

# EPEN BEARING

欧本轴承





嘉善欧本轴承有限公司是一家专业生产滑动轴承，金属塑料复合轴承的企业，秉承做专于精、精益求精、为客户不断创造价值的理念，致力于滑动轴承、复合新材料的研究、开发、推广和应用。公司现有主要产品为金属塑料复合系列滑动轴承、双金属系列轴承、单金属系列滑动轴承等，被广泛应用于汽车工业、冶金、工程机械、建筑机械、塑料机械、机床工业、水利水电等30多个领域。

公司以不断满足顾客对产品多样化、高品质的需求为导向，运用现代技术和设备对产品进行持续改进、提升，从而为客户提供更多产品、更高品质的滑动轴承。

Jiashan Epen Bearing Co.Ltd. is a professional manufacturer of plain bearings and wear plates, and has grown rapidly to a point where now all types of plain bearings can be supplied. Standard catalogue sizes, special sizes and designs can be produced at competitive prices and to a high quality standard. Jiashan Epen Bearing Co.Ltd. serves both the domestic and international markets. The Jiashan Epen Bearing Company intend to stay at the forefront of this market.

The self-lubricating bearings supplied by Jiashan Epen Bearing Co.Ltd. are maintenance free and are ideally suitable to oscillatory motion, linear motion, difficult working environments, high temperature applications, etc.

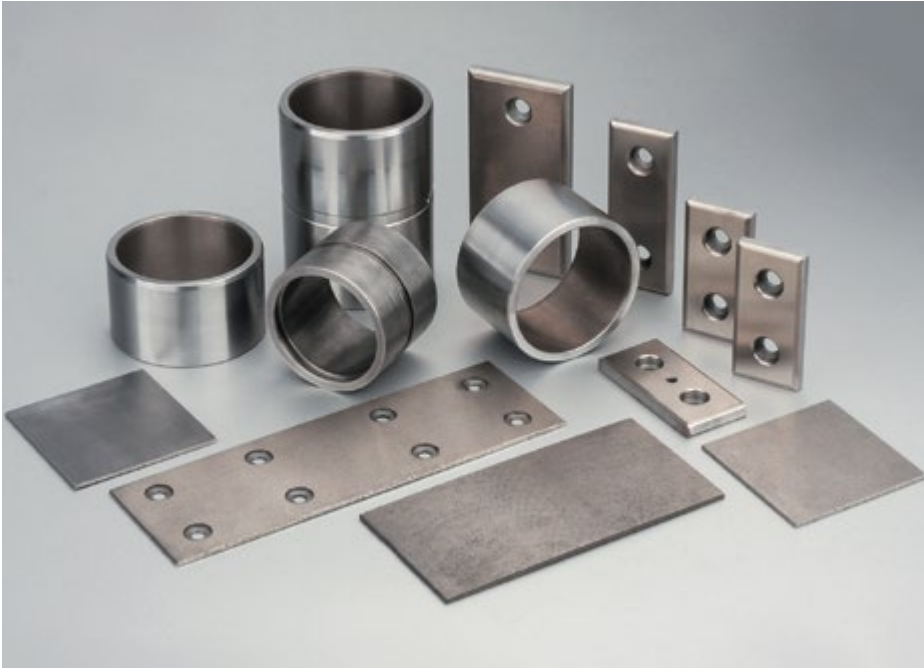


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## 1 轴承材质 Bushing Material



### 1.1 E-20 产品介绍 E-20 Brief Description

E-20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。

E-20 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.

### 1.2 E-20 特点 E-20 Features

- 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；
- 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.



### 1.3 E-20 产品技术参数 E-20 Material Characteristics

max. P	干摩擦 / dry	动载荷 dynamic	N/mm <sup>2</sup>	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 <sup>2</sup> ·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 <sup>3</sup>	6.3
抗拉强度 / Tensile strength			N/mm <sup>2</sup>	>400
硬度 / hardness			HRM	60 μ -95 μ

### 1.4 适用范围 ( 温度, PV值 ) Scope (temperature, PV value)

汽车轮胎模具活络模 自润滑导板: 耐高温, 耐磨损

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





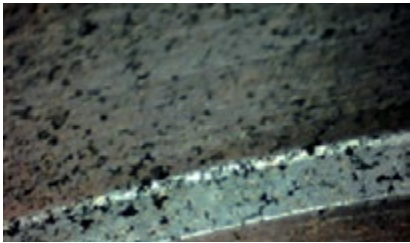
## 1.5 E-20 对比实验 E-20 Comparative Experiment



A 公司金属钢背烧结 (50 倍)



B 公司金属钢背烧结 (50 倍)



E-20 金属钢背烧结 (50 倍)

轴承往复运动摩擦试验

产品：E-20 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

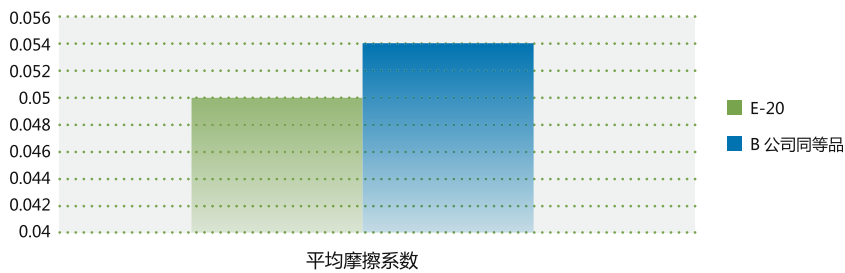
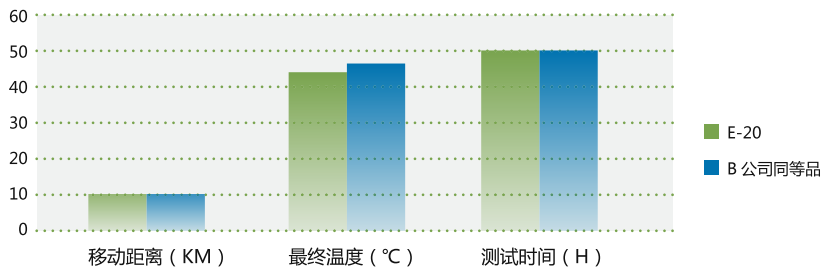
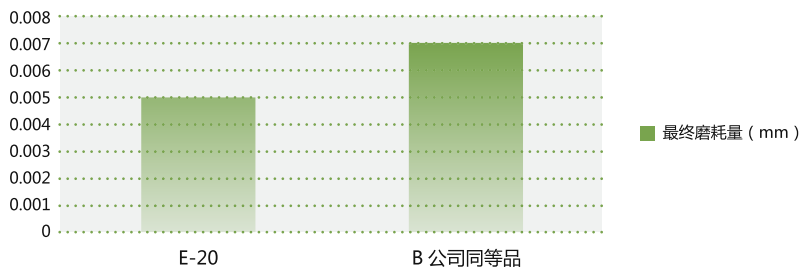
油脂涂抹：初期油脂涂抹

试验时间：50 小时



## 1.6 E-20 实验结果 E-20 Test Result

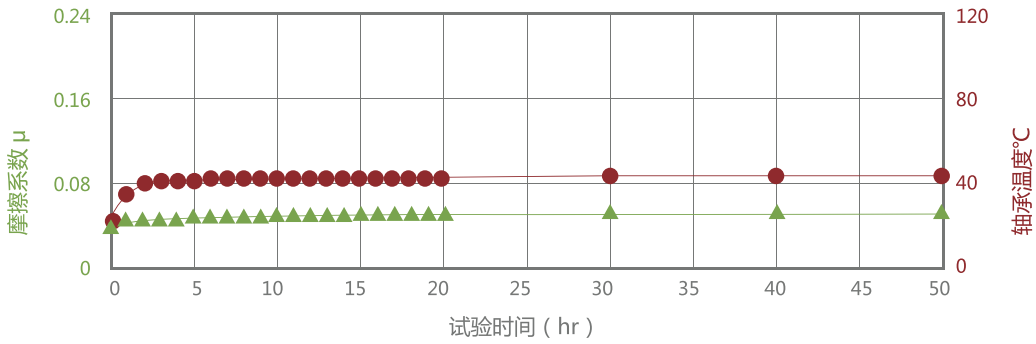
	最终磨损量 (mm)	移动距离 (KM)	最终温度 (°C)	平均摩擦系数	试验时间 (H)
E-20	0.005	9.54	44	0.046	50
B 公司对等品	0.007	9.54	47	0.055	50



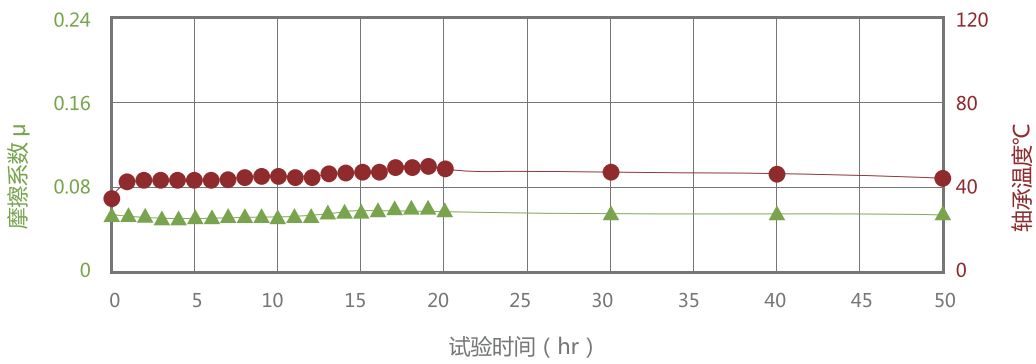




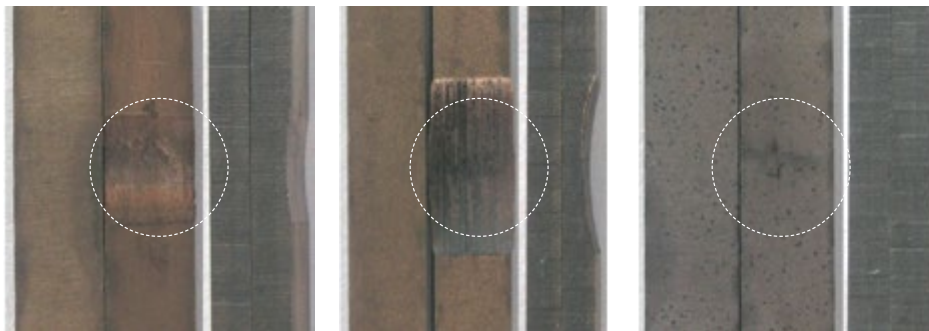
1.7 E-20 实验数据  
E-20 Test data



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



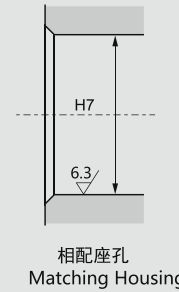
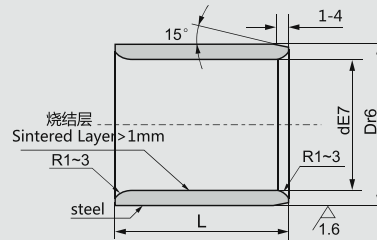
同行 A 大量磨损

同行 B 剧烈磨损

E-20 微量磨损



## 2.1 E-20B 钢背多孔固体润滑剂分散型自润滑轴套 E-20B Oil-Retaining Bimetallic Bearing (steel backing+copper sinter with solid lubricating dispersed)



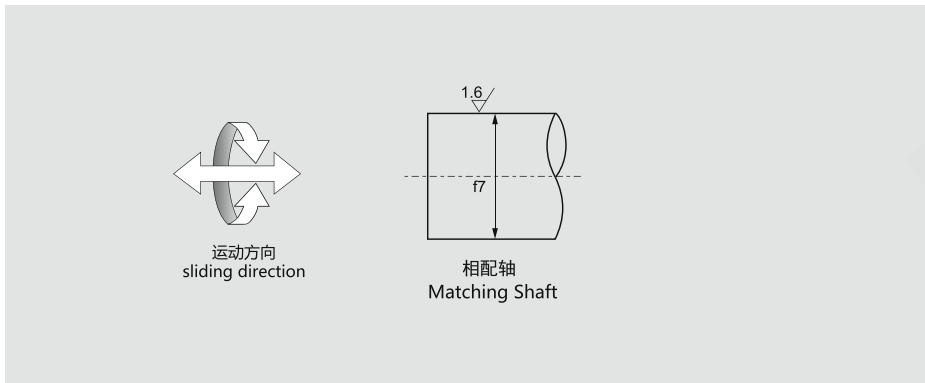
请从适用的内径、外径、长度中选择零件号  
(例) 内径 20mm、外径 30mm、长度 15mm 的情况下

Ordering Code(example) **E-20B-203015**

内径 Inner diameter		外径 Outer diameter		长度 Length <sup>-0.1</sup> / <sub>-0.3</sub>						
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	"							



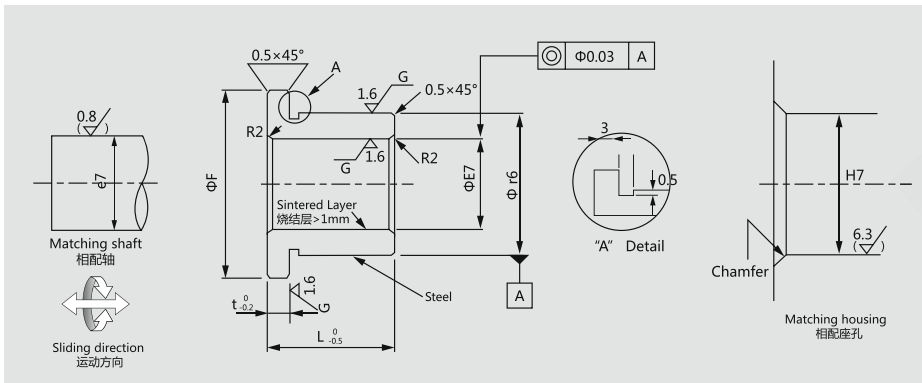
## 2.2 E-20B 钢背多孔固体润滑剂分散型自润滑轴套 E-20B Oil-Retaining Bimetallic Bearing(steel backing+copper sinter with solid lubricating dispersed)



长度 Length <sup>-0.1</sup> / <sub>-0.3</sub>									
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



## 2.3 E-20F 法兰轴套 E-20F Flanged Bushes



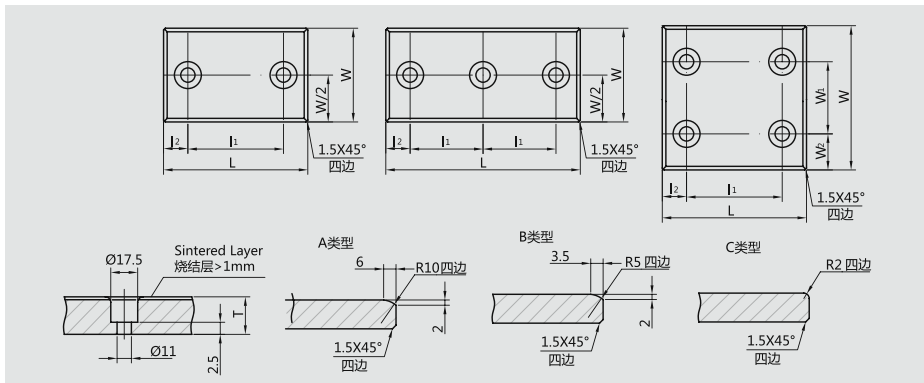
请从适用的内径、长度中选择零件号（例）内径 20mm、长度 30mm 的情况下

Ordering Code(example) **E-20F-2030**

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



2.4 E-20P20 滑板  
E-20P20 Wear Plate ( T: 20mm )



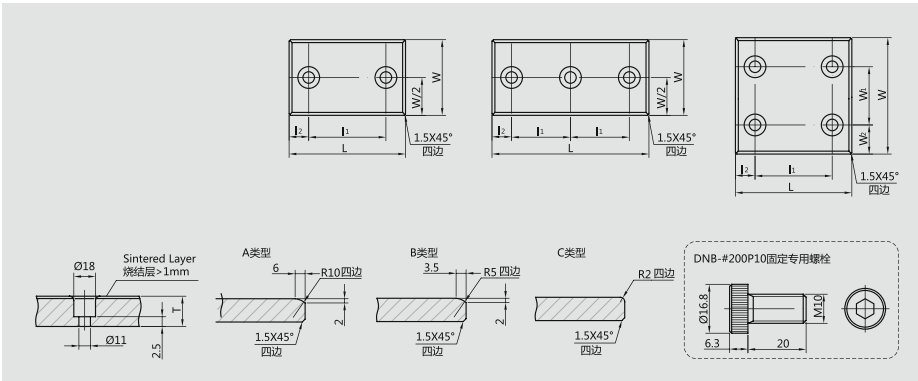
请从适用的厚度、宽度、长度中选择零件号 ( 例 ) 厚度 20mm、宽度 28mm、长度 75mm 的情况下

Ordering Code(example) **E-20P20-2875**

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



## 2.5 E-20P10滑板 E-20P10 Wear Plate ( T : 10mm )



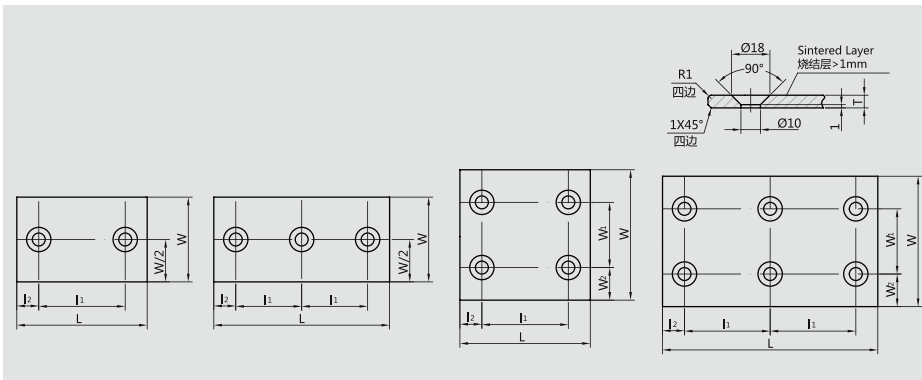
请从适用的厚度、宽度、长度中选择零件号（例）厚度 10mm、宽度 28mm、长度 75mm 的情况下

Ordering Code(example) **E-20P10-2875**

宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch					Number of Screw holes	Chamfered shape	型号 Part No.	
W	Tol.	L	Tol.	T	Tol.	W1	Tol.	W2	L1	Tol.				L2
28	<sup>-0.1</sup> / <sub>-0.3</sub>	75	<sup>-0.1</sup> / <sub>-0.3</sub>	10	± 0.01	-	-	-	45	± 0.2	15	2	C	E-20P10-2875
28	"	100	"	10	"	-	-	-	50	"	25	"	"	E-20P10-28100
28	"	125	"	10	"	-	-	-	75	"	25	"	"	E-20P10-28125
28	"	150	"	10	"	-	-	-	100	"	25	"	"	E-20P10-28150
38	"	75	"	10	"	-	-	-	45	"	15	"	"	E-20P10-3875
38	"	100	"	10	"	-	-	-	50	"	25	"	"	E-20P10-38100
38	"	125	"	10	"	-	-	-	75	"	25	"	"	E-20P10-38125
38	"	150	"	10	"	-	-	-	100	"	25	"	"	E-20P10-38150
48	"	75	"	10	"	-	-	-	45	"	15	"	B	E-20P10-4875
48	"	100	"	10	"	-	-	-	50	"	25	"	"	E-20P10-48100
48	"	125	"	10	"	-	-	-	100	"	25	"	"	E-20P10-48125
48	"	150	"	10	"	-	-	-	100	"	25	"	"	E-20P10-48150
48	"	200	"	10	"	-	-	-	100	"	50	"	"	E-20P10-48200
48	"	250	"	10	"	-	-	-	45	"	25	3	"	E-20P10-48250
75	"	75	"	10	"	-	-	-	25	"	25	2	A	E-20P10-7575
75	"	100	"	10	"	-	-	-	50	"	25	"	"	E-20P10-75100
75	"	125	"	10	"	-	-	-	75	"	25	"	"	E-20P10-75125
75	"	150	"	10	"	-	-	-	100	"	25	"	"	E-20P10-75150
75	"	200	"	10	"	-	-	-	150	"	25	"	"	E-20P10-75200
75	"	250	"	10	"	-	-	-	100	"	25	3	"	E-20P10-75250
75	"	300	"	10	"	-	-	-	100	"	50	"	"	E-20P10-75300
100	"	100	"	10	"	50	± 0.2	25	50	"	25	4	"	E-20P10-100100
100	"	125	"	10	"	"	"	"	75	"	25	"	"	E-20P10-100125
100	"	150	"	10	"	"	"	"	100	"	25	"	"	E-20P10-100150
100	"	200	"	10	"	"	"	"	150	"	25	"	"	E-20P10-100200
100	"	250	"	10	"	"	"	"	200	"	25	"	"	E-20P10-100250
100	"	300	"	10	"	"	"	"	200	"	50	"	"	E-20P10-100300
125	"	125	"	10	"	"	"	37.5	75	"	25	"	"	E-20P10-125125
125	"	150	"	10	"	"	"	"	100	"	25	"	"	E-20P10-125150
125	"	200	"	10	"	"	"	"	150	"	25	"	"	E-20P10-125200
125	"	250	"	10	"	"	"	"	200	"	25	"	"	E-20P10-125250
125	"	300	"	10	"	"	"	"	200	"	50	"	"	E-20P10-125300
150	"	150	"	10	"	100	"	25	100	"	25	"	"	E-20P10-150150
150	"	200	"	10	"	"	"	"	150	"	25	"	"	E-20P10-150200
150	"	250	"	10	"	"	"	"	200	"	25	"	"	E-20P10-150250



## 2.6 E-20P5滑板 E-20P5 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) **E-20P5-2250**

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





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