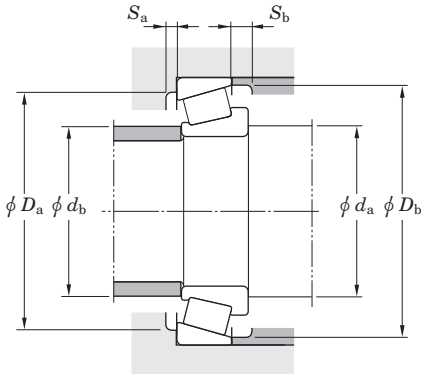
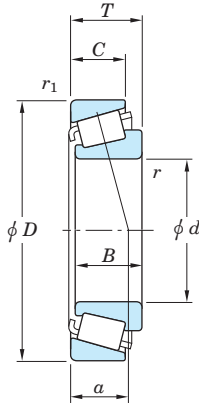


| Series No.      | Cone<br>(Inner ring) | Page  | Cup<br>(Outer ring) | Page        |
|-----------------|----------------------|-------|---------------------|-------------|
| <b>11000R</b>   | 11163R               | 59    |                     |             |
|                 | 11165XR              | 61    |                     |             |
|                 | 11165XSR             | 61    |                     |             |
| <b>11500</b>    | 11590                | 103   | 11520               | 103         |
| <b>LM11700R</b> | LM11749R             | 39    | LM11710             | 39          |
| <b>LM11900</b>  | LM11949              | 39    | LM11910             | 39          |
| <b>12000</b>    | 12168                | 61    | 12303               | 61          |
|                 | 12175                | 61    |                     |             |
| <b>12500</b>    | 12580                | 39    | 12520               | 39          |
| <b>M12600</b>   | M12648               | 41    | M12610              | 41          |
|                 | M12648A              | 41    |                     |             |
|                 | M12649               | 41    |                     |             |
| <b>LM12700</b>  | LM12749              | 41    | LM12711             | 41          |
| <b>13600</b>    | 13682                | 53    | 13620               | 53,55       |
|                 | 13685                | 55    | 13621               | 55          |
|                 | 13686                | 55    | 13624               | 55          |
|                 | 13687                | 55    |                     |             |
| <b>13800</b>    | 13889                | 55    | 13830               | 55,57       |
|                 | 13892                | 57    | 13836               | 55          |
| <b>14000</b>    | 14116                | 47    | 14274               | 45,47       |
|                 | 14117A               | 45    | 14274A              | 45,47,49,51 |
|                 | 14118                | 45    | 14276               | 45,51       |
|                 | 14118A               | 45    | 14277               | 49          |
|                 | 14120A               | 45    | 14283               | 45          |
|                 | 14123A               | 47    |                     |             |
|                 | 14125                | 47    |                     |             |
|                 | 14130                | 49    |                     |             |
|                 | 14131                | 49    |                     |             |
|                 | 14136A               | 51    |                     |             |
|                 | 14137A               | 51    |                     |             |
|                 | 14138A               | 51    |                     |             |
|                 | 14139                | 51    |                     |             |
|                 |                      |       |                     |             |
| <b>15000</b>    | 15100                | 41,43 | 15243               | 41          |
|                 | 15101                | 41,43 | 15245               | 41,43,45,47 |
|                 | 15102                | 43    | 15250               | 43          |
|                 | 15103                | 43    | 15250R              | 43          |
|                 | 15106                | 43    | 15250X              | 43          |
|                 | 15112                | 43    |                     |             |
|                 | 15113                | 43    |                     |             |
|                 | 15116                | 45    |                     |             |
|                 | 15117                | 45    |                     |             |
|                 | 15118                | 47    |                     |             |
|                 | 15119                | 47    |                     |             |
|                 | 15120                | 47    |                     |             |
|                 | 15123                | 47    |                     |             |
|                 | 15125                | 47    |                     |             |
|                 | 15126                | 47    |                     |             |
|                 |                      |       |                     |             |

| Series No.    | Cone<br>(Inner ring) | Page | Cup<br>(Outer ring) | Page        |
|---------------|----------------------|------|---------------------|-------------|
| <b>15500</b>  | 15572                | 41   | 15520               | 41,43       |
|               | 15578                | 41   | 15523               | 43          |
|               | 15579X               | 43   |                     |             |
|               | 15580                | 43   |                     |             |
|               | 15590                | 43   |                     |             |
| <b>16000</b>  | 16131                | 49   | 16282               | 53,55       |
|               | 16137                | 51   | 16283               | 55          |
|               | 16143                | 53   | 16284               | 49,51,53,55 |
|               | 16150                | 55   |                     |             |
|               | 16151                | 55   |                     |             |
| <b>17000</b>  | 17098                | 41   | 17244               | 41,45       |
|               | 17098X               | 41   |                     |             |
|               | 17118                | 45   |                     |             |
|               | 17118S               | 45   |                     |             |
|               | 17119                | 45   |                     |             |
| <b>17500R</b> | 17580R               | 39   | 17520               | 39          |
| <b>17800</b>  | 17887                | 65   | 17831               | 65          |
| <b>18000</b>  | 18200                | 69   | 18337               | 69          |
| <b>18500</b>  | 18587                | 57   | 18520               | 57,59       |
|               | 18590                | 59   |                     |             |
|               | 18591                | 59   |                     |             |
| <b>18600</b>  | 18685                | 61   | 18620               | 61,65       |
|               | 18690                | 65   |                     |             |
| <b>18700</b>  | 18780                | 65   | 18720               | 65          |
|               | 18790                | 69   | 18721               | 69          |
|               |                      |      | 18723               | 69          |
|               |                      |      | 18724               | 69          |
| <b>19000R</b> | 19138R               | 51   | 19268               | 51,53       |
|               | 19143R               | 53   | 19268X              | 55          |
|               | 19150R               | 55   | 19269               | 55          |
|               |                      |      | 19281               | 53,55       |
|               |                      |      | 19282               | 55          |
|               |                      |      | 19283               | 53,55       |
| <b>21000</b>  | 21063                | 39   | 21212               | 39          |
|               | 21075                | 39   | 21213               | 39          |
|               | 21078                | 39   |                     |             |
| <b>L21500</b> | L21549               | 39   | L21511              | 39          |
| <b>23000</b>  | 23092                | 103  | 23256               | 103         |
|               | 23098                | 103  |                     |             |
|               | 23100                | 103  |                     |             |
| <b>23600</b>  | 23685                | 49   | 23620               | 49,51       |
|               | 23690                | 51   | 23621               | 53          |
|               | 23691                | 53   | 23623               | 53          |
| <b>24700R</b> | 24780R               | 59   | 24720               | 59          |
|               | 24781R               | 59   | 24721               | 59          |
|               |                      |      | 24722               | 59          |

TS type  
d (36.512) ~ (38.100) mm  
(1.4375) ~ (1.5000) inch



|                                                               |   |                 |       |
|---------------------------------------------------------------|---|-----------------|-------|
| $P = XF_r + YF_a$<br>$P_0 = 0.5 F_r + Y_0 F_a$ or $P_0 = F_r$ |   |                 |       |
| $F_a / F_r \leq e$                                            |   | $F_a / F_r > e$ |       |
| X                                                             | Y | X               | Y     |
| 1                                                             | 0 | 0.4             | $Y_1$ |

Note) The Values of “e” “Y<sub>1</sub>” and “Y<sub>0</sub>” are given in the table below.

| Boundary dimensions |        |          |        |          |        |          |        |          |        |                               |      |                                            | Basic load ratings<br>(kN) |                       | Fatigue<br>load limit  |                               | Bearing No. |                      | Load<br>center      |          | Mounting dimensions |                       |      |                       |      |                       | Con-<br>stant | Axial load<br>factors |      | Reference rating<br>(kN) |                       | Factor                |                          |      |          |
|---------------------|--------|----------|--------|----------|--------|----------|--------|----------|--------|-------------------------------|------|--------------------------------------------|----------------------------|-----------------------|------------------------|-------------------------------|-------------|----------------------|---------------------|----------|---------------------|-----------------------|------|-----------------------|------|-----------------------|---------------|-----------------------|------|--------------------------|-----------------------|-----------------------|--------------------------|------|----------|
| <i>d</i>            |        | <i>D</i> |        | <i>T</i> |        | <i>B</i> |        | <i>C</i> |        | <i>r</i> <sup>1)</sup> (min.) |      | <i>r</i> <sub>1</sub> <sup>1)</sup> (min.) |                            | <i>C</i> <sub>r</sub> | <i>C</i> <sub>0r</sub> | (kN)<br><i>C</i> <sub>u</sub> |             | Cone<br>(Inner ring) | Cup<br>(Outer ring) | <i>a</i> |                     | <i>d</i> <sub>a</sub> |      | <i>d</i> <sub>b</sub> |      | <i>D</i> <sub>a</sub> |               | <i>D</i> <sub>b</sub> |      | <i>e</i>                 | <i>Y</i> <sub>1</sub> | <i>Y</i> <sub>0</sub> | (500 rpm for 3 000 Hrs.) |      | <i>K</i> |
| mm                  | inch   | mm       | inch   | mm       | inch   | mm       | inch   | mm       | inch   | mm                            | inch | mm                                         | inch                       |                       |                        |                               |             |                      |                     | mm       | inch                | mm                    | inch | mm                    | inch | mm                    | inch          | mm                    | inch |                          |                       |                       | mm                       | inch |          |
| 36.512              | 1.4375 | 93.662   | 3.6875 | 31.750   | 1.2500 | 31.750   | 1.2500 | 26.195   | 1.0313 | 1.6                           | 0.06 | 3.2                                        | 0.13                       | 132                   | 134                    | 20.2                          |             | 46143                | 46368               | 24.0     | 0.94                | 49.0                  | 1.93 | 47.5                  | 1.87 | 79.0                  | 3.11          | 87.0                  | 3.43 | 0.40                     | 1.49                  | 0.82                  | 30.8                     | 21.1 | 1.46     |
|                     | 1.4375 | 93.662   | 3.6875 | 31.750   | 1.2500 | 31.750   | 1.2500 | 26.195   | 1.0313 | 1.6                           | 0.06 | 1.2                                        | 0.05                       | 132                   | 134                    | 20.2                          |             | 46143                | 46369               | 24.0     | 0.94                | 49.0                  | 1.93 | 47.5                  | 1.87 | 79.0                  | 3.11          | 87.0                  | 3.43 | 0.40                     | 1.49                  | 0.82                  | 30.8                     | 21.1 | 1.46     |
| 38.100              | 1.5000 | 63.500   | 2.5000 | 12.700   | 0.5000 | 11.908   | 0.4688 | 9.525    | 0.3750 | 1.6                           | 0.06 | 0.8                                        | 0.03                       | 32.1                  | 33.1                   | 4.60                          |             | 13889                | 13830               | 11.9     | 0.47                | 45.0                  | 1.77 | 42.5                  | 1.67 | 59.0                  | 2.32          | 60.0                  | 2.36 | 0.35                     | 1.73                  | 0.95                  | 7.30                     | 4.30 | 1.69     |
|                     | 1.5000 | 65.088   | 2.5625 | 12.700   | 0.5000 | 11.908   | 0.4688 | 9.525    | 0.3750 | 1.6                           | 0.06 | 0.8                                        | 0.03                       | 32.1                  | 33.1                   | 4.60                          |             | 13889                | 13836               | 11.9     | 0.47                | 45.0                  | 1.77 | 42.5                  | 1.67 | 59.0                  | 2.32          | 61.0                  | 2.40 | 0.35                     | 1.73                  | 0.95                  | 7.30                     | 4.30 | 1.69     |
|                     | 1.5000 | 65.088   | 2.5625 | 18.034   | 0.7100 | 18.288   | 0.7200 | 13.970   | 0.5500 | SP                            | SP   | 1.2                                        | 0.05                       | 53.9                  | 56.5                   | 8.15                          |             | LM29748              | LM29710             | 13.8     | 0.54                | 49.0                  | 1.93 | 42.5                  | 1.67 | 59.0                  | 2.32          | 62.0                  | 2.44 | 0.33                     | 1.80                  | 0.99                  | 12.4                     | 7.05 | 1.76     |
|                     | 1.5000 | 65.088   | 2.5625 | 19.812   | 0.7800 | 18.288   | 0.7200 | 15.748   | 0.6200 | 2.4                           | 0.09 | 1.2                                        | 0.05                       | 53.9                  | 56.5                   | 8.15                          |             | LM29749              | LM29711             | 15.6     | 0.61                | 46.0                  | 1.81 | 42.5                  | 1.67 | 58.0                  | 2.28          | 62.0                  | 2.44 | 0.33                     | 1.80                  | 0.99                  | 12.4                     | 7.05 | 1.76     |
|                     | 1.5000 | 68.262   | 2.6875 | 19.997   | 0.7873 | 16.520   | 0.6504 | 16.030   | 0.6311 | 1.6                           | 0.06 | 1.6                                        | 0.06                       | 57.6                  | 53.8                   | 7.70                          |             | 19150R               | 19269               | 18.6     | 0.73                | 45.0                  | 1.77 | 43.0                  | 1.69 | 63.0                  | 2.48          | 66.0                  | 2.60 | 0.44                     | 1.35                  | 0.74                  | 13.2                     | 10.0 | 1.32     |
|                     | 1.5000 | 68.275   | 2.6880 | 20.000   | 0.7874 | 16.520   | 0.6504 | 16.032   | 0.6312 | 1.6                           | 0.06 | 1.6                                        | 0.06                       | 57.6                  | 53.8                   | 7.70                          |             | 19150R               | 19268X              | 18.7     | 0.74                | 45.0                  | 1.77 | 43.0                  | 1.69 | 61.0                  | 2.40          | 65.0                  | 2.56 | 0.44                     | 1.35                  | 0.74                  | 13.2                     | 10.0 | 1.32     |
|                     | 1.5000 | 69.012   | 2.7170 | 19.050   | 0.7500 | 19.050   | 0.7500 | 15.083   | 0.5938 | 3.6                           | 0.14 | 0.8                                        | 0.03                       | 61.7                  | 62.0                   | 8.95                          |             | 13685                | 13620               | 16.1     | 0.63                | 49.5                  | 1.95 | 43.0                  | 1.69 | 62.0                  | 2.44          | 65.0                  | 2.56 | 0.40                     | 1.49                  | 0.82                  | 14.2                     | 9.75 | 1.46     |
|                     | 1.5000 | 69.012   | 2.7170 | 19.050   | 0.7500 | 19.050   | 0.7500 | 15.083   | 0.5938 | 2.0                           | 0.08 | 2.4                                        | 0.09                       | 61.7                  | 62.0                   | 8.95                          |             | 13687                | 13621               | 16.1     | 0.63                | 46.5                  | 1.83 | 43.0                  | 1.69 | 61.0                  | 2.40          | 65.0                  | 2.56 | 0.40                     | 1.49                  | 0.82                  | 14.2                     | 9.75 | 1.46     |
|                     | 1.5000 | 69.012   | 2.7170 | 26.195   | 1.0313 | 26.187   | 1.0310 | 15.083   | 0.5938 | 1.6                           | 0.06 | 2.4                                        | 0.09                       | 61.7                  | 62.0                   | 8.95                          |             | 13686                | 13621               | 16.1     | 0.63                | 46.5                  | 1.83 | 43.0                  | 1.69 | 61.0                  | 2.40          | 65.0                  | 2.56 | 0.40                     | 1.49                  | 0.82                  | 14.2                     | 9.75 | 1.46     |
|                     | 1.5000 | 69.012   | 2.7170 | 26.195   | 1.0313 | 26.195   | 1.0313 | 15.083   | 0.5938 | 1.6                           | 0.06 | 0.8                                        | 0.03                       | 61.7                  | 62.0                   | 8.95                          |             | 13686                | 13620               | 16.1     | 0.63                | 46.5                  | 1.83 | 43.0                  | 1.69 | 62.0                  | 2.44          | 65.0                  | 2.56 | 0.40                     | 1.49                  | 0.82                  | 14.2                     | 9.75 | 1.46     |
|                     | 1.5000 | 69.969   | 2.7547 | 21.996   | 0.8660 | 19.050   | 0.7500 | 18.029   | 0.7098 | 3.6                           | 0.14 | 1.6                                        | 0.06                       | 61.7                  | 62.0                   | 8.95                          |             | 13685                | 13624               | 16.1     | 0.63                | 49.5                  | 1.95 | 43.0                  | 1.69 | 61.0                  | 2.40          | 65.0                  | 2.56 | 0.40                     | 1.49                  | 0.82                  | 14.2                     | 9.75 | 1.46     |
|                     | 1.5000 | 71.438   | 2.8125 | 15.875   | 0.6250 | 16.520   | 0.6504 | 11.908   | 0.4688 | 1.6                           | 0.06 | 1.0                                        | 0.04                       | 57.6                  | 53.8                   | 7.70                          |             | 19150R               | 19281               | 14.5     | 0.57                | 45.0                  | 1.77 | 43.0                  | 1.69 | 63.0                  | 2.48          | 66.0                  | 2.60 | 0.44                     | 1.35                  | 0.74                  | 13.2                     | 10.0 | 1.32     |
|                     | 1.5000 | 71.438   | 2.8125 | 17.462   | 0.6875 | 16.520   | 0.6504 | 15.875   | 0.6250 | 1.6                           | 0.06 | 1.6                                        | 0.06                       | 57.6                  | 53.8                   | 7.70                          |             | 19150R               | 19282               | 16.1     | 0.63                | 45.0                  | 1.77 | 43.0                  | 1.69 | 63.0                  | 2.48          | 66.0                  | 2.60 | 0.44                     | 1.35                  | 0.74                  | 13.2                     | 10.0 | 1.32     |
|                     | 1.5000 | 71.996   | 2.8346 | 17.018   | 0.6700 | 16.520   | 0.6504 | 14.288   | 0.5625 | 1.6                           | 0.06 | 1.6                                        | 0.06                       | 57.6                  | 53.8                   | 7.70                          |             | 19150R               | 19283               | 15.7     | 0.62                | 45.0                  | 1.77 | 43.0                  | 1.69 | 63.0                  | 2.48          | 66.0                  | 2.60 | 0.44                     | 1.35                  | 0.74                  | 13.2                     | 10.0 | 1.32     |
|                     | 1.5000 | 71.996   | 2.8346 | 19.000   | 0.7480 | 20.638   | 0.8125 | 14.237   | 0.5605 | 3.6                           | 0.14 | 1.6                                        | 0.06                       | 62.3                  | 61.3                   | 8.90                          |             | 16150                | 16282               | 15.0     | 0.59                | 49.5                  | 1.95 | 43.0                  | 1.69 | 63.0                  | 2.48          | 67.0                  | 2.64 | 0.40                     | 1.49                  | 0.82                  | 14.4                     | 9.90 | 1.46     |
|                     | 1.5000 | 72.238   | 2.8440 | 20.638   | 0.8125 | 20.638   | 0.8125 | 15.875   | 0.6250 | 3.6                           | 0.14 | 1.2                                        | 0.05                       | 62.3                  | 61.3                   | 8.90                          |             | 16150                | 16284               | 16.6     | 0.65                | 49.5                  | 1.95 | 43.0                  | 1.69 | 63.0                  | 2.48          | 67.0                  | 2.64 | 0.40                     | 1.49                  | 0.82                  | 14.4                     | 9.90 | 1.46     |
|                     | 1.5000 | 72.238   | 2.8440 | 20.638   | 0.8125 | 20.638   | 0.8125 | 15.875   | 0.6250 | 2.4                           | 0.09 | 1.2                                        | 0.05                       | 62.3                  | 61.3                   | 8.90                          |             | 16151                | 16284               | 16.6     | 0.65                | 49.5                  | 1.95 | 43.0                  | 1.69 | 63.0                  | 2.48          | 67.0                  | 2.64 | 0.40                     | 1.49                  | 0.82                  | 14.4                     | 9.90 | 1.46     |
|                     | 1.5000 | 72.238   | 2.8440 | 23.812   | 0.9375 | 20.638   | 0.8125 | 19.050   | 0.7500 | 3.6                           | 0.14 | 2.4                                        | 0.09                       | 62.3                  | 61.3                   | 8.90                          |             | 16150                | 16283               | 19.8     | 0.78                | 49.5                  | 1.95 | 43.0                  | 1.69 | 61.0                  | 2.40          | 67.0                  | 2.64 | 0.40                     | 1.49                  | 0.82                  | 14.4                     | 9.90 | 1.46     |
|                     | 1.5000 | 73.025   | 2.8750 | 23.812   | 0.9375 | 25.654   | 1.0100 | 19.050   | 0.7500 | 4.3                           | 0.17 | 0.8                                        | 0.03                       | 92.6                  | 92.2                   | 13.8                          |             | 2776R                | 2735X               | 15.9     | 0.63                | 52.0                  | 2.05 | 43.5                  | 1.71 | 66.0                  | 2.60          | 69.0                  | 2.72 | 0.30                     | 1.98                  | 1.09                  | 21.5                     | 11.1 | 1.93     |
|                     | 1.5000 | 73.025   | 2.8750 | 23.812   | 0.9375 | 25.654   | 1.0100 | 19.050   | 0.7500 | 1.6                           | 0.06 | 0.8                                        | 0.03                       | 92.6                  | 92.2                   | 13.8                          |             | 2788AR               | 2735X               | 15.9     | 0.63                | 46.0                  | 1.81 | 43.5                  | 1.71 | 66.0                  | 2.60          | 69.0                  | 2.72 | 0.30                     | 1.98                  | 1.09                  | 21.5                     | 11.1 | 1.93     |
|                     | 1.5000 | 73.025   | 2.8750 | 23.812   | 0.9375 | 25.654   | 1.0100 | 19.050   | 0.7500 | 3.6                           | 0.14 | 0.8                                        | 0.03                       | 92.6                  | 92.2                   | 13.8                          |             | 2788R                | 2735X               | 15.9     | 0.63                | 50.0                  | 1.97 | 43.5                  | 1.71 | 66.0                  | 2.60          | 69.0                  | 2.72 | 0.30                     | 1.98                  | 1.09                  | 21.5                     | 11.1 | 1.93     |
|                     | 1.5000 | 76.200   | 3.0000 | 23.812   | 0.9375 | 25.654   | 1.0100 | 19.050   | 0.7500 | 3.6                           | 0.14 | 0.8                                        | 0.03                       | 92.6                  | 92.2                   | 13.8                          |             | 2788R                | 2729                | 15.9     | 0.63                | 50.0                  | 1.97 | 43.5                  | 1.71 | 68.0                  | 2.68          | 70.0                  | 2.76 | 0.30                     | 1.98                  | 1.09                  | 21.5                     | 11.1 | 1.93     |
|                     | 1.5000 | 79.375   | 3.1250 | 23.812   | 0.9375 | 25.400   | 1.0000 | 19.050   | 0.7500 | 0.8                           | 0.03 | 2.4                                        | 0.09                       | 101                   | 105                    | 15.8                          |             | 26878R               | 26822A              | 16.4     | 0.65                | 45.0                  | 1.77 | 44.5                  | 1.75 | 69.0                  | 2.72          | 74.0                  | 2.91 | 0.32                     | 1.88                  | 1.04                  | 23.5                     | 12.8 | 1.83     |
|                     | 1.5000 | 79.375   | 3.1250 | 29.370   | 1.1563 | 29.771   | 1.1721 | 23.812   | 0.9375 | 3.6                           | 0.14 | 3.2                                        | 0.13                       | 109                   | 105                    | 15.7                          |             | 3490                 | 3420                | 20.8     | 0.82                | 52.0                  | 2.05 | 45.9                  | 1.81 | 67.0                  | 2.64          | 74.0                  | 2.91 | 0.37                     | 1.64                  | 0.90                  | 25.5                     | 15.9 | 1.60     |
|                     | 1.5000 | 80.000   | 3.1496 | 21.000   | 0.8268 | 22.403   | 0.8820 | 17.826   | 0.7018 | 3.6                           | 0.14 | 1.2                                        | 0.05                       | 85.0                  | 74.8                   | 11.4                          |             | 347                  | 332                 | 15.1     | 0.59                | 50.0                  | 1.97 | 44.0                  | 1.73 | 73.0                  | 2.87          | 75.0                  | 2.95 | 0.27                     | 2.20                  | 1.21                  | 19.6                     | 9.15 | 2.14     |
|                     | 1.5000 | 80.000   | 3.1496 | 24.176   | 0.9518 | 22.403   | 0.8820 | 21.000   | 0.8268 | 0.8                           | 0.03 | 2.4                                        | 0.09                       | 85.0                  | 74.8                   | 11.4                          |             | 337                  | 332A                |          |                     |                       |      |                       |      |                       |               |                       |      |                          |                       |                       |                          |      |          |