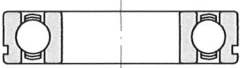
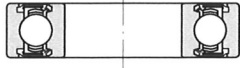
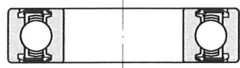
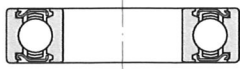
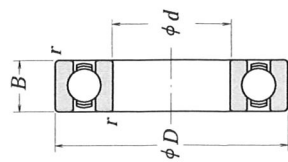


## Bore Diameter 25 – 45 mm



Open Type

Shielded Type  
ZZNon-Contact  
Sealed Type  
VVContact  
Sealed Type  
DD · DDUWith Snap  
Ring Groove  
NWith Snap  
Ring  
NR

| Boundary Dimensions<br>(mm) |    | Basic Load Ratings<br>(N) |                 |                | Factor | Limiting Speeds (min <sup>-1</sup> ) |                  |           |           | Bearing Numbers |          |        |
|-----------------------------|----|---------------------------|-----------------|----------------|--------|--------------------------------------|------------------|-----------|-----------|-----------------|----------|--------|
| d                           | D  | C <sub>r</sub>            | C <sub>0r</sub> | C <sub>r</sub> |        | Grease<br>Open<br>Z · ZZ<br>V · VV   | Oil<br>DU<br>DDU | Open<br>Z | Open<br>Z | Open            | Shielded | Sealed |
| 25                          | 37 | 4 500                     | 3 150           | 455            | 16.1   | 18 000                               | 10 000           | 22 000    | 6805      | ZZ              | VV       | DD     |
|                             | 42 | 7 050                     | 4 550           | 715            | 15.4   | 16 000                               | 10 000           | 19 000    | 6905      | ZZ              | VV       | DDU    |
|                             | 47 | 8 850                     | 5 600           | 905            | 15.1   | 15 000                               | —                | 18 000    | 16005     | —               | —        | —      |
|                             | 47 | 10 100                    | 5 850           | 1 030          | 14.5   | 15 000                               | 9 500            | 18 000    | 6005      | ZZ              | VV       | DDU    |
|                             | 52 | 14 000                    | 7 850           | 1 430          | 13.9   | 13 000                               | 9 000            | 15 000    | 6205      | ZZ              | VV       | DDU    |
| 28                          | 62 | 20 600                    | 11 200          | 2 100          | 13.2   | 11 000                               | 8 000            | 13 000    | 6305      | ZZ              | VV       | DDU    |
|                             | 62 | 17                        | 1.1             | 20 600         | 11 200 | 11 000                               | 8 000            | 13 000    | 60/28     | ZZ              | VV       | DDU    |
|                             | 52 | 12 500                    | 7 400           | 1 270          | 14.5   | 14 000                               | 8 500            | 16 000    | 62/28     | ZZ              | VV       | DDU    |
|                             | 58 | 16                        | 1.1             | 16 600         | 9 500  | 12 000                               | 8 000            | 14 000    | 63/28     | ZZ              | VV       | DDU    |
|                             | 68 | 26 700                    | 14 000          | 2 730          | 12.4   | 10 000                               | 7 500            | 13 000    | 6806      | ZZ              | VV       | DDU    |
| 30                          | 42 | 4 700                     | 3 650           | 480            | 16.4   | 15 000                               | 9 000            | 18 000    | 6906      | ZZ              | VV       | DDU    |
|                             | 47 | 7 250                     | 5 000           | 740            | 15.8   | 14 000                               | 8 500            | 17 000    | 16006     | —               | —        | —      |
|                             | 55 | 9                         | 0.3             | 1 150          | 15.2   | 13 000                               | —                | 15 000    | 6006      | ZZ              | VV       | DDU    |
|                             | 55 | 13                        | 1               | 1 350          | 14.7   | 13 000                               | 8 000            | 15 000    | 6206      | ZZ              | VV       | DDU    |
|                             | 62 | 16                        | 1               | 1 950          | 13.8   | 11 000                               | 7 500            | 13 000    | 6306      | ZZ              | VV       | DDU    |
| 32                          | 72 | 19                        | 1.1             | 26 700         | 15.30  | 9 500                                | 6 700            | 12 000    | 60/32     | ZZ              | VV       | DDU    |
|                             | 58 | 13                        | 1               | 15 100         | 9.150  | 12 000                               | 7 500            | 14 000    | 62/32     | ZZ              | VV       | DDU    |
|                             | 65 | 17                        | 1               | 20 700         | 11 600 | 10 000                               | 7 100            | 12 000    | 63/32     | ZZ              | VV       | DDU    |
|                             | 75 | 20                        | 1.1             | 29 900         | 17 000 | 9 000                                | 6 300            | 11 000    | 6807      | ZZ              | VV       | DDU    |
|                             | 47 | 7                         | 0.3             | 4 900          | 4 100  | 14 000                               | 7 500            | 16 000    | 6907      | ZZ              | VV       | DDU    |
| 35                          | 55 | 10                        | 0.6             | 10 600         | 7 250  | 11 000                               | 7 500            | 15 000    | 16007     | —               | —        | —      |
|                             | 62 | 14                        | 1               | 16 000         | 10 300 | 11 000                               | 6 700            | 13 000    | 6007      | ZZ              | VV       | DDU    |
|                             | 72 | 17                        | 1.1             | 25 700         | 15 300 | 9 500                                | 6 300            | 11 000    | 6207      | ZZ              | VV       | DDU    |
|                             | 80 | 21                        | 1.5             | 33 500         | 19 200 | 8 500                                | 6 000            | 10 000    | 6307      | ZZ              | VV       | DDU    |
|                             | 52 | 7                         | 0.3             | 6 350          | 5 550  | 12 000                               | 6 700            | 14 000    | 6808      | ZZ              | VV       | DD     |
| 40                          | 62 | 12                        | 0.6             | 13 700         | 10 000 | 11 000                               | 6 300            | 13 000    | 6908      | ZZ              | VV       | DDU    |
|                             | 68 | 9                         | 0.3             | 12 600         | 9 650  | 10 000                               | 6 000            | 12 000    | 16008     | —               | —        | —      |
|                             | 68 | 15                        | 1               | 16 800         | 11 500 | 10 000                               | 6 000            | 12 000    | 6008      | ZZ              | VV       | DDU    |
|                             | 80 | 18                        | 1.1             | 29 100         | 17 900 | 8 500                                | 5 600            | 10 000    | 6208      | ZZ              | VV       | DDU    |
|                             | 90 | 23                        | 1.5             | 40 500         | 24 000 | 7 500                                | 5 300            | 9 000     | 6308      | ZZ              | VV       | DDU    |
| 45                          | 58 | 7                         | 0.3             | 6 600          | 6 150  | 11 000                               | 6 000            | 13 000    | 6809      | ZZ              | VV       | DD     |
|                             | 68 | 12                        | 0.6             | 14 100         | 10 900 | 9 500                                | 5 600            | 12 000    | 6909      | ZZ              | VV       | DDU    |
|                             | 75 | 10                        | 0.6             | 14 900         | 11 400 | 9 000                                | 5 000            | 11 000    | 16009     | —               | —        | —      |
|                             | 75 | 16                        | 1               | 20 900         | 15 200 | 9 000                                | 5 300            | 11 000    | 6009      | ZZ              | VV       | DDU    |
|                             | 85 | 19                        | 1.1             | 31 500         | 20 400 | 7 500                                | 5 300            | 9 000     | 6209      | ZZ              | VV       | DDU    |
| 100                         | 25 | 53 000                    | 32 000          | 5 400          | 13.1   | 6 700                                | 4 800            | 8 000     | 6309      | ZZ              | VV       | DDU    |

Notes (1) For tolerances for the snap ring grooves and snap ring dimensions, refer to Pages A50 to A53.

(2) When heavy axial loads are applied, increase  $d_a$  and decrease  $d_i$  from the above values.

(3) Ring types N and NR applicable only to open-type bearings. Please consult NSK about the snap ring groove dimensions of sealed or shielded bearings.

## Dynamic Equivalent Load

$$P = XF_r + YF_a$$

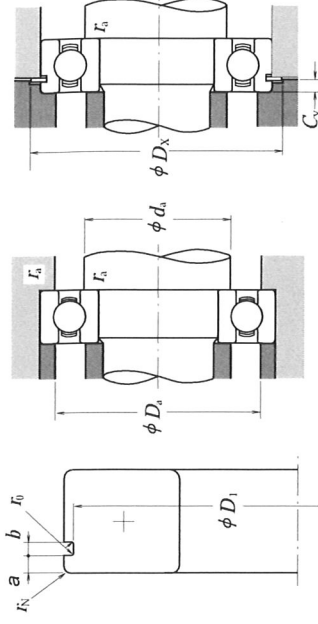
| $\frac{f_0 F_a}{C_{0r}}$ | e    | $\frac{F_a}{F_r} \leq e$ |   | $\frac{F_a}{F_r} > e$ |      |
|--------------------------|------|--------------------------|---|-----------------------|------|
|                          |      | X                        | Y | X                     | Y    |
| 0.172                    | 0.19 | 1                        | 0 | 0.56                  | 2.30 |
| 0.345                    | 0.22 | 1                        | 0 | 0.56                  | 1.99 |
| 0.689                    | 0.26 | 1                        | 0 | 0.56                  | 1.71 |
| 1.03                     | 0.28 | 1                        | 0 | 0.56                  | 1.55 |
| 1.38                     | 0.30 | 1                        | 0 | 0.56                  | 1.45 |
| 2.07                     | 0.34 | 1                        | 0 | 0.56                  | 1.31 |
| 3.45                     | 0.38 | 1                        | 0 | 0.56                  | 1.15 |
| 5.17                     | 0.42 | 1                        | 0 | 0.56                  | 1.04 |
| 6.89                     | 0.44 | 1                        | 0 | 0.56                  | 1.00 |

## Static Equivalent Load

$$F_r > 0.8, P_0 = 0.6F_r + 0.5F_a$$

$$F_r \leq 0.8, P_0 = F_r$$

$$F_r \leq 0.8, P_0 = F_r$$



| With Snap Ring Groove |       | Snap Ring Groove Dimensions (mm) |      |                |                | Snap Ring (1) Dimensions (mm) |                | Abutment and Fillet Dimensions (mm) |                    |                |                | Mass (kg)      |         |       |
|-----------------------|-------|----------------------------------|------|----------------|----------------|-------------------------------|----------------|-------------------------------------|--------------------|----------------|----------------|----------------|---------|-------|
|                       |       | a                                | b    | D <sub>1</sub> | r <sub>0</sub> | r <sub>N</sub>                | D <sub>2</sub> | f                                   | d <sub>N</sub> (2) | r <sub>s</sub> | D <sub>s</sub> | C <sub>y</sub> |         |       |
|                       |       | max.                             | min. | max.           | max.           | min.                          | max.           | max.                                | min.               | max.           | min.           | max.           | approx. |       |
| N                     | NR    | 1.3                              | 0.95 | 35.7           | 0.25           | 0.3                           | 39.8           | 0.85                                | 27                 | 27             | 35             | 0.3            | 40.5    | 1.8   |
| N                     | NR(4) | 1.7                              | 0.95 | 40.7           | 0.25           | 0.3                           | 44.8           | 0.85                                | 27                 | 28.5           | 40             | 0.3            | 45.5    | 2.3   |
| —                     | —     | —                                | —    | —              | —              | —                             | —              | —                                   | 27                 | —              | 45             | 0.3            | —       | —     |
| N                     | NR    | 2.06                             | 1.35 | 44.6           | 0.4            | 0.5                           | 52.7           | 1.12                                | 29                 | 30             | 43             | 0.6            | 53.5    | 2.9   |
| N                     | NR    | 2.46                             | 1.35 | 49.73          | 0.4            | 0.5                           | 57.9           | 1.12                                | 30                 | 32             | 47             | 1              | 58.5    | 3.3   |
| N                     | NR    | 3.28                             | 1.9  | 59.61          | 0.6            | 0.5                           | 67.7           | 1.7                                 | 31.5               | 36             | 55.5           | 1              | 68.5    | 4.6   |
| N                     | NR    | 2.06                             | 1.35 | 49.73          | 0.4            | 0.5                           | 57.9           | 1.12                                | 32                 | 34             | 48             | 0.6            | 58.5    | 2.9   |
| N                     | NR    | 2.46                             | 1.35 | 55.6           | 0.4            | 0.5                           | 63.7           | 1.12                                | 33                 | 35.5           | 53             | 1              | 64.5    | 3.3   |
| N                     | NR    | 3.28                             | 1.9  | 64.82          | 0.6            | 0.5                           | 74.6           | 1.7                                 | 34.5               | 38             | 61.5           | 1              | 76      | 4.6   |
| N                     | NR    | 1.3                              | 0.95 | 40.7           | 0.25           | 0.3                           | 44.8           | 0.85                                | 32                 | 32             | 40             | 0.3            | 45.5    | 1.8   |
| N                     | NR    | 1.7                              | 0.95 | 45.7           | 0.25           | 0.3                           | 49.8           | 0.85                                | 32                 | 34             | 45             | 0.3            | 50.5    | 2.3   |
| —                     | —     | —                                | —    | —              | —              | —                             | —              | —                                   | 32                 | —              | 53             | 0.3            | —       | —     |
| N                     | NR    | 2.08                             | 1.35 | 52.6           | 0.4            | 0.5                           | 60.7           | 1.12                                | 35                 | 36.5           | 50             | 1              | 61.5    | 2.9   |
| N                     | NR    | 3.28                             | 1.9  | 59.61          | 0.6            | 0.5                           | 67.7           | 1.7                                 | 35                 | 38.5           | 57             | 1              | 68.5    | 4.6   |
| N                     | NR    | 3.28                             | 1.9  | 68.81          | 0.6            | 0.5                           | 78.6           | 1.7                                 | 36.5               | 42.5           | 65.5           | 1              | 80      | 4.6   |
| N                     | NR    | 2.08                             | 1.35 | 55.6           | 0.4            | 0.5                           | 63.7           | 1.12                                | 37                 | 38.5           | 53             | 1              | 64.5    | 2.9   |
| N                     | NR    | 3.28                             | 1.9  | 62.6           | 0.6            | 0.5                           | 70.7           | 1.7                                 | 37                 | 40             | 60             | 1              | 71.5    | 4.6   |
| N                     | NR    | 3.28                             | 1.9  | 71.83          | 0.6            | 0.5                           | 81.6           | 1.7                                 | 38.5               | 44.5           | 68.5           | 1              | 83      | 4.6   |
| N                     | NR    | 1.3                              | 0.95 | 45.7           | 0.25           | 0.3                           | 49.8           | 0.85                                | 37                 | 37             | 45             | 0.3            | 50.5    | 1.8   |
| N                     | NR    | 1.7                              | 0.95 | 53.7           | 0.25           | 0.5                           | 57.8           | 0.85                                | 39                 | 39             | 51             | 0.6            | 58.5    | 2.3   |
| —                     | —     | —                                | —    | —              | —              | —                             | —              | —                                   | 37                 | —              | 60             | 0.3            | —       | —     |
| N                     | NR    | 2.08                             | 1.9  | 59.61          | 0.6            | 0.5                           | 67.7           | 1.7                                 | 40                 | 41.5           | 57             | 1              | 68.5    | 3.4   |
| N                     | NR    | 3.28                             | 1.9  | 68.81          | 0.6            | 0.5                           | 78.6           | 1.7                                 | 41.5               | 44.5           | 65.5           | 1              | 80      | 4.6   |
| N                     | NR    | 3.28                             | 1.9  | 76.81          | 0.6            | 0.5                           | 86.6           | 1.7                                 | 43                 | 47             | 72             | 1.5            | 88      | 4.6   |
| N                     | NR    | 1.3                              | 0.95 | 50.7           | 0.25           | 0.3                           | 54.8           | 0.85                                | 42                 | 42             | 50             | 0.3            | 55.5    | 1.8   |
| N                     | NR    | 1.7                              | 0.95 | 60.7           | 0.25           | 0.5                           | 64.8           | 0.85                                | 44                 | 46             | 58             | 0.6            | 65.5    | 2.3   |
| —                     | —     | —                                | —    | —              | —              | —                             | —              | —                                   | 42                 | —              | 66             | 0.3            | —       | —     |
| N                     | NR    | 2.49                             | 1.9  | 64.82          | 0.6            | 0.5                           | 74.6           | 1.7                                 | 45                 | 47.5           | 63             | 1              | 76      | 3.8   |
| N                     | NR    | 3.28                             | 1.9  | 76.81          | 0.6            | 0.5                           | 86.6           | 1.7                                 | 46.5               | 50.5           | 73.5           | 1              | 88      | 4.6   |
| N                     | NR    | 3.28                             | 2.7  | 86.79          | 0.6            | 0.5                           | 96.5           | 2.46                                | 48                 | 53             | 82             | 1.5            | 98      | 5.4   |
| N                     | NR    | 1.3                              | 0.95 | 56.7           | 0.25           | 0.3                           | 60.8           | 0.85                                | 47                 | 47.5           | 56             | 0.3            | 61.5    | 1.8   |
| N                     | NR    | 1.7                              | 0.95 | 66.7           | 0.25           | 0.3(4)                        | 70.8           | 0.85                                | 49                 | 50             | 64             | 0.6            | 72      | 2.3   |
| —                     | —     | —                                | —    | —              | —              | —                             | —              | —                                   | 49                 | —              | 71             | 0.6            | —       | —     |
| N                     | NR    | 2.49                             | 1.9  | 71.83          | 0.6            | 0.5                           | 81.6           | 1.7                                 | 50                 | 53.5           | 70             | 1              | 83      | 3.8   |
| N                     | NR    | 3.28                             | 1.9  | 81.81          | 0.6            | 0.5                           | 91.6           | 1.7                                 | 51.5               | 55.5           | 78.5           | 1              | 93      | 4.6   |
| N                     | NR    | 3.28                             | 2.7  | 96.8           | 0.6            | 0.5                           | 106.5          | 2.46                                | 53                 | 61.5           | 92             | 1.5            | 108     | 5.4   |
| N                     | NR    |                                  |      |                |                |                               |                |                                     |                    |                |                |                |         | 0.829 |

Remarks 1. Diameter Series 7 (extra thin section bearings) are also available, please contact NSK.

2. When using bearings with rotating outer rings, contact NSK if they are sealed, shielded, or have snap rings.