

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: T3²⁾, 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.



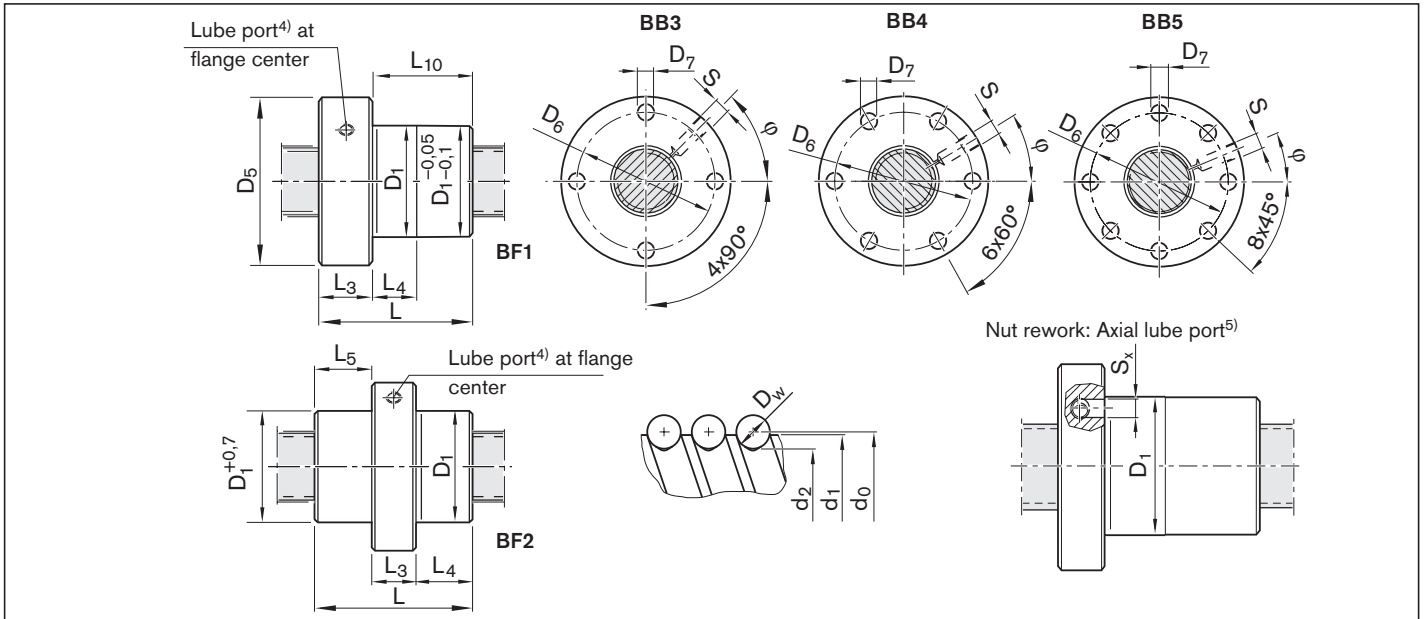
Ordering data:

| | | | | | | | | | | | | |
|------|-------------|-------------|----|---|---|----|---|--------|--------|------|---|---|
| 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 $d_0 \times P \times D_w - i$ | Part number | Load ratings ³⁾ | | Linear speed ¹⁾ v_{max} (m/min) |
|-------------------------------------|---------------------------------------|--------------|----------------------------|-----------------------------|--|
| | | | dyn. C (N) | stat. C ₀ (N) | |
| 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 |
| B | 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 |
| B | 50 x 5R x 3.5 - 5 | R1512 510 13 | 38,400 | 81,300 | 15 |
| B | 50 x 10R x 6 - 6 | R1512 540 13 | 95,600 | 166,500 | 30 |
| C | 50 x 16R x 6 - 6 | R1512 560 13 | 95,300 | 166,000 | 48 |
| B | 50 x 20R x 6.5 - 3 | R1512 570 13 | 57,500 | 87,900 | 60 |
| B | 50 x 40R x 6.5 - 2 | R1512 590 13 | 38,500 | 55,800 | 120 |
| B | 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 |
| C | 80 x 10R x 6.5 - 6 | R1512 740 13 | 130,100 | 291,700 | 19 |
| C | 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 141 and "Critical speed n_{cr} " on page 176
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 141.



- 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 |
|-------------------------------------|-------------|-------------|-------------|-----------|--------------|-----------|------------|--------------|-----------|-----------|-------------|-------|-----------|-------------|----------|------------------|-------------|
| $d_0 \times P \times D_w - i$ | d_1 | d_2 | D_1 g6 | D_5 | Hole pattern | D_6 | D_7 | Design style | L | L_3 | L_4 | L_5 | L_{10} | $S^4)$ | S_x | φ (°) | m (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 |