

IKO Compact Linear Bushing

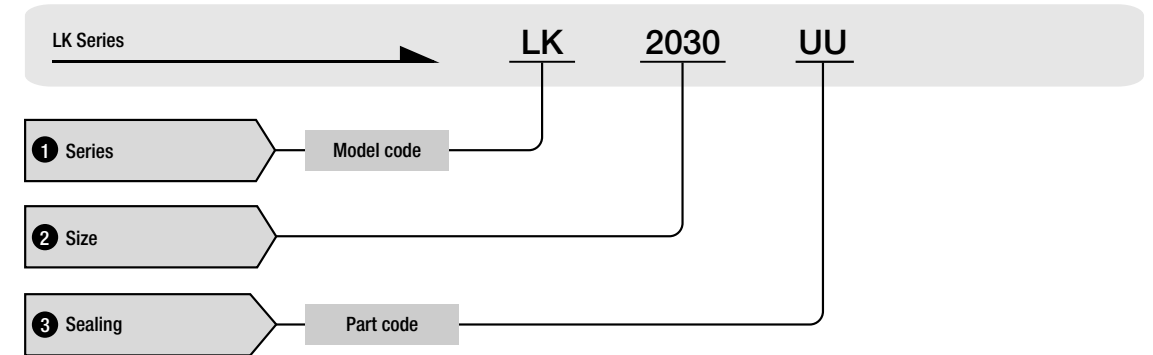
LK

IKO Compact Linear Bushing is a linear motion rolling guide, incorporating steel balls and a retainer compactly in an external cylinder which is made from a thin special-steel plate by precision drawing, carburizing and quenching.

IKO Compact Linear Bushing can be used to greatly reduce the size and weight of linear motion part of machines, because its sectional height is as small as 4 to 5mm and it is mounted directly on the shaft which is used as the raceway. Steel balls are guided accurately by the retainer, so frictional resistance is small and a highly accurate linear motion can be obtained.

IKO Compact Linear Bushing is tightly fitted in the housing bore with an interference, so it is not necessary to fix it axially and handling is easy.

● Identification Number



Raceway surface

Since the shaft surface is used as a raceway for Compact Linear Bushing, the shaft must be heat-treated and ground. Recommended surface hardness and roughness of the shaft are shown in Table 1.

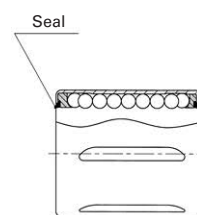
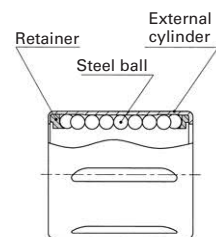
Table 1 Surface hardness and roughness of shaft

| Item | Recommended value |
|----------------------------------|--|
| Surface hardness | HRC58~64 |
| Surface roughness ⁽¹⁾ | 0.2 μ mRa or less (0.8 μ mRy or less) |

Note⁽¹⁾ : In case high accuracy is not required , 0.8 μ mRa(3.2 μ mRy) can be used.

Standard type : LK

Standard type : LK...UU



Structure of Compact Linear Bushing

IKO Compact Linear Bushing

Fit

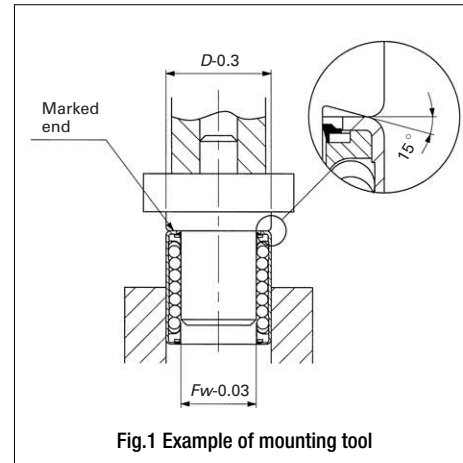
The correct dimensions and accuracy **IKO** Compact Linear Bushing are obtained only after it has been press-fitted into the housing bore. As the external cylinder is thin, accuracy is directly affected by the dimensions, shape and rigidity of housing, so these factors must be examined carefully. The recommended fit is shown in Table 2.

Table 2 Recommended fit

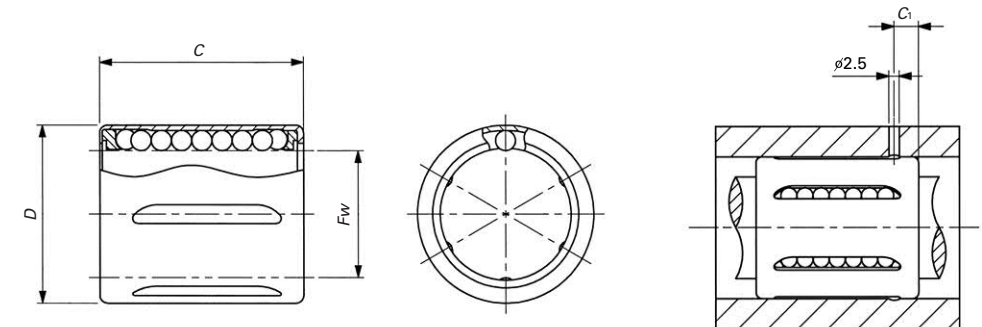
| Housing material | Tolerance class of shaft | | Tolerance class of housing bore | |
|------------------|--------------------------|------------------|---------------------------------|------------------|
| | Normal clearance | Closer clearance | Normal clearance | Closer clearance |
| Steel, Cast iron | h 6 | j 5 | H 7 | H 6 |
| Light alloy | h 6 | j 5 | K 7 | K 6 |

Mounting

IKO Compact Linear Bushing should be press-fitted into the housing gently, using an appropriate tool as shown in Fig.1 with its marked end face up. As the external cylinder is thin, it must never be stuck directly with a hammer. Since the external cylinder of **IKO** Compact Linear Bushing is firmly press-fitted into the housing bore, it is not necessary to fix it axially.



Standard type : LK
With seals : LK...UU



Oil hole in the housing

| Shaft dia- mm | Identification Number mm | | | | | | Boundary dimensions mm | | | | Basic dynamic load rating ^(?) | | Basic static load rating ^(?) | |
|------------------|--------------------------|-------------------------|----------------------|-------------|-------------------------|----------------------|------------------------|----|------------------|----------------|--|--------------------|---|--------------------|
| | Standard type | Number of ball circuits | Weight (Reference) g | Sealed type | Number of ball circuits | Weight (Reference) g | Fw | D | C ⁽¹⁾ | C ₁ | Load direction A N | Load direction B N | Load direction A N | Load direction B N |
| 16 | LK 1630 | 5 | 24.4 | LK 1630 UU | 5 | 25.2 | 16 | 24 | 30 | 6 | 855 | 1 020 | 690 | 1 010 |
| 20 | LK 2030 | 6 | 29.5 | LK 2030 UU | 6 | 30.4 | 20 | 28 | 30 | 6 | 1 060 | 1 120 | 874 | 1 120 |
| 25 | LK 2540 | 6 | 61.4 | LK 2540 UU | 6 | 62.8 | 25 | 35 | 40 | 8 | 1 940 | 2 050 | 1 640 | 2 100 |
| 30 | LK 3050 | 7 | 88.2 | LK 3050 UU | 7 | 89.8 | 30 | 40 | 50 | 8 | 2 790 | 2 750 | 2 670 | 3 070 |

Note⁽¹⁾ : The seal end of sealed type slightly protrudes from the end face of external cylinder.
^(?) : The load directions A and B are shown in the sketches below.

