

YDB



跃达轴承

YUE DA BEARING

专业生产自润滑无油轴承

公司简介 Introduction

嘉善跃达无油轴承厂是生产各类滑动轴承的专业性实体企业,主要产品有:润滑轴承、无油轴承、滑动轴承、复合轴承、直线轴承、平面轴承、自润滑轴承、导套、轴套、导向套、镶嵌轴承、铜套、光轴、轴瓦、滑板等。

在多年生产实践中,始终坚持管理和技术的创新,同时我们也能根据客户的具体需求设计生产,给客户最佳方案和最优的服务。产品应用覆盖:汽车行业、建筑工程机械、塑料成型机械,液压元件,农用机械、办公设备、食品医药机械等需要润滑但无法或者难以加油润滑的各个传动部位。本厂坚持以科技为先导,以质量求发展,建立了严格的质量保证体系,企业的技术水平和产品质量不断提高。企业以“不断进步,力争一流”为经营宗旨,努力为客户提供一流的产品和服务。

自润滑轴承是一种兼有金属轴承特点和无油润滑轴承特点的新颖润滑轴承,特别适用于重载,低速,往复或摆动等难以润滑和形成油膜的场合,也不怕水冲和其它酸液的浸蚀和冲刷,由金属基体承受载荷,它具有承载能力高,耐冲击,耐高温,自润滑能力强等特点,特殊配方的固体润滑材料起润滑作用。



JDB

镶嵌式固体 润滑轴承

Solid Lubricant Inlaid Bearing



基材特性 Material Features

JDB固体润滑轴承是在轴承基体的金属摩擦面上开出大小适当、排列有序的孔穴，然后在孔穴中嵌入具有独特自润滑性能的成型固体润滑剂（固体润滑剂面积一般为摩擦面积的25%—35%）而制成的自润滑轴承。该轴承综合了金属基体和特殊配方润滑材料的各自优点，突破了一般轴承依靠油膜润滑的局限性。JDB固体润滑轴承特别适用于无油、高温、高负载、低速度、防污、防蚀、防辐射、以及在水中或真空溶液浸润而根本无法加润滑油膜的特殊工况条件下使用。该产品广泛应用于冶金轧钢设备、灌装设备、水轮机、气轮机、仪器仪表以及矿山机械、船舶机械、纺织机械、船舶工业、航天航海等领域。同时也越来越广泛的使用在其它工农业机械中。JDB固体润滑轴承的基体应根据轴承自身的工况条件而定。比较常用的材料有高力黄铜、锡青铜、铸件等。根据轴承自身工况条件，通过不同金属基体和嵌入固体润滑剂的组合，可保证产品能满足各种温度、负荷、运动和介质等工况条件下的特殊需要，同时保证稳定可靠地工作。

JDB material is made of strong cast bronze based metal with special solid lubricants embedded. The base metal withstands high load and the solid lubricants provide for self-lubrication. The bearing shows excellent performance without pre-lubrication under conditions of extreme high/lower temperature with low speed.

This material provides a maintenance-free bearing solution, particularly for high load, intermittent of oscillating motion.

This kind of bearing can be applied under dry, high temperature, high pressure, corrosive, water or other chemical environments when no oil can be introduced.

Now is widely be used in automotive products line, water engineering, dam gate, plastic industries, successive casting machines, steel rollers in metallurgy industry, mineral machines, ships, turbo generators, hydraulic turbines and injection molding machines...

主要材料推荐 MAIN MATERIALS RECOMMENDATION

合金材质 Metal type

LSB Standard LSB标准	Cast bronze 高力黄铜	Copper alloy 铜合金	Copper alloy 铜合金	Copper alloy 铜合金	Strong cast bronze 特硬高力黄铜	Cast iron 铸铁
Base material基本材质	CuZn24Al6	CuSn5Zn5Pb5	CuAl10Ni5	CuSn12	CuZn24Al6	HT250
Hardness HB 硬度	>210	>70	>150	>80	>250	>160
Tensile strength 抗拉强度 N/mm ²	>750	>200	>500	>360	>800	>250
Elongation% 伸长率	>12	15	>10	>8	>4	
Coefficient of linear expansion 热胀系数	1.9*10 ⁻⁵ /°C	1.8*10 ⁻⁵ /°C	1.6*10 ⁻⁵ /°C	1.8*10 ⁻⁵ /°C	1.9*10 ⁻⁵ /°C	1.0*10 ⁻⁵ /°C
Limit Temp. 温度	300°C	400°C	400°C	400°C	300°C	400°C
Max. Load N/mm ² 最大动承载	100	60	50	70	150	10
Max. Speed m/min最大线速度	15	10	20	10	10	15
Max. PV 最大PV N/mm ² *m/min	200	200	200	200	200	40
压缩永久变形量400N/mm ²	<0.01	<0.05	<0.04	<0.05	<0.005	<0.015

同时YDB可以根据客户的特别要求提供HB>270及HB>300的特高硬铜材料

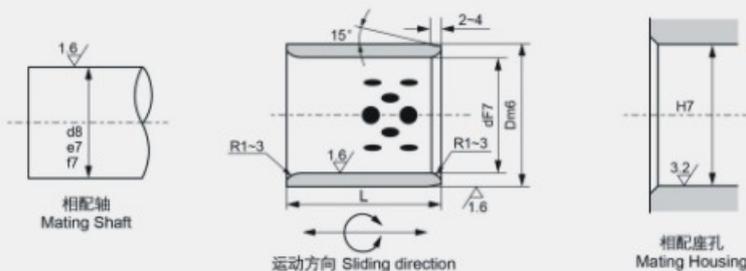
As a special request YTB also can supply the strong cast bronze of special high hardness HB>270, HB>300

JDB 自润轴套

JDB Oilless Cylindrical Bushes



材质	高力黄铜+石墨
Material	CuZn25Al6Mn4+ Graphite



单位unit:mm

IDF7 (内径)	ODm6 (外径)	L															
		8	10	12	15	16	20	25	30	35	40	50	60	70	80		
8	12	+0.028 +0.013	081208	081210	081212	081215											
10			14	+0.018 +0.007	101408	101410	101412	101415		101420							
12	18	+0.034 +0.016		121810	121812	121815	121816	121820	121825	121830							
13	19			131910		131915	131916										
14	20			142010	142012	142015		142020	142025	142030							
15	21		+0.021 +0.008		152110	152112	152115	152116	152120	152125	152130						
16	22				162210	162212	162215	162216	162220	162225	162230	162235	162240				
18	24					182412	182415	182416	182420	182425	182430	182435	182440				
20	28			202810	202812	202815	202816	202820	202825	202830	202835	202840	202850				
22	32		+0.041 +0.020			223212	223215		223220	223225							
25	33				253312	253315	253316	253320	253325	253330	253335	253340	253350	253360			
30	38	+0.025 +0.009				303812	303815		303820	303825	303830	303835	303840	303850	303860		
35	45								354520	354525	354530	354535	354540	354550	354560		
40	50	+0.050 +0.025							405020	405025	405030	405035	405040	405050	405060	405070	405080
45	55		+0.030 +0.011							455530	455535	455540	455550	455560			
50	60									506030	506035	506040	506050	506060	506070	506080	

注：除以上规格尺寸外，可按客户图纸制造。

JDB 自润轴套

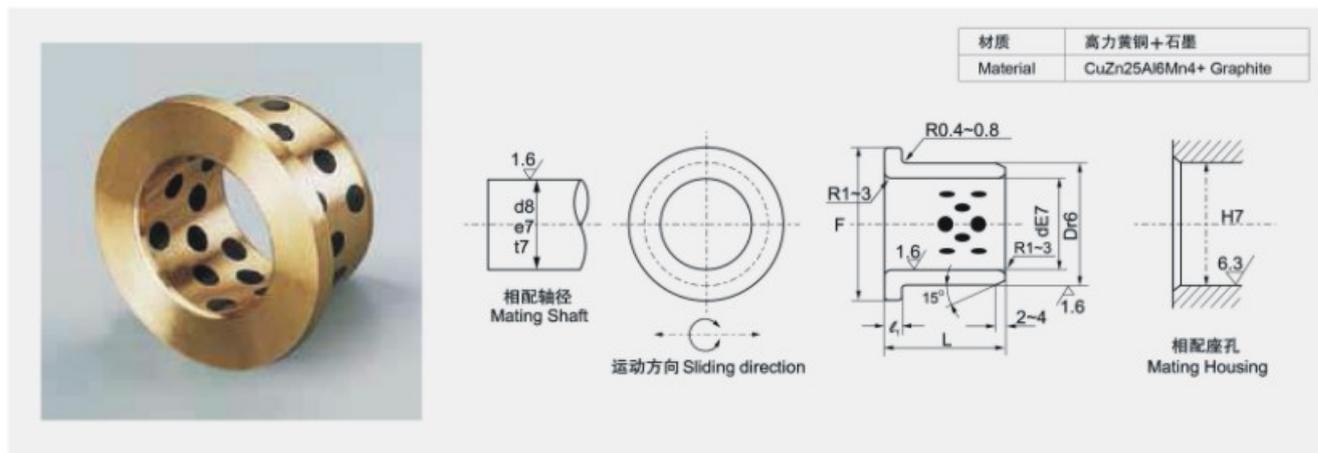
JDB Oilless Cylindrical Bushes

单位unit:mm

IDF7 (内径)	ODm6 (外径)	L ^{-0.10} _{-0.30}													
		30	35	40	50	60	70	80	100	120	130	140	150		
50	+0.050 +0.025	62	506230	506235	506240	506250	506260	506270							
50		65	506530		506540	506550	506560	506570	506580	5065100					
55	+0.030 +0.011	70			557040	557050	557060	557070							
60		74	607430	607435	607440	607450	607460	607470	607480						
60		75	607530	607535	607540	607550	607560	607570	607580	6075100					
63		75					637560	637570	637580						
65		80				658050	658060	658070	658080						
70		+0.060 +0.030	85		708535	708540	708550	708560	708570	708580	7085100				
70		90				709050	709060	709070	709080						
75		90					759060	759070	759080	7590100					
75		95					759560	759570	759580	7595100					
80		+0.035 +0.013	96			809640	809650	809660	809670	809680	8096100	8096120			
80	100			8010040	8010050	8010060	8010070	8010080	80100100	80100120		80100140			
90	+0.071 +0.036	110	9011030		9011050	9011060	9011070	9011080	90110100	90110120					
100		120				10012060	10012070	10012080	100120100	100120120		100120140			
110		130						11013080	110130100	110130120					
120		140						12014080	120140100	120140120		120140140			
125		145							125145100	125145120					
130		+0.040 +0.015	150						130150100		130150130				
140		160							140160100			140160140			
150		+0.083 +0.043	170						150170100					150170150	
160		180							160180100					160180150	
170		190							170190100					170190150	
180	200							180200100					180200150		
190	210							190210100					190210150		
190	+0.046 +0.017	220						190220100					200230100		
200	+0.096 +0.050	230						200230100					210240150		
210		240								210240120			220250150		
220		250								220250120			220250150		
220		260								220260120			220260150		
		+0.052 +0.020													

JFB 自润翻边轴套

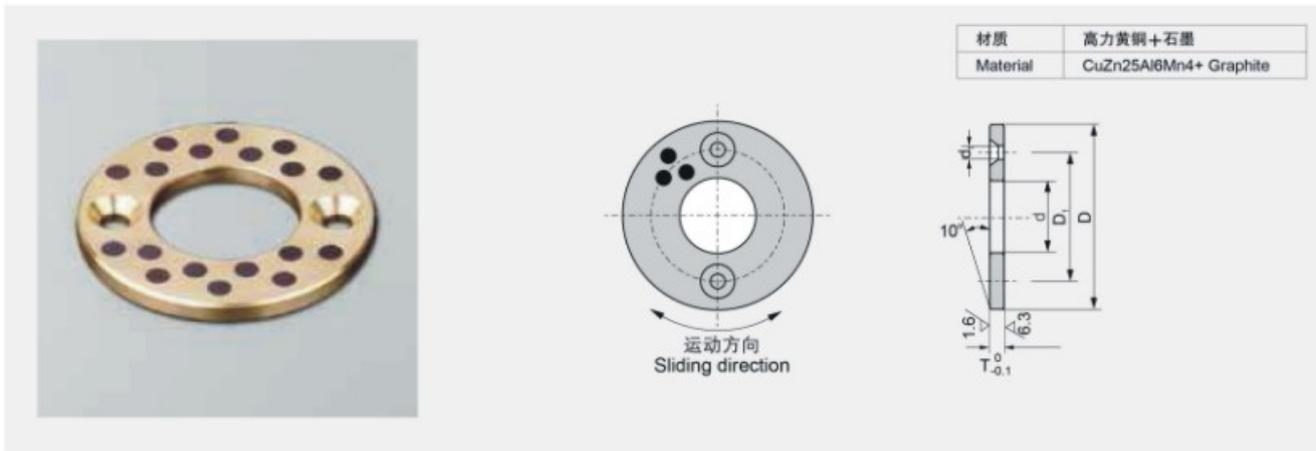
JFB Oilless Flange Bushes



单位unit:mm

IDE7 (内径)	ODr6 (外径)	F	ℓ_1 -0.10	L -0.10 -0.30																		
				15	20	25	30	35	40	50	60	80	100									
10	+0.040 +0.025	14	+0.034 +0.023	22	2	1015F	1020F															
12		18		25		1215F	1220F															
13		19		26		1315F	1320F															
14	+0.050 +0.032	20		27	3	1415F	1420F															
15		21	+0.041 +0.028	28		1515F	1520F	1525F	1530F													
16		22		29		1615F	1620F	1625F	1630F													
20		30		40		2015F	2020F	2025F	2030F		2040F											
25	+0.061 +0.040	35		45		2515F	2520F	2525F	2530F		2540F											
30		40		50			3020F	3025F	3030F	3035F	3040F	3050F										
31.5		40	+0.050 +0.034				3120F			3135F												
35		45		60	5		3520F		3530F		3540F	3550F										
40	+0.075 +0.050	50		65			4020F		4030F		4040F	4050F										
45		55		70					4530F		4540F	4550F	4560F									
50		60	+0.060 +0.041	75					5030F		5040F	5050F	5060F									
55		65		80							5540F		5560F									
60		75	+0.062 +0.043	90							6040F	6050F								6080F		
63		75		85	7.5															6367F		
70	+0.090 +0.060	85		105								7050F								7080F		
75		90	+0.073 +0.051	110										7560F								
80		100		120																8060F	8080F	80100F
90		110	+0.076 +0.054	130	10									9060F						9080F		
100	+0.107 +0.072	120		150																10080F	100100F	
120		140	+0.088 +0.063	170																12080F	120100F	

JTW 止推垫片 JTW Oilless Thrust Washers



单位unit:mm

规格 Standard No.	d	D	T _{-0.1} ⁰	螺栓 Bolt			
				D ₁	数量 Q'ty	尺寸 size	d ₁
JTW-10	10.2	30	3	---	---	---	---
JTW-12	12.2	40		28	2	M3	3.5
JTW-13	13.2						
JTW-14	14.2						
JTW-15	15.2	50		35	2	M3	3.5
JTW-16	16.2			---			
JTW-16N			---				
JTW-18	18.2		35				
JTW-20	20.2	55	40	2	M5	6	
JTW-20N					---	---	
JTW-25	25.2	60	45	2	M5	6	
JTW-25N							---
JTW-30	30.2	70	50	2	M5	6	
JTW-35	35.2	80	60				
JTW-40	40.2	90	67.5	2	M6	7	
JTW-45	45.3	100	75				
JTW-50	50.3	110	85	4	M8	9	
JTW-55	55.3	120	90				
JTW-60	60.3	125	95				
JTW-65	65.3	130	100	10	M10	11	
JTW-70	70.3	140	110				
JTW-75	75.3	150	120				
JTW-80	80.3	170	140				
JTW-90	90.5	190	160				
JTW-100	100.5	200	175				

YDB-10

自润滑卷制轴承 Self-Lubricating Bearings



YDB-10 碳钢基无油轴承 Dry Bearings



■ 基材特性 Material Features

低碳钢+铜粉+PTFE/铅 Steel+Bronze Powder+PTFE/Pb

适用于无法加油或较难的工作部位, 耐磨性好、摩擦系数小、使用寿命长; 走合性能好、低噪音、无污染、耐腐蚀性好; 运转中形成的转移膜起到保护对磨轴的作用, 无咬轴现象; 对磨轴的加工要求低, 减轻了用户加工成本。

Suitable for dry running, low coefficient of friction, low wear, good sliding characteristics, forming a transfer film can protect the mating metal surface. Suitable for rotary and oscillating movement. High chemical resistance, lower absorption of water and swelling. Also performs well with lubrication.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	250 N/mm ²	使用温度 Temp.	-195℃ ~ 280℃
	动承载 Dynamic	140 N/mm ²		摩擦系数 Friction coefficient
最高线速度 Max. Speed	干 Dry	2m/s	导热系数 Thermal conductivity	42W (m·k) ⁻¹
	流体 Lubrication	>2m/s		热膨胀系数 coefficient of thermal expansion
最大PV(干) Max. PV(Dry)	短时间 Short-term	3.6 N/mm ² · m/s		
	连续 Continuous	1.8 N/mm ² · m/s		

YDB-11 碳钢基无铅自润滑轴承 Dry Bearings



■ 基材特性 Material Features

低碳钢+铜粉+PTFE/铅 Steel+Bronze Powder+PTFE/Lead free

与YDB-10具有相同使用功能, 由于环保的要求, 铅将被逐渐禁止使用。YDB-10正是在这种情况下开发出来的新产品, 目前已广泛使用在汽车、食品工业机械、制药机械、饮料机械、医疗设备等绿色工业场合。

The features same as YDB-10 but without lead, as the environment request in new century, The lead will be not allowed use again. The YDB-11 can meet this demand and now have been widely used in automotive industry, food industry, medicine machines, drink machines and so on.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	250 N/mm ²	使用温度 Temp.	-195℃ ~ 280℃
	动承载 Dynamic	140 N/mm ²		摩擦系数 Friction coefficient
最高线速度 Max. Speed	干 Dry	2m/s	导热系数 Thermal conductivity	42W (m·k) ⁻¹
	流体 Lubrication	>2m/s		热膨胀系数 coefficient of thermal expansion
最大PV(干) Max. PV(Dry)	短时间 Short-term	3.6 N/mm ² · m/s		
	连续 Continuous	1.8 N/mm ² · m/s		

YDB-1B 铜基无油轴承 Dry Bearings



■ 基材特性 Material Features

青铜基板+铜粉+PTFE/纤维 Bronze backing+Bronze Powder+PTFE/fibre

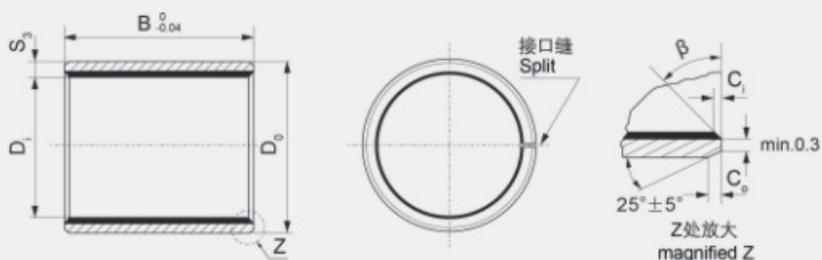
适用于无法加油或较难的工作部位, 耐磨性好、摩擦系数小、使用寿命长; 走合性能好、低噪音、无污染、耐腐蚀性好; 运转中形成的转移膜起到保护对磨轴的作用, 无咬轴现象; 对磨轴的加工要求低, 减轻了用户加工成本; 由于基板是青铜, 因此比YDB-10具有更好的耐腐蚀性。

Suitable for dry running, low coefficient of friction, low wear, good sliding characteristics, forming a transfer film can protect the mating metal surface, suitable for rotary and oscillating movement. Very high chemical resistance, lower absorption of water and swelling. Also performs well with lubrication. Bronze backing provides improved corrosion resistance compared with YDB-10.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	250 N/mm ²	使用温度 Temp.	-195℃ ~ 280℃
	动承载 Dynamic	140 N/mm ²		摩擦系数 Friction coefficient
最高线速度 Max. Speed	干 Dry	2m/s	导热系数 Thermal conductivity	70W (m·k) ⁻¹
	流体 Lubrication	>2m/s		热膨胀系数 coefficient of thermal expansion
最大PV(干) Max. PV(Dry)	短时间 Short-term	3.6 N/mm ² · m/s		
	连续 Continuous	1.8 N/mm ² · m/s		

YDB-10 自润滑卷制轴承标准公制尺寸 YDB-10 Self-Lubricating Bearings Standard Metric Size



内外倒角

S_3	C_o	C_i	β	S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$30^\circ \pm 5^\circ$	2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$30^\circ \pm 5^\circ$	2.50	1.8 ± 0.6	0.80 ± 0.3	$45^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$30^\circ \pm 5^\circ$				

单位unit:mm

轴径 D_s	座孔 H7 D_H	外径公差 D_o	压装后 内孔公差 $D_{i,a}$	配合间隙 D_o	壁厚 S_3	长度B ⁰ _{-0.40} ($\frac{ds \Phi 28}{d > \Phi 30}$ L-0.30 L-0.40)															
						6	8	10	12	15	20	25	30	40	50						
6	8	8	6.055 5.990	0.077 0.000	1.005 0.980	0606	0608	0610													
8	10	10	8.055 7.990	0.083 0.003		0806	0808	0810	0812	0815											
10	12	12	10.058 9.990	0.086 0.003		1006	1008	1010	1012	1015	1020										
12	14	14	12.058 11.990	0.092 0.006		1206	1208	1210	1212	1215	1220	1225									
13	15	15	13.058 12.990						1310		1320										
14	16	16	14.058 13.990						1410	1412	1415	1420	1425								
15	17	17	15.058 14.990						1510	1512	1515	1520	1525								
16	18	18	16.058 15.990	0.095 0.006				1610	1612	1615	1620	1625									
17	19	19	17.061 16.990						1710	1712		1720									
18	20	20	18.061 17.990						1810	1812	1815	1820	1825								
20	23	23	20.071 19.990		0.112 0.010				2010	2012	2015	2020	2025	2030							
22	25	25	22.071 21.990						22010	2212	2215	2220	2225	2230							
24	27	27	24.071 23.990								2415	2420	2425	2430							
25	28	28	25.071 24.990						25010	2512	2515	2520	2525	2530	2540	2550					
28	32	32	28.085 27.990	0.126 0.010	1.505 1.475					2815	2820	2825	2830	2840							
30	34	34	30.085 29.990							3012	3015	3020	3025	3030	3040						
32	36	36	32.085 31.990	0.135 0.015							3220		3230	3240							
35	39	39	35.085 34.990								3512	3515	3520	3525	3530	3540	3550				
38	42	42	38.085 37.990									3815			3830	3840					
40	44	44	40.085 39.990								4012		4020	4025	4030	4040	4050				

YDB-10 自润滑卷制轴承标准公制尺寸

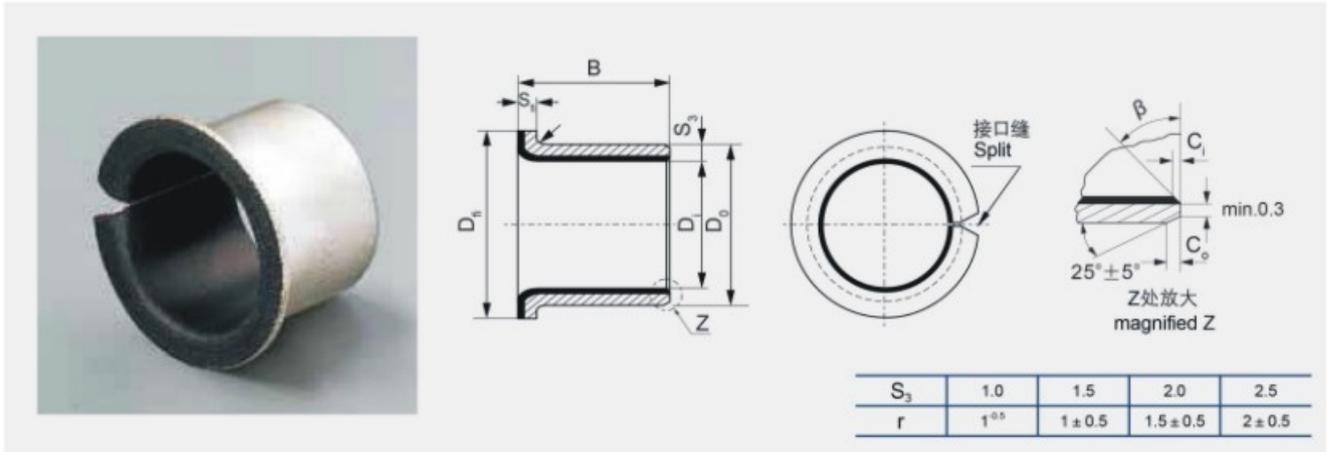
YDB-10 Self-Lubricating Bearings Standard Metric Size

单位unit:mm

轴径 D_s	座孔 H7 D_H	外径公差 D_O	压装后 内孔公差 $D_{i,a}$	配合间隙 C_O	壁厚 S_3	长度B ⁰ _{-0.40}														
						20	25	30	40	50	60	70	80	100	115					
45 -0.050 -0.025	50 +0.025	50 +0.100 +0.055	45.105 44.990	0.155 0.015	2.505 2.460	4520	4525	4530	4540	4550										
50 -0.050 -0.025	55 +0.030	55 +0.100 +0.055	50.110 49.990	0.160 0.015		5020			5030	5040	5050	5060								
55 -0.060 -0.030	60 +0.030	60 +0.100 +0.055	55.110 54.990	0.170 0.020					5530	5540	5550	5560								
60 -0.060 -0.030	65 +0.030	65 +0.100 +0.055	60.110 59.990							6030	6040	6050	6060	6070						
65 -0.060 -0.030	70 +0.030	70 +0.100 +0.055	65.110 64.990								6530	6540	6550	6560	6570					
70 -0.060 -0.030	75 +0.030	75 +0.100 +0.055	70.110 69.990									7040	7050	7060	7070	7080				
75 -0.060 -0.030	80 +0.030	80 +0.100 +0.055	75.110 74.990									7530	7540	7550	7560	7570	7580			
80 -0.035	85 +0.035	85 +0.120 +0.070	80.155 80.020	0.201 0.020	2.490 2.440				8040	8050	8060	8070	8080	80100						
85 -0.035	90 +0.035	90 +0.120 +0.070	85.155 85.020	0.209 0.020						8540		8560		8580	85100					
90 -0.035	95 +0.035	95 +0.120 +0.070	90.155 90.020								9040	9050	9060		9080	90100				
95 -0.035	100 +0.035	100 +0.120 +0.070	95.155 95.020									9550	9560		9580	95100				
100 -0.035	105 +0.035	105 +0.120 +0.070	100.155 100.020										10050	10060		10080		100115		
105 -0.035	110 +0.035	110 +0.120 +0.070	105.155 105.020											10560		10580		105115		
110 -0.035	115 +0.035	115 +0.120 +0.070	110.115 110.020												11060		11080		110115	
120 -0.040	125 +0.040	125 +0.170 +0.100	120.210 120.070		0.264 0.070	2.465 2.415							12060		12080	120100				
125 -0.040	130 +0.040	130 +0.170 +0.100	125.210 125.070	0.273 0.070										12560			125100	125115		
130 -0.040	135 +0.040	135 +0.170 +0.100	130.210 130.070												13060		13080	130100		
140 -0.040	145 +0.040	145 +0.170 +0.100	140.210 140.070													14060		14080	140100	
150 -0.040	155 +0.040	155 +0.170 +0.100	150.210 150.070													15060		15080	150100	
160 -0.040	165 +0.040	165 +0.170 +0.100	160.210 160.070													16060		16080	160100	160115
180 -0.046	185 +0.046	185 +0.210 +0.130	180.216 180.070		0.279 0.070		2.465 2.415										18080	180100		
190 -0.046	195 +0.046	195 +0.210 +0.130	190.216 190.070		0.288 0.070													19080	190100	
200 -0.046	205 +0.046	205 +0.210 +0.130	200.016 200.070															20080	200100	
220 -0.046	225 +0.046	225 +0.210 +0.130	220.216 220.070												20060		22080	220100		
250 -0.052	255 +0.052	255 +0.260 +0.170	250.222 250.070	0.294 0.070														25080	250100	
260 -0.052	265 +0.052	265 +0.260 +0.170	260.222 260.070	0.303 0.070		2.465 2.415												26080	260100	
280 -0.052	285 +0.052	285 +0.260 +0.170	280.222 280.070																28080	280100
300 -0.052	305 +0.052	305 +0.260 +0.170	300.222 300.070																	30080

YDB-10F 翻边轴承标准公制尺寸

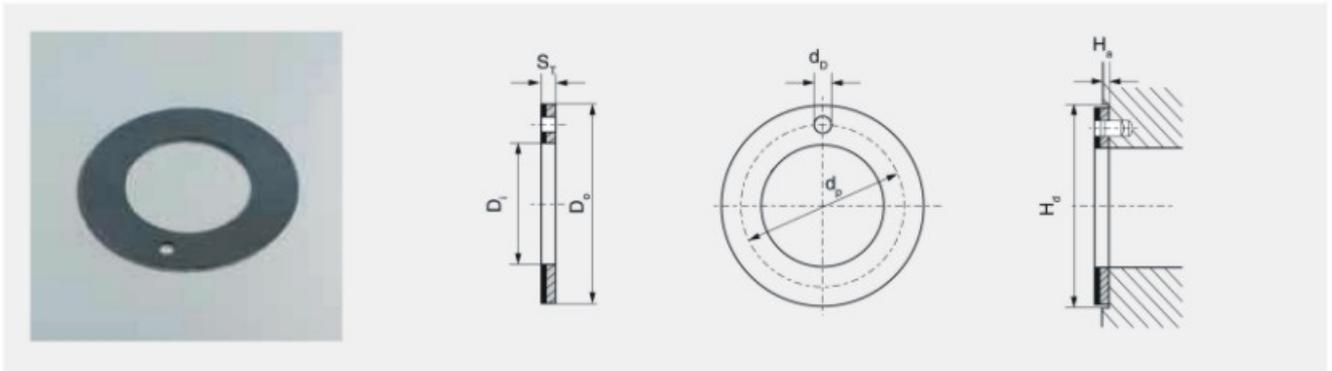
YDB-10F Flanged Bearings Standard Metric Size



单位unit:mm

轴径 D _s	座孔 H7 D _h	外径公差 D _o	压装后 内孔公差 D _{1,a}	配合间隙 C _o	型号规格	壁厚 S ₃	尺寸				
							D ₁	D _o	D _s ±0.5	B±0.25	S ₁ -0.2
6	8	+0.055 +0.025	6.055	0.077	06040	1.005 0.980	6	8	12	4	1
			5.990	0.000	06070					7	
8	10	+0.055 +0.025	8.055	0.083	08055		8	10	15	5.5	
			7.990	0.003	08075					7.5	
10	12	+0.055 +0.025	10.058 9.990	0.086 0.003	10070		10	12	18	7	
					10090					9	
					10120					12	
					12070					7	
12	14	+0.065 +0.030	12.058 11.990	0.092 0.006	12090		12	14	20	9	
					14120					12	
					14170					17	
14	16	+0.065 +0.030	14.058 13.990	0.092 0.006	15090		14	16	22	9	
					15120					12	
15	17	+0.065 +0.030	15.058 14.990	0.092 0.006	15170		15	17	23	12	
					16120	17					
16	18	+0.065 +0.030	16.058 15.990	0.092 0.006	16170	16	18	24	12		
					18120				17		
18	20	+0.075 +0.035	18.061 17.990	0.095 0.006	18170	18	20	26	12		
					18200				17		
					20115				20		
20	23	+0.075 +0.035	20.071 19.990	0.112 0.010	20165	20	23	30	11.5		
					22015				16.5		
					22150				21.5		
22	25	+0.075 +0.035	22.071 21.990	0.112 0.010	22200	22	25	32	15		
					25115				20		
					25165				11.5		
25	28	+0.075 +0.035	25.071 24.990	0.112 0.010	25215	25	28	35	16.5		
					30160				21.5		
					30260				16		
30	34	+0.075 +0.035	30.285 29.990	0.126 0.010	35160	30	34	42	26		
					35260				16		
35	39	+0.085 +0.045	35.085 34.990	0.135 0.015	40260	35	39	47	26		
					40400				26		
40	44	+0.085 +0.045	40.085 39.990	0.135 0.015	40400	40	44	53	40		

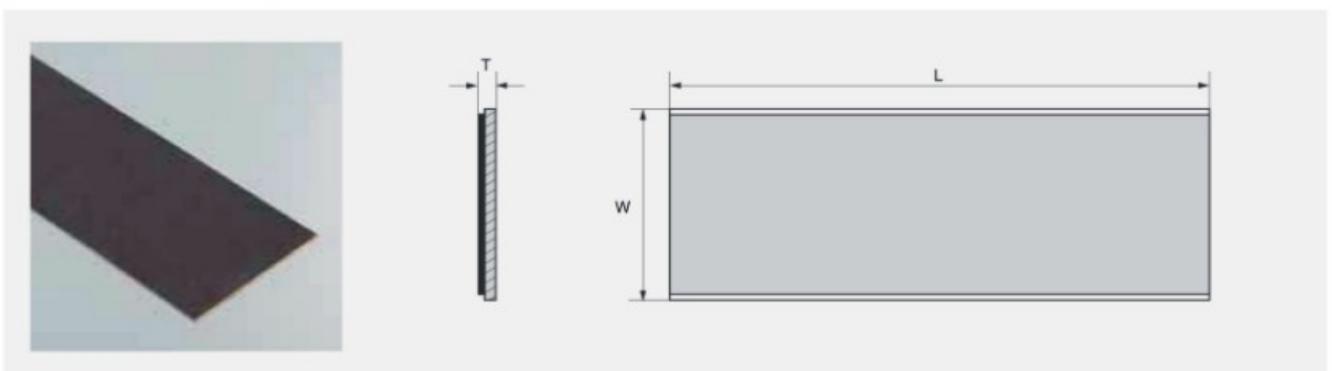
YDB -10WC 止推垫片标准尺寸 YDB -10WC Thrust Washer Standard Metric Size



单位unit:mm

轴径 D_s	型号规格	垫片尺寸 Washer size				安装尺寸		
		$D_1+0.25$	$D_0-0.25$	$S_{-0.05}$	$d_b \pm 0.125$	$d_0^{+0.4}_{+0.1}$	$H_0 \pm 0.2$	$H_0+0.12$
8	WC10	10	20	1.5	15	1.5	1	20
10	WC12	12	24		18			24
12	WC14	14	26		20	26		
14	WC16	16	30		23	30		
16	WC18	18	32		25	32		
18	WC20	20	36		28	36		
20	WC22	22	38		30	38		
22	WC24	24	42		33	42		
24	WC26	26	44		35	44		
26	WC28	28	48		38	48		
30	WC32	32	54		43	54		
36	WC38	38	62		50	62		
40	WC42	42	66		54	66		
46	WC48	48	74		61	74		
50	WC52	52	78	2	65	1.5	78	
60	WC62	62	90		76		90	

YDB -10SP 板材标准尺寸 YDB -10SP Strip Standard Metric Size

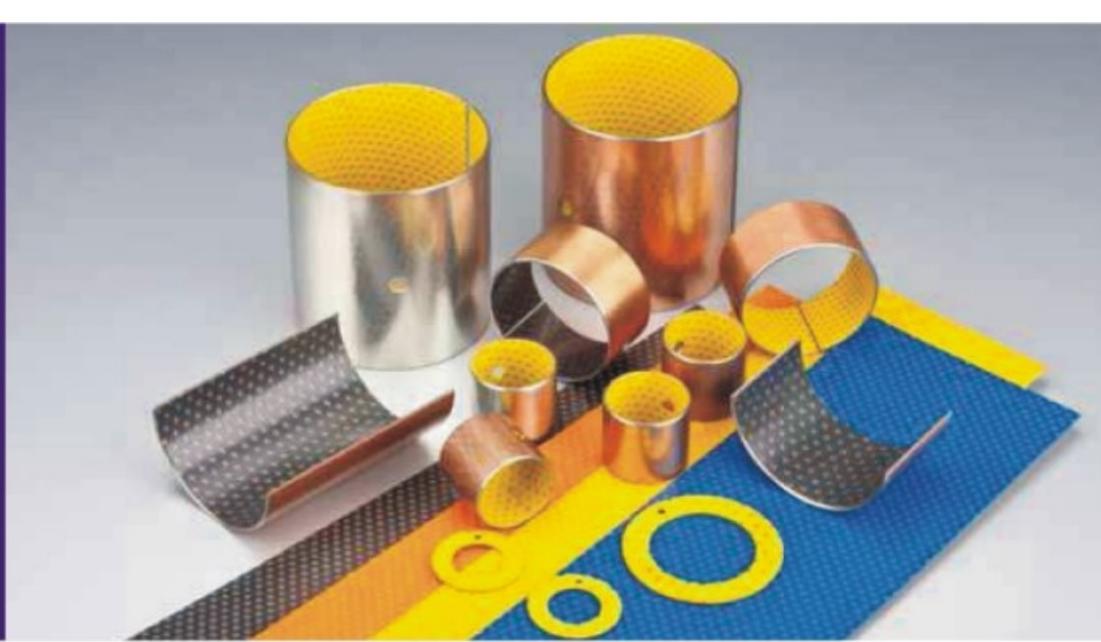


单位unit:mm

型号规格	长度(L) ± 1	宽度(W) ± 1	厚壁(S_s) -0.05
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5

YDB-20

边界润滑轴承 Boundary Lubricated Bearings



YDB -20 边界润滑轴承 Marginal Lubrication Bearings



■ 基材特性 Material Features

碳钢基板+铜粉+POM Steel+Bronze Powder+POM

适用于高载低速下的旋转、摇摆运动以及在重载下经常启闭而无法加油的部位，在边界润滑条件下可长期使用而不用加油，过程加油将会大大提高轴套的使用寿命。耐腐层表面有规格的油穴可以作为储油孔使用。目前已广泛用于冶金机械、矿山机械、水利机械、汽机车、建筑机械、农用机械、轧钢机械等。

Suitable for rotary and oscillating movement, lower maintenance requirements due to the long re-lubrication intervals, lower wear, lower susceptibility to edge loading, no absorption of water and therefore no swelling, good damping behaviours, good resistance to shock loads.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	250 N/mm ²	使用温度 Temp.	-150℃ ~ +250℃
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.03 ~ 0.20
最高线速度 Max. Speed	干 Dry	2m/s	导热系数	4W (m·k) ⁻¹
	流体 Lubrication	>2m/s	热膨胀系数	11 × 10 ⁻⁶ k ⁻¹
最大PV(干) Max. PV(Dry)	短时间 Short-term	3.6 N/mm ² · m/s		

YDB-2S 耐温型边界润滑轴承 Marginal Lubrication Bearings



■ 基材特性 Material Features

该产品以优质低碳钢板为基体，中间烧结一层多孔青铜层，表面轧制一层改性的PEEK、PTFE 及其它混合物。产品应用于汽车底盘、锻压机床、冶金机械、矿山机械、水利行业、钢铁行业等。

YDB-2S is a composite bearing material, developed specifically to operate with marginal lubrication and consists of three bonded layers. It is designed for marginally lubricated operation, and is capable of operating continuously within -150℃~+250℃, and short time up to +300℃. Better for high load, high temperature and low speed with heavy load condition.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	140 N/mm ²	使用温度 Temp.	-150℃ ~ 250℃
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.08 ~ 0.12
最高线速度 Max. Speed	干 Dry	2m/s	导热系数	52W (m·k) ⁻¹
	流体 Lubrication	10m/s	热膨胀系数	11 × 10 ⁻⁶ k ⁻¹
最大PV(干) Max. PV(Dry)	连续 Continuous	2.8 N/mm ² · m/s		

YDB -2Y 耐温型边界润滑轴承 Marginal Lubrication Bearings



■ 基材特性 Material Features

YDB-2Y边界润滑无铅轴承，是在YDB-20的基础上改进而成。其性能与YDB-20相同，但表面不含铅，使用领域可以扩展至有环保要求的领域。

目前该产品已应用于进口纺织设备、柱塞泵摆动部位、汽车操纵杆部位等中载、中速、油脂润滑的场合。

YDB-2Y lead free boundary lubrication bearing is improved on the basis of YDB-20. It can be Applied in the field where environment protection is required.

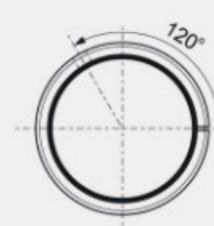
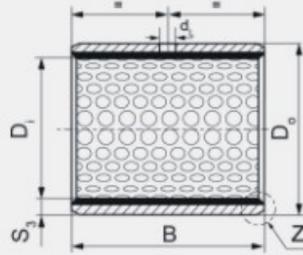
Now it' widely used on textile machines, piston pump, steering system of automobile etc.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	140 N/mm ²	使用温度 Temp.	-150℃ ~ 250℃
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.08 ~ 0.12
最高线速度 Max. Speed	干 Dry	2m/s	导热系数	52W (m·k) ⁻¹
	流体 Lubrication	10m/s	热膨胀系数	11 × 10 ⁻⁶ k ⁻¹
最大PV(干) Max. PV(Dry)	连续 Continuous	2.8 N/mm ² · m/s		

YDB-20 边界润滑轴承标准公制尺寸

YDB-20 Marginal-Lubrication Bearings Standard Metric Size



内外倒角

S_3	C_0	C_1	β	S_3	C_0	C_1	β
1.0	0.6 ± 0.3	0.30 ± 0.2	$30^\circ \pm 5^\circ$	2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
1.5	0.7 ± 0.3	0.50 ± 0.2	$30^\circ \pm 5^\circ$	2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

单位unit:mm

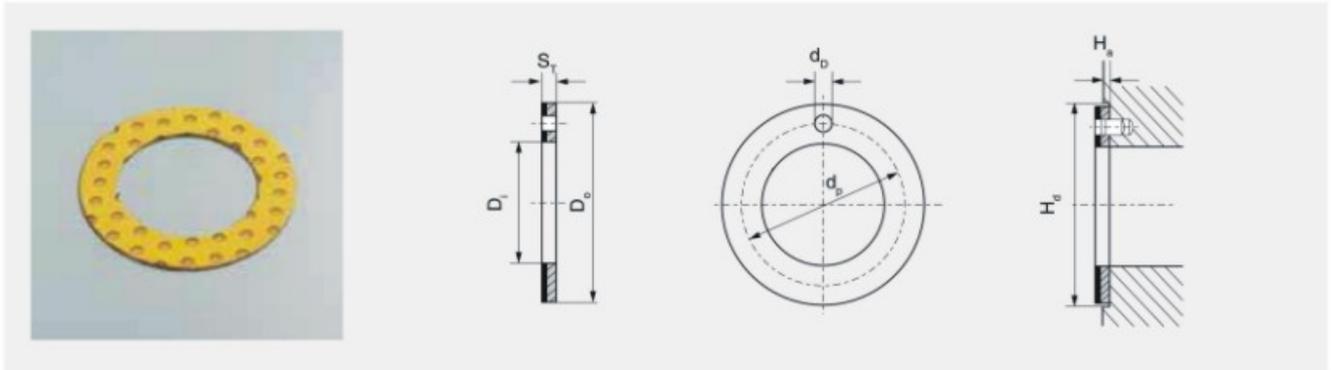
轴径 D_s h8	座孔 H7 D_H	外径公差 D_o	压装后 内孔公差 $D_{i,a}$	配合间隙 C_D	壁厚 S_3	油孔 d_L	长度B ⁰ _{-0.40}															
							10	15	20	25	30	35	40	45	50	60						
10 _{-0.022}	12 ^{+0.018}	12 ^{+0.065} _{+0.030}	10.108 10.040	0.130 0.040	0.980 0.955	4	1010	1015	1020													
12 _{-0.027}	14 ^{+0.018}	14 ^{+0.065} _{+0.030}	12.108 12.040				1210	1215	1220													
14 _{-0.027}	16 ^{+0.018}	16 ^{+0.065} _{+0.030}	14.108 14.040				1415	1420														
15 _{-0.027}	17 ^{+0.018}	17 ^{+0.065} _{+0.030}	15.108 15.040				1515	1520	1525													
16 _{-0.027}	18 ^{+0.018}	18 ^{+0.065} _{+0.030}	16.108 16.040				1615	1620	1625													
18 _{-0.027}	20 ^{+0.021}	20 ^{+0.075} _{+0.035}	18.111 18.040				0.138 0.040	1815	1820	1825												
20 _{-0.033}	23 ^{+0.021}	23 ^{+0.075} _{+0.035}	20.131 20.050	0.164 0.050	1.475 1.445	6	2015	2020	2025	2030												
22 _{-0.033}	25 ^{+0.021}	25 ^{+0.075} _{+0.035}	22.131 22.050				2215		2225													
25 _{-0.033}	28 ^{+0.021}	28 ^{+0.075} _{+0.035}	25.131 25.050				2515	2520	2525	2530												
28 _{-0.033}	32 ^{+0.025}	32 ^{+0.085} _{+0.045}	28.155 28.060	0.188 0.060	1.970 1.935	8			2820	2830												
30 _{-0.033}	34 ^{+0.025}	34 ^{+0.085} _{+0.045}	30.155 30.060				3020	3025	3030		3040											
35 _{-0.039}	39 ^{+0.025}	39 ^{+0.085} _{+0.045}	35.155 35.060	0.194 0.060	2.460 2.415	8			3520		3530	3535	3540									
40 _{-0.039}	44 ^{+0.025}	44 ^{+0.085} _{+0.045}	40.155 40.060				4020		4030		4040					4050						
45 _{-0.039}	50 ^{+0.025}	50 ^{+0.085} _{+0.045}	45.195 45.060	0.234 0.080	2.460 2.415	8			4520		4530		4540	4545	4550							
50 _{-0.039}	55 ^{+0.030}	55 ^{+0.100} _{+0.055}	50.200 50.060				5030		5040				5050	5060								
55 _{-0.046}	60 ^{+0.030}	60 ^{+0.100} _{+0.055}	55.200 55.060	0.246 0.080	2.460 2.415	8			5530		5540				5550	5560						
60 _{-0.046}	65 ^{+0.030}	65 ^{+0.100} _{+0.055}	60.200 60.060				6030		6040				6050	6060								

YDB-20 边界润滑轴承标准公制尺寸 YDB-20 Marginal-Lubrication Bearings Standard Metric Size

单位unit:mm

轴径 D _h h8	座孔 H7 D _H	外径公差 D _o	压装后 内孔公差 D _{i,s}	配合间隙 C _D	壁厚 S ₃	油孔 d _L	长度B ⁰ _{-0.40}											
							40	50	60	80	90	95	100	110	120			
65 _{-0.046}	70 ^{+0.030}	70 ^{+0.100} _{+0.055}	65.200 65.080	0.246 0.080	2.460 2.415	8	6540		6560									
70 _{-0.046}	75 ^{+0.030}	75 ^{+0.100} _{+0.055}	70.200 70.080				7040	7050		7080								
75 _{-0.046}	80 ^{+0.030}	80 ^{+0.100} _{+0.055}	75.200 75.080				7540		7560	7580								
80 _{-0.046}	85 ^{+0.035}	85 ^{+0.120} _{+0.070}	80.265 80.100	0.313 0.100			8040		8060	8080								
85 _{-0.054}	90 ^{+0.035}	90 ^{+0.120} _{+0.070}	85.265 85.100				8540		8560	8580								
90 _{-0.054}	95 ^{+0.035}	95 ^{+0.120} _{+0.070}	90.265 90.100				9040		9060	9080	9090							
100 _{-0.054}	105 ^{+0.035}	105 ^{+0.120} _{+0.070}	100.265 100.100	0.321 0.100				10050		10080		10095						
105 _{-0.054}	110 ^{+0.035}	110 ^{+0.120} _{+0.070}	105.265 105.100						10560	10580		10595		105110				
110 _{-0.054}	115 ^{+0.035}	115 ^{+0.120} _{+0.070}	110.265 110.110						11060	11080		11095		110110				
120 _{-0.054}	125 ^{+0.040}	125 ^{+0.170} _{+0.100}	120.270 120.110	0.324 0.100					12060	12080					120110			
125 _{-0.063}	130 ^{+0.040}	130 ^{+0.170} _{+0.100}	125.270 125.110						12560					125110				
130 _{-0.063}	135 ^{+0.040}	135 ^{+0.170} _{+0.100}	130.270 130.110						13050	13060	13080			130100				
140 _{-0.063}	145 ^{+0.040}	145 ^{+0.170} _{+0.100}	140.270 140.110	0.339 0.110	2.450 2.385			14050	14060	14080			140100					
150 _{-0.063}	155 ^{+0.040}	155 ^{+0.170} _{+0.100}	150.270 150.110						15050	15060	15080			150100				
160 _{-0.063}	165 ^{+0.040}	165 ^{+0.170} _{+0.100}	160.270 160.110						16050	16060	16080			160100				
170 _{-0.063}	175 ^{+0.040}	175 ^{+0.170} _{+0.100}	170.270 170.110	0.334 0.110				17050		17080			170100					
180 _{-0.063}	185 ^{+0.046}	185 ^{+0.210} _{+0.130}	180.270 180.110						18050	18060	18080			180100				
190 _{-0.072}	195 ^{+0.046}	195 ^{+0.210} _{+0.130}	190.276 190.110						19050	19060	19080			190100		190120		
200 _{-0.072}	205 ^{+0.046}	205 ^{+0.210} _{+0.130}	200.276 200.110	0.354 0.110				20050	20060	20080			200100		200120			
220 _{-0.072}	225 ^{+0.046}	225 ^{+0.210} _{+0.130}	220.276 220.110						22050	22060	22080			220100		220120		
240 _{-0.072}	245 ^{+0.046}	245 ^{+0.210} _{+0.130}	240.276 240.110						24050	24060	24080			240100		240120		
250 _{-0.072}	255 ^{+0.052}	255 ^{+0.260} _{+0.170}	250.282 250.110	0.354 0.110				25050	25060	25080			250100		250120			
260 _{-0.081}	265 ^{+0.052}	265 ^{+0.260} _{+0.170}	260.282 260.110						26050	26060	26080			260100		260120		
280 _{-0.081}	285 ^{+0.052}	285 ^{+0.260} _{+0.170}	280.282 280.110						28050	28060	28080			280100		280120		
300 _{-0.081}	305 ^{+0.052}	305 ^{+0.260} _{+0.170}	300.282 300.110				30050	30060	30080			300100		300120				

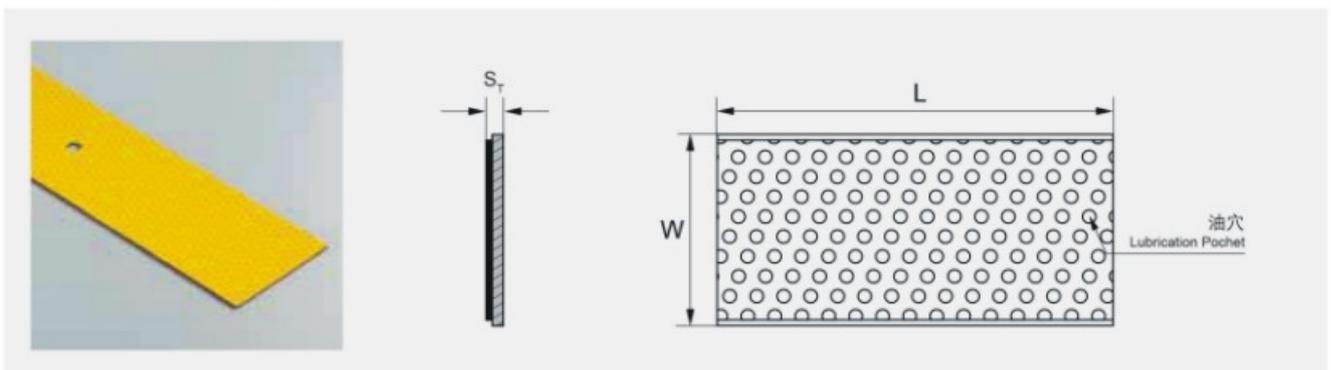
YDB-20WC 止推垫片标准尺寸 YDB-20WC Thrust Washer Standard Metric Size



单位unit:mm

轴径 D_s	型号规格	垫片尺寸 Washer size				安装尺寸		
		$D_i+0.25$	$D_o-0.25$	$S_r-0.05$	$d_p \pm 0.125$	$d_o^{+0.4}_{+0.1}$	$H_b \pm 0.2$	$H_c+0.12$
8	WC10	10	20	1.5	15	1.5	1	20
10	WC12	12	24		18			24
12	WC14	14	26		20			26
14	WC16	16	30		23	2		30
16	WC18	18	32		25			32
18	WC20	20	36		28	3		36
20	WC22	22	38		30			38
22	WC24	24	42		33			42
24	WC26	26	44		35			44
26	WC28	28	48		38	4		48
30	WC32	32	54		43			54
36	WC38	38	62		50			62
40	WC42	42	66		54			66
46	WC48	48	74		61			1.5
50	WC52	52	78	65	78			
60	WC62	62	90	76	90			

YDB-20SP 板材标准尺寸 YDB-20SP Strip Standard Metric Size



单位unit:mm

型号规格	长度(L) ± 1	宽度(W) ± 1	厚壁(S_r)-0.05
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5

YDB-80

双金属轴承 Bimetal Bearings



YDB -80 双金属轴承 Bi-metal Self-lubricating Bearings



■ 基材特性 Material Features

碳钢基板 + 铜粉 Steel+Bronze Powder

以碳钢为基体表面烧结铜粉，使用于高载低速下的旋转、摇摆运动，铜粉面可根据要求加工出各种油孔、油槽。目前已广泛使用于矿山机械、汽机车、建筑机械、农用机械、轧钢机械等。

Steel backed lead bronze lined bearing material for lubricated applications, high load capacity and good fatigue properties, have been widely used in automotive, common industrial like steering gear, power steering, pedal bushes, king-pin bushes, tailgate pivots, mechanical handling, lifting equipment, hydraulic motors, agricultural machines etc.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	120 N/mm ²	屈服强度 Yield point	350 N/mm ²
	动承载 Dynamic	40 N/mm ²	使用温度 Temp.	-40℃ ~ 250℃
最高线速度 Max. Speed	Max. Speed	2 m/s	摩擦系数 Friction coefficient	0.08 ~ 0.20
最大PV	Max. PV	2.8 N/mm ² · m/s	导热系数 Thermal conductivity	60W (m·k) ⁻¹
抗剪切强度 Breaking Load	Breaking Load	350 N/mm ²	热膨胀系数 Coef. of thermal expansion	40 × 10 ⁻⁶ k ⁻¹

YDB -72 双金属自润滑轴承 Bi-metal Self-lubricating Bearings



■ 基材特性 Material Features

YDB-72双金属轴承，是以钢板为基体，表面烧结CuPb24Sn4材料的产品。该产品具有较好的疲劳强度和承载能力。适用于中速中载，有油润滑的场合，表面镀软合金时，可用作高速内燃机轴承、连杆衬套，达到良好的耐磨、耐疲劳效果。

YDB-72 is a bimetal bushing with steel as backing and sintered CuPb24Sn4 as lining layer. This type has fairly good performance in anti-fatigue and load capacity. It is suitable for middle speed and middle load. When overlaid with certain soft alloy, it can be applied in high-speed internal combustion engine and as connect rod bushing.

■ 技术参数 Tech. Data

最大承载 Max. Load	130 N/mm ²	最大PV Max. PV	脂润滑 Grease Lubrication	2.8 N/mm ² · m/s
			油润滑 Oil Lubrication	10 N/mm ²
最高线速度 Max. Speed	2 m/s	合金硬度 Alloy Hardness	45~70HB	
		合金材料 Alloy Material	CuPb24Sn4	

YDB -70 双金属自润滑轴承 Bi-metal Self-lubricating Bearings



■ 基材特性 Material Features

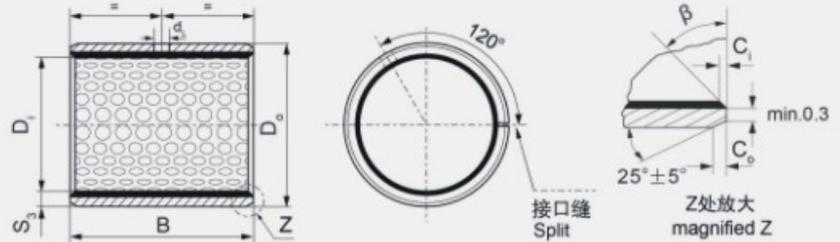
YDB-70双金属轴承，是以钢板为基体，表面烧结CuPb30材料的产品。该产品由于含铅量高，所以具有良好的抗咬轴性和异物埋没性。工作表面需镀软合金材料，可用作高速、中低载的内燃机主轴瓦、连杆衬套、摇臂衬套；油泵侧摩擦片。

YDB-70 is a bimetal bushing with steel as backing and sintered CuPb30 as lining layer. It has good performance in anti-seizing, alien substance contamination. It is necessary to be overlaid with certain soft alloy and mostly applied in internal combustion engine under high speed and middle to low load, e.g. main bushing and connect-rod bushing.

■ 技术参数 Tech. Data

最大承载 Max. Load	130 N/mm ²	最大PV Max. PV	脂润滑 Grease	2.8 N/mm ² · m/s
			油润滑 Oil Lubrication	10 N/mm ² · m/s
最高线速度 Max. Speed	油润滑 Oil Lubrication	10 m/s	合金材料 Alloy Material	CuPb30
			合金硬度 Alloy Hardness	40~60HB

YDB-80 双金属轴承标准公制尺寸 YDB-80 Bimetal Bearings Standard Metric Size



内外倒角

S_3	C_o	C_i	β	S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$35^\circ \pm 5^\circ$	2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$	2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$				

单位unit:mm

D_i	D_o	轴径 D_s h8	座孔 H7 D_{H1}	压装后 内孔公差 $D_{i,a}$	配合间隙 C_o	壁厚 S_3	油孔 d_l	$B \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$						
								10	15	20	25	30	40	50
10	12	$10_{-0.022}$	$12_{+0.018}$	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
12	14	$12_{-0.027}$	$14_{+0.018}$					1210	1215	1220				
14	16	$14_{-0.027}$	$16_{+0.018}$					1410	1415	1420				
15	17	$15_{-0.027}$	$17_{+0.018}$					1510	1515	1520				
16	18	$16_{-0.027}$	$18_{+0.018}$					1610	1615	1620				
18	20	$18_{-0.027}$	$20_{+0.021}$	+0.151 +0.010	0.178 0.010	1.490 1.430	4	1810	1815	1820	1825			
20	23	$20_{-0.033}$	$23_{+0.021}$	+0.161 +0.020				0.194 0.020	2010	2015	2020	2025		
22	25	$22_{-0.033}$	$25_{+0.021}$		2210	2215	2220		2225					
24	27	$24_{-0.033}$	$27_{+0.021}$		2410	2415	2420		2425	2430				
25	28	$25_{-0.033}$	$28_{+0.021}$		2515	2520	2525		2530					
26	30	$26_{-0.033}$	$30_{+0.021}$		+0.181 +0.040	0.214 0.040	1.980 1.920		6	2615	2620	2625	2630	
28	32	$28_{-0.033}$	$32_{+0.025}$	+0.185 +0.040	0.218 0.040			2815		2820	2825	2830	2840	
30	34	$30_{-0.033}$	$34_{+0.025}$					3015		3020	3025	3030	3040	
32	36	$32_{-0.039}$	$36_{+0.025}$					3215		3220	3225	3230	3240	
35	39	$35_{-0.039}$	$39_{+0.025}$					3520		3525	3530	3540	3550	
38	42	$38_{-0.039}$	$42_{+0.025}$					0.224 0.040		1.980 1.920	8	3820	3825	3830
40	44	$40_{-0.039}$	$44_{+0.025}$	4020	4025	4030	4040		4050					

YDB-80 双金属轴承标准公制尺寸 YDB-80 Bimetal Bearings Standard Metric Size

单位unit:mm

D _i	D _o	轴径 D _s h8	座孔 H7 D _H	压装后 内孔公差 D _{i,a}	配合间隙 C _D	壁厚 S ₃	油孔 d _L	B ⁰ _{-0.40}							
								25	30	40	50	60	80	90	100
45	50	45 -0.039	50 +0.025	+0.225 +0.080	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550				
50	55	50 -0.039	55 +0.030	+0.230 +0.080	0.269 0.080				5030	5040	5050	5060			
55	60	55 -0.046	60 +0.030						5530	5540	5550	5560			
60	65	60 -0.046	65 +0.030						6030	6040	6050	6060			
65	70	65 -0.046	70 +0.030					0.276 0.080	6530	6540	6550	6560			
70	75	70 -0.046	75 +0.030						7030	7040	7050	7060	7080		
75	80	75 -0.046	80 +0.030						7530	7540	7550	7560			
80	85	80 -0.046	85 +0.035					0.281 0.080		8040	8050	8060	8080		
85	90	85 -0.054	90 +0.035		+0.235 +0.080			8530		8550	8560	8580		85100	
90	95	90 -0.054	95 +0.035							9050	9060	9080		90100	
95	100	95 -0.054	100 +0.035								9560	9580	9590	95100	
100	105	100 -0.054	105 +0.035				0.289 0.080				10060	10080	10090	100100	
105	110	105 -0.054	110 +0.035								10560	10580		105100	
110	115	110 -0.054	115 +0.035								11060	11080		110100	
115	120	115 -0.054	120 +0.035							11550		11580			
120	125	120 -0.054	125 +0.040							12050	12030			120100	
125	130	125 -0.063	130 +0.040	+0.240 +0.080								125100			
130	135	130 -0.063	135 +0.040			0.303 0.080				13060			130100		
135	140	135 -0.063	140 +0.040							13560	13580				
140	145	140 -0.063	145 +0.040							14060	14080		140100		
150	155	150 -0.063	155 +0.040							15060	15080		150100		
								9.5							

YDB-90

青铜卷制轴承 Bronze Bolling Bearing



YDB-90 铜基卷制轴承 Bronze Wrapped Bearings

■ 基材特性 Material Features

该轴承以CuSn8青铜为基材卷制而成的一种具有承载高，耐磨性能好的经济型轴承。标准的YDB-90产品工作表面不满规则的菱形油穴，起到储油的作用，在起始运动时能较容易的形成油膜从而降低起始摩擦系数。主要运用农用机械、建筑机械等高载低速场合。

The bearings are wrapped of a cold formable homogenous bronze (CuSn8), which will obtain exceptional material properties. The standard size are fitted with diamond shaped lubrication indents on the bearing surface. These indents serve as lubricant reservoirs to rapidly build up a lubrication film in the start movement and therewith reduce the start friction. The material suitable for constructions, agriculture etc where high load and slow movement are occurring.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	120 N/mm ²	延伸率 Elongation	40%
	动承载 Dynamic	40N/mm ²	使用温度 Temp.	-100℃ ~ 200℃
最高线速度(润滑)	Max. Speed (Lubrication)	2m/s	摩擦系数 Friction coefficient	0.08 ~ 0.25
最大PV	Max. PV	2.8 N/mm ² · m/s	导热系数 Thermal conductivity	58W (m·k) ⁻¹
抗拉强度	Tensile strength	450 N/mm ²	热膨胀系数	18.5 × 10 ⁻⁶ k ⁻¹
硬度	Hardness	HB 110-150		



YDB-92 铜基冲孔卷制轴承 Bronze With Through Holes Wrapped Bearings

■ 基材特性 Material Features

该轴承以CuSn8青铜为基材卷制而成的一种具有承载高，耐磨性能好的经济型轴承。标准的起到储油的作用，在起始运动时能较容易的形成油膜从而降低起始摩擦系数。主要运用农用机械、建筑机械等高载低速场合。

The bearings are wrapped of a cold formable homogenous bronze (CuSn8), which will obtain exceptional material properties. The standard size is fitted with holes, which are dispersed in a special way over the whole bearing surface. These indents serve as lubricant reservoirs to rapidly build up a lubrication film in the start movement and therewith reduce the start friction. The material suitable for construction machine, agriculture machine etc where high load and slow movement are occurring.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	120 N/mm ²	硬度 Hardness	HB 110-150
	动承载 Dynamic	40N/mm ²	延伸率 Elongation	40%
最高线速度(润滑)	Max. Speed (Lubrication)	2.5m/s	使用温度 Temp.	-100℃ ~ 200℃
最大PV	Max. PV	2.8 N/mm ² · m/s	摩擦系数 Friction coefficient	0.08 ~ 0.25
抗拉强度	Tensile strength	450 N/mm ²	导热系数 Thermal conductivity	60W (m·k) ⁻¹
屈服强度	Yield point	250 N/mm ²	热膨胀系数 Coef. of thermal expansion	15 × 10 ⁻⁶ k ⁻¹



YDB-9G铜基含固体润滑剂卷制轴承 Bronze With Graphite Wrapped Bearings

■ 基材特性 Material Features

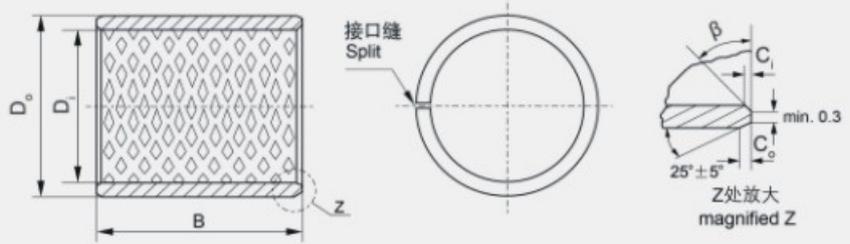
与YDB-90具有相同生产工艺及使用场合，到在其菱形油穴内填充了以石墨为主的固体润滑剂，使产品在起始运用阶段及过程中能有更低的摩擦系数，在短时间断油的情况下仍能保持良好的工作状态。因此被广泛使用在工程机械、齿轮箱传动部件、汽机车离合器等高载中速部位。

The same produce process and application as YDB-90 type material except overlay the solid lubricants into the diamond shaped lubrication indents on the bearing surface, which will offer good friction at the start and process works and keep good condition even no oil giving at short time. So can be used in construction machines, gears, automotive clutch parts etc.

■ 技术参数 Tech. Data

最大承载 Max. Load	静承载 Static	120 N/mm ²	硬度 Hardness	HB > 110
	动承载 Dynamic	40N/mm ²	延伸率 Elongation	40%
最高线速度(润滑)	Max. Speed (Lubrication)	2.5m/s	使用温度 Temp.	-100℃ ~ 200℃
最大PV	Max. PV	2.8 N/mm ² · m/s	摩擦系数 Friction coefficient	0.05 ~ 0.25
抗拉强度	Tensile strength	450 N/mm ²	导热系数 Thermal conductivity	60W (m·k) ⁻¹
屈服强度	Yield point	250 N/mm ²	热膨胀系数 Coef. of thermal expansion	15 × 10 ⁻⁶ k ⁻¹

YDB-90 青铜卷制轴承标准公制尺寸 YDB-90 Bronze-Wrapped Bearings Standard Metric Size



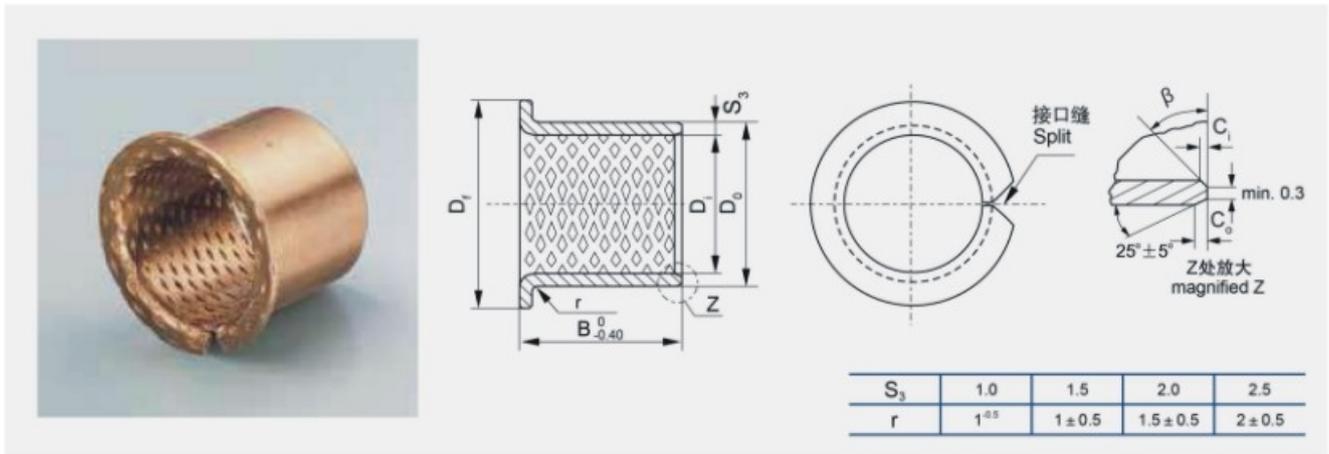
ID and OD chamfers

S_3	C_o	C_i	β	S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$35^\circ \pm 5^\circ$	2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$	2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$				

单位unit:mm

内径 D_i	外径 D_o	$B \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$																
		10	15	20	25	30	35	40	50	60	70	80	90	100				
10	12	1010	1015	1020														
12	14	1210	1215	1220														
14	16	1410	1415	1420	1425													
15	17	1510	1515	1520	1525													
16	18	1610	1615	1620	1625													
18	20	1810	1815	1820	1825													
20	23	2010	2015	2020	2025													
22	25	2210	2215	2220	2225	2230												
24	27		2415	2420	2425	2430												
25	28		2515	2520	2525	2530												
28	31		2815	2820	2825	2830												
30	34		3015	3020	3025	3030	3035	3040										
32	36		3215	3220	3225	3230	3235	3240										
35	39		3515	3520	3525	3530	3535	3540										
40	44			4020	4025	4030	4035	4040	4050									
45	50			4520	4525	4530	4535	4540	4550									
50	55			5020	5025	5030	5035	5040	5050	5060								
55	60			5520	5525	5530	5535	5540	5550	5560								
60	65				6025	6030	6035	6040	6050	6060	6070							
65	70					6530	6535	6540	6550	6560	6570							
70	75						7030	7035	7040	7050	7060	7070	7080					
75	80							7530	7535	7540	7550	7560	7570	7580				
80	85								8030	8035	8040	8050	8060	8070	8080			
85	90									8530	8535	8540	8550	8560	8570	8580	8590	
90	95										9030	9035	9040	9050	9060	9070	9080	9090
95	100											9540	9550	9560	9570	9580	9590	95100

YDB-90F 青铜卷制翻边轴承标准公制尺寸
YDB-90F Bronze-Wrapped Flange Bearing Standard Metric Size



单位unit:mm

内径 D_i	外径 D_o	法兰外径 D_n	$B_{-0.40}^0$											
			15	20	25	30	35	40	50	60	70	80	90	
25	28	35	25150	25200	25250									
30	34	45		30200	30250	30300								
35	39	50		35200	35250	35300	35350							
40	44	55			40250	40300	40350	40400						
45	50	60				45300	45350	45400	45500					
50	55	65				50300	50350	50400	50500					
55	60	70				55300	55350	55400	55500					
60	65	75				60300	60350	60400	60500	60600				
65	70	80				65300	65350	65400	65500	65600				
70	75	85					70350	70400	70500	70600	70700			
75	80	90					75350	75400	75500	75600	75700			
80	85	100					80350	80400	80500	80600	80700	80800		
90	95	110							90500	90600	90700	90800	90900	
100	105	120							100500	100600	100700	100800	100900	
110	115	130							110500	110600	110700	110800	110900	
120	125	140							120500	120600	120700	120800	120900	
130	135	155								130600	130700	130800	130900	
140	145	165								140600	140600	140800	140900	
150	155	180								150600	150700	150800	150900	
160	165	190								160600	160700	160800	160900	
170	175	200								170600	170700	170800	170900	
180	185	215								180600	180700	180800	180900	
190	195	225								190600	190700	190800	190900	
200	205	235								200600	200700	200800	200900	
225	230	260								225600	225700	225800	225900	
250	255	290								250600	250700	250800	250900	
265	270	305								265600	265700	265800	265900	
285	290	325								285600	285700	285800	285900	
300	305	340								300600	300700	300800	300900	

轴承选型与安装 Bearings Selection & Installation

轴承选型 Bearings Selection

YDB公司根据不同的工况条件设计了不同的轴承材料。一般来说，用户在使用和设计时应当根据轴承的使用温度、轴承的承载面压、线速度、耐磨性能要求、运动类型、安装情况、轴承成本等各方面因素综合考虑。

YDB have developed different types of bearings and various materials to suit a range of applications. The customer can select the material and type of bearing to suit their specific working environment, installation, load, speed, max and min temperatures, life, and cost.

轴承的使用部位 The use of Bearing Parts

1. 轴承的选型：用户在使用和设计时应当根据轴承的使用温度，轴承的承载面压，线速度，耐磨性能要求，运动类型，安装情况，轴承承载等各方面因素来综合考虑。

2. 轴承的使用部位：须经常保持润滑油供给的部位，汽车，OA机器，食品机械等无给油较合适的部位，摇摆运动，往复运动，起动停止频繁等油膜形成困难的部位，处于长期无法保养的环境下使用，致润滑油易劣化部位，因高温而润滑效果无法发挥处，杂质侵入引起油膜破断处，高处或危险的给油困难地方，在水中或介质中使用的部位。

In most applications, bearings should be a press fit into the housing. Bearings must always be fitted using a fitting mandrel. In the case of a relatively high interference, the housing must be chamfered to assist assembly. Lubricating the bearing OD is also recommended to assist the assembly procedure. For applications using metallic bearings, shrink fitting could also be considered. In most applications, FDB bearings should be a press fit into the housing. Bearings must always be fitted using a fitting mandrel. In the case of a relatively high interference, the housing must be chamfered to assist assembly. Lubricating the bearing OD is also recommended to assist the assembly procedure. For applications using metallic bearings, shrink fitting could also be considered.

轴承的装配 Bearings Installation

装配前应确保座孔内表面光洁无异物以免装配时划伤，同时要求座孔有导向倒角；装配时应采用芯轴慢慢压入，禁止直接敲打轴套以免产生变形；座孔设计时如需采用易变形材料如铝合金或座孔壁厚较薄时，请予以说明，以免压装时使座孔变形；为了使装配更简单且不会破坏耐磨层，轴的端面必须有倒角圆滑过渡，轴的材质建议为轴承钢，表面淬火处理HRC45以上，表面粗糙度为0.4-0.8，表面也可镀硬铬。有可能的话，请在轴表面涂上油脂以缩短轴套走合期。非卷制类厚壁轴承装配时建议使用液氮冷冻。

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P值 / V值 / PV值的概念 P value/V value/PV value Concept

P值：轴承所承载的最大负荷（W）与在轴承上的投影面积（ $\phi d \times L$ ）相除后即为面压P。

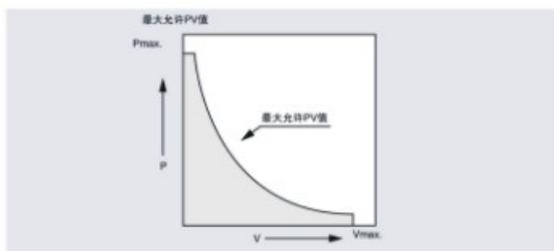
V值：速度V是对偶轴与轴承之间的相对速度。

PV值：轴承面压P与速度V的乘积为PV值。

P值、V值、PV值并不是各自独立的最大允许值，而是相互关联的设计参数。

设计中，请在图表表示的范围内选择参数。

最大允许PV值 < 最大允许面压：Pmax. × 最大允许速度：Vmax.



YDB

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