

NEEDLE ROLLER CAGES FOR GENERAL USAGE

- High carbon steel cage type
- Synthetic resin cage type



Structure and Features

IKO Needle Roller Cages for General Usage are bearings which display excellent rotational performance. Needle rollers with extremely small dimensional variations in diameter are incorporated and retained in their specially shaped cages with high rigidity and accuracy, which precisely guide the needle rollers.

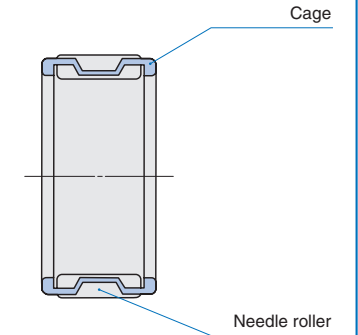
When combined with shafts and housing bores that are heat treated and accurately ground as raceway surfaces, Needle Roller Cages for General Usage are particularly useful in small spaces.

In addition, since they are lightweight and have high rigidity as well as a large lubricant holding capacity, they can withstand severe operating conditions such as high speed rotation and shock loads, and they are used in a wide range of applications.

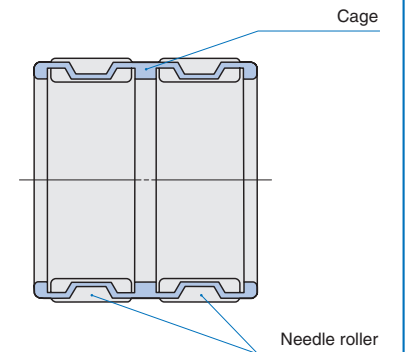
Structures of Needle Roller Cages for General Usage

High carbon steel cage type

KT

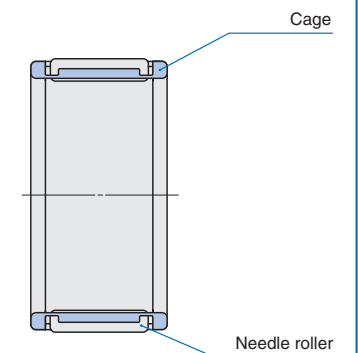


KTW



Synthetic resin cage type

KT···N



Types

Needle Roller Cages for General Usage are available in the types shown in Table 1.

For applications such as crank shafts where these bearings are difficult to install, it is also possible to make split type bearings.

If such bearings are required, please contact IKO.

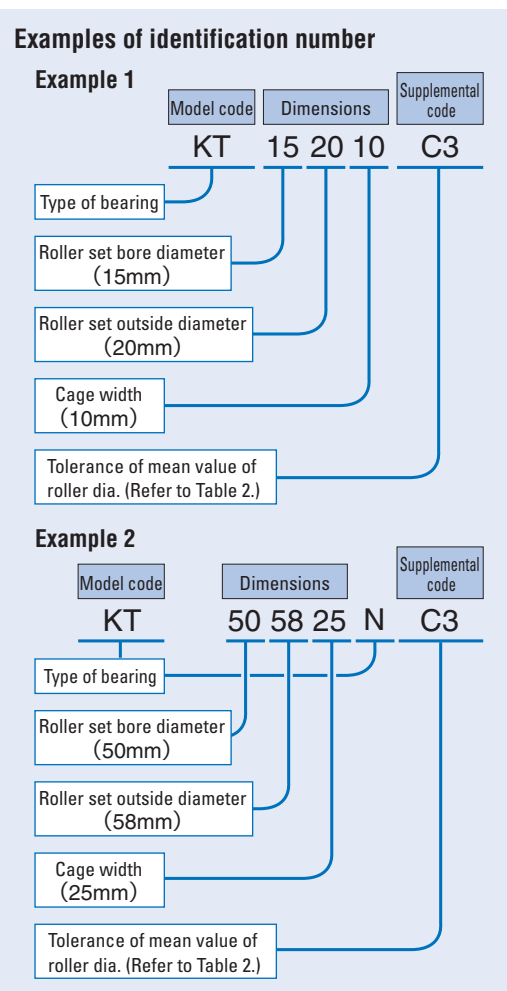
For Needle Roller Cages for Engine Connecting Rods (KT...EG and KTV...EG), see page C17.

Table 1 Model of bearing

| Item | Model of bearing | |
|-----------------------------|--------------------------|--------------------------|
| | Single row needle roller | Double row needle roller |
| High carbon steel cage type | KT | KTW |
| Synthetic resin cage type | KT...N | - |

Identification Number

The identification number of Needle Roller Cages for General Usage consists of a model code, dimensions and any supplemental codes. The arrangement examples are shown below.



Accuracy

The diameter tolerances of needle rollers of Needle Roller Cages for General Usage are classified by classification symbols shown in Table 2. If a classification symbol is not indicated in an identification number, the classification symbol "C3" is applied.

When two or more bearings are used in tandem arrangement on the same shaft, it is necessary to select bearings of the same classification symbol to obtain an even load distribution.

The tolerance of the cage width B_c is $-0.20 \sim -0.55$ mm.

Table 2 Diameter tolerances of needle rollers unit: μm

| Classification symbol | Tolerance of mean value of needle roller diameter |
|-----------------------|---|
| C 3 | 0 ~ - 3 |
| B 2 | 0 ~ - 2 |
| B 4 | - 2 ~ - 4 |
| B 6 | - 4 ~ - 6 |
| B 8 | - 6 ~ - 8 |
| B10 | - 8 ~ - 10 |

Fit

Radial clearances of Needle Roller Cages for General Usage are determined by the dimensional accuracy of the raceways and needle rollers. Table 3 shows the recommended fits for the operating conditions.

Table 3 Recommended fits of shaft to the housing bore diameter G6

| Operating conditions | Tolerance class of shaft | |
|--|--------------------------|--------------|
| | $F_w \leq 68mm$ | $F_w > 68mm$ |
| When high operating accuracy is required. When shock loads and oscillating motions are applied. | j5 | h5 |
| For general use | h5 | g5 |
| When the temperature is high, or mounting errors are large. | g6 | f6 |

Remark When setting the required radial clearance according to the operating conditions, the clearance can easily be obtained by selecting and matching the tolerances of needle rollers, shaft and housing bore. When variation of the clearance does not create any problems, h6 and G7 are used for shaft and housing bore, respectively.

Specifications of shaft and housing

For the raceways, a surface hardness of 58 ~ 64HRC and a surface roughness $0.2 \mu m R_a$ or less are desirable. However, when the operating conditions are not severe, a surface roughness $0.8 \mu m R_a$ or less can be used.

When the surface hardness is low, it is necessary to correct the load rating by the hardness factor specified on page A20.

Operating temperature range

The operating temperature range for high carbon steel cage types is -20 to $120^\circ C$. The maximum allowable temperature for synthetic resin cage types is $+110^\circ C$, and $+100^\circ C$ when they are continuously operated.

Mounting

The dimensions related to mounting of Needle Roller Cages for General Usage are shown in Figs. 1 and 2. When mounting Needle Roller Cages for General Usage, they are axially positioned by using, for example, Cir-clips for shaft and housing bore (WR and AR on page L17) as shown in Figs. 3, 4 and 5.

For high rotational speed applications, a heat treated and ground spacer is positioned between the cage and the cir-clip as shown in Fig. 5 so that the cage does not make direct contact with the cir-clip. In this case, the cir-clip is normally mounted on the non-rotating side.

Fig. 3 shows a mounting example in the case of outer ring rotation, and Figs. 4 and 5 show examples in the case of inner ring rotation.

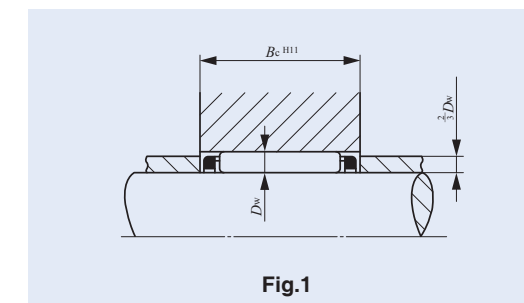


Fig.1

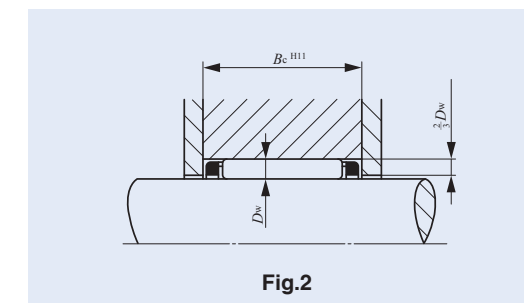


Fig.2

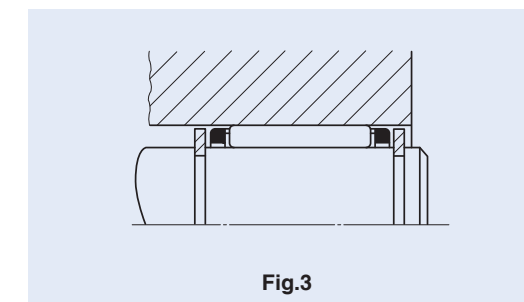


Fig.3

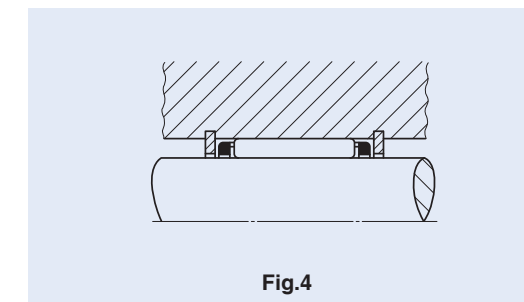


Fig.4

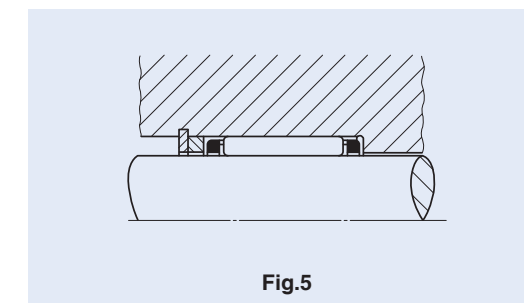


Fig.5

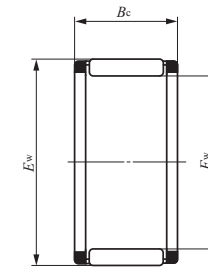
NEEDLE ROLLER CAGES FOR GENERAL USAGE



High carbon steel cage type



Synthetic resin cage type



KT (...N)

Shaft dia. 3 – 14mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|----------------|----------------|--|--|--|
| | | | F _w | E _w | B _c | | | |
| 3 | KT 367N | 0.39 | 3 | 6 | 7 | 1 480 | 990 | 140 000 |
| 4 | KT 477N | 0.47 | 4 | 7 | 7 | 1 800 | 1 300 | 100 000 |
| 5 | KT 587N | 0.53 | 5 | 8 | 7 | 2 070 | 1 600 | 85 000 |
| | KT 588N | 0.66 | 5 | 8 | 8 | 2 420 | 1 950 | 85 000 |
| 6 | KT 697N | 0.63 | 6 | 9 | 7 | 2 310 | 1 900 | 75 000 |
| | KT 698N | 0.75 | 6 | 9 | 8 | 2 700 | 2 320 | 75 000 |
| | KT 6910 | 1.45 | 6 | 9 | 10 | 3 010 | 2 660 | 75 000 |
| | KT 61013 | 2.7 | 6 | 10 | 13 | 4 410 | 3 720 | 75 000 |
| 7 | KT 7108N | 0.86 | 7 | 10 | 8 | 2 960 | 2 690 | 65 000 |
| | KT 71010 | 1.69 | 7 | 10 | 10 | 3 340 | 3 130 | 65 000 |
| 8 | KT 8118N | 0.96 | 8 | 11 | 8 | 3 190 | 3 060 | 60 000 |
| | KT 81110 | 1.9 | 8 | 11 | 10 | 3 630 | 3 600 | 60 000 |
| | KT 81110N | 1.2 | 8 | 11 | 10 | 3 630 | 3 600 | 60 000 |
| | KT 81113 | 2.5 | 8 | 12 | 13 | 4 500 | 4 750 | 60 000 |
| | KT 8128 | 2.1 | 8 | 12 | 8 | 3 630 | 3 040 | 60 000 |
| | KT 81211 | 3 | 8 | 12 | 11 | 4 630 | 4 170 | 60 000 |
| 9 | KT 91210 | 2.1 | 9 | 12 | 10 | 3 900 | 4 070 | 55 000 |
| | KT 91213 | 2.8 | 9 | 12 | 13 | 4 840 | 5 370 | 55 000 |
| 10 | KT 10138 | 1.9 | 10 | 13 | 8 | 3 370 | 3 470 | 50 000 |
| | KT 101310 | 2.3 | 10 | 13 | 10 | 4 160 | 4 550 | 50 000 |
| | KT 101313 | 3 | 10 | 13 | 13 | 5 160 | 6 000 | 50 000 |
| | KT 101410 | 3.2 | 10 | 14 | 10 | 4 900 | 4 680 | 50 000 |
| | KT 101412 | 3.8 | 10 | 14 | 12 | 5 940 | 6 000 | 50 000 |
| 11 | KT 101413 | 4.2 | 10 | 14 | 13 | 6 100 | 6 200 | 50 000 |
| | KT 101415 | 4.8 | 10 | 14 | 15 | 7 080 | 7 520 | 50 000 |
| 11 | KT 111410 | 2.5 | 11 | 14 | 10 | 4 400 | 5 020 | 45 000 |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.
 Remark For synthetic resin cage types, "N" is added at the end of the identification number. For sizes not listed in the dimension tables, please contact IKO.

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|----------------|----------------|--|--|--|
| | | | F _w | E _w | B _c | | | |
| 12 | KT 12158 | 2.2 | 12 | 15 | 8 | 3 750 | 4 200 | 40 000 |
| | KT 121510 | 2.7 | 12 | 15 | 10 | 4 620 | 5 490 | 40 000 |
| | KT 121512 | 3.2 | 12 | 15 | 12 | 5 590 | 7 020 | 40 000 |
| | KT 121513 | 3.6 | 12 | 15 | 13 | 5 730 | 7 250 | 40 000 |
| | KT 121514 | 3.8 | 12 | 15 | 14 | 6 200 | 8 010 | 40 000 |
| | KT 121610 | 4 | 12 | 16 | 10 | 5 650 | 5 890 | 40 000 |
| | KT 121613 | 5.2 | 12 | 16 | 13 | 7 020 | 7 800 | 40 000 |
| | KT 121618 | 7 | 12 | 16 | 18 | 9 790 | 11 900 | 40 000 |
| | KT 121710 | 5.1 | 12 | 17 | 10 | 6 170 | 5 740 | 40 000 |
| | KT 121812 | 7.8 | 12 | 18 | 12 | 9 030 | 8 460 | 40 000 |
| KT 121820 | 13.2 | 12 | 18 | 20 | 13 700 | 14 400 | 40 000 | |
| 13 | KT 131710 | 4.3 | 13 | 17 | 10 | 5 990 | 6 500 | 40 000 |
| | KT 131815 | 8.2 | 13 | 18 | 15 | 9 660 | 10 400 | 40 000 |
| | KT 131816 | 8.7 | 13 | 18 | 16 | 10 300 | 11 400 | 40 000 |
| 14 | KT 14188 | 3.7 | 14 | 18 | 8 | 5 110 | 5 410 | 35 000 |
| | KT 141810 | 4.6 | 14 | 18 | 10 | 6 320 | 7 110 | 35 000 |
| | KT 141811 | 5.2 | 14 | 18 | 11 | 6 520 | 7 410 | 35 000 |
| | KT 141813 | 6 | 14 | 18 | 13 | 7 860 | 9 410 | 35 000 |
| | KT 141816 | 7.3 | 14 | 18 | 16 | 9 750 | 12 400 | 35 000 |
| | KT 141910 | 5.9 | 14 | 19 | 10 | 7 130 | 7 180 | 35 000 |
| | KT 141916 | 9.4 | 14 | 19 | 16 | 11 100 | 12 600 | 35 000 |
| | KT 141918 | 10.5 | 14 | 19 | 18 | 12 400 | 14 700 | 35 000 |
| KT 142012 | 8.7 | 14 | 20 | 12 | 9 790 | 9 680 | 35 000 | |
| KT 142017 | 12.4 | 14 | 20 | 17 | 13 300 | 14 400 | 35 000 | |

NEEDLE ROLLER CAGES FOR GENERAL USAGE

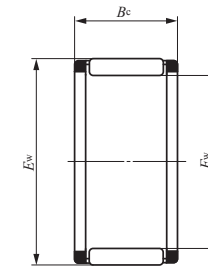


High carbon steel cage type

Shaft dia. 15 – 18mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 15 | KT 15199 | 4.4 | 15 | 19 | 9 | 6 120 | 6 950 | 35 000 |
| | KT 151910 | 4.9 | 15 | 19 | 10 | 6 630 | 7 720 | 35 000 |
| | KT 151911 | 5.5 | 15 | 19 | 11 | 6 850 | 8 040 | 35 000 |
| | KT 151913 | 6.4 | 15 | 19 | 13 | 8 250 | 10 200 | 35 000 |
| | KT 151917 | 8.2 | 15 | 19 | 17 | 10 900 | 14 600 | 35 000 |
| | KT 151918 | 8.7 | 15 | 19 | 18 | 11 500 | 15 600 | 35 000 |
| | KT 152010 | 6.3 | 15 | 20 | 10 | 7 580 | 7 920 | 35 000 |
| | KT 152115 | 11.9 | 15 | 21 | 15 | 12 600 | 13 500 | 35 000 |
| 16 | KT 162010 | 5.2 | 16 | 20 | 10 | 6 930 | 8 330 | 30 000 |
| | KT 162013 | 6.8 | 16 | 20 | 13 | 8 620 | 11 000 | 30 000 |
| | KT 162016 | 8.3 | 16 | 20 | 16 | 10 700 | 14 600 | 30 000 |
| | KT 162017 | 8.7 | 16 | 20 | 17 | 11 400 | 15 700 | 30 000 |
| | KT 162118 | 12 | 16 | 21 | 18 | 14 000 | 17 700 | 30 000 |
| | KT 162120 | 13.6 | 16 | 21 | 20 | 14 700 | 18 900 | 30 000 |
| | KT 162125 | 16.6 | 16 | 21 | 25 | 18 300 | 25 100 | 30 000 |
| | KT 162212 | 9.7 | 16 | 22 | 12 | 10 500 | 10 900 | 30 000 |
| | KT 162214 | 11.5 | 16 | 22 | 14 | 11 600 | 12 500 | 30 000 |
| | KT 162217 | 13.8 | 16 | 22 | 17 | 14 200 | 16 100 | 30 000 |
| | KT 162220 | 16.5 | 16 | 22 | 20 | 15 900 | 18 600 | 30 000 |
| | KT 162420 | 23.5 | 16 | 24 | 20 | 18 500 | 19 000 | 30 000 |
| 17 | KT 172110 | 5.5 | 17 | 21 | 10 | 7 220 | 8 950 | 30 000 |
| | KT 172113 | 7.2 | 17 | 21 | 13 | 8 980 | 11 800 | 30 000 |
| | KT 172115 | 8.2 | 17 | 21 | 15 | 10 400 | 14 400 | 30 000 |
| | KT 172117 | 9.3 | 17 | 21 | 17 | 11 800 | 16 900 | 30 000 |
| | KT 172220 | 14 | 17 | 22 | 20 | 15 500 | 20 500 | 30 000 |
| | KT 172311 | 9.6 | 17 | 23 | 11 | 10 100 | 10 500 | 30 000 |
| | KT 172315 | 13.1 | 17 | 23 | 15 | 13 300 | 15 100 | 30 000 |
| KT 172418 | 18.6 | 17 | 24 | 18 | 16 500 | 18 000 | 30 000 | |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.



KT

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 18 | KT 18228 | 4.7 | 18 | 22 | 8 | 6 060 | 7 270 | 30 000 |
| | KT 182210 | 5.8 | 18 | 22 | 10 | 7 500 | 9 560 | 30 000 |
| | KT 182213 | 7.6 | 18 | 22 | 13 | 9 330 | 12 700 | 30 000 |
| | KT 182216 | 9.2 | 18 | 22 | 16 | 11 600 | 16 700 | 30 000 |
| | KT 182412 | 11 | 18 | 24 | 12 | 11 800 | 13 100 | 30 000 |
| | KT 182416 | 14.8 | 18 | 24 | 16 | 15 100 | 17 900 | 30 000 |
| | KT 182417 | 15.7 | 18 | 24 | 17 | 16 000 | 19 400 | 30 000 |
| | KT 182420 | 18.7 | 18 | 24 | 20 | 17 900 | 22 400 | 30 000 |
| | KT 182517 | 18.8 | 18 | 25 | 17 | 16 700 | 18 600 | 30 000 |
| | KT 182519 | 21 | 18 | 25 | 19 | 18 700 | 21 400 | 30 000 |
| | KT 182522 | 24.5 | 18 | 25 | 22 | 20 600 | 24 200 | 30 000 |
| | KT 182614 | 18.1 | 18 | 26 | 14 | 14 600 | 14 400 | 30 000 |
| | KT 182620 | 26 | 18 | 26 | 20 | 20 000 | 21 600 | 30 000 |

NEEDLE ROLLER CAGES FOR GENERAL USAGE

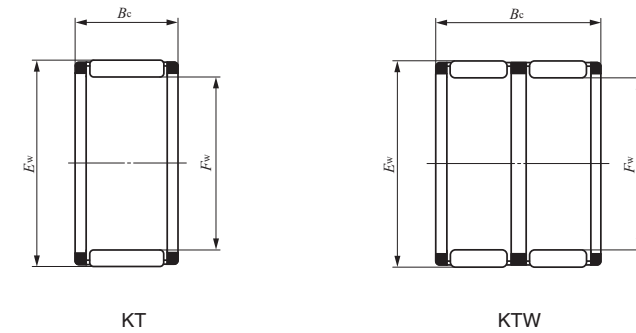


High carbon steel cage type

Shaft dia. 20 – 24mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 20 | KT 202410 | 6.3 | 20 | 24 | 10 | 7 710 | 10 200 | 25 000 |
| | KT 202413 | 8.3 | 20 | 24 | 13 | 9 590 | 13 500 | 25 000 |
| | KT 202417 | 10.6 | 20 | 24 | 17 | 12 600 | 19 300 | 25 000 |
| | KTW 202422 | 14.6 | 20 | 24 | 22 | 13 700 | 21 300 | 25 000 |
| | KT 202525 | 19.7 | 20 | 25 | 25 | 19 900 | 29 800 | 25 000 |
| | KTW 202531.6 | 26.5 | 20 | 25 | 31.6 | 21 700 | 33 200 | 25 000 |
| | KTW 202540 | 32.5 | 20 | 25 | 40 | 27 500 | 44 900 | 25 000 |
| | KT 202611 | 11.1 | 20 | 26 | 11 | 11 200 | 12 500 | 25 000 |
| | KT 202612 | 12 | 20 | 26 | 12 | 12 400 | 14 300 | 25 000 |
| | KT 202614 | 14.2 | 20 | 26 | 14 | 13 700 | 16 400 | 25 000 |
| | KT 202617 | 17 | 20 | 26 | 17 | 16 800 | 21 200 | 25 000 |
| | KT 202620 | 20.5 | 20 | 26 | 20 | 18 700 | 24 400 | 25 000 |
| | KT 202624 | 24 | 20 | 26 | 24 | 22 500 | 30 900 | 25 000 |
| | KT 202627 | 26.5 | 20 | 26 | 27 | 26 000 | 37 300 | 25 000 |
| | KT 202814 | 20 | 20 | 28 | 14 | 15 700 | 16 100 | 25 000 |
| | KT 202820 | 29 | 20 | 28 | 20 | 21 500 | 24 200 | 25 000 |
| KT 203225 | 49.5 | 20 | 32 | 25 | 30 800 | 30 500 | 25 000 | |
| 21 | KT 212610 | 8.5 | 21 | 26 | 10 | 9 090 | 11 000 | 25 000 |
| | KT 212611 | 9.6 | 21 | 26 | 11 | 9 390 | 11 500 | 25 000 |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.



| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 22 | KT 222610 | 6.9 | 22 | 26 | 10 | 8 220 | 11 500 | 25 000 |
| | KT 222613 | 9.1 | 22 | 26 | 13 | 10 200 | 15 200 | 25 000 |
| | KT 222617 | 11.6 | 22 | 26 | 17 | 13 500 | 21 600 | 25 000 |
| | KTW 222625 | 17.7 | 22 | 26 | 25 | 17 100 | 29 400 | 25 000 |
| | KT 222720 | 17.9 | 22 | 27 | 20 | 17 400 | 25 700 | 25 000 |
| | KT 222726 | 22.5 | 22 | 27 | 26 | 22 500 | 35 800 | 25 000 |
| | KT 222817 | 18.4 | 22 | 28 | 17 | 17 500 | 23 000 | 25 000 |
| | KT 222912 | 16.1 | 22 | 29 | 12 | 12 900 | 14 000 | 25 000 |
| | KT 222916 | 21 | 22 | 29 | 16 | 17 600 | 20 900 | 25 000 |
| | KT 222917 | 22.5 | 22 | 29 | 17 | 18 700 | 22 600 | 25 000 |
| | KT 222918 | 23.5 | 22 | 29 | 18 | 19 800 | 24 400 | 25 000 |
| | KT 222920 | 26.5 | 22 | 29 | 20 | 20 900 | 26 100 | 25 000 |
| | KT 223015 | 23.5 | 22 | 30 | 15 | 17 900 | 19 700 | 25 000 |
| | KT 223230 | 52.5 | 22 | 32 | 30 | 36 400 | 42 700 | 25 000 |
| | KT 223232 | 56 | 22 | 32 | 32 | 38 800 | 46 300 | 25 000 |
| | 23 | KT 232824 | 22 | 23 | 28 | 24 | 21 600 | 34 500 |
| KT 232913 | | 15.1 | 23 | 29 | 13 | 13 800 | 17 200 | 20 000 |
| KT 233015 | | 21 | 23 | 30 | 15 | 17 300 | 20 800 | 20 000 |
| | KT 233016 | 22 | 23 | 30 | 16 | 18 600 | 22 600 | 20 000 |
| 24 | KT 242813 | 9.9 | 24 | 28 | 13 | 10 800 | 16 800 | 20 000 |
| | KT 242816 | 12 | 24 | 28 | 16 | 13 400 | 22 200 | 20 000 |
| | KTW 242834 | 27 | 24 | 28 | 34 | 21 600 | 40 700 | 20 000 |
| | KT 242913 | 12.8 | 24 | 29 | 13 | 12 700 | 17 600 | 20 000 |
| | KT 243020 | 23.5 | 24 | 30 | 20 | 20 300 | 28 500 | 20 000 |



NEEDLE ROLLER CAGES FOR GENERAL USAGE



High carbon steel cage type

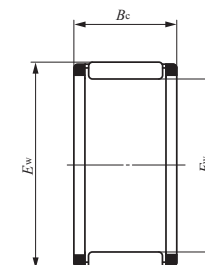


Synthetic resin cage type

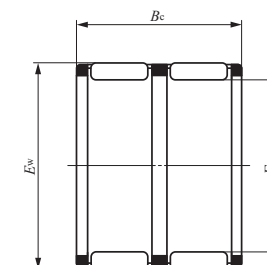
Shaft dia. 25 – 32mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 25 | KT 252910 | 7.9 | 25 | 29 | 10 | 8 940 | 13 300 | 20 000 |
| | KT 252913 | 10.3 | 25 | 29 | 13 | 11 100 | 17 600 | 20 000 |
| | KT 253013 | 13.3 | 25 | 30 | 13 | 13 100 | 18 600 | 20 000 |
| | KT 253016 | 16.2 | 25 | 30 | 16 | 16 300 | 24 600 | 20 000 |
| | KT 253017 | 17.1 | 25 | 30 | 17 | 17 300 | 26 600 | 20 000 |
| | KT 253020 | 20 | 25 | 30 | 20 | 18 600 | 29 100 | 20 000 |
| | KT 253113 | 16.2 | 25 | 31 | 13 | 14 300 | 18 400 | 20 000 |
| | KT 253116 | 19.6 | 25 | 31 | 16 | 17 800 | 24 400 | 20 000 |
| | KT 253117 | 20.5 | 25 | 31 | 17 | 19 000 | 26 500 | 20 000 |
| | KT 253120 | 25 | 25 | 31 | 20 | 21 200 | 30 500 | 20 000 |
| | KT 253216 | 23.5 | 25 | 32 | 16 | 19 400 | 24 500 | 20 000 |
| | KT 253224 | 35 | 25 | 32 | 24 | 27 700 | 38 700 | 20 000 |
| | KT 253515 | 33 | 25 | 35 | 15 | 22 600 | 23 800 | 20 000 |
| | KT 253525 | 48 | 25 | 35 | 25 | 32 500 | 37 900 | 20 000 |
| | KT 253530 | 58 | 25 | 35 | 30 | 39 100 | 48 000 | 20 000 |
| 26 | KT 263013 | 10.7 | 26 | 30 | 13 | 11 400 | 18 400 | 19 000 |
| | KT 263832 | 79.5 | 26 | 38 | 32 | 47 200 | 55 300 | 19 000 |
| 28 | KT 283313 | 14.8 | 28 | 33 | 13 | 13 800 | 20 700 | 18 000 |
| | KT 283317 | 18.9 | 28 | 33 | 17 | 18 300 | 29 500 | 18 000 |
| | KT 283327 | 29 | 28 | 33 | 27 | 26 300 | 47 300 | 18 000 |
| | KT 283417 | 23 | 28 | 34 | 17 | 20 300 | 29 900 | 18 000 |
| | KT 283516 | 26 | 28 | 35 | 16 | 20 100 | 26 500 | 18 000 |
| | KT 283528 | 44.5 | 28 | 35 | 28 | 33 200 | 50 600 | 18 000 |
| | KT 283620 | 38.5 | 28 | 36 | 20 | 26 500 | 34 700 | 18 000 |
| | KT 284138 | 110 | 28 | 41 | 38 | 58 700 | 71 100 | 18 000 |
| 29 | KT 293825N | 40.7 | 29 | 38 | 25 | 35 800 | 47 800 | 17 500 |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.
 Remark For synthetic resin cage types, "N" is added at the end of the identification number. For sizes not listed in the dimension tables, please contact IKO.



KT (... N)



KTW

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 30 | KT 303513 | 15.6 | 30 | 35 | 13 | 14 100 | 21 700 | 17 000 |
| | KT 303516 | 18.9 | 30 | 35 | 16 | 17 500 | 28 700 | 17 000 |
| | KT 303517 | 20 | 30 | 35 | 17 | 18 700 | 31 100 | 17 000 |
| | KT 303524 | 28.5 | 30 | 35 | 24 | 24 900 | 45 100 | 17 000 |
| | KT 303527 | 31.5 | 30 | 35 | 27 | 27 900 | 52 100 | 17 000 |
| | KT 303613 | 19.1 | 30 | 36 | 13 | 15 800 | 22 100 | 17 000 |
| | KT 303620 | 29.5 | 30 | 36 | 20 | 23 300 | 36 500 | 17 000 |
| | KT 303630 | 41.5 | 30 | 36 | 30 | 33 200 | 57 500 | 17 000 |
| | KT 303715 | 26 | 30 | 37 | 15 | 19 500 | 26 000 | 17 000 |
| | KT 303716 | 27.5 | 30 | 37 | 16 | 20 800 | 28 400 | 17 000 |
| | KT 303720 | 35 | 30 | 37 | 20 | 24 700 | 35 400 | 17 000 |
| | KT 303723 | 39.5 | 30 | 37 | 23 | 28 500 | 42 500 | 17 000 |
| | KT 303818 | 36.5 | 30 | 38 | 18 | 26 200 | 34 800 | 17 000 |
| | KT 303824 | 48.5 | 30 | 38 | 24 | 33 200 | 47 200 | 17 000 |
| | KT 304232 | 93 | 30 | 42 | 32 | 54 000 | 68 100 | 17 000 |
| | KTW 304237 | 117 | 30 | 42 | 37 | 55 900 | 71 300 | 17 000 |
| 32 | KT 323713 | 16.7 | 32 | 37 | 13 | 14 900 | 23 700 | 16 000 |
| | KT 323717 | 21.5 | 32 | 37 | 17 | 19 600 | 33 900 | 16 000 |
| | KT 323723 | 28.5 | 32 | 37 | 23 | 24 400 | 44 800 | 16 000 |
| | KT 323813 | 20.5 | 32 | 38 | 13 | 16 800 | 24 400 | 16 000 |
| | KT 323820 | 31.5 | 32 | 38 | 20 | 24 800 | 40 300 | 16 000 |
| | KT 323916 | 29 | 32 | 39 | 16 | 21 600 | 30 200 | 16 000 |
| | KT 323920 | 37 | 32 | 39 | 20 | 25 600 | 37 700 | 16 000 |
| | KT 324519 | 63.5 | 32 | 45 | 19 | 33 700 | 35 900 | 16 000 |
| | KT 324525 | 84.5 | 32 | 45 | 25 | 45 600 | 53 000 | 16 000 |
| | KT 324532 | 109 | 32 | 45 | 32 | 58 500 | 73 000 | 16 000 |
| | KT 324550 | 162 | 32 | 45 | 50 | 81 500 | 111 000 | 16 000 |



NEEDLE ROLLER CAGES FOR GENERAL USAGE



High carbon steel cage type

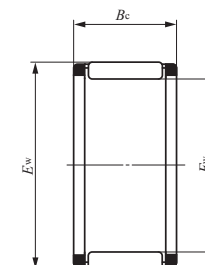


Synthetic resin cage type

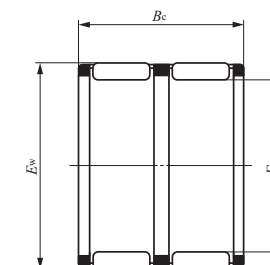
Shaft dia. 35 – 52mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|----------------|----------------|--|--|--|
| | | | F _w | E _w | B _c | | | |
| 35 | KT 354013 | 18.1 | 35 | 40 | 13 | 15 500 | 25 800 | 14 000 |
| | KT 354017 | 23 | 35 | 40 | 17 | 20 500 | 36 900 | 14 000 |
| | KT 354026 | 34.5 | 35 | 40 | 26 | 28 700 | 56 800 | 14 000 |
| | KT 354113 | 22.5 | 35 | 41 | 13 | 17 700 | 26 800 | 14 000 |
| | KT 354216 | 32 | 35 | 42 | 16 | 23 100 | 33 900 | 14 000 |
| | KT 354218 | 35.5 | 35 | 42 | 18 | 26 000 | 39 500 | 14 000 |
| | KT 354220 | 40.5 | 35 | 42 | 20 | 27 400 | 42 300 | 14 000 |
| | KT 354230 | 59 | 35 | 42 | 30 | 40 600 | 70 300 | 14 000 |
| | KT 354525 | 68.5 | 35 | 45 | 25 | 42 100 | 57 900 | 14 000 |
| 36 | KT 364216 | 27.5 | 36 | 42 | 16 | 21 900 | 35 700 | 14 000 |
| 38 | KT 384417 | 30.5 | 38 | 44 | 17 | 23 800 | 40 400 | 13 000 |
| | KT 384620 | 50 | 38 | 46 | 20 | 30 500 | 45 400 | 13 000 |
| | KT 384632 | 80 | 38 | 46 | 32 | 45 400 | 75 700 | 13 000 |
| 40 | KT 404513 | 20.5 | 40 | 45 | 13 | 16 800 | 29 800 | 12 000 |
| | KT 404517 | 26.5 | 40 | 45 | 17 | 22 200 | 42 700 | 12 000 |
| | KT 404527 | 41 | 40 | 45 | 27 | 32 400 | 69 200 | 12 000 |
| | KT 404817 | 44 | 40 | 48 | 17 | 28 100 | 41 600 | 12 000 |
| | KT 404820 | 52.5 | 40 | 48 | 20 | 31 400 | 48 000 | 12 000 |
| | KT 404825 | 64.5 | 40 | 48 | 25 | 39 300 | 64 000 | 12 000 |
| | KT 404834 | 87.5 | 40 | 48 | 34 | 51 100 | 89 600 | 12 000 |
| | KT 405015 | 48.5 | 40 | 50 | 15 | 28 200 | 35 900 | 12 000 |
| | KT 405017 | 56.5 | 40 | 50 | 17 | 30 200 | 39 200 | 12 000 |
| | KT 405020 | 61 | 40 | 50 | 20 | 35 700 | 48 600 | 12 000 |
| | KTW 405238 | 158 | 40 | 52 | 38 | 65 000 | 93 000 | 12 000 |
| | KT 405432 | 144 | 40 | 54 | 32 | 66 800 | 87 200 | 12 000 |
| | KT 405450 | 215 | 40 | 54 | 50 | 93 600 | 134 000 | 12 000 |
| | KT 405463 | 270 | 40 | 54 | 63 | 115 000 | 175 000 | 12 000 |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.
 Remark For synthetic resin cage types, "N" is added at the end of the identification number. For sizes not listed in the dimension tables, please contact IKO.



KT (... N)



KTW

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|----------------|----------------|--|--|--|
| | | | F _w | E _w | B _c | | | |
| 41 | KT 414835 | 78.5 | 41 | 48 | 35 | 47 800 | 90 800 | 12 000 |
| 42 | KT 424717 | 27.5 | 42 | 47 | 17 | 22 500 | 44 200 | 12 000 |
| | KT 424815 | 30 | 42 | 48 | 15 | 22 400 | 38 600 | 12 000 |
| | KT 424816 | 32 | 42 | 48 | 16 | 24 000 | 42 100 | 12 000 |
| | KT 425020 | 55 | 42 | 50 | 20 | 32 400 | 50 600 | 12 000 |
| | KT 425030 | 80.5 | 42 | 50 | 30 | 48 200 | 84 400 | 12 000 |
| 45 | KT 455017 | 29.5 | 45 | 50 | 17 | 23 300 | 47 100 | 11 000 |
| | KT 455027 | 46 | 45 | 50 | 27 | 34 800 | 79 000 | 11 000 |
| | KT 455320 | 58 | 45 | 53 | 20 | 33 200 | 53 300 | 11 000 |
| | KT 455325 | 71.5 | 45 | 53 | 25 | 41 500 | 71 100 | 11 000 |
| | KT 455330 | 86 | 45 | 53 | 30 | 47 800 | 85 300 | 11 000 |
| | KT 455335 | 101 | 45 | 53 | 35 | 53 900 | 99 500 | 11 000 |
| 48 | KT 485320 | 37 | 48 | 53 | 20 | 26 800 | 57 600 | 10 000 |
| | KT 485420 | 46 | 48 | 54 | 20 | 30 600 | 60 400 | 10 000 |
| 50 | KT 505520 | 38.5 | 50 | 55 | 20 | 27 100 | 59 300 | 10 000 |
| | KT 505527 | 50.5 | 50 | 55 | 27 | 35 600 | 84 100 | 10 000 |
| | KT 505820 | 65 | 50 | 58 | 20 | 35 900 | 61 100 | 10 000 |
| | KT 505825 | 80 | 50 | 58 | 25 | 44 900 | 81 500 | 10 000 |
| | KT 505825N | 66.3 | 50 | 58 | 25 | 51 400 | 97 800 | 10 000 |
| | KT 505830 | 96.5 | 50 | 58 | 30 | 51 700 | 97 800 | 10 000 |
| | KT 505835 | 113 | 50 | 58 | 35 | 58 300 | 114 000 | 10 000 |
| 52 | KT 525817 | 41 | 52 | 58 | 17 | 28 300 | 56 000 | 9 500 |
| | KT 526024 | 80 | 52 | 60 | 24 | 44 000 | 80 800 | 9 500 |



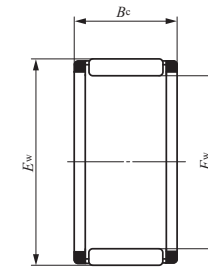


High carbon steel cage type

Shaft dia. 55 – 100mm

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 55 | KT 556020 | 42.5 | 55 | 60 | 20 | 28 600 | 66 000 | 9 000 |
| | KT 556027 | 55.5 | 55 | 60 | 27 | 37 600 | 93 900 | 9 000 |
| | KT 556120 | 52 | 55 | 61 | 20 | 32 600 | 68 500 | 9 000 |
| | KT 556315 | 52.5 | 55 | 63 | 15 | 29 400 | 48 700 | 9 000 |
| | KT 556320 | 71 | 55 | 63 | 20 | 37 400 | 66 400 | 9 000 |
| | KT 556325 | 87 | 55 | 63 | 25 | 46 800 | 88 600 | 9 000 |
| 58 | KT 586320 | 44.5 | 58 | 63 | 20 | 29 300 | 69 400 | 8 500 |
| | KT 586420 | 54.5 | 58 | 64 | 20 | 33 600 | 72 500 | 8 500 |
| 60 | KT 606520 | 45.5 | 60 | 65 | 20 | 29 700 | 71 100 | 8 500 |
| | KT 606820 | 76.5 | 60 | 68 | 20 | 38 900 | 71 700 | 8 500 |
| | KT 606825 | 94 | 60 | 68 | 25 | 48 600 | 95 600 | 8 500 |
| | KT 606827 | 101 | 60 | 68 | 27 | 52 400 | 105 000 | 8 500 |
| | KT 607236 | 205 | 60 | 72 | 36 | 86 700 | 152 000 | 8 500 |
| 63 | KT 637120 | 79.5 | 63 | 71 | 20 | 39 500 | 74 400 | 8 000 |
| 65 | KT 657320 | 83.5 | 65 | 73 | 20 | 41 200 | 79 600 | 7 500 |
| | KT 657330 | 124 | 65 | 73 | 30 | 59 300 | 127 000 | 7 500 |
| 68 | KT 687620 | 86.5 | 68 | 76 | 20 | 41 800 | 82 200 | 7 500 |
| 70 | KT 707820 | 89 | 70 | 78 | 20 | 42 500 | 84 900 | 7 000 |
| | KT 707830 | 132 | 70 | 78 | 30 | 61 200 | 136 000 | 7 000 |
| 72 | KT 728020 | 91.5 | 72 | 80 | 20 | 43 200 | 87 500 | 7 000 |
| 75 | KT 758320 | 94.5 | 75 | 83 | 20 | 43 800 | 90 200 | 6 500 |
| | KT 758325 | 116 | 75 | 83 | 25 | 54 800 | 120 000 | 6 500 |
| | KT 758330 | 141 | 75 | 83 | 30 | 63 100 | 144 000 | 6 500 |
| | KT 758335 | 164 | 75 | 83 | 35 | 71 200 | 168 000 | 6 500 |

Note⁽¹⁾ Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 50% of this value is allowable.



KT

| Shaft dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | Basic dynamic load rating <i>C</i> N | Basic static load rating <i>C</i> ₀ N | Allowable rotational speed ⁽¹⁾ min ⁻¹ |
|------------------|-----------------------|---------------------|---------------------------|-----------------------|-----------------------|---|---|--|
| | | | <i>F</i> _w | <i>E</i> _w | <i>B</i> _c | | | |
| 80 | KT 808822 | 110 | 80 | 88 | 22 | 49 700 | 108 000 | 6 000 |
| | KT 808825 | 123 | 80 | 88 | 25 | 56 400 | 127 000 | 6 000 |
| | KT 808830 | 149 | 80 | 88 | 30 | 65 000 | 153 000 | 6 000 |
| 85 | KT 859112 | 44.5 | 85 | 91 | 12 | 25 200 | 56 700 | 6 000 |
| | KT 859325 | 130 | 85 | 93 | 25 | 57 800 | 134 000 | 6 000 |
| | KT 859330 | 157 | 85 | 93 | 30 | 66 600 | 161 000 | 6 000 |
| 90 | KT 909825 | 138 | 90 | 98 | 25 | 60 400 | 145 000 | 5 500 |
| | KT 909830 | 167 | 90 | 98 | 30 | 69 600 | 174 000 | 5 500 |
| 95 | KT 9510330 | 175 | 95 | 103 | 30 | 70 900 | 182 000 | 5 500 |
| 100 | KT 10010830 | 184 | 100 | 108 | 30 | 72 500 | 191 000 | 4 500 |