B

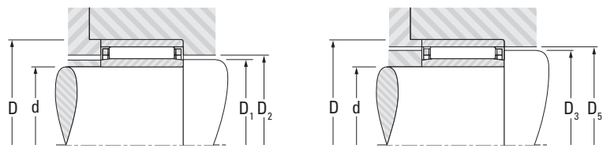



Fig. B4-10. Guidance in the housing (left) and on the shaft (right)

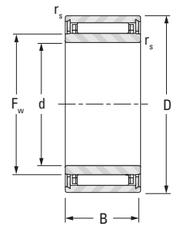
**Table B4-6(2). Mounting dimensions for metric series needle roller bearings without flanges**

| Dimensions | Bearing series NAO | | | |
|---|---|---|---|---|
| | $D_1$ | $D_2$ | $D_3$ | $D_5$ |
| dxD | Max. | Min. | Max. | Min. |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in |
| **6x17**<br>0.2362x'0.6693 | **9.7**<br>0.3819 | **10.3**<br>0.4055 | **12.7**<br>0.5000 | **13.3**<br>0.5236 |
| **8x19**<br>0.3150x'0.7480 | **11.7**<br>0.4606 | **12.3**<br>0.4843 | **14.7**<br>0.5787 | **15.3**<br>0.6024 |
| **10x22**<br>0.3937x'0.8661 | **13.7**<br>0.5394 | **14.4**<br>0.5669 | **17.6**<br>0.6929 | **18.3**<br>0.7205 |
| **10x26**<br>0.3937x1.0236 | **13.7**<br>0.5394 | **14.6**<br>0.5748 | **19.6**<br>0.7717 | **20.3**<br>0.7992 |
| **12x24**<br>0.4724x'0.9449 | **15.7**<br>0.6181 | **16.4**<br>0.6457 | **19.6**<br>0.7717 | **20.3**<br>0.7992 |
| **12x28**<br>0.4724x1.1024 | **15.7**<br>0.6181 | **16.6**<br>0.6535 | **21.6**<br>0.8504 | **22.3**<br>0.878 |
| **15x28**<br>0.5906x1.1024 | **19.5**<br>0.7677 | **20.4**<br>0.8032 | **23.6**<br>0.9291 | **24.3**<br>0.9567 |
| **15x32**<br>0.5906x1.2598 | **19.5**<br>0.7677 | **20.6**<br>0.811 | **25.6**<br>1.0079 | **26.5**<br>1.0433 |
| **17x30**<br>0.6693x1.1811 | **21.5**<br>0.8465 | **22.4**<br>0.8819 | **25.6**<br>1.0079 | **26.3**<br>1.0354 |
| **17x35**<br>0.6693x1.3780 | **21.5**<br>0.8465 | **22.8**<br>0.8976 | **28.4**<br>1.1181 | **29.5**<br>1.1614 |
| **20x35**<br>0.7874x1.3780 | **24.5**<br>0.9646 | **25.6**<br>1.0079 | **29.4**<br>1.1575 | **30.5**<br>1.2008 |
| **20x37**<br>0.7874x1.4567 | **24.5**<br>0.9646 | **25.8**<br>1.0158 | **31.4**<br>1.2362 | **32.5**<br>1.2795 |
| **25x40**<br>0.9843x1.5748 | **29.5**<br>1.1614 | **30.6**<br>1.2047 | **34.4**<br>1.3543 | **35.5**<br>1.3976 |
| **25x42**<br>0.9843x1.6535 | **29.5**<br>1.1614 | **30.8**<br>1.2126 | **36.4**<br>1.4331 | **37.5**<br>1.4764 |
| **30x45**<br>1.1811x1.7717 | **34.5**<br>1.3583 | **35.6**<br>1.4016 | **39.4**<br>1.5512 | **40.5**<br>1.5945 |
| **30x47**<br>1.1811x1.8504 | **34.5**<br>1.3583 | **35.8**<br>1.4095 | **41.4**<br>1.6299 | **42.5**<br>1.6732 |

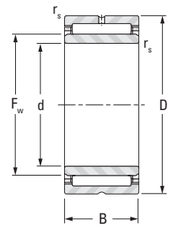
| Dimensions | Bearing series NAO | | | |
|---|---|---|---|---|
| | $D_1$ | $D_2$ | $D_3$ | $D_5$ |
| dxD | Max. | Min. | Max. | Min. |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in |
| **35x50**<br>1.3780x1.9685 | **39.5**<br>1.5551 | **40.6**<br>1.5984 | **44.4**<br>1.748 | **45.5**<br>1.7913 |
| **35x55**<br>1.3780x2.1654 | **39.5**<br>1.5551 | **41**<br>1.6142 | **47.2**<br>1.8583 | **48.5**<br>1.9095 |
| **40x55**<br>1.5748x2.1654 | **44.5**<br>1.7520 | **45.6**<br>1.7952 | **49.4**<br>1.9449 | **50.5**<br>1.9882 |
| **40x62**<br>1.5748x2.4409 | **44.5**<br>1.7520 | **46**<br>1.8110 | **52.2**<br>2.0551 | **53.5**<br>2.1063 |
| **45x62**<br>1.7717x2.4409 | **49.5**<br>1.9488 | **50.6**<br>1.9921 | **54.4**<br>2.1417 | **55.8**<br>2.1969 |
| **45x72**<br>1.7717x2.8347 | **54.5**<br>2.1457 | **56**<br>2.2047 | **62.2**<br>2.4488 | **63.8**<br>2.5118 |
| **50x68**<br>1.9685x2.6772 | **54.5**<br>2.1457 | **55.6**<br>2.1890 | **59.4**<br>2.3386 | **60.8**<br>2.3937 |
| **50x78**<br>1.9685x3.0709 | **59.3**<br>2.3347 | **61**<br>2.4016 | **67.2**<br>2.6457 | **68.8**<br>2.7087 |
| **55x85**<br>2.1654x3.3465 | **64.3**<br>2.5315 | **66**<br>2.5984 | **72.2**<br>2.8425 | **73.8**<br>2.9055 |
| **60x90**<br>2.3622x3.5433 | **69.3**<br>2.7284 | **71**<br>2.7953 | **77.2**<br>3.0394 | **78.8**<br>3.1024 |
| **65x95**<br>2.5591x3.7402 | **74.3**<br>2.9252 | **76**<br>2.9921 | **82.2**<br>3.2362 | **84**<br>3.3071 |
| **70x100**<br>2.7559x3.9370 | **79.3**<br>3.1221 | **81**<br>3.1890 | **87.2**<br>3.4331 | **89**<br>3.5039 |
| **75x105**<br>2.9528x4.1339 | **84.3**<br>3.3189 | **86**<br>3.3858 | **92.2**<br>3.6299 | **94**<br>3.7008 |
| **80x110**<br>3.1496x4.3307 | **89.3**<br>3.5158 | **91**<br>3.5827 | **97.2**<br>3.8268 | **99**<br>3.8976 |
| **85x115**<br>3.3465x4.5276 | **94.3**<br>3.7126 | **96**<br>3.7795 | **102.2**<br>4.0236 | **104**<br>4.0945 |
| **90x120**<br>3.5433x4.7244 | **99.3**<br>3.9095 | **101**<br>3.9764 | **107.2**<br>4.2205 | **109**<br>4.2913 |

## NEEDLE ROLLER BEARINGS WITH INNER RINGS

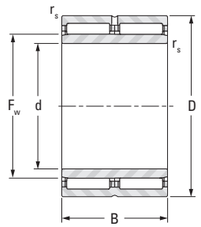
**METRIC SERIES**
**NKJ, NKJS, NA48**
**NA49, NA69 SERIES**



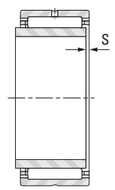

**NKJ (d ≤ 7)**




**NKJ (d ≥ 9), NKJS, NA48, NA49, NA69 (d ≤ 30)**




**NA69 (d ≥ 32)**



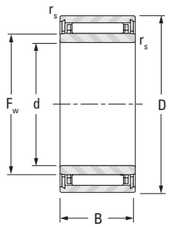

| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | s(1) | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **5**<br>0.1969 | **5**<br>0.1969 | **15**<br>0.5906 | **12**<br>0.472 | **8**<br>0.315 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ5/12 | **4.57**<br>1030 | **4.89**<br>1100 | 0.740 | 26000 | 41000 | **0.014**<br>0.031 |
| | **5**<br>0.1969 | **15**<br>0.5906 | **16**<br>0.63 | **8**<br>0.315 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ5/16 | **5.22**<br>1170 | **5.78**<br>1300 | 0.880 | 26000 | 41000 | **0.017**<br>0.037 |
| **6**<br>0.2362 | **6**<br>0.2362 | **16**<br>0.6299 | **12**<br>0.472 | **9**<br>0.3543 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ6/12 | **4.27**<br>960 | **4.6**<br>1030 | 0.700 | 26000 | 40000 | **0.015**<br>0.033 |
| | **6**<br>0.2362 | **16**<br>0.6299 | **16**<br>0.63 | **9**<br>0.3543 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ6/16 | **5.57**<br>1250 | **6.47**<br>1450 | 0.980 | 26000 | 40000 | **0.019**<br>0.042 |
| **7**<br>0.2756 | **7**<br>0.2756 | **17**<br>0.6693 | **12**<br>0.472 | **10**<br>0.3937 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ7/12 | **5.4**<br>1210 | **6.43**<br>1450 | 0.980 | 25000 | 39000 | **0.017**<br>0.037 |
| | **7**<br>0.2756 | **17**<br>0.6693 | **16**<br>0.63 | **10**<br>0.3937 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ7/16TN | **5.3**<br>1190 | **6.27**<br>1410 | 0.940 | 25000 | 39000 | **0.021**<br>0.046 |
| **9**<br>0.3543 | **9**<br>0.3543 | **19**<br>0.748 | **12**<br>0.472 | **12**<br>0.4724 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ9/12A | **6.86**<br>1540 | **7.6**<br>1710 | 1.15 | 19000 | 30000 | **0.018**<br>0.04 |
| | **9**<br>0.3543 | **19**<br>0.748 | **16**<br>0.63 | **12**<br>0.4724 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ9/16 | **6.78**<br>1520 | **9.03**<br>2030 | 1.40 | 19000 | 30000 | **0.024**<br>0.053 |
| **10**<br>0.3937 | **10**<br>0.3937 | **22**<br>0.8661 | **13**<br>0.512 | **14**<br>0.5512 | **0.3**<br>0.012 | **1**<br>0.039 | NA4900 | **9.39**<br>2110 | **10.3**<br>2320 | 1.55 | 16000 | 24000 | **0.025**<br>0.055 |
| | **10**<br>0.3937 | **22**<br>0.8661 | **16**<br>0.63 | **14**<br>0.5512 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ10/16A | **12.4**<br>2790 | **14.8**<br>3330 | 2.10 | 16000 | 24000 | **0.032**<br>0.071 |
| | **10**<br>0.3937 | **22**<br>0.8661 | **20**<br>0.787 | **14**<br>0.5512 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ10/20A | **14.7**<br>3300 | **18.4**<br>4140 | 2.75 | 16000 | 24000 | **0.04**<br>0.088 |
| **12**<br>0.4724 | **12**<br>0.4724 | **24**<br>0.9449 | **13**<br>0.512 | **16**<br>0.6299 | **0.3**<br>0.012 | **1**<br>0.039 | NA4901 | **10.5**<br>2360 | **12.3**<br>2770 | 1.90 | 18000 | 28000 | **0.028**<br>0.062 |
| | **12**<br>0.4724 | **24**<br>0.9449 | **16**<br>0.63 | **16**<br>0.6299 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ12/16A | **13**<br>2920 | **16.2**<br>3640 | 2.50 | 18000 | 28000 | **0.036**<br>0.079 |
| | **12**<br>0.4724 | **24**<br>0.9449 | **20**<br>0.787 | **16**<br>0.6299 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ12/20A | **15.4**<br>3460 | **20.2**<br>4540 | 3.20 | 18000 | 28000 | **0.046**<br>0.101 |
| | **12**<br>0.4724 | **24**<br>0.9449 | **22**<br>0.866 | **16**<br>0.6299 | **0.3**<br>0.012 | **1**<br>0.039 | NA6901A | **16.1**<br>3620 | **21.3**<br>4790 | 3.55 | 18000 | 28000 | **0.051**<br>0.11 |
| **15**<br>0.5906 | **15**<br>0.5906 | **27**<br>1.063 | **16**<br>0.63 | **19**<br>0.748 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ15/16A | **14.1**<br>3170 | **19**<br>4270 | 2.90 | 15000 | 24000 | **0.042**<br>0.093 |
| | **15**<br>0.5906 | **27**<br>1.063 | **20**<br>0.787 | **19**<br>0.748 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ15/20A | **16.8**<br>3780 | **23.6**<br>5310 | 3.75 | 15000 | 24000 | **0.054**<br>0.119 |
| | **15**<br>0.5906 | **28**<br>1.1024 | **13**<br>0.512 | **20**<br>0.7874 | **0.3**<br>0.012 | **1**<br>0.039 | NA4902 | **11.8**<br>2650 | **15.3**<br>3440 | 2.35 | 14000 | 22000 | **0.037**<br>0.082 |
| | **15**<br>0.5906 | **28**<br>1.1024 | **23**<br>0.906 | **20**<br>0.7874 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA6902A | **18.4**<br>4140 | **26.9**<br>6050 | 4.20 | 14000 | 22000 | **0.067**<br>0.148 |
| **17**<br>0.6693 | **17**<br>0.6693 | **29**<br>1.1417 | **16**<br>0.63 | **21**<br>0.8268 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ17/16A | **15.3**<br>3440 | **21.6**<br>4860 | 3.30 | 14000 | 21000 | **0.047**<br>0.104 |

(1) Max. axial displacement

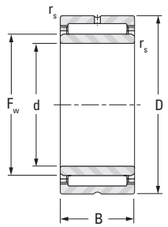
*Continued on next page.*

## NEEDLE ROLLER BEARINGS WITH INNER RINGS

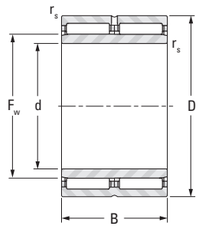
**METRIC SERIES**
**NKJ, NKJS, NA48**
**NA49, NA69 SERIES**



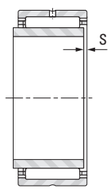

**NKJ (d ≤ 7)**




**NKJ (d ≥ 9), NKJS, NA48, NA49, NA69 (d ≤ 30)**




**NA69 (d ≥ 32)**




| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | $s^{(1)}$ | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **17**<br>0.6693 | **17**<br>0.6693 | **29**<br>1.1417 | **20**<br>0.787 | **21**<br>0.8268 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ17/20A | **18.1**<br>4070 | **26.9**<br>6050 | 4.80 | 14000 | 21000 | **0.059**<br>0.13 |
| | **17**<br>0.6693 | **30**<br>1.1811 | **13**<br>0.512 | **22**<br>0.8661 | **0.3**<br>0.012 | **1**<br>0.039 | NA4903 | **12.2**<br>2740 | **16.4**<br>3690 | 2.50 | 13000 | 20000 | **0.04**<br>0.088 |
| | **17**<br>0.6693 | **30**<br>1.1811 | **23**<br>0.906 | **22**<br>0.8661 | **0.3**<br>0.012 | **1**<br>0.039 | NA6903A | **19.8**<br>4450 | **30.6**<br>6880 | 4.75 | 13000 | 20000 | **0.084**<br>0.185 |
| | **17**<br>0.6693 | **37**<br>1.4567 | **20**<br>0.787 | **24**<br>0.9449 | **0.6**<br>0.024 | **1**<br>0.039 | NKJS17A | **29.1**<br>6540 | **32.8**<br>7370 | 5.30 | 13000 | 20000 | **0.108**<br>0.238 |
| **20**<br>0.7874 | **20**<br>0.7874 | **32**<br>1.2598 | **16**<br>0.63 | **24**<br>0.9449 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ20/16A | **16.2**<br>3640 | **24.3**<br>5460 | 3.70 | 12000 | 18000 | **0.053**<br>0.117 |
| | **20**<br>0.7874 | **32**<br>1.2598 | **20**<br>0.787 | **24**<br>0.9449 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ20/20A | **19.3**<br>4340 | **30.3**<br>6810 | 4.80 | 12000 | 18000 | **0.067**<br>0.148 |
| | **20**<br>0.7874 | **37**<br>1.4567 | **17**<br>0.669 | **25**<br>0.9843 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA4904 | **21.3**<br>4790 | **25.5**<br>5730 | 6.75 | 12000 | 18000 | **0.084**<br>0.185 |
| | **20**<br>0.7874 | **37**<br>1.4567 | **30**<br>1.181 | **25**<br>0.9843 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA6904A | **36.6**<br>8230 | **51**<br>11500 | 7.95 | 12000 | 18000 | **0.133**<br>0.293 |
| | **20**<br>0.7874 | **42**<br>1.6535 | **20**<br>0.787 | **28**<br>1.1024 | **0.6**<br>0.024 | **1**<br>0.039 | NKJS20A | **30.3**<br>6810 | **38.4**<br>8630 | 6.15 | 11000 | 16000 | **0.13**<br>0.287 |
| **22**<br>0.8661 | **22**<br>0.8661 | **34**<br>1.3386 | **16**<br>0.63 | **26**<br>1.0236 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ22/16A | **16.6**<br>3730 | **25.7**<br>5780 | 3.95 | 11000 | 17000 | **0.058**<br>0.128 |
| | **22**<br>0.8661 | **34**<br>1.3386 | **20**<br>0.787 | **26**<br>1.0236 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ22/20A | **19.7**<br>4430 | **32**<br>7190 | 5.05 | 11000 | 17000 | **0.071**<br>0.157 |
| | **22**<br>0.8661 | **39**<br>1.5354 | **17**<br>0.669 | **28**<br>1.1024 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA49/22 | **23.3**<br>5240 | **29.6**<br>6650 | 4.55 | 10000 | 16000 | **0.089**<br>0.196 |
| | **22**<br>0.8661 | **39**<br>1.5354 | **30**<br>1.181 | **28**<br>1.1024 | **0.3**<br>0.012 | **1**<br>0.039 | NA69/22A | **30.6**<br>6880 | **50.7**<br>11400 | 7.85 | 10000 | 16000 | **0.163**<br>0.359 |
| **25**<br>0.9843 | **25**<br>0.9843 | **38**<br>1.4961 | **20**<br>0.787 | **29**<br>1.1417 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ25/20A | **23.4**<br>5260 | **36.4**<br>8180 | 5.80 | 9800 | 15000 | **0.086**<br>0.19 |
| | **25**<br>0.9843 | **38**<br>1.4961 | **30**<br>1.181 | **29**<br>1.1417 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ25/30A | **29.8**<br>6700 | **56.4**<br>12700 | 8.70 | 9800 | 15000 | **0.13**<br>0.287 |
| | **25**<br>0.9843 | **42**<br>1.6535 | **17**<br>0.669 | **30**<br>1.1811 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA4905 | **24.3**<br>5460 | **31.7**<br>7130 | 4.90 | 9700 | 15000 | **0.099**<br>0.218 |
| | **25**<br>0.9843 | **42**<br>1.6535 | **30**<br>1.181 | **30**<br>1.1811 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA6905A | **39.7**<br>8920 | **59.6**<br>13400 | 9.30 | 9700 | 15000 | **0.178**<br>0.392 |
| | **25**<br>0.9843 | **47**<br>1.8504 | **22**<br>0.866 | **32**<br>1.2598 | **0.6**<br>0.024 | **1.5**<br>0.059 | NKJS25A | **36**<br>8090 | **36.2**<br>8140 | 7.40 | 9200 | 14000 | **0.174**<br>0.384 |
| **28**<br>1.1024 | **28**<br>1.1024 | **42**<br>1.6535 | **20**<br>0.787 | **32**<br>1.2598 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ28/20A | **24.8**<br>5580 | **40.4**<br>9080 | 6.45 | 8800 | 14000 | **0.104**<br>0.229 |
| | **28**<br>1.1024 | **42**<br>1.6535 | **30**<br>1.181 | **32**<br>1.2598 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ28/30A | **38.9**<br>8750 | **72.2**<br>16200 | 11.2 | 8800 | 14000 | **0.156**<br>0.344 |

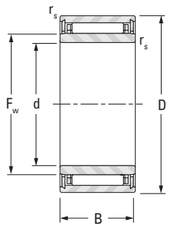
(1) Max. axial displacement

| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | $s^{(1)}$ | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **28**<br>1.1024 | **28**<br>1.1024 | **45**<br>1.7717 | **17**<br>0.669 | **32**<br>1.2598 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA49/28 | **25.1**<br>5640 | **33.8**<br>7600 | 5.20 | 9000 | 14000 | **0.108**<br>0.238 |
| | **28**<br>1.1024 | **45**<br>1.7717 | **30**<br>1.181 | **32**<br>1.2598 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA69/28A | **43.2**<br>9700 | **62.5**<br>14100 | 11.0 | 9000 | 14000 | **0.19**<br>0.419 |
| **30**<br>1.1811 | **30**<br>1.1811 | **45**<br>1.7717 | **20**<br>0.787 | **35**<br>1.378 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ30/20A | **26.1**<br>5870 | **44.4**<br>9980 | 7.05 | 8000 | 12000 | **0.12**<br>0.265 |
| | **30**<br>1.1811 | **45**<br>1.7717 | **30**<br>1.181 | **35**<br>1.378 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ30/30A | **37.4**<br>8410 | **70.6**<br>15900 | 11.0 | 8000 | 12000 | **0.179**<br>0.395 |
| | **30**<br>1.1811 | **47**<br>1.8504 | **17**<br>0.669 | **35**<br>1.378 | **0.3**<br>0.012 | **1.5**<br>0.059 | NA4906 | **25.9**<br>5820 | **36**<br>8090 | 5.55 | 8200 | 13000 | **0.114**<br>0.251 |
| | **30**<br>1.1811 | **47**<br>1.8504 | **30**<br>1.181 | **35**<br>1.378 | **0.3**<br>0.012 | **1**<br>0.039 | NA6906A | **42.6**<br>9580 | **68.2**<br>15300 | 10.6 | 8200 | 13000 | **0.205**<br>0.452 |
| | **30**<br>1.1811 | **52**<br>2.0472 | **22**<br>0.866 | **37**<br>1.4567 | **0.6**<br>0.024 | **1.5**<br>0.059 | NKJS30A | **39**<br>8770 | **53.4**<br>12000 | 8.55 | 7900 | 12000 | **0.198**<br>0.437 |
| **32**<br>1.2598 | **32**<br>1.2598 | **47**<br>1.8504 | **20**<br>0.787 | **37**<br>1.4567 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ32/20A | **26.6**<br>6000 | **46.4**<br>10400 | 7.20 | 7600 | 12000 | **0.127**<br>0.28 |
| | **32**<br>1.2598 | **47**<br>1.8504 | **30**<br>1.181 | **37**<br>1.4567 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ32/30A | **38.2**<br>8590 | **73.9**<br>16600 | 11.5 | 7600 | 12000 | **0.192**<br>0.423 |
| | **32**<br>1.2598 | **52**<br>2.0472 | **20**<br>0.787 | **40**<br>1.5748 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA49/32 | **32**<br>7190 | **49.3**<br>11100 | 7.85 | 7100 | 11000 | **0.169**<br>0.373 |
| | **32**<br>1.2598 | **52**<br>2.0472 | **36**<br>1.417 | **40**<br>1.5748 | **0.6**<br>0.024 | **1**<br>0.039 | NA69/32A | **48.6**<br>10900 | **84.5**<br>19000 | 13.1 | 7100 | 11000 | **0.313**<br>0.69 |
| **35**<br>1.378 | **35**<br>1.378 | **50**<br>1.9685 | **20**<br>0.787 | **40**<br>1.5748 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ35/20A | **27.8**<br>6250 | **50.4**<br>11300 | 8.05 | 7000 | 11000 | **0.135**<br>0.298 |
| | **35**<br>1.378 | **50**<br>1.9685 | **30**<br>1.181 | **40**<br>1.5748 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ35/30A | **40**<br>8990 | **80.2**<br>18000 | 12.4 | 7000 | 11000 | **0.208**<br>0.459 |
| | **35**<br>1.378 | **55**<br>2.1654 | **20**<br>0.787 | **42**<br>1.6535 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA4907 | **32.8**<br>7370 | **51.7**<br>11600 | 8.25 | 6700 | 10000 | **0.179**<br>0.395 |
| | **35**<br>1.378 | **55**<br>2.1654 | **36**<br>1.417 | **42**<br>1.6535 | **0.6**<br>0.024 | **1**<br>0.039 | NA6907A | **49.9**<br>11200 | **88.7**<br>19900 | 13.7 | 6700 | 10000 | **0.34**<br>0.75 |
| | **35**<br>1.378 | **58**<br>2.2835 | **22**<br>0.866 | **43**<br>1.6929 | **0.6**<br>0.024 | **1**<br>0.039 | NKJS35A | **41.6**<br>9350 | **60.7**<br>13600 | 9.75 | 6700 | 10000 | **0.235**<br>0.518 |
| **38**<br>1.4961 | **38**<br>1.4961 | **53**<br>2.0866 | **20**<br>0.787 | **43**<br>1.6929 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ38/20A | **29**<br>6520 | **54.4**<br>12200 | 8.65 | 6400 | 9900 | **0.146**<br>0.322 |
| | **38**<br>1.4961 | **53**<br>2.0866 | **30**<br>1.181 | **43**<br>1.6929 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ38/30A | **41.6**<br>9350 | **86.6**<br>19500 | 13.4 | 6400 | 9900 | **0.196**<br>0.432 |
| **40**<br>1.5748 | **40**<br>1.5748 | **55**<br>2.1654 | **20**<br>0.787 | **45**<br>1.7717 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ40/20A | **29.5**<br>6630 | **56.4**<br>12700 | 9.00 | 6100 | 9400 | **0.152**<br>0.335 |
| | **40**<br>1.5748 | **55**<br>2.1654 | **30**<br>1.181 | **45**<br>1.7717 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ40/30A | **42.3**<br>9510 | **89.8**<br>20200 | 13.9 | 6100 | 9400 | **0.229**<br>0.505 |
| | **40**<br>1.5748 | **62**<br>2.4409 | **22**<br>0.866 | **48**<br>1.8898 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA4908 | **44.2**<br>9940 | **67.8**<br>15200 | 10.9 | 5900 | 9100 | **0.248**<br>0.547 |
| | **40**<br>1.5748 | **62**<br>2.4409 | **40**<br>1.575 | **48**<br>1.8898 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA6908A | **70.8**<br>15900 | **124**<br>27900 | 19.8 | 5900 | 9100 | **0.473**<br>1.043 |
| | **40**<br>1.5748 | **65**<br>2.5591 | **22**<br>0.866 | **50**<br>1.9685 | **1**<br>0.039 | **1**<br>0.039 | NKJS40A | **45.5**<br>10200 | **71.3**<br>16000 | 11.4 | 5700 | 8700 | **0.292**<br>0.644 |
| **42**<br>1.6535 | **42**<br>1.6535 | **57**<br>2.2441 | **20**<br>0.787 | **47**<br>1.8504 | **0.3**<br>0.012 | **2**<br>0.079 | NKJ42/20A | **30**<br>6740 | **58.5**<br>13200 | 9.30 | 5900 | 9000 | **0.159**<br>0.351 |
| | **42**<br>1.6535 | **57**<br>2.2441 | **30**<br>1.181 | **47**<br>1.8504 | **0.3**<br>0.012 | **1.5**<br>0.059 | NKJ42/30A | **43**<br>9670 | **93.1**<br>20900 | 14.4 | 5900 | 9000 | **0.241**<br>0.531 |
| **45**<br>1.7717 | **45**<br>1.7717 | **62**<br>2.4409 | **25**<br>0.984 | **50**<br>1.9685 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ45/25A | **40.7**<br>9150 | **79.3**<br>17800 | 12.5 | 5500 | 8500 | **0.223**<br>0.492 |

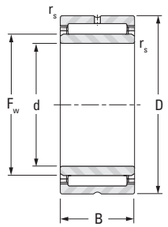
*Continued on next page.*

## NEEDLE ROLLER BEARINGS WITH INNER RINGS

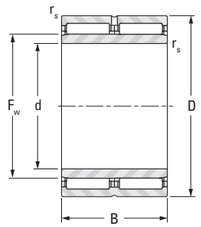
**METRIC SERIES**
**NKJ, NKJS, NA48**
**NA49, NA69 SERIES**



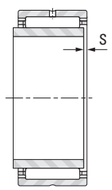

**NKJ (d ≤ 7)**




**NKJ (d ≥ 9), NKJS, NA48, NA49, NA69 (d ≤ 30)**




**NA69 (d ≥ 32)**



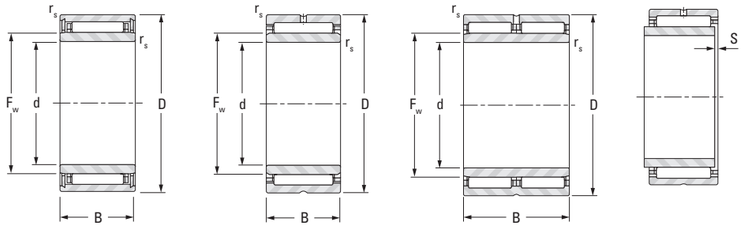

| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | $s^{(1)}$ | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **45**<br>1.7717 | **45**<br>1.7717 | **62**<br>2.4409 | **35**<br>1.378 | **50**<br>1.9685 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ45/35A | **55**<br>12400 | **117**<br>26300 | 18.2 | 5500 | 8500 | **0.345**<br>0.761 |
| | **45**<br>1.7717 | **68**<br>2.6772 | **22**<br>0.866 | **52**<br>2.0472 | **0.6**<br>0.024 | **2**<br>0.079 | NA4909 | **46.8**<br>10500 | **74.8**<br>16800 | 12.0 | 5400 | 8400 | **0.291**<br>0.642 |
| | **45**<br>1.7717 | **68**<br>2.6772 | **40**<br>1.575 | **52**<br>2.0472 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA6909A | **74.7**<br>16800 | **137**<br>30800 | 21.7 | 5400 | 8400 | **0.55**<br>1.232 |
| | **45**<br>1.7717 | **72**<br>2.8346 | **22**<br>0.866 | **55**<br>2.1654 | **1**<br>0.039 | **1**<br>0.039 | NKJS45A | **47.9**<br>10800 | **78.4**<br>17600 | 12.6 | 5100 | 7900 | **0.36**<br>0.794 |
| **50**<br>1.9685 | **50**<br>1.9685 | **68**<br>2.6772 | **25**<br>0.984 | **55**<br>2.1654 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ50/25A | **46.1**<br>10400 | **87.3**<br>19600 | 13.9 | 5000 | 7800 | **0.288**<br>0.635 |
| | **50**<br>1.9685 | **68**<br>2.6772 | **35**<br>1.378 | **55**<br>2.1654 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ50/35A | **62.3**<br>14000 | **129**<br>29000 | 20.0 | 5000 | 7800 | **0.406**<br>0.895 |
| | **50**<br>1.9685 | **72**<br>2.8346 | **22**<br>0.866 | **58**<br>2.2835 | **0.6**<br>0.024 | **2**<br>0.079 | NA4910 | **49**<br>11000 | **82**<br>18400 | 13.2 | 4800 | 7400 | **0.296**<br>0.653 |
| | **50**<br>1.9685 | **72**<br>2.8346 | **40**<br>1.575 | **58**<br>2.2835 | **0.6**<br>0.024 | **1.5**<br>0.059 | NA6910A | **75.7**<br>17000 | **144**<br>32400 | 22.8 | 4800 | 7400 | **0.577**<br>1.272 |
| | **50**<br>1.9685 | **80**<br>3.1496 | **28**<br>1.102 | **60**<br>2.3622 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS50A | **66.9**<br>15000 | **103**<br>23200 | 16.5 | 4800 | 7300 | **0.523**<br>1.153 |
| **55**<br>2.1654 | **55**<br>2.1654 | **72**<br>2.8346 | **25**<br>0.984 | **60**<br>2.3622 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ55/25A | **44.3**<br>9960 | **94**<br>21100 | 14.9 | 4600 | 7000 | **0.29**<br>0.639 |
| | **55**<br>2.1654 | **72**<br>2.8346 | **35**<br>1.378 | **60**<br>2.3622 | **0.6**<br>0.024 | **3**<br>0.118 | NKJ55/35A | **59.9**<br>13500 | **139**<br>31200 | 21.5 | 4600 | 7000 | **0.41**<br>0.904 |
| | **55**<br>2.1654 | **80**<br>3.1496 | **25**<br>0.984 | **63**<br>2.4803 | **1**<br>0.039 | **2.5**<br>0.098 | NA4911 | **62**<br>13900 | **107**<br>24100 | 17.1 | 4500 | 6900 | **0.426**<br>0.939 |
| | **55**<br>2.1654 | **80**<br>3.1496 | **45**<br>1.772 | **63**<br>2.4803 | **1**<br>0.039 | **2.5**<br>0.098 | NA6911A | **94.2**<br>21200 | **172**<br>38700 | 27.8 | 4500 | 6900 | **0.8**<br>1.764 |
| | **55**<br>2.1654 | **85**<br>3.3465 | **28**<br>1.102 | **65**<br>2.5591 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS55A | **71**<br>16000 | **114**<br>25600 | 18.3 | 4400 | 6700 | **0.569**<br>1.254 |
| **60**<br>2.3622 | **60**<br>2.3622 | **82**<br>3.2283 | **25**<br>0.984 | **68**<br>2.6772 | **0.6**<br>0.024 | **2**<br>0.079 | NKJ60/25A | **49**<br>11000 | **101**<br>22700 | 16.1 | 4000 | 6200 | **0.44**<br>0.97 |
| | **60**<br>2.3622 | **82**<br>3.2283 | **35**<br>1.378 | **68**<br>2.6772 | **0.6**<br>0.024 | **2.5**<br>0.098 | NKJ60/35A | **66.2**<br>14900 | **149**<br>33500 | 23.2 | 4000 | 6200 | **0.52**<br>1.146 |
| | **60**<br>2.3622 | **85**<br>3.3465 | **25**<br>0.984 | **68**<br>2.6772 | **1**<br>0.039 | **1.5**<br>0.059 | NA4912 | **64.8**<br>14600 | **116**<br>26100 | 18.6 | 4100 | 6300 | **0.457**<br>1.008 |
| | **60**<br>2.3622 | **85**<br>3.3465 | **45**<br>1.772 | **68**<br>2.6772 | **1**<br>0.039 | **2**<br>0.079 | NA6912A | **99.3**<br>22300 | **189**<br>42500 | 30.5 | 4100 | 6400 | **0.829**<br>1.828 |
| | **60**<br>2.3622 | **90**<br>3.5433 | **28**<br>1.102 | **70**<br>2.7559 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS60A | **72.6**<br>16300 | **120**<br>27000 | 19.3 | 4000 | 6200 | **0.607**<br>1.338 |
| **65**<br>2.5591 | **65**<br>2.5591 | **90**<br>3.5433 | **25**<br>0.984 | **72**<br>2.8346 | **1**<br>0.039 | **1.5**<br>0.059 | NA4913 | **66**<br>14800 | **121**<br>27200 | 19.4 | 3900 | 5900 | **0.489**<br>1.078 |
| **65**<br>2.5591 | **65**<br>2.5591 | **90**<br>3.5433 | **35**<br>1.378 | **73**<br>2.874 | **0.6**<br>0.024 | **2**<br>0.079 | NKJ65/25A | **61.5**<br>13800 | **119**<br>26800 | 19.0 | 3800 | 5800 | **0.5**<br>1.102 |
| | **65**<br>2.5591 | **90**<br>3.5433 | **35**<br>1.378 | **73**<br>2.874 | **0.6**<br>0.024 | **2**<br>0.079 | NKJ65/35A | **82.5**<br>18500 | **173**<br>38900 | 27.1 | 3800 | 5800 | **0.69**<br>1.521 |
| | **65**<br>2.5591 | **90**<br>3.5433 | **45**<br>1.772 | **72**<br>2.8346 | **1**<br>0.039 | **2**<br>0.079 | NA6913A | **107**<br>24100 | **213**<br>47900 | 34.5 | 3900 | 6000 | **0.945**<br>2.083 |
| | **65**<br>2.5591 | **95**<br>3.7402 | **28**<br>1.102 | **75**<br>2.9528 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS65A | **76.5**<br>17200 | **132**<br>29700 | 21.1 | 3700 | 5800 | **0.655**<br>1.444 |
| **70**<br>2.7559 | **70**<br>2.7559 | **95**<br>3.7402 | **25**<br>0.984 | **80**<br>3.1496 | **1**<br>0.039 | **2**<br>0.079 | NKJ70/25A | **66.4**<br>14900 | **130**<br>29200 | 20.8 | 3400 | 5300 | **0.561**<br>1.237 |
| | **70**<br>2.7559 | **95**<br>3.7402 | **35**<br>1.378 | **80**<br>3.1496 | **1**<br>0.039 | **3.5**<br>0.138 | NKJ70/35A | **79.7**<br>17900 | **184**<br>41400 | 28.7 | 3400 | 5300 | **0.779**<br>1.717 |
| | **70**<br>2.7559 | **100**<br>3.937 | **28**<br>1.102 | **80**<br>3.1496 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS70A | **80.1**<br>18000 | **143**<br>32100 | 22.9 | 3500 | 5400 | **0.772**<br>1.702 |
| | **70**<br>2.7559 | **100**<br>3.937 | **30**<br>1.181 | **80**<br>3.1496 | **1**<br>0.039 | **2.5**<br>0.098 | NA4914 | **86.3**<br>19400 | **157**<br>35300 | 25.1 | 3500 | 5400 | **0.772**<br>1.702 |
| | **70**<br>2.7559 | **100**<br>3.937 | **54**<br>2.126 | **80**<br>3.1496 | **1**<br>0.039 | **2**<br>0.079 | NA6914A | **137**<br>30800 | **286**<br>64300 | 45.7 | 3500 | 5400 | **1.45**<br>3.197 |
| **75**<br>2.9528 | **75**<br>2.9528 | **105**<br>4.1339 | **25**<br>0.984 | **85**<br>3.3465 | **1**<br>0.039 | **2**<br>0.079 | NKJ75/25A | **76.4**<br>17200 | **137**<br>30800 | 22.2 | 3300 | 5000 | **0.64**<br>1.411 |
| | **75**<br>2.9528 | **105**<br>4.1339 | **30**<br>1.181 | **85**<br>3.3465 | **1**<br>0.039 | **2.5**<br>0.098 | NA4915 | **92.4**<br>20800 | **175**<br>39300 | 28.0 | 3300 | 5000 | **0.817**<br>1.801 |
| | **75**<br>2.9528 | **105**<br>4.1339 | **35**<br>1.378 | **85**<br>3.3465 | **1**<br>0.039 | **2**<br>0.079 | NKJ75/35A | **108**<br>24300 | **214**<br>48100 | 33.6 | 3300 | 5000 | **1.05**<br>2.315 |
| | **75**<br>2.9528 | **105**<br>4.1339 | **54**<br>2.126 | **85**<br>3.3465 | **1**<br>0.039 | **2**<br>0.079 | NA6915A | **143**<br>32100 | **308**<br>69200 | 49.3 | 3300 | 5000 | **1.554**<br>3.426 |
| | **75**<br>2.9528 | **110**<br>4.3307 | **32**<br>1.26 | **90**<br>3.5433 | **1.1**<br>0.043 | **1.5**<br>0.059 | NKJS75A | **91.5**<br>20600 | **176**<br>39600 | 28.1 | 3100 | 4700 | **1.06**<br>2.337 |
| **80**<br>3.1496 | **80**<br>3.1496 | **110**<br>4.3307 | **25**<br>0.984 | **90**<br>3.5433 | **1**<br>0.039 | **2**<br>0.079 | NKJ80/25A | **79.5**<br>17900 | **147**<br>33000 | 23.8 | 3100 | 4700 | **0.79**<br>1.742 |
| | **80**<br>3.1496 | **110**<br>4.3307 | **30**<br>1.181 | **90**<br>3.5433 | **1**<br>0.039 | **2.5**<br>0.098 | NA4916 | **91.5**<br>20600 | **176**<br>39600 | 28.1 | 3100 | 4700 | **0.862**<br>1.9 |
| | **80**<br>3.1496 | **110**<br>4.3307 | **35**<br>1.378 | **90**<br>3.5433 | **1**<br>0.039 | **2**<br>0.079 | NKJ80/35A | **113**<br>25400 | **230**<br>51700 | 36.1 | 3100 | 4700 | **0.98**<br>2.161 |
| | **80**<br>3.1496 | **110**<br>4.3307 | **54**<br>2.126 | **90**<br>3.5433 | **1**<br>0.039 | **2**<br>0.079 | NA6916 | **126**<br>28300 | **320**<br>71900 | 50.8 | 3000 | 4700 | **1.615**<br>3.56 |
| | **80**<br>3.1496 | **115**<br>4.5276 | **32**<br>1.26 | **95**<br>3.7402 | **1.1**<br>0.043 | **2**<br>0.079 | NKJS80A | **95.1**<br>21400 | **188**<br>42300 | 30.0 | 2900 | 4500 | **1.14**<br>2.513 |
| **85**<br>3.3465 | **85**<br>3.3465 | **115**<br>4.5276 | **26**<br>1.024 | **95**<br>3.7402 | **1**<br>0.039 | **3**<br>0.118 | NKJ85/26A | **80.7**<br>18100 | **152**<br>34200 | 32.8 | 2800 | 4400 | **0.862**<br>1.9 |
| | **85**<br>3.3465 | **115**<br>4.5276 | **36**<br>1.417 | **95**<br>3.7402 | **1**<br>0.039 | **2**<br>0.079 | NKJ85/36A | **114**<br>25600 | **238**<br>53500 | 37.3 | 2800 | 4400 | **1.04**<br>2.293 |
| | **85**<br>3.3465 | **120**<br>4.7244 | **35**<br>1.378 | **100**<br>3.937 | **1.1**<br>0.043 | **2.5**<br>0.098 | NA4917 | **110**<br>24700 | **230**<br>51700 | 36.0 | 2800 | 4200 | **1.31**<br>2.888 |
| | **85**<br>3.3465 | **120**<br>4.7244 | **63**<br>2.48 | **100**<br>3.937 | **1.1**<br>0.043 | **2**<br>0.079 | NA6917A | **150**<br>33700 | **416**<br>93500 | 64.2 | 2700 | 4200 | **2.427**<br>5.351 |
| **90**<br>3.5433 | **90**<br>3.5433 | **120**<br>4.7244 | **26**<br>1.024 | **100**<br>3.937 | **1**<br>0.039 | **3**<br>0.118 | NKJ90/26A | **83.6**<br>18800 | **163**<br>36600 | 25.8 | 2800 | 4200 | **0.78**<br>1.72 |
| | **90**<br>3.5433 | **120**<br>4.7244 | **36**<br>1.417 | **100**<br>3.937 | **1**<br>0.039 | **2.5**<br>0.098 | NKJ90/36A | **118**<br>26500 | **254**<br>57100 | 39.1 | 2800 | 4200 | **1.08**<br>2.381 |
| | **90**<br>3.5433 | **125**<br>4.9213 | **35**<br>1.378 | **105**<br>4.1339 | **1.1**<br>0.043 | **2.5**<br>0.098 | NA4918 | **114**<br>25600 | **245**<br>55100 | 37.8 | 2600 | 4000 | **1.37**<br>3.02 |

(1) Max. axial displacement

*Continued on next page.*

## NEEDLE ROLLER BEARINGS WITH INNER RINGS

**METRIC SERIES**
**NKJ, NKJS, NA48**
**NA49, NA69 SERIES**




**NKJ (d ≤ 7)** | **NKJ (d ≥ 9), NKJS, NA48, NA49, NA69 (d ≤ 30)** | **NA69 (d ≥ 32)**

| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | $s^{(1)}$ | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **90**<br>3.5433 | **90**<br>3.5433 | **125**<br>4.9213 | **63**<br>2.48 | **105**<br>4.1339 | **1.1**<br>0.043 | **2**<br>0.079 | NA6918A | **175**<br>39300 | **427**<br>96000 | 66.0 | 2600 | 4000 | **2.64**<br>5.82 |
| **95**<br>3.7402 | **95**<br>3.7402 | **125**<br>4.9213 | **26**<br>1.024 | **105**<br>4.1339 | **1**<br>0.039 | **2.5**<br>0.098 | NKJ95/26A | **84.7**<br>19000 | **168**<br>37800 | 26.3 | 2600 | 3900 | **0.935**<br>2.061 |
| | **95**<br>3.7402 | **130**<br>5.1181 | **35**<br>1.378 | **110**<br>4.3307 | **1.1**<br>0.043 | **2.5**<br>0.098 | NA4919 | **115**<br>25900 | **253**<br>56900 | 38.4 | 2500 | 3800 | **1.43**<br>3.153 |
| | **95**<br>3.7402 | **130**<br>5.1181 | **63**<br>2.48 | **110**<br>4.3307 | **1.1**<br>0.043 | **2**<br>0.079 | NA6919A | **180**<br>40500 | **452**<br>102000 | 68.6 | 2500 | 3800 | **2.67**<br>5.88 |
| **100**<br>3.937 | **100**<br>3.937 | **130**<br>5.1181 | **30**<br>1.181 | **110**<br>4.3307 | **1.1**<br>0.043 | **2**<br>0.079 | NKJ100/30A | **103**<br>23200 | **220**<br>49500 | 33.6 | 2500 | 3800 | **0.984**<br>2.169 |
| | **100**<br>3.937 | **130**<br>5.1181 | **40**<br>1.575 | **110**<br>4.3307 | **1.1**<br>0.043 | **2**<br>0.079 | NKJ100/40A | **130**<br>29200 | **296**<br>66500 | 44.8 | 2500 | 3800 | **1.41**<br>3.109 |
| | **100**<br>3.937 | **135**<br>5.315 | **32**<br>1.26 | **115**<br>4.5276 | **1.1**<br>0.043 | **2**<br>0.079 | NKJS100A | **104**<br>23400 | **226**<br>50800 | 34.1 | 2400 | 3700 | **2.01**<br>4.431 |
| | **100**<br>3.937 | **140**<br>5.5118 | **40**<br>1.575 | **115**<br>4.5276 | **1.1**<br>0.043 | **3.5**<br>0.138 | NA4920 | **152**<br>34200 | **332**<br>74600 | 49.2 | 2400 | 3700 | **2.01**<br>4.431 |
| **110**<br>4.3307 | **110**<br>4.3307 | **140**<br>5.5118 | **30**<br>1.181 | **120**<br>4.7244 | **1**<br>0.039 | **0.5**<br>0.02 | NA4822 | **90.3**<br>20300 | **230**<br>51700 | 33.7 | 2300 | 3500 | **1.21**<br>2.668 |
| | **110**<br>4.3307 | **150**<br>5.9055 | **40**<br>1.575 | **125**<br>4.9213 | **1.1**<br>0.043 | **3.5**<br>0.138 | NA4922 | **147**<br>33000 | **325**<br>73100 | 47.0 | 2200 | 3400 | **2.19**<br>4.828 |
| **120**<br>4.7244 | **120**<br>4.7244 | **150**<br>5.9055 | **30**<br>1.181 | **130**<br>5.1181 | **1**<br>0.039 | **0.5**<br>0.02 | NA4824 | **94.2**<br>21200 | **249**<br>56000 | 35.7 | 2100 | 3200 | **1.31**<br>2.888 |
| | **120**<br>4.7244 | **165**<br>6.4961 | **45**<br>1.772 | **135**<br>5.315 | **1.1**<br>0.043 | **3.5**<br>0.138 | NA4924 | **177**<br>39800 | **407**<br>91500 | 58.5 | 2000 | 3100 | **3.04**<br>6.702 |
| **130**<br>5.1181 | **130**<br>5.1181 | **165**<br>6.4961 | **35**<br>1.378 | **145**<br>5.7087 | **1.1**<br>0.043 | **1**<br>0.039 | NA4826 | **112**<br>25200 | **323**<br>72600 | 44.8 | 1900 | 2900 | **1.99**<br>4.387 |
| | **130**<br>5.1181 | **180**<br>7.0866 | **50**<br>1.969 | **150**<br>5.9055 | **1.5**<br>0.059 | **3**<br>0.118 | NA4926 | **201**<br>45200 | **495**<br>111000 | 68.7 | 1800 | 2800 | **4.14**<br>9.127 |
| **140**<br>5.5118 | **140**<br>5.5118 | **175**<br>6.8898 | **35**<br>1.378 | **155**<br>6.1024 | **1.1**<br>0.043 | **1**<br>0.039 | NA4828 | **116**<br>26100 | **346**<br>77800 | 47.1 | 1700 | 2700 | **2.12**<br>4.674 |
| | **140**<br>5.5118 | **190**<br>7.4803 | **50**<br>1.969 | **160**<br>6.2992 | **1.5**<br>0.059 | **3**<br>0.118 | NA4928 | **214**<br>48100 | **549**<br>123000 | 74.8 | 1700 | 2600 | **4.41**<br>9.72 |
| **150**<br>5.9055 | **150**<br>5.9055 | **190**<br>7.4803 | **40**<br>1.575 | **165**<br>6.4961 | **1.1**<br>0.043 | **2**<br>0.079 | NA4830A | **142**<br>31900 | **402**<br>90400 | 53.5 | 1600 | 2500 | **2.7**<br>5.952 |
| **160**<br>6.2992 | **160**<br>6.2992 | **200**<br>7.874 | **40**<br>1.575 | **175**<br>6.8898 | **1.1**<br>0.043 | **2**<br>0.079 | NA4832A | **146**<br>32800 | **425**<br>95500 | 46.6 | 1500 | 2400 | **3.15**<br>6.944 |

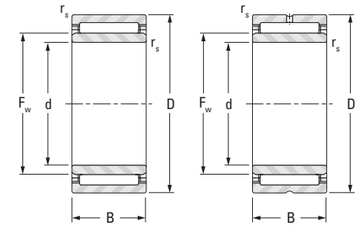
(1) Max. axial displacement





## NEEDLE ROLLER BEARINGS WITH INNER RINGS

**METRIC SERIES**
**NQI, NA49 SERIES**




**NQI** | **NA49**

| Shaft Dia. | d | D | B | $F_w$ | $r_{s\ min.}$ | $s^{(1)}$ | Bearing Designation | Load Ratings | | Fatigue Load Limit $C_u$ | Speed Ratings | | Approx. Wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Dynamic | Static | | | | |
| | | | | | | | | C | $C_0$ | | Grease | Oil | |
| mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | mm<br>in | | kN<br>lbf | | kN | $min^{-1}$ | | kg<br>lbs |
| **12**<br>0.4724 | **12** | **24** | **13** | **16** | **0.3** | — | NA4901C3 | **8.65** | **11.1** | 1.70 | — | 28000 | **0.027** |
| **20**<br>0.7874 | **20** | **32** | **20** | **24** | **0.3** | — | NQI203220AD | **17.4** | **26.5** | 4.15 | — | 18000 | **0.062** |
| | **20** | **37** | **17** | **25** | **0.3** | — | NA4904NA | **16.2** | **21.5** | 3.25 | — | 18000 | **0.083** |
| **25**<br>0.9843 | **25** | **44** | **25** | **30** | **0.3** | — | 25NQI4425A[2] | **36.6** | **49.6** | 7.90 | — | 15000 | **0.161** |
| **30**<br>1.1811 | **30** | **47** | **17** | **35** | **0.3** | — | NA4906D | **20.2** | **31.9** | 4.85 | — | 12000 | **0.114** |
| **38**<br>1.4961 | **38** | **53** | **30** | **43** | **0.6** | — | NQI38/30 | **41.3** | **85.9** | 13.4 | — | 9900 | **0.205** |

(1) Max. axial displacement
(2) Inner ring width 25.5mm