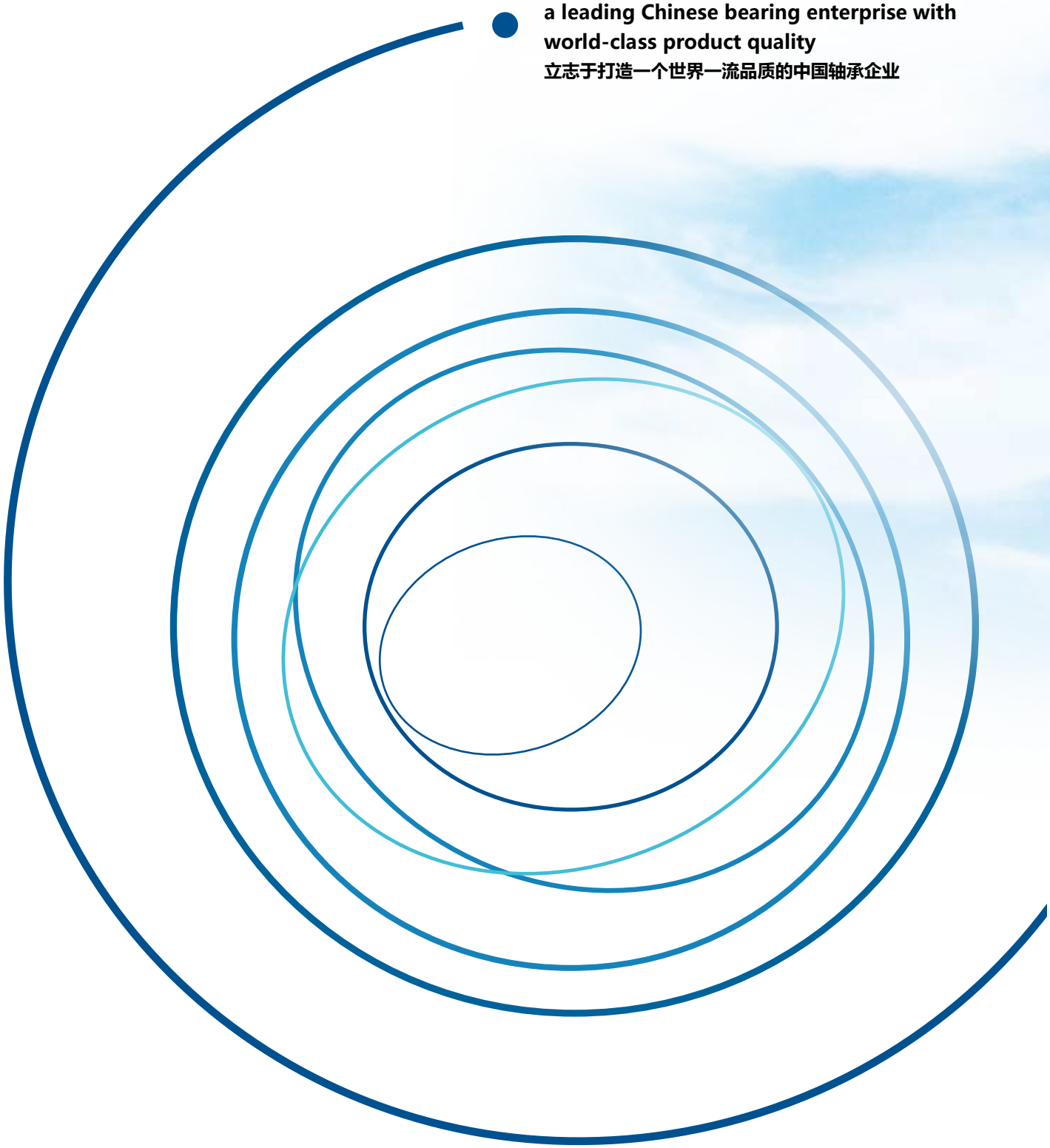
We are devoted to building ourselves into a leading Chinese bearing enterprise with world-class product quality

立志于打造一个世界一流品质的中国轴承企业



DERNORE

Struggle to be a top level self-lubricating bearing supplier in Chinese machinery industry

力争成为中国机械行业优质自润滑轴承供应商

www.chinaoiles.com

DERNORE

Jiashan Dernore Bearing Co.,Ltd.

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DERNORE

打造卓越的“德文化”精神

我国文化经过几千年的传承，内容博大精深，涵盖到社会生活的各个方面。德诺轴承的“德”文化取自《周易》中的卦辞：“天行健，君子以自强不息；地势坤，君子以厚德载物”这句经典。意指君子应“刚毅坚卓，愤发图强，增厚美德，容载万物”，这是上德的体现。溶入到德诺的管理体系中就形成了“立志高远，胸怀宏大，美德仁厚，海纳百川”的理念，员工们在求学、成长的过程中深受熏陶，在思想意识中生根发芽，“厚德载物”便成为企业文化的主要精神源泉。

“观念决定思路，思路决定出路”，德诺轴承正是在这样的上德观念下将一个普通团队打造为具有高度凝聚力的团队，它有效地激发了团队活力，提升了团队工作效率，增加了组织的向心力、凝聚力、信任力，减少了组织的离心力、破坏力。历年来，德诺一直以“一诺千金”的工作作风，在各个机械行业领域，以稳定的技术，可靠的质量，不断的创新，带着一份责任感奋勇前行，在业界深受好评。

“路漫漫其修远兮，吾将上下而求索”。德诺在建立自己企业文化上不断前行，在探索企业发展的道路上，没有典型的模式可借鉴，更没有成熟的套路可引用，所做的一切只能立足于企业，根植于德诺的企业文化，放眼于全国，以经济建设为中心的大背景下，从实践出发，为使德诺成为一个学习型企业、一个受人尊敬和一个利益众生的现代企业而不断奋进。

我们的作风：想客户之所想，解客户之所忧
Our work style:always take into account what customers really want, and help customers to solve technical problems.

我们的精神：奋斗永无止境，我们永远在路上
Our spirit: the struggle for success is endless, we are working hard all the time.

我们的价值观：坦诚做人，真诚做事
Our value conception: be honest, credible, responsible.

厚德载物 一诺千金

SOCIAL-COMMITMENT
PROMISE IS DEBT

奋斗永无止境 我们永远在路上
Struggle is endless way. Dream always on the road

为保护地球环境，共建美好家园
尽我们的绵薄之力

作为自润滑轴承的生产厂家，要想成为优秀企业，保护地球环境是我们必需承担的社会责任，致力于建设一个人人生活安心、舒适的环境，倡导人与自然的和谐相处。奉行低碳减耗，节约能源的理念：绿色生产，自觉环保，建立可回收原料库，循环利用材料。贯彻打造自润滑轴承高效的宗旨:无需加油,避免了废油回收处理,利于环境的保护。我们坚决按照ROHS指令,生产无铅无汞无镉的环保产品，为环境保护贡献我们的技术力量。

随着公司的发展和进步,环保达标已经是一种共识和要求，公司也规划了未来的环保计划。我们将总结过去的成果，学习外部的成功经验，不断完善公司环保形象，积极响应国家政策，实现可持续发展，为环境保护贡献自己的一份力量。

我公司树脂类、金属基–树脂复合轴承
已实现了无铅化

德诺是一个温床，它孕育了激情和信仰。德诺人更是用勤奋的青春诠释了流光异彩的梦想，灿烂的笑容勾勒出坚定的信念。我们分工明确，团结协助，凝聚在一起，为德诺腾飞起航，也为昨日的坚持欢笑，以人为本，厚积薄发，您的选择就是我们的追求，因为德诺人都有一个简单的信仰，我们始终都相信德诺是一个宠儿，也是我们这个大家庭的希望，德诺人风雨同舟，众志成城，刻不容缓，志在必得，相信她终将呈现出最美的样子，为此我们坚定不移，因为每一个德诺人都是努力的天才。

以此献给在生产一线勤劳耕耘的员工
—— 我们最可爱的人。

享受每一天工作带来的乐趣

To gain pleasure from daily works.

Corporation Profile

企业简介

嘉善德诺轴承有限公司地处浙江省嘉善县，专业从事滑动轴承的生产及销售。本公司装备精良，设备齐全，技术实力雄厚。目前主要生产的产品有：金属基 - 塑料复合轴承、铸铜基轴承、铜板卷制轴承、双金属轴承等。本公司是 ISO9001 认证企业，所有产品严格按照国家标准或国际标准生产，也可以根据客户来图加工制造。产品广泛使用于众多工业领域。比如车辆、机床、模具、冶金机器、矿山机械、纺织机械、起重机械、建筑机械、印刷机械、农林水利机械，工程机械、注塑机、橡胶机械，化工机械、食品机械，自动化设备，锻压设备、轧钢设备、健身器械、港口及海洋机械等。

依托十来年的创业发展，目前我们已经跟国内外众多知名客户建立了长期友好合作关系，业务往来不断密切，产品远销全球众多国家和地区。我们始终坚持管理和技术的创新，坚持“以科技为先导，以质量求发展，以信誉求合作”的经营理验。为把本公司建设成为中国滑动轴承行业的杰出企业，全体员工一直默默耕耘，把产品质量作为重中之重，想客户所想，急客户所急，忧客户所忧，全心全意为客户服务，提供最优的解决方案满足客户的需求，造福社会。

本公司一直秉承着“跟客户共同发展，跟客户分享发展”的合作理念，真诚欢迎国内外客户来人来函洽谈合作！我们将再接再厉，一往无前，继续为国内外客户提供价廉质优的产品，为客户创造更多的价值。

ORE BEARING

Dernore Bearing Co., Ltd., located in Jiashan County, Zhejiang Province of China, is a professional manufacturer and distributor of a variety of plain bearings with over ten years of experience in this line.

Our product family mainly includes metal-polymer composite bearings, wrapped copper bearings, cast copper bearings, bimetal bearings. Either your application is for self-lubricating use or for oil/grease-lubricating use, we have the capability to provide you best solution. All the products strictly in accordance with ISO3547 standard. Customized standard or drawings are accepted too.

We are an ISO9001 certified company. Since the foundation of this corporation, product quality is always deemed as the best respect for our customers. We always maintain stringent quality control for every product before delivery and provide comprehensive after-sale service, which has become the footstone of our success.

To date, we have successfully established cooperation relation with a large number of domestic and overseas customers as a result of all staff' s hard work and all customers' trust. You are welcome to send an inquiry to us or pay a visit to our factory if you have demand for our products. We sincerely wish you benefit more from the cooperation with us.

目录
CONTENTS

JIASHAN DERNORE BEARING

自润滑轴承的优点

1. 无需供油装置、注油孔、油槽加工供油装置的费用、加工费、组装费等多余的成本与时间的节省，能大幅降低制造成本。

2. 运动成本的降低大幅降低润滑油的使用量与设备的维护保养费，另外也免除了由于供油不足造成的风险。

3. 设计时间的缩短无油化可以使设计、结构等大幅简化，降低成本，节省设计时间。

4. 此外，使用自润滑轴承还可提高机械性能，延长使用寿命及提高可靠性等方面获得显著效果。

5. 润滑油的回收和环保无需废油回收处理，有利于环境保护。

Self Lubricate Bearings Advantages

1.No need install and design oil supply device and oil hole for bushing. Saving much cost on Oil groove process cost、additional install cost. Saving time;

2、Because of reduce lubricating oil using and equipment maintenance cost, the operating cost saving too much. In addition avid the risk of oil shortage supply.

3、Saving design time; self-lubricating can make design constructs more simple. More economic ;

4、Equipment performance properties can be improved to more higher level. There is achieve significant results while equipment life more longer and more reliability;

5、Its benefit for protect environment when lubricating oil recycle and no need treat waste oil recycle.

Dernore

产品数据 Product Data
适用范围 Application Ranges

产品图片 Parts Photos						
产品名称 Parts Name	#200 钢背润滑分散型轴承	#50SP1-SL1 高力黄铜基普通固体润滑剂镶嵌轴承	#50SP1-SL4 高力黄铜基水润滑剂镶嵌轴承	#50SP5-SL1 特殊高力黄铜基固体润滑剂镶嵌轴承	#50HP 高硬度特殊铜合金基固体润滑剂镶嵌轴承	#50AB-SL1 铝青铜基固体润滑剂镶嵌轴承
	Oil-retaining bimetallic bearing (steel backing+ copper sinter with solid lubricants dispersed)	Solid lubricants-embedded High Strength Brass bearing	Water lubricants-embedded High Strength Brass bearing	Solid lubricants-embedded special High Strength Brass bearing	Solid lubricants-embedded high hardness special copper bearing	Solid lubricants-embedded aluminum bronze bearing
压力 P(N/mm²)	NL 24.5 ※73.5	29	49	49	73	24
	PL 49 ※73.5	※98.0	※98.0	※98.0	※118	※73.5
速度 V(m/s)	NL 0.5	NL 0.5	0.25	NL 0.25	NL 0.1	NL 0.25
	PL 1	PL 1		PL 0.5	PL 0.25	PL 0.5
PV (N/mm²•m/s)	NL 1.63	NL 1.65	1.65	NL 1.65	NL 1.65	NL 1.25
	PL 2.45	PL 3.25		PL 3.25	PL 3.25	PL 2.45
使用温度 T (℃)	400	-40~+300	-40~+80	-40~+300	-40~+300	-250~+400

润滑条件 Lubrication condition	PL	NL	PL	NL	NL	PL	NL	PL	NL	PL
大气 in air	○	○	○	○	○	○	○	○	○	○
水中 in water	—	×	—	○	×	—	×	—	▵	—
海水中 in seawater	—	×	—	▵	×	—	×	—	×	—
化学品 in chemicals	—	×	—	▵	×	—	×	—	×	—
腐蚀环境 in corrosive condition	▵	▵	▵	▵	▵	▵	▵	▵	▵	▵

※ 静载荷 static load carrying capacity

"NL"—不加油 No lubrication

"PL"—定期加油 Periodicallubrication

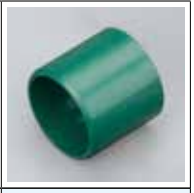
○ 可以使用 Usable

▵ 有条件使用 Conditionally usable

× 不能使用 Unusable

— 不适用 Unsuitable



						
#50AB-SL4 铝青铜基水润滑剂固体镶嵌轴承	#50B 青铜基固体润滑剂镶嵌轴承	BIM 钢板 - 金属粉烧结 * 双金属轴承	MP10 金属基 - 树脂复合轴承	MP20 金属基 - 树脂复合轴承	WB 铜基卷制轴承	#80EP 含填充剂聚甲醛（POM）树脂轴承
water lubricants-embedded aluminum bronze bearing	Solid lubricants-embedded bronze bearing	Bimetallic bearing(steel backing+metal powder sinter)	Composite bearing (steel backing +bronze sinter + PTFE mixture)	Composite bearing (Steel backing +bronze sinter + POM mixture)	Wrapped Bronze Bearing	Pom Resin Bearing
34	15	150	140	140	40	17.5
※73.5	※49		250	250	120	
0.25	NL 0.4	2.5	2.5~5	2.5	<2	0.85
	PL 0.85					
1.65	NL 1	2.8	3.6	2.8	2.8	2.45
	PL 1.65					
-40~+80	-40~+250	-50~-300	-200~+280	-40~+120	-100~+200	-40~+80
NL	NL / PL	PL	NL	NL	NL	NL
○	○ / ○	○	○	○	○	○
○	△ / —	×	△	×	△	△
○	△ / —	×	×	×	△	△
△	△ / —	×	△	×	△	△
△	△ / △	×	△	×	△	△

#200 简介 Introduction

机械性能

适用范围（温度，PV 值）

产品简介

#200 是由多孔质特殊含油耐磨材料与金属钢背构成的复合材料轴承。特殊耐磨层由特质铜合金粉末和主要成分为石墨的固体润滑剂分散高温烧结而成，经含油处理从而获得卓越的摩擦磨损特性。

特点

- 自由运动的任何方向由于固体润滑剂分散均匀，具有高性能甚至非常小的运动可以适用；
- 应用于自润状态。
- 高承载，出色的耐磨，极好的速度特性。
- 可以提供标准产品和各种规格的板材用于二次加工；

Introduced products

DNB-200 is bimetallic bearing material, based on steel backing, and a layer of copper sinter, which is composed of special copper powder with solid lubricants (major ingredient is graphite) dispersed, acts as wear resistant surface and processed through oil-impregnating treatment.

Features

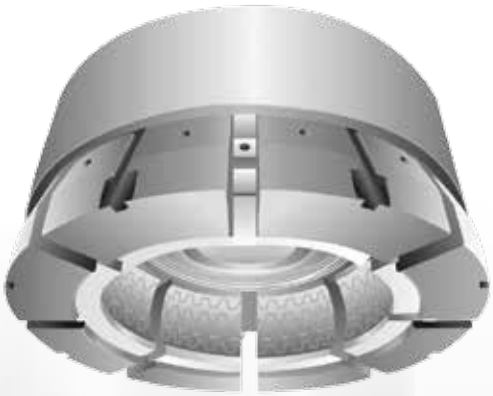
- Freedom of motions to any direction due to solid lubricant dispersed evenly, with high performance even for very small motions.
- Applicable in self-lub state.
- Outstanding load durability, velocity characteristics and wear resistance.
- Available of standard products with various sizes and plates for additional machining.

max. P	干摩擦 /dry	动载荷 dynamic	N/mm^2	24.5
	定期注油 /geschmiert			49
	-	静载荷 / 微小运动，static		73.5
max. v	干摩擦 /dry		m/s	0.5
	定期注油 /geschmiert			1
Pv max.	干摩擦 /dry		$N/mm^2 \cdot m/s$	1.63
	定期注油 /geschmiert			2.45
工况温度 / service temperature range			° C	-40~+400
密度 / Density			kg/dm^3	6.3
抗拉强度 / Tensile strength			N/mm^2	>400
硬度 / hardness			HRM	60 μ -95 μ

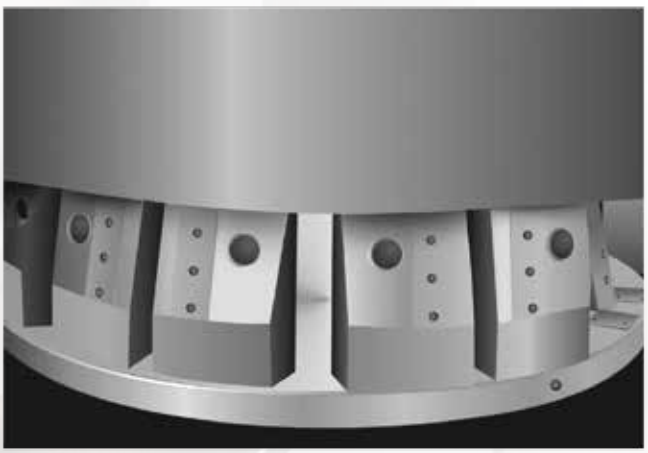


汽车轮胎模具活络模 自润导板： 耐高温，耐磨损

Auto tyre Segment mould- self-lubricating wear plate.: working high temperature,Friction resistance





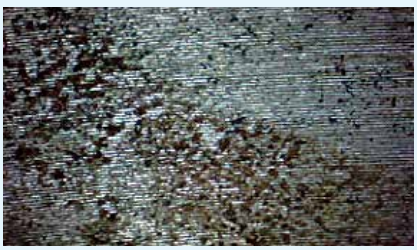


#200 Test Data

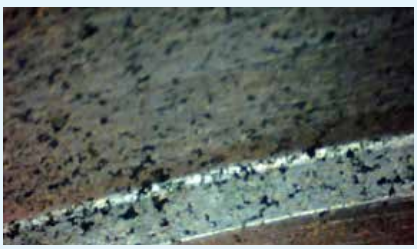
轴套板块各种实验数据

滑动，摇摆，重载

A 公司金属钢背烧结（50 倍）



B 公司金属钢背烧结（50 倍）



DNB-200 金属钢背烧结（50 倍）

轴承往复运动摩擦试验

产品：DNB-200 钢背多孔质固体润滑剂分散型自润滑轴承

固体润滑剂分散型自润滑轴承类似品

尺寸：50*40*30

对偶材：#45 HRC 43-47

试验形态：定速定载

环境温度：17-23℃

面压：1.2MPa

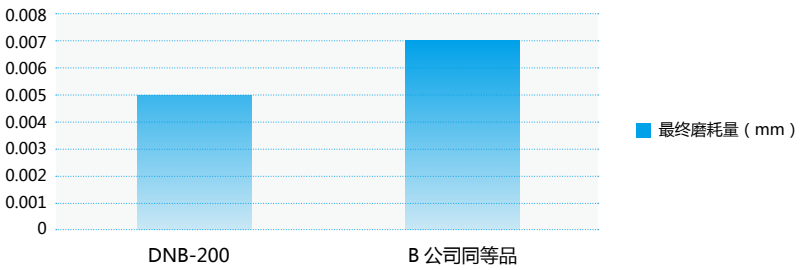
滑行速度：0.53m/s

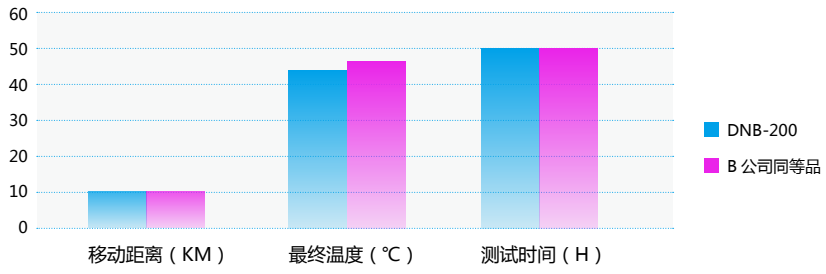
油脂涂抹：初期油脂涂抹

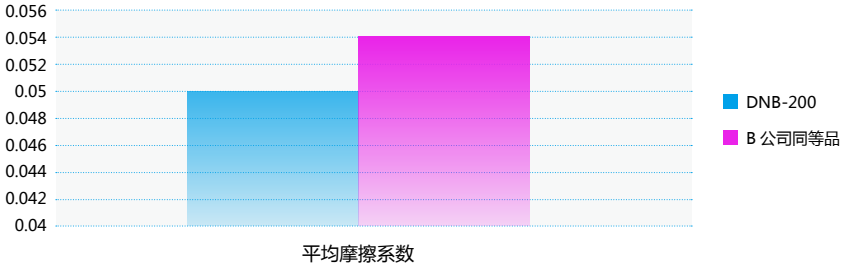
试验时间：50 小时

实验结果 Test result

	最终磨损量（mm）	移动距离（KM）	最终温度（℃）	平均摩擦系数	试验时间（H）
DNB-200	0.005	9.54	44	0.046	50
B 公司对等品	0.007	9.54	47	0.055	50

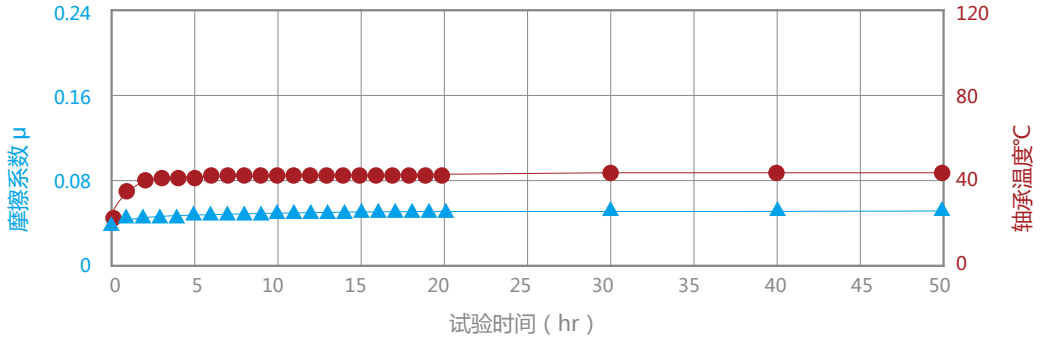




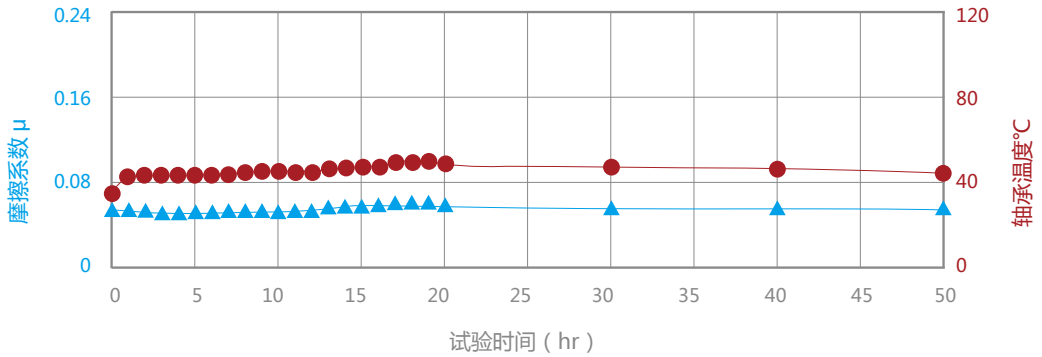




DNB-200 实验数据 Test data



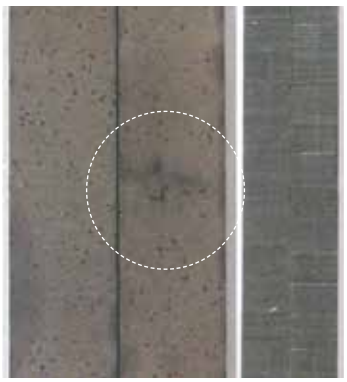
固体润滑剂分散型自润滑轴承类似品 Similar solid lubricating sintered bearing



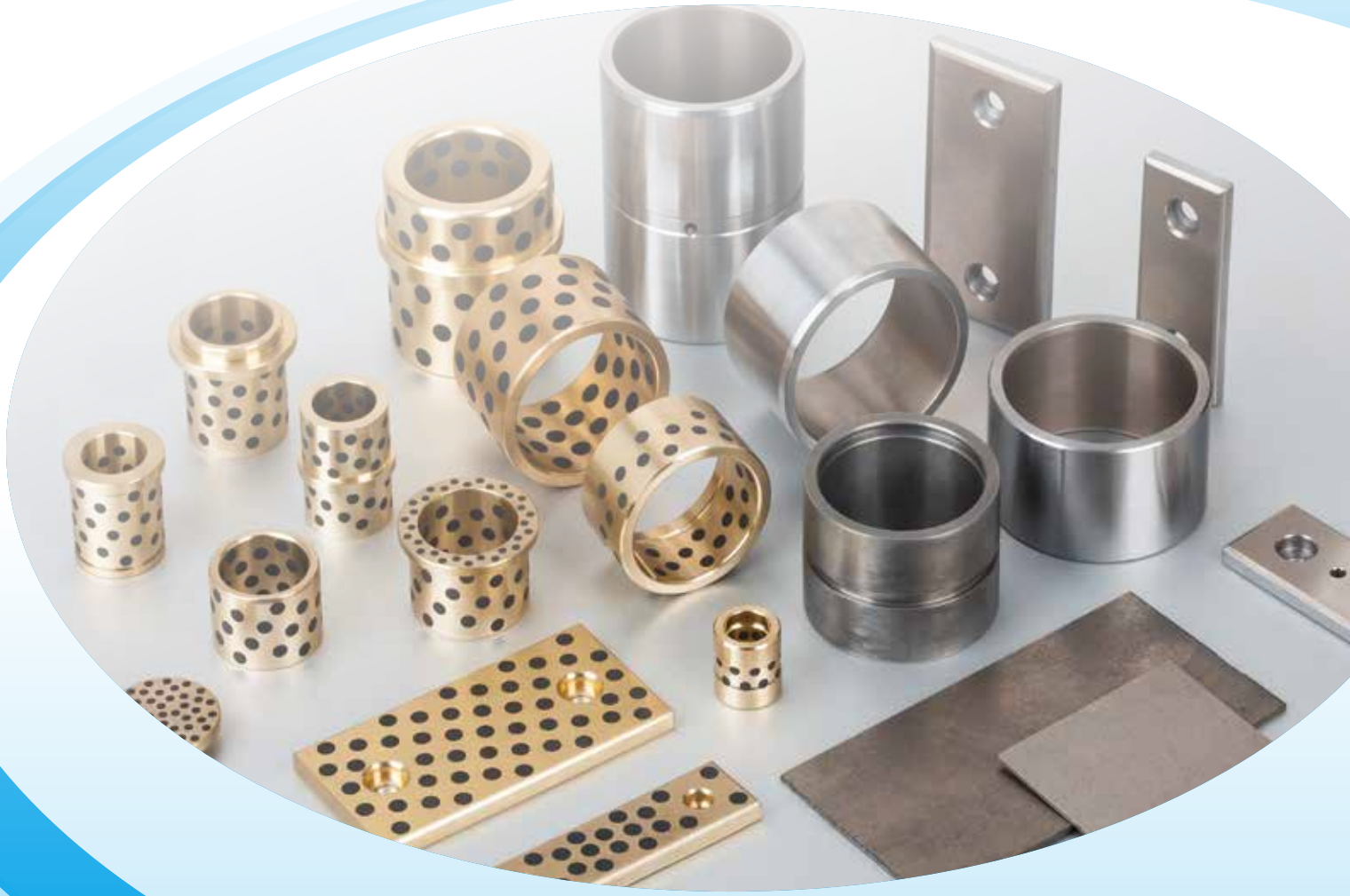
磨损对比 After sliding friction work. compare the result

同行 A **大量磨损**

同行 B **剧烈磨损**



DNB200 **微量磨损**



环卫设备
Enviroment cleaning equipment

注塑机
Injection molding machines

起重机械
Crane equipment

液压金属加工机械
Hydraulic metal
press machine

石油机械
Gas exploit
equipment

桥梁
Tower links
& Cable hanger

土方机械
Hydraulic excavator

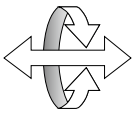
卡车，矿用卡车
Truck , mining truck

煤机
Mining equipment

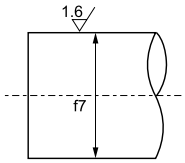
DNB-#200B 钢背多孔固体润滑剂分散型自润滑轴套

请从适用的内径、外径、长度中选择零件号
（例）内径 20mm、外径 30mm、长度 15mm 的情况下

Ordering Code(example) **DNB-#200B-203015**



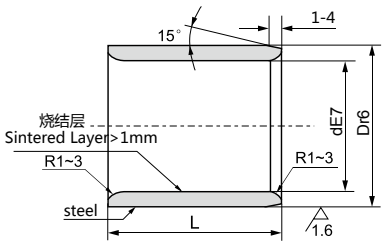
运动方向
sliding direction

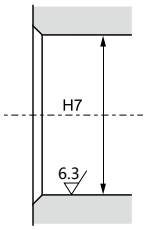


相配轴
Matching Shaft

Unit：mm

内径 Inner diameter		外径 Outer diameter		长度 Length $^{-0.1}_{-0.3}$						
Φd	Tolerance	ΦD	Tolerance	10	12	15	16	19	20	25
20	+0.073 +0.040	30	+0.049 +0.028			203015	203016		203020	203025
25	"	33	+0.059 +0.034		253312	253315	253316		253320	253325
25	"	35	"			253515	253516		253520	253525
28	"	38	"						283820	283825
30	"	38	"		303812	303815			303820	303825
30	"	40	"			304015			304020	304025
35	+0.089 +0.050	44	"						354420	354425
35	"	45	"						354520	354525
40	"	50	"			405015			405020	405025
45	"	55	+0.071 +0.041							
45	"	60	"							
50	"	60	"						506020	
50	"	62	"							
50	"	65	"							
55	+0.106 +0.060	70	+0.073 +0.043							
60	"	74	"							
60	"	75	"							
65	"	80	"							
70	"	85	+0.086 +0.051							
70	"	90	"							
75	"	90	"							
75	"	95	"							
80	"	96	"							
80	"	100	"							
90	+0.126 +0.072	110	+0.089 +0.054							
100	"	120	"							



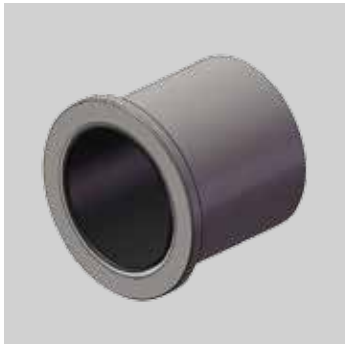


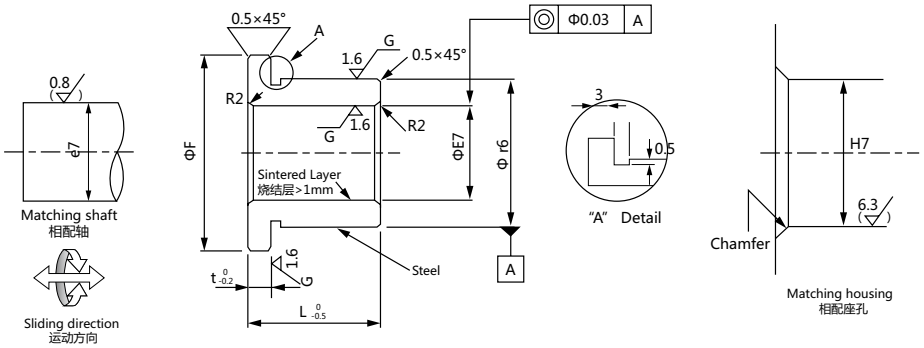
相配座孔
Matching Housing

Unit：mm

长度 Length $^{-0.1}_{-0.3}$									
30	35	40	50	60	70	80	90	100	120
203030	203035	203040	203050						
253330	253335	253340	253350	253360					
253530	253535	253540	253550	253560					
283830		283840							
303830	303835	303840	303850	303860					
304030	304035	304040	304050	304060					
354430	354435	354440	354450	354460					
354530	354535	354540	354550	354560					
405030	405035	405040	405050	405060	405070	405080			
455530	455535	455540	455550	455560					
456030		456040	456050	456060	456070	456080			
506030	506035	506040	506050	506060	506070	506080			
506230		506240	506250	506260	506270				
506530		506540	506550	506560	506570	506580		5065100	
557030		557040	557050	557060	557070				
607430	607435	607440	607450	607460	607470	607480			
607530	607535	607540	607550	607560	607570	607580		6075100	
		658040	658050	658060	658070	658080			
708530	708535	708540	708550	708560	708570	708580		7085100	
			709050	709060	709070	709080			
			759050	759060	759070	759080		7590100	
						759580		7595100	
		809640	809650	809660	809670	909680		8096100	8096120
		8010040	8010050	8010060	8010070	8010080		80100100	80100120
			9011050	9011060	9011070	90111080	9011090	90110100	90110120
			10012050	10012060	10012070	10012080	10012090	100120100	100120120

DNB-#200F 法兰轴套 Flanged bushes





请从适用的内径、长度中选择零件号
（例）内径 20mm、长度 30mm 的情况下

Ordering Code(example) **DNB-#200F-2030**

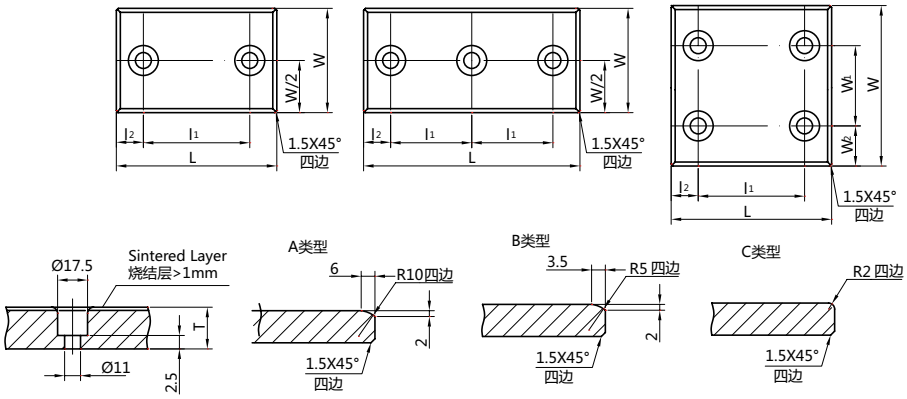
Unit：mm

Parts No. 型号	Ød		ØD		ØF	t		L	
#200F-2030	20	+0.061 +0.040	30	+0.041 +0.028	35	7	0 -0.2	30	0 -0.5
#200F-2040	20	"	30	"	35	7	"	40	"
#200F-3030	30	+0.075 +0.050	40	+0.050 +0.034	45	7	"	30	"
#200F-3060	30	"	40	"	45	7	"	60	"
#200F-4040	40	"	50	+0.060 +0.041	55	10	"	40	"
#200F-4080	40	"	50	"	55	10	"	80	"
#200F-5050	50	+0.090 +0.060	62	"	67	10	"	50	"
#200F-50100	50	"	62	"	67	10	"	100	"
#200F-6060	60	"	74	+0.062 +0.043	79	10	"	60	"
#200F-60120	60	"	74	"	79	10	"	120	"
#200F-8080	80	+0.107 +0.072	100	+0.076 +0.054	105	10	"	80	"
#200F-100100	100	"	120	+0.088 +0.063	125	10	"	100	"
#200F-120100	120	+0.125 +0.085	140	+0.090 +0.065	145	10	"	100	"
#200F-140100	140	"	160	+0.093 +0.068	165	10	"	100	"
#200F-160120	160	"	180	+0.106 +0.077	185	10	"	120	"

DNB-#200P20 滑板 Wear Plate (T：20mm)

请从适用的厚度、宽度、长度中选择零件号
(例) 厚度 20mm、宽度 28mm、长度 75mm 的情况下

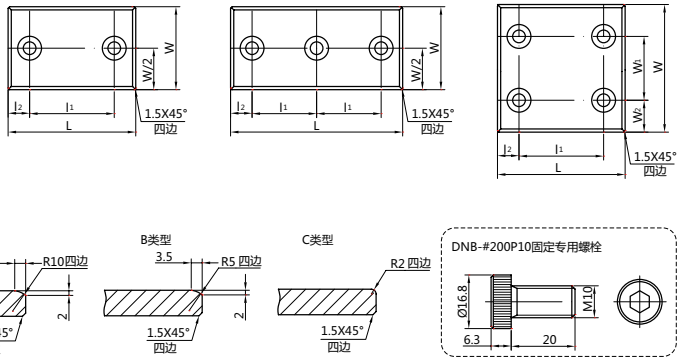
Ordering Code(example) **DNB-#200P20-2875**

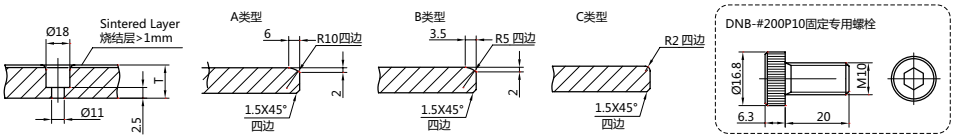


Unit：mm

型号 Parts No.	宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch						Number of Screw holes	Chamfered shape
	W	Tol.	L	Tol.	T	Tol.	W1	Tol.	W2	L1	Tol.	L2		
#200P20-2875	28	-0.1 -0.3	75	-0.1 -0.3	20	±0.01	-	-	-	45	±0.2	15	2	C
#200P20-28100	28	"	100	"	20	"	-	-	-	50	"	25	"	"
#200P20-28150	28	"	150	"	20	"	-	-	-	100	"	25	"	"
#200P20-3875	38	"	75	"	20	"	-	-	-	45	"	15	"	"
#200P20-38100	38	"	100	"	20	"	-	-	-	50	"	25	"	"
#200P20-38150	38	"	150	"	20	"	-	-	-	100	"	25	"	"
#200P20-4875	48	"	75	"	20	"	-	-	-	45	"	15	"	B
#200P20-48100	48	"	100	"	20	"	-	-	-	50	"	25	"	"
#200P20-48125	48	"	125	"	20	"	-	-	-	100	"	25	"	"
#200P20-48150	48	"	150	"	20	"	-	-	-	100	"	25	"	"
#200P20-48200	48	"	200	"	20	"	-	-	-	100	"	50	"	"
#200P20-48250	48	"	250	"	20	"	-	-	-	45	"	25	3	"
#200P205875	58	"	75	"	20	"	-	-	-	50	"	15	2	"
#200P20-58100	58	"	100	"	20	"	-	-	-	75	"	25	"	"
#200P20-58150	58	"	150	"	20	"	-	-	-	100	"	25	"	"
#200P20-7575B	75	"	75	"	20	"	-	-	-	25	"	25	"	A
#200P20-75100B	75	"	100	"	20	"	-	-	-	50	"	25	"	"
#200P20-75125	75	"	125	"	20	"	-	-	-	75	"	25	"	"
#200P20-75150	75	"	150	"	20	"	-	-	-	100	"	25	"	"
#200P20-75200	75	"	200	"	20	"	-	-	-	150	"	25	"	"
#200P20-75250	75	"	250	"	20	"	-	-	-	100	"	25	3	"
#200P20-75300	75	"	300	"	20	"	-	-	-	100	"	50	"	"
#200P20-100100	100	"	100	"	20	"	50	±0.2	25	50	"	25	4	"
#200P20-100125	100	"	125	"	20	"	"	"	"	75	"	25	"	"
#200P20-100150	100	"	150	"	20	"	"	"	"	100	"	25	"	"
#200P20-100200	100	"	200	"	20	"	"	"	"	150	"	25	"	"
#200P20-100250	100	"	250	"	20	"	"	"	"	200	"	25	"	"
#200P20-100300	100	"	300	"	20	"	"	"	"	200	"	50	"	"
#200P20-125125	125	"	125	"	20	"	"	"	37.5	75	"	25	"	"
#200P20-125150	125	"	150	"	20	"	"	"	"	100	"	25	"	"
#200P20-125200	125	"	200	"	20	"	"	"	"	150	"	25	"	"
#200P20-125250	125	"	250	"	20	"	"	"	"	200	"	25	"	"
#200P20-125300	125	"	300	"	20	"	"	"	"	200	"	50	"	"
#200P20-150150	150	"	150	"	20	"	100	"	25	100	"	25	"	"
#200P20-150200	150	"	200	"	20	"	"	"	"	150	"	25	"	"
#200P20-150250	150	"	250	"	20	"	"	"	"	200	"	25	"	"

DNB-#200P10 滑板 Wear Plate (T：10mm)





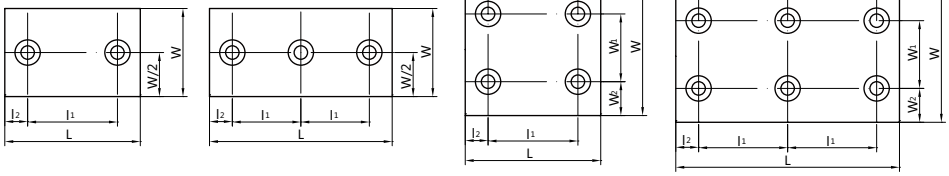
请从适用的厚度、宽度、长度中选择零件号
(例) 厚度 10mm、宽度 28mm、长度 75mm 的情况下

Ordering Code(example) **DNB-#200P10-2875**

Unit：mm

Parts No. 型号	宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch						Number of Screw holes	Chamfered shape
	W	Tol.	L	Tol.	T	Tol.	W1	Tol.	W2	L1	Tol.	L2		
#200P10-2875	28	-0.1 -0.3	75	-0.1 -0.3	10	±0.01	-	-	-	45	±0.2	15	2	C
#200P10-28100	28	"	100	"	10	"	-	-	-	50	"	25	"	"
#200P10-28125	28	"	125	"	10	"				75	"	25	"	"
#200P10-28150	28	"	150	"	10	"	-	-	-	100	"	25	"	"
#200P10-3875	38	"	75	"	10	"	-	-	-	45	"	15	"	"
#200P10-38100	38	"	100	"	10	"	-	-	-	50	"	25	"	"
#200P10-38125	38	"	125	"	10	"				75	"	25	"	"
#200P10-38150	38	"	150	"	10	"	-	-	-	100	"	25	"	"
#200P10-4875	48	"	75	"	10	"	-	-	-	45	"	15	"	B
#200P10-48100	48	"	100	"	10	"	-	-	-	50	"	25	"	"
#200P10-48125	48	"	125	"	10	"	-	-	-	100	"	25	"	"
#200P10-48150	48	"	150	"	10	"	-	-	-	100	"	25	"	"
#200P10-48200	48	"	200	"	10	"	-	-	-	100	"	50	"	"
#200P10-48250	48	"	250	"	10	"	-	-	-	45	"	25	3	"
#200P10-7575	75	"	75	"	10	"	-	-	-	25	"	25	2	A
#200P10-75100	75	"	100	"	10	"	-	-	-	50	"	25	"	"
#200P10-75125	75	"	125	"	10	"	-	-	-	75	"	25	"	"
#200P10-75150	75	"	150	"	10	"	-	-	-	100	"	25	"	"
#200P10-75200	75	"	200	"	10	"	-	-	-	150	"	25	"	"
#200P10-75250	75	"	250	"	10	"	-	-	-	100	"	25	3	"
#200P10-75300	75	"	300	"	10	"	-	-	-	100	"	50	"	"
#200P10-100100	100	"	100	"	10	"	50	±0.2	25	50	"	25	4	"
#200P10-100125	100	"	125	"	10	"	"	"	"	75	"	25	"	"
#200P10-100150	100	"	150	"	10	"	"	"	"	100	"	25	"	"
#200P10-100200	100	"	200	"	10	"	"	"	"	150	"	25	"	"
#200P10-100250	100	"	250	"	10	"	"	"	"	200	"	25	"	"
#200P10-100300	100	"	300	"	10	"	"	"	"	200	"	50	"	"
#200P10-125125	125	"	125	"	10	"	"	"	37.5	75	"	25	"	"
#200P10-125150	125	"	150	"	10	"	"	"	"	100	"	25	"	"
#200P10-125200	125	"	200	"	10	"	"	"	"	150	"	25	"	"
#200P10-125250	125	"	250	"	10	"	"	"	"	200	"	25	"	"
#200P10-125300	125	"	300	"	10	"	"	"	"	200	"	50	"	"
#200P10-150150	150	"	150	"	10	"	100	"	25	100	"	25	"	"
#200P10-150200	150	"	200	"	10	"	"	"	"	150	"	25	"	"
#200P10-150250	150	"	250	"	10	"	"	"	"	200	"	25	"	"

DNB-#200P5 滑板 Wear Plate (T : 5mm)



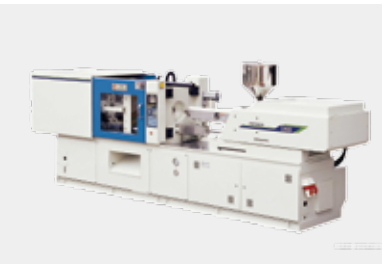
请从适用的厚度、宽度、长度中选择零件号
(例) 厚度 5mm、宽度 22mm、长度 50mm 的情况下

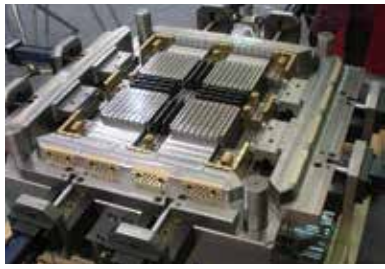
Ordering Code(example) **DNB-#200P5-2250**

Unit : mm

Parts No. 型号	宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch				Number of Screw holes
	W	Tolerance	L	Tolerance	T	Tolerance	W1	W2	L1	L2	
#200P5-2250	22	0 -0.3	50	0 -0.3	5	0 -0.05	–	–	20	15	2
#200P5-2275	22	"	75	"	5	"	–	–	45	15	2
#200P5-22100	22	"	100	"	5	"	–	–	70	15	2
#200P5-22150	22	"	150	"	5	"	–	–	60	15	3
#200P5-2850	28	"	50	"	5	"	–	–	20	15	2
#200P5-2875	28	"	75	"	5	"	–	–	45	15	2
#200P5-28100	28	"	100	"	5	"	–	–	70	15	2
#200P5-28150	28	"	150	"	5	"	–	–	60	15	3
#200P5-3850	38	"	50	"	5	"	–	–	20	15	2
#200P5-3875	38	"	75	"	5	"	–	–	45	15	2
#200P5-38100	38	"	100	"	5	"	–	–	70	15	2
#200P5-38150	38	"	150	"	5	"	–	–	60	15	3
#200P5-4850	48	"	50	"	5	"	–	–	20	15	2
#200P5-4875	48	"	75	"	5	"	–	–	45	15	2
#200P5-48100	48	"	100	"	5	"	–	–	70	15	2
#200P5-48150	48	"	150	"	5	"	–	–	60	15	3
#200P5-7575	75	"	75	"	5	"	45	15	45	15	4
#200P5-75100	75	"	100	"	5	"	45	15	70	15	4
#200P5-75125	75	"	125	"	5	"	45	15	95	15	4
#200P5-75150	75	"	150	"	5	"	45	15	60	15	6
#200P5-100100	100	"	100	"	5	"	75	15	70	15	4
#200P5-100125	100	"	125	"	5	"	75	15	95	15	4
#200P5-100150	100	"	150	"	5	"	75	15	60	15	6

#50 固体润滑剂镶嵌轴承 Metallic self-lubricating bearings





#50固体润滑剂镶嵌轴承
Metallic self-lubricating bearings

结构特性 Structure Characteristics

DNB#50 系列固体自润滑轴承以高强度铜合金为基体并按工况需要有规律的排布一定比列的固体润滑剂，这种铜基镶嵌式固体润滑轴承结合了铜合金的高承载高耐磨及固体润滑剂的自润滑性能，使其在使用过程中大大降低了轴承和设备的维护成本。

DNB#50 solid self-lubricating bearing materials consist of high strength metal with solid lubricants embedded, the metal has high load capacity and solid lubricants provided low friction during the operation, this construction reduces maintenance cost for both bearing and machinery.

材料特点 Material Properties

- 可以长期使用而无需维护；
- 设计用于很高的静承载和动承载；
- 具有很低的且平稳的摩擦系数，无“粘着”现象；
- 具有耐粉尘、耐腐蚀、耐冲击和耐边缘负载能力；
- 金属基材具有很好的吸震能力；
- 能够在很宽的温度范围内使用；
- 适合于往复、旋转和摆动等启动频繁又难以形成油膜的场合；
- 具有极低的磨损率，使用寿命长。

- Allows maintenance-free and long-life operation;
- Suitable for high static and dynamic loads;
- With low and smoothly coefficient of friction and without stick-slip effects;
- Suitable for dirty, corrosion, impact load and edge loading;
- The base material provided a good shock-absorbing capacity;
- Can be used over a large temperature range;
- Suitable for reciprocating, rotating and oscillating movement with start frequency and difficulty to form oil film occasions;
- With low wear rate and long life service.

产品应用 Application

注塑机模架、汽车模具、工程机械、液压油缸、大型齿轮箱、冶金连铸机、列车支架、轧钢设备、矿山机械、船舶、气轮机、吊车支撑、食品机械、水轮机轴承等

Injection molding machine, automotive moulds, hydrocylinder, gear case, gas turbine, water turbine, Crane support...

#50SP1 高力黄铜基固体润滑剂镶嵌轴承

广泛应用于重载低速工况场合

#50SP1 是以采用高科技工艺铸造的高力黄铜为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。该产品机械强度和硬度高，适合重载低速工况场合之应用。 固体润滑剂有多中类型可供悬着，如 SL-1 为一般用途用固体润滑剂，SL-4 为水或海水中用固体润滑剂。

自润滑免维护

广泛应用于重载低速工况场合。

往复运动，摇摆运动，及频繁启动停止且润滑油膜形成困难的场合，能发挥出优良的耐磨损性能

耐化学药液，耐腐蚀。

Solid lubricats-embadded High Strength Brass bearing

Broadly used for heavy load, low velocity application

#50SP1 is bassed on High Strength Brass alloy which is processed through unique high-tech cast technique. The anti-abrasion surface of the bearing are drilled proportlionally and embedded with solid lubricants. Due to its high mechanical strength and hardness, it's broadly used for heavy load, low velocity application. There are various solid lubricants available for different application, such as, SL-1 for general-purpose use, SL-4 for underwater or marine use.

Self-lubricated and maintenance-free.

Suitable for heavy load, low speed application.

Exert excellent wear resistance where it's difficult of oil film to be formed during reciprocating, oscillating or frequently intermittent operation.

Chemical attack resistant and corrosion resistant.

#50SP5 特殊高力黄铜基固体润滑剂镶嵌轴承

高载荷 * 高耐磨

#50SP5 是以特殊高力黄铜为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。该产品的机械强度和硬度比 #50SP1 更高。

自润滑免维护

比 #50SP1 具有更高的机械强度和硬度

在重载低速工况场合具有优良的耐磨损性能。

Solid lubricants-embedded special High Strength Brass bearing

Excellent wear resistance and high load carry capacity

#50SP5 owns higher mechanical strength and hardness than #50SP1. It's based on the special High-Strength Brass alloy and solid lubricants are embedded therein.

Self-lubricated and maintenance-free.

Broadly used for higher load application than #50SP1.

Exert Excellent wear resistance under high load, low velocity operation.

#50HP 高硬度特殊铜合金基固体润滑剂镶嵌轴承

超高的承载能力

#50HP 是以高硬度铜合金为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。该产品的机械强度和硬度比 #50SP5 更高

自润滑免维护

比 #50SP5 具有更高的机械强度和硬度

在重载低速工况场合具有优良的耐磨损性能

Solid lubricants-embedded high hardness special copper bearing

Super high load carring capacity

#50HP owns higher mechanical strength and hardness than #50SP5. It's based on the special alloy of super hardness and solid lubricants are embedded therein.

Self-lubricated and maintenance-free.

Broadly used for higher load application than #50SP5

Exert excellent wear resistance under high load, low velocity operation.

#50 AB 铝青铜基固体润滑剂镶嵌轴承

极好的耐热耐腐蚀性能

可在海水中使用

无低温脆弱现象，可在极低温度下使用

Solid lubricants-embedded aluminum bronze bearing

Excellent heat resistance and corrosion resistance

Can be applied under water or seawater circumstances

Can be applied in extreme-low temperature condition due to no brittleness at low temperature.

#50B 青铜基固体润滑剂镶嵌轴承

适用于中载中速运转场合

可在高温下使用

耐化学药液，耐腐蚀性能强

Solid lubricants-embedded bronze bearing

Suitable for middle load, middle velocity application

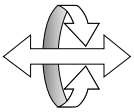
Can be applied at high working temperature

Excellent chemical attack resistance and corrosion resistance.

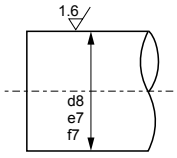
DNB-#50 固体润滑剂镶嵌轴承

请从适用的内径、外径、长度中选择零件号
（例）内径 8mm、外径 12、长度 8mm 的情况下

Ordering Code(example) **DNB-#50B-081208**



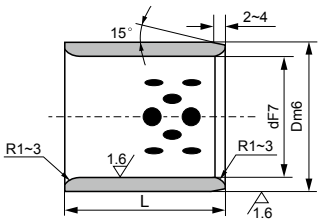
运动方向
sliding direction

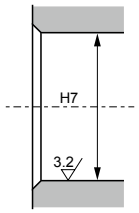


相配轴
Matching Shaft

Unit：mm

内径 Inner diameter		外径 Outer diameter		长度 Length $^{-0.1}_{-0.3}$									
Φd	Tolerance	ΦD	Tolerance	8	10	12	15	16	19	20	25	30	35
10	$^{+0.028}_{+0.013}$	14	$^{+0.018}_{+0.007}$	101408	101410	101412	101415			101420			
12	"	18	"	121808	121810	121812	121815	121816	121819	121820	121825	121830	
14	$^{+0.034}_{+0.016}$	20	$^{+0.021}_{+0.008}$		142010	142012	142015			142020	142025	142030	
15	"	21	"		152110	152112	152115	152116		152120	152125	152130	152135
16	"	22	"		162210	162212	162215	162216	162219	162220	162225	162230	162235
17	"	23	"				172315						
18	"	24	"		182410	182412	182415	182416		182420	182425	182430	182435
20	$^{+0.041}_{+0.020}$	28	"		202810	202812	202815	202816	202819	202820	202825	202830	202835
20	"	30	"		203010	203012	203015	203016		203020	203025	203030	203035
22	"	32	$^{+0.025}_{+0.009}$			223212	223215			223220	253225		
25	"	33	"			253312	253315	253316		253320	253325	253330	253335
25	"	35	"			253512	253515	253516		253520	253525	253530	253535
28	"	38	"							283820	283825	283830	
30	"	38	"			303812	303815			303820	303825	303830	303835
30	"	40	"			304012	304015			304020	304025	304030	304035
31.5	$^{+0.050}_{+0.025}$	40	"									314030	
32	"	42	"							324220		324230	
35	"	44	"							354420	354425	354430	354435
35	"	45	"							354520	354525	354530	354535
38	"	48	"										
40	"	50	"				405015			405020	405025	405030	405035
40	"	55	$^{+0.030}_{+0.011}$				405515					405530	405535
45	"	55	"									455530	455535
45	"	56	"									455630	455635
45	"	60	"									456030	456035
50	"	60	"							506020		506030	506035
50	"	62	"									506230	506235
50	"	65	"									506530	
55	$^{+0.060}_{+0.030}$	70	"									557030	557035
60	"	74	"									607430	607435
60	"	75	"									607530	607535
63	"	75	"										
65	"	80	"										
70	"	85	$^{+0.035}_{+0.013}$									708530	708535
70	"	90	"										
75	"	90	"										
75	"	95	"										
80	"	96	"										
80	"	100	"										
85	$^{+0.071}_{+0.036}$	100	"										
90	"	110	"										
100	"	120	"										
110	$^{+0.083}_{+0.043}$	130	$^{+0.040}_{+0.015}$										
120	"	140	"										
125	"	145	"										
130	"	150	"										
140	"	160	"										
150	"	170	"										





相配座孔
Matching Housing

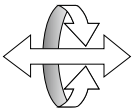
Unit：mm

	长度 Length $^{-0.1}_{-0.3}$									
40	50	60	70	80	90	100	120	130	140	150
152140										
162240										
182440										
202840	202850									
203040	203050									
253340	253350	253360								
253540	253550	253560								
283840										
303840	303850	303860								
304040	304050	304060								
314040										
324240										
354440	354450	354460								
354540	354550	354560								
384840										
405040	405050	405060	405070	405080						
405040	405050	405060								
455540	455550	455560								
455640	455650	455660								
456040	456050	456060	456070	456080						
506040	506050	506060	506070	506080						
506240	506250	506260	506270	506280						
506540	506550	506560	506570	506580		5065100				
557040	557050	557060	557070							
607440	607450	607460	607470	607480						
607540	607550	607560	607570	607580		6075100				
		637560	637570	637580						
658040	658050	658060	658070	658080						
708540	708550	708560	708570	708580		7085100				
	709050	709060	709070	709080						
	759050	759060	759070	759080		7590100				
		759560	759570	759580		7595100				
809640	809650	809660	809670	909680		8096100	8096120			
8010040	8010050	8010060	8010070	8010080		80100100	80100120		80100140	
		8510060		8510080						
	9011050	9011060		90111080	9011090	90110100	90110120			
	10012050	10012060	10012070	10012080	10012090	100120100	100120120		100120140	
	110130150		11013070	11013080		110130100	110130120			
			12014070	12014080	12014090	120140100	120140120		120140140	
						125145100	125145120			
				13015080		130150100		130150130		
						140160100			140160140	
				15017080		150170100				150170150

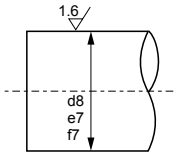
DNB-#50F 标准公制翻边轴承

请从适用的内径、外径、长度中选择零件号
（例）内径 6mm、长度 10mm 的情况下

Ordering Code(example) **DNB-#50F-0610**



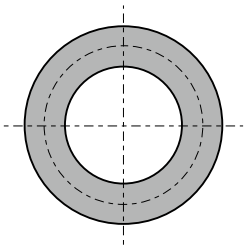
运动方向
sliding direction

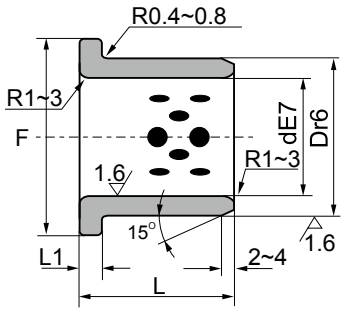


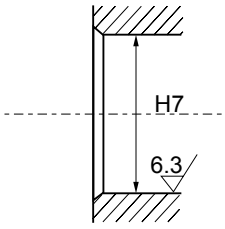
相配轴
Matching Shaft

Unit：mm

内径 Inner diameter		外径 Outer diameter		法兰 Flange			长度 Length $^{-0.1}_{-0.3}$					
Φd	Tolerance	ΦD	Tolerance	ΦF	t	Tolerance	10	12	15	17	18	20
6	+0.032 +0.020	10	+0.028 +0.019	16	2	0 -0.1	0610	0612				
8	+0.040 +0.025	12	+0.034 +0.023	20	"	"	0810	0812	0815			
10	"	14	"	22		"	1010	1012	1015	1017		1020
12	+0.050 +0.032	18	"	25	3	"	1210	1212	1215			1220
13	"	19	+0.041 +0.028	26	"	"	1310	1312	1315			1320
14	"	20	"	27	"	"			1415			1420
15	"	21	"	28	"	"	1510	1512	1515			1520
16	"	22	"	29	"	"		1612	1615		1618	1620
18	"	24	"	32	"	"			1815			1820
20	+0.061 +0.040	30	"	40	5	"			2015			2020
25	"	35	+0.050 +0.034	45	"	"			2515			2520
30	"	40	"	50	"	"						3020
31.5	+0.075 +0.050	40	"	"	"	"						3120
35	"	45	"	60	"	"						3520
40	"	50	"	65	"	"						4020
45	"	55	+0.060 +0.041	70	"	"						
50	"	60	"	75	"	"						
55	+0.090 +0.060	65	"	80	"	"						
60	"	75	+0.062 +0.043	90	7.5	"						
63	"	"	"	85	"	"						
65	"	80	"	95	"	"						
70	"	85	+0.073 +0.051	105	"	"						
75	"	90	"	110	"	"						
80	"	100	"	120	10	"						
90	+0.107 +0.072	110	+0.076 +0.054	130	"	"						
100	"	120	"	150	"	"						
120	"	140	+0.088 +0.063	170	"	"						
130	+0.125 +0.085	150	+0.090 +0.065	180	"	"						
140	"	160	"	190	"	"						
150	"	170	+0.093 +0.068	200	"	"						
160	"	180	"	210	"	"						





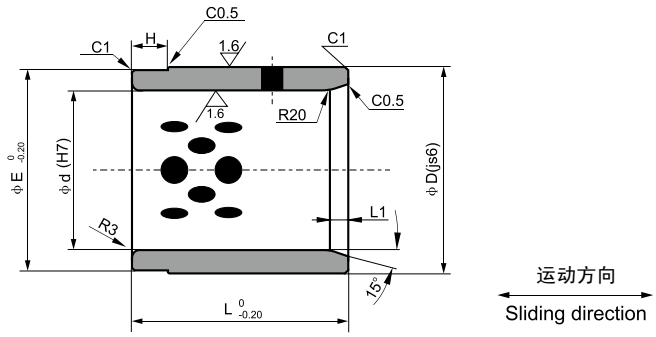


相配座孔
Matching Housing

Unit：mm

长度 Length $^{-0.1}_{-0.3}$										
23	25	30	35	40	50	60	67.5	80	100	120
	1225	1230								
	1325	1330								
	1425									
	1525	1530								
1623	1625	1630	1635	1640						
	1825	1830	1835	1840						
	2025	2030	2035	2040						
	2525	2530	2535	2540	2550					
	3025	3030	3035	3040	3050					
		3130	3135	3140						
	3525	3530	3535	3540	3550					
	4025	4030	4035	4040	4050					
		4530	4535	4540	4550	4560				
		5030	5035	5040	5050	5060				
				5540		5560				
				6040	6050	6060		6080		
							6367			
						6560				
					7050			7080		
						7560				
						8060		8080	80100	
						9060		9080		
								10080	100100	
								12080	120100	
								13080	130100	
								14080	140100	
									150100	150120
									160100	160120

DNB-#50GB 自润导向套 Guide Post Bushings



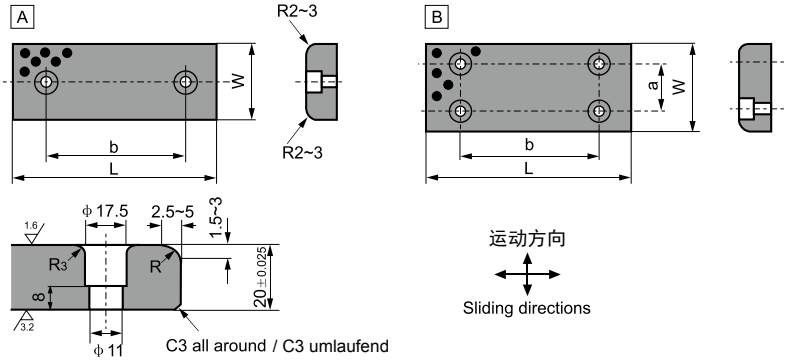
请从适用的内径、外径、长度中选择零件号
（例）内径 30mm 外径 50mm 长度 50mm 的情况下

Ordering Code(example) **DNB-#50GB-A-30**

Unit：mm

型号 Parts No.	尺寸 Specification	ΦD 外径 Outer diameter	Φd 内径 Inner diameter	L 长度 Length	ΦE	H	L1
#50GB-A-30	50×30×50	50	30	50	49	10	5
#50GB-A-40	60×40×60	60	40	60	59	10	"
#50GB-A-50	70×50×75	70	50	75	69	15	"
#50GB-A-60	80×60×90	80	60	90	79	20	10
#50GB-A-80	100×80×120	100	80	120	99	25	"
#50GB-A-100	120×100×150	120	100	150	119	25	"
#50GB-A-120	140×120×180	140	120	180	139	25	"
#50GB-B-30	50×30×50	50	30	50	49	10	5
#50GB-B-40	60×40×60	60	40	60	59	10	"
#50GB-B-50	70×50×75	70	50	75	69	15	"
#50GB-B-60	80×60×90	80	60	90	79	20	10
#50GB-B-80	100×80×120	100	80	120	99	25	"
#50GB-B-100	120×100×150	120	100	150	119	25	"
#50GB-B-120	140×120×180	140	120	180	139	25	"

DNB-#50P 自润滑板 Wear Plates (VDI 3357)



请从适用的厚度、宽度、长度选择零件号
(例) 厚度 20mm、宽度 28mm、长度 75mm 的情况下

Ordering Code(example) **DNB-#50P-2875**

Unit：mm

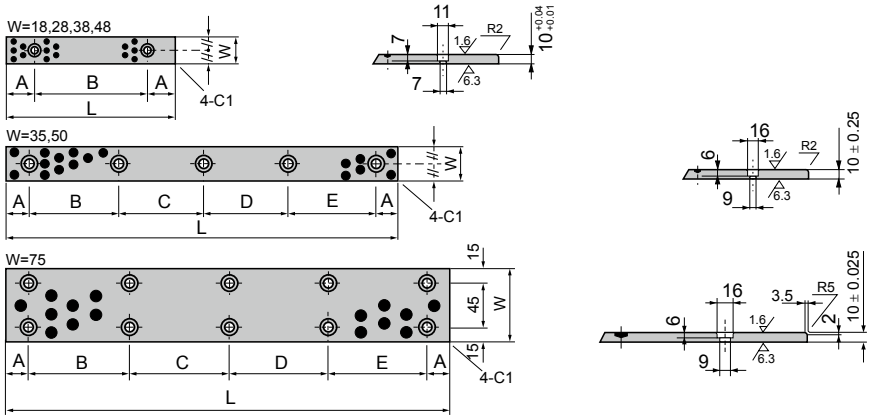
型号 Parts No.	W 宽度 Width	L 长度 Length	a	b	图示 Sketch
#50P-2875	28	75	-	45	
#50P-28100	"	100	-	50	
#50P-28150	"	150	-	100	
#50P-3875	38	75	-	45	
#50P-38100	"	100	-	50	
#50P-38150	"	150	-	100	
#50P-4875	48	75	-	45	
#50P-48100	"	100	-	50	
#50P-48125	"	125	-	75	
#50P-48150	"	150	-	100	A
#50P-48200	"	200	-	150	
#50P-5875	58	75	-	45	
#50P-58100	"	100	-	50	
#50P-58150	"	150	-	100	
#50P-7575	75	75	-	25	
#50P-75100	"	100	-	50	
#50P-75125	"	125	-	75	
#50P-75150	"	150	-	100	
#50P-75200	"	200	-	150	

型号 Parts No.	W 宽度 Width	L 长度 Length	a	b	图示 Sketch
#50P-100100	100	100	50	50	
#50P-100125	"	125	"	75	
#50P-100150	"	150	"	100	
#50P-100200	"	200	"	150	
#50P-100250	"	250	"	200	
#50P-100300	"	300	"	200	
#50P-125125	125	125	50	75	
#50P-125150	"	150	"	100	B
#50P-125200	"	200	"	150	
#50P-125250	"	250	"	200	
#50P-125300	"	300	"	200	
#50P-125350	"	350	"	200	
#50P-150150	150	150	100	100	
#50P-150200	"	200	"	150	
#50P-150250	"	250	"	200	

DNB-#50P10 滑板 Wear Plate（T：10mm）

请从适用的厚度、宽度、长度中选择零件号
（例）厚度 10mm、宽度 18mm、长度 75mm 的情况下

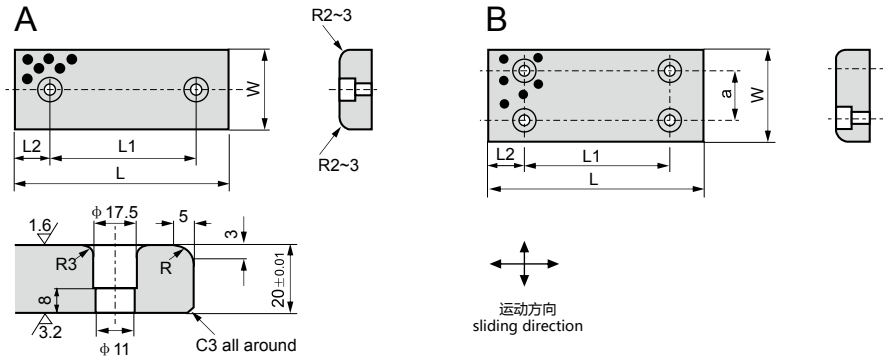
Ordering Code(example) **DNB-#50P10-1875**



Unit：mm

型号 Parts No.	W 宽度 Width	L 长度 Length	A	B	C	D	E	平头螺钉	数量
#50P10-1875	18	75	15	45	-	-	-	M6	2
#50P10-18100	18	100	25	60	-	-	-	"	"
#50P10-18125	18	125	"	75	-	-	-	"	"
#50P10-18150	18	150	"	100	-	-	-	"	"
#50P10-2875	28	75	15	45	-	-	-	"	"
#50P10-28100	28	100	25	50	-	-	-	"	"
#50P10-28125	28	125	"	75	-	-	-	"	"
#50P10-28150	28	150	"	100	-	-	-	"	"
#50P10-35100	35	100	20	60	-	-	-	M8	"
#50P10-35150	35	150	"	55	55	-	-	"	3
#50P10-35200	35	200	"	55	50	55	-	"	4
#50P10-35250	35	250	"	70	70	70	-	"	4
#50P10-35300	35	300	"	65	65	65	65	"	5
#50P10-35350	35	350	"	80	75	75	80	"	5
#50P10-3875	38	75	15	45	-	-	-	M6	2
#50P10-38100	38	100	25	50	-	-	-	"	"
#50P10-38125	38	125	"	75	-	-	-	"	"
#50P10-38150	38	150	"	100	-	-	-	"	"
#50P10-4875	48	75	15	45	-	-	-	"	"
#50P10-48100	48	100	25	50	-	-	-	"	"
#50P10-48125	48	125	"	75	-	-	-	"	"
#50P10-48150	48	150	"	100	-	-	-	"	"
#50P10-50100	50	100	20	60	-	-	-	M8	"
#50P10-50150	50	150	"	55	55	-	-	"	3
#50P10-50200	50	200	"	55	50	55	-	"	4
#50P10-50250	50	250	"	70	70	70	-	"	4
#50P10-50300	50	300	"	65	65	65	65	"	5
#50P10-50400	50	400	"	90	90	90	90	"	5
#50P10-75150	75	150	"	110	-	-	-	"	4
#50P10-75200	75	200	"	80	80	-	-	"	6
#50P10-75250	75	250	"	105	105	-	-	"	6
#50P10-75300	75	300	"	85	90	85	-	"	8
#50P10-75400	75	400	"	120	120	120	-	"	8
#50P10-75500	75	500	"	115	115	115	115	"	10

DNB-#50P20 滑板 Wear Plate （T：20mm）

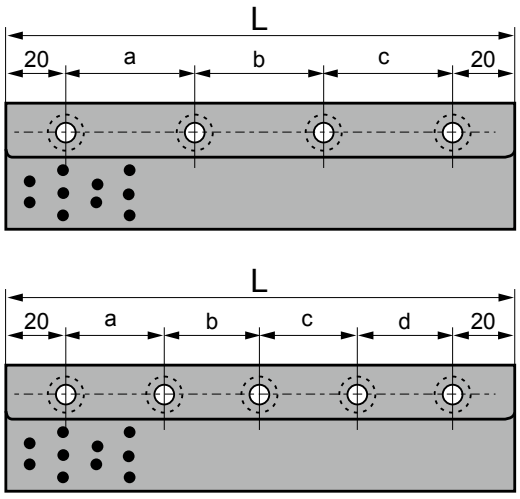


请从适用的厚度、宽度、长度中选择零件号
（例）厚度 20mm、宽度 28mm、长度 75mm 的情况下

Ordering Code(example) **DNB-#50P20-2875**

Unit：mm

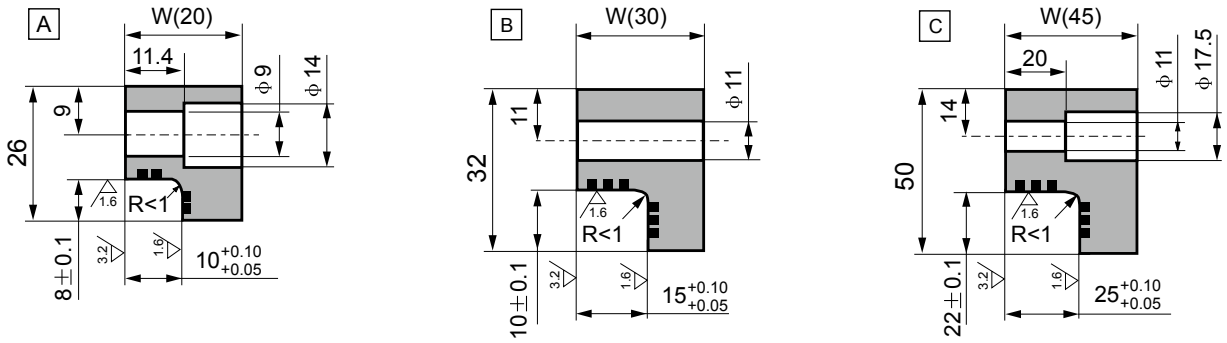
型号 Parts No.	W 宽度 Width	L 长度 Length	a	L1	L2	图示 Sketch
#50P20-2875	28	75	-	45	15	A
#50P20-28100	28	100	-	50	25	"
#50P20-28150	28	150	-	100	"	"
#50P20-3875	38	75	-	45	15	"
#50P20-38100	38	100	-	50	25	"
#50P20-38150	38	150	-	100	"	"
#50P20-4875	48	75	-	45	15	"
#50P20-48100	48	100	-	50	25	"
#50P20-48125	48	125	-	75	"	"
#50P20-48150	48	150	-	100	"	"
#50P20-48200	48	200	-	150	"	"
#50P20-5875	58	75	-	45	15	"
#50P20-58100	58	100	-	50	25	"
#50P20-58150	58	150	-	100	"	"
#50P20-7575	75	75	-	25	"	"
#50P20-75100	75	100	-	50	"	"
#50P20-75125	75	125	-	75	"	"
#50P20-75150	75	150	-	100	"	"
#50P20-75200	75	200	-	150	"	"
#50P20-100100	100	100	50	50	25	B
#50P20-100125	100	125	"	75	"	"
#50P20-100125	100	150	"	100	"	"
#50P20-100200	100	200	"	150	"	"
#50P20-100250	100	250	"	200	"	"
#50P20-125125	125	125	50	75	"	"
#50P20-125150	125	150	"	100	"	"
#50P20-125200	125	200	"	150	"	"
#50P20-125250	125	250	"	200	"	"
#50P20-150150	150	150	100	100	"	"
#50P20-150200	150	200	"	150	"	"
#50P20-150250	150	250	"	200	"	"
#50P20-150300	150	300	"	250	"	"
#50P20-200200	200	200	150	150	"	"
#50P20-200250	200	250	"	200	"	"
#50P20-200300	200	300	"	250	"	"



请从适用的宽度、长度选择零件号
（例）宽度 20mm、长度 100mm 的情况下

Ordering Code(example) **DNB-#50L-20x100**

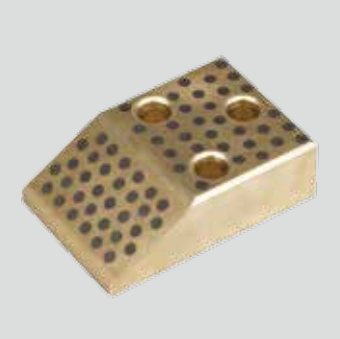
运动方向
Sliding directions

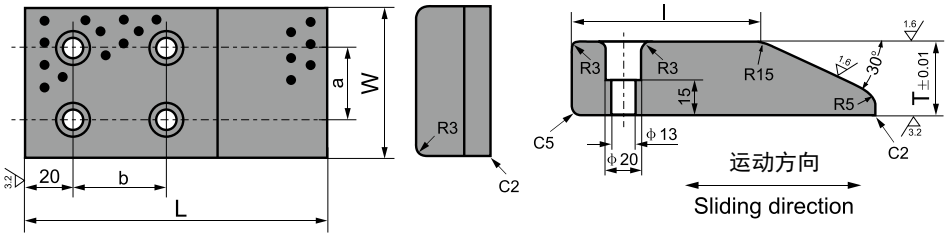


Unit：mm

型号 Parts No.	W 宽度 Width	L 长度 Length	螺孔 Bolt Hole						图示 Sketch
			a	b	c	d	螺孔 Size	数量 Q'ty	
#50L-20×100	20	100	60	-	-	-	M8	2	A
#50L-20×150	20	150	55	55	-	-	"	3	"
#50L-20×200	20	200	55	50	55	-	"	4	"
#50L-30×100	30	100	60	-	-	-	M10	2	B
#50L-30×150	30	150	55	55	-	-	"	3	"
#50L-30×200	30	200	55	50	55	-	"	4	"
#50L-30×250	30	250	70	70	70	-	"	4	"
#50L-45×200	45	200	55	50	55	-	"	4	C
#50L-45×250	45	250	70	70	70	-	"	4	"
#50L-45×300	45	300	65	65	65	65	"	5	"
#50L-45×350	45	350	80	75	75	80	"	5	"

DNB-#50WP 凸轮行程滑板 Cam Dwell Wear Plates



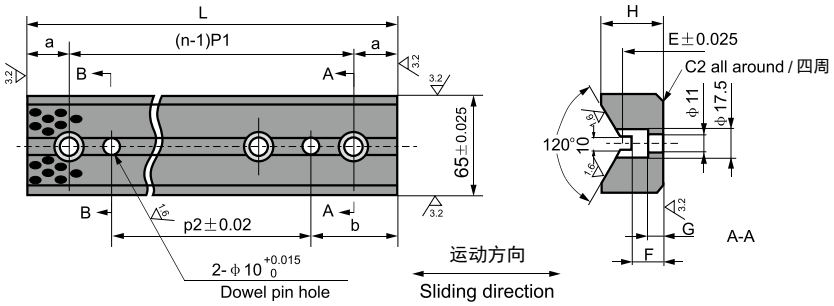


请从适用的宽度、长度选择零件号
（例）宽度 75mm、长度 130mm 的情况下

Ordering Code(example) **DNB-#50WP-75x130**

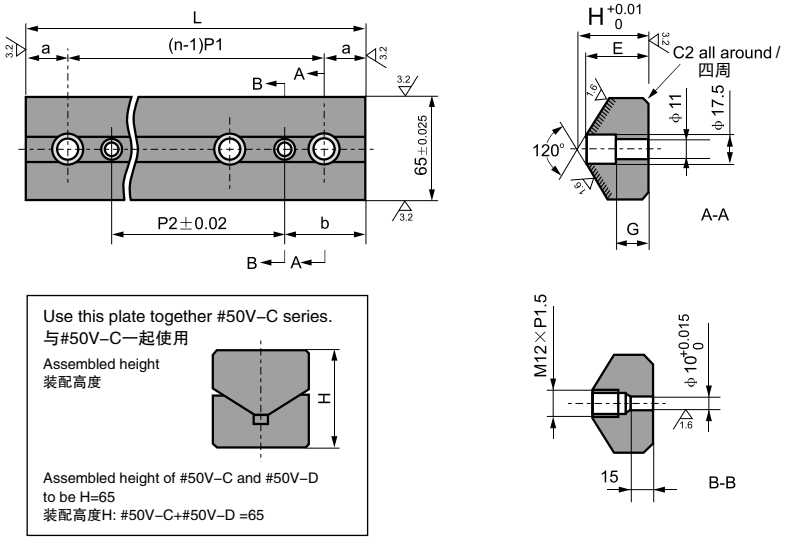
Unit：mm

型号 Parts No.	W 宽度 Width	L 长度 Length	T 厚度 Thickness	I	a	b
#50WP-75130	75	130	30	95	40	50
#50WP-75150	"	150	45	90	"	45
#50WP-75170	"	170	60	"	"	"
#50WP-75200	"	200	"	120	"	75
#50WP-100130	100	130	30	95	60	50
#50WP-100150	"	150	45	90	"	45
#50WP-100170	"	170	60	"	"	"
#50WP-100200	"	200	"	120	"	75
#50WP-125130	125	130	30	95	85	50
#50WP-125150	"	150	45	90	"	45
#50WP-125170	"	170	60	"	"	"
#50WP-125200	"	200	"	120	"	75
#50WP-150130	150	130	30	95	110	50
#50WP-150150	"	150	45	90	"	45
#50WP-150170	"	170	60	"	"	"
#50WP-150200	"	200	"	120	"	75



Unit : mm

型号 Parts No.	L	H	E	F	G	a	P1	螺栓 Bolt n	b	p2
#50V-C-100	100	35	18	15	8	20	60	2	40	20
#50V-C-150	150	"	"	"	"	25	50	3	50	50
#50V-C-200	200	"	"	"	"	"	"	4	"	100
#50V-C-250	250	"	"	"	"	"	"	5	"	150
#50V-C-300	300	"	"	"	"	"	"	6	"	200



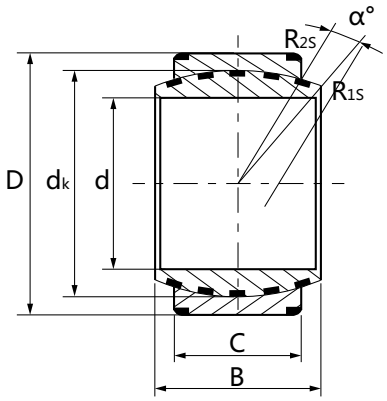
Unit : mm

型号 Parts No.	L	H	E	G	a	P_1	螺栓 Bolt n	b	p_2
#50V-D-100	100	47	44	20	20	60	2	40	20
#50V-D-150	150	"	"	"	25	50	3	50	50
#50V-D-200	200	"	"	"	"	"	4	"	100
#50V-D-250	250	"	"	"	"	"	5	"	150
#50V-D-300	300	"	"	"	"	"	6	"	200

DNB-#50S 球面自润滑轴承 Spherical Self-lubricating Bearing

请从适用的内径中选择零件号
（例）内径 15 的情况下

Ordering Code(example) **DNB-#50S-015**



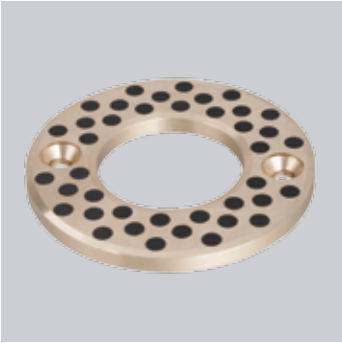
球面自润滑轴承广泛用于工程液压油缸，水利机械等重型行业；基本型是由球面滑动球面接触表面的内外圈组成，可承受径向载荷、轴向承载，或者是径向、轴向同时作用的联合载荷。我们的轴承一般外面是由铜材，内衬球面轴承是不锈钢组成；不同的材料可以根据客户设计。

Spherical self-lubricating bearing can widely application on hydraulic cylinder. Hydro-power project; The basic type is composed of spherical sliding spherical contact surface. Within the out ring according to effect. Can bear radial load, axial load, radial load, axial or combination load . Generally Outside with Bronze material. Spherical bearing with stainless steel material. Difference material can be produce follow customer design.

Unit：mm

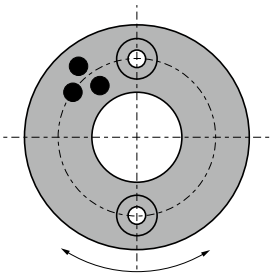
型号 Parts No.	尺寸 Dimensions mm							Alignment Angle α° ≈ 调整角度	Allowable Radial Load (kN) 径向承载	Allowable Thrust Load (kN) 轴向载荷
	d	H7	D	h6	B	C	dk			
#50S-015	15	$^{+0.018}_{0}$	26	$^{0}_{-0.013}$	12	9	22	8	6.5	0.5
#50S-020	20	$^{+0.021}_{0}$	32	$^{0}_{-0.016}$	16	14	28	4	12.6	1.4
#50S-025	25	"	42	"	21	18	36	5	21.8	2.5
#50S-030	30	"	50	"	27	23	44	6	32.0	3.5
#50S-035	35	$^{+0.025}_{0}$	55	$^{0}_{-0.019}$	30	26	49	5	437.0	4.8
#50S-040	40	"	62	"	33	28	55	6	54.7	5.7
#50S-045	45	"	72	"	36	31	62	5	69.7	7.2
#50S-050	50	"	80	"	42	36	70	"	92.4	10
#50S-060	60	$^{+0.030}_{0}$	100	$^{0}_{-0.025}$	53	45	90	6	143	16
#50S-070	70	"	110	"	58	50	99	5	181	20
#50S-080	80	"	130	"	70	60	115	6	254	30
#50S-090	90	$^{+0.035}_{0}$	140	$^{0}_{-0.025}$	76	65	125	"	313	36
#50S-100	100	"	160	"	88	75	145	"	544	64
#50S-110	110	"	170	"	93	80	155	5	642	73
#50S-120	120	"	190	$^{0}_{-0.029}$	105	90	170	6	797	94
#50S-130	130	$^{+0.040}_{0}$	200	"	110	95	180	5	880	105
#50S-140	140	"	210	"	90	70	180	7	668	56
#50S-150	150	"	220	"	120	105	200	5	1135	129
#50S-160	160	"	230	"	105	80	200	8	891	73
#50S-180	180	"	260	$^{0}_{-0.032}$	105	80	225	6	1002	74
#50S-200	200	$^{+0.046}_{0}$	290	"	130	100	250	7	1434	117
#50S-220	220	"	320	$^{0}_{-0.036}$	135	100	275	8	1577	118
#50S-240	240	"	340	"	140	100	300	"	1720	118
#50S-260	260	$^{+0.052}_{0}$	370	"	150	110	325	7	2072	143
#50S-280	280	"	400	"	155	120	350	6	2455	172
#50S-300	300	"	430	$^{0}_{-0.040}$	165	120	375	7	2630	172

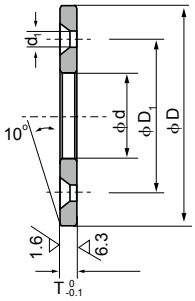
DNB-#50W 止推垫片 Thrust washers



请从适用的内径、厚度中选择零件号
（例）内径 6、厚度 3mm 的情况下

Ordering Code(example) **DNB-#50W-0603**

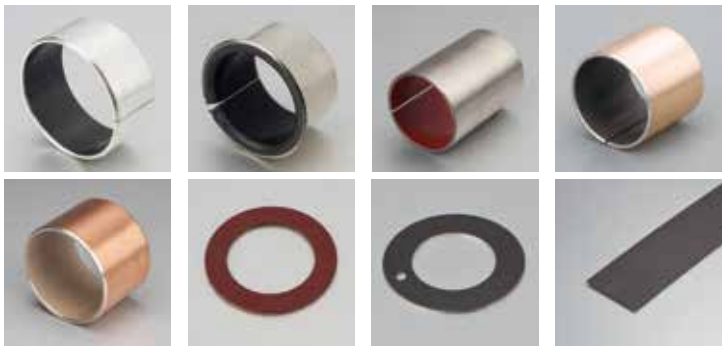




型号 Parts No.	内径 Inner diameter	外径 Outer diameter	厚度 Thickness	螺丝孔 Screw Holes			
				P.C.D	数量 Number of Holes	规格 Flat Head Screw	d1
#50W-0603	6.2	25	3	15	2	M3	3.5
#50W-0803	8.2	28	"	18	"	"	"
#50W-1003	10.2	30	"	20	"	"	"
#50W-1203	12.2	40	"	28	"	"	"
#50W-1203N	12.2	40	"	无平头螺丝孔 Without flat head screw hole			3.5
#50W-1303	13.2	40	"	28	2	M3	"
#50W-1403	14.2	40	"	"	"	"	"
#50W-1503	15.2	50	"	35	"	"	"
#50W-1603	16.2	50	"	"	"	"	"
#50W-1603N	16.2	50	"	无平头螺丝孔 Without flat head screw hole			"
#50W-1803	18.2	50	"	35	2	M3	3.5
#50W-2005	20.2	50	"	"	"	M5	6
#50W-2505	25.2	55	5	40	"	"	"
#50W-3005	30.2	60	"	45	"	"	"
#50W-3505	35.2	70	"	50	"	"	"
#50W-4007	40.2	80	7	60	"	M6	7
#50W-4507	45.2	90	"	67.5	"	"	"
#50W-5008	50.3	100	8	75	4	"	"
#50W-5508	55.3	110	"	85	"	"	"
#50W-6008	60.3	120	"	90	"	M8	9
#50W-6508	65.3	125	"	95	"	"	"
#50W-7010	70.3	130	10	100	"	"	"
#50W-7510	75.3	140	"	110	"	"	"
#50W-8010	80.3	150	"	120	"	"	"
#50W-9010	90.5	170	"	140	"	M10	11
#50W-10010	100.5	190	"	160	"	"	"
#50W-12010	120.5	200	"	175	"	"	"

MP10 金属基 - 树脂复合轴承 Composite bearing

MP10 金属基–树脂复合轴承
Composite bearing (steel backing+sinter bronze powder+ PTFE mixture)



结构特性 Structure Characteristics

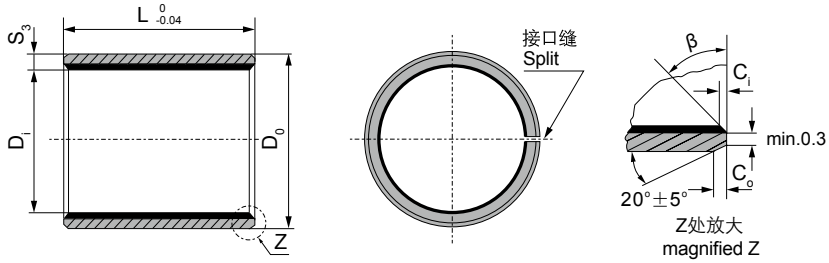
MP10 金属基 - 树脂复合轴承以优质低碳钢为基板，中间烧结球形多孔铜粉层，表面扎制以 PTFE 为主的耐磨润滑材料作为轴承工作层，这种材料具有优异的机械承载能力，中间铜粉层不但可以及时传递轴承运行过程中产生的热量，同时也提高了塑料层与基板的结合强度。PTFE 设计适用于完全干摩擦状态，并根据润滑情况、摩擦系数和耐久性要求开发了多种材料。MP10 的 PTFE 金属复合材料在外部润滑或者不润滑的情况下，都能在最广泛的载荷、速度以及温度范围内提供最好的表现。

MP10 Metal-polymer self-lubricating composite materials consist of metal backing sintered porous bronze with PTFE polymer as working layer. The metal backing provides mechanical strength, while the bronze sinter layer provides a strong mechanical bonding between the backing and the bearing lining, the PTFE polymer offers exceptional low friction even under dry condition and the thermoplastic polymer is generally designed to operate with marginal lubrication. The construction promotes dimensional stability and improves the thermal conductivity. This material meets the demanding criteria for long life and trouble-free performance with or without lubrication.

产品应用 Application

农业机械：拖拉机、联合收割机、农作物喷雾器、推土机、平地机等；
汽车行业：动力转向泵、转向器推力垫片、盘式制动器、减震器、门铰链、雨刮器、椅子调角器、空气阀以及电磁阀等；
办公商务机械：复印机、传真机、打印机、邮件处理机等；
液压元件和阀门：齿轮泵、柱塞泵、叶片泵，球阀、蝶阀，气缸、油缸以及其他液压元件等；
家用电器：冰箱、空调、吸尘器、缝纫机、清洗机、微波炉和健身器材等；
以及其它物流机械、包装机械、纺织机械、港口机械、矿产机械和森林机械等等。

Automotive: tractors, crop sprayers, earthmovers, auto machines, specific uses in power steering cylinders, steering gear thrust washers, disc brakes, shock absorbers, windshield wiper motor...
Business machines: duplicator, fax machine, automatic printing devices, mail processing machinery...
Hydraulics and valves: pumps including gear, rotary, water, axial piston, and other types, ball, butterfly, poppet steam, and other valves and valve trunnions...
Home appliances: tape recorders, refrigerators, air conditioners, cleaners, polishers, sewing machines, ovens, dishwashers, clothes washing machines...And materials handling, marine engine, packaging, textile equipment, tools...etc.



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	30°±5°
1.00	0.6±0.3	0.30±0.2	30°±5°
1.50	0.7±0.3	0.50±0.3	30°±5°

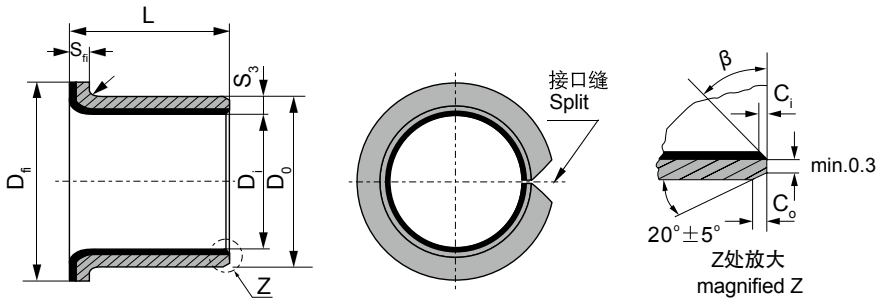
S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	30°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

Unit：mm

轴径(f7) Shaft D_s	座孔(H7) Housing D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance D_D	壁厚 Wall thick-ness S_3	长度 L 0 -0.40 (d≤Φ28 L-0.30 d>Φ30 L-0.40)									
						6	8	10	12	15	20	25	30	40	50
6 -0.010 -0.022	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	1.005 0.980	0606	0608	0610							
8 -0.013 -0.028	10 +0.015	10 +0.055 +0.025	8.055 7.990	0.083 0.003	"	0806	0808	0810	0812	0815					
10 -0.013 -0.028	12 +0.018	12 +0.065 +0.030	10.058 9.990	0.086 0.003	"	1006	1008	1010	1012	1015	1020				
12 -0.016 -0.034	14 +0.018	14 +0.065 +0.030	12.058 11.990	0.092 0.006	"	1206	1208	1210	1212	1215	1220	1225			
13 -0.016 -0.034	15 +0.018	15 +0.065 +0.030	13.058 12.990	"	"			1310	1312	1315	1320	1325			
14 -0.016 -0.034	16 +0.018	16 +0.065 +0.030	14.058 13.990	"	"			1410	1412	1415	1420	1425			
15 -0.016 -0.034	17 +0.018	17 +0.065 +0.030	15.058 14.990	"	"			1510	1512	1515	1520	1525			
16 -0.016 -0.034	18 +0.018	18 +0.065 +0.030	16.058 15.990	"	"			1610	1612	1615	1620	1625			
17 -0.016 -0.034	19 +0.021	19 +0.075 +0.035	17.061 16.990	0.095 0.006	"			1710	1712	1715	1720	1725			
18 -0.016 -0.034	20 +0.021	20 +0.075 +0.035	18.061 17.990	"	"			1810	1812	1815	1820	1825			
20 -0.020 -0.041	23 +0.021	23 +0.075 +0.035	20.071 19.990	0.112 0.010	1.505 1.475			2010	2012	2015	2020	2025	2030		
22 -0.020 -0.041	25 +0.021	25 +0.075 +0.035	22.071 21.990	"	"			2210	2212	2215	2220	2225	2230		
24 -0.020 -0.041	27 +0.021	27 +0.075 +0.035	24.071 23.990	"	"			2410	2412	2415	2420	2425	2430		
25 -0.020 -0.041	28 +0.021	28 +0.075 +0.035	25.071 24.990	"	"			2510	2512	2515	2520	2525	2530	2540	2550
28 -0.020 -0.041	32 +0.025	32 +0.085 +0.045	28.085 27.990	0.126 0.010	2.005 1.970				2812	2815	2820	2825	2830	2840	2850
30 -0.020 -0.041	34 +0.025	34 +0.085 +0.045	30.085 29.990	"	"				3012	3015	3020	3025	3030	3040	3050
32 -0.025 -0.050	36 +0.025	36 +0.085 +0.045	32.085 31.990	0.135 0.015	"				3212	3215	3220	3225	3230	3240	3250
35 -0.025 -0.050	39 +0.025	39 +0.085 +0.045	35.085 34.990	"	"				3512	3515	3520	3525	3530	3540	3550
38 -0.025 -0.050	42 +0.025	42 +0.085 +0.045	38.085 37.990	"	"				3812	3815	3820	3825	3830	3840	3850
40 -0.025 -0.050	44 +0.025	44 +0.085 +0.045	40.085 39.990	"	"				4012	4015	4020	4025	4030	4040	4050

Unit：mm

轴径(f7) Shaft D_s	座孔(H7) Housing D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance D_D	壁厚 Wall thick-ness S_3	长度 L $^{0}_{-0.40}$									
						20	25	30	40	50	60	70	80	100	115
45 $^{-0.050}_{-0.025}$	50 $^{+0.025}$	50 $^{+0.085}_{+0.045}$	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	5025	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					7030	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 $^{}_{-0.045}$	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 $^{}_{-0.054}$	90 $^{+0.035}$	90 $^{+0.120}_{+0.070}$	85.155 85.020	0.209 0.020					8540	8550	8560	8570	8580	85100	
90 $^{}_{-0.054}$	95 $^{+0.035}$	95 $^{+0.120}_{+0.070}$	90.155 90.020						9040	9050	9060	9070	9080	90100	
95 $^{}_{-0.054}$	100 $^{+0.035}$	100 $^{+0.120}_{+0.070}$	95.155 95.020							9550	9560	9570	9580	95100	
100 $^{}_{-0.054}$	105 $^{+0.035}$	105 $^{+0.120}_{+0.070}$	100.155 100.020							10050	10060	10070	10080	100100	100115
105 $^{}_{-0.054}$	110 $^{+0.035}$	110 $^{+0.120}_{+0.070}$	105.155 105.020								10560	10570	10580	105100	105115
110 $^{}_{-0.054}$	115 $^{+0.035}$	115 $^{+0.120}_{+0.070}$	110.115 110.020								11060	11070	11080	110100	110115
120 $^{}_{-0.054}$	125 $^{+0.040}$	125 $^{+0.170}_{+0.100}$	120.210 120.070	0.264 0.070	2.465 2.415						12060	12070	12080	120100	120115
125 $^{}_{-0.063}$	130 $^{+0.040}$	130 $^{+0.170}_{+0.100}$	125.210 125.070	0.273 0.070							12560	12570	12580	125100	125115
130 $^{}_{-0.063}$	135 $^{+0.040}$	135 $^{+0.170}_{+0.100}$	130.210 130.070								13060	13070	13080	130100	130115
140 $^{}_{-0.063}$	145 $^{+0.040}$	145 $^{+0.170}_{+0.100}$	140.210 140.070								14060	14070	14080	140100	140115
150 $^{}_{-0.063}$	155 $^{+0.040}$	155 $^{+0.170}_{+0.100}$	150.210 150.070								15060	15070	15080	150100	150115
160 $^{}_{-0.063}$	165 $^{+0.040}$	165 $^{+0.170}_{+0.100}$	160.210 160.070								16060	16070	16080	160100	160115
180 $^{}_{-0.063}$	185 $^{+0.046}$	185 $^{+0.210}_{+0.130}$	180.216 180.070	0.279 0.070	2.465 2.415						18060	18070	18080	180100	
190 $^{}_{-0.072}$	195 $^{+0.046}$	195 $^{+0.210}_{+0.130}$	190.216 190.070	0.288 0.070							19060	19070	19080	190100	
200 $^{}_{-0.072}$	205 $^{+0.046}$	205 $^{+0.210}_{+0.130}$	200.016 200.070								20060	20070	20080	200100	
220 $^{}_{-0.072}$	225 $^{+0.046}$	225 $^{+0.210}_{+0.130}$	220.216 220.070								22060	22070	22080	220100	
250 $^{}_{-0.072}$	255 $^{+0.052}$	255 $^{+0.260}_{+0.170}$	250.222 250.070	0.294 0.070	2.465 2.415								25080	250100	
260 $^{}_{-0.081}$	265 $^{+0.052}$	265 $^{+0.260}_{+0.170}$	260.222 260.070	0.303 0.070									26080	260100	
280 $^{}_{-0.081}$	285 $^{+0.052}$	285 $^{+0.260}_{+0.170}$	280.222 280.070										28080	280100	
300 $^{}_{-0.081}$	305 $^{+0.052}$	305 $^{+0.260}_{+0.170}$	300.222 300.070										30080	300100	

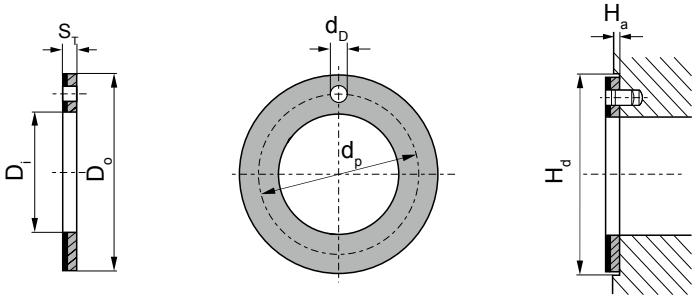


内外倒角 ID and OD chamfers

Unit：mm

轴径(f7) Shaft D_s	座孔(H7) Housing D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance C_O	型号 Part No.	Wall thickness 壁厚 S_3	尺寸 Dimension				
							D_i	D_o	D_{fl}±0.5	L±0.25	S_{fl}-0.2
6 -0.013 -0.028	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	MP10F-06040	1.005 0.980	6	8	12	4	1
6 "	8 "	8 "	"	"	MP10F-06070	"	"	"	"	7	"
8 -0.013 -0.028	10 +0.015	10 +0.055 +0.025	8.055 7.990	0.083 0.003	MP10F-08055	"	8	10	15	5.5	"
8 "	10 "	10 "	"	"	MP10F-08075	"	"	"	"	7.5	"
10 -0.016 -0.034	12 +0.018	12 +0.055 +0.025	10.058 9.990	0.086 0.003	MP10F-10070	"	10	12	18	7	"
10 "	12 "	12 "	"	"	MP10F-10090	"	"	"	"	9	"
10 "	12 "	12 "	"	"	MP10F-10120	"	"	"	"	12	"
12 -0.016 -0.034	14 +0.018	14 +0.065 +0.030	12.058 11.990	0.092 0.006	MP10F-12070	"	12	14	20	7	"
12 "	14 "	14 "	"	"	MP10F-12090	"	"	"	"	9	"
12 "	14 "	14 "	"	"	MP10F-12120	"	"	"	"	12	"
14 -0.016 -0.034	16 +0.018	16 +0.065 +0.030	14.058 13.990	"	MP10F-14120	"	14	16	22	12	"
14 "	16 "	16 "	"	"	MP10F-14170	"	"	"	"	17	"
15 -0.016 -0.034	17 +0.018	17 +0.065 +0.030	15.058 14.990	"	MP10F-15090	"	15	17	23	9	"
15 "	17 "	17 "	"	"	MP10F-15120	"	"	"	"	12	"
15 "	17 "	17 "	"	"	MP10F-15170	"	"	"	"	17	"
16 -0.016 -0.034	18 +0.018	18 +0.065 +0.030	16.058 15.990	"	MP10F-16120	"	16	18	24	12	"
16 "	18 "	18 "	"	"	MP10F-16170	"	"	"	"	17	"
18 -0.016 -0.034	20 +0.021	20 +0.075 +0.035	18.061 17.990	0.095 0.006	MP10F-18120	"	18	20	26	12	"
18 "	20 "	20 "	"	"	MP10F-18170	"	"	"	"	17	"
18 "	20 "	20 "	"	"	MP10F-18200	"	"	"	"	20	"
20 -0.020 -0.041	23 +0.021	23 +0.075 +0.035	20.071 19.990	0.112 0.010	MP10F-20115	1.505 1.475	20	23	30	11.5	1.5
20 "	23 "	23 "	"	"	MP10F-20165	"	"	"	"	16.5	"
20 "	23 "	23 "	"	"	MP10F-20215	"	"	"	"	21.5	"
22 -0.020 -0.041	25 +0.021	25 +0.075 +0.035	22.071 21.990	"	MP10F-22150	"	22	25	32	15	"
22 "	25 "	25 "	"	"	MP10F-22200	"	"	"	"	20	"
25 -0.020 -0.041	28 +0.021	28 +0.075 +0.035	25.071 24.990	"	MP10F-25115	"	25	28	35	11.5	"
25 "	28 "	28 "	"	"	MP10F-25165	"	"	"	"	16.5	"
25 "	28 "	28 "	"	"	MP10F-25215	"	"	"	"	21.5	"
30 -0.025 -0.050	34 +0.025	34 +0.075 +0.035	30.085 29.990	0.126 0.010	MP10F-30160	2.005 1.970	30	34	42	16	2
30 "	34 "	34 "	"	"	MP10F-30260	"	"	"	"	26	"
35 -0.025 -0.050	39 +0.025	39 +0.085 +0.045	35.085 34.990	0.135 0.015	MP10F-35160	"	35	39	47	16	"
35 "	39 "	39 "	"	"	MP10F-35260	"	"	"	"	26	"
40 -0.025 -0.050	44 +0.025	44 +0.085 +0.045	40.085 39.990	"	MP10F-40260	"	40	44	53	26	"
40 "	44 "	44 "	"	"	MP10F-40400	"	"	"	"	40	"

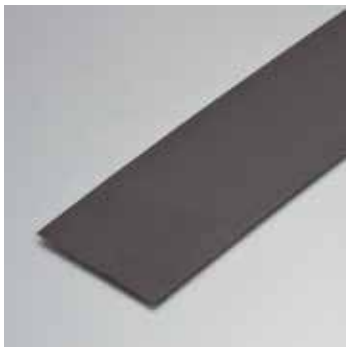
DNB-MP10W 止推垫圈 Thrust washers

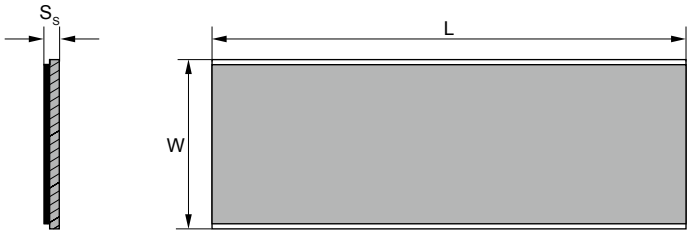


Unit：mm

型号 Parts No.	垫片尺寸 Washer size				安装尺寸 Assemble size			H_d+0.12
	D_i+0.25	D_o-0.25	S_T-0.05	d_p±0.125	d_D +0.4 +0.1		H_a±0.2	
W10	10	20	1.5	15	1.5		1	20
W12	12	24	"	18	"		"	24
W14	14	26	"	20	2		"	26
W16	16	30	"	23	"		"	30
W18	18	32	"	25	"		"	32
W20	20	36	"	28	3		"	36
W22	22	38	"	30	"		"	38
W24	24	42	"	33	"		"	42
W26	26	44	"	35	"		"	44
W28	28	48	"	38	4		"	48
W32	32	54	"	43	"		"	54
W38	38	62	"	50	"		"	62
W42	42	66	"	54	"		"	66
W48	48	74	2	61	"		1.5	74
W52	52	78	"	65	"		"	78
W62	62	90	"	76	"		"	90

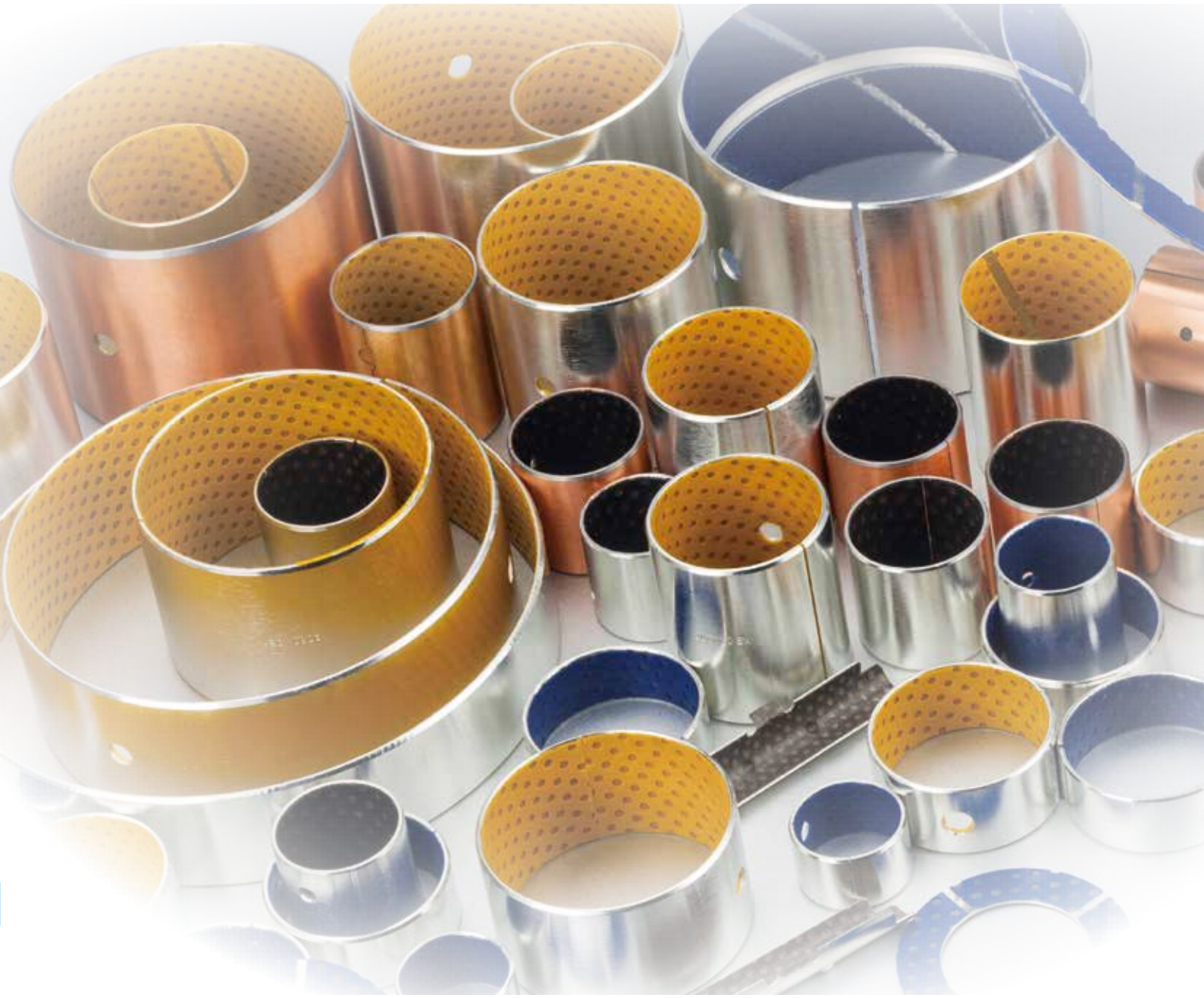
DNB-#MP10SP 板材 Strip



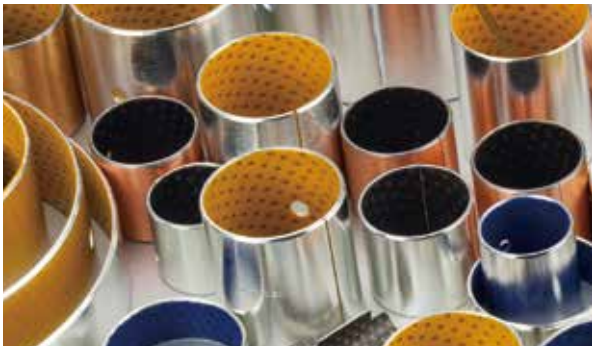


Unit：mm

型号 Parts No.	长度 L±1	宽度 W±1	厚壁 Wall thickness S_s-0.05
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5



MP20 金属基–树脂复合轴承
Composite bearing (steel backing+sinter bronze powder+ POM mixture)



结构特性 Structure Characteristics

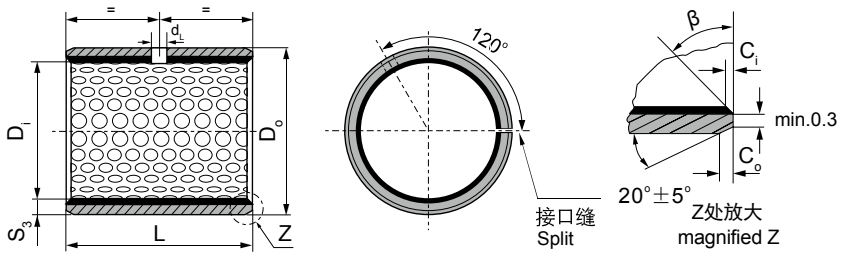
MP20 金属基 - 树脂复合轴承以优质低碳钢为基板，中间烧结球形多孔铜粉层，表面扎制以改性聚甲醛（POM）或聚醚醚酮（PEEK）为主的耐磨润滑材料作为轴承工作层，表面规则的油穴不但可以储存油脂，而且可以有效埋没外部入侵的粉尘，提高了轴承的使用寿命。这种材料具有优异的机械承载能力，中间铜粉层不但可以及时传递轴承运行过程中产生的热量，同时也提高了塑料层与基板的结合强度。以 POM 或 PEEK 为主的表面耐磨材料设计适用于油脂润滑工况，轴承表面有规律地排列着用于储存油脂的油穴以保证润滑剂在整个轴承表面的最佳分布。

Metal-polymer marginal lubricating composite materials consist of metal backing sintered porous bronze with POM or PEEK polymer as working layer. Steel backing provides exceptionally high load carrying capacity, excellent heat dissipation. Sintered bronze powder provides thermal conductivity away from the bearing surface, also serves as a reservoir for the resin mixture. And the POM or PEEK polymer layer provides high wear resistance and low friction even with only minute volume of lubricant are supplied, this bearing surface carries a pattern of circular indents which should be filled with grease on assembly of the bearing.

产品应用 Application

产品广泛应用于
汽车工业：踏板总成、平衡轴套、制动钳、转向主销轴套和卡车尾板轴套等；
物流机械：搬运车、起重机、车载吊车、森林机械、包装机械等；
以及液压马达、液压油缸、气动元件、农用机械等。

Recommended for applications involving intermittent operation or boundary lubrication...
Automotive: Pedal assembly, Balance shaft sleeve, Steering king pin shaft sleeve...
Logistics machine: carrier, chain block, Car crane, packaging machine....And hydraulic motor,Hydraulic cylinders, pneumatic element, agricultural machine...



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
1.0	0.6±0.3	0.30±0.2	30°±5°
1.5	0.7±0.3	0.50±0.2	30°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	30°±5°
2.50	1.8±0.6	0.80±0.3	45°±5°

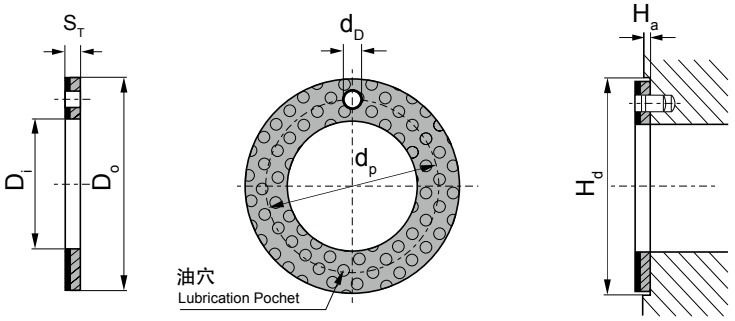
Unit：mm

轴径 Shaft D_s h8	座孔 Housing H7 D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance D_D	壁厚 Wall thick-ness S_3	油孔 Oil hole d_L	长度 L $^{0}_{-0.40}$ 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	0.135 0.040	"	"	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	"		2015	2020	2025	2030					
22 -0.033	25 +0.021	25 +0.075 +0.035	22.131 22.050	"	"	"		2215	2220	2225	2230					
25 -0.033	28 +0.021	28 +0.075 +0.035	25.131 25.050	"	"	6		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	"			2820	2825	2830					
30 -0.033	34 +0.025	34 +0.085 +0.045	30.155 30.060	"	"	"			3020	3025	3030	3035	3040			
35 -0.039	39 +0.025	39 +0.085 +0.045	35.155 35.060	0.194 0.060	"	"			3520	3525	3530	3535	3540			
40 -0.039	44 +0.025	44 +0.085 +0.045	40.155 40.060	"	"	8			4020	4025	4030	4035	4040	4045	4050	
45 -0.039	50 +0.025	50 +0.085 +0.045	45.195 45.080	0.234 0.080	2.460 2.415	"			4520	4525	4530	4535	4540	4545	4550	
50 -0.039	55 +0.030	55 +0.100 +0.055	50.200 50.080	0.239 0.080	"	"					5030	5035	5040	5045	5050	5060
55 -0.046	60 +0.030	60 +0.100 +0.055	55.200 55.080	0.246 0.080	"	"					5530	5535	5540	5545	5550	5560
60 -0.046	65 +0.030	65 +0.100 +0.055	60.200 60.080	"	"	"					6030	6035	6040	6045	6050	6060

Unit：mm

轴径 Shaft D_s h8	座孔 Housing H7 D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance D_D	壁厚 Wall thick-ness S_3	油孔 Oil hole d_L	长度 L $^{0}_{-0.40}$								
							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	6550	6560						
70 -0.046	75 +0.030	75 +0.100 +0.055	70.200 70.080	"	"	"	7040	7050	7060	7080					
75 -0.046	80 +0.030	80 +0.100 +0.055	75.200 75.080	"	"	"	7540	7550	7560	7580					
80 -0.046	85 +0.035	85 +0.120 +0.070	80.265 80.100	0.313 0.100	2.450 2.385	9.5	8040	8050	8060	8080					
85 -0.054	90 +0.035	90 +0.120 +0.070	85.265 85.100	0.321 0.100	"	"	8540	8550	8560	8580					
90 -0.054	95 +0.035	95 +0.120 +0.070	90.265 90.100	"	"	"	9040	9050	9060	9080	9090				
100 -0.054	105 +0.035	105 +0.120 +0.070	100.265 100.100	"	"	"		10050	10060	10080	10090	10095			
105 -0.054	110 +0.035	110 +0.120 +0.070	105.265 105.100	"	"	"		10550	10560	10580	10590	10595	105100	105110	
110 -0.054	115 +0.035	115 +0.120 +0.070	110.265 110.110	"	"	"		11050	11060	11080	11090	11095	110100	110110	
120 -0.054	125 +0.040	125 +0.170 +0.100	120.270 120.110	0.324 0.100	"	"		12050	12060	12080	12090	12095	120100	120110	
125 -0.063	130 +0.040	130 +0.170 +0.100	125.270 125.110	"	"	"		12550	12560	12580	12590	12595	125100	125110	
130 -0.063	135 +0.040	135 +0.170 +0.100	130.270 130.110	"	"	"		13050	13060	13080	13090	13095	130100	130110	
140 -0.063	145 +0.040	145 +0.170 +0.100	140.270 140.110	"	"	"		14050	14060	14080	14090	14095	140100	140110	
150 -0.063	155 +0.040	155 +0.170 +0.100	150.270 150.110	"	"	"		15050	15060	15080	15090	15095	150100	150110	
160 -0.063	165 +0.040	165 +0.170 +0.100	160.270 160.110	"	"	9.5		16050	16060	16080	16090	16095	160100	160110	
170 -0.063	175 +0.040	175 +0.170 +0.100	170.270 170.110	"	"	"		17050	17060	17080	17090	17095	170100	170110	
180 -0.063	185 +0.046	185 +0.210 +0.130	180.276 180.110	0.339 0.110	"	"		18050	18060	18080	18090	18095	180100	180110	
190 -0.072	195 +0.046	195 +0.210 +0.130	190.276 190.110	"	"	"		19050	19060	19080	19090	19095	190100	190110	190120
200 -0.072	205 +0.046	205 +0.210 +0.130	200.276 200.110	"	"	"		20050	20060	20080	20090	20095	200100	200110	200120
220 -0.072	225 +0.046	225 +0.210 +0.130	220.276 220.110	"	"	9.5		22050	22060	22080	22090	22095	220100	220110	220120
240 -0.072	245 +0.046	245 +0.210 +0.130	240.276 240.110	"	"	"		24050	24060	24080	24090	24095	240100	240110	240120
250 -0.072	255 +0.052	255 +0.260 +0.170	250.282 250.110	0.354 0.110	"	"		25050	25060	25080	25090	25095	250100	250110	250120
260 -0.081	265 +0.052	265 +0.260 +0.170	260.282 260.110	"	"	"		26050	26060	26080	26090	26095	260100	260110	260120
280 -0.081	285 +0.052	285 +0.260 +0.170	280.282 280.110	"	"	"		28050	28060	28080	28090	28095	280100	280110	280120
300 -0.081	305 +0.052	305 +0.260 +0.170	300.282 300.110	"	"	"		30050	30060	30080	30090	30095	300100	300110	300120

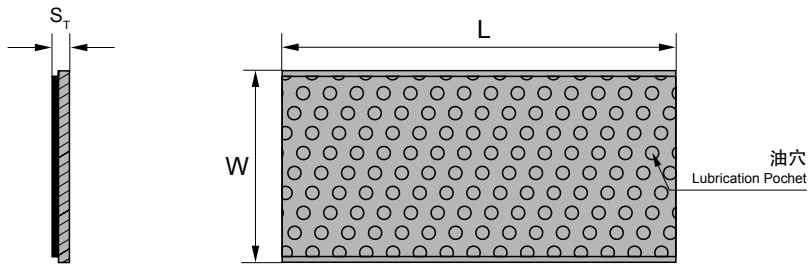
DNB-MP20W 止推垫圈 Thrust washers



Unit：mm

型号 Parts No.	垫片尺寸 Washer size				安装尺寸 Assemble size			
	D_i+0.25	D_o-0.25	S_T -0.05	d_p±0.125	d_D +0.4 +0.1		H_a±0.2	H_d+0.12
W10	10	20	1.5	15	1.5		1	20
W12	12	24	"	18	"		"	24
W14	14	26	"	20	2		"	26
W16	16	30	"	23	"		"	30
W18	18	32	"	25	"		"	32
W20	20	36	"	28	3		"	36
W22	22	38	"	30	"		"	38
W24	24	42	"	33	"		"	42
W26	26	44	"	35	"		"	44
W28	28	48	"	38	4		"	48
W32	32	54	"	43	"		"	54
W38	38	62	"	50	"		"	62
W42	42	66	"	54	"		"	66
W48	48	74	2	61	"		1.5	74
W52	52	78	"	65	"		"	78
W62	62	90	"	76	"		"	90

DNB-#MP20SP 板材 Strip

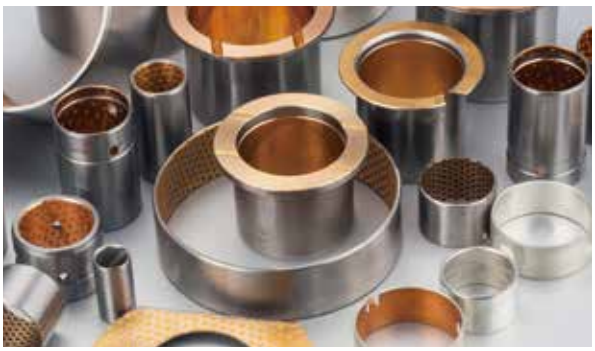


Unit：mm

型号 Parts No.	长度 L ±1	宽度 W ±1	厚壁 Wall thickness S_s -0.05
P	500	150	1.0
P	500	150	1.5
P	500	150	2.0
P	500	150	2.5

BIM 钢板 - 金属粉末烧结•双金属轴承 Bimetallic Bearing

BIM 钢板–金属粉末烧结 · 双金属轴承
Bimetallic bearing(steel backing + sinter bronze powder)



结构特性 Structure Characteristics

双金属复合轴承以优质低碳钢为基体，表面烧结具有低摩擦特性的铜合金（CuPb10Sn10、CuPb6Sn6Zn3、CuPb24Sn4、CuPb30、AlSn20Cu、CuSn8Ni）作为轴承的耐磨层，铜合金表面可以根据使用工况需要加工出各种类型的油槽、油孔、油穴等，以适合于无法持续加油或者难以加油的场合。材料通过二次烧结二次挤压可以得到很好的接合强度和最佳的承载能力。

Bi-metallic composite bearing material consists of steel backing with lead bronze or lead-free copper alloy （CuPb10Sn10、CuPb6Sn6Zn3、CuPb24Sn4、CuPb30、AlSn20Cu）lining, bearing material for oil/grease lubricated applications. The copper alloy forms a continuously frame for thermal conductivity. These bearing structures are with high load capacity and good fatigue property. Higher tolerance can be achieved after re-machined from the customers. Lead-free bronze lining bearing material conforms to the European RoHS directive.

产品应用 Application

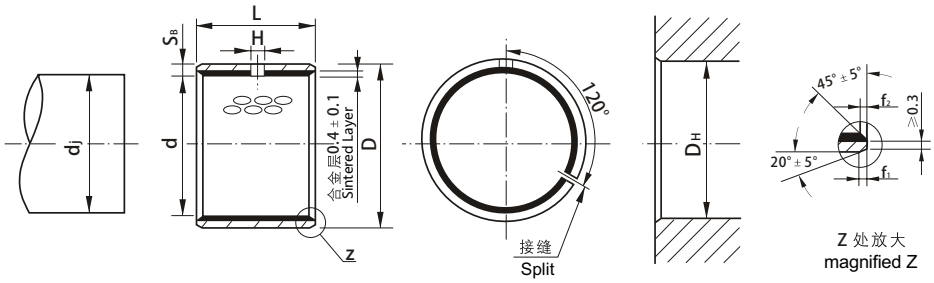
工程机械：底盘行走机构支重轮轴套、拖带轮轴套、张紧轮轴套；
汽车行业：平衡轴衬套、钢板销衬套、转向节主肖轴套、连杆轴套、气门摇臂轴套、凸轮轴轴套、差速器轴套、变速箱轴套、内燃机主轴瓦、止推垫片；以及柱塞泵侧片，齿轮泵侧片等。

Angineering machine: underpan, thrust wheel, Towing wheel, Steering knuckle,tension pulley...
Automotive:trunnion shaft, connecting rod, valve rocker, camshaft, gear box, internal-combustion engine,
And Plunger pump friction plate, gear pump friction plate...

物理机械性能 Physical and Mechanical Performance

最大动载压力 P Max dynamic Load		140N/mm²	相配轴 Matching Axis	硬度 Hardness	≥ 53HRC
最大线速度 V Linear Velocity	脂润滑 Grease Lubrication	2.5 m/s		粗糙度 Roughness	Ra=0.16~0.63
最大线速度 V Linear Velocity	流体润滑 Oil Lubrication	5 m/s	最高使用温度 Max Working Temperature	脂润滑 Grease Lubrication	150℃
最高 PV 值 Max PV value	脂润滑 Grease Lubrication	2.8N/mm²·m/s		油润滑 Oil Lubrication	250℃
最高 PV 值 Max PV value	流体润滑 Oil Lubrication	10N/mm²·m/s	摩擦系数 FrictionCoefficient		0.05~0.15
合金硬度 Alloy Hardness		HB 60~90	导热系数 Heat-conducting Coefficient		47W/(m·k)
			热膨胀系数 Heat-expansion Coefficient		18·10⁻⁶K⁻¹

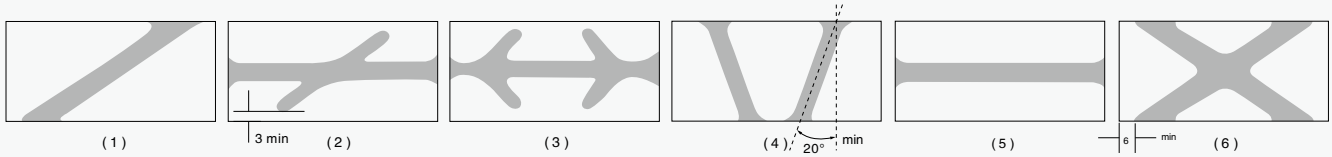
BIM ISO3547(DIN1494) 标准公制轴承 Normal Metric Bushing



Unit：mm

型号 Parts No.	相配轴径 Shaft Dia Ø dj	相配座孔 Housing Ø DH	压装后理论内径 Installed Bushing I.D Ø d	高度 High L	外径 O.D. Ø D	壁厚 Wall Thickness S_B	油孔 Oil hole ØH
BIM-1010	10 h8 $^{0}_{-0.022}$	"	10 $^{+0.145}_{+0.010}$	10±0.25	12 $^{+0.065}_{+0.030}$	1 $^{-0.005}_{-0.065}$	4
BIM-1015	"	"	"	15±0.25	"	"	"
BIM-1020	"	"	"	20±0.25	"	"	"
BIM-1210	12 h8 $^{0}_{-0.027}$	"	12 $^{+0.148}_{+0.010}$	10±0.25	14 $^{+0.065}_{+0.030}$	1 $^{-0.005}_{-0.065}$	"
BIM-1215	"	"	"	15±0.25	"	"	"
BIM-1220	"	"	"	20±0.25	"	"	"
BIM-1225	"	"	"	25±0.25	"	"	"
BIM-1410	14 h8 $^{0}_{-0.027}$	16 H7 $^{+0.018}_{0}$	14 $^{+0.148}_{+0.010}$	10±0.25	16 $^{+0.065}_{+0.030}$	1 $^{-0.005}_{-0.065}$	"
BIM-1415	"	"	"	15±0.25	"		"
BIM-1420	"	"	"	20±0.25	"		"
BIM-1425	"	"	"	25±0.25	"		"
BIM-1510	15 h8 $^{0}_{-0.027}$	17 H7 $^{+0.018}_{0}$	15 $^{+0.148}_{+0.010}$	10±0.25	17 $^{+0.065}_{+0.030}$	1 $^{-0.005}_{-0.065}$	"
BIM-1515	"	"	"	15±0.25	"		"
BIM-1520	"	"	"	20±0.25	"		"
BIM-1525	"	"	"	25±0.25	"		"
BIM-1610	16 h8 $^{0}_{-0.027}$	18 H7 $^{+0.018}_{0}$	16 $^{+0.148}_{+0.010}$	10±0.25	18 $^{+0.065}_{+0.030}$	1 $^{-0.005}_{-0.065}$	"
BIM-1615	"	"	"	15±0.25	"		"
BIM-1620	"	"	"	20±0.25	"		"
BIM-1625	"	"	"	25±0.25	"		"
BIM-1815	18 h8 $^{0}_{-0.027}$	"	18 $^{+0.151}_{+0.010}$	15±0.25	20 $^{+0.075}_{+0.035}$	1 $^{-0.005}_{-0.065}$	"
BIM-1820	"	"	"	20±0.25	"		"
BIM-1825	"	"	"	25±0.25	"		"
BIM-2010	20 h8 $^{0}_{-0.033}$	"	"	10±0.25	23 $^{+0.075}_{+0.035}$	1.5 $^{-0.01}_{-0.07}$	"
BIM-2015	"	"	"	15±0.25	"	"	"
BIM-2020	"	"	"	20±0.25	"	"	"
BIM-2025	"	"	"	25±0.25	"	"	"
BIM-2030	"	"	"	30±0.25	"	"	"
BIM-2215	22 h8 $^{0}_{-0.033}$	25 H7 $^{+0.021}_{0}$	22 $^{+0.161}_{+0.020}$	15±0.25	25 $^{+0.075}_{+0.035}$	1.5 $^{-0.01}_{-0.07}$	"

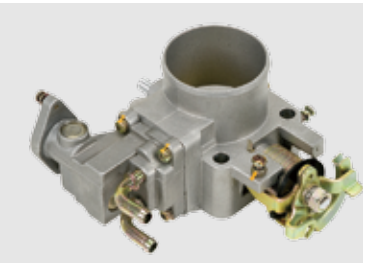
油槽形式 Oil Batch Formation



Unit：mm

型号 Parts No.	相配轴径 Shaft Dia Ø dj	相配座孔 Housing Ø DH	压装后理论内径 Installed Bushing I.D Ø d	高度 High L	外径 O.D. Ø D	壁厚 Wall Thickness S_B	油孔 Oil hole ØH
BIM-2220	22 h8 $^{0}_{-0.033}$	25 H7 $^{+0.021}_{0}$	22 $^{+0.161}_{+0.020}$	20±0.25	25 $^{+0.075}_{+0.035}$	1.5 $^{-0.01}_{-0.07}$	6
BIM-2225	"	"	"	25±0.25	"	"	"
BIM-2230	"	"	"	30±0.25	"	"	"
BIM-2515	25 h8 $^{0}_{-0.033}$	28 H7 $^{+0.021}_{0}$	25 $^{+0.161}_{+0.020}$	15±0.25	28 $^{+0.075}_{+0.035}$	1.5 $^{-0.01}_{-0.07}$	"
BIM-2520	"	"	"	20±0.25	"	"	"
BIM-2525	"	"	"	25±0.25	"	"	"
BIM-2530	"	"	"	30±0.25	"	"	"
BIM-2815	28 h8 $^{0}_{-0.033}$	32 H7 $^{+0.025}_{0}$	28 $^{+0.185}_{+0.040}$	15±0.25	32 $^{+0.085}_{+0.045}$	2 $^{-0.02}_{-0.08}$	"
BIM-2820	"	"	"	20±0.25	"	"	"
BIM-2825	"	"	"	25±0.25	"	"	"
BIM-2830	"	"	"	30±0.25	"	"	"
BIM-3015	30 h8 $^{0}_{-0.033}$	34 H7 $^{+0.025}_{0}$	30 $^{+0.185}_{+0.040}$	15±0.25	34 $^{+0.085}_{+0.045}$	2 $^{-0.02}_{-0.08}$	"
BIM-3020	"	"	"	20±0.25	"	"	"
BIM-3025	"	"	"	25±0.25	"	"	"
BIM-3030	"	"	"	30±0.25	"	"	"
BIM-3040	"	"	"	40±0.25	"	"	"
BIM-3220	32 h8 $^{0}_{-0.039}$	36 H7 $^{+0.025}_{0}$	32 $^{+0.185}_{+0.040}$	20±0.25	36 $^{+0.085}_{+0.045}$	2 $^{-0.02}_{-0.08}$	"
BIM-3230	"	"	"	30±0.25	"	"	"
BIM-3240	"	"	"	40±0.25	"	"	"
BIM-3520	35 h8 $^{0}_{-0.039}$	39 H7 $^{+0.025}_{0}$	35 $^{+0.185}_{+0.040}$	20±0.25	39 $^{+0.085}_{+0.045}$	2 $^{-0.02}_{-0.08}$	"
BIM-3530	"	"	"	30±0.25	"	"	"
BIM-3540	"	"	"	40±0.25	"	"	"
BIM-3550	"	"	"	50±0.25	"	"	"
BIM-4020	40 h8 $^{0}_{-0.039}$	44 H7 $^{+0.025}_{0}$	40 $^{+0.185}_{+0.040}$	20±0.25	44 $^{+0.085}_{+0.045}$	2 $^{-0.02}_{-0.08}$	8
BIM-4030	"	"	"	30±0.25	"	"	"
BIM-4040	"	"	"	40±0.25	"	"	"
BIM-4050	"	"	"	50±0.25	"	"	"
BIM-4530	45 h8 $^{0}_{-0.039}$	50 H7 $^{+0.025}_{0}$	45 $^{+0.225}_{+0.080}$	30±0.25	50 $^{+0.085}_{+0.045}$	2.5 $^{-0.04}_{-0.10}$	"
BIM-4540	"	"	"	40±0.25	"	"	"
BIM-4545	"	"	"	45±0.25	"	"	"
BIM-4550	"	"	"	50±0.25	"	"	"

WB 铜基卷制轴承　Wrapped Bronze Bearing



WB 铜基卷制轴承
Wrapped Bronze Bearing

结构特性 Structure Characteristics

以 CuSn8 青铜作为基板卷制而成的一种具有高承载、高耐磨的经济型薄壁铜基卷制轴承。根据不同的润滑条件，我们可以提供菱形油穴和油孔两种形式，菱形油穴用于油脂的润滑，通孔用于流体润滑，这样的设计可以确保在轴承运行初期就能建立润滑油膜，因此可以降低起始摩擦系数。

The bearing is made with CuSn8 bronze alloy which is featured with high load capacity and good anti-wearing characteristics. The diamond shape indents on the surface of the bearing serve as oil reservoir to generate oil film for the lubricating during the initial running. The bearings are mainly suitable for agriculture machineries and construction machineries applications.

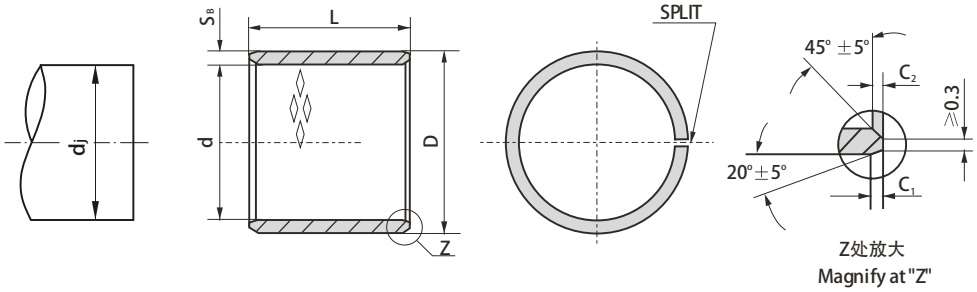
产品应用 Application

农用机械、建筑机械、起重机、卡车底盘部件、输送机、升降机、卷扬机、校平机等。

Agricultural machine, construction machine, crane, underpan parts, conveyor, elevator, winch, planing machine...

物理机械性能 Physical and Mechanical Performance

最大动载 Max Dynamic Load	100N/mm^2	相配轴 Matching Axis	硬度 Hardness	≥ 50HRC
最高线速度 (脂润滑) Max Linear Velocity (Grease)	2m/s		粗糙度 Roughness	Ra=0.4~1.0
最高 PV 值 (脂润滑) Max PV value (Grease)	2.8N/mm^2·m/s	适用温度 Working Temperature		-40～+150℃
抗拉强度 Tensile Strength	460N/mm^2	摩擦系数 Friction Coefficient		0.06~0.15
屈服强度 Yield Strength	280N/mm^2	导热系数 Heat Conducting Coefficient		58W/(m·k)
硬度 Hardness	90~150HB	热膨胀系数 Heat Expansion Coefficient		18.5$10^{-6}$K^{-1}



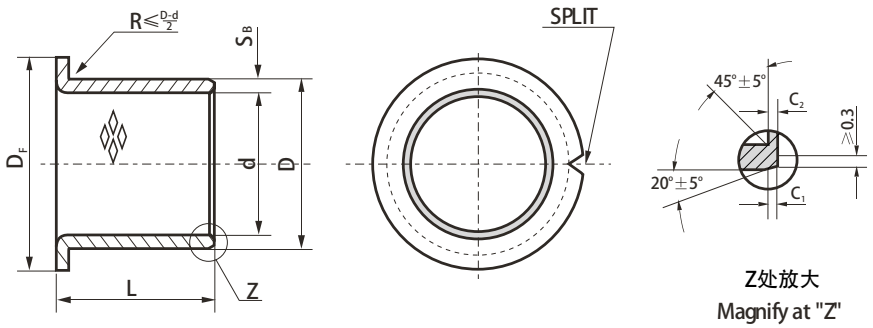
Unit：mm

型号 Parts No.	相配轴径 Shaft Dia. d_j	相配座孔 Housing D_H	压入 H7 座孔后内径 Press in H7 housing I.D. Ø d	高度 High L	外径 O.D. Ø D
WB-1010	10f7 $^{-0.013}_{-0.028}$	12H7 $^{+0.018}_{0}$	10 $^{+0.036}_{0}$	10±0.25	12 $^{+0.065}_{+0.030}$
WB-1015	"	"	"	15±0.25	"
WB-1210	12f7 $^{-0.013}_{-0.034}$	14H7 $^{+0.018}_{0}$	12 $^{+0.043}_{0}$	10±0.25	14 $^{+0.065}_{+0.030}$
WB-1215	"	"	"	15±0.25	"
WB-1410	14f7 $^{-0.016}_{-0.034}$	16H7 $^{+0.018}_{0}$	14 $^{+0.043}_{0}$	10±0.25	16 $^{+0.065}_{+0.030}$
WB-1415	"	"	"	15±0.25	"
WB-1510	15f7 $^{-0.016}_{-0.034}$	17H7 $^{+0.018}_{0}$	15 $^{+0.043}_{0}$	10±0.25	17 $^{+0.065}_{+0.030}$
WB-1515	"	"	"	15±0.25	"
WB-1520	"	"	"	20±0.25	"
WB-1610	16f7 $^{-0.016}_{-0.034}$	18H7 $^{+0.018}_{0}$	16 $^{+0.043}_{0}$	10±0.25	18 $^{+0.065}_{+0.030}$
WB-1615	"	"	"	15±0.25	"
WB-1620	"	"	"	20±0.25	"
WB-1810	18f7 $^{-0.016}_{-0.034}$	21H7 $^{+0.021}_{0}$	18 $^{+0.043}_{0}$	10±0.25	21 $^{+0.075}_{+0.035}$
WB-1815	"	"	"	15±0.25	"
WB-1820	"	"	"	20±0.25	"
WB-2010	20f7 $^{-0.020}_{-0.041}$	23H7 $^{+0.021}_{0}$	20 $^{+0.052}_{0}$	10±0.25	23 $^{+0.075}_{+0.035}$
WB-2015	"	"	"	15±0.25	"
WB-2020	"	"	"	20±0.25	"
WB-2025	"	"	"	25±0.25	"
WB-2030	"	"	"	30±0.25	"
WB-2215	22f7 $^{-0.020}_{-0.041}$	25H7 $^{+0.021}_{0}$	22 $^{+0.052}_{0}$	15±0.25	25 $^{+0.075}_{+0.035}$
WB-2220	"	"	"	20±0.25	"
WB-2225	"	"	"	25±0.25	"
WB-2230	"	"	"	30±0.25	"
WB-2515	25f7 $^{-0.020}_{-0.041}$	28H7 $^{+0.021}_{0}$	25 $^{+0.052}_{0}$	15±0.25	28 $^{+0.075}_{+0.035}$
WB-2520	"	"	"	20±0.25	"
WB-2525	"	"	"	25±0.25	"
WB-2530	"	"	"	30±0.25	"

Unit：mm

型号 Parts No.	相配轴径 Shaft Dia. d_j	相配座孔 Housing D_H	压入 H7 座孔后内径 Press in H7 housing I.D. Ø d	高度 High L	外径 O.D. Ø D
WB-2540	25f7 $^{-0.020}_{-0.041}$	28H7 $^{+0.021}_{0}$	25 $^{+0.052}_{0}$	40±0.25	28 $^{+0.075}_{+0.035}$
WB-2815	28f7 $^{-0.020}_{-0.041}$	31H7 $^{+0.025}_{0}$	28 $^{+0.052}_{0}$	15±0.25	31 $^{+0.085}_{+0.045}$
WB-2820	"	"	"	20±0.25	"
WB-2825	"	"	"	25±0.25	"
WB-2830	"	"	"	30±0.25	"
WB-3020	30f7 $^{-0.020}_{-0.041}$	34H7 $^{+0.025}_{0}$	30 $^{+0.052}_{0}$	20±0.25	34 $^{+0.085}_{+0.045}$
WB-3030	"	"	"	30±0.25	"
WB-3040	"	"	"	40±0.25	"
WB-3520	35f7 $^{-0.025}_{-0.050}$	39H7 $^{+0.025}_{0}$	35 $^{+0.062}_{0}$	20±0.25	39 $^{+0.085}_{+0.045}$
WB-3530	"	"	"	30±0.25	"
WB-3540	"	"	"	40±0.25	"
WB-3550	"	"	"	50±0.25	"
WB-4020	40f7 $^{-0.025}_{-0.050}$	44H7 $^{+0.025}_{0}$	40 $^{+0.062}_{0}$	20±0.25	44 $^{+0.085}_{+0.045}$
WB-4030	"	"	"	30±0.25	"
WB-4040	"	"	"	40±0.25	"
WB-4530	45f7 $^{-0.025}_{-0.050}$	50H7 $^{+0.025}_{0}$	45 $^{+0.062}_{0}$	30±0.25	50 $^{+0.085}_{+0.045}$
WB-4540	"	"	"	40±0.25	"
WB-4550	"	"	"	50±0.25	"
WB-5030	50f7 $^{-0.025}_{-0.050}$	55H7 $^{+0.030}_{0}$	50 $^{+0.062}_{0}$	30±0.25	55 $^{+0.100}_{+0.055}$
WB-5040	"	"	"	40±0.25	"
WB-5050	"	"	"	50±0.25	"
WB-5525	55f7 $^{-0.030}_{-0.060}$	60H7 $^{+0.030}_{0}$	55 $^{+0.074}_{0}$	25±0.25	60 $^{+0.100}_{+0.055}$
WB-5530	"	"	"	30±0.25	"
WB-5540	55f7 $^{-0.030}_{-0.060}$	60H7 $^{+0.030}_{0}$	55 $^{+0.074}_{0}$	40±0.25	60 $^{+0.100}_{+0.055}$
WB-5550	"	"	"	50±0.25	"
WB-6030	60f7 $^{-0.030}_{-0.060}$	65H7 $^{+0.030}_{0}$	60 $^{+0.074}_{0}$	30±0.25	65 $^{+0.100}_{+0.055}$
WB-6050	"	"	"	50±0.25	"
WB-6060	"	"	"	60±0.25	"
WB-6530	65f7 $^{-0.030}_{-0.060}$	70H7 $^{+0.030}_{0}$	65 $^{+0.074}_{0}$	30±0.25	70 $^{+0.100}_{+0.055}$
WB-6550	"	"	"	50±0.25	"
WB-6560	"	"	"	60±0.25	"
WB-7030	70f7 $^{-0.030}_{-0.060}$	75H7 $^{+0.030}_{0}$	70 $^{+0.074}_{0}$	30±0.25	75 $^{+0.100}_{+0.055}$
WB-7050	"	"	"	50±0.25	"
WB-7060	"	"	"	60±0.25	"
WB-7080	"	"	"	80±0.25	"
WB-7530	75f7 $^{-0.030}_{-0.060}$	80H7 $^{+0.035}_{0}$	75 $^{+0.074}_{0}$	30±0.25	80 $^{+0.100}_{+0.055}$
WB-7550	"	"	"	50±0.25	"
WB-7560	"	"	"	60±0.25	"
WB-7580	"	"	"	80±0.25	"
WB-8040	80f7 $^{-0.036}_{-0.071}$	85H7 $^{+0.035}_{0}$	80 $^{+0.087}_{0}$	40±0.25	85 $^{+0.120}_{+0.070}$
WB-8050	"	"	"	50±0.25	"

WB ISO3547(DIN1494) 标准公制翻边轴承 Normal Metric Flange Bushing



Unit：mm

型号 Parts No.	相配轴径 Shaft Dia. d_j	相配座孔 Housing D_H	法兰 flange Ø D_F	压入 H7 座孔后内径 Press in H7 housing I.D. Ø d	高度 High L	外径 O.D. Ø D
WB-F2015	20f7 $^{-0.020}_{-0.041}$	23H7 $^{+0.021}_{0}$	30±0.5	20 $^{+0.052}_{0}$	15±0.25	23 $^{+0.075}_{+0.035}$
WB-F2020	"	"	"	"	20±0.25	"
WB-F2515	25f7 $^{-0.020}_{-0.041}$	28H7 $^{+0.021}_{0}$	35±0.5	25 $^{+0.052}_{0}$	15±0.25	28 $^{+0.075}_{+0.035}$
WB-F2520	"	"	"	"	20±0.25	"
WB-F2525	"	"	"	"	25±0.25	"
WB-F3015	30f7 $^{-0.020}_{-0.041}$	34H7 $^{+0.025}_{0}$	45±0.5	30 $^{+0.052}_{0}$	15±0.25	34 $^{+0.085}_{+0.045}$
WB-F3020	"	"	"	"	20±0.25	"
WB-F3030	"	"	"	"	30±0.25	"
WB-F3520	35f7 $^{-0.025}_{-0.050}$	39H7 $^{+0.025}_{0}$	50±0.5	35 $^{+0.062}_{0}$	20±0.25	39 $^{+0.085}_{+0.045}$
WB-F3525	"	"	"	"	25±0.25	"
WB-F3530	"	"	"	"	30±0.25	"
WB-F4025	40f7 $^{-0.025}_{-0.050}$	44H7 $^{+0.025}_{0}$	55±0.5	40 $^{+0.062}_{0}$	25±0.25	44 $^{+0.085}_{+0.045}$
WB-F4030	"	"	"	"	30±0.25	"
WB-F4530	45f7 $^{-0.025}_{-0.050}$	50H7 $^{+0.025}_{0}$	60±0.5	45 $^{+0.062}_{0}$	30±0.25	50 $^{+0.085}_{+0.045}$
WB-F4545	"	"	"	"	45±0.25	"
WB-F4560	"	"	"	"	60±0.25	"
WB-F5035	50f7 $^{-0.025}_{-0.050}$	55H7 $^{+0.030}_{0}$	65±0.5	50 $^{+0.062}_{0}$	35±0.25	55 $^{+0.100}_{+0.055}$
WB-F5040	"	"	"	"	40±0.25	"
WB-F5050	"	"	"	"	50±0.25	"
WB-F5530	55f7 $^{-0.030}_{-0.060}$	60H7 $^{+0.030}_{0}$	70±0.5	55 $^{+0.074}_{0}$	30±0.25	60 $^{+0.100}_{+0.055}$
WB-F5550	"	"	"	"	50±0.25	"
WB-F6030	60f7 $^{-0.030}_{-0.060}$	65H7 $^{+0.030}_{0}$	75±0.5	60 $^{+0.074}_{0}$	30±0.25	65 $^{+0.100}_{+0.055}$
WB-F6050	"	"	"	"	50±0.25	"
WB-F6060	"	"	"	"	60±0.25	"
WB-F6530	65f7 $^{-0.030}_{-0.060}$	70H7 $^{+0.030}_{0}$	80±0.5	65 $^{+0.074}_{0}$	30±0.25	70 $^{+0.100}_{+0.055}$
WB-F6540	"	"	"	"	40±0.25	"
WB-F6560	"	"	"	"	60±0.25	"
WB-F7040	70f7 $^{-0.030}_{-0.060}$	75H7 $^{+0.030}_{0}$	85±0.5	70 $^{+0.074}_{0}$	40±0.25	75 $^{+0.100}_{+0.055}$
WB-F7070	"	"	"	"	70±0.25	"

Unit：mm

型号 Parts No.	相配轴径 Shaft Dia. d_j	相配座孔 Housing D_H	法兰 flange Ø D_F	压入 H7 座孔后内径 Press in H7 housing I.D. Ø d	高度 High L	外径 O.D. Ø D
WB-F7540	75f7 $^{-0.030}_{-0.060}$	80H7 $^{+0.035}_{0}$	90±0.5	75 $^{+0.074}_{0}$	40±0.25	80 $^{+0.100}_{+0.055}$
WB-F7570	"	"	"	"	70±0.25	"
WB-F8050	80f7 $^{-0.036}_{-0.071}$	85H7 $^{+0.035}_{0}$	100±0.5	80 $^{+0.087}_{0}$	50±0.50	85 $^{+0.120}_{+0.070}$
WB-F8080	"	"	"	"	80±0.50	"
WB-F9050	90f7 $^{-0.036}_{-0.071}$	95H7 $^{+0.035}_{0}$	110±0.5	90 $^{+0.087}_{0}$	50±0.50	95 $^{+0.120}_{+0.070}$
WB-F9090	"	"	"	"	90±0.50	"
WB-F10050	100f7 $^{-0.036}_{-0.071}$	105H7 $^{+0.035}_{0}$	120±0.5	100 $^{+0.087}_{0}$	50±0.50	105 $^{+0.120}_{+0.070}$
WB-F10060	"	"	"	"	60±0.50	"
WB-F11050	110f7 $^{-0.036}_{-0.071}$	115H7 $^{+0.035}_{0}$	130±0.5	110 $^{+0.087}_{0}$	50±0.50	115 $^{+0.120}_{+0.070}$
WB-F11060	"	"	"	"	60±0.50	"
WB-F12060	120f7 $^{-0.043}_{-0.083}$	125H7 $^{+0.040}_{0}$	140±0.5	120 $^{+0.100}_{0}$	60±0.50	125 $^{+0.170}_{+0.100}$
WB-F13060	130f7 $^{-0.043}_{-0.083}$	135H7 $^{+0.040}_{0}$	155±0.5	130 $^{+0.100}_{0}$	60±0.50	135 $^{+0.170}_{+0.100}$
WB-F13090	"	"	"	"	90±0.50	"
WB-F14060	140f7 $^{-0.043}_{-0.083}$	145H7 $^{+0.040}_{0}$	165±0.5	140 $^{+0.100}_{0}$	60±0.50	145 $^{+0.170}_{+0.100}$
WB-F14090	"	"	"	"	90±0.50	"
WB-F15060	150f7 $^{-0.043}_{-0.083}$	155H7 $^{+0.040}_{0}$	180±0.5	150 $^{+0.100}_{0}$	60±0.50	155 $^{+0.170}_{+0.100}$
WB-F15090	"	"	"	"	90±0.50	"
WB-F16060	160f7 $^{-0.043}_{-0.083}$	165H7 $^{+0.040}_{0}$	190±0.5	160 $^{+0.100}_{0}$	60±0.50	165 $^{+0.170}_{+0.100}$
WB-F16090	"	"	"	"	90±0.50	"
WB-F17060	170f7 $^{-0.043}_{-0.083}$	175H7 $^{+0.040}_{0}$	200±0.5	170 $^{+0.100}_{0}$	60±0.75	175 $^{+0.170}_{+0.100}$
WB-F17090	"	"	"	"	90±0.75	"
WB-F18090	180f7 $^{-0.043}_{-0.083}$	185H7 $^{+0.046}_{0}$	215±0.5	180 $^{+0.115}_{0}$	90±0.75	185 $^{+0.210}_{+0.130}$
WB-F19060	190f7 $^{-0.050}_{-0.096}$	195H7 $^{+0.046}_{0}$	225±0.5	190 $^{+0.115}_{0}$	60±0.75	195 $^{+0.210}_{+0.130}$
WB-F19090	"	"	"	"	90±0.75	"
WB-F20060	200f7 $^{-0.050}_{-0.096}$	205H7 $^{+0.046}_{0}$	235±0.5	200 $^{+0.115}_{0}$	60±0.75	205 $^{+0.210}_{+0.130}$
WB-F20090	"	"	"	"	90±0.75	"
WB-F22560	225f7 $^{-0.050}_{-0.096}$	230H7 $^{+0.046}_{0}$	260±0.5	225 $^{+0.115}_{0}$	60±0.75	230 $^{+0.210}_{+0.130}$
WB-F22590	"	"	"	"	90±0.75	"
WB-F25060	250f7 $^{-0.056}_{-0.108}$	255H7 $^{+0.052}_{0}$	290±0.5	250 $^{+0.130}_{0}$	60±0.75	255 $^{+0.260}_{+0.170}$
WB-F25090	"	"	"	"	90±0.75	"
WB-F26560	265f7 $^{-0.056}_{-0.108}$	270H7 $^{+0.052}_{0}$	305±0.5	265 $^{+0.130}_{0}$	60±0.75	270 $^{+0.260}_{+0.170}$
WB-F26590	"	"	"	"	90±0.75	"
WB-F28590	285f7 $^{-0.056}_{-0.108}$	290H7 $^{+0.052}_{0}$	325±0.5	285 $^{+0.130}_{0}$	90±0.75	290 $^{+0.260}_{+0.170}$
WB-F30090	300f7 $^{-0.056}_{-0.108}$	305H7 $^{+0.052}_{0}$	340±0.5	300 $^{+0.130}_{0}$	90±0.75	305 $^{+0.260}_{+0.170}$

机械压装 Pressure assembly

通常情况下，轴承可以采用压力装配的方式进行安装，装配时应采用芯轴慢慢压入，禁止直接击打轴承以免产生变形，装配前应确保座孔内表面光洁无异物。

In most applications, Dernore bearings can be fitted by press. For this procedure, a mandrel and a press machine are used, it is forbidden to hit the bearing in order to avoid deformation of bearings. The housing inner side should smooth without contamination.

冷冻装配 Frozen assembly

通过液氮或干冰采用冷装配压装相比采用机械压装方式更为有效，此时标准的冷冻温度为 -40℃ ~-70℃，冷冻时间一般为 1 小时以上，具体需要根据零件的壁厚和配合公差。

The cooling fit uses liquid nitrogen or dry ice, compared to press fitting, cooling fit is efficient and achieves more accurate installarion. The standard cooling temperature is -40℃ ~-70℃ , cooling time should be more than one hour, details according to the bushing wall thickness and interference design.

轴承的收缩量可以根据以下公式计算：

Calculation of bearing shrinkage amount of outer diameter:

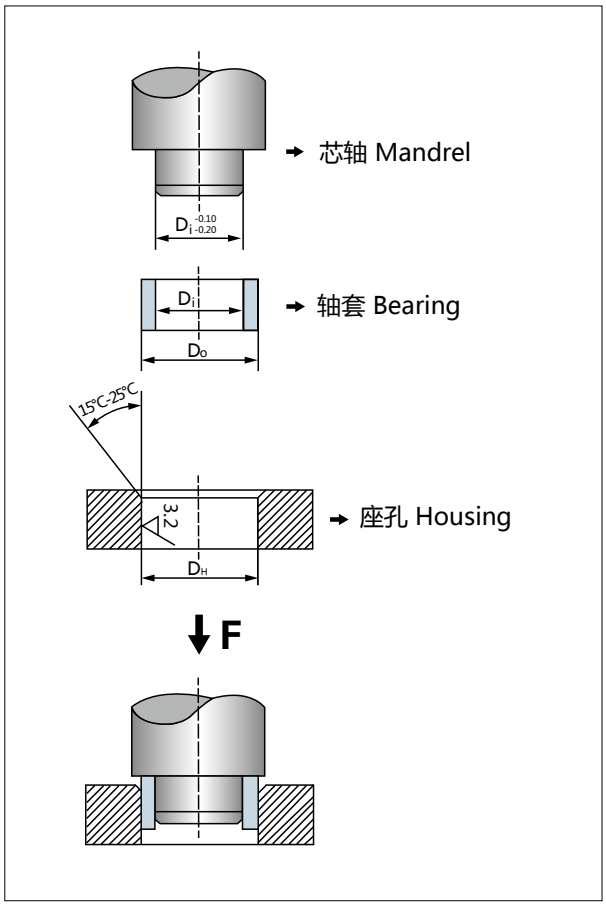
▵ D=D×α× ▵ T

▵ D：外径收缩量 Shrinkage of bearing OD

D：轴承外径 Bearing OD

α: 线性膨胀系数（1/105K）

▵ T：温度差 Temperature difference

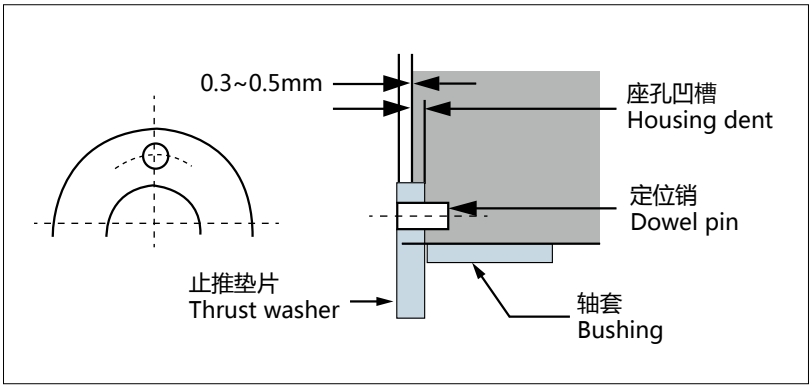


止推垫片和滑板的安装 Thrust washers and plate fit

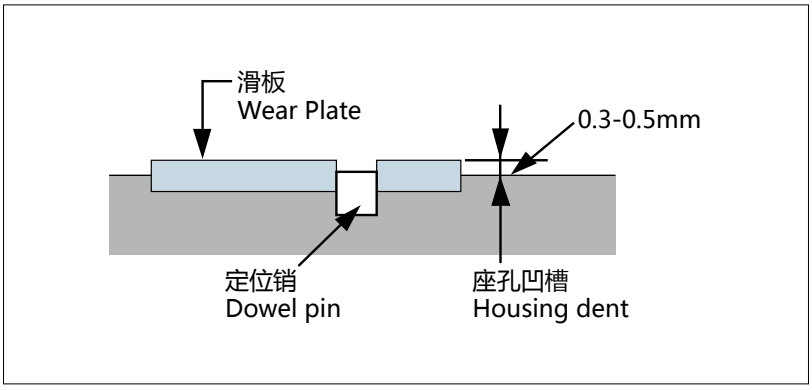
止推垫片和滑板应当安装在座孔的凹槽内，为了避免零件的移动建议使用定位销或沉头螺丝加以固定。

It is recommend to install the thrust washers and sliding plates with the hollow indented housings. To avoid the moving of such parts, a dowel pins is recommended to be installed.

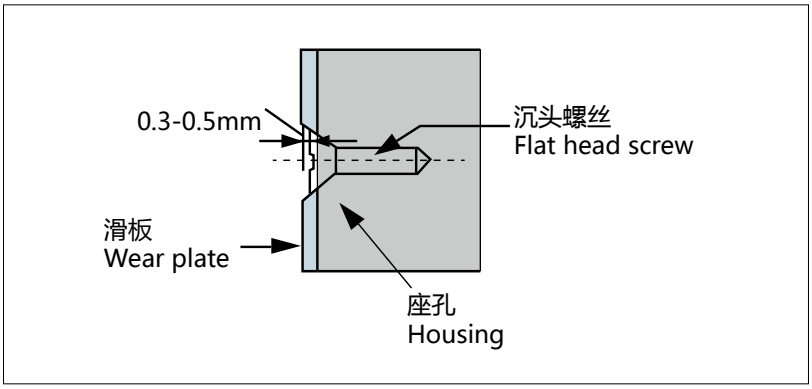
1. 定位销安装 Dowel pin application(thrust washer)



2. 镶嵌式安装 Inlaid installation(plate)



3. 沉头螺丝安装 Flat head screw application



卷制类产品的制造工艺决定了开口缝的存在，使得产品在自由状态下没有很好的圈整度，同时轴套外径和座孔之间为过盈配合，轴套要最大限度地适应座孔的形状，因此不能在自由状态下直接测量产品的内外径而必须使用特殊的测量仪和设备才能检测； ISO3547 标准第 2 部分中对卷制类产品的公差检验作了明确的规定， 包括：

检验方法 A： 哈夫规检验外径；

检验方法 B： 止通规检验外径；

检验方法 C： 止通规检验内径；

检验方法 D： 测量尺检验大规格产品外径

以及替代检验方法 C 的壁厚检验方法， 壁厚检验方法和检验方法 C 不能同时使用。

Rolled products in the manufacturing process determine the existence of open joints, making products in the free state not habe a good whole circle shape, while sleeve diameter and the seat for the interference fit between the holes, sleeve adapted to maximize Block hole shape can not be directly measured in the free state the inner/ outside diameter of the product only can be by a special measuring instrument; In ISO3547 standards measured Part 2 of the rolled products made clear tolerance test requirements, including :

Test Method A: Huff regulatory test outside diameter;

Test method B: use stop-pass gauge to test the outside diameter;

Test method C: use stop-pass gauge to test the inside diameter;

Test method D: Measure the outer diameter of large scale product and use wall-thickness test to replace test method C. (Wall-thickness test and test method C can not be used at the same time.)

外径检验方法 External diameter test methods

检验方法 A (ISO3547-2: Test A)

采用如右视图的上下两哈夫规对外径进行检验，检验时产品的开口缝朝上哈夫规相向施加检验载荷 Fch， 该载荷使卷制轴套能够按符合要求的方式就位于检验模。 检验中， 由于弹性变形卷制轴套外径会变小但不会产生永久变形。 产品的外径可以通过检验模之间的距离 Z 的变化量△ Z 来计算。

Test A of ISO 3547 Part 2

Check the outside diameter of a wrapped bush using measuring equipment as shown to the right, with a checking block consisting of upper and lower halves and setting plugs, at a determined checking load of Fch, during the test the outside diameter of the bush is made smaller by the elastic reduction, however it is not a permanent deformation. The bushes outside diameter can be calculated from the difference in the value of z (△Z)

检验方法 B (ISO3547-2: Test B)

检验采用两个环规即通规和止规，用手以最大力 250N 可将轴套推入并通过通规；在相同情况下无法进入和通过止规。在某些情况下检验精度可能受到影响，比如轴套不圆或闭合开口缝的力本身已超过 250N，此时建议采用检验方法 A 或测压入力或壁厚相结合的检验方法。

Test B of ISO 3547 Part 2

The test is carried out with two ring gauggs, a Go gauge and a No Go gauge whose diameter Shall be chosen empirically from with Table 6 of ISO3547-1:1999 and agreed upon. It shall be possible to press the bushes into the GO gauge and then push them through with hand pressure (maximum force 250N). On the other hand with the same force, it shall not be possible for them to go into and through the NO GO gauge (See ISO 12307-1)

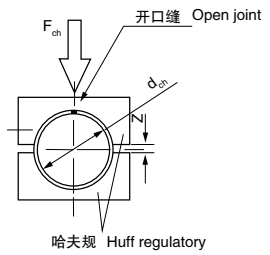
检验方法 D (ISO3547-2: Test D)

采用精确的测量尺来测量外径， 一般针对大规格的轴套外径检测。

Test D (ISO 3547-2)

The test is carried out by means of a precision measuring tape.

检验方法 A Test A of ISO



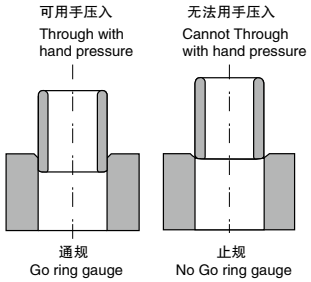
哈夫规和芯棒 Checking block and setting mandrel d_{ch}=_____mm

检验压力 Torce test F_{ch}=_____N

极限值 Limiting value △ $_Z$=____and____mm

外径公差 OD tolerance D_o=____to____mm

检验方法 B Test B of ISO



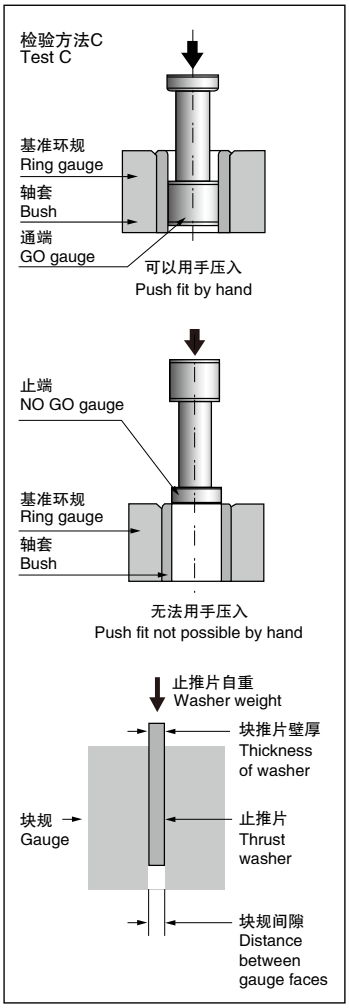
内径检验方法 Internal diameter test methods

检验方法 C (ISO3547-2: Test C)

将轴套压入基准环规后检查轴套的内径， 内径的检测可以采用三点测量装置或通、 止塞规检验。从实际使用考虑一般建议采用通、 止塞规检验， 此时在用手最大推力不超过 250N 时通端塞规可以通过轴套内孔， 在相同情况下止端塞规应当无法通过轴套内孔。 当轴套压入基准环规后， 轴套外径可能会引起永久变形而无法正常使用。

Test C (ISO3547-2: Test C)

To check the inside diameter, the bush is to be pressed into a ring gauge, whose nominal diameter corresponds to the dimension specified in ISO3547-1:1999. The inside diameter shall be measured with a 3-point measuring instrument or checked with a GO and NO GO plug gauge. The GO plug gauge shall be inserted by a minimum effort; the NO GO plug gauge shall not be inserted by manual pressure(maximum force 250N). In order to enable the manufacturer and the customer to compare results of this test it should be agreed whether results should be obtained by measuring or by gauging.



止推片检验方法 Thrust washer test method

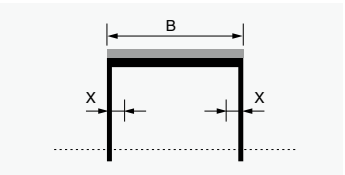
除了厚度公差以外， 垫片的平行度对于垫片和对磨件的使用寿命同样重要。 我们使用比较有效的检验方法来检测垫片的平行度， 让垫片依靠自重来通过两个平行块； 当然平行块必须大于垫片本身的规格。

Beside the thickness, the flatness of washer is also important for washer and grinding parts' usage age. We use very helpful test in which the washer falls through the gap between two plain parallel plates of a gauge under its dead weight. The plates must be big enough to cover the whole washer.

壁厚检测方法 Wall Thickness test method

作为检验方法 C 的替代方案两则不能同时使用， 壁厚根据轴套尺寸在轴向进行测量。

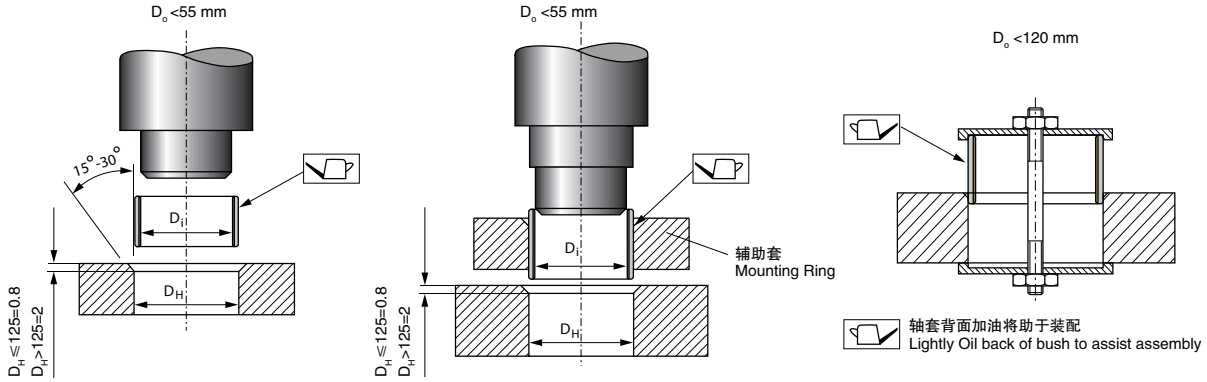
The wall thickness is measured at once,two or three positions axially according to the bearing dimensions.The wall thickness and the inside diameter shall not be specified together on the same drawing.



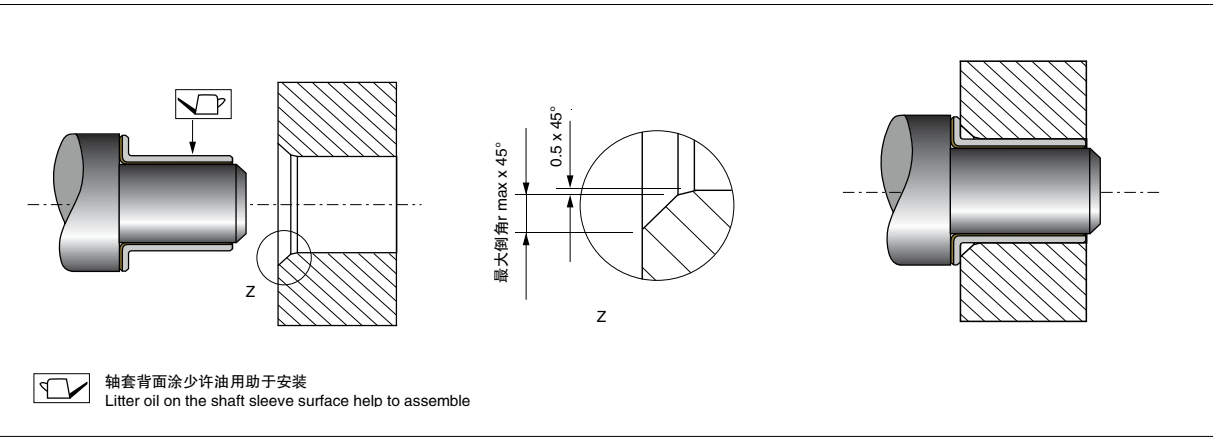
测量点
Measurement position

B[mm]	X[mm]	测量点 measurement position
B≤15	B/2	1
15 < B≤50	4	2
50 < B≤90	6 and B/2	3
B > 90	8 and B/2	3

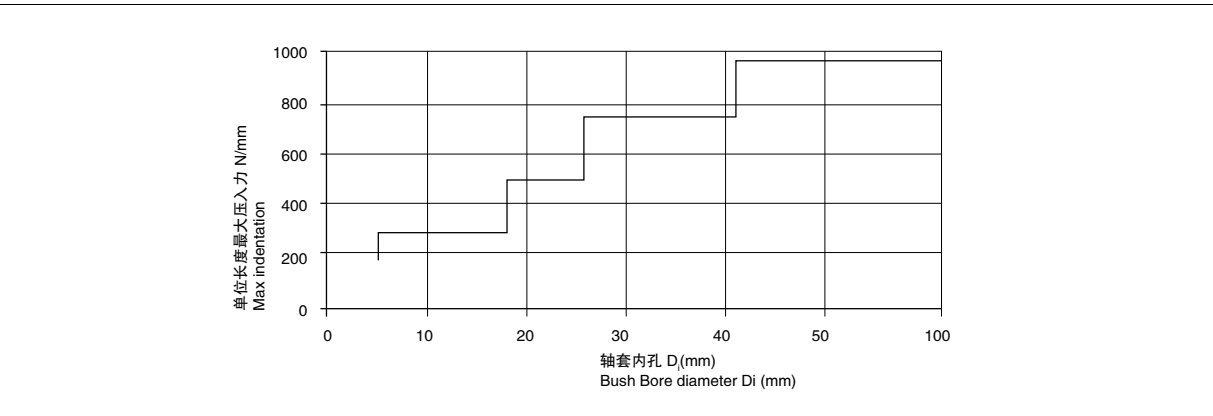
直套安装 Straight set of installation



翻边套安装 Flange set of installation



压入力计算 Indentation Calculation



同轴度 Concentricity

精确的同轴度对于轴承的正常使用非常重要， 要求轴套在一个或者两个长度内的不同轴度以及在翻边或止推片直径内的不同轴度控制在0.02mm 内。

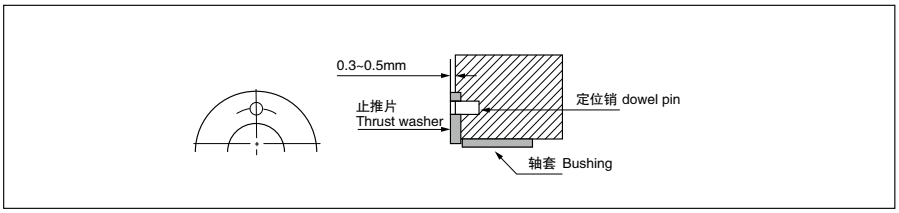
Degree of precision coaxial bearing the normal use for a very important requirement sleeve length in one or two degrees of the different axes and in the flange or thrust washer diameter of the different degree of control shaft within 0.02mm.

垫片和滑板的安装 Thrust washers and sliding plates installation

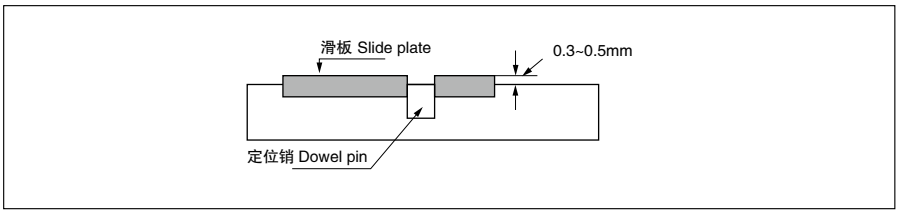
建议垫片和滑板安装在凹陷的座孔内， 为了避免移动，同时建议采用定位销加以固定。

It is reconmmended to install the thrust washers and sliding plates with the hollow indented housing. To avoid the moving of such parts, a Dowel pins is recommended to be installed.

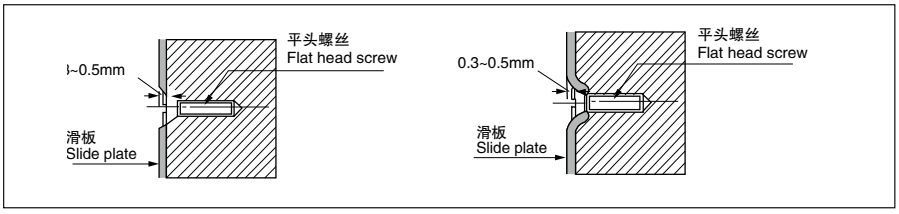
1. 定位销在垫片上的使用 Dowel pin application (thrust waher)



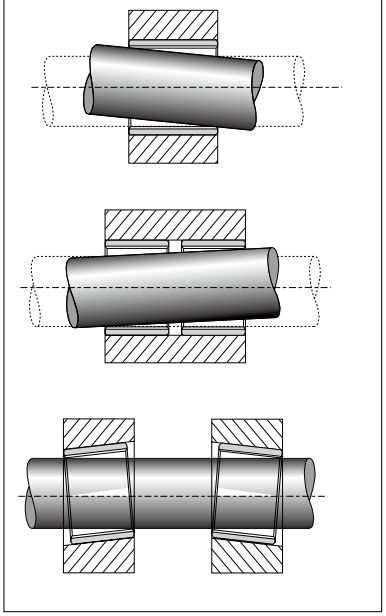
2. 定位销在滑板上的使用 Dowel pin used on slide plate

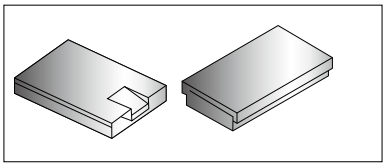


3. 平头螺丝的使用 Flat head screw application



同轴度要求
Concentricity requirements





其他固定方法 Other fixation methods

当无法使用定位销时， 可以采用激光焊接， 粘结剂和钎焊 （温度 <320℃ ） 的方法加以固定； 此时必须主意使用的温度不能超过轴承材料本身能够承受的范围， 轴套工作面防止与粘合剂等接触。

When the pin is not available, you can use laser welding, adhesives and brazing (temperature < 320 ℃) method to be fixed; while do in this way, temperature used must not higher then the bearing material itself can be standed, the cleeve face should be prevent from contacting with adhesives.

PTFE 基轴承的加工和安装注意事项 Processing and installation considerations of PTFE-based bearing

PTFE 基轴承一般都是成品零件，组装后内孔不再进行铰、镗等加工，若座孔按推荐的尺寸加工时，卷制类轴承内径的真圆度完全能满足使用要求；

如果客户可以接受干摩擦性能大幅度降低，可以对 PTFE 基轴承在安装后进行内孔挤压以达到更高的精度，强烈建议对挤压芯棒表面进行热处理（深度 0.6mm，HRC ＞ 55）并抛光处理至 Rz1；

当轴承的比压力小或摆动小而要求运行平稳时，可以增大工作间隙，在高温下使用时，每升高 100℃时建议轴径减少 0.008mm；

若轴承座材质是青铜、铝或锌合金时，建议减少轴承座孔以增加轴承装配过盈量；为保证轴承座的刚性，轴承座外径通常为轴承外径的 1.5 倍，薄壁座孔使用时需要考虑压装和使用过程的产生的变形；

PTFE 轴承需要加工时，为了避免毛刺的产生建议从 PTFE 一侧进行加工或钻孔，在钻孔过程中轴套应当有足够的支撑已确保不会由于钻孔压力导致变形；带材的加工方法可以通过剪切、水切割、激光切割等方法。

PTFE-based bearings are generally finished parts, assembled in the hole without the hinge, and other processing, if the bore size of the recommended process, the rolling type bearings with bore roundness can meet the requirements;

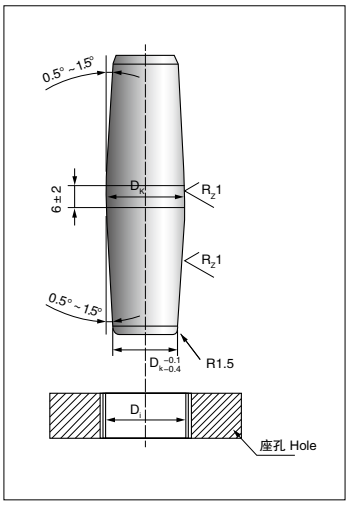
If the client can accept a significant reduction of dry friction, extruding the inner holes on the PTFE-based bearing after the compression to achieve higher accuracy, we strongly recommend the extrusion mandrel surface treatment (depth of 0.6mm, HRC ＞ 55) and polished to Rz1;

When the bearing's specific pressure is small and required to run a smooth swing, you can increase the working space, when used at high temperatures, it is increased by 100 ℃ , the proposed reduction of shaft diameter 0.008mm;

If the material of bearing is bronze, aluminum or zinc alloy, it is recommended to reduce the bearing hole to increase the amount of interference bearing assembly; to ensure the bearing rigidity, The base of bearing's diameter is usually 1.5 times to the bearing's diameter, thin-walled bore with pressure to consider when installed and used in the process of the deformation;

PTFE bearings need processing, in order to avoid the generation of burrs from the PTFE side of the proposed processing or drilling in the drilling process should have sufficient support sleeve has been to ensure that no pressure leads to deformation of the borehole; processing methods strip can cut, water jet cutting, laser cutting and other methods.

轴承内径 Dia of the axis d	要求内径 Required ID dE	整形工具直径 Diameter of the shaping tools dk
	d	d+0.03
d	d+0.02	d+0.06
	d+0.03	d+0.08
	d+0.04	d+0.10



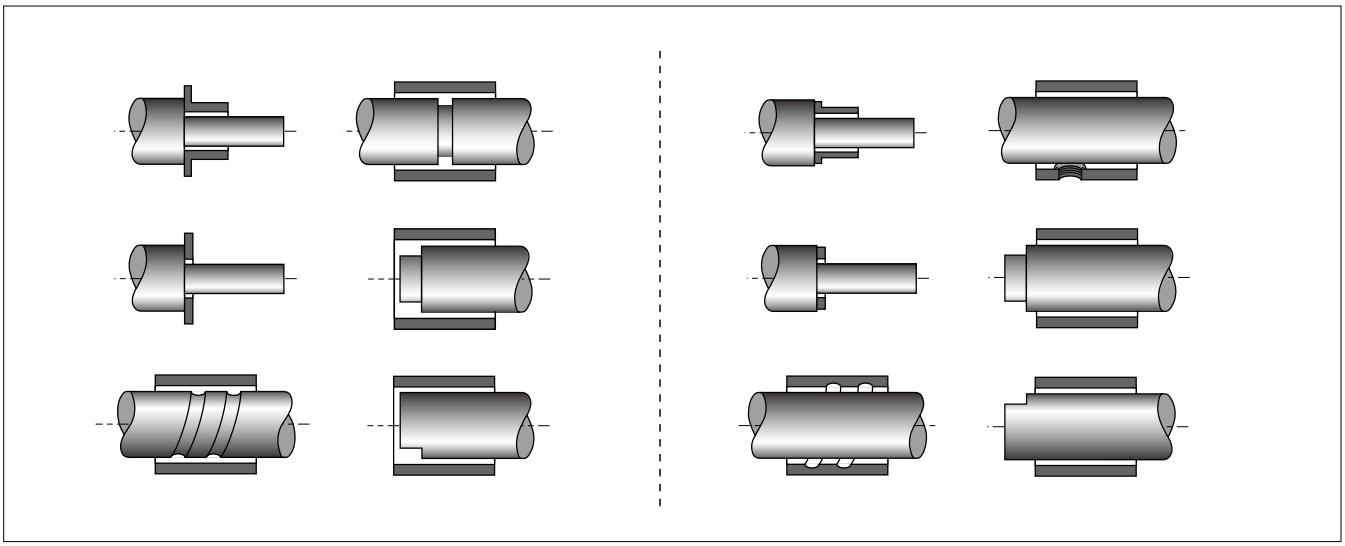
对磨轴 The Shaft

对磨件的材料、表面硬度、表面粗糙度以及表面处理方式对于轴承的使用寿命的影响很大，一般情况下我们建议轴的硬度在 HRC > 50，表面粗糙度 Ra0.4 以下；在潮湿或易腐蚀的场合建议使用不锈钢、硬质铬镀层。

Grinding pieces of material, surface hardness, surface roughness and surface treatments have a great impact on the life of bearing, in general, we recommend that the hardness of the shaft HRC > 50, surface roughness below Ra0.4; We suggest using stainless steel, hard chrome plating in the wet or corrosive place.

不正确的设计
Incorrect design

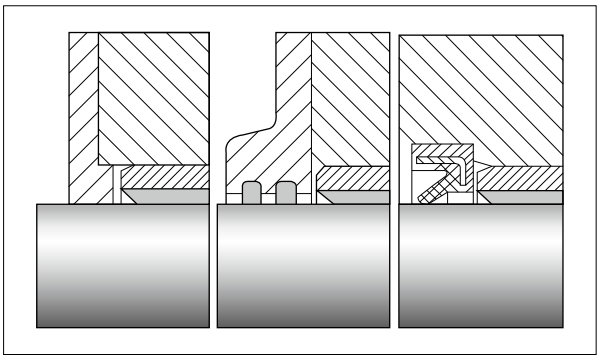
正确的设计
Correct design



密封 Seal

金属塑料基自润滑轴承允许一些不会损害轴承表面材料的异物进入，但当异物的侵入增加或高蹑磨型物质进入时应当安装核实的密封圈以提高轴承的使用寿命。

If increased levels of contamination occur or the bearing is used in an aggressive environment, the bearing section should be protected from dust and containment. The normal solution is to re-design the surrounding structure so that the contamination cannot reach the bearing section. If the contamination is critical, a collar of grease or a shaft seal is recommended.



基材合金牌号 Alloy International Code

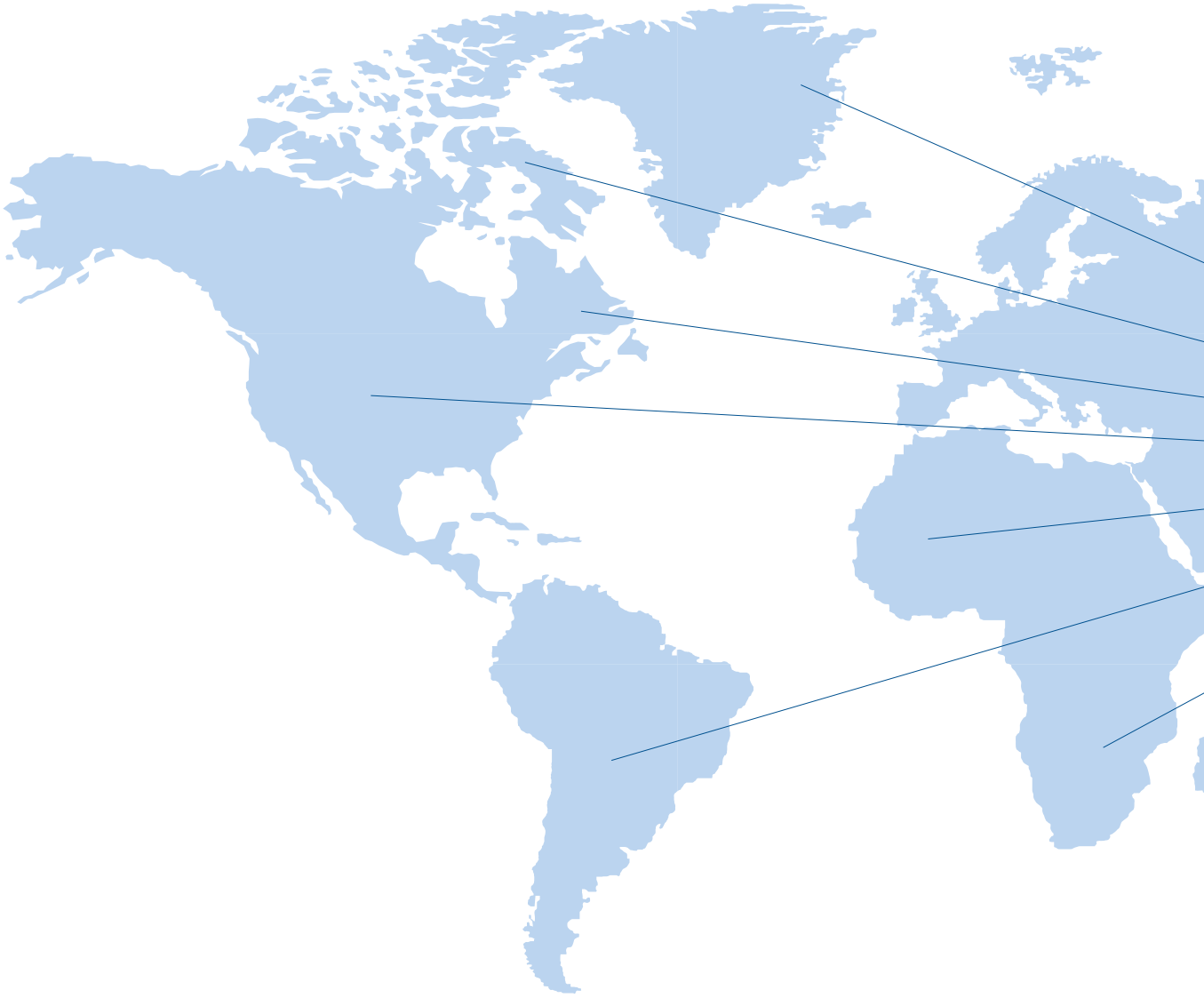
我公司 材料代号	中国牌号 Chinese Code GB1776-87	相当国外牌号				适用情况 Application
		国际 International ISO 1338	日本 Japan Jis	美国（USA） ASTM(UNS)	德国 German DIN	
#50SP	CuZn25Al6FeMn3 （软）	CuZn25Al6FeMn3 （软）	H5102 CAC304	B30-92 C86300	DIN1709 G-CuZn25A/2.0598	高载荷、低速、一般用 High-load，low speed, general use
#50SP1	CuZn25Al6FeMn3 （硬）	CuZn25Al6FeMn3 （硬）	H3102 CAC304	B30-92 C86300	DIN1709 G-CuZn25A/2.0598	较高载荷、低速、高承载用 Super high load, low-speed, high duty
#50SP5	CuZn25Al6FeMn3 （高硬）	CuZn25Al6FeMn3 （高硬）	H3102 CAC304	B30-92 C86300	DIN1709 G-CuZn25A/2.0598	超高载荷、低速、高承载用 Super high load, low-speed, high duty
-	CuAl10Fe3	CuAl10Fe3	H5114 CAC703	B30-92 95800	DIN1714 GB-CuAl10NI/2.1096	中载荷、中速、一般用 Medium load,medium-speed,general use
-	CuSn5Pb5Zn5	QSn5-5-5	H5111 CAC406	B30-92 C83600	DIN1705 G-Cu5N5ZnPb/2.1096	中载荷、中速 low-load, low-speed

固体润滑剂 Solid Lubricants

Lubricants 固体润滑剂	Features 特性	Typical application 典型用途
SL1 Graphite + add 高纯石墨 + 添加剂	Excellent resistance against chemical attacks and low friction . Temp limit 400℃ 很好的耐磨性和化学稳定性，使用温度 <400℃	Suit for general machines and under atmosphere 适用于一般机械，在大气中使用。
SL4 PTFE +add PTFE + 添加剂	Lowest in friction and good of water lubrication, Temp. limit 300℃ 极低的摩擦系数和很好的水润滑性，使用温度 <300℃	Ship， hydraulic turbine, gas turbine etc. 适用于水、海水润滑，如船舶，水工狐门，水轮机，制药饮料机械等。

主要基材合金 Main Base Alloy

物理性能和化学成分 Phy.Performance. & Chemical Compositions / 基材合金 Base Alloy	高力黄铜 CuZn25Al6FeMn3（高硬）	高力黄铜 CuZn25Al6FeMn3（硬）	高力黄铜 CuZn25Al6FeMn3（软）	铜合金 CuSn5Pb5Zn5	铜合金 CuAl10Ni	铜合金 CuSn12	铸铁 Cast IronHT250
Cu%	65	65	65	85	80	88	
Sn%				5		12	
Pb%				5			
Zn%	25	25	25	5			
Ni%					5		
Al%	6	6	6		10		
Fe%					5		
Mn%	4	4	4				
密度 g/cm^3 Dengity	8	8	8	8.8	8.3	8.8	7.3
硬度 HB Hardness	> 235	> 210	> 180	> 70	> 150	> 80	> 160
抗拉强度 N/mm^2 Tensile Strength	> 785	> 750	> 550	> 200	> 500	> 360	> 250
伸长率 % Elongation	> 10	> 12	> 12	15	> 10	> 8	
热胀系数 Coefficient of linear expansion	1.9·10-5/ ℃	1.9·10-5/ ℃	1.9·10-5/ ℃	1.8·10-5/ ℃	1.6·10-5/ ℃	1.8·10-5/ ℃	1.0·10-5/ ℃
温度 ℃ Limit Temp.	300~400	300~400	300~400	400	400	400	400
最大动承载 Max. Load N/mm^2	118	100	80	60	50	70	10
最大线速度 Max. Speed m/min	10	15	15	10	20	10	15
最大 PV Max.PV N/mm^2·m/min	200	200	200	200	200	200	40
压缩永久变形量 400N/mm^2	< 0.005	< 0.01	< 0.01	< 0.05	< 0.04	< 0.05	< 0.015
摩擦系数： 油润滑 0.03， 干摩擦： 0.16 Friction of coe. Oil 0.03; Dry 0.16							



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