

5 Linear guideways

5.3 Type RNG



Type RNG

Like type RN, the type RNG linear guideway is based on the type R linear guideway. Like type RN, it has larger contact surfaces for the guideway tracks, which means its performance is significantly enhanced. Compared with types R and RN its cross-section is, however, smaller, which means that it represents a cost-effective solution without competition.

Benchmark data

Track and surface quality

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

Materials (standard)

- Rails from 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/s²
- 300 m/s² with cage control

Accuracy

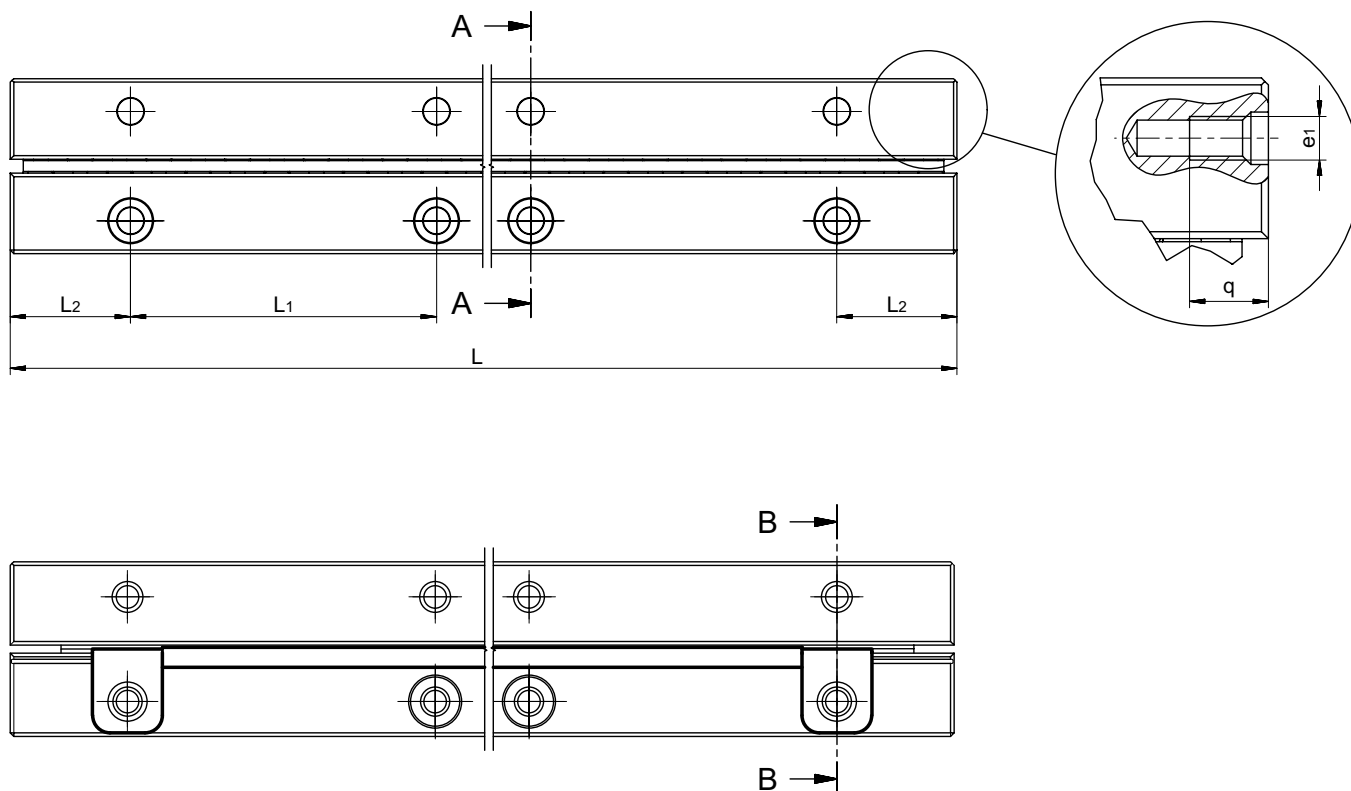
- RNG linear guideways are available in three quality classes (see chapter 9)

Operating temperatures

- -40° C to +80° C

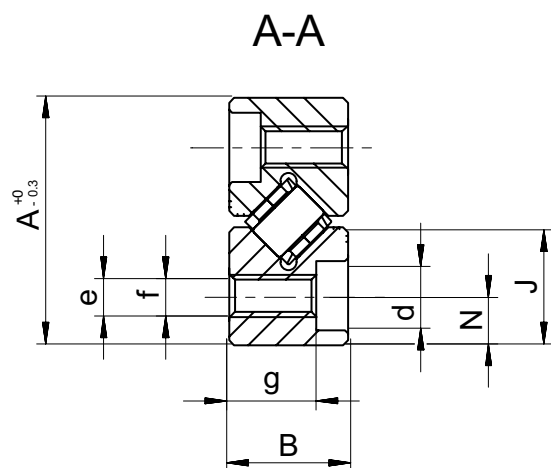
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Dimensions and load capacities of type RNG

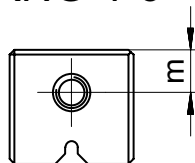


Type	Size	L in mm	Weight in g	A	B	Dw	J	L ₁	L ₂	N	d	e	e ₁	f	g	m	q	u	s	Options (see chapter 7)	Accessories
mm																					
RNG	4	50	27	19	9	4.5	9	25	12.5	3.5	5.5	M3	M3	2.65	6.3	3.5	6	-	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 4 - KBS 4 End pieces: - GBN 4 - GCN 4 - GCN-A 4 Fastening screw: - GDN 4
		75	41																		
		100	55																		
		125	69																		
		150	83																		
		175	97																		
		200	111																		
		225	125																		
		250	139																		
		275	153																		
		300	167																		
RNG	6	100	92	25	12	6.5	12	25	12.5	5	7	M4	M3	3.3	8.8	5	6	-	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 6 - KBS 6 End pieces: - GBN 6 - GCN 6 - GCN-A 6 Fastening screw: - GDN 6
		150	138																		
		200	184																		
		250	230																		
		300	276																		
		350	322																		
		400	368																		

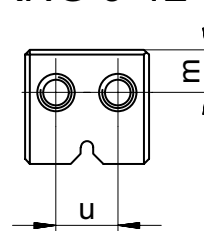
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RNG 4-6

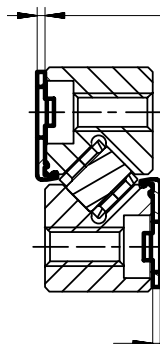


RNG 9-12



B-B

s: Design with cage control FORMULA-S



s: Design with cage control FORMULA-S

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	u	s	Options (see chapter 7)	Accessories
				mm																	
RNG	9	100	150	33	16	9	16	25	12.5	6	8.5	M5	M3	4.4	11.8	8	6	8	0.85	SQ SSQ RF EG ZG HA DU DR KS	Cage: - KBN 9 - KBS 9 End pieces: - GBN 9 - GCN 9 - GCN-A 9 Fastening screw: - GDN 9
		150	230																		
		200	310																		
		250	390																		
		300	470																		
		350	550																		
		400	630																		
		450	710																		
		500	790																		
RNG	12	200	600	45	22	12	22	50	25	8	12	M8	M5	6.8	15.8	11	7.5	10	-	SQ SSQ RF EG ZG HA DU	Cage: - KBN 12 End pieces: - GBN 12 - GCN 12 - GCN-A 12 Fastening screw: - GDN 12
		300	905																		
		400	1'207																		
		500	1'508																		
		600	1'810																		
		700	2'125																		
		800	2'430																		
		900	2'734																		
		1'000	3'038																		

The types in bold are standard. Other lengths and types RNG 15, RNG 18 and RNG 20 are available on request

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Maximum lengths for type RNG

Type / Size	Quality class	Max. lengths in standard material (in mm)	Max lengths in non-corrosive material (in mm)
RNG4	NQ	900	900
	SQ		
	SSQ	600	600
RNG6	NQ	1'500	1'400
	SQ		1'200
	SSQ	1'200	900
RNG9	NQ	1'500	1'400
	SQ		1'200
	SSQ	1'200	900
RNG12	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
RNG 4	0.4 x 45°
RNG 6	0.5 x 45°
RNG 9	0.8 x 45°
RN 12	0.8 x 45°

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Type RNG accessories

Roller cage type KBN

Compatible with:

Type RNG linear guideway
Sizes 4 to 12

Design:

Rollers fixed in place

Installation method:

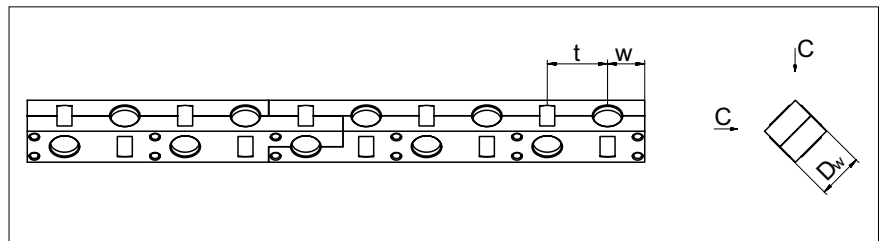
For normal application and certain
overrunning cage applications

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	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:

Type RNG linear guideway
Sizes 4 to 9

Design:

Rollers fixed in place
With integral pinion

Installation method:

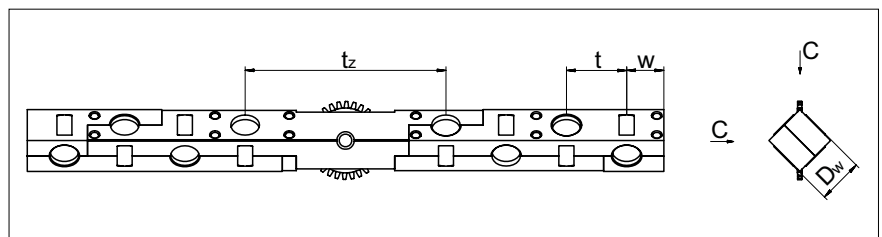
For normal application and certain
overrunning cage applications

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	4	4.5	6.5	23	approx. 4	850	900
	6	6.5	8.5	27	approx. 5	1'800	1'500
	9	9	12	40	approx. 7.5	3'900	1'500

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Type RNG accessories

End piece type GBN 4 and GBN 6

Compatible with:

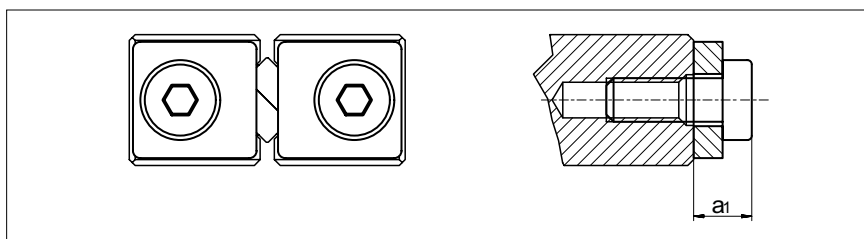
Linear guideway RNG 4 and RNG 6

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GBN 4	GBN 6
a_1	4	4

End piece type GBN 9 and GBN 12

Compatible with:

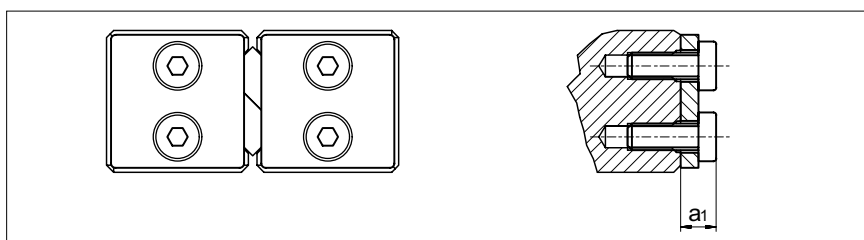
Linear guideway RNG 9 and RNG 12

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GBN 9	GBN 12
a_1	4	8.5

End piece type GCN 4 and GCN 6

Special feature:

For overrunning cage

Compatible with:

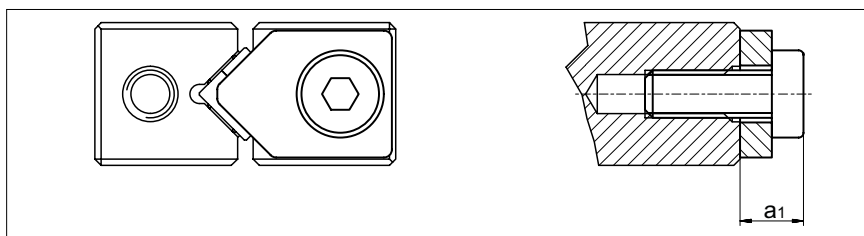
Linear guideway RNG 4 and RNG 6

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GCN 4	GCN 6
a_1	4	4

End piece type GCN 9 and GCN 12

Special feature:

For overrunning cage

Compatible with:

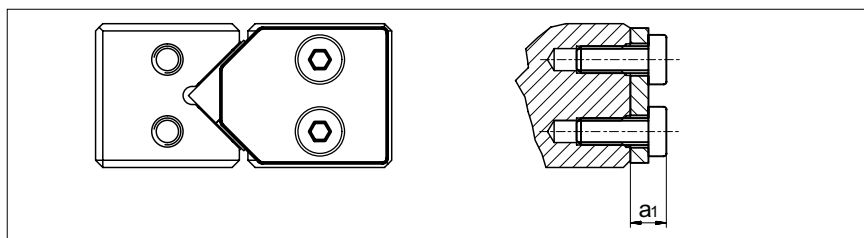
Linear guideway RNG 9 and RNG 12

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GCN 9	GCN 12
a_1	4	8.5

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Type RNG accessories

End piece type GCN-A 4 and GCN-A 6

Special feature:

With wipers made of felt

Compatible with:

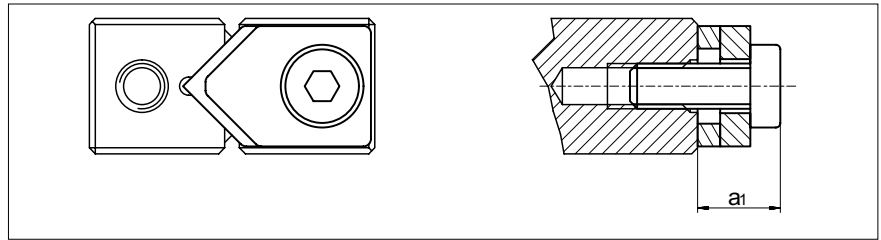
Linear guideway RNG 4 and RNG 6

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GCN-A 4	GCN-A 6
a_1	5.5	5.5

End piece type GCN-A 9 and GCN-A 12

Special feature:

With wipers made of felt

Compatible with:

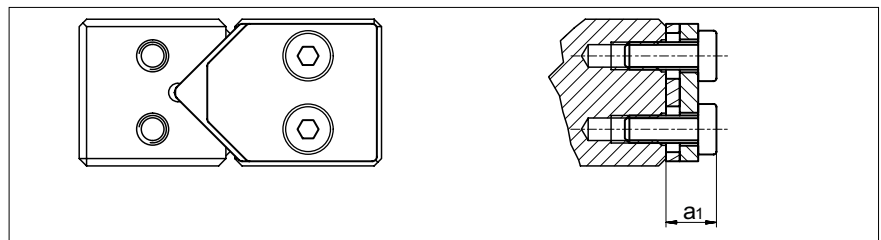
Linear guideway RNG 9 and RNG 12

Installation method:

No restrictions

Scope of supply:

Including fastening screws



Size	GCN-A 9	GCN-A 12
a_1	5.5	10

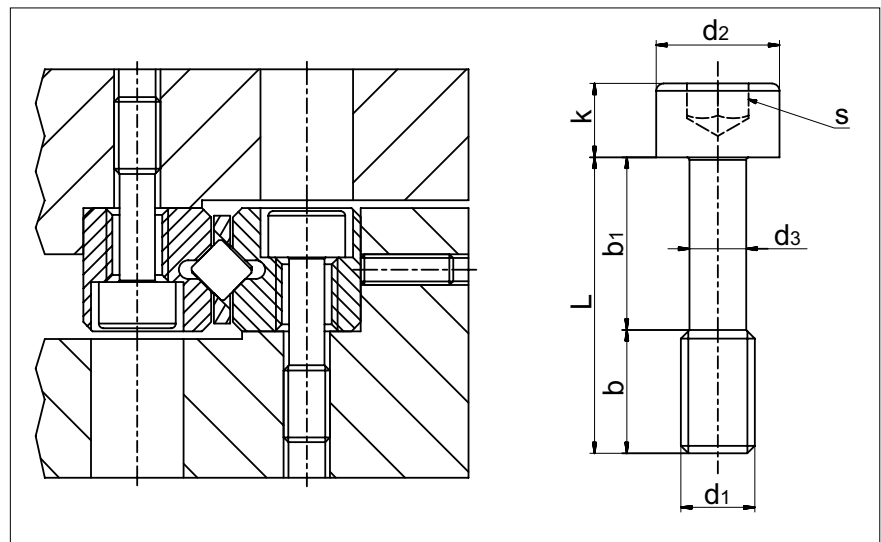
Fastening screws with thin shaft type GDN 4 to GDN 12

Special feature:

To even out differences in the hold spacings

Compatible with:

Linear guideway type RNG 4 to RNG 12



Type	Size	L	b	b ₁	d ₁	d ₂	d ₃	k	s	Tightening torque in Ncm
GD	4	12	5	7	M2.5	4.5	1.85	2.5	2	58
	6	16	5	11	M3	5.5	2.3	3	2.5	102
	9	25	11	14	M4	7	3	4	3	323
	12	30	12	18	M5	10	4.6	6	5	792