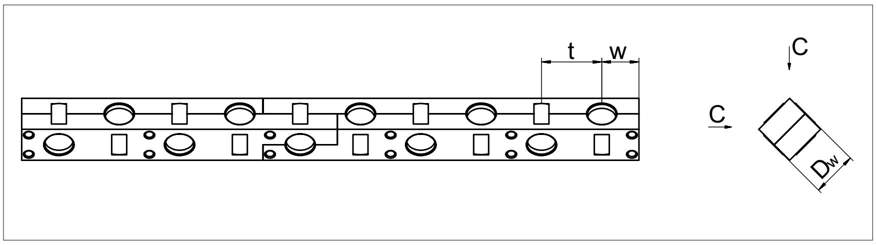
Rail chamfer

The detail of the rail chamfer is shown in the chart below. Please note that the part number and company logo are marked opposite to the datum and supporting surfaces.

Type / Size	Rail chamfer of reference edges in mm
RN 3	0.6 x 45°
RN 4	0.6 x 45°
RN 6	0.8 x 45°
RN 9	0.8 x 45°
RN 12	1.0 x 45°

Accessories for type RN

Roller cage type KBN



Compatible with:
Linear guideway type RN
Sizes 3 to 12

Design:
Rollers fixed in place

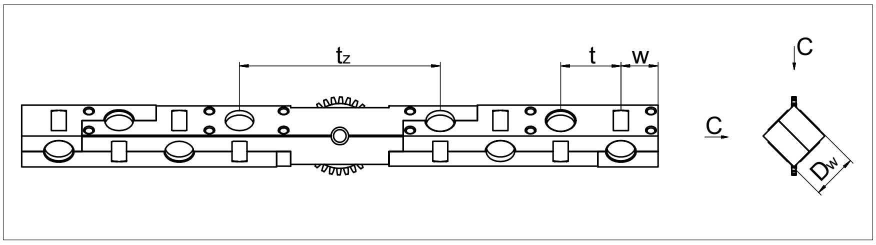
Installation method:
For normal application and certain overrunning cage applications

Material:
POM (Vacuum-compatible up to 10^{-7} mbar)

Option:
Corrosion-resistant rollers

Type	Size	Dw	t	w	C per roller in N	Max. length in mm
KBN	**3**	3	5	approx. 3.5	410	900
	4	4.5	6.5	approx. 4	850	900
	6	6.5	8.5	approx. 5	1'800	1'500
	9	9	12	approx. 7.5	3'900	1'500
	12	12	15	approx. 9	6'500	1'500

Type KBS roller cage for the cage control FORMULA-S



Detailed information on FORMULA-S is listed under chapter 7.8.

Compatible with:
Linear guideway type RN
Sizes 3 to 6

Design:
Rollers fixed in place
With integral pinion

Installation method:
For normal application and certain overrunning cage applications

Material:
POM (Vacuum-compatible up to 10^{-7} mbar)

Option:
Corrosion-resistant rollers

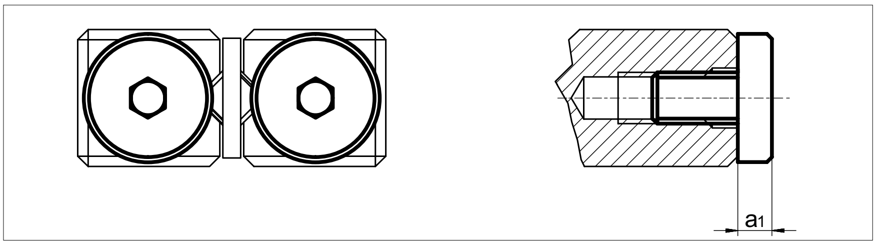
Type	Size	Dw	t	tz	w	C per roller in N	Max. length in mm
KBS	**3**	3	5	18	approx. 3.5	410	900
	4	4.5	6.5	23	approx. 4	850	900
	6	6.5	8.5	27	approx. 5	1'800	1'500

Accessories for type RN

End screws type GAN

Compatible with:
Linear guideway RN 3 and RN 4

Installation method:
For horizontal installation

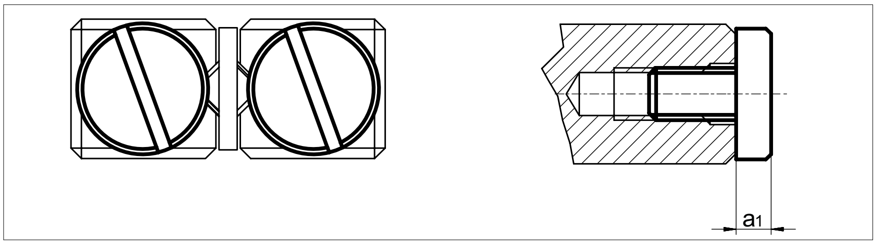


Size	GAN 3	GAN 4
a_1	2	2

End screws type GA

Compatible with:
Linear guideway RN 6 to RN 12

Installation method:
For horizontal installation

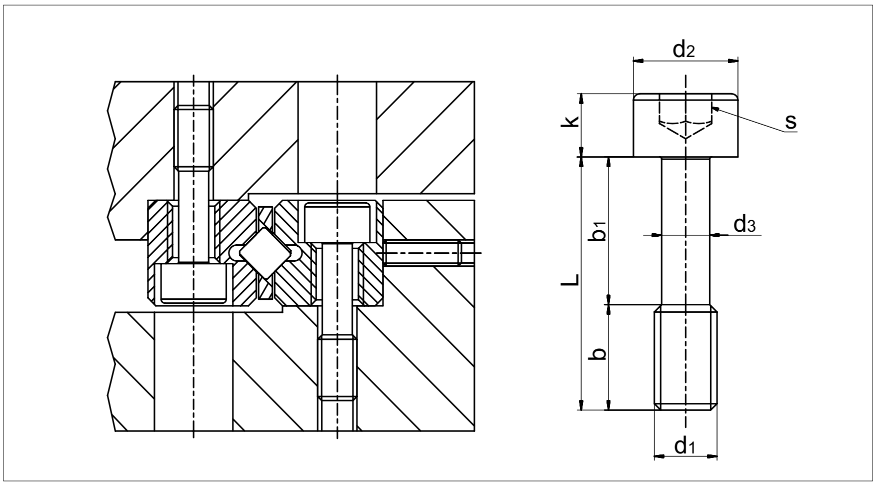


Size	GA 6	GA 9	GA 12
a_1	3	3	3

Fastening screws with thin shaft type GD 3 to GD 12

Special feature:
To even out differences in the hold spacings

Compatible with:
Linear guideway type RN 3 to RN 12



Type	Size	L	b	b_1	d_1	d_2	d_3	k	s	Tightening torque in Ncm
GD	3	12	5	7	M3	5	2.3	3	2.5	102
	4	16	7	9	M4	6.5	3	4	3	232
	6	20	8	12	M5	8	3.9	5	4	460
	9	30	12	18	M6	8.5	4.6	6	5	792
	12	40	17	23	M8	11.3	6.25	8	6	1'920