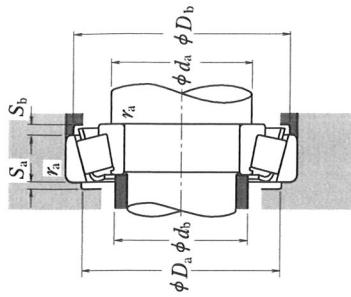
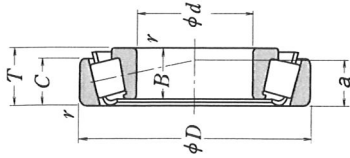


# SINGLE-ROW TAPERED ROLLER BEARINGS

Bore Diameter 15 – 28 mm



**Dynamic Equivalent Load**  
 $P = X F_r + Y F_a$

| $F_a/F_r \leq e$ |   | $F_a/F_r > e$ |       |
|------------------|---|---------------|-------|
| X                | Y | X             | Y     |
| 1                | 0 | 0.4           | $Y_1$ |

**Static Equivalent Load**  
 $P_0 = 0.5 F_r + Y_0 F_a$

When  $F_r > 0.5 F_r + Y_0 F_a$ , use  $P_0 = F_r$ .  
 The values of  $e$ ,  $Y_1$ , and  $Y_0$  are given in the table below.

| Boundary Dimensions (mm) |    | Ring: Inner Outer |    | Basic Load Ratings (N) |       | Limiting Speeds (min <sup>-1</sup> ) |        | Bearing Designation | ISO355 Dimension Suffix approx. | Abutment and Fillet Dimensions (mm) |       |          |            |            |            | Eff. Load Center (mm) |            | Constant   |                   | Axial Load Factors |            |      |     |
|--------------------------|----|-------------------|----|------------------------|-------|--------------------------------------|--------|---------------------|---------------------------------|-------------------------------------|-------|----------|------------|------------|------------|-----------------------|------------|------------|-------------------|--------------------|------------|------|-----|
| d                        | D  | T                 | B  | C                      | Inner | Outer                                | Grease |                     |                                 | Oil                                 | $C_r$ | $C_{hr}$ | $d_a$ min. | $d_b$ max. | $d_a$ min. | $D_b$ min.            | $S_a$ min. | $S_b$ min. | Ring: Inner Outer | $r_a$ max.         | $r_b$ max. | $a$  | $e$ |
| 15                       | 35 | 11.75             | 11 | 10                     | 0.6   | 0.6                                  | 11 000 | 15 000              | 14 800                          | 13 200                              | 23    | 19       | 30         | 33         | 2          | 1.5                   | 0.6        | 0.6        | 0.6               | 8.2                | 0.32       | 1.9  | 1.0 |
|                          | 42 | 14.25             | 11 | 11                     | 1     | 1                                    | 9 500  | 13 000              | 23 600                          | 21 100                              | 24    | 22       | 36         | 38.5       | 2          | 3                     | 1          | 1          | 9.5               | 0.29               | 2.1        | 1.2  |     |
|                          | 40 | 13.25             | 12 | 11                     | 1     | 1                                    | 9 500  | 13 000              | 20 100                          | 19 900                              | 26    | 23       | 34         | 37.5       | 2          | 2                     | 1          | 1          | 11.2              | 0.35               | 1.7        | 0.96 |     |
|                          | 40 | 17.25             | 16 | 14                     | 1     | 1                                    | 9 500  | 13 000              | 27 100                          | 28 000                              | 26    | 24       | 34         | 37         | 2          | 3                     | 1          | 1          | 10.4              | 0.29               | 2.1        | 1.2  |     |
| 17                       | 47 | 15.25             | 14 | 12                     | 1     | 1                                    | 8 500  | 12 000              | 22 000                          | 20 300                              | 28    | 26       | 41         | 43         | 2          | 3                     | 1          | 1          | 15.4              | 0.81               | 0.74       | 0.41 |     |
|                          | 47 | 20.25             | 19 | 16                     | 1     | 1                                    | 8 000  | 11 000              | 37 500                          | 36 500                              | 29    | 23       | 41         | 44         | 2          | 4                     | 1          | 1          | 12.5              | 0.29               | 2.1        | 1.2  |     |
|                          | 42 | 15                | 15 | 12                     | 0.6   | 0.6                                  | 9 000  | 12 000              | 24 600                          | 27 400                              | 28    | 24       | 37         | 40         | 3          | 3                     | 0.6        | 0.6        | 10.6              | 0.37               | 1.6        | 0.88 |     |
|                          | 47 | 15.25             | 14 | 12                     | 1     | 1                                    | 8 000  | 11 000              | 27 900                          | 28 500                              | 29    | 27       | 41         | 44         | 2          | 3                     | 1          | 1          | 11.0              | 0.35               | 1.7        | 0.96 |     |
| 20                       | 47 | 15.25             | 14 | 12                     | 0.3   | 0.3                                  | 8 000  | 11 000              | 23 900                          | 24 000                              | 29    | 26       | 41         | 44         | 2          | 3                     | 0.3        | 0.3        | 13.0              | 0.55               | 1.1        | 0.60 |     |
|                          | 47 | 19.25             | 18 | 15                     | 1     | 1                                    | 8 500  | 11 000              | 35 500                          | 37 500                              | 29    | 25       | 41         | 38         | 3          | 4                     | 1          | 1          | 12.6              | 0.33               | 1.8        | 1.0  |     |
|                          | 47 | 19.25             | 18 | 15                     | 1     | 1                                    | 8 000  | 11 000              | 31 500                          | 33 500                              | 29    | 25       | 41         | 36         | 4          | 4                     | 1          | 1          | 14.5              | 0.52               | 1.2        | 0.64 |     |
|                          | 52 | 16.25             | 15 | 13                     | 1.5   | 1.5                                  | 7 500  | 10 000              | 35 000                          | 33 500                              | 31    | 27       | 44         | 47.5       | 2          | 3                     | 1.5        | 1.5        | 11.6              | 0.30               | 2.0        | 1.1  |     |
| 22                       | 52 | 16.25             | 15 | 12                     | 1.5   | 1.5                                  | 7 100  | 10 000              | 25 300                          | 24 500                              | 34    | 26       | 43         | 49         | 2          | 4                     | 1.5        | 1.5        | 16.7              | 0.81               | 0.74       | 0.41 |     |
|                          | 52 | 22.25             | 21 | 18                     | 1.5   | 1.5                                  | 8 000  | 11 000              | 45 500                          | 47 500                              | 33    | 26       | 43         | 42         | 3          | 4                     | 1.5        | 1.5        | 13.9              | 0.30               | 2.0        | 1.1  |     |
|                          | 44 | 15                | 15 | 11.5                   | 0.6   | 0.6                                  | 8 500  | 11 000              | 25 600                          | 29 400                              | 30    | 27       | 39         | 42         | 3          | 3.5                   | 0.6        | 0.6        | 11.1              | 0.40               | 1.5        | 0.83 |     |
|                          | 50 | 15.25             | 14 | 12                     | 1     | 1                                    | 7 500  | 10 000              | 29 200                          | 30 500                              | 31    | 29       | 44         | 47         | 2          | 3                     | 1          | 1          | 11.6              | 0.37               | 1.6        | 0.90 |     |
| 25                       | 50 | 15.25             | 14 | 12                     | 1     | 1                                    | 7 500  | 10 000              | 27 200                          | 29 500                              | 31    | 29       | 44         | 47         | 2          | 3                     | 1          | 1          | 13.0              | 0.49               | 1.2        | 0.67 |     |
|                          | 50 | 19.25             | 18 | 15                     | 1     | 1                                    | 7 500  | 11 000              | 36 500                          | 40 500                              | 31    | 28       | 44         | 41         | 2          | 4                     | 1          | 1          | 13.5              | 0.37               | 1.6        | 0.89 |     |
|                          | 50 | 19.25             | 18 | 15                     | 1     | 1                                    | 7 100  | 10 000              | 33 500                          | 39 500                              | 31    | 29       | 44         | 39         | 2          | 4                     | 1          | 1          | 15.2              | 0.51               | 1.2        | 0.65 |     |
|                          | 56 | 17.25             | 16 | 14                     | 1.5   | 1.5                                  | 7 100  | 9 500               | 37 000                          | 36 500                              | 33    | 30       | 47         | 46         | 2          | 3                     | 1.5        | 1.5        | 12.4              | 0.32               | 1.9        | 1.0  |     |
| 28                       | 56 | 17.25             | 16 | 13                     | 1.5   | 1.5                                  | 6 700  | 9 500               | 34 500                          | 34 000                              | 33    | 30       | 47         | 44         | 3          | 4                     | 1.5        | 1.5        | 15.9              | 0.59               | 1.0        | 0.56 |     |
|                          | 47 | 15                | 15 | 11.5                   | 0.6   | 0.6                                  | 8 000  | 11 000              | 27 400                          | 33 000                              | 33    | 30       | 42         | 40         | 3          | 3.5                   | 0.6        | 0.6        | 11.8              | 0.43               | 1.4        | 0.77 |     |
|                          | 47 | 17                | 17 | 14                     | 0.6   | 0.6                                  | 8 000  | 11 000              | 31 000                          | 38 000                              | 34    | 31       | 46         | 44         | 3          | 3                     | 0.6        | 0.6        | 11.0              | 0.29               | 2.1        | 1.1  |     |
|                          | 52 | 16.25             | 15 | 13                     | 1     | 1                                    | 7 100  | 10 000              | 32 000                          | 35 000                              | 34    | 30       | 46         | 40         | 2          | 4                     | 1          | 1          | 15.8              | 0.53               | 1.1        | 0.62 |     |
| 28                       | 52 | 16.25             | 15 | 12                     | 1     | 1                                    | 7 100  | 10 000              | 28 100                          | 31 500                              | 34    | 32       | 46         | 43         | 2          | 4                     | 1          | 1          | 14.4              | 0.53               | 1.1        | 0.62 |     |
|                          | 52 | 19.25             | 18 | 16                     | 1     | 1                                    | 7 100  | 10 000              | 40 000                          | 45 000                              | 34    | 30       | 46         | 44         | 2          | 3                     | 1          | 1          | 13.5              | 0.36               | 1.7        | 0.92 |     |
|                          | 52 | 19.25             | 18 | 15                     | 1     | 1                                    | 7 100  | 9 500               | 35 000                          | 42 000                              | 34    | 30       | 46         | 40         | 2          | 4                     | 1          | 1          | 15.8              | 0.53               | 1.1        | 0.62 |     |
|                          | 62 | 18.25             | 17 | 14                     | 1.5   | 1.5                                  | 7 500  | 10 000              | 47 500                          | 56 500                              | 34    | 29       | 46         | 43         | 4          | 4                     | 1          | 1          | 14.1              | 0.35               | 1.7        | 0.94 |     |
| 28                       | 62 | 18.25             | 17 | 15                     | 1.5   | 1.5                                  | 6 300  | 8 500               | 47 500                          | 46 000                              | 36    | 34       | 54         | 57         | 2          | 3                     | 1.5        | 1.5        | 13.2              | 0.30               | 2.0        | 1.1  |     |
|                          | 62 | 18.25             | 17 | 14                     | 1.5   | 1.5                                  | 6 000  | 8 500               | 42 000                          | 45 000                              | 36    | 35       | 53         | 49         | 3          | 4                     | 1.5        | 1.5        | 16.4              | 0.55               | 1.1        | 0.60 |     |
|                          | 62 | 25.25             | 24 | 20                     | 1.5   | 1.5                                  | 5 600  | 8 000               | 38 000                          | 40 500                              | 39    | 34       | 53         | 47         | 2          | 5                     | 1.5        | 1.5        | 19.9              | 0.83               | 0.73       | 0.40 |     |
|                          | 62 | 25.25             | 24 | 20                     | 1.5   | 1.5                                  | 6 300  | 8 500               | 62 500                          | 66 000                              | 38    | 32       | 53         | 51         | 3          | 5                     | 1.5        | 1.5        | 15.6              | 0.30               | 2.0        | 1.1  |     |
| 28                       | 52 | 16                | 16 | 12                     | 1     | 1                                    | 7 100  | 9 500               | 32 000                          | 39 000                              | 37    | 33       | 46         | 44         | 3          | 4                     | 1          | 1          | 12.8              | 0.43               | 1.4        | 0.77 |     |
|                          | 58 | 17.25             | 16 | 14                     | 1     | 1                                    | 6 300  | 9 000               | 39 500                          | 41 500                              | 37    | 34       | 52         | 55         | 2          | 3                     | 1          | 1          | 13.2              | 0.35               | 1.7        | 0.93 |     |
|                          | 58 | 17.25             | 16 | 12                     | 1     | 1                                    | 6 300  | 8 500               | 34 000                          | 38 500                              | 37    | 34       | 52         | 48         | 2          | 5                     | 1          | 1          | 16.9              | 0.64               | 0.94       | 0.52 |     |
|                          | 58 | 20.25             | 19 | 16                     | 1     | 1                                    | 6 300  | 9 000               | 47 500                          | 54 000                              | 37    | 34       | 52         | 49         | 2          | 4                     | 1          | 1          | 14.6              | 0.37               | 1.6        | 0.89 |     |
| 28                       | 58 | 20.25             | 19 | 16                     | 1     | 1                                    | 6 300  | 9 000               | 42 000                          | 49 500                              | 37    | 33       | 52         | 45         | 2          | 4                     | 1          | 1          | 16.8              | 0.56               | 1.1        | 0.59 |     |
|                          | 68 | 19.75             | 18 | 15                     | 1.5   | 1.5                                  | 5 500  | 8 000               | 55 000                          | 55 500                              | 39    | 37       | 59         | 58         | 2          | 4.5                   | 1.5        | 1.5        | 14.5              | 0.31               | 1.9        | 1.1  |     |
|                          | 68 | 19.75             | 18 | 14                     | 1.5   | 1.5                                  | 6 000  | 8 500               | 49 500                          | 50 500                              | 39    | 38       | 59         | 63         | 3          | 5.5                   | 1.5        | 1.5        | 17.4              | 0.52               | 1.2        | 0.64 |     |

**Remark** Suffix C represents medium-angle tapered roller bearings. Since they are designed for specific applications, please consult NSK when using bearings with suffix C.