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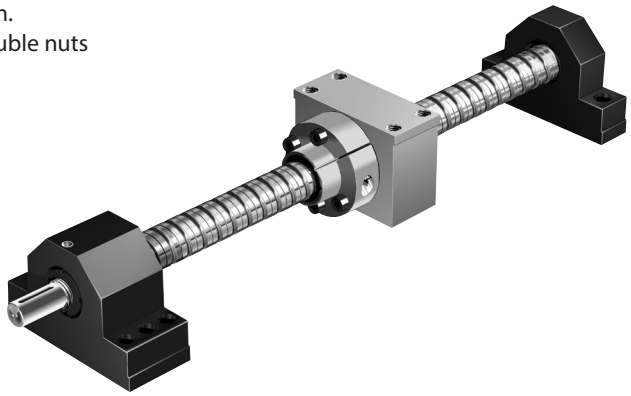
Nuts, standard series

Standard series ball screw assemblies
are available with nominal diameters of 16 – 80 mm, and leads of 5 – 40 mm.
The nut types are flange, cylindrical and adjustable-preload single nuts, double nuts with flange, as well as screw-in nuts.



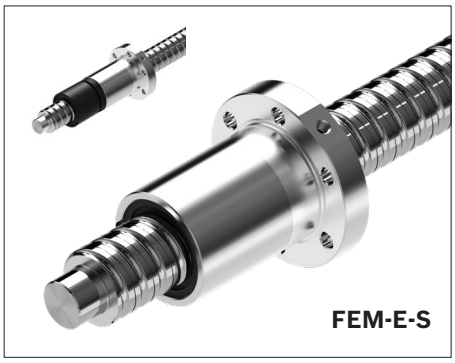
Benefits
- High axial load-bearing capacity
- High dynamics
- High rigidity
- Low friction
- Available from stock in many versions and sizes
- Nut housing with reference edge (both sides)

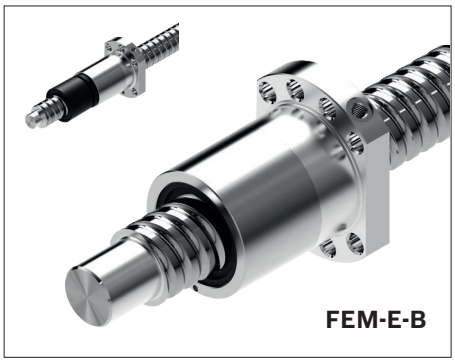
Preload classes

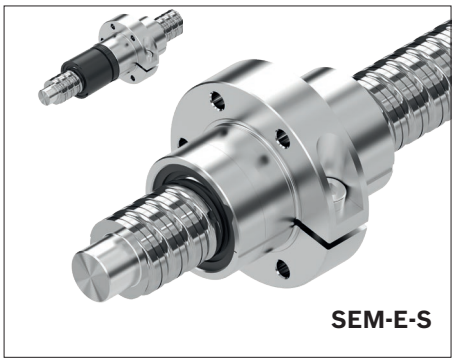
Option	Preload class	Definition
0	C0	Standard backlash
1	C00	Reduced backlash
2	C3	High preload (single nut)
3	C1	Moderate preload (single nut)
4	C4	High preload (double nut)
5	C5	Average preload (double nut)
6	C2	Average preload (single nut)

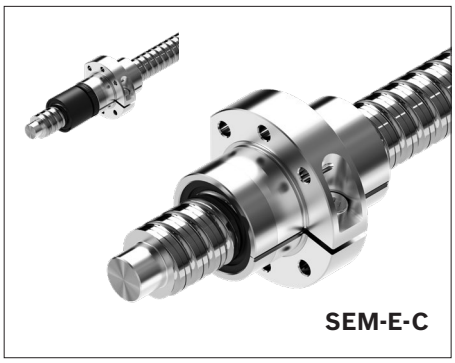
See nut versions for allocation of the preload classes

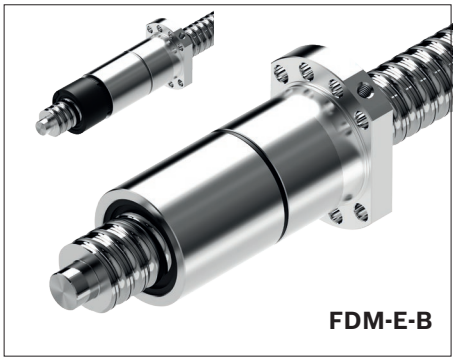
Overview of formats











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Single nut with flange FEM-E-S

Rexroth connection dimensions

With seals
Left-hand version in some cases
Preload class: C0, C00, C1, C2, C3
Tolerance grade: T3[2], T5, T7, T9

Note: The front lube unit is only available for the right-hand version.

⚠ When setting up applications, do not allow components to collide with the front lube unit.

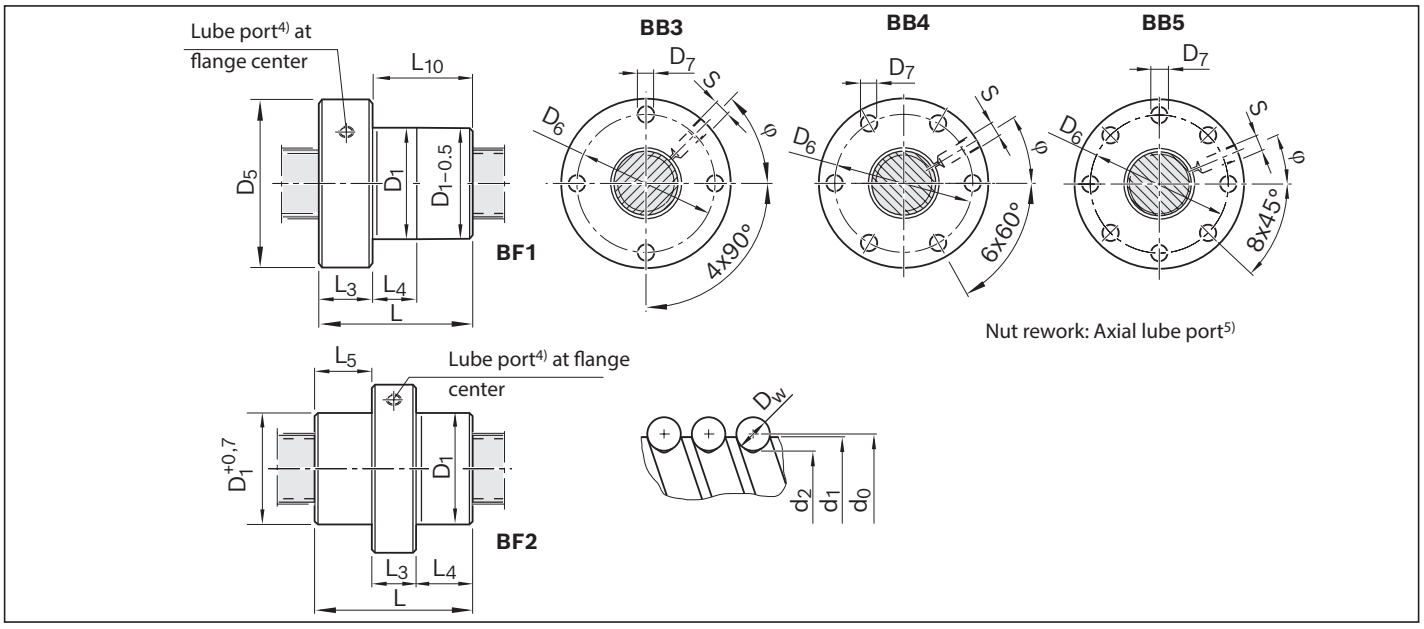
Ordering data:

BASA	20 x 5R x 3	FEM-E-S - 4	00	1	2	T7	R	82Z120	41Z120	1250	0	1

d_0 = nominal diameter
P = lead (R = right-hand, L = left-hand)
D_W = ball diameter
i = number of ball track turns

Category	Size d_0 x P x D_w - i	Part number	Load ratings[3] dyn. C (N)	stat. C_0 (N)	Linear speed[1] v_{max} (m/min)
A	16 x 5R x 3 - 4	R1512 010 23	14,800	16,100	30
A	16 x 10R x 3 - 3	R1512 040 13	11,500	12,300	60
A	16 x 16R x 3 - 2	R1512 060 13	7,560	7,600	96
A	20 x 5R x 3 - 4	R1512 110 13	17,200	21,500	30
A	20 x 10R x 3 - 4	R1512 140 13	16,900	21,300	60
A	20 x 20R x 3.5 - 2	R1512 170 13	10,900	12,100	120
A	25 x 5R x 3 - 4	R1512 210 13	19,100	27,200	30
A	25 x 10R x 3 - 4	R1512 240 13	18,800	27,000	60
A	25 x 25R x 3.5 - 2	R1512 280 13	12,100	15,100	150
A	32 x 5R x 3.5 - 4	R1512 310 13	25,900	40,000	23
A	32 x 10R x 3.969 - 5	R1512 340 13	38,000	58,300	47
A	32 x 20R x 3.969 - 2	R1512 370 13	16,200	21,800	94
A	32 x 32R x 3.969 - 2	R1512 390 13	16,100	22,000	150
A	40 x 5R x 3.5 - 5	R1512 410 13	34,900	64,100	19
A	40 x 10R x 6 - 4	R1512 440 13	60,000	86,400	38
A	40 x 10R x 6 - 6	R1512 440 23	86,500	132,200	38
A	40 x 20R x 6 - 3	R1512 470 13	45,500	62,800	75
A	40 x 40R x 6 - 2	R1512 490 13	30,600	40,300	150
A	50 x 5R x 3.5 - 5	R1512 510 13	38,400	81,300	15
A	50 x 10R x 6 - 6	R1512 540 13	95,600	166,500	30
B	50 x 16R x 6 - 6	R1512 560 13	95,300	166,000	48
A	50 x 20R x 6.5 - 3	R1512 570 13	57,500	87,900	60
A	50 x 40R x 6.5 - 2	R1512 590 13	38,500	55,800	120
A	63 x 10R x 6 - 6	R1512 640 13	106,600	214,300	24
B	63 x 20R x 6.5 - 3	R1512 670 13	63,800	112,100	48
B	63 x 40R x 6.5 - 2	R1512 690 13	44,300	74,300	95
A	80 x 10R x 6.5 - 6	R1512 740 13	130,100	291,700	19
A	80 x 20R x 12.7 - 6	R1512 770 23	315,200	534,200	30
Versions with left-hand lead					
B	16 x 5L x 3 - 4	R1552 010 03	14,800	16,100	30
B	20 x 5L x 3 - 4	R1552 110 13	17,200	21,500	30
B	25 x 5L x 3 - 4	R1552 210 13	19,100	27,200	30
B	32 x 5L x 3.5 - 4	R1552 310 03	25,900	40,000	23
B	40 x 5L x 3.5 - 5	R1552 410 03	34,900	64,100	19
B	40 x 10L x 6 - 4	R1552 440 03	60,000	86,400	38

1) See "Characteristic speed $d_0 \cdot n$" on page 133 and "Critical speed n_{cr}" on page 174
2) Tolerance grade T3 for sizes shown in table page 12
3) The load ratings are valid for tolerance grade T3 and T5 only.
For other tolerance grades, please take into account the correction factor f_{ac} on page 133.
4) Lube port machining: flat surface $L_3 \leq 15$ mm, countersink $L_3 > 15$ mm;



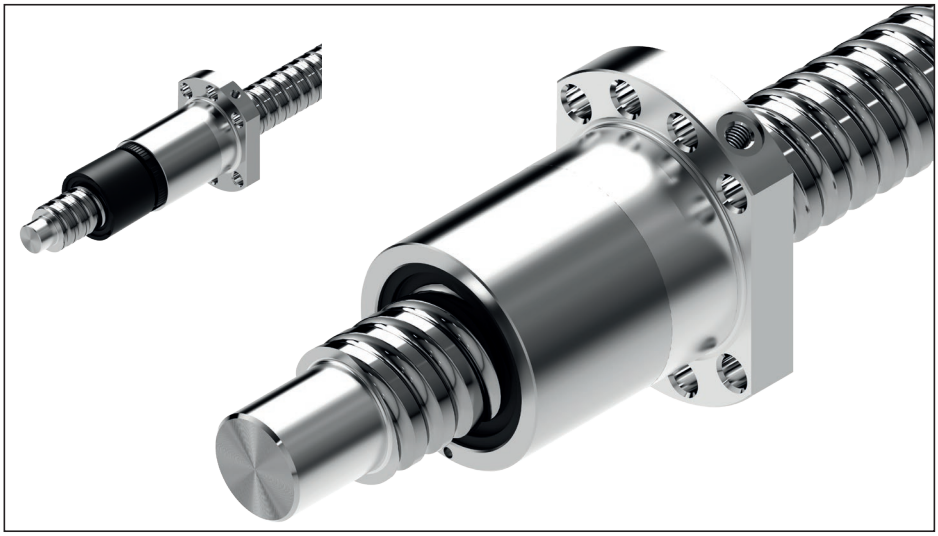
5) The axial lube port S_x is always located on the pitch circle D_6 of the nut unit.

Size	(mm)																Mass
	d_1	d_2	D_1	D_5	Hole pattern	D_6	D_7	Design	L	L_3	L_4	L_5	L_{10}	S4)	S_x	φ	m
d_0 x P x D_w - i			g6					style								(°)	(kg)
16 x 5R x 3 - 4	15.0	12.9	28	53	BB3	40	6.6	BF1	38	12	10.0	–	26	M6	4	315.0	0.24
16 x 10R x 3 - 3	15.0	12.9	28	53	BB3	40	6.6	BF1	45	12	16.0	–	33	M6	4	315.0	0.25
16 x 16R x 3 - 2	15.0	12.9	33	58	BB4	45	6.6	BF2	45	15	15.0	15.0	–	M6	4	30.0	0.39
20 x 5R x 3 - 4	19.0	16.9	33	58	BB4	45	6.6	BF1	40	12	10.0	–	28	M6	4	30.0	0.28
20 x 10R x 3 - 4	19.0	16.9	33	58	BB4	45	6.6	BF1	60	12	16.0	–	48	M6	4	30.0	0.36
20 x 20R x 3.5 - 2	19.0	16.7	38	63	BB4	50	6.6	BF2	57	20	18.5	18.5	–	M6	4	30.0	0.60
25 x 5R x 3 - 4	24.0	21.9	38	63	BB4	50	6.6	BF1	45	12	10.0	–	33	M6	4	30.0	0.35
25 x 10R x 3 - 4	24.0	21.9	38	63	BB4	50	6.6	BF1	64	12	16.0	–	52	M6	4	30.0	0.44
25 x 25R x 3.5 - 2	24.0	21.4	48	73	BB4	60	6.6	BF2	70	25	22.5	22.5	–	M6	4	18.0	1.09
32 x 5R x 3.5 - 4	31.0	28.4	48	73	BB4	60	6.6	BF1	48	13	10.0	–	35	M6	4	30.0	0.54
32 x 10R x 3.969 - 5	31.0	27.9	48	73	BB4	60	6.6	BF1	77	13	16.0	–	64	M6	4	30.0	0.72
32 x 20R x 3.969 - 2	31.0	27.9	56	80	BB4	68	6.6	BF1	64	15	25.0	–	49	M6	4	30.0	1.02
32 x 32R x 3.969 - 2	31.0	27.9	56	80	BB4	68	6.6	BF2	88	20	34.0	34.0	–	M6	4	30.0	1.40
40 x 5R x 3.5 - 5	39.0	36.4	56	80	BB4	68	6.6	BF1	54	15	10.0	–	39	M8x1	5	30.0	0.71
40 x 10R x 6 - 4	38.0	33.8	63	95	BB4	78	9.0	BF1	70	15	16.0	–	55	M8x1	5	30.0	1.29
40 x 10R x 6 - 6	38.0	33.8	63	95	BB4	78	9.0	BF1	90	15	16.0	_	75	M8x1	5	30.0	1.59
40 x 20R x 6 - 3	38.0	33.8	63	95	BB4	78	9.0	BF1	88	15	25.0	–	73	M8x1	5	30.0	1.54
40 x 40R x 6 - 2	38.0	33.8	72	110	BB4	90	11.0	BF2	102	40	31.0	31.0	–	M8x1	5	19.0	3.59
50 x 5R x 3.5 - 5	49.0	46.4	68	98	BB4	82	9.0	BF1	54	15	10.0	–	39	M8x1	5	30.0	1.02
50 x 10R x 6 - 6	48.0	43.8	72	110	BB4	90	11.0	BF1	90	18	16.0	–	72	M8x1	5	30.0	2.02
50 x 16R x 6 - 6	48.0	43.8	72	110	BB4	90	11.0	BF1	128	18	25.0	–	110	M8x1	5	30.0	2.58
50 x 20R x 6.5 - 3	48.0	43.4	85	125	BB4	105	11.0	BF1	92	22	25.0	–	70	M8x1	5	30.0	3.40
50 x 40R x 6.5 - 2	48.0	43.4	85	125	BB4	105	11.0	BF1	109	22	45.0	–	87	M8x1	5	30.0	3.87
63 x 10R x 6 - 6	61.0	56.8	85	125	BB4	105	11.0	BF1	90	22	16.0	–	68	M8x1	5	30.0	2.62
63 x 20R x 6.5 - 3	61.0	56.4	95	140	BB4	118	14.0	BF1	92	22	25.0	–	70	M8x1	5	30.0	3.71
63 x 40R x 6.5 - 2	61.0	56.4	95	140	BB4	118	14.0	BF1	109	22	45.0	–	87	M8x1	5	30.0	4.21
80 x 10R x 6.5 - 6	78.0	73.3	105	150	BB4	125	14.0	BF1	95	22	16.0	–	73	M8x1	5	30.0	3.78
80 x 20R x 12.7 - 6	76.0	67.0	125	180	BB5	152	18.0	BF1	170	25	25.0	–	145	M8x1	5	22.5	11.00
Versions with left-hand lead																	
16 x 5L x 3 - 4	15.0	12.9	28	53	BB3	40	6.6	BF1	38	12	10.0	–	26	M6	4	45.0	0.24
20 x 5L x 3 - 4	19.0	16.9	33	58	BB4	45	6.6	BF1	40	12	10.0	–	28	M6	4	30.0	0.28
25 x 5L x 3 - 4	24.0	21.9	38	63	BB4	50	6.6	BF1	45	12	10.0	–	33	M6	4	30.0	0.35
32 x 5L x 3.5 - 4	31.0	28.4	48	73	BB4	60	6.6	BF1	48	13	10.0	–	35	M6	4	30.0	0.54
40 x 5L x 3.5 - 5	39.0	36.4	56	80	BB4	68	6.6	BF1	54	15	10.0	–	39	M8x1	5	30.0	0.71
40 x 10L x 6 - 4	38.0	33.8	63	95	BB4	78	9.0	BF1	70	15	16.0	–	55	M8x1	5	30.0	1.29

rexroth
A Bosch Company

Single nut with flange FEM-E-B

Mounting dimensions similar to DIN 69051, Part 5
Flange type B



With seals
With left-hand version in some cases Preload class: C0, C00, C1, C2, C3
Tolerance grade: T3[2], T5, T7, T9

Note: The front lube unit is only available for the right-hand version.

⚠ When setting up applications, do not allow components to collide with the front lube unit.

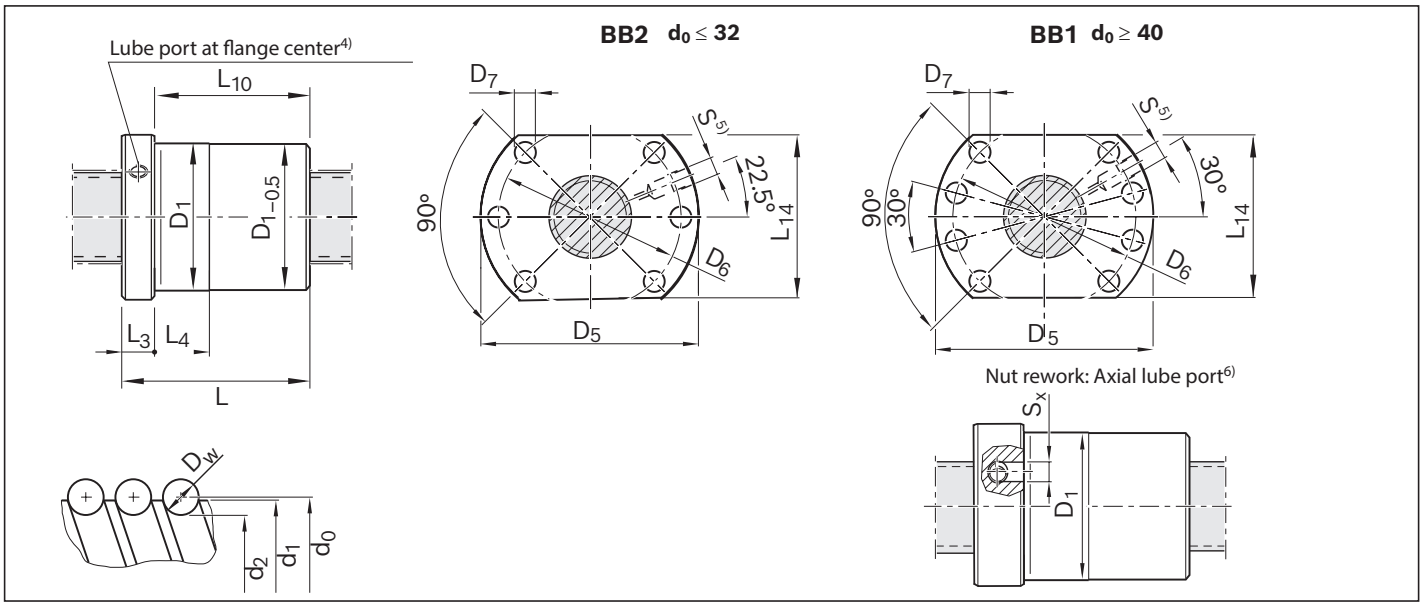
d_0 = nominal diameter
P = lead (R = right-hand, L = left-hand)
D_W = ball diameter
i = number of ball track turns

Ordering data:

BASA	20 x 5R x 3	FEM-E-B - 4	00	1	2	T7	R	82Z120	41Z120	1250	0	1

Category	Size d_0 x P x D_w - i	Part number	Load ratings[3] dyn. C (N)	stat. C_0 (N)	Linear speed[1] v_{max} (m/min)
A	16 x 5R x 3 - 4	R1502 010 63	14,800	16,100	30
A	16 x 10R x 3 - 3	R1502 040 83	11,500	12,300	60
A	16 x 16R x 3 - 3	R1502 060 63	11,200	12,000	96
A	20 x 5R x 3 - 4	R1502 110 83	17,200	21,500	30
A	20 x 10R x 3 - 4	R1502 140 63	16,900	21,300	60
A	20 x 20R x 3.5 - 3	R1502 170 63	16,000	18,800	120
A	25 x 5R x 3 - 4	R1502 210 83	19,100	27,200	30
A	25 x 10R x 3 - 4	R1502 240 83	18,800	27,000	60
A	25 x 25R x 3.5 - 3	R1502 280 63	17,600	23,300	150
A	32 x 5R x 3.5 - 4	R1502 310 83	25,900	40,000	23
A	32 x 10R x 3.969 - 5	R1502 340 84	38,000	58,300	47
A	32 x 20R x 3.969 - 3	R1502 370 63	23,600	33,700	94
A	32 x 32R x 3.969 - 3	R1502 390 63	23,400	34,000	150
A	40 x 5R x 3.5 - 5	R1502 410 84	34,900	64,100	19
A	40 x 10R x 6 - 4	R1502 440 83	60,000	86,400	38
A	40 x 10R x 6 - 6	R1502 440 84	86,500	132,200	38
A	40 x 12R x 6 - 4	R1502 450 63	59,900	86,200	45
A	40 x 16R x 6 - 4	R1502 460 63	59,600	85,900	60
A	40 x 20R x 6 - 3	R1502 470 83	45,500	62,800	75
B	40 x 25R x 6 - 4	R1502 480 83	56,900	85,800	93
B	40 x 30R x 6 - 4	R1502 4A0 83	56,300	85,100	112
A	40 x 40R x 6 - 3	R1502 490 63	44,400	62,300	150
A	50 x 5R x 3.5 - 5	R1502 510 84	38,400	81,300	15
A	50 x 10R x 6 - 6	R1502 540 84	95,600	166,500	30
A	50 x 12R x 6 - 6	R1502 550 64	95,500	166,400	36
A	50 x 16R x 6 - 6	R1502 560 64	95,300	166,000	48
A	50 x 20R x 6.5 - 5	R1502 570 84	90,800	149,700	60
B	50 x 25R x 6.5 - 4	R1502 580 84	71 800	149 700	75
B	50 x 30R x 6.5 - 4	R1502 5A0 83	71,300	118,800	90
A	50 x 40R x 6.5 - 3	R1502 590 63	55,800	85,900	120
A	63 x 10R x 6 - 6	R1502 640 84	106,600	214,300	24
A	63 x 20R x 6.5 - 5	R1502 670 84	100,700	190,300	48
A	63 x 40R x 6.5 - 3	R1502 690 63	64,100	114,100	95
A	80 x 10R x 6.5 - 6	R1502 740 84	130,100	291,700	19
A	80 x 20R x 12.7 - 6	R1502 770 94	315,200	534,200	30
B	80 x 40R x 12.7 - 4	R1502 790 94	216,600	367,600	60
Versions with left-hand lead					
B	16 x 5L x 3 - 4	R1552 010 63	14,800	16,100	30
A	20 x 5L x 3 - 4	R1552 110 83	17,200	21,500	30
B	25 x 5L x 3 - 4	R1552 210 83	19,100	27,200	30
B	32 x 5L x 3.5 - 4	R1552 310 63	25,900	40,000	23
B	40 x 5L x 3.5 - 5	R1552 410 64	34,900	64,100	19
B	40 x 10L x 6 - 4	R1552 440 63	60,000	86,400	38

1) See "Characteristic speed $d_0 \cdot n$" on page 133 and "Critical speed n_{cr}" on page 174
2) Tolerance grade T3 for sizes shown in table page 12
3) The load ratings are valid for tolerance grade T3 and T5 only.
For other tolerance grades, please take into account the correction factor f_{ac} on page 133.
4) Lube port machining: flat surface $L_3 \leq 15$ mm, countersink $L_3 > 15$ mm;
5) With left-hand lead the lube port position mirrors its position with right-hand lead!
6) The axial lube port S_x is always located on the pitch circle D_6 of the nut unit.



Size	(mm)														Mass
d_0 x P x D_w - i	d_1	d_2	D_1 g6	D_5	Hole pattern	D_6	D_7	L	L_3	L_4	L_{10}	L_{14}	$S^{4)}$	S_x	m (kg)
16 x 5R x 3 - 4	15	12.9	28	48	BB2	38	5.5	38	12	10	26	40.0	M6	4	0.19
16 x 10R x 3 - 3	15	12.9	28	48	BB2	38	5.5	45	12	16	33	40.0	M6	4	0.21
16 x 16R x 3 - 3	15	12.9	28	48	BB2	38	5.5	61	12	20	49	40.0	M6	4	0.26
20 x 5R x 3 - 4	19	16.9	36	58	BB2	47	6.6	40	12	10	28	44.0	M6	4	0.31
20 x 10R x 3 - 4	19	16.9	36	58	BB2	47	6.6	60	12	16	48	44.0	M6	4	0.40
20 x 20R x 3.5 - 3	19	16.7	36	58	BB2	47	6.6	77	12	25	65	44.0	M6	4	0.49
25 x 5R x 3 - 4	24	21.9	40	62	BB2	51	6.6	45	12	10	33	48.0	M6	4	0.36
25 x 10R x 3 - 4	24	21.9	40	62	BB2	51	6.6	64	12	16	52	48.0	M6	4	0.47
25 x 25R x 3.5 - 3	24	21.4	40	62	BB2	51	6.6	95	12	30	83	48.0	M6	4	0.63
32 x 5R x 3.5 - 4	31	28.4	50	80	BB2	65	9.0	48	13	10	35	62.0	M6	4	0.62
32 x 10R x 3.969 - 5	31	27.9	50	80	BB2	65	9.0	77	13	16	64	62.0	M6	4	0.84
32 x 20R x 3.969 - 3	31	27.9	50	80	BB2	65	9.0	84	13	25	71	62.0	M6	4	0.90
32 x 32R x 3.969 - 3	31	27.9	50	80	BB2	65	9.0	120	13	40	107	62.0	M6	4	1.21
40 x 5R x 3.5 - 5	39	36.4	63	93	BB1	78	9.0	54	15	10	39	70.0	M8x1	5	1.03
40 x 10R x 6 - 4	38	33.8	63	93	BB1	78	9.0	70	15	16	55	70.0	M8x1	5	1.19
40 x 10R x 6 - 6	38	33.8	63	93	BB1	78	9.0	90	15	16	75	70.0	M8x1	5	1.49
40 x 12R x 6 - 4	38	33.8	63	93	BB1	78	9.0	75	15	25	60	70.0	M8x1	5	1.27
40 x 16R x 6 - 4	38	33.8	63	93	BB1	78	9.0	90	15	25	75	70.0	M8x1	5	1.51
40 x 20R x 6 - 3	38	33.8	63	93	BB1	78	9.0	88	15	25	73	70.0	M8x1	5	1.44
40 x 25R x 6 - 4	38	33.8	63	93	BB1	78	9.0	127	15	30	112	70.0	M8x1	5	1.91
40 x 30R x 6 - 4	38	33.8	63	93	BB1	78	9.0	145	15	35	130	70.0	M8x1	5	2.21
40 x 40R x 6 - 3	38	33.8	63	93	BB1	78	9.0	142	15	45	127	70.0	M8x1	5	2.16
50 x 5R x 3.5 - 5	49	46.4	75	110	BB1	93	11.0	54	15	10	39	85.0	M8x1	5	1.39
50 x 10R x 6 - 6	48	43.8	75	110	BB1	93	11.0	90	18	16	72	85.0	M8x1	5	2.14
50 x 12R x 6 - 6	48	43.8	75	110	BB1	93	11.0	105	18	25	87	85.0	M8x1	5	2.38
50 x 16R x 6 - 6	48	43.8	75	110	BB1	93	11.0	128	18	25	110	85.0	M8x1	5	2.75
50 x 20R x 6.5 - 5	48	43.4	75	110	BB1	93	11.0	132	18	25	114	85.0	M8x1	5	2.73
50 x 25R x 6.5 - 4	48	43.4	75	110	BB1	93	11.0	132	18	25	114	85.0	M8x1	–	2.78
50 x 30R x 6.5 - 4	48	43.4	75	110	BB1	93	11.0	151	18	35	133	85.0	M8x1	5	3.12
50 x 40R x 6.5 - 3	48	43.4	75	110	BB1	93	11.0	149	18	45	131	85.0	M8x1	5	3.04
63 x 10R x 6 - 6	61	56.8	90	125	BB1	108	11.0	90	22	16	68	95.0	M8x1	5	2.56
63 x 20R x 6.5 - 5	61	56.4	95	135	BB1	115	13.5	132	22	25	110	100.0	M8x1	5	4.51
63 x 40R x 6.5 - 3	61	56.4	95	135	BB1	115	13.5	149	22	45	127	100.0	M8x1	5	5.04
80 x 10R x 6.5 - 6	78	73.3	105	145	BB1	125	13.5	95	22	16	73	110.0	M8x1	5	3.40
80 x 20R x 12.7 - 6	76	67.0	125	165	BB1	145	13.5	170	25	25	145	130.0	M8x1	5	10.20
80 x 40R x 12.7 - 4	76	67.0	125	165	BB1	145	13.5	206	25	25	181	130.0	M8x1	5	11.60
Versions with left-hand lead															
16 x 5L x 3 - 4	15	12.9	28	48	BB2	38	5.5	38	12	10	26	40.0	M6	4	0.19
20 x 5L x 3 - 4	19	16.9	36	58	BB2	47	6.6	40	12	10	28	44.0	M6	4	0.31
25 x 5L x 3 - 4	24	21.9	40	62	BB2	51	6.6	45	12	10	33	48.0	M6	4	0.36
32 x 5L x 3.5 - 4	31	28.4	50	80	BB2	65	9.0	48	13	10	35	62.0	M6	4	0.62
40 x 5L x 3.5 - 5	39	36.4	63	93	BB1	78	9.0	54	15	10	39	70.0	M8x1	5	1.03
40 x 10L x 6 - 4	38	33.8	63	93	BB1	78	9.0	70	15	16	55	70.0	M8x1	5	1.19

rexroth
A Bosch Company

Adjustable-preload single nut SEM-E-S

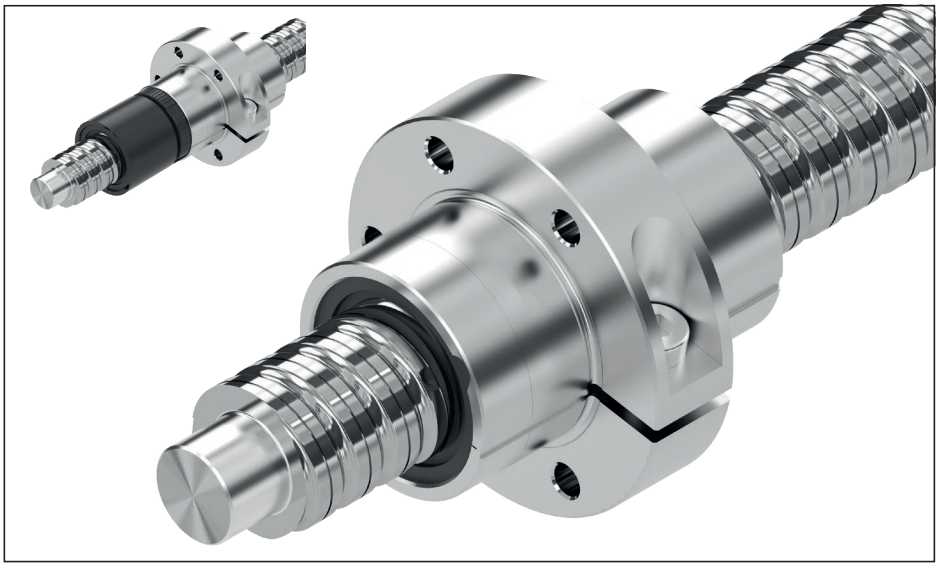
Rexroth connection dimensions

With seals
Left-hand version in some cases
Preload adjustable
Tolerance grade T3[2], T5, T7

Note: The front lube unit is only available for the right-hand version.

⚠ When setting up applications, do not allow components to collide with the front lube unit.

d_0 = nominal diameter
P = lead (R = right-hand, L = left-hand)
D_W = ball diameter
i = number of ball track turns

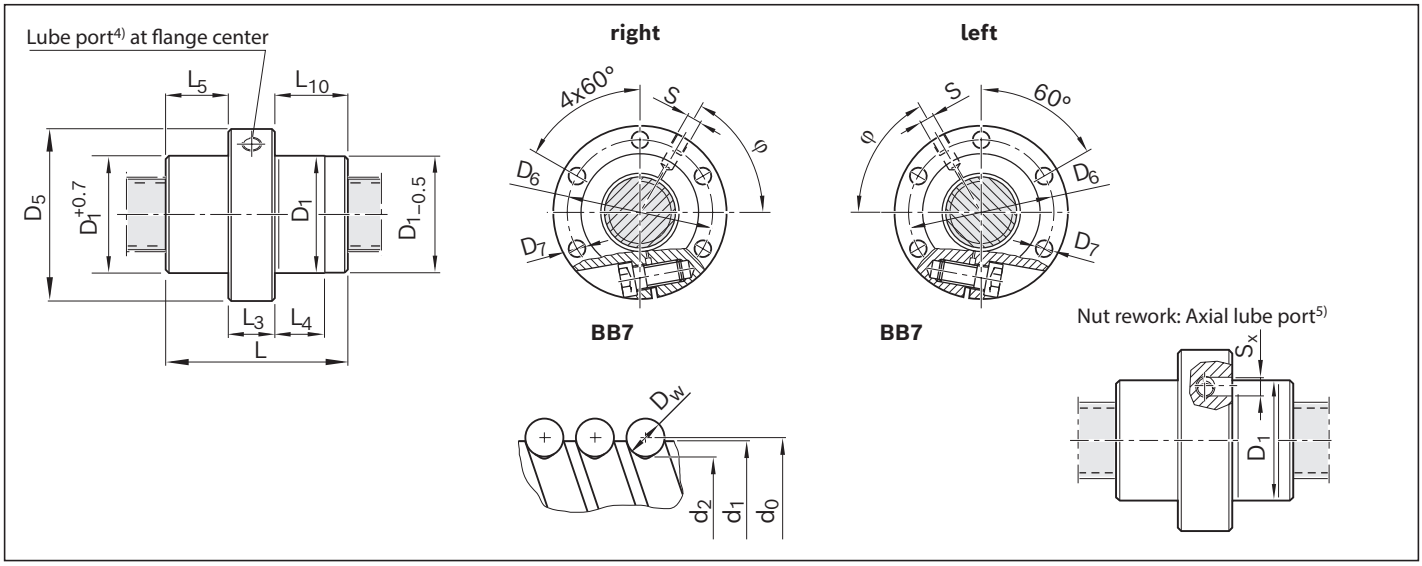


Ordering data:

BASA	20 x 5R x 3	SEM-E-S - 4	00	1	2	T7	R	82Z120	41Z120	1250	0	1

Category	Size	Part number	Load ratings[3]		Linear speed[1]	Centering diameter D_1 after adjustment	
			dyn. C	stat. C_0	v_{max}		
	d_0 x P x D_w - i		(N)	(N)	(m/min)	min. (mm)	max. (mm)
A	16 x 5R x 3 - 4	R1512 010 24	14,800	16,100	30	27.940	27.975
B	16 x 10R x 3 - 3	R1512 040 14	11,500	12,300	60	27.940	27.975
B	16 x 16R x 3 - 2	R1512 060 14	7,560	7,600	96	32.945	32.973
A	20 x 5R x 3 - 4	R1512 110 14	17,200	21,500	30	32.935	32.970
A	20 x 20R x 3.5 - 2	R1512 170 14	10,900	12,100	120	37.945	37.973
A	25 x 5R x 3 - 4	R1512 210 14	19,100	27,200	30	37.935	37.970
A	25 x 10R x 3 - 4	R1512 240 14	18,800	27,000	60	37.935	37.970
A	25 x 25R x 3.5 - 2	R1512 280 14	12,100	15,100	150	47.945	47.973
A	32 x 5R x 3.5 - 4	R1512 310 14	25,900	40,000	23	47.935	47.970
A	32 x 10R x 3.969 - 5	R1512 340 14	38,000	58,300	47	47.935	47.970
A	32 x 20R x 3.969 - 2	R1512 370 14	16,200	21,800	94	55.941	55.969
A	32 x 32R x 3.969 - 2	R1512 390 14	16,100	22,000	150	55.941	55.969
A	40 x 5R x 3.5 - 5	R1512 410 14	34,900	64,100	19	55.931	55.966
A	40 x 10R x 6 - 4	R1512 440 14	60,000	86,400	38	62.931	62.966
A	40 x 20R x 6 - 3	R1512 470 14	45,500	62,800	75	62.941	62.969
A	40 x 40R x 6 - 2	R1512 490 14	30,600	40,300	150	71.941	71.969
B	50 x 5R x 3.5 - 5	R1512 510 14	38,400	81,300	15	67.931	67.966
A	50 x 10R x 6 - 6	R1512 540 14	95,600	166,500	30	71.931	71.966
B	50 x 20R x 6.5 - 3	R1512 570 14	57,500	87,900	60	84.936	84.964
B	50 x 40R x 6.5 - 2	R1512 590 14	38,500	55,800	120	84.936	84.964
A	63 x 10R x 6 - 6	R1512 640 14	106,600	214,300	24	84.926	84.961
B	63 x 20R x 6.5 - 3	R1512 670 14	63,800	112,100	48	94.936	94.964
B	63 x 40R x 6.5 - 2	R1512 690 14	44,300	74,300	95	94.936	94.964
B	80 x 10R x 6.5 - 6	R1512 740 14	130,100	291,700	19	104.926	104.961
B	80 x 20R x 12.7 - 6	R1512 770 24	315,200	534,200	30	124.931	124.959
Versions with left-hand lead							
B	16 x 5L x 3 - 4	R1552 010 04	14,800	16,100	30	27.94	27.975
B	20 x 5L x 3 - 4	R1552 110 14	17,200	21,500	30	32.935	32.970
B	25 x 5L x 3 - 4	R1552 210 14	19,100	27,200	30	37.935	37.970
A	32 x 5L x 3.5 - 4	R1552 310 04	25,900	40,000	23	47.935	47.970
B	40 x 5L x 3.5 - 5	R1552 410 04	34,900	64,100	19	55.931	55.966
A	40 x 10L x 6 - 4	R1552 440 04	60,000	86,400	38	62.931	62.966

1) See "Characteristic speed $d_0 \cdot n$" on page 133 and "Critical speed n_{cr}" on page 174
2) Tolerance grade T3 for sizes shown in table page 12
3) The load ratings are valid for tolerance grade T3 and T5 only.
For other tolerance grades, please take into account the correction factor f_{ac} on page 133.



4) Lube port machining: flat surface $L_3 \leq 15$ mm, countersink $L_3 > 15$ mm. For size 8 x 2.5, a funnel-type lube nipple DIN 3405 is provided.
5) The axial lube port S_x is always located on the pitch circle D_6 of the nut unit.

Size	(mm)															**Mass**
	d_1	**d_2**	**D_1**	**D_5**	**Hole pattern**	**D_6**	**D_7**	**L**	**L_3**	**L_4**	**L_5**	**L_{10}**	**S4)**	**S_x**	**φ**	**m**
d_0 x P x D_w - i			**f9**												**(°)**	**(kg)**
16 x 5R x 3 - 4	15.0	12.9	28	53	BB7	40	6.6	38	15	10.0	11.5	11.5	M6	4	53	0.24
16 x 10R x 3 - 3	15.0	12.9	28	53	BB7	40	6.6	45	15	15.0	15.0	15.0	M6	4	180	0.25
16 x 16R x 3 - 2	15.0	12.9	33	58	BB7	45	6.6	45	15	15.0	15.0	15.0	M6	4	50	0.42
20 x 5R x 3 - 4	19.0	16.9	33	58	BB7	45	6.6	40	15	10.0	12.5	12.5	M6	4	56	0.31
20 x 20R x 3.5 - 2	19.0	16.7	38	63	BB7	50	6.6	57	20	18.5	18.5	18.5	M6	4	60	0.63
25 x 5R x 3 - 4	24.0	21.9	38	63	BB7	50	6.6	45	20	10.0	12.5	12.5	M6	4	60	0.44
25 x 10R x 3 - 4	24.0	21.9	38	63	BB7	50	6.6	64	20	16.0	22.0	22.0	M6	4	60	0.53
25 x 25R x 3.5 - 2	24.0	21.4	48	73	BB7	60	6.6	70	25	22.5	22.5	22.5	M6	4	48	1.13
32 x 5R x 3.5 - 4	31.0	28.4	48	73	BB7	60	6.6	48	20	10.0	14.0	14.0	M6	4	60	0.64
32 x 10R x 3.969 - 5	31.0	27.9	48	73	BB7	60	6.6	77	20	16.0	28.5	28.5	M6	4	168	0.87
32 x 20R x 3.969 - 2	31.0	27.9	56	80	BB7	68	6.6	64	20	22.0	22.0	22.0	M6	4	60	1.14
32 x 32R x 3.969 - 2	31.0	27.9	56	80	BB7	68	6.6	88	20	34.0	34.0	34.0	M6	4	60	1.44
40 x 5R x 3.5 - 5	39.0	36.4	56	80	BB7	68	6.6	54	20	10.0	17.0	17.0	M8x1	5	65	0.87
40 x 10R x 6 - 4	38.0	33.8	63	95	BB7	78	9.0	70	25	16.0	22.5	22.5	M8x1	5	57	1.53
40 x 20R x 6 - 3	38.0	33.8	63	95	BB7	78	9.0	88	25	25.0	31.5	31.5	M8x1	5	180	1.77
40 x 40R x 6 - 2	38.0	33.8	72	110	BB7	90	11.0	102	40	31.0	31.0	31.0	M8x1	5	49	3.77
50 x 5R x 3.5 - 5	49.0	46.4	68	98	BB7	82	9.0	54	25	10.0	14.5	14.5	M8x1	5	67	1.23
50 x 10R x 6 - 6	48.0	43.8	72	110	BB7	90	11.0	90	30	16.0	30.0	30.0	M8x1	5	61	2.44
50 x 20R x 6.5 - 3	48.0	43.3	85	125	BB7	105	11.0	92	30	25.0	31.0	31.0	M8x1	5	180	3.94
50 x 40R x 6.5 - 2	48.0	43.3	85	125	BB7	105	11.0	109	30	39.5	39.5	39.5	M8x1	5	60	4.42
63 x 10R x 6 - 6	61.0	56.8	85	125	BB7	105	11.0	90	30	16.0	30.0	30.0	M8x1	5	65	2.94
63 x 20R x 6.5 - 3	61.0	56.3	95	140	BB7	118	14.0	92	30	25.0	31.0	31.0	M8x1	5	190	4.45
63 x 40R x 6.5 - 2	61.0	56.3	95	140	BB7	118	14.0	109	30	39.5	39.5	39.5	M8x1	5	70	4.95
80 x 10R x 6.5 - 6	78.0	73.3	105	150	BB7	125	14.0	95	30	16.0	32.5	32.5	M8x1	5	67	4.20
80 x 20R x 12.7 - 6	76.0	67.0	125	180	BB7	152	18.0	170	50	25.0	60.0	60.0	M8x1	5	60	13.3
Versions with left-hand lead																
16 x 5L x 3 - 4	15.0	12.9	28	53	BB7	40	6.6	38	15	10.0	11.5	11.5	M6	4	53	0.24
20 x 5L x 3 - 4	19.0	16.9	33	58	BB7	45	6.6	40	15	10.0	12.5	12.5	M6	4	56	0.31
25 x 5L x 3 - 4	24.0	21.9	38	63	BB7	50	6.6	45	20	10.0	12.5	12.5	M6	4	60	0.44
32 x 5L x 3.5 - 4	31.0	28.4	48	73	BB7	60	6.6	48	20	10.0	14.0	14.0	M6	4	59	0.64
40 x 5L x 3.5 - 5	39.0	36.4	56	80	BB7	68	6.6	54	20	10.0	17.0	17.0	M8x1	5	65	0.87
40 x 10L x 6 - 4	38.0	33.8	63	95	BB7	78	9.0	70	25	16.0	22.5	22.5	M8x1	5	57	1.53

rexroth
A Bosch Company

Adjustable-preload single nut SEM-E-C

Mounting dimensions similar to DIN 69051, Part 5 flange type C

With seals Adjustable preload
Tolerance grade T3[2], T5, T7

⚠ When setting up applications, do not allow components to collide with the front lube unit.

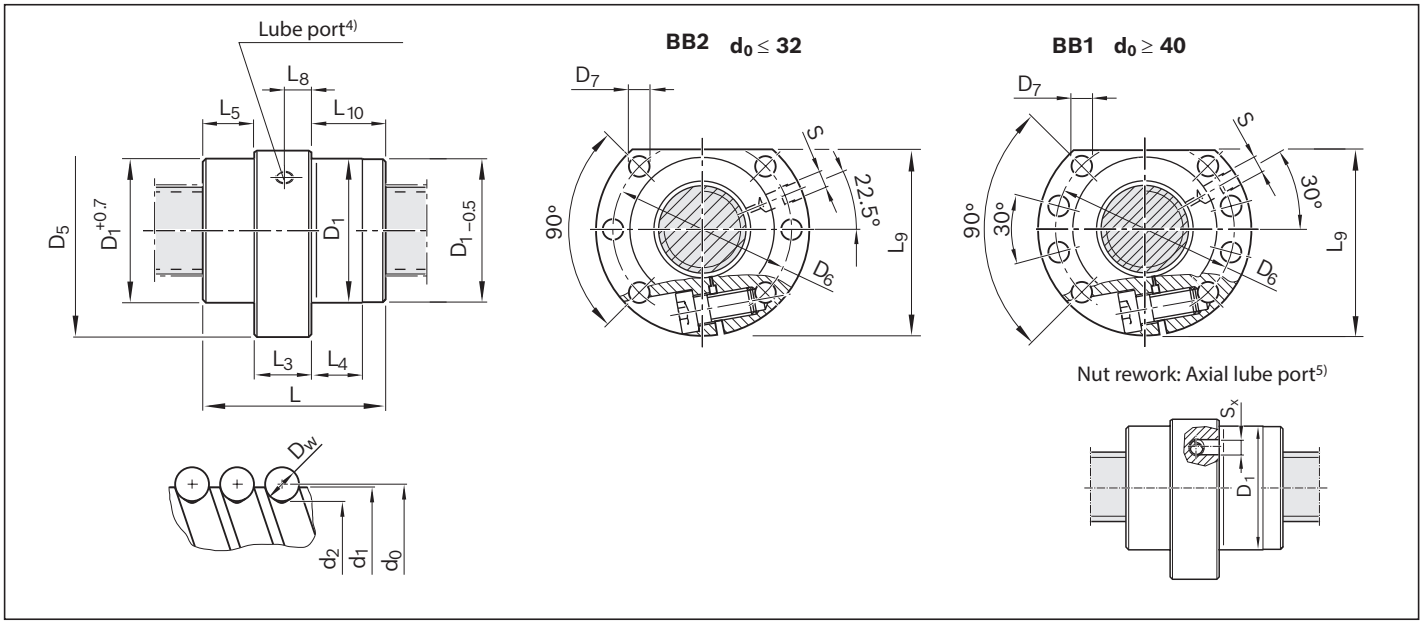
d_0 = nominal diameter
P = lead (R = right-hand)
D_W = ball diameter
i = number of ball track turns

Ordering data:

BASA	20 x 5R x 3	SEM-E-C - 4	00	1	2	T7	R	82Z120	41Z120	1250	0	1

Category	Size d_0 x P x D_W - i	Part number	Load ratings[3] dyn. C (N)	stat. C_0 (N)	Linear speed[1] v_{max} (m/min)	Centering diameter D_1 after adjustment min. (mm)	max. (mm)
A	16 x 5R x 3 - 4	R1512 010 55	14,800	16,100	30	27.940	27.975
B	16 x 10R x 3 - 3	R1512 040 75	11,500	12,300	60	27.940	27.975
B	16 x 16R x 3 - 3	R1512 060 55	11,200	12,000	96	27.950	27.978
A	20 x 5R x 3 - 4	R1512 110 75	17,200	21,500	30	35.935	35.970
A	20 x 20R x 3.5 - 3	R1512 170 55	16,000	18,800	120	35.945	35.973
A	25 x 5R x 3 - 4	R1512 210 75	19,100	27,200	30	39.935	39.970
A	25 x 10R x 3 - 4	R1512 240 75	18,800	27,000	60	39.935	39.970
B	25 x 25R x 3.5 - 3	R1512 280 55	17,600	23,300	150	39.945	39.973
A	32 x 5R x 3.5 - 4	R1512 310 75	25,900	40,000	23	49.935	49.970
A	32 x 10R x 3.969 - 5	R1512 340 75	38,000	58,300	47	49.935	49.970
A	32 x 20R x 3.969 - 3	R1512 370 55	23,600	33,700	94	49.945	49.973
B	32 x 32R x 3.969 - 3	R1512 390 55	23,400	34,000	150	49.945	49.973
A	40 x 5R x 3.5 - 5	R1512 410 75	34,900	64,100	19	62.931	62.966
B	40 x 10R x 6 - 4	R1512 440 75	60,000	86,400	38	62.931	62.966
B	40 x 12R x 6 - 4	R1512 450 55	59,900	86,200	45	62.931	62.966
B	40 x 20R x 6 - 3	R1512 470 75	45,500	62,800	75	62.941	62.969
B	40 x 40R x 6 - 3	R1512 490 55	44,400	62,300	150	62.941	62.969
B	50 x 5R x 3.5 - 5	R1512 510 75	38,400	81,300	15	74.931	74.966
B	50 x 10R x 6 - 6	R1512 540 75	95,600	166,500	30	74.931	74.966
B	50 x 12R x 6 - 6	R1512 550 55	95,500	166,400	36	74.931	74.966
A	50 x 20R x 6.5 - 5	R1512 570 76	90,800	149,700	60	74.941	74.969
B	50 x 40R x 6.5 - 3	R1512 590 55	55,800	85,900	120	74.941	74.969
B	63 x 10R x 6 - 6	R1512 640 75	106,600	214,300	24	89.926	89.961
B	63 x 20R x 6.5 - 5	R1512 670 76	100,700	190,300	48	94.936	94.964
B	63 x 40R x 6.5 - 3	R1512 690 55	64,100	114,100	95	94.936	94.964
B	80 x 10R x 6.5 - 6	R1512 740 75	130,100	291,700	19	104.926	104.961
B	80 x 20R x 12.7 - 6	R1512 770 56	315,200	534,200	30	124.931	124.959

1) See "Characteristic speed $d_0 \cdot n$" on page 133 and "Critical speed n_{cr}" on page 174
2) Tolerance grade T3 for sizes shown in table page 12
3) The load ratings are valid for tolerance grade T3 and T5 only.
For other tolerance grades, please take into account the correction factor f_{ac} on page 133.



4) Lube port machining: flat surface $L_3 \leq 15$ mm, countersink $L_3 > 15$ mm
5) The axial lube port S_x is always located on the pitch circle D_6 of the nut unit.

Size	(mm)																Mass
d_0 x P x D_w - i	d_1	d_2	D_1 f9	D_5	Hole pattern	D_6	D_7	L	L_3	L_4	L_5	L_8	L_9	L_{10}	S4)	S_x	m (kg)
16 x 5R x 3 - 4	15.0	12.9	28	48	BB2	38	5.5	38	15	10	11.5	7.1	44.0	11.5	M6	4	0.20
16 x 10R x 3 - 3	15.0	12.9	28	48	BB2	38	5.5	45	15	15	15.0	11.0	44.0	15.0	M6	4	0.22
16 x 16R x 3 - 3	15.0	12.9	28	48	BB2	38	5.5	61	15	20	23.0	10.0	44.0	23.0	M6	4	0.29
20 x 5R x 3 - 4	19.0	16.9	36	58	BB2	47	6.6	40	15	10	12.5	7.1	51.0	12.5	M6	4	0.33
20 x 20R x 3.5 - 3	19.0	16.7	36	58	BB2	47	6.6	77	20	25	28.5	12.5	51.0	28.5	M6	4	0.56
25 x 5R x 3 - 4	24.0	21.9	40	62	BB2	51	6.6	45	20	10	12.5	9.5	55.0	12.5	M6	4	0.43
25 x 10R x 3 - 4	24.0	21.9	40	62	BB2	51	6.6	64	20	16	22.0	10.0	55.0	22.0	M6	4	0.54
25 x 25R x 3.5 - 3	24.0	21.4	40	62	BB2	51	6.6	95	25	30	35.0	14.0	55.0	35.0	M6	4	0.77
32 x 5R x 3.5 - 4	31.0	28.4	50	80	BB2	65	9.0	48	20	10	14.0	9.7	71.0	14.0	M6	4	0.74
32 x 10R x 3.969 - 5	31.0	27.9	50	80	BB2	65	9.0	77	20	16	28.5	12.5	71.0	28.5	M6	4	0.97
32 x 20R x 3.969 - 3	31.0	27.9	50	80	BB2	65	9.0	84	20	25	32.0	12.5	71.0	32.0	M6	4	1.04
32 x 32R x 3.969 - 3	31.0	27.9	50	80	BB2	65	9.0	120	20	40	50.0	12.5	71.0	50.0	M6	4	1.34
40 x 5R x 3.5 - 5	39.0	36.4	63	93	BB1	78	9.0	54	25	10	14.5	12.0	81.5	14.5	M8x1	5	1.25
40 x 10R x 6 - 4	38.0	33.8	63	93	BB1	78	9.0	70	25	16	22.5	11.8	81.5	22.5	M8x1	5	1.39
40 x 12R x 6 - 4	38.0	33.8	63	93	BB1	78	9.0	75	25	25	25.0	12.5	81.5	25.0	M8x1	5	1.47
40 x 20R x 6 - 3	38.0	33.8	63	93	BB1	78	9.0	88	25	25	31.5	16.5	81.5	31.5	M8x1	5	1.55
40 x 40R x 6 - 3	38.0	33.8	63	93	BB1	78	9.0	142	40	45	51.0	25.0	81.5	51.0	M8x1	5	2.69
50 x 5R x 3.5 - 5	49.0	46.4	75	110	BB1	93	11.0	54	25	10	14.5	12.0	97.5	14.5	M8x1	5	1.67
50 x 10R x 6 - 6	48.0	43.8	75	110	BB1	93	11.0	90	30	16	30.0	14.1	97.5	30.0	M8x1	5	2.46
50 x 12R x 6 - 6	48.0	43.8	75	110	BB1	93	11.0	105	30	25	37.5	15.0	97.5	37.5	M8x1	5	2.69
50 x 20R x 6.5 - 5	48.0	43.4	75	110	BB1	93	11.0	132	30	25	51.0	20.0	97.5	51.0	M8x1	5	3.08
50 x 40R x 6.5 - 3	48.0	43.4	75	110	BB1	93	11.0	149	30	45	59.5	18.0	97.5	59.5	M8x1	5	3.39
63 x 10R x 6 - 6	61.0	56.8	90	125	BB1	108	11.0	90	30	16	30.0	14.0	110.0	30.0	M8x1	5	2.83
63 x 20R x 6.5 - 5	61.0	56.4	95	135	BB1	115	13.5	132	30	25	51.0	20.0	117.5	51.0	M8x1	5	4.86
63 x 40R x 6.5 - 3	61.0	56.4	95	135	BB1	115	13.5	149	30	45	59.5	18.0	117.5	59.5	M8x1	5	5.36
80 x 10R x 6.5 - 6	78.0	73.3	105	145	BB1	125	13.5	95	30	16	32.5	14.0	127.5	32.5	M8x1	5	3.73
80 x 20R x 12.7 - 6	76.0	67.0	125	165	BB1	145	13.5	170	50	25	60.0	24.0	147.5	60.0	M8x1	5	13.50