



This product is an environmentally friendly "Lead free bearing."

This compound bearing, a "perfect oilless bearing" that does not require any lubricant at all uses polytetrafluoroethylene (PTFE) resin, has excellent low friction characteristics and also optimizes metal properties such as strength and dimensional stability.

### Features

- The bearing surface has such low a coefficient of static and dynamic friction that the surface runs smoothly without lubrication, and in addition, the so-called stick and slip phenomenon is eliminated. The bearing can be used in oil as well.
- The operating temperature range extends from -200°C to +280°C.
- Adaptable to operations under high-load, impact load, intermittent operation and reciprocating motion.
- Free from electrostatic induction (When installed, each bearing has an electrical resistance of 1Ω to 10Ω per 1 cm<sup>2</sup> wide contact area.)
- The bearing surface is highly resistant to most industrial chemicals and solvents such as petroleum and alcohol.
- The bearing will not damage the surface of engaging component (shaft).
- Extended service life.
- The bearing is light and thin (max. 3 mm thick), requiring little space and permits compact equipment design.
- The bearing minimizes operating noise.

### Major Superior Points to Roller Bearing

- DDK05 bearing is free from the skew problem.
- DDK05 bearing can also be used for sliding motion in the axial direction.
- DDK05 bearing allows very compact equipment design that does not occupy wide space.
- In general the bearing price is competitive compared to rolling element bearings.
- The bearing exhibits exceptional resistance against fretting corrosion.

### Superior Points to Roller Bearing

- Permitted bearing pressure is high.
- The rolling element bearings are inferior to Daido plain bearings in conditions of high-load, low speed operation, reciprocating and intermittent motion where boundary lubrication condition cannot be assured and further at high temperature (+280°C) or low temperature (-200°C).
- DDK05 bearing can be used in various liquids and gases, or in a vacuum.
- Standard bearings are stocked and are available for quick delivery.

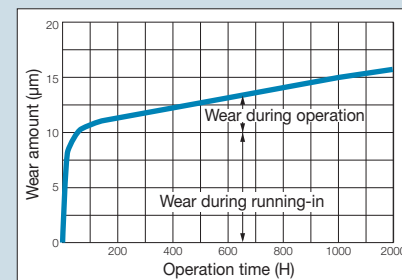
### Physical Characteristics (Typical Values)

Compressive Strength (MPa)	304
Coefficient of Linear Thermal Expansion (10 <sup>-6</sup> /°C)	11 (direction parallel to bearing face), 30 (thickness direction)
Heat Transfer Coefficient (W/m-k)	42
Service Temperature Limit (°C)	-200~+280
Friction Coefficient	0.04 to 0.1 (below 6 m/min, 3.5 to 55 MPa)
	0.06 to 0.18 (6 to 300 m/min, below 3.5 MPa)

### Friction properties/characteristics of DDK05

The graph shows that during the running in stage, part of the surface layer rapidly transfers to the shaft surface to make to the irregularity flat and form a smooth low-wear and low-friction surface. During operation when the surface layer consisting of PTFE mixture becomes thinner friction between the metals of the bearing and the shaft temporarily occurs. Then the PTFE mixture expands due to the heat generated by the friction and the mixture is pushed out from the porous intermediate layer and supplied to the bearing surface very slowly. Therefore no wear occurs on the shaft.

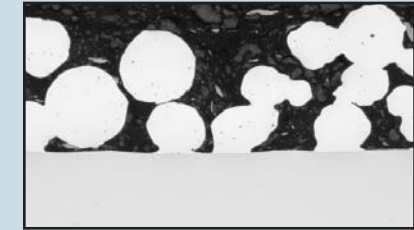
<Table 1> Wear of DDK05



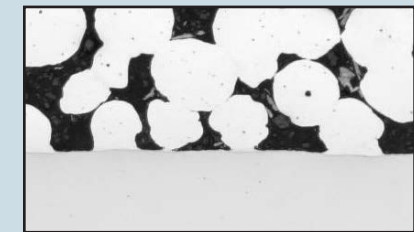
### Designing DDK05

#### ① PV value and wear

The service life of DDK05 is determined primarily by bearing load and PV value. The term PV value refers to the product of a pressure (P) in MPa and a velocity (V) in m/min. A bearing with a PV value of 206 MPa m/min can only operate for short periods of time. The maximum PV value for a bearing that be used for continuous operation is 103 MPa m/min. Testing has shown that the rate of wear to a DDK05 after breaking in is roughly proportional to its PV value up to 0.04–0.05 mm of wear. Fig. 1 shows the relationship between service life and PV value.



Prior to breaking in the bearing



Photographic cross-section of a DDK05 after breaking in and operating for a certain period of time.

#### ② Basic relationship between service life and PV value (PV value in MPa·m/min)

● Bushings (unidirectional loading)

$$\text{Service life in hours (H)} = \frac{39 \times 10^3 \times f \times m}{PV} - C$$

NB: The term "unidirectional loading" refers to bearing loads applied to a fixed bushing by an axle that is either rotating or sliding.

● Bushings (rotational loading)

$$\text{Service life in hours (H)} = \frac{78 \times 10^3 \times f \times m}{PV} - C$$

NB: The term "rotational loading" refers to bearing loads applied to a rotating bushing by a fixed axle.

● Thrust washer

$$\text{Service life in hours (H)} = \frac{25 \times 10^3 \times f \times m}{PV} - C$$

NB: Refer to Table 2 on page 56 and Table 3 on page 57 for values of the coefficients f, m, and C.

#### ③ Formula for calculating (PV value in MPa·m/min)

For rotational loading

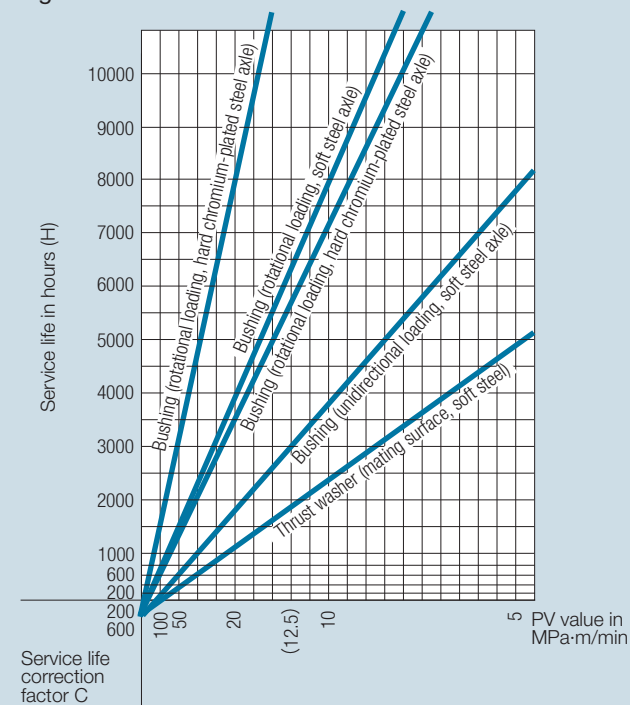
Bushing	Thrust washer
$V = \pi d N / 10^3$	$V = \pi (D + d) N / 2 \times 10^3$
$P = W / L d$	$P = W / (D^2 - d^2) \pi \times 4$
$PV = \pi W N / 10^3 L$	$PV = 2 W N / 10^3 \cdot (D - d)$

V : rotating speed in m/min,  
 π : ratio of the circumference to the diameter,  
 d : inner diameter in mm  
 D : outer diameter in mm,  
 P : surface pressure in MPa  
 W : load in N,  
 N : rotational speed in rpm

NB1: During oscillating movement, the articulation θ in degrees (°) is calculated using a rotational speed N of 2θC/360, where C is the cycles per minute.

NB2: During axial movement, V is the sliding speed in meters per minute.

Fig. 1: Service life and PV value



## ④ Load-bearing capacity (U)

Although actual load-bearing capacity varies with load characteristics, the maximum load that can be supported with DDK05 is as follows.

&lt;Table1&gt; Allowable load (U)

Types of loading	U MPa
① Static loading with virtually no movement or an extremely slow movement, where $V \neq 0$ .	137.0
② Rotational or oscillating movement, provided that the load affecting the DDK05 does not move.	55.0
③ When the DDK05 is subject to alternating or variable loads, the allowable load varies per the number of changes in loading that occur while the bearing is in use.	
(a) $10^5$ times or less	27.5
(b) $10^7$ times or more	13.7

## ⑤ Operating factors (f)

&lt;Table 2&gt; Operating factors (f)

Operating conditions	Housing properties	Ambient temperature of axle in °C					
		25	60	100	150	200	280
Continuously dry conditions	For material with ordinary heat conductivity	1	0.8	0.6	0.4	0.2	0.1
	For material with poor heat conductivity	0.5	0.4	0.3	0.2	0.1	–
	For non-metallic housings with poor heat conductivity	0.3	0.3	0.2	0.1	–	–
Intermittently dry conditions (No more than two minutes of operation, followed by two minutes or more of rest.)	For material with ordinary heat conductivity	2	1.6	1.2	0.8	0.4	0.2
When continuously immersed in water		2	1.5	0.6	–	–	–
When alternating between immersion in water and dry conditions		0.2	0.1	–	–	–	–
When continuously immersed in fluids other than water (excluding lubricants)		1.5	1.2	0.9	0.6	0.3	0.1

## ④ Axle (mating surface) surface factor (m) and service life correction factor (C)

The surface factor (m) is applicable in cases where the mating surface roughness is equivalent or better to the former  $R_{max} 3.2 \mu m$ . In many cases, the surface finish is rougher than this and will require additional polishing to ensure the necessary surface quality.

&lt;Table3&gt;

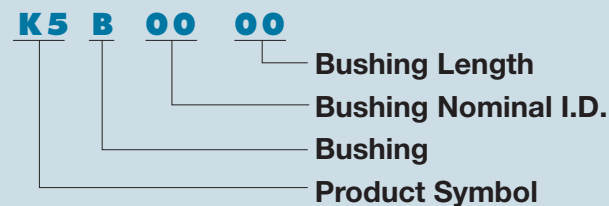
Axle (mating surface) surface factor (m) and service life correction factor (C)

Material	Axle surface factor (m)	Service life correction factor (C)
<b>Steel</b>		
Soft steel	1	200
Hardened steel	1	200
Nitrided steel	1	200
Cast iron	1	200
Stainless steel	2	200
Thermal spray stainless steel	1	200
<b>Non-ferrous</b>		
Anodized aluminum	0.4	200
Hard anodized aluminum (0.025-mm coating)	3	600
Bronze and copper alloys	0.2	200
<b>Galvanized steel (0.013-mm coating or more)</b>		
Hard chromium	2	600
Lead	1.5	600
Tin-nickel	1.2	600
Nickel	0.2	600
Cadmium	0.2	600
Zinc	0.2	600
Thermal spray tungsten carbide	3	600
Phosphate-coated steel	0.2	300

NB: Refer to Fig. 11 on page 152 for the relationship between mating surface roughness and wear.

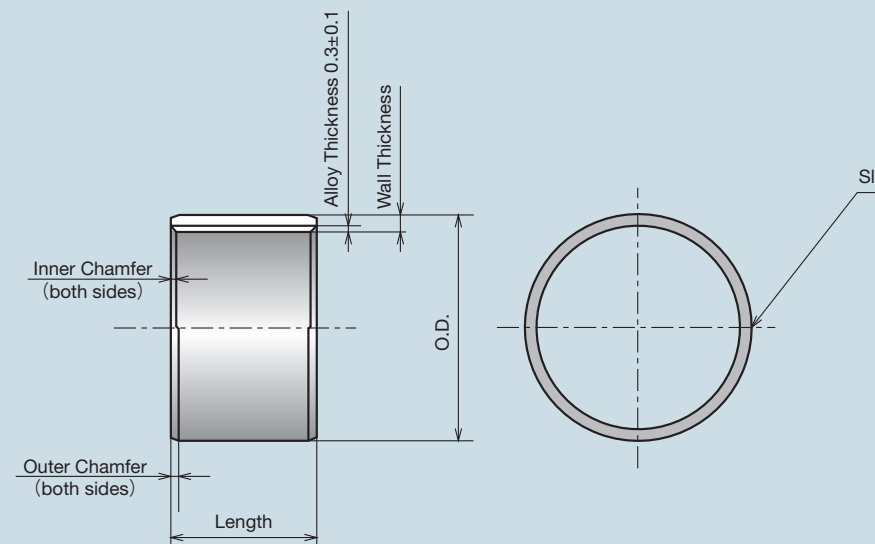
# K5B DDK05 Bushing (Bushing Inner Diameter: 3 to 28 mm)

## Designation of Part Number



**K5B 0303**

Please specify by part number.



(Unit : mm)

Bushing I.D.	Recommended Dimension Mating Part		Bushing Dimensions																Bushing I.D.		
	Housing I.D.	Shaft Dia.	O.D.	Wall Thickness	Part Number & Bushing Length Tolerance $^{0}_{-0.3}$																
					3	4	5	6	7	8		10	12	15	20	25	30	35	40		
3	φ5H7 $^{+0.012}_{0}$	φ3 $^{-0.025}_{-0.035}$	φ5 $^{+0.047}_{+0.017}$	1.0 $^{0}_{-0.025}$	<b>0303</b>	<b>0304</b>	<b>0305</b>	<b>0306</b>													3
4	φ6H7 $^{+0.012}_{0}$	φ4 $^{-0.025}_{-0.037}$	φ6 $^{+0.047}_{+0.017}$	1.0 $^{0}_{-0.025}$	<b>0403</b>	<b>0404</b>	<b>0405</b>	<b>0406</b>		<b>0408</b>											4
5	φ7H7 $^{+0.015}_{0}$	φ5 $^{-0.025}_{-0.037}$	φ7 $^{+0.053}_{+0.023}$	1.0 $^{0}_{-0.025}$	<b>0503</b>	<b>0504</b>	<b>0505</b>	<b>0506</b>		<b>0508</b>											5
6	φ8H7 $^{+0.015}_{0}$	φ6 $^{-0.025}_{-0.037}$	φ8 $^{+0.053}_{+0.023}$	1.0 $^{0}_{-0.025}$	<b>0603</b>	<b>0604</b>	<b>0605</b>	<b>0606</b>	<b>0607</b>	<b>0608</b>		<b>0610</b>	<b>0612</b>								6
7	φ9H7 $^{+0.015}_{0}$	φ7 $^{-0.025}_{-0.040}$	φ9 $^{+0.053}_{+0.023}$	1.0 $^{0}_{-0.025}$			<b>0705</b>	<b>0706</b>	<b>0707</b>	<b>0708</b>		<b>0710</b>	<b>0712</b>								7
8	φ10H7 $^{+0.015}_{0}$	φ8 $^{-0.025}_{-0.040}$	φ10 $^{+0.055}_{+0.025}$	1.0 $^{0}_{-0.025}$			<b>0805</b>	<b>0806</b>	<b>0807</b>	<b>0808</b>		<b>0810</b>	<b>0812</b>	<b>0815</b>							8
9	φ11H7 $^{+0.018}_{0}$	φ9 $^{-0.025}_{-0.040}$	φ11 $^{+0.060}_{+0.030}$	1.0 $^{0}_{-0.025}$				<b>0906</b>				<b>0910</b>									9
10	φ12H7 $^{+0.018}_{0}$	φ10 $^{-0.025}_{-0.040}$	φ12 $^{+0.060}_{+0.030}$	1.0 $^{0}_{-0.025}$				<b>1006</b>	<b>1007</b>	<b>1008</b>		<b>1010</b>	<b>1012</b>	<b>1015</b>	<b>1020</b>						10
12	φ14H7 $^{+0.018}_{0}$	φ12 $^{-0.025}_{-0.043}$	φ14 $^{+0.060}_{+0.030}$	1.0 $^{0}_{-0.025}$				<b>1206</b>		<b>1208</b>		<b>1210</b>	<b>1212</b>	<b>1215</b>	<b>1220</b>						12
13	φ15H7 $^{+0.018}_{0}$	φ13 $^{-0.025}_{-0.043}$	φ15 $^{+0.063}_{+0.033}$	1.0 $^{0}_{-0.025}$						<b>1308</b>		<b>1310</b>	<b>1312</b>	<b>1315</b>	<b>1320</b>						13
14	φ16H7 $^{+0.018}_{0}$	φ14 $^{-0.025}_{-0.043}$	φ16 $^{+0.063}_{+0.033}$	1.0 $^{0}_{-0.025}$						<b>1408</b>		<b>1410</b>	<b>1412</b>	<b>1415</b>	<b>1420</b>						14
15	φ17H7 $^{+0.018}_{0}$	φ15 $^{-0.025}_{-0.043}$	φ17 $^{+0.073}_{+0.038}$	1.0 $^{0}_{-0.025}$						<b>1508</b>		<b>1510</b>	<b>1512</b>	<b>1515</b>	<b>1520</b>	<b>1525</b>					15
16	φ18H7 $^{+0.018}_{0}$	φ16 $^{-0.025}_{-0.043}$	φ18 $^{+0.073}_{+0.038}$	1.0 $^{0}_{-0.025}$								<b>1610</b>	<b>1612</b>	<b>1615</b>	<b>1620</b>	<b>1625</b>					16
17	φ19H7 $^{+0.021}_{0}$	φ17 $^{-0.025}_{-0.043}$	φ19 $^{+0.081}_{+0.046}$	1.0 $^{0}_{-0.025}$								<b>1710</b>		<b>1715</b>							17
18	φ20H7 $^{+0.021}_{0}$	φ18 $^{-0.025}_{-0.043}$	φ20 $^{+0.081}_{+0.046}$	1.0 $^{0}_{-0.025}$								<b>1810</b>	<b>1812</b>	<b>1815</b>	<b>1820</b>	<b>1825</b>	<b>1830</b>				18
19	φ22H7 $^{+0.021}_{0}$	φ19 $^{-0.025}_{-0.046}$	φ22 $^{+0.081}_{+0.046}$	1.5 $^{0}_{-0.030}$								<b>1910</b>		<b>1915</b>	<b>1920</b>						19
20	φ23H7 $^{+0.021}_{0}$	φ20 $^{-0.025}_{-0.046}$	φ23 $^{+0.081}_{+0.046}$	1.5 $^{0}_{-0.030}$								<b>2010</b>	<b>2012</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>				20
22	φ25H7 $^{+0.021}_{0}$	φ22 $^{-0.025}_{-0.046}$	φ25 $^{+0.086}_{+0.051}$	1.5 $^{0}_{-0.030}$								<b>2210</b>	<b>2212</b>	<b>2215</b>	<b>2220</b>	<b>2225</b>	<b>2230</b>				22
24	φ27H7 $^{+0.021}_{0}$	φ24 $^{-0.025}_{-0.046}$	φ27 $^{+0.086}_{+0.051}$	1.5 $^{0}_{-0.030}$										<b>2415</b>	<b>2420</b>	<b>2425</b>	<b>2430</b>				24
25	φ28H7 $^{+0.021}_{0}$	φ25 $^{-0.025}_{-0.046}$	φ28 $^{+0.093}_{+0.056}$	1.5 $^{0}_{-0.030}$								<b>2510</b>	<b>2512</b>	<b>2515</b>	<b>2520</b>	<b>2525</b>	<b>2530</b>	<b>2535</b>			25
26	φ30H7 $^{+0.021}_{0}$	φ26 $^{-0.025}_{-0.046}$	φ30 $^{+0.115}_{+0.075}$	2.0 $^{0}_{-0.030}$										<b>2615</b>	<b>2620</b>	<b>2625</b>	<b>2630</b>				26
28	φ32H7 $^{+0.025}_{0}$	φ28 $^{-0.025}_{-0.046}$	φ32 $^{+0.115}_{+0.075}$	2.0 $^{0}_{-0.030}$									<b>2812</b>	<b>2815</b>	<b>2820</b>	<b>2825</b>	<b>2830</b>				28

# K5B DDK05 Bushing (Bushing Inner Diameter: 30 to 160 mm)

## Designation of Part Number

**K5 B 00 00**

- Bushing Length
- Bushing Nominal I.D.
- Bushing
- Product Symbol



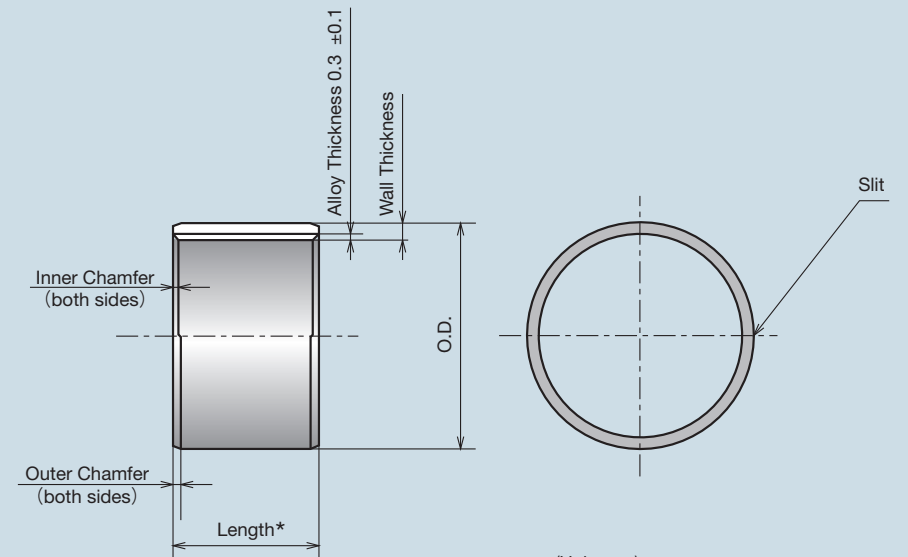
**Pb Free**

**RoHS**

**ELV**

**K5B 3012**

Please specify by part number.



(Unit: mm)

Bushing I.D.	Recommended Dimension Mating Part		Bushing Dimensions		Part Number & Bushing Length Tolerance $^{0}_{-0.3}$														Bushing I.D.	
	Housing I.D.	Shaft Dia.	O.D.	Wall Thickness	12	15	20	25	30	35	40	50	60	70	80	90	95	100		
30	$\phi 34H7^{+0.025}_{0}$	$\phi 30^{-0.025}_{-0.046}$	$\phi 34^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$	<b>3012</b>	<b>3015</b>	<b>3020</b>	<b>3025</b>	<b>3030</b>	<b>3035</b>		<b>3040</b>	<b>3050</b>						30	
31	$\phi 35H7^{+0.025}_{0}$	$\phi 31^{-0.025}_{-0.050}$	$\phi 35^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$		<b>3115</b>		<b>3125</b>	<b>3130</b>			<b>3140</b>							31	
32	$\phi 36H7^{+0.025}_{0}$	$\phi 32^{-0.025}_{-0.050}$	$\phi 36^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$		<b>3215</b>	<b>3220</b>	<b>3225</b>	<b>3230</b>			<b>3240</b>							32	
35	$\phi 39H7^{+0.025}_{0}$	$\phi 35^{-0.025}_{-0.050}$	$\phi 39^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$	<b>3512</b>	<b>3515</b>	<b>3520</b>	<b>3525</b>	<b>3530</b>	<b>3535</b>		<b>3540</b>	<b>3550</b>						35	
38	$\phi 42H7^{+0.025}_{0}$	$\phi 38^{-0.025}_{-0.050}$	$\phi 42^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$			<b>3820</b>	<b>3825</b>	<b>3830</b>	<b>3835</b>		<b>3840</b>							38	
40	$\phi 44H7^{+0.025}_{0}$	$\phi 40^{-0.025}_{-0.050}$	$\phi 44^{+0.115}_{+0.075}$	$2.0^{0}_{-0.030}$	<b>4012</b>	<b>4015</b>	<b>4020</b>	<b>4025</b>	<b>4030</b>	<b>4035</b>		<b>4040</b>	<b>4050</b>						40	
45	$\phi 50H7^{+0.025}_{0}$	$\phi 45^{-0.025}_{-0.050}$	$\phi 50^{+0.115}_{+0.075}$	$2.5^{0}_{-0.040}$			<b>4520</b>	<b>4525</b>	<b>4530</b>	<b>4535</b>		<b>4540</b>	<b>4550</b>						45	
50	$\phi 55H7^{+0.030}_{0}$	$\phi 50^{-0.025}_{-0.050}$	$\phi 55^{+0.145}_{+0.095}$	$2.5^{0}_{-0.040}$			<b>5020</b>	<b>5025</b>	<b>5030</b>	<b>5035</b>		<b>5040</b>	<b>5050</b>	<b>5060</b>					50	
55	$\phi 60H7^{+0.030}_{0}$	$\phi 55^{-0.025}_{-0.055}$	$\phi 60^{+0.145}_{+0.095}$	$2.5^{0}_{-0.040}$				<b>5525</b>	<b>5530</b>	<b>5535</b>		<b>5540</b>	<b>5550</b>	<b>5560</b>					55	
60	$\phi 65H7^{+0.030}_{0}$	$\phi 60^{-0.025}_{-0.055}$	$\phi 65^{+0.145}_{+0.095}$	$2.5^{0}_{-0.040}$					<b>6030</b>	<b>6035</b>		<b>6040</b>	<b>6050</b>	<b>6060</b>		<b>6080</b>			60	
65	$\phi 70H7^{+0.030}_{0}$	$\phi 65^{-0.035}_{-0.005}$	$\phi 70^{+0.145}_{+0.095}$	$2.47^{0}_{-0.050}$					<b>6530</b>			<b>6540</b>	<b>6550</b>	<b>6560</b>					65	
70	$\phi 75H7^{+0.030}_{0}$	$\phi 70^{-0.035}_{-0.005}$	$\phi 75^{+0.145}_{+0.095}$	$2.47^{0}_{-0.050}$					<b>7030</b>	<b>7035</b>		<b>7040</b>	<b>7050</b>	<b>7060</b>	<b>7070</b>	<b>7080</b>			70	
75	$\phi 80H7^{+0.030}_{0}$	$\phi 75^{-0.035}_{-0.005}$	$\phi 80^{+0.160}_{+0.095}$	$2.47^{0}_{-0.050}$					<b>7530</b>	<b>7535</b>		<b>7540</b>	<b>7550</b>	<b>7560</b>		<b>7580</b>			75	
80	$\phi 85H7^{+0.035}_{0}$	$\phi 80^{-0.035}_{-0.005}$	$\phi 80^{+0.165}_{+0.100}$	$2.47^{0}_{-0.050}$								<b>8040</b>	<b>8050</b>	<b>8060</b>		<b>8080</b>			80	
85	$\phi 90H7^{+0.035}_{0}$	$\phi 85^{-0.035}_{0}$	$\phi 90^{+0.165}_{+0.100}$	$2.47^{0}_{-0.050}$								<b>8540</b>	<b>8550</b>	<b>8560</b>		<b>8580</b>			85	
90	$\phi 95H7^{+0.035}_{0}$	$\phi 90^{-0.035}_{0}$	$\phi 95^{+0.165}_{+0.100}$	$2.47^{0}_{-0.050}$								<b>9040</b>	<b>9050</b>	<b>9060</b>			<b>9090</b>		90	
100	$\phi 105H7^{+0.035}_{0}$	$\phi 100^{-0.035}_{0}$	$\phi 105^{+0.180}_{+0.110}$	$2.47^{0}_{-0.050}$									<b>10050</b>		<b>10070</b>	<b>10080</b>		<b>10095</b>	<b>100100</b>	100
110	$\phi 115H7^{+0.035}_{0}$	$\phi 110^{-0.035}_{0}$	$\phi 115^{+0.180}_{+0.110}$	$2.47^{0}_{-0.050}$									<b>11050</b>		<b>11070</b>			<b>11095</b>	<b>110100</b>	110
120	$\phi 125H7^{+0.040}_{0}$	$\phi 120^{-0.035}_{0}$	$\phi 125^{+0.185}_{+0.120}$	$2.47^{0}_{-0.050}$									<b>12050</b>		<b>12070</b>			<b>12095</b>	<b>120100</b>	120
130	$\phi 135H7^{+0.040}_{0}$	$\phi 130^{-0.035}_{-0.005}$	$\phi 135^{+0.185}_{+0.120}$	$2.47^{0}_{-0.050}$									<b>13050</b>			<b>13080</b>			<b>130100</b>	130
140	$\phi 145H7^{+0.040}_{0}$	$\phi 140^{-0.035}_{-0.005}$	$\phi 145^{+0.185}_{+0.120}$	$2.47^{0}_{-0.050}$									<b>14050</b>			<b>14080</b>			<b>140100</b>	140
150	$\phi 155H7^{+0.040}_{0}$	$\phi 150^{-0.035}_{-0.005}$	$\phi 155^{+0.205}_{+0.140}$	$2.47^{0}_{-0.050}$									<b>15050</b>			<b>15080</b>			<b>150100</b>	150
160	$\phi 165H7^{+0.040}_{0}$	$\phi 160^{-0.035}_{-0.005}$	$\phi 165^{+0.205}_{+0.140}$	$2.47^{0}_{-0.050}$									<b>16050</b>			<b>16080</b>			<b>160100</b>	160

\*Width tolerance is :  
 ~ID 110  $^{-0.3}_{-0.3}$   
 OD 120~  $^{-0.4}_{-0.4}$

# K5F DDK05 Flanged Bushing (Bushing Inner Diameter: 3 to 60 mm)

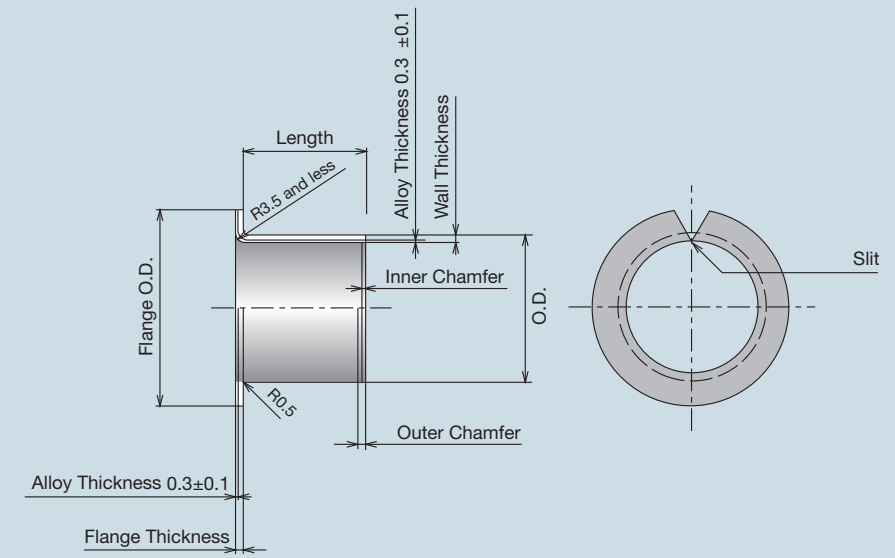
## Designation of Part Number

**K5 F 00 00 00**

- Flange O.D.
- Bushing Length
- Bushing Nominal I.D.
- Flanged Bushing
- Product Symbol

**K5F 0303-7**

Please specify by part number.



(Unit: mm)

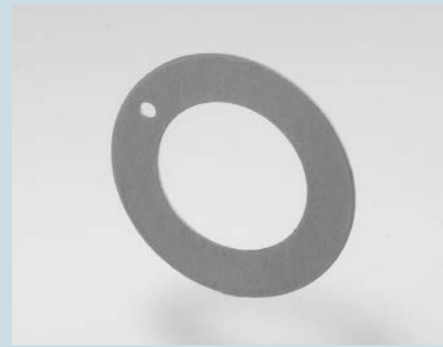
Bushing I.D.	Recommended Dimension Mating Part		Bushing Dimensions							Part Number & Bushing Length Tolerance $^{0}_{-0.3}$												Bushing I.D.
	Housing I.D.	Shaft Dia.	Flange O.D.	Flange Thickness	O.D.	Wall Thickness	3	4	5	6	7	8	10	12	15	20	25	30	40	50	60	
3	$\phi 4.6H7^{+0.012}_0$	$\phi 3^{-0.025}_{-0.035}$	$\phi 7^0_{-0.8}$	$0.8^0_{-0.15}$	$\phi 4.6^{+0.047}_{+0.017}$	$0.8^0_{-0.025}$	<b>0303-7</b>		<b>0305-7</b>													3
4	$\phi 5.6H7^{+0.012}_0$	$\phi 4^{-0.025}_{-0.037}$	$\phi 9^0_{-0.8}$	$0.8^0_{-0.15}$	$\phi 5.6^{+0.047}_{+0.017}$	$0.8^0_{-0.025}$		<b>0404-9</b>		<b>0406-9</b>												4
5	$\phi 7H7^{+0.015}_0$	$\phi 5^{-0.025}_{-0.037}$	$\phi 10^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 7^{+0.053}_{+0.023}$	$1.0^0_{-0.025}$		<b>0504-10</b>	<b>0505-10</b>	<b>0506-10</b>												5
6	$\phi 8H7^{+0.015}_0$	$\phi 6^{-0.025}_{-0.037}$	$\phi 12^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 8^{+0.053}_{+0.023}$	$1.0^0_{-0.025}$			<b>0605-12</b>	<b>0606-12</b>												6
7	$\phi 9H7^{+0.015}_0$	$\phi 7^{-0.025}_{-0.040}$	$\phi 13^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 9^{+0.053}_{+0.023}$	$1.0^0_{-0.025}$			<b>0705-13</b>													7
8	$\phi 10H7^{+0.015}_0$	$\phi 8^{-0.025}_{-0.040}$	$\phi 15^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 10^{+0.055}_{+0.025}$	$1.0^0_{-0.025}$				<b>0806-15</b>												8
10	$\phi 12H7^{+0.018}_0$	$\phi 10^{-0.025}_{-0.040}$	$\phi 18^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 12^{+0.060}_{+0.030}$	$1.0^0_{-0.025}$				<b>1006-18</b>												10
12	$\phi 14H7^{+0.018}_0$	$\phi 12^{-0.025}_{-0.043}$	$\phi 20^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 14^{+0.060}_{+0.030}$	$1.0^0_{-0.025}$				<b>1206-20</b>												12
14	$\phi 16H7^{+0.018}_0$	$\phi 14^{-0.025}_{-0.043}$	$\phi 22^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 16^{+0.063}_{+0.033}$	$1.0^0_{-0.025}$							<b>1410-22</b>	<b>1412-22</b>	<b>1415-22</b>	<b>1420-22</b>						14
15	$\phi 17H7^{+0.018}_0$	$\phi 15^{-0.025}_{-0.043}$	$\phi 23^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 17^{+0.073}_{+0.038}$	$1.0^0_{-0.025}$								<b>1510-23</b>	<b>1512-23</b>	<b>1515-23</b>	<b>1520-23</b>	<b>1525-23</b>				15
16	$\phi 18H7^{+0.018}_0$	$\phi 16^{-0.025}_{-0.043}$	$\phi 24^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 18^{+0.073}_{+0.038}$	$1.0^0_{-0.025}$								<b>1610-24</b>	<b>1612-24</b>	<b>1615-24</b>	<b>1620-24</b>	<b>1625-24</b>				16
18	$\phi 20H7^{+0.021}_0$	$\phi 18^{-0.025}_{-0.043}$	$\phi 26^0_{-0.8}$	$1.0^0_{-0.15}$	$\phi 20^{+0.081}_{+0.046}$	$1.0^0_{-0.025}$								<b>1810-26</b>	<b>1812-26</b>	<b>1815-26</b>	<b>1820-26</b>	<b>1825-26</b>				18
20	$\phi 23H7^{+0.021}_0$	$\phi 20^{-0.025}_{-0.046}$	$\phi 31^0_{-0.8}$	$1.5^0_{-0.15}$	$\phi 23^{+0.081}_{+0.046}$	$1.5^0_{-0.030}$								<b>2010-31</b>	<b>2012-31</b>	<b>2015-31</b>	<b>2020-31</b>	<b>2025-31</b>	<b>2030-31</b>			20
22	$\phi 25H7^{+0.021}_0$	$\phi 22^{-0.025}_{-0.046}$	$\phi 33^0_{-0.8}$	$1.5^0_{-0.15}$	$\phi 25^{+0.086}_{+0.051}$	$1.5^0_{-0.030}$								<b>2210-33</b>	<b>2212-33</b>	<b>2215-33</b>	<b>2220-33</b>	<b>2225-33</b>				22
24	$\phi 27H7^{+0.021}_0$	$\phi 24^{-0.025}_{-0.046}$	$\phi 35^0_{-0.8}$	$1.5^0_{-0.15}$	$\phi 27^{+0.086}_{+0.051}$	$1.5^0_{-0.030}$									<b>2415-35</b>	<b>2420-35</b>	<b>2425-35</b>	<b>2430-35</b>				24
25	$\phi 28H7^{+0.021}_0$	$\phi 25^{-0.025}_{-0.046}$	$\phi 36^0_{-0.8}$	$1.5^0_{-0.15}$	$\phi 28^{+0.093}_{+0.056}$	$1.5^0_{-0.030}$								<b>2510-36</b>	<b>2512-36</b>	<b>2515-36</b>	<b>2520-36</b>	<b>2525-36</b>	<b>2530-36</b>			25
26	$\phi 30H7^{+0.021}_0$	$\phi 26^{-0.025}_{-0.046}$	$\phi 38^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 30^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$									<b>2615-38</b>	<b>2620-38</b>						26
28	$\phi 32H7^{+0.025}_0$	$\phi 28^{-0.025}_{-0.046}$	$\phi 40^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 32^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$								<b>2812-40</b>	<b>2815-40</b>	<b>2820-40</b>			<b>2830-40</b>			28
30	$\phi 34H7^{+0.025}_0$	$\phi 30^{-0.025}_{-0.046}$	$\phi 42^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 34^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$								<b>3012-42</b>	<b>3015-42</b>	<b>3020-42</b>	<b>3025-42</b>	<b>3030-42</b>	<b>3040-42</b>			30
31	$\phi 35H7^{+0.025}_0$	$\phi 31^{-0.025}_{-0.050}$	$\phi 45^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 35^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$										<b>3125-45</b>						31
32	$\phi 36H7^{+0.025}_0$	$\phi 32^{-0.025}_{-0.050}$	$\phi 46^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 36^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$										<b>3220-46</b>	<b>3225-46</b>	<b>3230-46</b>				32
35	$\phi 39H7^{+0.025}_0$	$\phi 35^{-0.025}_{-0.050}$	$\phi 49^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 39^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$							<b>3512-49</b>		<b>3520-49</b>	<b>3525-49</b>	<b>3530-49</b>	<b>3540-49</b>	<b>3550-49</b>			35
38	$\phi 42H7^{+0.025}_0$	$\phi 38^{-0.025}_{-0.050}$	$\phi 52^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 42^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$										<b>3820-52</b>		<b>3830-52</b>	<b>3840-52</b>			38
40	$\phi 44H7^{+0.025}_0$	$\phi 40^{-0.025}_{-0.050}$	$\phi 54^0_{-0.8}$	$2.0^0_{-0.15}$	$\phi 44^{+0.115}_{+0.075}$	$2.0^0_{-0.030}$							<b>4012-54</b>		<b>4020-54</b>	<b>4025-54</b>	<b>4030-54</b>	<b>4040-54</b>	<b>4050-54</b>			40
45	$\phi 50H7^{+0.025}_0$	$\phi 45^{-0.025}_{-0.050}$	$\phi 60^0_{-0.8}$	$2.5^0_{-0.15}$	$\phi 50^{+0.115}_{+0.075}$	$2.5^0_{-0.040}$										<b>4520-60</b>	<b>4525-60</b>	<b>4530-60</b>	<b>4540-60</b>	<b>4550-60</b>		45
50	$\phi 55H7^{+0.030}_0$	$\phi 50^{-0.025}_{-0.050}$	$\phi 65^0_{-0.8}$	$2.5^0_{-0.15}$	$\phi 55^{+0.145}_{+0.095}$	$2.5^0_{-0.040}$										<b>5020-65</b>		<b>5030-65</b>	<b>5040-65</b>	<b>5060-65</b>		50
55	$\phi 60H7^{+0.030}_0$	$\phi 55^{-0.025}_{-0.050}$	$\phi 70^0_{-0.8}$	$2.5^0_{-0.15}$	$\phi 60^{+0.145}_{+0.095}$	$2.5^0_{-0.040}$												<b>5530-70</b>	<b>5540-70</b>	<b>5560-70</b>		55
60	$\phi 65H7^{+0.030}_0$	$\phi 60^{-0.025}_{-0.050}$	$\phi 75^0_{-0.8}$	$2.5^0_{-0.15}$	$\phi 65^{+0.145}_{+0.095}$	$2.5^0_{-0.040}$												<b>6030-75</b>	<b>6040-75</b>	<b>6060-75</b>		60

# K5T DDK05 Thrust Washer

Designation of Part Number

**K5 T 00**

Nominal I.D.  
Thrust Washer  
Product Symbol

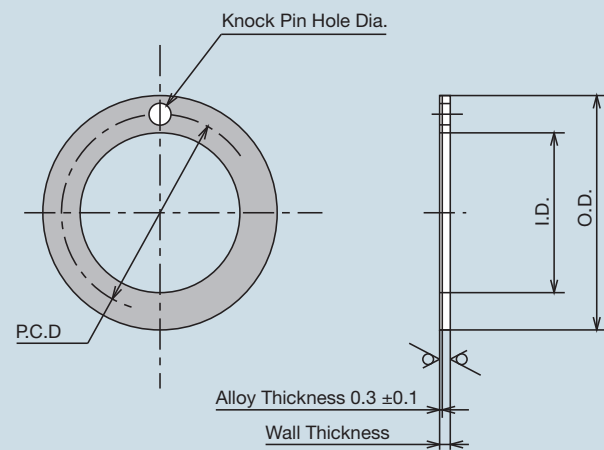


**K5T 06**

Please specify by part number.

(Unit: mm)

Nominal I.D.	Part Number	I.D.	O.D.	Thickness	Knock Pin Hole		Housing Recess Depth	
					Dia.	P. C. D		
6	<b>K5T06</b>	8 <sup>+0.25</sup> <sub>0</sub>	16 <sup>0</sup> <sub>-0.25</sub>	1.5 <sup>-0.03</sup> <sub>-0.08</sub>	1.100 <sup>+0.20</sup> <sub>0</sub>	12 ±0.12	1.0 <sup>+0.20</sup> <sub>-0.05</sub>	
8	<b>K5T08</b>	10 <sup>+0.25</sup> <sub>0</sub>	18 <sup>0</sup> <sub>-0.25</sub>					14 ±0.12
10	<b>K5T10</b>	12 <sup>+0.25</sup> <sub>0</sub>	24 <sup>0</sup> <sub>-0.25</sub>					18 ±0.12
12	<b>K5T12</b>	14 <sup>+0.25</sup> <sub>0</sub>	26 <sup>0</sup> <sub>-0.25</sub>					20 ±0.12
14	<b>K5T14</b>	16 <sup>+0.25</sup> <sub>0</sub>	30 <sup>0</sup> <sub>-0.25</sub>					23 ±0.12
16	<b>K5T16</b>	18 <sup>+0.25</sup> <sub>0</sub>	32 <sup>0</sup> <sub>-0.25</sub>					25 ±0.12
18	<b>K5T18</b>	20 <sup>+0.25</sup> <sub>0</sub>	36 <sup>0</sup> <sub>-0.25</sub>					28 ±0.12
20	<b>K5T20</b>	22 <sup>+0.25</sup> <sub>0</sub>	38 <sup>0</sup> <sub>-0.25</sub>					30 ±0.12
22	<b>K5T22</b>	24 <sup>+0.25</sup> <sub>0</sub>	42 <sup>0</sup> <sub>-0.25</sub>					33 ±0.12
24	<b>K5T24</b>	26 <sup>+0.25</sup> <sub>0</sub>	44 <sup>0</sup> <sub>-0.25</sub>					35 ±0.12
25	<b>K5T25</b>	28 <sup>+0.25</sup> <sub>0</sub>	48 <sup>0</sup> <sub>-0.25</sub>	4.125 <sup>+0.25</sup> <sub>0</sub>	38 ±0.12	1.5 <sup>+0.20</sup> <sub>-0.05</sub>		
30	<b>K5T30</b>	32 <sup>+0.25</sup> <sub>0</sub>	54 <sup>0</sup> <sub>-0.25</sub>		43 ±0.12			
35	<b>K5T35</b>	38 <sup>+0.25</sup> <sub>0</sub>	62 <sup>0</sup> <sub>-0.25</sub>		50 ±0.12			
40	<b>K5T40</b>	42 <sup>+0.25</sup> <sub>0</sub>	66 <sup>0</sup> <sub>-0.25</sub>		54 ±0.12			
45	<b>K5T45</b>	48 <sup>+0.25</sup> <sub>0</sub>	74 <sup>0</sup> <sub>-0.25</sub>		61 ±0.12			
50	<b>K5T50</b>	52 <sup>+0.25</sup> <sub>0</sub>	78 <sup>0</sup> <sub>-0.25</sub>	65 ±0.12				

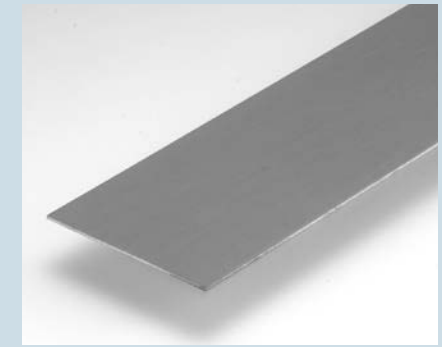


# K5P DDK05 Slide Plate

Designation of Part Number

**K5 P 00**

Thickness Indication Symbol  
Slide Plate  
Product Symbol



**K5P 100**

Please specify by part number.

(Unit: mm)

Part Number	Thickness	Width	Length
<b>K5P100</b>	1.0 <sup>+0.03</sup> <sub>-0.13</sub>	80 <sup>+2.0</sup> <sub>0</sub>	500 <sup>+10.0</sup> <sub>0</sub>
<b>K5P150</b>	1.5 <sup>+0.03</sup> <sub>-0.13</sub>	90 <sup>+2.0</sup> <sub>0</sub>	
<b>K5P200</b>	2.0 <sup>+0.03</sup> <sub>-0.13</sub>	100 <sup>+2.0</sup> <sub>0</sub>	
<b>K5P250</b>	2.5 <sup>-0.05</sup> <sub>-0.15</sub>	100 <sup>+2.0</sup> <sub>0</sub>	
<b>K5P300</b>	3.0 <sup>0</sup> <sub>-0.1</sub>	100 <sup>+2.0</sup> <sub>0</sub>	

