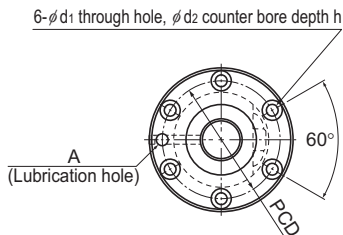


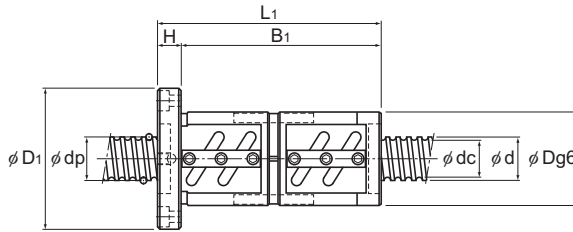
BNFN With Preload

| | |
|----------|--------|
| DN value | 70,000 |
|----------|--------|



| Model No. | Screw shaft outer diameter d | Lead Ph | Ball center-to-center diameter dp | Thread minor diameter dc | No. of loaded circuits Rows × turns | Basic load rating | | Rigidity K N/μm |
|----------------|---------------------------------|------------|--------------------------------------|-----------------------------|--|-------------------|-----------------------|-----------------------|
| | | | | | | Ca kN | C _{0a} kN | |
| BNFN 5510-2.5 | 55 | 10 | 56.75 | 49.5 | 1×2.5 | 33.4 | 97 | 970 |
| BNFN 5510-5 | 55 | 10 | 56.75 | 49.5 | 2×2.5 | 60.7 | 194 | 1,890 |
| BNFN 5510-7.5 | 55 | 10 | 56.75 | 49.5 | 3×2.5 | 85.9 | 291.1 | 2,770 |
| BNFN 5512-2.5 | 55 | 12 | 57 | 49.2 | 1×2.5 | 39.3 | 108.8 | 990 |
| BNFN 5512-3 | 55 | 12 | 57 | 49.2 | 2×1.5 | 46 | 131.3 | 1,180 |
| BNFN 5512-3.5 | 55 | 12 | 57 | 49.2 | 1×3.5 | 52.4 | 152.9 | 1,360 |
| BNFN 5512-5 | 55 | 12 | 57 | 49.2 | 2×2.5 | 71.3 | 218.5 | 1,920 |
| BNFN 5512-7.5 | 55 | 12 | 57 | 49.2 | 3×2.5 | 100.9 | 327.3 | 2,830 |
| BNFN 5516-2.5 | 55 | 16 | 57.7 | 47.9 | 1×2.5 | 76.1 | 201.9 | 1,310 |
| BNFN 5516-5 | 55 | 16 | 57.7 | 47.9 | 2×2.5 | 138.2 | 402.8 | 2,550 |
| BNFN 5520-2.5 | 55 | 20 | 57.7 | 47.9 | 1×2.5 | 76 | 201.9 | 1,320 |
| BNFN 5520-5 | 55 | 20 | 57.7 | 47.9 | 2×2.5 | 138.2 | 403.8 | 2,550 |
| BNFN 6310-2.5 | 63 | 10 | 64.75 | 57.7 | 1×2.5 | 35.4 | 111.7 | 1,090 |
| BNFN 6310-5 | 63 | 10 | 64.75 | 57.7 | 2×2.5 | 64.2 | 222.5 | 2,100 |
| BNFN 6310-7.5 | 63 | 10 | 64.75 | 57.7 | 3×2.5 | 90.9 | 334.2 | 3,090 |
| BNFN 6312A-2.5 | 63 | 12 | 65.25 | 56.3 | 1×2.5 | 48.1 | 139.2 | 1,120 |
| BNFN 6312A-5 | 63 | 12 | 65.25 | 56.3 | 2×2.5 | 87.4 | 278.3 | 2,160 |
| BNFN 6316-2.5 | 63 | 16 | 65.7 | 55.9 | 1×2.5 | 81.1 | 231.3 | 1,470 |
| BNFN 6316-5 | 63 | 16 | 65.7 | 55.9 | 2×2.5 | 147 | 462.6 | 2,840 |
| BNFN 6320-2.5 | 63 | 20 | 65.7 | 55.9 | 1×2.5 | 81 | 231.3 | 1,470 |
| BNFN 6320-5 | 63 | 20 | 65.7 | 55.9 | 2×2.5 | 147 | 463.5 | 2,640 |

Positioning Ball Screw



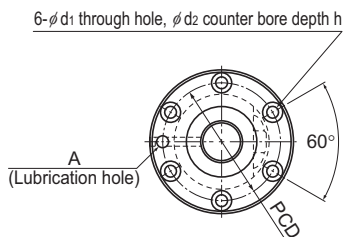
Unit: mm

| | Nut dimensions | | | | | | | Screw shaft inertial moment/mm kg·m ² /mm | Nut mass kg | Shaft mass kg/m | Permissible rotational speed min ⁻¹ | |
|--|---------------------|-----------------------------------|----------------------------------|----|----------------|-----|-----------------------------------|---|-----------------------|--------------------|---|-----------------------|
| | Outer diameter D | Flange diameter D ₁ | Overall length L ₁ | H | B ₁ | PCD | d ₁ ×d ₂ ×h | | | | | Lubrication hole A |
| | 102 | 144 | 141 | 18 | 123 | 122 | 11×17.5×11 | Rc1/8 (PT1/8) | 7.05×10 ⁻⁶ | 6.54 | 16.43 | 1,230 |
| | 102 | 144 | 201 | 18 | 183 | 122 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 8.88 | 16.43 | 1,230 |
| | 102 | 144 | 261 | 18 | 243 | 122 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 11.23 | 16.43 | 1,230 |
| | 105 | 147 | 165 | 18 | 147 | 125 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 8.07 | 16.29 | 1,220 |
| | 105 | 147 | 191 | 18 | 173 | 125 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 9.17 | 16.29 | 1,220 |
| | 105 | 147 | 189 | 18 | 171 | 125 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 9.09 | 16.29 | 1,220 |
| | 105 | 147 | 237 | 18 | 219 | 125 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 11.13 | 16.29 | 1,220 |
| | 105 | 147 | 309 | 18 | 291 | 125 | 11×17.5×11 | | 7.05×10 ⁻⁶ | 14.19 | 16.29 | 1,220 |
| | 110 | 158 | 196 | 25 | 171 | 133 | 14×20×13 | | 7.05×10 ⁻⁶ | 11.28 | 15.46 | 1,210 |
| | 110 | 158 | 292 | 25 | 267 | 133 | 14×20×13 | | 7.05×10 ⁻⁶ | 15.94 | 15.46 | 1,210 |
| | 112 | 158 | 227 | 28 | 199 | 134 | 14×20×13 | | 7.05×10 ⁻⁶ | 13.49 | 16.1 | 1,210 |
| | 112 | 158 | 347 | 28 | 319 | 134 | 14×20×13 | | 7.05×10 ⁻⁶ | 19.61 | 16.1 | 1,210 |
| | 108 | 154 | 137 | 22 | 115 | 130 | 14×20×13 | | 1.21×10 ⁻⁵ | 6.98 | 21.93 | 1,080 |
| | 108 | 154 | 197 | 22 | 175 | 130 | 14×20×13 | | 1.21×10 ⁻⁵ | 9.4 | 21.93 | 1,080 |
| | 108 | 154 | 257 | 22 | 235 | 130 | 14×20×13 | | 1.21×10 ⁻⁵ | 11.81 | 21.93 | 1,080 |
| | 115 | 161 | 159 | 22 | 137 | 137 | 14×20×13 | | 1.21×10 ⁻⁵ | 9.32 | 21.14 | 1,070 |
| | 115 | 161 | 231 | 22 | 209 | 137 | 14×20×13 | | 1.21×10 ⁻⁵ | 12.84 | 21.14 | 1,070 |
| | 122 | 184 | 208 | 24 | 184 | 152 | 18×26×17.5 | | 1.21×10 ⁻⁵ | 14.61 | 20.85 | 1,060 |
| | 122 | 184 | 304 | 24 | 280 | 152 | 18×26×17.5 | | 1.21×10 ⁻⁵ | 20.19 | 20.85 | 1,060 |
| | 122 | 180 | 227 | 28 | 199 | 150 | 18×26×17.5 | | 1.21×10 ⁻⁵ | 15.91 | 20.85 | 1,060 |
| | 122 | 180 | 347 | 28 | 319 | 150 | 18×26×17.5 | 1.21×10 ⁻⁵ | 22.88 | 20.85 | 1,060 | |

Note: The overall length of the nut will increase when equipping the QZ Lubricator. See **A15-366** for further details.

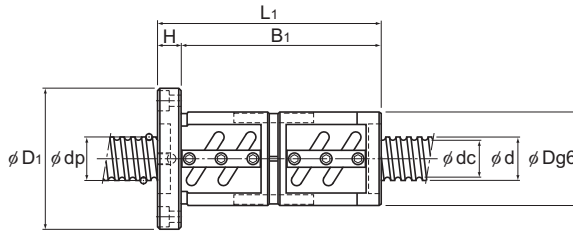
BNFN With Preload

| | |
|----------|--------|
| DN value | 70,000 |
|----------|--------|



| Model No. | Screw shaft outer diameter d | Lead Ph | Ball center-to-center diameter dp | Thread minor diameter dc | No. of loaded circuits Rows X turns | Basic load rating | | Rigidity K N/ μ m |
|-----------------|---------------------------------|------------|--------------------------------------|-----------------------------|--|-------------------|----------|-----------------------------|
| | | | | | | Ca kN | Ca kN | |
| BNFN 7010-2.5 | 70 | 10 | 71.75 | 64.5 | 1 X 2.5 | 36.8 | 123.5 | 1,180 |
| BNFN 7010-5 | 70 | 10 | 71.75 | 64.5 | 2 X 2.5 | 66.9 | 247 | 2,280 |
| BNFN 7010-7.5 | 70 | 10 | 71.75 | 64.5 | 3 X 2.5 | 94.9 | 371.4 | 3,350 |
| BNFN 7012-2.5 | 70 | 12 | 72 | 64.2 | 1 X 2.5 | 43.5 | 139.2 | 1,200 |
| BNFN 7012-5 | 70 | 12 | 72 | 64.2 | 2 X 2.5 | 78.9 | 278.3 | 2,320 |
| BNFN 7012-7.5 | 70 | 12 | 72 | 64.2 | 3 X 2.5 | 111.7 | 417.5 | 3,420 |
| BNFN 7020-5 | 70 | 20 | 72.7 | 62.9 | 2 X 2.5 | 153.9 | 514.5 | 3,090 |
| BNFN 8010-2.5 | 80 | 10 | 81.75 | 75.2 | 1 X 2.5 | 38.9 | 141.1 | 1,300 |
| BNFN 8010-5 | 80 | 10 | 81.75 | 75.2 | 2 X 2.5 | 70.6 | 283.2 | 2,530 |
| BNFN 8010-7.5 | 80 | 10 | 81.75 | 75.2 | 3 X 2.5 | 100 | 424.3 | 3,720 |
| BNFN 8012-5 | 80 | 12 | 82.3 | 74.1 | 2 X 2.5 | 96.5 | 353.8 | 2,620 |
| BNFN 8020A-2.5 | 80 | 20 | 82.7 | 72.9 | 1 X 2.5 | 90.1 | 294 | 1,770 |
| BNFN 8020A-5 | 80 | 20 | 82.7 | 72.9 | 2 X 2.5 | 163.7 | 589 | 3,430 |
| BNFN 10020A-2.5 | 100 | 20 | 102.7 | 92.9 | 1 X 2.5 | 99 | 368.5 | 2,110 |
| BNFN 10020A-5 | 100 | 20 | 102.7 | 92.9 | 2 X 2.5 | 179.3 | 737 | 4,080 |
| BNFN 10020A-7.5 | 100 | 20 | 102.7 | 92.9 | 3 X 2.5 | 253.8 | 1105.4 | 6,010 |

Positioning Ball Screw



Unit: mm

| | Nut dimensions | | | | | | | Screw shaft inertial moment/mm ² | Nut mass | Shaft mass | Permissible rotational speed | |
|--|----------------|-----------------|----------------|----|----------------|-----|-----------------------------------|---|-----------------------|------------|------------------------------|-------------------|
| | Outer diameter | Flange diameter | Overall length | H | B ₁ | PCD | d ₁ ×d ₂ ×h | | | | | Lubrication hole |
| | D | D ₁ | L ₁ | H | B ₁ | PCD | d ₁ ×d ₂ ×h | A | kg·m ² /mm | kg | kg/m | min ⁻¹ |
| | 125 | 167 | 141 | 18 | 123 | 145 | 11×17.5×11 | Rc1/8 (PT1/8) | 1.85×10 ⁻⁵ | 9.19 | 27.4 | 970 |
| | 125 | 167 | 201 | 18 | 183 | 145 | 11×17.5×11 | | 1.85×10 ⁻⁵ | 12.57 | 27.4 | 970 |
| | 125 | 167 | 261 | 18 | 243 | 145 | 11×17.5×11 | | 1.85×10 ⁻⁵ | 15.96 | 27.4 | 970 |
| | 128 | 170 | 165 | 18 | 147 | 148 | 11×17.5×11 | | 1.85×10 ⁻⁵ | 11.26 | 27.24 | 970 |
| | 128 | 170 | 237 | 18 | 219 | 148 | 11×17.5×11 | | 1.85×10 ⁻⁵ | 15.63 | 27.24 | 970 |
| | 128 | 170 | 309 | 18 | 291 | 148 | 11×17.5×11 | | 1.85×10 ⁻⁵ | 20 | 27.24 | 970 |
| | 130 | 186 | 325 | 28 | 297 | 158 | 18×26×17.5 | | 1.85×10 ⁻⁵ | 23.4 | 27 | 960 |
| | 130 | 176 | 137 | 22 | 115 | 152 | 14×20×13 | | 3.16×10 ⁻⁵ | 9.15 | 36.26 | 850 |
| | 130 | 176 | 197 | 22 | 175 | 152 | 14×20×13 | | 3.16×10 ⁻⁵ | 12.41 | 36.26 | 850 |
| | 130 | 176 | 257 | 22 | 235 | 152 | 14×20×13 | | 3.16×10 ⁻⁵ | 15.67 | 36.26 | 850 |
| | 135 | 181 | 231 | 22 | 209 | 157 | 14×20×13 | | 3.16×10 ⁻⁵ | 16.02 | 35.26 | 850 |
| | 143 | 204 | 227 | 28 | 199 | 172 | 18×26×17.5 | | 3.16×10 ⁻⁵ | 20.08 | 35.81 | 840 |
| | 143 | 204 | 347 | 28 | 319 | 172 | 18×26×17.5 | | 3.16×10 ⁻⁵ | 28.97 | 35.81 | 840 |
| | 170 | 243 | 231 | 32 | 199 | 205 | 22×32×21.5 | | 7.71×10 ⁻⁵ | 28.15 | 57.13 | 680 |
| | 170 | 243 | 351 | 32 | 319 | 205 | 22×32×21.5 | | 7.71×10 ⁻⁵ | 39.99 | 57.13 | 680 |
| | 170 | 243 | 471 | 32 | 439 | 205 | 22×32×21.5 | | 7.71×10 ⁻⁵ | 51.84 | 57.13 | 680 |

Note: The overall length of the nut will increase when equipping the QZ Lubricator. See **A15-366** for further details.