

#### 4.1 Linear Bearings Type RNG



Type RNG linear bearings were created through the optimization of the R type. As a result of their new shape, they are more accurate, have greater load carrying capacity and rigidity and a longer operational life. This high performance linear bearing with its relatively small guidance cross-section yields matchless economy in many applications.

#### 4.2 Material

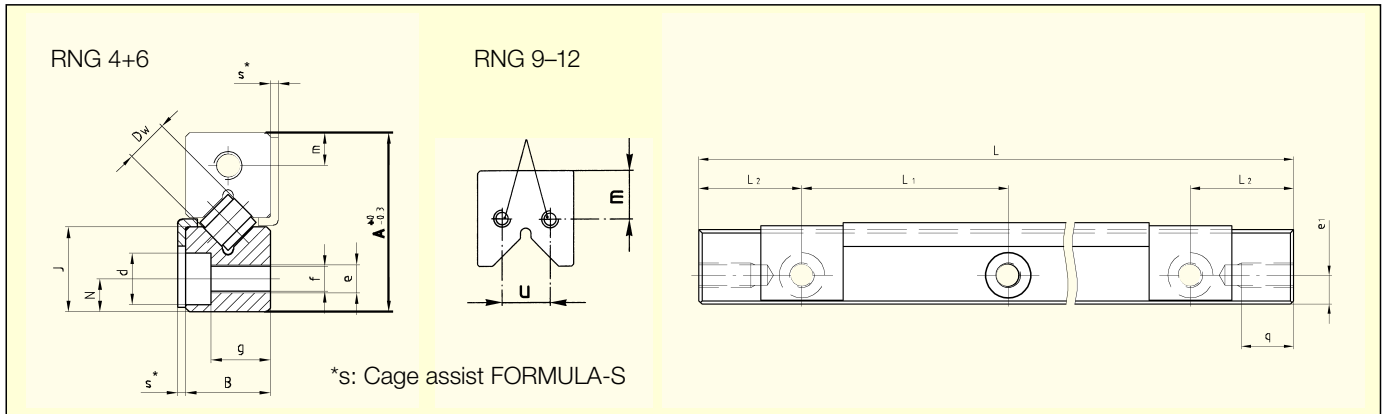
SCHNEEBERGER **linear bearings** are normally manufactured from tool steel No. 1.2510 or 1.2842. The hardness is between 58 and 62 HRC, or min. 54 HRC for certain corrosion resistant models (material No. 1.4125).

The whole SCHNEEBERGER **rolling element range** is made generally from bearing steel No. 1.3505. The hardness is between 58 and 64 HRC, or min. 56 HRC for corrosion-resistant models.

#### 4.3 Special version

The comprehensive standardized program is complemented as the situation requires with special models so that every desired, technically optimal design can be realized. We can supply complete solutions specific to the application conditions.

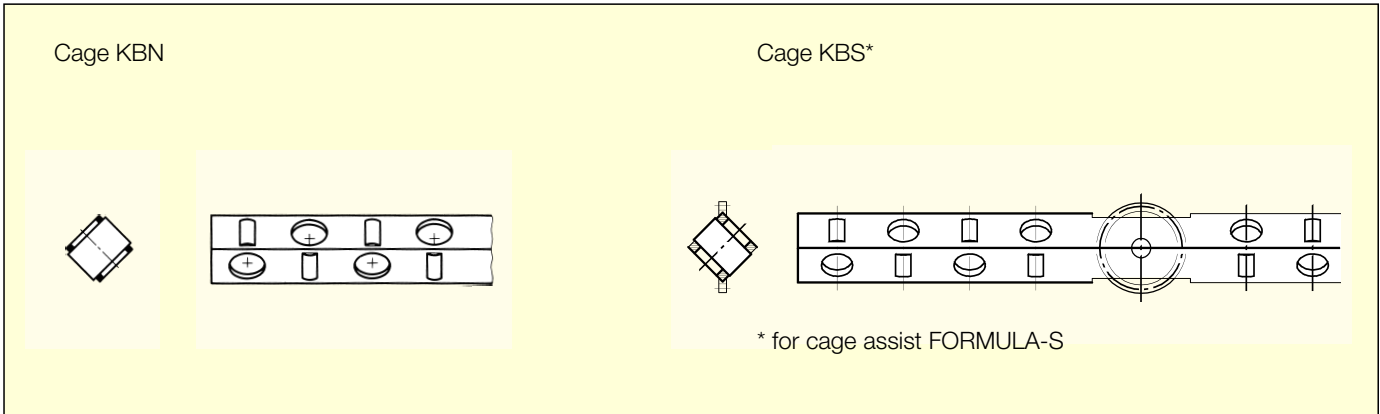
#### 4.4 Dimension Table Type RNG



Type	Size	A	B	Dw	J	L <sub>1</sub>	L <sub>2</sub>	N	d	e	e <sub>1</sub>	f	g	m	q	u	s
<b>RNG</b>	<b>4</b>	19	9	4.5	9	25	12.5	3.5	5.5	M3	M3	2.65	6.3	3.5	6	-	0.85
<b>RNG</b>	<b>6</b>	25	12	6.5	12	25	12.5	5	7	M4	M3	3.3	8.8	5	6	-	0.85
<b>RNG</b>	<b>9</b>	33	16	9	16	25	12.5	6	8.5	M5	M3	4.4	11.8	8	6	8	-
<b>RNG</b>	<b>12</b>	45	22	12	22	50	25	8	12	M8	M5	6.8	15.8	11	7.5	10	-

Type	Size	Length L											Max L
<b>RNG</b>	<b>4</b>	<b>050</b>	<b>075</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>175</b>	<b>200</b>	<b>225</b>	<b>250</b>	<b>275</b>	<b>300</b>	700
<b>RNG</b>	<b>6</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>350</b>	<b>400</b>					1500
<b>RNG</b>	<b>9</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>350</b>	<b>400</b>	<b>450</b>	<b>500</b>			1500
<b>RNG</b>	<b>12</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1000</b>			1500

RNG 15, RNG 20 and other lengths on request



Type	Size	Accessories (see also chapter 7)				Spec. Attaching Screws GDN	Options							
		Cages KBN	Endpieces GBN	GCN	GCN-A		SQ	SSQ	RF	EG	ZG	HA	DU	KS
<b>RNG</b>	<b>4</b>	•	•	•	•	•	(•)	(•)	(•)	•	•	•	•	•
<b>RNG</b>	<b>6</b>	•	•	•	•	•	(•)	(•)	(•)	•	•	•	•	•
<b>RNG</b>	<b>9</b>	•	•	•	•	•	(•)	(•)	(•)	•	•	•	•	•
<b>RNG</b>	<b>12</b>	•	•	•	•	•	(•)	(•)	(•)	•	•	•	•	•

(•) Maximum length 600 mm

Corrosion resistant rolling elements on request

**Ordering information Linear Bearings**

Standard

Options

Type	Size	-	Length	-	Additional ordering information
RNG	9	-	400	-	SQ Special quality, high requirements <sup>1)</sup> SSQ Super special quality, most stringent requirements <sup>1)</sup> RF Corrosion resistant <sup>2)</sup> EG Inlets rounded <sup>3)</sup> ZG Linear Bearings ground together <sup>1)</sup> HA Of Height Matched Linear Bearings in pairs <sup>1)</sup> DU Chrome coating type Duralloy® <sup>2)</sup> KS Integrated cages with assisted movement

Order information

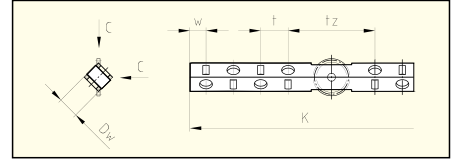
- 4 Linear Bearings Type RNG 9-400
- 2 Roller Cages KBN 9 x 25 rollers
- 8 Endpieces GBN 9

<sup>1)</sup> see chapter 15.1  
<sup>2)</sup> see chapter 15.2  
<sup>3)</sup> see chapter 16.7

## 7.1 Cages

**Roller Cages Type KBS, Sizes 3–6 for FORMULA-S**

- Suitable for all types of fitting
- Captive rollers

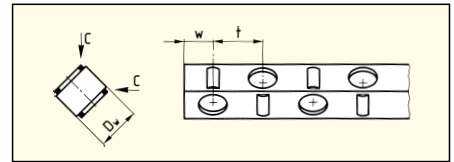


Type	Size	D <sub>w</sub>	t	t <sub>z</sub>	w	C/Roller in N
<b>KBS</b>	<b>3</b>	3	5	18	3.5	410
<b>KBS</b>	<b>4</b>	4.5	6.5	23	4	850
<b>KBS</b>	<b>6</b>	6.5	8.5	27	5	1800

Ordering example: 2 Roller Cages KBS 4 × 15 rollers for RN 4

**Roller cages Type KBN, for RN and RNG, Sizes 3–12**

- Suitable for all types of fitting
- Captive rollers
- DELRIN 500 CL

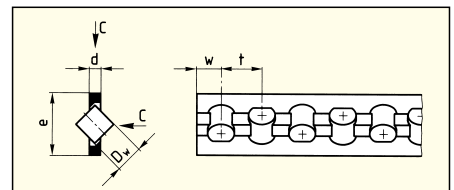


Type	Size	D <sub>w</sub>	t	w	C/Roller in N
<b>KBN</b>	<b>3</b>	3	5	3.5	410
<b>KBN</b>	<b>4</b>	4.5	6.5	4	850
<b>KBN</b>	<b>6</b>	6.5	8.5	5	1800
<b>KBN</b>	<b>9</b>	9	12	7.5	3900
<b>KBN</b>	<b>12</b>	12	15	9	6500

Ordering example: 2 Roller Cages KBN 4 × 15 rollers

**Roller Cages Type AC, Sizes 1–12 for R and RD**

- Suitable for all types of fitting
- Captive rollers
- Material: Sizes 1 and 2 Delrin 500 CL  
from size 3 PA 12 GF 30%  
Steel wire

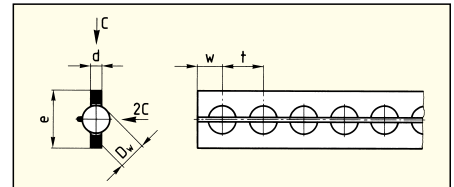


Type	Size	D <sub>w</sub>	d	e	t	w	C/ Roller in N	Number of rollers	Max. Length
<b>AC</b>	<b>1</b>	1.5	0.45	3.5	3	1.5	50		70
<b>AC</b>	<b>2</b>	2	0.75	5	4	2	85		85
<b>AC</b>	<b>3</b>	3	1	7	5	2.5	130	240	1200
<b>AC</b>	<b>6</b>	6	2.5	14	9	6	530	166	1500
<b>AC</b>	<b>9</b>	9	3.5	20	14	9	1300	107	1500
<b>AC</b>	<b>12</b>	12	4.5	25	18	11	2500	83	1500

Ordering example: 2 Roller cages AC 3 × 20 rollers

**Ball cages Type AK, Sizes 1–12 for R and RD**

- Suitable for all types of fitting
- Captive balls
- Material: Sizes 1 to 3 POM  
from size 6 PA 12 GF 30%  
Steel wire composite



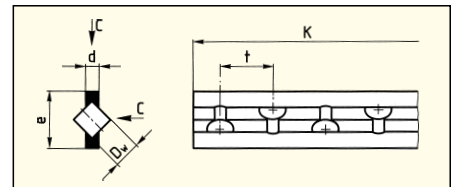
Type	Size	D <sub>w</sub>	d	e	t	w	C/ Ball in N	Number of balls	Max. Length
<b>AK</b>	<b>1</b>	1.5	0.45	3.5	2.2	1.5	9	23	80
<b>AK</b>	<b>2</b>	2	0.75	5	4	2	15	23	100
<b>AK</b>	<b>3</b>	3	1	7	4.2	2.5	25	42	180
<b>AK</b>	<b>6</b>	6	2.5	14	9	6	65	166	1500
<b>AK</b>	<b>9</b>	9	3.5	20	14	9	150	107	1500
<b>AK</b>	<b>12</b>	12	4.5	25	18	11	260	83	1500

Ordering example: 2 Ball cages AK 1 × 5 balls

**Roller Cages Type EE, Sizes 6 and 9 for R 6, R 9, RD 6 and RD 9 (Special Accessories)**

Application see chapter 17.5

- Use only with specially designated Linear bearings (suffix EE) and Type GB or GC endpieces
- For horizontal and vertical fitting
- Captive rollers
- Acts as a dirt wiper, thus running friction is somewhat higher
- When ordering, it is essential that the overall cage length K is quoted
- Material PE plastic
- Not suitable for protruding cages and gravity loaded bearings



Type	Size	D <sub>w</sub>	d	e	t	C/Roller in N
<b>EE</b>	<b>6</b>	6	3.2	13.5	12	530
<b>EE</b>	<b>9</b>	9	4.6	19	18	1300

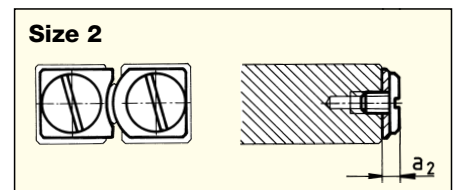
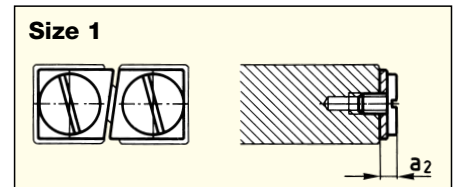
Ordering example: 2 Roller cages EE 6 × 150 mm length

Other materials for cages/rolling elements on request

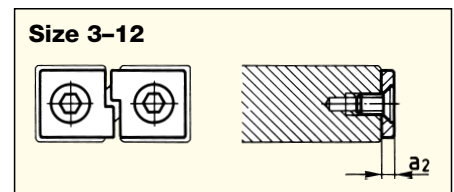
## 7.2 Endpieces

### Endpieces Type GB

- For horizontal or vertical fitting
- For R 1 and R 2

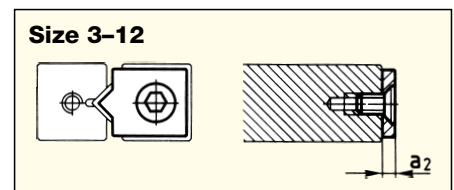


- For horizontal or vertical fitting
- For Type EE roller cages
- For R 3 to R 12



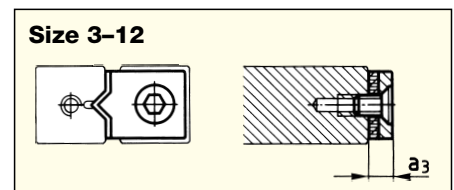
### Endpieces Type GC

- For protruding cages
- For R 3 to R 12



### Endpieces Type GC-A with Wipers

- For horizontal or vertical fitting
- Felt Wiper
- For R 3 to R 12



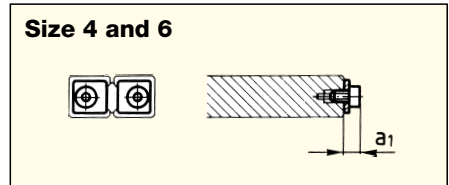
Size	1	2	3	6	9	12
$a_1$	-	-	2	3	3	3
$a_2$	1.7	2	2	3	4	5
$a_3$	-	-	5	6	7	8

Ordering example: 8 Endscrews GA 6 or 4 Endpieces GC-A 9

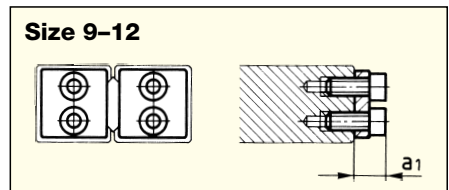
### Endpieces delivered with attaching screws

**Endpieces Type GBN**

- For horizontal and vertical fitting
- For RNG 4 and 6

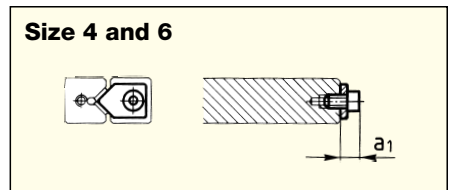


- For RNG 9 to 12

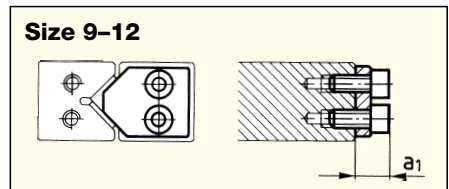


**Endpieces Type GCN**

- For protruding cages
- For RNG 4 and 6

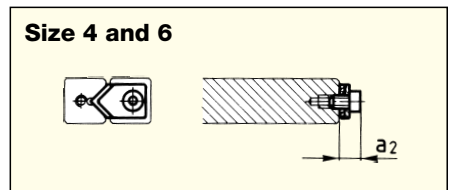


- For RNG 9 to 12

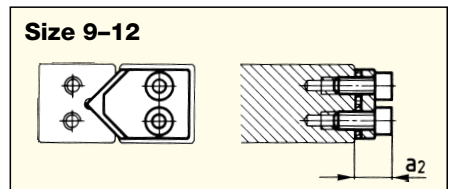


**Endpieces Type GCN-A with Wipers**

- For horizontal and vertical fitting
- Plastic wiper
- For RNG 4 and 6



- For RNG 9 to 12



Size	4	6	9	12
a <sub>1</sub>	4	4	4	8.5
a <sub>2</sub>	5.5	5.5	5.5	10

Ordering example: 40 Endpieces GBN 9

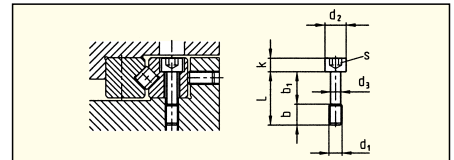
**Endpieces delivered with attaching screws**

### 7.3 Attaching Screws

#### Special Attaching Screws for R and RN

##### Type GD, Sizes 3-12

- To compensate for difference in hole pitch

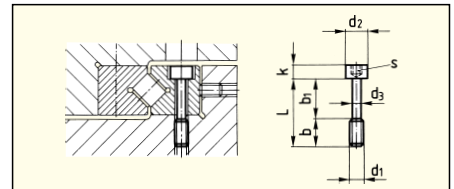


Type	Size	L	b	b <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	k	s
<b>GD</b>	<b>3</b>	12	5	7	M3	5	2.3	3	2.5
<b>GD</b>	<b>4</b>	16	7	9	M4	6.5	3	4	3
<b>GD</b>	<b>6</b>	20	8	12	M5	8	3.9	5	4
<b>GD</b>	<b>9</b>	30	12	18	M6	8.5	4.6	6	5
<b>GD</b>	<b>12</b>	40	17	23	M8	11.3	6.25	8	6

#### Special Attaching Screws for RNG

##### Type GDN, Sizes 4-12

- To compensate for difference in hole pitch



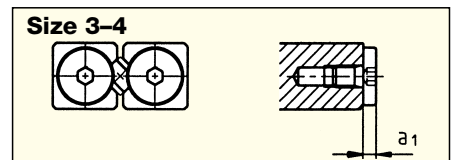
Type	Size	L	b	b <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	k	s
<b>GDN</b>	<b>4</b>	12	5	7	M2.5	4.5	1.85	2.5	2
<b>GDN</b>	<b>6</b>	16	5	11	M3	5.5	2.3	3	2.5
<b>GDN</b>	<b>9</b>	25	11	14	M4	7	3	4	3
<b>GDN</b>	<b>12</b>	30	12	18	M6	10	4.6	6	5

Ordering example: 50 Special Attaching Screws GDN 9

### 7.4 Endscrews

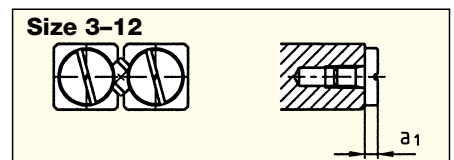
#### Endscrews Type GAN

- a<sub>1</sub> = 2
- For RN 3-RN 4



#### Endscrews Type GA

- For horizontal fitting
- For R 3-R 12
- From RN 6-RN 12



Order numbers in bold face are standard articles