

## Marginally lubricated Bearings-POM Composite



### Product Brief

KX is made of high quality low-carbon steel, with a interlayer of porous bronze and POM on ist surface. The bearing surface carries a pattern of circular indents which should be filled with grease on assembly of the bearing. It is suitable for rotary, oscillating, reciprocating and sliding movement.

### Structure



1. POM thickness 0.30 ~ 0.50 mm
2. Sintered bronze powder thickness 0.20 ~ 0.35 mm
3. Low-carbon steel
4. Copper/Tin plating thickness 0.002mm

### Tech. Data

Max. Load	Static	250N/mm <sup>2</sup>
	Low speed	140N/mm <sup>2</sup>
	Rotating oscillating	70N/mm <sup>2</sup>
Max. PV		2.8N/mm <sup>2</sup> *m/s
Coefficient of thermal expansion		11*10 <sup>-6</sup> *k <sup>-1</sup>
Temp. Range		- 195°C~ + 280°C

Max Speed	Temp. Range		- 40°C~ + 130°C
	Pre-lubricated		2m/s
Max Speed	Oiling Grease	Continuous	>2m/s
	Thermal conductivity		50W(m*k) <sup>-1</sup>
Friction coefficient			0.05~0.20 μ

Initial pre-lubrication at assembly is strongly recommended.

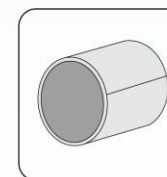
### Characteristics and Advantages

1. Low-maintenance operation, it is especially well-suited for applications where lubricant can not be supplied continuously or repeated
2. Low friction and low wear rate
3. High load capacity and high sliding velocity
4. Good chemical resistance
5. Small operating clearance
6. No absorption of water and therefore no swelling
7. Good damping behaviours
8. Good resistance to shock loads

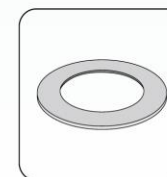
### Typical Applications

- Automotive
- Machine tool building industry
- Agricultural equipment
- Construction machinery
- Materials handling equipment
- Home appliances and consumer goods

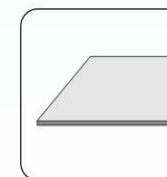
### Availability



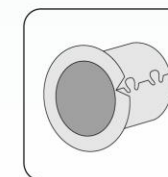
Cylindrical



Thrust washer

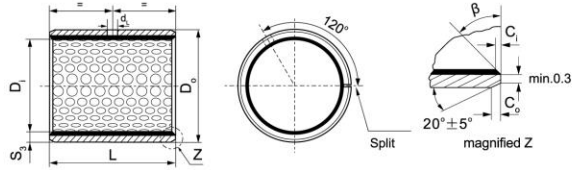
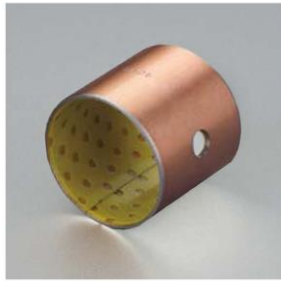


Strip



Non-standard parts as design

Metric Standard Cylindrical Bearings Size



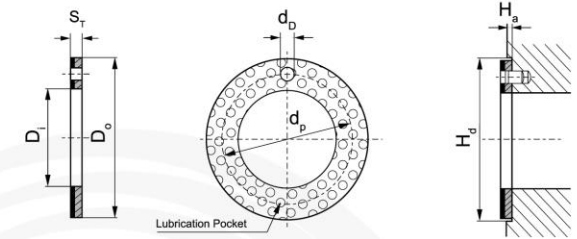
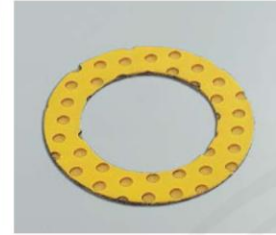
ID and OD chamfers

S <sub>3</sub>	C <sub>o</sub>	C <sub>i</sub>	β	S <sub>3</sub>	C <sub>o</sub>	C <sub>i</sub>	β
1.0	0.6 ± 0.3	0.30 ± 0.2	30° ± 5°	2.00	1.2 ± 0.4	0.50 ± 0.3	30° ± 5°
1.5	0.7 ± 0.3	0.50 ± 0.2	30° ± 5°	2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

Unit:mm

Shaft D <sub>s</sub> h8	Housing H7 D <sub>h</sub>	OD tolerance D <sub>o</sub>	ID after fixed D <sub>1a</sub>	Clearance	Wall thickness S <sub>3</sub>	Oil hole d <sub>L</sub>	Length <sup>0</sup> <sub>-0.40</sub>															
							10	15	20	25	30	35	40	45	50	60						
10 <sup>-0.022</sup>	12 <sup>+0.018</sup>	12 <sup>+0.065</sup> <sub>+0.030</sub>	10.108 10.040	0.130 0.040	0.980 0.955	4	1010	1015	1020													
12 <sup>-0.027</sup>	14 <sup>+0.018</sup>	14 <sup>+0.065</sup> <sub>+0.030</sub>	12.108 12.040	0.135 0.040			1210	1215	1220													
14 <sup>-0.027</sup>	16 <sup>+0.018</sup>	16 <sup>+0.065</sup> <sub>+0.030</sub>	14.108 14.040				1415	1420														
15 <sup>-0.027</sup>	17 <sup>+0.018</sup>	17 <sup>+0.065</sup> <sub>+0.030</sub>	15.108 15.040	1515			1520	1525														
16 <sup>-0.027</sup>	18 <sup>+0.018</sup>	18 <sup>+0.065</sup> <sub>+0.030</sub>	16.108 16.040	0.138 0.040	1.475 1.445	6	1615	1620	1625													
18 <sup>-0.027</sup>	20 <sup>+0.021</sup>	20 <sup>+0.075</sup> <sub>+0.035</sub>	18.111 18.040				1815	1820	1825													
20 <sup>-0.033</sup>	23 <sup>+0.021</sup>	23 <sup>+0.075</sup> <sub>+0.035</sub>	20.131 20.050				2015	2020	2025	2030												
22 <sup>-0.033</sup>	25 <sup>+0.021</sup>	25 <sup>+0.075</sup> <sub>+0.035</sub>	22.131 22.050				2215	2225														
25 <sup>-0.033</sup>	28 <sup>+0.021</sup>	28 <sup>+0.075</sup> <sub>+0.035</sub>	25.131 25.050	0.188 0.060	1.970 1.935	8	2515	2520	2525	2530												
28 <sup>-0.033</sup>	32 <sup>+0.025</sup>	32 <sup>+0.085</sup> <sub>+0.045</sub>	28.155 28.060				2820	2830														
30 <sup>-0.033</sup>	34 <sup>+0.025</sup>	34 <sup>+0.085</sup> <sub>+0.045</sub>	30.155 30.060				3020	3025	3030	3040												
35 <sup>-0.039</sup>	39 <sup>+0.025</sup>	39 <sup>+0.085</sup> <sub>+0.045</sub>	35.155 35.060				3520	3530	3535	3540												
40 <sup>-0.039</sup>	44 <sup>+0.025</sup>	44 <sup>+0.085</sup> <sub>+0.045</sub>	40.155 40.060	0.234 0.080	2.460 2.415	8	4020	4030	4040	4050												
45 <sup>-0.039</sup>	50 <sup>+0.025</sup>	50 <sup>+0.085</sup> <sub>+0.045</sub>	45.195 45.080				4520	4530	4540	4545	4550											
50 <sup>-0.039</sup>	55 <sup>+0.030</sup>	55 <sup>+0.100</sup> <sub>+0.055</sub>	50.200 50.080				5030	5040	5050	5060												
55 <sup>-0.046</sup>	60 <sup>+0.030</sup>	60 <sup>+0.100</sup> <sub>+0.055</sub>	55.200 55.080				5530	5540	5550	5560												
60 <sup>-0.046</sup>	65 <sup>+0.030</sup>	65 <sup>+0.100</sup> <sub>+0.055</sub>	60.200 60.080	6030	6040	6050	6060															

Metric Standard Thrust Washers Size

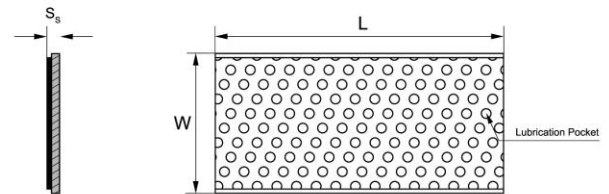


Unit:mm

Shaft D <sub>s</sub>	Specification	Washes dimension				Installation size		
		D <sub>o</sub> +0.25	D <sub>o</sub> -0.25	S <sub>r</sub> -0.05	d <sub>p</sub> ± 0.125	d <sub>o</sub> <sup>+0.4</sup> -0.1	H <sub>a</sub> ± 0.2	H <sub>b</sub> +0.12
8	A 10 KX	10	20	1.5	15	1.5	1	20
10	A 12 KX	12	24		18			24
12	A 14 KX	14	26		20	26		
14	A 16 KX	16	30		23	30		
16	A 18 KX	18	32		25	32		
18	A 20 KX	20	36		28	36		
20	A 22 KX	22	38		30	38		
22	A 24 KX	24	42		33	42		
24	A 26 KX	26	44		35	44		
26	A 28 KX	28	48		38	48		
30	A 32 KX	32	54	43	54			
36	A 38 KX	38	62	50	62			
40	A 42 KX	42	66	54	66			
46	A 48 KX	48	74	61	74			
50	A 52 KX	52	78	65	78			
60	A 62 KX	62	90	76	90			

KX Slide plates

Metric Standard Strips Size



Unit:mm

Type	Length(L) ± 1	Width(W) ± 1	Thickness(S <sub>3</sub> )-0.05
20S	500	150	1.0
20S	500	150	1.5
20S	500	150	2.0
20S	500	150	2.5