EPEN BEARING

欧本轴承

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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 forfront 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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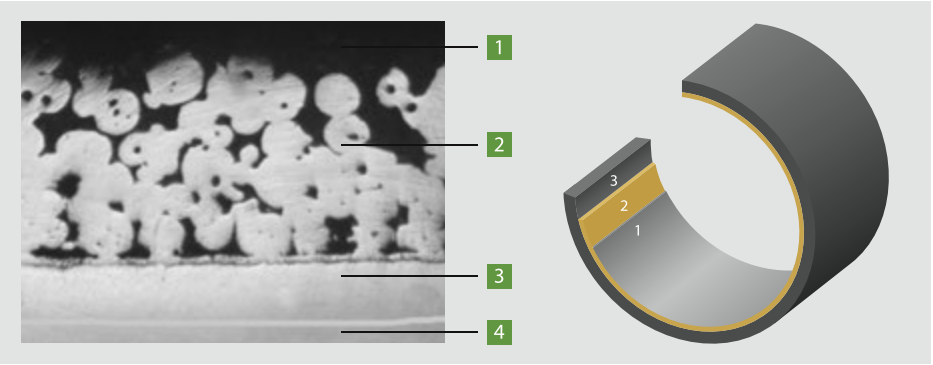
1 轴承材质 Bushing Material

1.1 EU 产品介绍 EU Brief Description

EU 是用碳钢基材、青铜粉、聚四氟乙烯、纤维等材料经过特殊工艺制造而成的自润滑产品，具有环保的特点。它不仅具有一定的化学性能，同时具有良好的物理性能和机械性能，可应用在各种机械的滑动、转动、摆动及直线往复运动部位，工作时具有自润滑、耐磨损、摩擦系数低、走合性能好、噪音低等特点。

EU tri-layer maintanence-free bushing have a base of lower carbon steel, onto which a porous bronze layer is sintered. PTFE mixtures are impregnated into the intersice of this bronze layer after rolling process completed. Eu has good physical & mechanical properties, also has certainly chemical properties. It is suitable for rotary, oscillating movement with performance of self-lub. Anti-wear, lower firction, lower noise.

1.1[1] EU 产品结构及工作机理
EU Structure



1 自润滑层，厚度为0.01~0.03mm，是聚四氟乙烯与纤维等减摩材料的混合物，通过制板工艺进入铜粉组织内部和覆在铜层表面。作为工作面，工作中形成转移膜，可以显著地降低摩擦系数及很好的保护对磨部件。

2 青铜粉层，作为自润滑层的附着体。

3 低碳钢层，工作中起到良好的承载和散热作用。

4 镀铜/锡层，具有良好的耐腐蚀性。

1 Self-lub. Layer PTFE Mixture 0.01-0.03mm. After rolling process completed, PTFE mixtures are filled in intersice of bronze layer. Under normal operation, Part of PTFE mixture on top layer will be removed and transferred on the mating surface, forms a physically lubricating film, which will reduced the firction coe. and protect the mating shaft.

2 Porous Bronze layer;
The layer provides bonded strength of Self-Lub. Layer.

3 Steel Backing
The layer provides load & thermal conductivity

4 Copper / Tin layer

1.1[2] EU 产品技术参数
EU Material Characteristics

最大承载 P	**Max. Load Capacity**		
静载	Static Load	N/mm^2	250
动载	Dynamic Load	N/mm^2	140
最高线速度 V	**Max. Speed**		
干式运行	Dry Running	m/s	2.0
液体运行	Hydrodynamic Operation	m/s	>2
最高PV值(干摩擦)	**Max. PV Value**		
短期	Short-Term Operation	$N/mm^2 \cdot m/s$	3.6
连续	Continuous Operation	$N/mm^2 \cdot m/s$	1.8
摩擦系数	**Coefficient of Friction**	μ	0.03~0.25
使用温度	**Operation Temperature Range**	℃	-195~280
导热系数	**Thermal Conductivity**	$W(m \cdot k^{-1})$	42
热膨胀系数	**Coefficient of Thermal Expansion**	λ_{ST}	$11 \cdot 10K^{-1}$

1.1[3] EU 产品类别
EU Materiace Category

1.1[4] EU 产品耐化学性能表
EU Material Chemical Characteristic

轴承型号 Type	淡水 Water	海水 Sea Water	空气 Air	碱溶液 Alkaline Solutions	中性溶剂 Neutral Solutions	油润滑 Fuels & Lubricatis	强酸 Strong Acid	弱酸 Weak Acid
EU	□	▲	□	□	★	★	▲	▲
EU G	□	▲	□	□	★	★	▲	▲
EU H	□	▲	□	□	★	★	▲	▲
EU S	□	▲	□	□	★	★	▲	▲
EU B	□	□	□	□	★	★	□	□
EU 304/316	□	□	□	□	★	★	□	□
EX	□	□	□	□	★	★	▲	▲

★ 良好 Good　□ 一般 Common　▲ 差 Poor

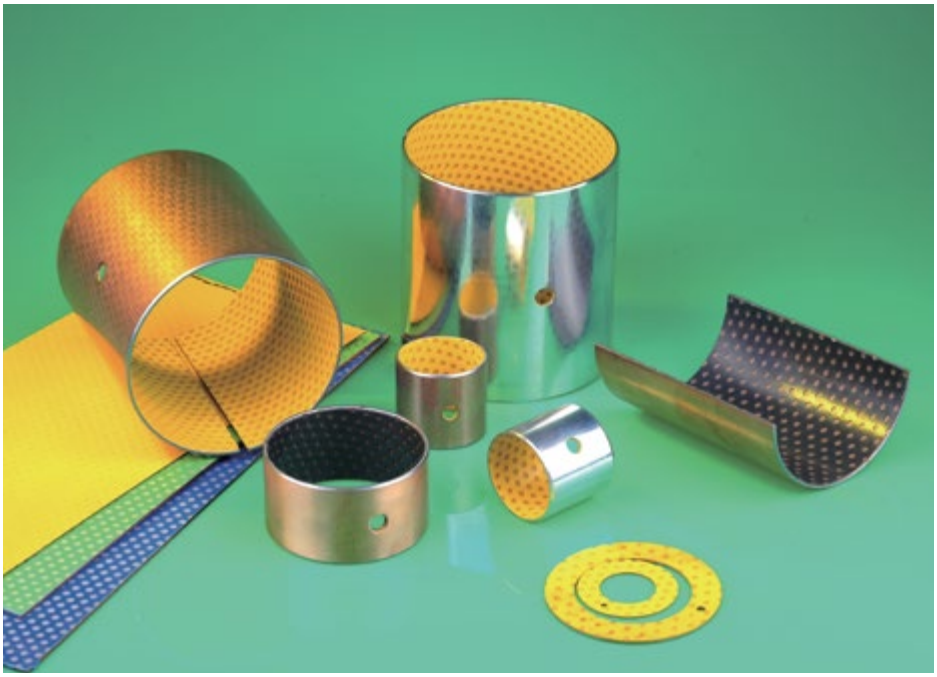
1.2 EU R 产品介绍
EU R Brief Description

该产品以青铜丝网为基体，通过特殊工艺，表面轧制聚四氟乙烯和亲油性纤维。它具有较低的摩擦系数、较好的耐磨性以及柔软性好。产品广泛应用于纺织机械关节轴承、汽车门铰链、汽车操纵杆等场合。

EU R is two-layer structure, which consists of a bronze mesh Laminated with PTFE Tape. The weight of fininal products is lighter and easy to install due to advantages of this structure. Automotive door hinges is one of typical applications.

1.2[1] EU R 产品技术参数
EU R Material Characteristics

最大承载 P	**Max. Load Capacity**		
静载	Static Load	N/mm^2	80
动载	Dynamic Load	N/mm^2	40
最高线速度 V	**Max. Speed**		
干式运行	Dry Running	m/s	1
液体运行	Hydrodynamic Operation	m/s	>1
摩擦系数	**Coefficient of Friction**	μ	0.03~0.25
使用温度	**Operation Temperature Range**	℃	-195~260

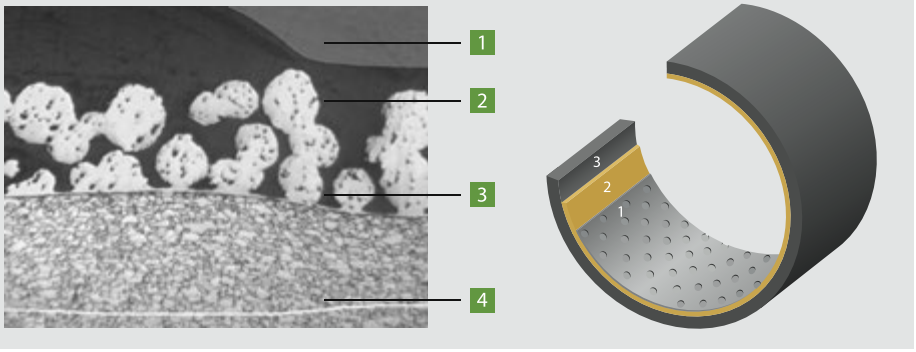


1.3 EX 产品介绍
EX Brief Description

EX 是用碳钢基材、青铜粉、改性聚甲醛等其它润滑剂材料经过特殊工艺制造而成的边界无铅自润滑产品，具有环保的特点。它不仅具有一定的化学性能，同时具有良好的物理性能和机械性能，可应用在各种低速中载，取代传统轴承的滑动、转动、摆动及直线往复运动部位，因减磨层表面有储油孔便于装配前涂抹油脂，工作时具有摩擦系数低、走合性能好、耐磨损等特点。

EX tri-layer low maintanence plain bushing have a base of lower carbon steel, onto which a porous bronze layer is sintered. Acetalcopolyer (POM) is impregnated into the intersice of this bronze layer after rolling process completed. Lubrication indents are stamped into this layer. EX has good physical & mechanical properties, also has certainly chemical properties. This material has good machining performance if required.

1.3[1] EX 产品断面微观组织及工作机理
EX Material



1 减摩层，厚度为0.3~0.5mm，是聚甲醛与润滑剂等减摩材料的混合物，通过制板工艺进入铜粉组织内部和覆在铜层表面。工作面表层有储油孔，可以显著地降低摩擦系数及很好的保护对磨部件。

2 青铜粉层，作为自润滑层的附着体。

3 低碳钢层，工作中起到良好的承载和散热作用。

4 镀铜层，具有良好的耐腐蚀性。

1 Self-lub. Layer POM 0.3-0.5mm.
After rolling process completed, POM are filled in intersice of bronze layer, lubrication indents are stamped, which are full of oil grease, which will be removed and transferred on the mating surface, forms a physically lubricating film, which will reduced the firction coe. and protect the mating shaft.

2 Porous bronze layer;
The layer provides bonded strength of self-lub. Layer.

3 Steel Backing
The layer provides load & thermal conductivity

4 Copper / Tin layer.

1.3[2] EX 产品技术参数
EX Material Characteristics

最大承载 P	**Max. Load Capacity**		
静载	Static Load	N/mm^2	250
动载	Dynamic Load	N/mm^2	140
最高线速度 V	**Max. Speed**		
预润滑	Pre-Lubricated	m/s	2.0
油脂润滑连续	Oil Grease Lubrication Continuous Operation	m/s	>2.0
最高PV值(干摩擦)	**Max. Pv Value**	$N/mm^2 \cdot m/s$	2.8
摩擦系数	**Coefficient of Friction**	μ	0.05~0.20
使用温度	**Operation Temperature Range**	℃	-40~110
导热系数	**Thermal Conductivity**	$W(m \cdot k^{-1})$	42
热膨胀系数	**Coefficient of Thermal Expansion**	λ_{ST}	$11 \cdot 10K^{-6}$

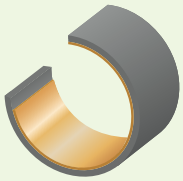
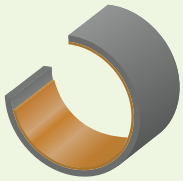
※ 推荐在装配时内孔涂润滑油脂 Initial pre-lubrication at assembly is necessary.

1.4 EMT 产品介绍 EMT Brief Description

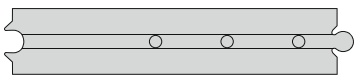
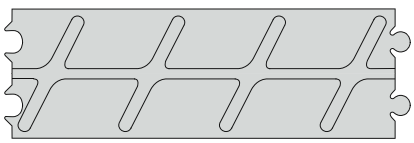
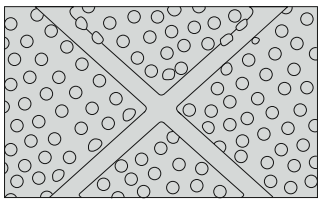
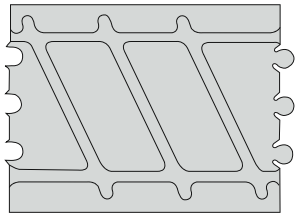
EMT 双金属系列产品是用碳钢为基材，表面烧结青铜粉或轧制铝锡合金。工作表面可以设计排布油槽或油穴以适应有油条件下润滑工作。EMT双金属可以代替一般滑动部件的铜套，具有薄壁，重量轻的特点,有较好的耐疲劳强度和承载能力。

EMT bi-metallic bushing is formed from steel strips with alloy lining material. The alloy lined surface can be machined oil grooves, holes, formed Indentations etc according to different application. It is suitable for high load, lower speed oscillation & rotation movement.

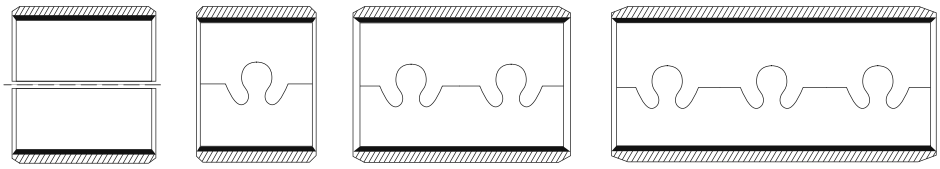
1.4² EMT 双金属轴承技术参数
EMT Bimetallic Material Characteristics

技术参数 Data	型号 Part No	EMT-1	EMT-2	EMT-3	EMT-4
EMT 产品结构 EMT Structure					
		钢 **Steel + $CuPb_{10}Sn_{10}$**	钢 **Steel + $CuPb_{24}Sn_4$**	钢 **Steel + $CuPb_{30}$**	钢 **Steel + $AlSn_{20}Cu$**
相应代号	**Corresponding Code**	SAE-792(SAE797). JIS-LBC3.	SAE-799. JIS-LBC6.	SAE-48. JIS-KJ3	SAE-783. JIS-AJL.
		Clevite F100. GGB-SY. Daido L10. Federal Mogul HF-2F. Glyco 66.	Daido L23. Glyco 68		Federal Mogul TR-20. Glyco 74.
最大承载压力P	**Max Load Capacity P**	150N/mm²	130N/mm²	120N/mm²	100N/mm²
脂润滑	**Greaes Lubrication**				
最大线速度 V	Max Speed	2.5m/s	2.5m/s		
最高PV值	Maximum PV Value	2.8N/mm² · m/s	2.8N/mm² · m/s	2.5N/mm² · m/s	
摩擦系数u	Coefficient of friction	0.05~0.15	0.06~0.16		
流体(油)润滑	**(Oil)Lubrication**				
最大线速度 V	Max Speed	10m/s	10m/s	15m/s	25m/s
最高PV值	Maximum PV Value	10N/mm² · m/s	10N/mm² · m/s	8N/mm² · m/s	6N/mm² · m/s
摩擦系数u	Coefficient of friction	0.05~0.12	0.05~0.15	0.06~0.17	0.06~0.17
最高温度	**Max Working Temperature**				
脂润滑	Greaes Lubrication	150℃	150℃	170℃	150℃
流体润滑	Lubrication	250℃	250℃	250℃	250℃
合金硬度	Alloy Hardness	60~100HB	45~70HB	30~45HB	30~40HB

1.4³ EMT 产品润滑设计
EMT Lubrication Design


1.4[4] EMT 产品搭口形式
EMT Split Gap Design



1.4[5] EMT 产品油孔设计
EMT Oil Hole Design

在产品设计中，如使用以下推荐油孔，能使EMT产品在使用中得到充分的油润滑。如无特殊要求，此油孔设计亦可适用。

Oil Hole is necessary to design if EMT have lubricated sufficiently; the following oil hole design is recommended, which is also suitable for EMT series without special requirements.

轴套外经 (D) Bushing O.D. (D)	Φ14 > D ≤ 22	Φ22 > D ≤ 40	Φ40 > D ≤ 50	Φ50 > D ≤ 100	Φ100 > D ≤ 180
油孔直径 (mm) Oil Hole Diameter (mm)	3	4	5	6	7

油孔的位置应避开接缝和承载区域，并应有利于进油。

Oil hole location should keep away from the split gap & loading area, and in favor of oil-taking.

1.4[6] EMT 产品运用
EMT Application

EMT-1	有很高的耐疲劳强度，高承载能力，高的抗冲击能力及耐磨损，适用于中载，中到高速的场合如齿轮箱，摇臂轴套，主梢，传动装置，普通轴套等 Advantageous in high load carrying capacity, anti-impact, lower wear. Suitable for Mid-load capacity & Mid-higher Sliding velocitie . Bushings for Gearbox, Rocker arm, King Pin, transmission etc.
EMT-2	有较高的抗疲劳强度、承载能力及抗冲击力、有较好的表面滑动性能，产品适用于中速、中载。表面镀软合金时可用于高速内燃机主轴套和连杆轴套。 Higher fatige strength & load carrying capacity, goos running characteristics at higher sliding velocities. Suitable for Mid-load capacity & Mid-Sliding velocitie . Bushings for lubricating oil pumps . After surface specifical treatment, Bushings for Main bushes of high speed internal-combustion engine, Connecting Rod etc .
EMT-3	有很好的滑动性能，良好的抗咬性。是一种特殊的材料，表面不适加工油槽和油穴，一般需镀镀软合金。适用于高速中低载荷的内燃机主轴套和连杆轴套轴套，也可用于液压泵，自动齿轮箱等。 Very Good sliding Characteristics, good anti-seizure property, special material, Punched oil grooves & oil pockets are not feasible. Bushings suitable for hydraulic Pump,automatic gearbox . After surface specifical treatment, bushings for main bushes of high speed, medium-low load internal-combustion engine, Connecting Rod etc.
EMT-4	有中等疲劳强度和承载能力，较好的滑动性能，产品适用于高速低载内燃机轴瓦、空压机、制冷机、准双曲面齿轮箱、液压泵、齿轮箱等。 Mid fatige strength & load carrying capacity, very good fatige strength & load carrying capacity, very good sliding characteristics . Bushings for half-bearing of high speed, lower load internal-combushtion engine, aircomressor, refrigerator, hypoid gearbox, hydraulic pump, gearbox etc.

1.5 E90 产品介绍 E90 Brief Description

E90轴承是以高密度铜合金（CuSn8）为基体材质卷制而成的具有承载能力大，耐磨性能好的特点。基于铜易加工的良好性能和先进的工装模具，E09轴承可以在带材表面加工出适应各种工况条件的油穴(标准产品为菱形油穴)，油槽等，使轴承在使用中可储存大量的润滑油脂，在工作初期形成油膜，降低摩擦系数，工作中延长加油间隔周期，有效提高轴承使用寿命。与传统的铜套相比，E90轴承具有密度高、薄壁、低重、负载压力大、长寿命，经济等优点，主要应用于农业机械、森林机械、工程机械、采矿机械等领域。

E90 bronze wrapped bushings are made of entirely bronze CuSn8. Because of material properties, the working surface rolled with diamond Indentations (standard Indentations) or stamped oil grooves according to detailed application. And it also has good Performance of anti-corrosion caused by chemical and environments. During the operation, the grease & oil will be released from the Indentations, which allow for long-term lubrication. Compare with Machined bronze bearings; E90 can offer some advantages including thin wall, lower weight, cheaper cost, high load etc. It is suitable for high load, lower speed application like construction, Transport, and agriculture machinery.

1.6 E92 产品介绍 E92 Brief Description

E92 轴承是以（CuSn8）为基体材质，表面排布规则的油孔，可在装配前或装配后涂抹油脂，以便在工作中易形成转移油膜，降低摩擦系数。具有油脂储存量大、免维护周期长等优点。产品被广泛应用于农业机械、森林机械、工程机械等。

E92 is deriving from E90; the difference between E90 & E92 is Indentations on working surface, which substituted by Through-holes. Theses holes will allow greater capacity to collect lubricant, which build up a lubrication film at the start of movement and reduce the frication. It is suitable for high load, lower speed application like construction, Transport, and agriculture machinery.

1.6[1] E90/E92 产品化学成分
E90/E92 Chemical Composition

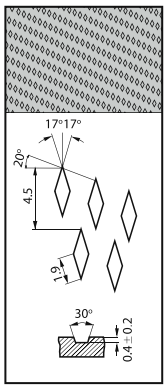
型号 Part No	材料 Material	铜 Cu	锡 Sn	磷 P	铅 Pb	锌 Zn
E90	CuSn8	91.3%	8.5%	0.2%	/	/
E92	CuSn8	91.3%	8.5%	0.2%	/	/

1.6[2] E90/E92 产品技术参数
E90/E92 Material Characteristics

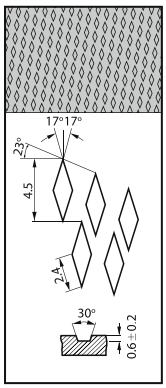
最大承载 P	**Max. Load Capacity**		
静载	Static Load	N/mm^2	120
动载	Dynamic Load	N/mm^2	40
最高线速度 V	**Max. Speed**		
E90		m/s	2.0
E92		m/s	>2.5
最高PV值	**Max. PV Value**	$N/mm^2 \cdot m/s$	2.8
抗拉强度	Tensile Strength	N/mm^2	450
抗压强度	Yiled Point	N/mm^2	250
硬　　度	Hardness	HB	90-120
延 伸 率	Elongation		40%
摩擦系数	**Coefficient of Friction**	μ	0.08~0.25
使用温度	**Operation Temperature Range**	℃	-100~200
导热系数	**Thermal Conductivity**	W/(m · k)	60
热膨胀系数	**Coefficient of Thermal Expansion**	k^{-1}	15×10^{-6}

1.6[3] E90/E92 标准油穴/油孔
E90/E92 Oil Indentations/Holes

E90

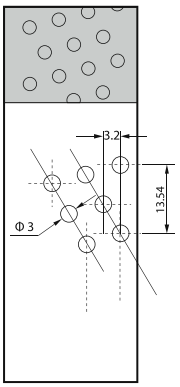


菱形油穴内孔<Φ22
Diamond Indentations
Inter Diameter <Φ22

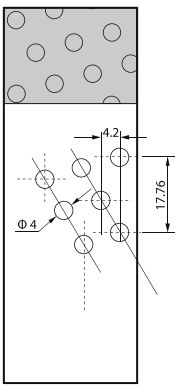


菱形油穴内孔≥Φ22
Diamond Indentations
Inter Diameter ≥Φ22

E92



圆形油孔内孔≤Φ25
Spherical Holes
Inter Diameter ≤Φ25



圆形油孔内孔>Φ25
Spherical Holes
Inter Diameter >Φ25

2 轴承的选型、接触面形式、装配 Bushing Design, Mating Surface, Install

2.1 轴承的选型 Bushing Design

与轴承寿命有关的六个因素:

(1) 载荷 P [N/mm^2] Load

载荷越大，轴承使用寿命越短；载荷波动越大，对轴承寿命的影响也越大，轴承寿命越短；无论在任何情况下，最大载荷不可超过理论最大允许负载值。载荷大小等于实际工作载荷除以轴承的投影面积，公式为P=F/(D*B)。

(2) 速度 V [m/s]与PV 值

Velocity V & PV Value

轴承的工作寿命取决于PV值的大小，即实际负载 P [N/mm^2] 与滑动速度 V [m/s]乘积，PV值越小，轴承寿命越长。

(3) 温度 T [°C]

Tempture

轴承的寿命也取决于轴承使用时的温度，因此在设计选型时应尽量考虑相关部件的散热特性。

(4) 对磨部件的表面粗糙度

Ra [μ m] Roughness of Mating Surface

与轴承对磨的部件接触面粗糙度应在Ra0.2~Ra0.8之间，轴承在装配和使用的过程中不可有锐利的介质损坏轴承的工作表面。

(5) 对磨部件表面材料，对磨部件表面粗糙度是影响轴套使用寿命的一个因素，一般情况下某表面要求达到≤0.4 μ m ka。

(6) 其他因素如轴承座的设计、润滑条件等

Factors of bushing service life:

(1) Operation load is an important factor for bushing service life, and steady load is beneficialful for it. Generially, the specific load determined by the type of loading, and should not exceed theorial value. Specifica load obtained from operation load divided by the projected are a of bushing.

(2) Bushing service life determined by PV Valve, PV= PxV.

PV value is samller, service life of bushing is longer.

(3) Environment tempture and Thermal

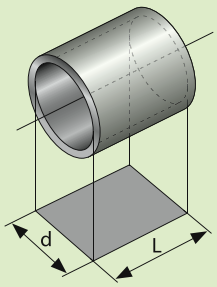
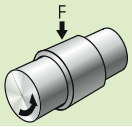
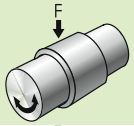
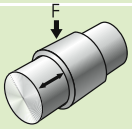
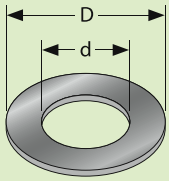
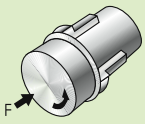
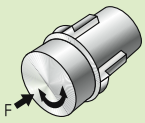
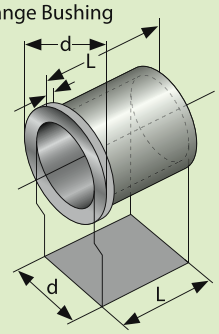
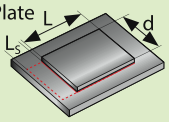
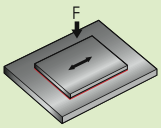
Generated from the different movements like Oscillating, rotary & reciprocating will influence the bushing service life. The resions has higher thermal expansion rate with poor thermal conductivity. It is necessary to control the bushing size and clearance.

(4) The roughness of maiting surface should be Ra 0.2-Ra 0.8. During the process of installing, the sharp or burrs etc forbidden to damge the mating surface.

(5) Material of Mating Surface will effected serrice life of bushing the mating surface finish should ≤0.4 μ m ka.

(6) Other Factors like Design of housing, Lubrication condition etc

2.2 PV值 PV Value

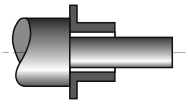
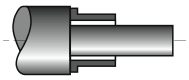
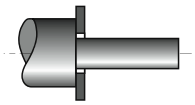
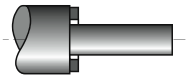
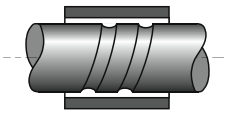
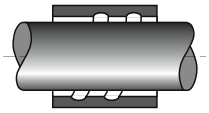
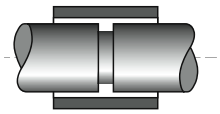
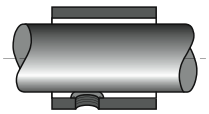
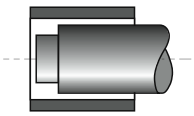
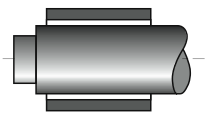
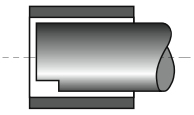
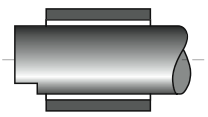
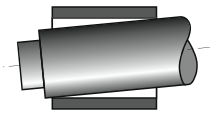
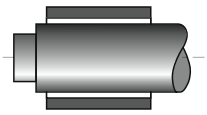
轴套 BUSHING		压力 PRESSURE, P PN/mm² {kgf/cm²}	速度 VELOCITY, V m/s {m/min}	PV值 PV Value N/mm²*m/s {kgf/cm²*m/min}
直套 Sleeve Bushing 	1.径向单向旋转 Rotating motion in single direction of radial journal 	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{\pi dn}{10^3}$ $\left\{\frac{\pi dn}{10^3}\right\}$	$\frac{\pi Fn}{10^3L}$ $\left\{\frac{\pi Fn}{10L}\right\}$
	2.摇摆运动 Oscillating motion 	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{dC\,\theta}{10^3}$ $\left\{\frac{\pi dc\,\theta}{180\times10^3}\right\}$	$\frac{FC\,\theta}{10^3L}$ $\left\{\frac{\pi Fc\,\theta}{180\times10^2L}\right\}$
	3.往复运动 Reciprocating motion 	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{2cS}{10^3}$ $\left\{\frac{2cS}{10^3}\right\}$	$\frac{2FcS}{10^3dL}$ $\left\{\frac{FcS}{5dL}\right\}$
止推垫片 Thrust Washer 	1.旋转 Rotating motion 	$\frac{4F}{\pi(D^2-d^2)}$ $\left\{\frac{400F}{\pi(D^2-d^2)}\right\}$	$\frac{\pi Dn}{10^3}$ $\left\{\frac{\pi Dn}{10^3}\right\}$	$\frac{4FDn}{10^3(D^2-d^2)}$ $\left\{\frac{4FDn}{10(D^2-d^2)}\right\}$
	2.摇摆运动 Oscillating motion 	$\frac{4F}{\pi(D^2-d^2)}$ $\left\{\frac{400F}{\pi(D^2-d^2)}\right\}$	$\frac{DC\,\theta}{10^3}$ $\left\{\frac{\pi Dc\,\theta}{180\times10^3}\right\}$	$\frac{4FDC\,\theta}{10^3\pi(D^2-d^2)}$ $\left\{\frac{4FDc\,\theta}{180\times10(D^2-d^2)}\right\}$
翻边轴套 Flange Bushing 	1.直套 Sleeve Bushing	翻边直套承载计算用上述直套承载计算公式，但L=l+t。 Use above formulas for sleeve bushing (L=l+t)	翻边直套轴速度计算用上述直套速度计算公式。 Use above formulas for sleeve bushing	翻边直套轴PV值计算用上述直套PV值计算公式。 Use above formulas for sleeve bushing
	2.法兰面 Flange surface	翻边法兰面承载计算按上述垫片承载计算公式。 Use above formulas for thrust whsher	翻边法兰面速度计算按上述垫片计算公式。 Use above formulas for thrust whsher	翻边法兰面PV值计算按上述垫片PV值计算公式。 Use above formulas for thrust whsher
滑块 Slide Plate 	1.往复运动 Reciprocating motion 	$\frac{F}{BL}$ $\left\{\frac{10^2F}{WL}\right\}$	$\frac{2cS}{10^3}$ $\left\{\frac{2cS}{10^3}\right\}$	$\frac{2FcS}{10^3BL}$ $\left\{\frac{FcS}{5WL}\right\}$

F：承载 load ..... N {kgf}
N：转速 Rotations ..... S-1{rpm}
c：往复圆周速度或摇摆 Cylindrical velocity of reciprocating or oscillating motion ..... S-1{cpm}
S：往复运动距离 Stroke distance ..... m {mm}
θ：摇摆角度 Oscillating angle ..... rad { }
d：轴套内径 Bushing ID ..... mm {mm}
D：轴套外径 Bushing OD ..... mm {mm}
L：轴套长度 Bushing length ..... mm {mm}
W：板材或滑动宽度 Stirp/Slide way width ..... mm {mm}

3 轴套装配 Bushing Installation

3.1 轴套接触面设计 Bushing Arrangememt Design

错误的装配形式会破坏或缩短轴承的使用寿命，下面列出了相关的装配形式，请在设计时参考：
Wrong assemble will broken or reduced useful life the following assemble should be referred when design:

	错误 Error	正确 Correct
翻边套与轴肩接触形式 Flang Bushing & Shaft		
垫片与轴肩接触形式 Thrust Washer & Shaft		
轴套与轴的油槽形式 Bushing & Oil grooves		
润滑油槽及油孔的形式 Oil grooves & Oil hole		
轴肩与轴套的接触面形式 Bushing & Shaft		
轴槽与轴套的接触面形式 Shaft groove & Bushing		
轴与轴套的同心度装配要求 Concentricity between Shaft & Bushing		

3.2 轴套座孔设计 Housing Design

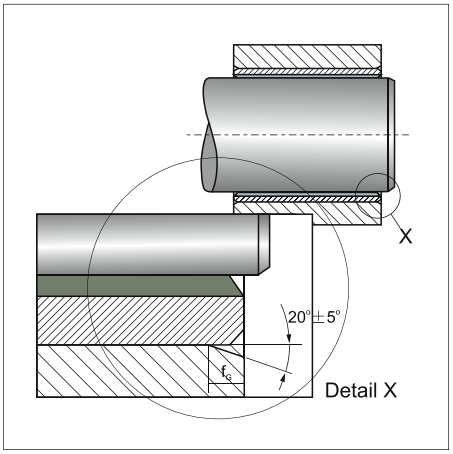
直套装配设计

为了更易于装配，轴承的座孔均应有一个倒角，如表。

Bushing

It's necessary there should have a chamfer on housing bore, it make bushing easier to be pressed into housing.

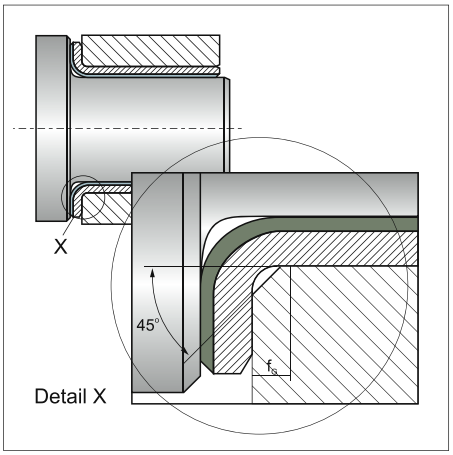
座孔 Housing bore diameter d_G	倒角 Chamfer with f_G
$d_G \leq 30$	0.8 ± 0.3
$30 < d_G \leq 80$	1.2 ± 0.4
$80 < d_G \leq 180$	1.8 ± 0.8
$180 < d_G$	2.5 ± 1.0



翻边套装配设计

Flange Bushing

座孔 Housing bore diameter d_G	倒角 Chamfer with f_G
$d_G \leq 10$	1.2 ± 0.2
$180 < d_G$	1.7 ± 0.2

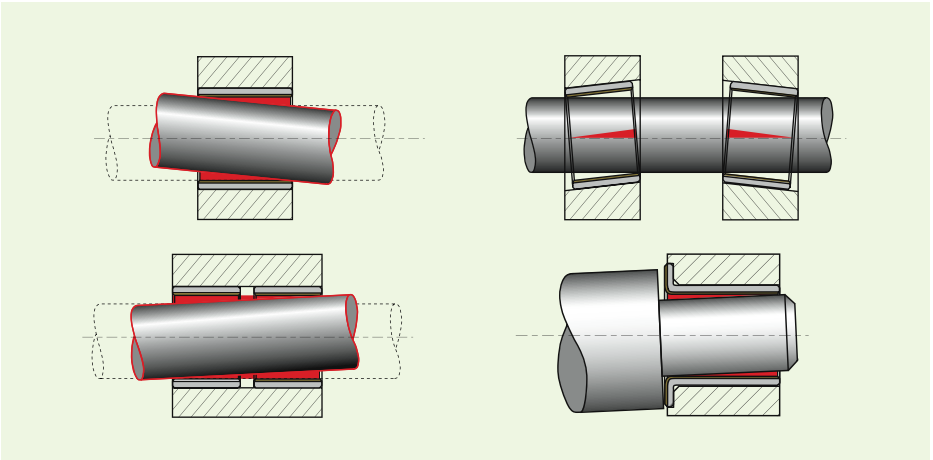


同轴度

Concentricity

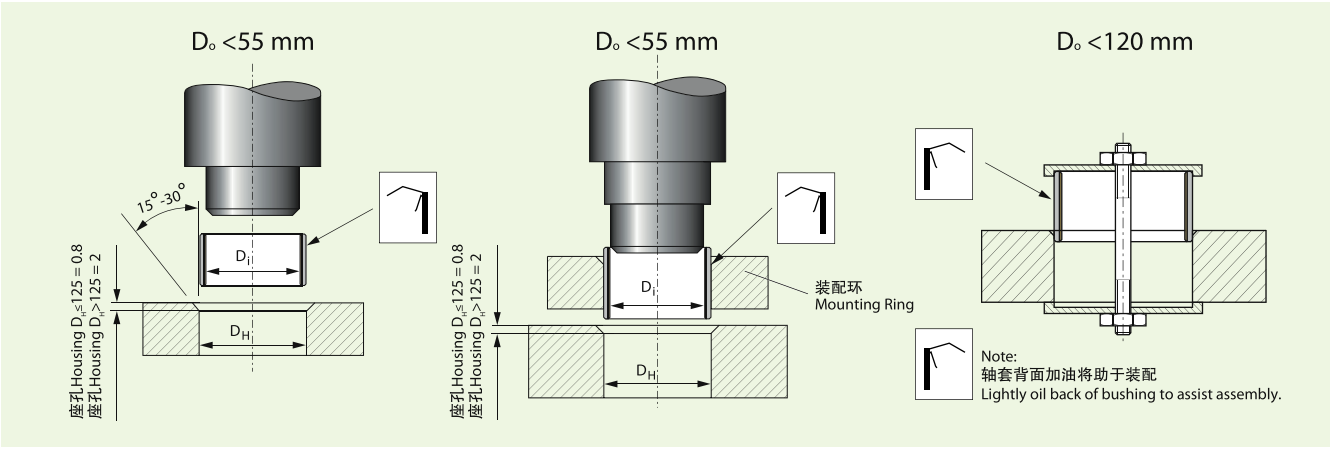
精确的同轴度对所有的轴承装配都是一个重要的考虑因素。轴承在一个轴套（或两个）长度内的不同轴度或在止推垫圈直径值内的不同轴度不应该超过0.020mm，如图所示

Concentricity is an inpontant factor for bushing installction.

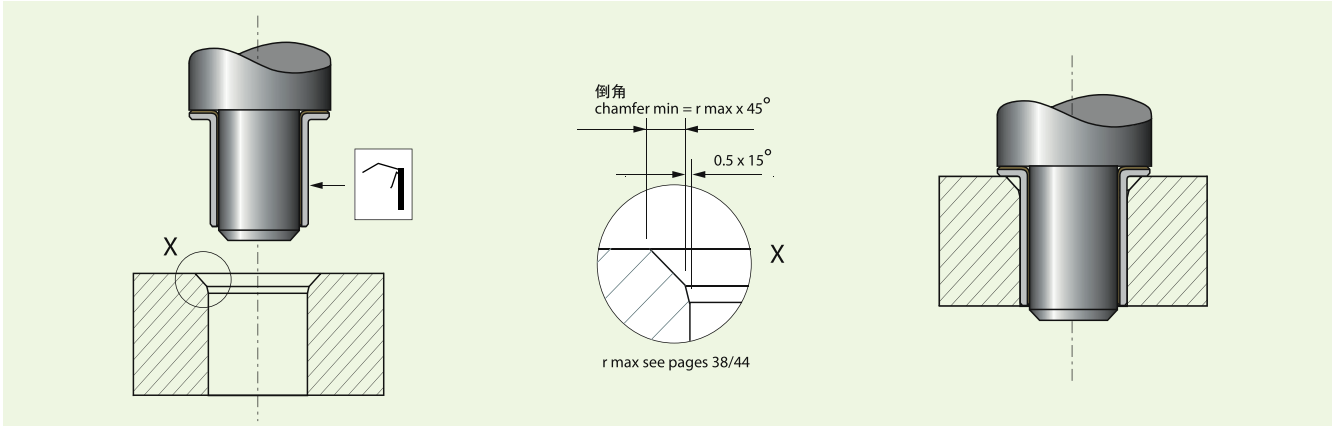


3.3 轴套压装 Bushing Installation

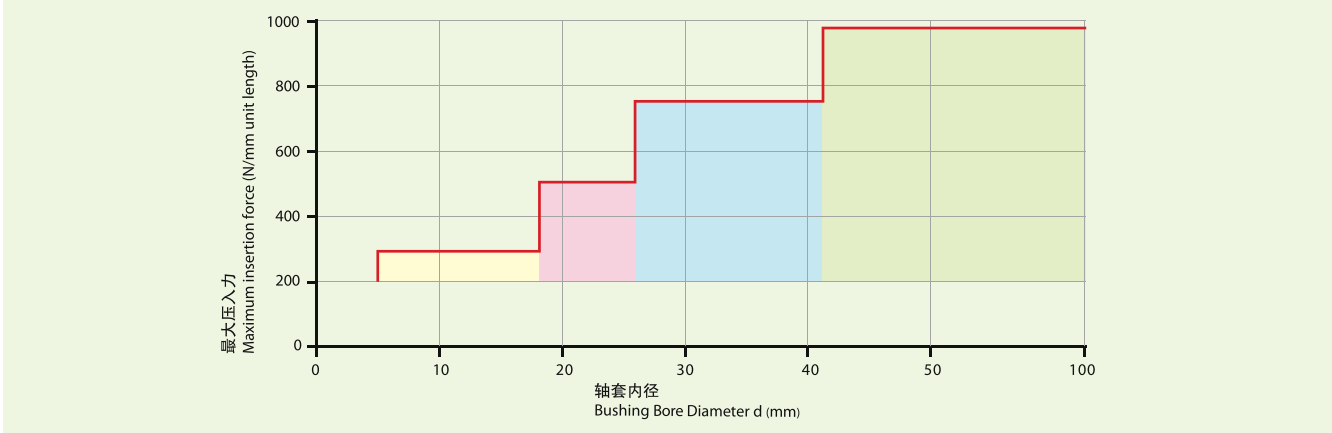
直套压装
Fitting of Cylindrical Bushing



翻边轴套压装
Fitting of Flanged Bushing



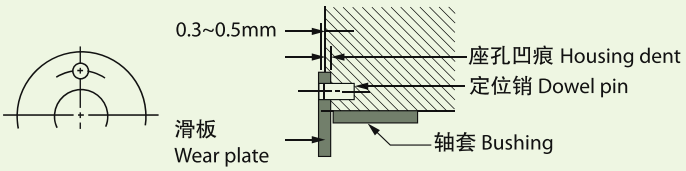
压入力
Insertion Force



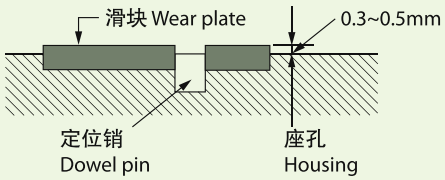
3.4 止推垫片和滑块装配
Thrust washers & Plate Installation

装配止推垫片和滑块时座孔肩有凹穴， 定位销则应用于防止产品旋转。
Housing should have hollow dents for installing thrust washer and sliding plates. Dowel pins used for prevent turning.

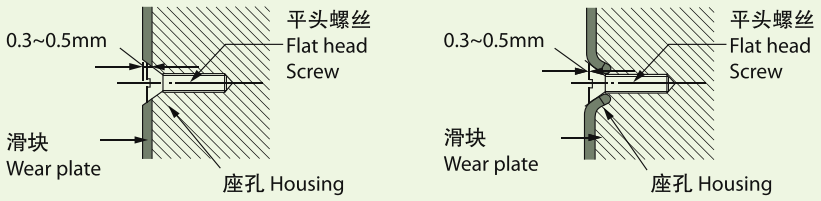
定位销应用（止推垫片）
Dowel Pin Application (Thrust Washer)



滑块镶嵌装配（滑板）
Inlaid Installation (Plate)



平头螺丝应用
Flat Head Screw Application



1 安装后，垫圈的内径不能碰到旋转轴。
After install, ID of washer can not contact shaft.

2 垫圈的钢背与轴承座相接触。
Backing of washer contact housing.

3 定位销应比止推垫圈表面下凹0.25 ~ 0.50mm。
Dowel pin should 0.25 ~ 0.50mm lower than surface of thrust washer

4 平头螺丝应比止推垫圈表面下沉0.25 ~ 0.50mm。
Flat head screw should 0.25 ~ 0.50mm lower than surface of thrust washer.

4 产品应用 Application

4.1 EU 产品应用 EU Application

由于材料的特性和性能的结合，EU产品比一般的自润轴承得到了更广泛的应用和推广。薄壁结构，体积小，重量轻，使EU轴套方便使用。基于耐磨层PTFE混合物的材料特性，EU产品适用于难维护的无法加油或难加油，无油润滑和少油润滑的场合。在使用过程中，PTFE混合物形成转移膜保护对磨轴从而避免咬轴现象。PTFE混合物具有出色的耐磨性能和低磨擦系数，还有适量的弹塑性，能将应力分布在较宽的接触面上，从而提高EU产品的承载能力(见)，所以EU产品适用于旋转，摇摆，轴向滑动等场合。

Base on the combinations of properties & performance capabilities; Eu has greater application range than other self-lubricating bearings. Thin-wall compact, lightweight, Eu bearings are economic & convenient to use. EU's PTFE-based bushing surface permits smooth, low coefficient of friction, low wear rate operation with no lubricant, no maintenance & dry running. During operation, the transfer film created will protect the mating shaft surface. EU bearings has great capacity of load & wild range of operation temperatures from-190 to 280, can be suitable for rotary, oscillating and axial sliding motion.

具体的应用。

Detailed application.

下列是有关EU轴承的部分具体应用

The following list covers some of the many types of EU bearing applications.

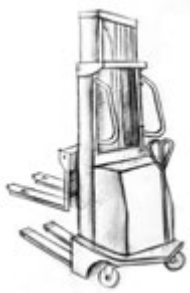
汽车工业 Automotive

在这个行业的典型的应用包括:

油门、制动、离合器踏板、反光镜调节机构、雨刮器、玻璃窗提升机构、天窗机构、操纵杆、车门铰链车门锁、安全带张紧机构、座椅调节机构、减震器、引擎减震、化油器、行李箱、引擎盖铰链、横直拉杆及球头、节流阀、驾驶杆、转向装置、弹黄钢板等。

Typical applicaiton in this area include:

accelerator linkages, brake, clutch foot pedal, reflector control, windscreen wipers, windscreen lift system, roof window system, gear level, door hinges, door lock, seat belt system, seating system, shock absorbers, engin absorbers, carburetor, trunk & bonnet hinges, suspension ball joint, throttle valves, steering columns, steering rods, king-pin assemblies etc.



农业机械和食品机械 Agricultural Machinery/Equipments

拖拉机、联合收割机、(干草、稻草等的）打包机；压捆机、肉类加工设备、土豆收获机、喷雾机、谷物干燥机、栽{种]植设备、酿造设备等。

Tractors, combine harvesters, balers, meat processing equipment, potato harvesters, crop sprayers, grain dryers, planting apparatus, brewing equipment, etc.

4.1 EU 产品应用 EU Application

工程机械、运输机械
Construction Equipments

挖掘机、液压升降机、混凝土搅拌机、叉式提升搬运车、液压缸、传动带张紧装置、起重机、砂浆车、托盘叉式起重车、气力升降机、推土机、自动扶梯、自动行人道、重型挂车、液体灌输设备、侧向装卸机等。

Excavator hydraulic lifts, concrete mixers, fork lift trucks, hydraulic cylinders, tensioning pulleys, crane, mortar vehicles, pallet fork lift trucks, pneumatic lifts, graders, escalators, moving walkways, heavy-duty trailers, Liquid filling equipment, side loader roller assemblies, power take-off units etc.

家用电器、商业电器、医院设备
Home Appliances, Hospital Equipments

空调、吸尘器、洗碗机、缝纫机、洗衣机、冰箱、复印机、打印机、扫描仪、邮件处理系统、信件分类装置、牙科设备、X射线设备、手术台等。

Air conditioners, cleaners, dish-washing machine, sewing machines, clothes washing machines, refrigerator, copy machines, auttomatic print machines, scanner, mail processing machinery, mail sorters, dental equipment, x-ray equipment, operating table etc.

液压行业
Hydraulics

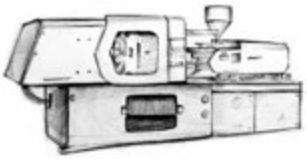
齿轮泵、水泵、活塞泵、球阀、蝶阀、混合阀、控制阀、往复式空压机、液压制动器、离心式压缩机、液压油缸等。

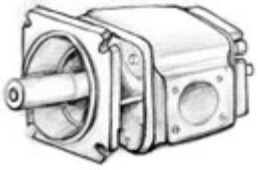
Gear pump, water pump, piston pump, ball valves, butterfiy valves, mixing valves, pilot valve, reciprocating air compressors, hydraulic actuators, centrifugal compressors, hydraulic cylinder etc.

其它应用
Other Applications

自行车、摩托车、工具、蒸纱机、往复锯、割绒机、 纺织机、编织机、纽扣机、包装系统、钉装机械设备、玻璃制造设备等。

Bike, motobicyle, hand tools, yarn & wool machinery, reciprocating saws, cutting machines, spinning machines, knitting machines, button machines, packaging system, bookbinding equipment, glass manufacturing equipments etc.





4.2 EX 产品应用 EX Application

EX轴套通常被推荐用于间断运行和边界润滑的环境中，特别是轴套内孔的油穴设计，很好的适用于不能连续不断或重复加油的场合，但在无润滑条件下，EX轴套的工作长短取决于承载，表面速度，具体的环境温度等的相互作用。同时，轴套内表面的塑料层可以在加工成型前留有余量，在装入座孔后可加工到更好的装配尺寸。

EX bushings have been recommended for application involving intermittent operation or boundary lubrication. Base on the unique lubrication-retaining pockets on surface, EX bushings are well suitable for application, where lubricant can not be supplied continuously or repeated. Under the no lubrication, the EX operating life depends on interaction of the specific load, surface velocity and temperature etc. EX bushings can be supplied as machining allowance on POM, it can be machined to Better assembly dimensions after installed into housing.

具体的应用。

Detailed application.

下列是有关EX轴承的部分具体应用

The following list covers some of the many types of EX bushing applications.

汽车工业 Automotive

悬挂系统，悬挂接头, 大王销主件，汽车驱动联合铰链，转向及连杆机构，转向及关节接头，后部底盘铰链等。

Suspension system, suspension joints, king-pin assemblies, automobile driving joint hinges, steering and other linkages, steering and articulation joints, rear chassis hinges etc.

农业机械 Agricultural Machinery/Equipments

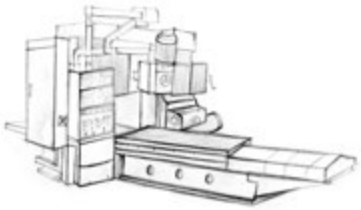
齿轮箱、离合器、收割机主销轴承、前桥支点轴承、转向托辊轴承箱、拖拉机的配件中的起重齿轮、播种设备等。

Gearbox, clutch, kingpin bearings for harvesters, front axle pivot bearings, steering idler box bearings, seeding equipment, etc.

机床制造工业 Machine Tool Building Industry

磨床、铣床、钻机主轴、精密磨床的偏心驱动单元等。

Grinding machines, milling machines, spindles in drill; Eccentric drive unit in precision grinding machines etc



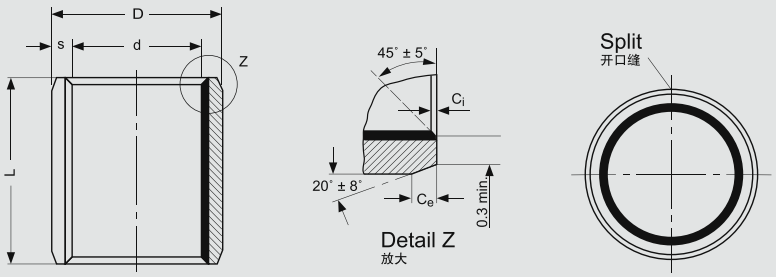
其它应用 Other Applications

油齿轮泵、旋转器支持轴承、液压泵变量斜盘耳轴轴承、液压缸和气动缸活塞杆导承、叉车变速箱、起重机变速箱和传输托链链轮、车输送机、蜗杆传动齿轮等。

Oil gear pumps, support bearings in rotary actuators; variable swash plate trunnion bearings in hydraulic pumps, piston rod guide in hydraulic and pneumatic cylinders; Transfer gearbox for forklift trucks, gearbox and in idler chain sprockets for crane transmissions, car conveyors, worm drive gear, etc.

5 规格和公差 Specification & Tolerance

5.1 EU 直套规格及公差 EU Sleeve Bushing Specification & Tolerance



尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表 Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
0.75	0.25 ± 0.15	0.50 ± 0.30
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.40	1.80 ± 0.60

直套型号标注方式 Bushing Symbol

直套型号标注方式 Bushes Symbol	EU - □	× ×	× ×
直套型号 Bushing Type			
直套内径 Bushing I.D.			
直套高度 Bushing Length			

内径 Internal Diameter (I.D.)			外径 External Diameter (O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
4	4.000 3.992	4.048 4.000	5.5	5.508 5.500		4	0.750 0.730	EU 0404
						6		EU 0406
						10		EU 0410
5	4.990 4.978	5.055 4.990	7	7.015 7.000		5	1.005 0.980	EU 0505
						8		EU 0508
						10		EU 0510
6	5.990 5.978	6.055 5.990	8	8.015 8.000	+0.055 +0.025	4		EU 0604
						6		EU 0606
						8		EU 0608
						10		EU 0610
7	6.987 6.972	7.055 6.990	9	9.015 9.000		5		EU 0705
						10		EU 0710
8	7.987 7.972	8.055 7.990	10	10.015 10.000		6		EU 0806
						8		EU 0808
						10		EU 0810
						12		EU 0812

内径 Internal Diameter(I.D.)			外径 External Diameter(O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
10	9.987 9.972	10.058 9.990	12	12.018 12.000	+0.065 +0.030	8	1.005 0.980	EU 1008
						10		EU 1010
						12		EU 1012
						15		EU 1015
						20		EU 1020
12	11.984 11.966	12.058 11.990	14	14.018 14.000		8		EU 1208
						10		EU 1210
						12		EU 1212
						15		EU 1215
						20		EU 1220
						25		EU 1225
13	12.984 12.966	13.058 12.990	15	15.018 15.000		10		EU 1310
						15		EU 1315
						20		EU 1320
14	13.984 13.966	14.058 13.990	16	16.018 16.000		5		EU 1405
						10		EU 1410
						12		EU 1412
						15		EU 1415
						20		EU 1420
						25		EU 1425
15	14.984 14.966	15.058 14.990	17	17.018 17.000		10		EU 1510
						12		EU 1512
						15		EU 1515
						20		EU 1520
						25		EU 1525
16	15.984 15.966	16.058 15.990	18	18.018 18.000		10		EU 1610
						12		EU 1612
						15		EU 1615
						20		EU 1620
						25		EU 1625
18	17.984 17.966	18.061 17.990	20	20.021 20.000	+0.075 +0.035	10		EU 1810
						15		EU 1815
						20		EU 1820
						25		EU 1825

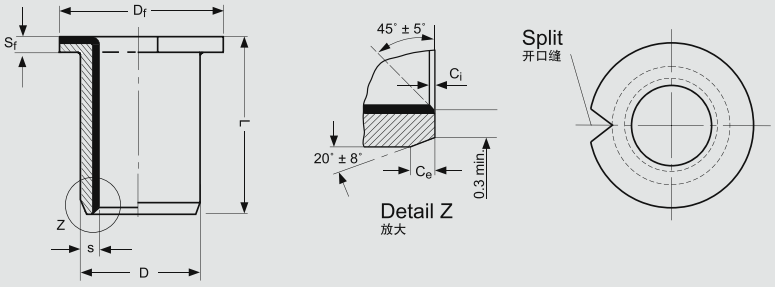
内径 Internal Diameter(I.D.)			外径 External Diameter(O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
20	19.980 19.959	20.071 19.990	23	23.021 23.000	+0.075 +0.035	10	1.505 1.475	EU 2010
						15		EU 2015
						20		EU 2020
						25		EU 2025
						30		EU 2030
22	21.980 21.959	22.071 21.990	25	25.021 25.000		15		EU 2215
						20		EU 2220
						25		EU 2225
						30		EU 2230
24	23.980 23.959	24.071 23.990	27	27.021 27.000		15		EU 2415
						20		EU 2420
						25		EU 2425
						30		EU 2430
25	24.980 24.959	25.071 24.990	28	28.021 28.000		15		EU 2515
						20		EU 2520
						25		EU 2525
						30		EU 2530
						40		EU 2540
						50		EU 2550
28	27.980 27.959	28.085 27.990	32	32.025 32.000	+0.085 +0.045	15	2.005 1.970	EU 2815
						20		EU 2820
						25		EU 2825
						30		EU 2830
30	29.980 29.959	30.085 29.990	34	34.025 34.000		10		EU 3010
						15		EU 3015
						20		EU 3020
						25		EU 3025
						30		EU 3030
						40		EU 3040
32	31.975 31.950	32.085 31.990	36	36.025 36.000		20		EU 3220
						25		EU 3225
						30		EU 3230
						35		EU 3235
						40		EU 3240

内径 Internal Diameter(I.D.)			外径 External Diameter(O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
35	34.975 34.950	35.085 34.990	39	39.025 39.000	+0.085 +0.045	20	2.005 1.970	EU 3520
						30		EU 3530
						35		EU 3535
						40		EU 3540
						50		EU 3550
40	39.975 39.950	40.085 39.990	44	44.025 44.000		12		EU 4012
						20		EU 4020
						25		EU 4025
						30		EU 4030
						40		EU 4040
						50		EU 4050
45	44.975 44.950	45.105 44.990	50	50.025 50.000		20	2.505 2.460	EU 4520
						30		EU 4530
						40		EU 4540
						45		EU 4545
						50		EU 4550
50	49.975 49.950	50.110 49.990	55	55.030 55.000	+0.100 +0.055	20		EU 5020
						30		EU 5030
						40		EU 5040
						50		EU 5050
						60		EU 5060
55	54.970 54.940	55.110 54.990	60	60.030 60.000		20		EU 5520
						25		EU 5525
						30		EU 5530
						40		EU 5540
						50		EU 5550
						55		EU 5555
						60		EU 5560
60	59.970 59.940	60.110 59.990	65	65.030 65.000		20		EU 6020
						30		EU 6030
						40		EU 6040
						50		EU 6050
						60		EU 6060
						70		EU 6070

内径 Internal Diameter(I.D.)			外径 External Diameter(O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
65	64.970 64.940	65.110 64.990	70	70.030 70.000	+0.100 +0.055	30	2.505 2.460	EU 6530
						50		EU 6550
						70		EU 6570
70	69.970 69.940	70.110 69.990	75	75.030 75.000		40		EU 7040
						50		EU 7050
						70		EU 7070
75	74.970 74.940	75.110 74.990	80	80.030 80.000		60		EU 7560
						80		EU 7580
80	80.000 79.946	80.155 80.020	85	85.035 85.000	+0.120 +0.070	60	2.490 2.440	EU 8060
						80		EU 8080
						100		EU 80100
85	85.000 84.946	85.155 85.020	90	90.035 90.000		60		EU 8560
						80		EU 8580
						100		EU 85100
90	90.000 89.946	90.155 90.020	95	95.035 95.000		60		EU 9060
						80		EU 9080
						100		EU 90100
95	95.000 94.946	95.155 95.020	100	100.035 100.000		60		EU 9560
						80		EU 9580
						100		EU 95100
100	100.000 99.946	100.155 100.020	105	105.035 105.000		50		EU 10050
						60		EU 10060
						80		EU 10080
						100		EU 100100
105	105.000 104.946	105.155 105.020	110	110.035 110.000		60		EU 10560
						80		EU 10580
						100		EU 105100
110	110.000 109.946	110.155 110.020	115	115.035 115.000		60		EU 11060
						80		EU 11080
						100		EU 110100
115	115.000 114.946	115.155 115.020	120	120.035 120.000		60		EU 11560
						70		EU 11570
120	120.000 119.946	120.210 120.070	125	125.040 125.000	+0.170 +0.100	50	2.465 2.415	EU 12050
						60		EU 12060
						100		EU 120100
125	125.000 124.937	125.210 125.070	130	130.040 130.000		60		EU 12560
						80		EU 12580
						100		EU 125100
130	130.000 129.937	130.210 130.070	135	135.040 135.000		60		EU 13060
						80		EU 13080
						100		EU 130100

内径 Internal Diameter(I.D.)			外径 External Diameter(O.D.)			高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S	
135	135.000 134.937	135.210 135.070	140	140.040 140.000	+0.170 +0.100	60	2.465 2.415	EU 13560
						80		EU 13580
						100		EU 135100
140	140.000 139.937	140.210 140.070	145	145.040 145.000		60		EU 14060
						80		EU 14080
						100		EU 140100
150	150.000 149.937	150.210 150.070	155	155.040 155.000		60		EU 15060
						80		EU 15080
						100		EU 150100
160	160.000 159.937	160.210 160.070	165	165.040 165.000		80		EU 16080
						100		EU 160100
180	180.000 179.937	180.216 180.070	185	185.046 185.000	+0.210 +0.130	80		EU 18080
						100		EU 180100
200	200.000 199.928	200.216 200.070	205	205.046 205.000		80		EU 20080
						100		EU 200100
210	210.000 209.928	210.216 210.070	215	215.046 215.000		80		EU 21080
						100		EU 210100
220	220.000 219.928	220.216 220.070	225	225.046 225.000		80		EU 22080
						100		EU 220100
250	250.000 249.928	250.222 250.070	255	255.052 255.000	+0.260 +0.170	80		EU 25080
						100		EU 250100
280	280.000 279.948	280.222 280.070	285	285.052 285.000		80		EU 28080
						100		EU 280100
300	300.000 299.919	300.222 300.070	305	305.052 305.000		80		EU 30080
						100		EU 300100

5.2 EU 翻边轴套规格及公差
EU Flange Bushing Specification & Tolerance



尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
0.75	0.25 ± 0.15	0.50 ± 0.30
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.40	1.80 ± 0.60

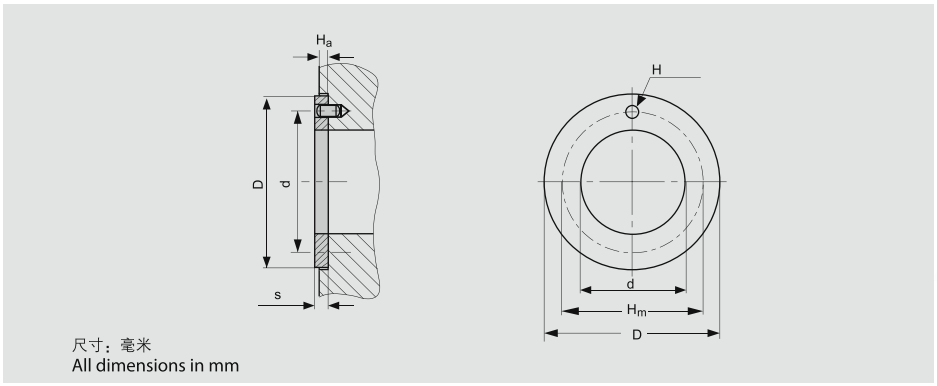
翻边套型号标注方式
Flange Bushing Symbol

翻边套型号标注方式 Flange Bushing Symbol	EU - □	F	× ×	× ×
轴承型号	Flange Bushing Type			
翻边套	Flange			
翻边套内径	Flange Bushing Inner Diameter			
翻边套高度	Flange Bushing Length			

内径 Internal Diameter			外径 External Diameter			法兰厚度 Flang Wall s_f	法兰外径 Flang Φ D_f	高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft Φ d_s	装配后内孔尺寸 Φ d_i	外径 D	装配座孔 Housing Φ D_H	理论外径公差 O.D. Φ D_t	max. min.	max. min.	L ± 0.25	S	
6	5.990 5.978	6.055 5.990	8	8.015 8.000	+0.055 +0.025	1.050 0.800	12.50 11.50	4	1.005 0.980	EU F06040
								8		EU F06080
8	7.987 7.972	8.055 7.990	10	10.015 10.000			15.50 14.50	5.5		EU F08055
								7.5		EU F08075
								9.5		EU F08095
10	9.987 9.972	10.058 9.990	12	12.018 12.000			18.50 17.50	7		EU F10070
								9		EU F10090
								12		EU F10120
								17		EU F10170
12	11.984 11.966	12.058 11.990	14	14.018 14.000	+0.065 +0.030		20.50 19.50	7		EU F12070
								9		EU F12090
								12		EU F12120
								17		EU F12170

内径 Internal Diameter			外径 External Diameter			法兰厚度 Flang Wall s_f	法兰外径 Flang Φ D_f	高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft Φ d_s	装配后内孔尺寸 Φ d_i	外径 D	装配座孔 Housing Φ D_H	理论外径公差 O.D. Φ D_t	max. min.	max. min.	L ± 0.25	S	
14	13.984 13.966	14.058 13.990	16	16.018 16.000	+0.065 +0.030	1.050 0.800	22.50 21.50	12	1.005 0.980	EU F14120
								17		EU F14170
15	14.984 14.966	15.058 14.990	17	17.018 17.000			23.50 22.50	9		EU F15090
								12		EU F15120
								17		EU F15170
16	15.984 15.966	16.058 15.990	18	18.018 18.000			24.50 23.50	12		EU F16120
								17		EU F16170
18	17.984 17.966	18.061 17.990	20	20.021 20.000			26.50 25.50	12		EU F18120
								17		EU F18170
								22		EU F18220
20	19.980 19.959	20.071 19.990	23	23.021 23.000	+0.075 +0.035	1.600 1.300	30.50 29.50	11.5	1.505 1.475	EU F20115
								16.5		EU F20165
								21.5		EU F20215
25	24.980 24.959	25.071 24.990	28	28.021 28.000			35.50 34.50	11.5		EU F25115
								16.5		EU F25165
								21.5		EU F25215
30	29.980 29.959	30.085 29.990	34	34.025 34.000		2.100 1.800	42.50 41.50	16	2.005 1.970	EU F30160
								26		EU F30260
35	34.975 34.950	35.085 34.990	39	39.025 39.000			47.50 46.50	16		EU F35160
								26		EU F35260
40	39.975 39.950	40.085 39.990	44	44.025 44.000	+0.085 +0.045		53.50 52.50	16		EU F40160
								26		EU F40260
45	44.975 44.950	45.105 44.990	50	50.025 50.000		2.600 2.300	58.50 57.50	16	2.505 2.460	EU F45160
								26		EU F45260

5.3 EU 垫片规格及公差
EU Thrust washer Specification & Tolerance



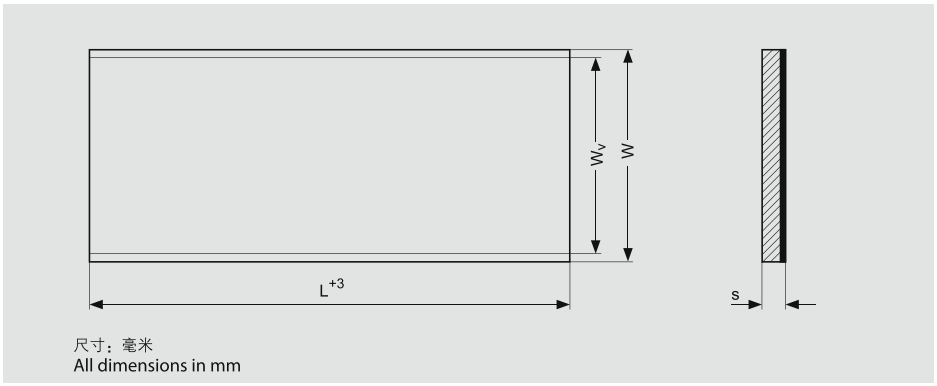
尺寸：毫米
All dimensions in mm

垫片型号标注方式
Washer Symbol

垫片型号标注方式 Washer Symbol	WC	××	EU - □
垫片 Washer			
垫片内径 Washer I. D.			
垫片型号 Washer Type			

内孔 Internal Diameter Φd		外径 External Diameter Φ D		壁厚 Thickness s	定位孔大小 Dowel Hole Φ H	定位孔中心距 Dowel Hole PCD ΦHm	装配深度 Recess Depth H_a	型号 Part No
min	max	min.	max.	max. min.	max. min.	Φ ±0.125	max. min.	
10.00	10.25	19.75	20.00	1.50 1.45	无孔 No Hole	无孔 No Hole	1.20 0.80	WC 10 EU
12.00	12.25	23.75	24.00		1.90 1.60	18		WC 12 EU
14.00	14.25	25.75	26.00		2.40 2.10	20		WC 14 EU
16.00	16.25	29.75	30.00			22		WC 16 EU
18.00	18.25	31.75	32.00			25		WC 18 EU
20.00	20.25	35.75	36.00		3.40 3.10	28		WC 20 EU
22.00	22.25	37.75	38.00			30		WC 22 EU
24.00	24.25	41.75	42.00			33		WC 24 EU
26.00	26.25	43.75	44.00			35		WC 26 EU
28.00	28.25	47.75	48.00		4.40 4.10	38		WC 28 EU
32.00	32.25	53.75	54.00			43		WC 32 EU
38.00	38.25	61.75	62.00			50		WC 38 EU
42.00	42.25	65.75	66.00			54		WC 42 EU
48.00	48.25	73.75	74.00	2.00 1.95		61	1.70 1.30	WC 48 EU
52.00	52.25	77.75	78.00			65		WC 52 EU
62.00	62.25	89.75	90.00			76		WC 62 EU

5.4 EU 板材规格及公差
EU Strip Specification

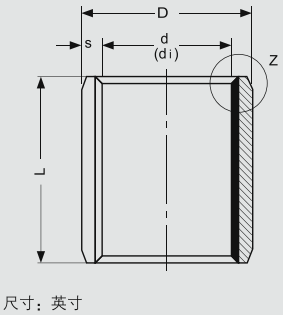


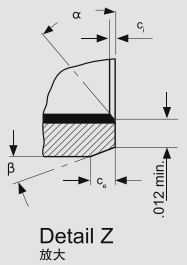
板材标注方式
Strip Symbol

板材标注方式 Strip Symbol	S	××	××	EU - □
板材 Strip				
板材厚度 Strip Wall Thickness				
板材宽度 Strip Width				
板材型号 Strip Type				

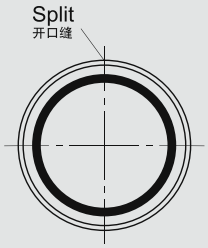
长度 Length L	宽度 Total Width W	有效宽度 Useable Width W_v	厚度 Thickness S-0.05	型号 Part No
500	160	150	0.75	S 07150 EU
500	225	215	1.00	S 10215 EU
500	254	245	1.50	S 15245 EU
500	254	245	2.00	S 20245 EU
500	254	245	2.50	S 25245 EU
500	254	245	3.00	S 30245 EU

5.4 EU 英制直套规格及公差
EU Inch Sleeve Bushing Specification & Tolerance





Detail Z
放大



尺寸：英寸
All dimensions in inch

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness	内倒角 ID Chamfer		外倒角 OD Chamfer	
	C_i	α	C_e	β
0.0315"	0.008"- 0.024"	30°- 45°	0.004"- 0.012"	30°- 45°
0.0471"	0.020"- 0.040"	20°- 30°	0.005"- 0.025"	40°- 55°
0.0627"-0.0928"	0.020"- 0.040"	15°- 25°	0.005"- 0.025"	40°- 50°

直套型号标注方式
Bushing Symbol

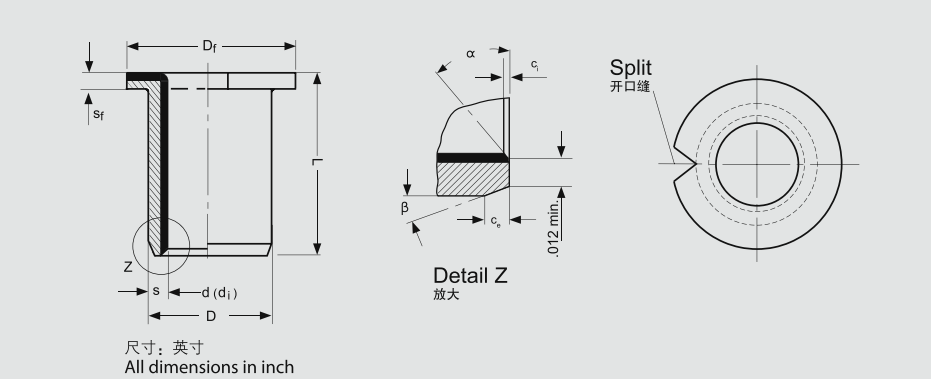
直套型号标注方式 Bushes Symbol	××	EU - □	××
直套内径 Bushing I. D.			
直套型号 Bushing Type			
直套高度 Bushing Length			

内径 Internal Diameter			外径 External Diameter		高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	L ± 0.01"	S	
3/16	0.1865 0.1858	0.1893 0.1867	1/4	0.2503 0.2497	0.1875	0.0315 0.0305	03EU03
					0.2500		03EU04
					0.3700		03EU06
1/4	0.2490 0.2481	0.2518 0.2492	5/16	0.3128 0.3122	0.2500		04EU04
					0.3750		04EU06
5/16	0.3115 0.3106	0.3143 0.3117	3/8	0.3753 0.3747			05EU06
					0.5000		05EU08
3/8	0.3740 0.3731	0.3769 0.3742	15/32	0.4691 0.4684	0.3750	0.0471 0.0461	06EU06
					0.5000		06EU08
					0.7500		06EU12
7/16	0.4365 0.4355	0.4394 0.4367	17/32	0.5316 0.5309	0.5000		07EU08
					0.7500		07EU12
1/2	0.4990 0.4980	0.5019 0.4992	19/32	0.5941 0.5934	0.3750		08EU06
					0.5000		08EU08
					0.6250		08EU10
					0.8750		08EU14

内径 Internal Diameter			外径 External Diameter		高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	L ± 0.01"	S	
9/16	0.5615 0.5605	0.5644 0.5617	21/32	0.6566 0.6559	0.5000	0.0471 0.0461	09EU08
					0.7500		09EU12
5/8	0.6240 0.6230	0.6270 0.6242	23/32	0.7192 0.7184	0.5000		10 EU 08
					0.6250		10 EU 10
					0.7500		10 EU 12
					0.8750		10 EU 14
3/4	0.7491 0.7479	0.7525 0.7493	7/8	0.8755 0.8747	0.5000	0.0627 0.0615	12 EU 08
					0.7500		12 EU 12
					1.0000		12 EU 16
7/8	0.8741 0.8729	0.8775 0.8743	1	1.0005 0.9997	0.7500		14 EU 12
					0.8750		14 EU 14
					1.000		14 EU 16
1	0.9991 0.9979	1.0026 0.9992	1 1/8	1.1256 1.1246	0.7500		16 EU 12
					1.0000		16 EU 16
					1.5000		16 EU 24
1 1/8	1.1238 1.1226	1.1278 1.1240	1 9/32	1.2818 1.2808	0.7500	0.0784 0.0770	18 EU 12
					1.0000		18 EU 16
1 1/4	1.2488 1.2472	1.2528 1.2490	1 13/32	1.4068 1.4058	0.7500		20 EU 12
					1.0000		20 EU 16
					1.2500		20 EU 20
					1.7500		20 EU 28
1 3/8	1.3738 1.3722	1.3778 1.3740	1 17/32	1.5318 1.5308	1.0000		22 EU 16
					1.3750		22 EU 22
					1.7500		22 EU 28
1 1/2	1.4988 1.4972	1.5028 1.4990	1 21/32	1.6568 1.6558	1.0000		24 EU 16
					1.2500		24 EU 20
					1.5000		24 EU 24
					2.0000		24 EU 32
1 5/8	1.6238 1.6222	1.6278 1.6240	1 25/32	1.7818 1.7808	1.0000		26 EU 16
					1.5000		26 EU 24
1 3/4	1.7487 1.7471	1.7535 1.7489	1 15/16	1.9381 1.9371	1.0000	0.0941 0.0923	28 EU 16
					1.5000		28 EU 24
					1.7500		28 EU 28
					2.0000		28 EU 32

内径 Internal Diameter			外径 External Diameter		高度 Length	壁厚 Wall Thickness	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i	外径 D	装配座孔 Housing-ΦD_H	L ± 0.01"	S	
$1\frac{7}{8}$	1.8737 1.8721	1.8787 1.8739	$2\frac{1}{16}$	2.0633 2.0621	1.0000	0.0941 0.0923	30EU16
					1.8750		30EU30
					2.2500		30EU36
2	1.9987 1.9969	2.0037 1.9989	$2\frac{3}{16}$	2.1883 2.1871	1.0000		32EU16
					1.5000		32EU24
					2.0000		32EU32
					2.5000		32EU40
$2\frac{1}{4}$	2.2507 2.2489	2.2573 2.2509	$2\frac{7}{16}$	2.4377 2.4365	2.0000	0.0928 0.0902	36EU32
					2.2500		36EU36
					2.5000		36EU40
					3.0000		36EU48
$2\frac{1}{2}$	2.5011 2.4993	2.5077 2.5013	$2\frac{11}{16}$	2.6881 2.6869	2.0000		40EU32
					2.5000		40EU40
					3.0000		40EU48
					3.5000		40EU56
$2\frac{3}{4}$	2.7500 2.7482	2.7566 2.7502	$2\frac{15}{16}$	2.9370 2.9358	2.0000		44EU32
					2.5000		44EU40
					3.0000		44EU48
					3.5000		44EU56
3	3.0000 2.9982	3.0068 3.0002	$3\frac{3}{16}$	3.1872 3.1858	2.5000		48EU32
					3.0000		48EU48
					3.7500		48EU60
$3\frac{1}{2}$	3.5000 3.4978	3.5068 3.5002	$3\frac{11}{16}$	3.6872 3.6858	2.5000		56EU40
					3.0000		56EU48
					3.7500		56EU60
4	4.0000 3.9978	4.0068 4.0002	$4\frac{3}{16}$	4.1872 4.1858	3.0000		64EU48
					3.7500		64EU60
					4.7500		64EU76
5	4.9986 4.9961	5.0056 4.9988	$5\frac{3}{16}$	5.1860 5.1844	3.0000		80EU48
					3.7500		80EU60
6	6.0000 5.9975	6.0070 6.0002	$6\frac{3}{16}$	6.1874 6.1858	3.0000		96EU48
					3.7500		96EU60
7	6.9954 6.9929	7.0026 6.9956	$7\frac{3}{16}$	7.1830 7.1812	3.7500		112EU60

5.6 EU 英制翻边规格及公差
EU Inch Flange Bushing Specification & Tolerance



尺寸：英寸
All dimensions in inch

内外倒角尺寸表
Inside & Outide Chamfers

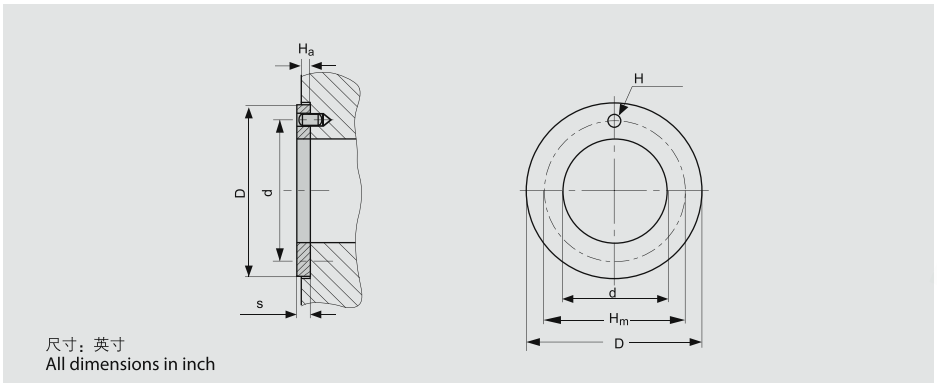
壁厚 Wall thickness	内倒角 ID Chamfer		外倒角 OD Chamfer	
	C_i	α	C_e	β
0.0315"	0.008"- 0.024"	30°- 45°	0.004"- 0.012"	30°- 45°
0.0471"	0.020"- 0.040"	20°- 30°	0.005"- 0.025"	40°- 55°
0.0627"-0.0928"	0.020"- 0.040"	15°- 25°	0.005"- 0.025"	40°- 50°

翻边套型号标注方式
Flange Bushing Symbol

翻边套型号标注方式 Flange Bushing Symbol	××	F	EU - □	××
翻边套内径 Flange Bushing I. D.				
翻边套 Flange				
轴承型号 Flange Bushing Type				
翻边套高度 Flange Bushing Length				

内径 d	装配轴径 Shaft-Φ d_s	装配座孔 Housing Φ D_H	装配后内孔尺寸 Φ d_i	法兰厚度 Flang Wall S_f	法兰外径 Flang Φ D_F	高度 Length L ± 0.01"	型号 Part No
3/8	0.3750 0.3740	0.4684 0.4691	0.3752 0.3779	0.047 0.039	11/16	1/4	06F EU04
						3/8	06F EU06
						1/2	06F EU08
1/2	0.5000 0.4990	0.5934 0.5941	0.5002 0.5029	0.047 0.039	13/16	1/4	08F EU04
						3/8	08F EU06
						1/2	08F EU08
5/8	0.6250 0.6240	0.7184 0.7192	0.6252 0.6280	0.047 0.039	15/16	3/8	10F EU06
						1/2	10F EU08
						5/8	10F EU10
3/4	0.7500 0.7488	0.8747 0.8755	0.7502 0.7534	0.063 0.055	1 1/8	3/8	12F EU06
						1/2	12F EU08
						3/4	12F EU12
7/8	0.8750 0.8738	0.9997 1.0005	0.8752 0.8784	0.063 0.055	1 1/4	1/2	14F EU08
						3/4	14F EU12
						1	14F EU16
1	1.0000 0.9988	1.1247 1.1255	1.0002 1.0034	0.063 0.055	1 3/8	1/2	16F EU08
						3/4	16F EU12
						1	16F EU16

5.7 EU 英制垫片规格及公差
EU Inch Thrust Washer Specification & Tolerance



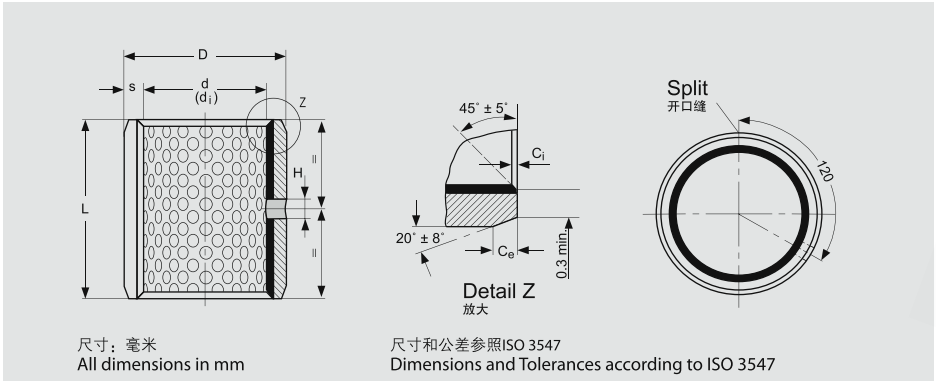
尺寸：英寸
All dimensions in inch

垫片型号标注方式
Washer Symbol

垫片型号标注方式 Washer Symbol	EU - □	WC	× ×
垫片型号 Washer Type			
垫片 Washer			
垫片内径 Washer I. D .			

内径 Internal Diameter d		外径 External Diameter D		壁厚 Thickness s	定位孔中心 Dowel Hole PCD-Φ $H_m \pm 0.12$	定位孔直径 Dowel Hole-Φ H	Recess Depth H_a	型号 Part No
min.	max.	min.	max.	max. min.	max. min.	± 0.005"	max. min.	
0.510	0.500	0.865	0.875	0.063 0.061	0.077 0.067	0.6870	0.050 0.040	EU 06
0.572	0.562	0.990	1.000			0.7810		EU 07
0.635	0.625	1.115	1.125		0.109 0.099	0.8750		EU 08
0.697	0.687	1.177	1.187			0.9370		EU 09
0.760	0.750	1.240	1.250			1.0000		EU 10
0.822	0.812	1.365	1.375			1.0940		EU 11
0.885	0.875	1.490	1.500		0.140 0.130	1.1870		EU 12
1.010	1.000	1.740	1.750			1.3750		EU 14
1.135	1.125	1.990	2.000		0.171 0.161	1.5620		EU 16
1.260	1.250	2.115	2.125			1.6870		EU 18
1.385	1.375	2.240	2.250			1.8020		EU 20
1.510	1.500	2.490	2.500		0.202 0.192	2.0000		EU 22
1.635	1.625	2.615	2.625			2.1250		EU 24
1.760	1.750	2.740	2.750			2.2500		EU 26
2.010	2.000	2.990	3.000	0.093 0.091		2.5000	0.080 0.070	EU 28
2.135	2.125	3.115	3.125			2.6250		EU 30
2.260	2.250	3.240	3.250			2.7500		EU 32

5.8 EX 直套规格及公差
EX Sleeve Bushing Specification & Tolerance



尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.30	1.80 ± 0.60

直套型号标注方式
Bushing Symbol

直套型号标注方式 Bushes Symbol	EX - □	× ×	× ×
直套型号 Bushing Type			
直套内径 Bushing I.D.			
直套高度 Bushing Length			

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内径 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
10	10.000 9.978	10.108 10.040	12	12.018 12.000	+0.065 +0.030	10	0.980 0.955	3	EX 1010
						12		4	EX 1012
						15			EX 1015
						20			EX 1020
12	12.000 11.973	12.108 12.040	14	14.018 14.000		10		3	EX 1210
						12		4	EX 1212
						15			EX 1215
						20			EX 1220
						25			EX 1225
14	14.000 13.973	14.108 14.040	16	16.018 16.000		15			EX 1415
						20			EX 1420
						25			EX 1425
15	15.000 14.973	15.108 15.040	17	17.018 17.000		10		3	EX 1510
						12		4	EX 1512
						15			EX 1515
						20			EX 1520
						25			EX 1525

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_S	装配后内径 Φ d_i	外径 D	装配座孔 Housing-Φ D_H	理论外径公差 O.D. Φ D_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
16	16.000 15.973	16.108 16.040	18	18.018 18.000	+0.065 +0.030	15	0.980 0.955	4	EX 1615
						20			EX 1620
					+0.075 +0.035	25			EX 1625
18	18.000 17.973	18.111 18.040	20	20.021 20.000		15			EX 1815
						20			EX 1820
						25			EX 1825
20	20.000 19.967	20.131 20.050	23	23.021 23.000		10	1.475 1.445		EX 2010
						15			EX 2015
						20			EX 2020
						25			EX 2025
						30			EX 2030
22	22.000 21.967	22.131 22.050	25	25.021 25.000		15		6	EX 2215
						20			EX 2220
						25			EX 2225
						30			EX 2230
25	25.000 24.967	25.131 25.050	28	28.021 28.000		15			EX 2515
						20			EX 2520
						25			EX 2525
						30			EX 2530
28	28.000 27.967	28.155 28.060	32	32.025 32.000	+0.085 +0.045	20	1.970 1.935		EX 2820
						25			EX 2825
						30			EX 2830
30	30.000 29.967	30.155 30.060	34	34.025 34.000		20			EX 3020
						30			EX 3030
						40			EX 3040
32	32.000 31.961	32.155 32.060	36	36.025 36.000		20			EX 3220
						30			EX 3230
						35			EX 3235
						40			EX 3240
35	35.000 34.961	35.155 35.060	39	39.025 39.000		20			EX 3520
						30			EX 3530
						35			EX 3535
						40			EX 3540
						50			EX 3550

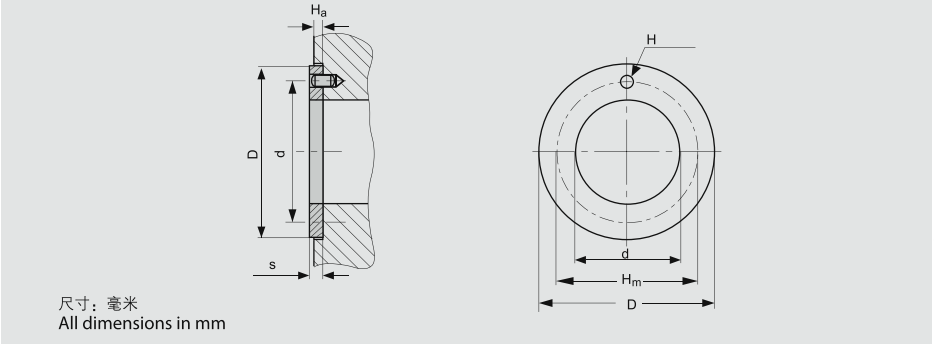
内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内径 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
40	40.000 39.961	40.155 40.060	44	44.025 44.000	+0.085 +0.045	20	1.970 1.935	8	EX 4020
						30			EX 4030
						40			EX 4040
						50			EX 4050
45	45.000 44.961	45.195 45.080	50	50.025 50.000		25	2.460 2.415		EX 4520
						30			EX 4530
						40			EX 4540
						45			EX 4545
						50			EX 4550
50	50.000 49.961	50.200 50.080	55	55.030 55.000	+0.100 +0.055	40			EX 5040
						50			EX 5050
						60			EX 5060
55	55.000 54.954	55.200 55.080	60	60.030 60.000		20			EX 5520
						25			EX 5525
						30			EX 5530
						40			EX 5540
						50			EX 5550
						60			EX 5560
60	60.000 59.954	60.200 60.080	65	65.030 65.000		30			EX 6030
						40			EX 6040
						60			EX 6060
						70			EX 6070
65	65.000 64.954	65.262 65.100	70	70.030 70.000		40		8	EX 6540
						50			EX 6550
						60			EX 6560
						70			EX 6570
70	70.000 69.954	70.262 70.100	75	75.030 75.000		40	2.450 2.384		EX 7040
						50			EX 7050
						65			EX 7065
						70			EX 7070
						80			EX 7080
75	75.000 74.954	75.262 75.100	80	80.030 80.000		40		9.5	EX 7540
						60			EX 7560
						80			EX 7580

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_S	装配后内径 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
80	80.000 79.954	80.267 80.100	85	85.035 85.000	+0.120 +0.070	40	2.450 2.384	9.5	EX 8040
						60			EX 8060
						80			EX 8080
						100			EX 80100
85	85.000 84.946	85.267 85.100	90	90.035 90.000		30			EX 8530
						40			EX 8540
						60			EX 8560
						80			EX 8580
						100			EX 85100
90	90.000 89.946	90.267 90.100	95	95.035 90.000		40			EX 9040
						60			EX 9060
						80			EX 9080
						90			EX 9090
						100			EX 90100
95	95.000 94.946	95.267 95.100	100	100.035 100.000		60			EX 9560
						100			EX95100
100	100.000 99.946	100.267 100.100	105	105.035 105.000		50			EX 10050
						60			EX 10060
						80			EX 10080
						95			EX 10095
						115			EX 100115
105	105.000 104.946	105.267 105.100	110	110.035 110.000		60			EX 10560
						110			EX 105110
						115			EX 105115
110	110.000 109.946	110.267 105.100	115	115.035 115.000		60			EX 11060
						110			EX 110110
						115			EX 110115
115	115.000 114.946	115.267 115.100	120	120.035 120.000		50			EX 11550
						70			EX 11570
120	120.000 119.946	120.272 120.100	125	125.040 125.000	+0.170 +0.100	60			EX 12060
						100			EX 120100
						110			EX 120110
125	125.000 124.937	125.272 125.000	130	130.040 130.000		60			EX 12560
						100			EX 125100
						110			EX 125110

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_S	装配后内径 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
130	130.000 129.937	130.280 130.130	135	135.040 135.000	+0.170 +0.100	50	2.435 2.380	9.5	EX 13050
						60			EX 13060
						80			EX 13080
						100			EX 130100
135	135.000 134.937	135.280 138.130	140	140.040 140.000		60			EX 13560
						80			EX 13580
140	140.000 139.937	140.280 140.130	145	145.040 145.000		50			EX 14050
						60			EX 14060
						80			EX 14080
						100			EX 140100
150	150.000 149.937	150.280 150.130	155	155.040 155.000		50			EX 15050
						60			EX 15060
						80			EX 15080
						100			EX 1501003
160	160.000 159.937	160.280 160.130	165	165.040 165.000		50			EX 16050
						60			EX 16060
						80			EX 16080
						100			EX 160100
170	170.000 169.937	170.280 170.130	175	175.040 175.000		50			EX 17050
						60			EX 17060
						80			EX 17080
						100			EX 170100
180	180.000 179.937	180.286 180.130	185	185.046 185.000	+0.210 +0.130	50			EX 18050
						60			EX 18060
						80			EX 18080
						100			EX 180100
190	190.000 189.928	190.286 190.130	195	195.046 195.000		50			EX 19050
						60			EX 19060
						80			EX 19080
						100			EX 190100
						120			EX 190120
200	200.000 199.928	200.286 200.130	205	205.046 205.000		50			EX 20050
						60			EX 20060
						80			EX 20080

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_S	装配后内径 Φd_i	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
200	200.000 199.928	200.286 200.130	205	205.046 205.000	+0.210 +0.130	80	2.435 2.380	9.5	EX 20080
						100			EX 200100
						120			EX 200120
220	220.000 219.928	220.286 220.130	225	225.046 225.000		50			EX 22050
						60			EX 22060
						80			EX 22080
						100			EX 220100
						120			EX 220120
240	240.000 239.928	240.286 240.130	245	245.046 245.000		50			EX 24050
						60			EX 24060
						80			EX 24080
						100			EX 240100
						120			EX 240120
250	250.000 249.928	250.292 250.130	255	255.052 255.000	+0.260 +0.170	50			EX 25050
						60			EX 25060
						80			EX 25080
						100			EX 250100
						120			EX 250120
260	260.000 259.919	260.292 260.130	265	265.052 265.000		50			EX 26050
						60			EX 26060
						80			EX 26080
						100			EX 260100
						120			EX 260120
280	280.000 279.919	280.292 280.130	285	285.052 285.000		50			EX 28050
						60			EX 28060
						80			EX 28080
						100			EX 280100
						120			EX 280120
300	300.000 299.919	300.292 300.130	305	305.052 305.000		50			EX 30050
						60			EX 30060
						80			EX 30080
						100			EX 300100
						120			EX 300120

5.9 EX 垫片规格及公差
EX Thrust washer Specification & Tolerance



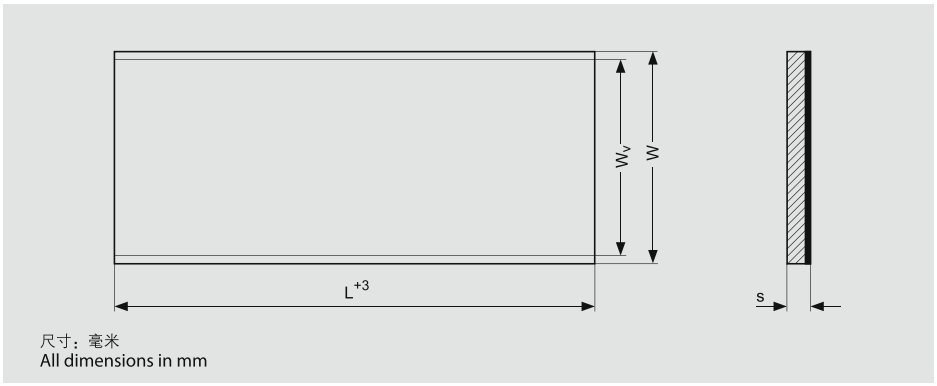
尺寸：毫米
All dimensions in mm

垫片型号标注方式
Washer Symbol

垫片型号标注方式 Washer Symbol	WC	××	EX - □
垫片 Washer			
垫片内径 Washer I. D.			
垫片型号 Washer Type			

内径 Internal Diameter d		外径 External Diameter D		壁厚 Thickness s	定位孔中心 Dowel Hole PCD-Φ $H_m \pm 0.12$	定位孔直径 Dowel Hole-Φ H	Recess Depth H_a	型号 Part No
min.	max.	min.	max.	max. min.	max. min.	± 0.005"	max. min.	
12.00	12.25	23.75	24.00	1.50 1.45	18	1.9 1.6	1.20 0.80	WC 10 EX
14.00	14.25	25.75	26.00		20	2.4 2.1		WC 12 EX
16.00	16.25	29.75	30.00		22			WC 14 EX
18.00	18.25	31.75	32.00		25			WC 16 EX
20.00	20.25	35.75	36.00		28	3.4 3.1		WC 18 EX
22.00	22.25	37.75	38.00		30			WC 20 EX
24.00	24.25	41.75	42.00		33			WC 22 EX
26.00	26.25	43.75	44.00		35			WC 24 EX
28.00	28.25	47.75	48.00		38	4.4 4.1		WC 25 EX
32.00	32.25	53.75	54.00		43			WC 30 EX
38.00	38.25	61.75	62.00		50			WC 35 EX
42.00	42.25	65.75	66.00		54			WC 40 EX
48.00	48.25	73.75	74.00	1.95 2.00	61		1.70 1.30	WC 45 EX
52.00	52.25	77.75	78.00		65			WC 50 EX

5.10 EX 板材规格及公差
EX Strip Specification & Tolerance



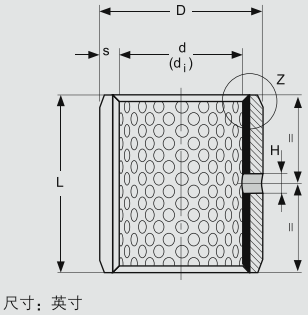
尺寸：毫米
All dimensions in mm

板材标注方式
Strip Symbol

板材标注方式 Strip Symbol	S	× × ×	× × ×	EX - □
板材 Strip				
板材厚度 Strip Wall Thickness				
板材宽度 Strip Width				
板材型号 Strip Type				

长度 Length L	宽度 Width W_v	壁厚 Thickness S-0.05	型号 Part No
500	130 – 150	1.00	S 100 90 EX
	130 – 150	1.50	S 152 00 EX
	130 – 150	2.00	S 202 00 EX
		2.50	S 252 00 EX

5.11 EX 英制规格及公差
EX Inch Bushing Specification & Tolerance



尺寸：英寸
All dimensions in inch

内外倒角尺寸表
Inside and Outide Chamfers Unit mm

壁厚 Wall thickness	内倒角 ID Chamfer		外倒角 OD Chamfer	
	C_i	α	C_e	β
0.0315"	0.008"- 0.024"	30°- 45°	0.004"- 0.012"	30°- 45°
0.0471"	0.020"- 0.040"	20°- 30°	0.005"- 0.025"	40°- 55°
0.0627"-0.0928"	0.020"- 0.040"	15°- 25°	0.005"- 0.025"	40°- 50°

直套型号标注方式
BushingSymbol

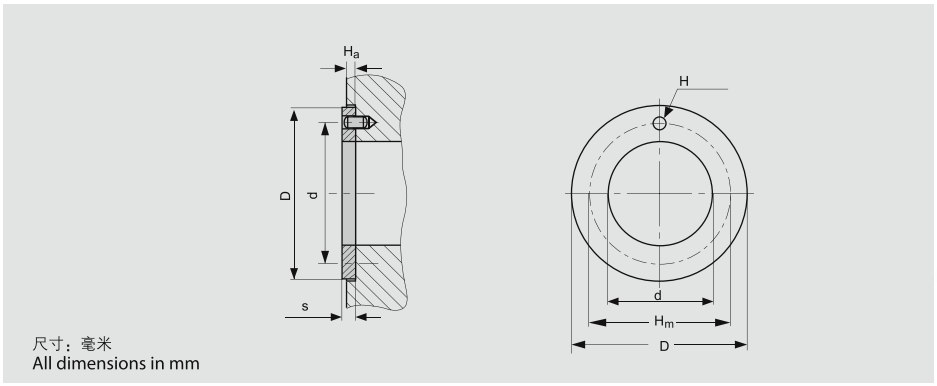
直套型号标注方式 Bushes Symbol	××	EX - □	××
直套内径 Bushing I. D.			
直套型号 Bushing Type			
直套高度 Bushing Length			

内径 Internal Diameter			外径 External Diameter		高度 Width	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	供货内径 Φ d_i	外径 D	装配座孔 D_H	L ± 0.01"	S		
3/8	0.3648 0.3639	0.3694 0.3667	15/32	0.4694 0.4687	0.375	0.0510 0.0500	无孔 No hole	06 EX 06
					0.500		5/32	06 EX 08
					0.750			06 EX 12
7/16	0.4273 0.4263	0.4319 0.4292	17/32	0.5319 0.5312	0.500			07 EX 08
					0.750			07 EX 12
1/2	0.4897 0.4887	0.4944 0.4917	19/32	0.5944 0.5937	0.375			08 EX 06
					0.500			08 EX 08
					0.625			08 EX 10
					0.875			08 EX 14
9/16	0.5522 0.5512	0.5569 0.5542	21/32	0.6569 0.6562	0.500			09 EX 08
					0.750			09 EX 12
5/8	0.6146 0.6136	0.6195 0.6167	23/32	0.7195 0.7187	0.500			10 EX 08
					0.625			10 EX 10
					0.750			10 EX 12
					0.875			10 EX 14
3/4	0.7390 0.7378	0.7444 0.7412	7/8	0.8758 0.8750	0.500	0.0669 0.0657		12 EX 08
					0.750			12 EX 12
					1.000			12 EX 16

内径 Internal Diameter			外径 External Diameter		高度 Width	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_S	供货内径 Φ d_i	外径 D	装配座孔 D_H	L ± 0.01"	S		
$^7/_8$	0.8639 0.8627	0.8694 0.8662	1	1.0008 1.0000	0.750	0.0669 0.0657	$^1/_4$	14 EX 12
					0.755			14 EX 14
					1			14 EX 16
1	0.9888 0.9876	0.9944 0.9912	$1^1/_8$	1.1258 1.1250	0.750			16 EX 12
					1			16 EX 16
					1.500			16 EX 24
$1^1/_8$	1.1138 1.1126	1.1202 1.1164	$1^9/_{32}$	1.2822 1.2812	0.750	0.0824 0.0810		18 EX 12
					1			18 EX 16
$1^1/_4$	1.2387 1.2371	1.2452 1.2414	$1^{13}/_{32}$	1.4072 1.4062	0.750			20 EX 12
					1			20 EX 16
					1.250			20 EX 20
					1.750			20 EX 28
$1^3/_8$	1.3635 1.3619	1.3702 1.3664	$1^{17}/_{32}$	1.5322 1.5312	1			22 EX 16
					1.375			22 EX 22
					1.750			22 EX 28
$1^1/_2$	1.4884 1.4868	1.4952 1.4914	$1^{21}/_{32}$	1.6572 1.6562	1		$^5/_{16}$	24 EX 16
					1.250			24 EX 20
					1.500			24 EX 24
					2			24 EX 32
$1^5/_8$	1.6133 1.6117	1.6202 1.6164	$1^{25}/_{32}$	1.7822 1.7812	1			26 EX 16
					1.500			26 EX 24
$1^3/_4$	1.7383 1.7367	1.7461 1.7415	$1^{15}/_{16}$	1.9385 1.9375	1	0.0980 0.0962		28 EX 16
					1.500			28 EX 24
					1.750			28 EX 28
					2			28 EX 32
$1^7/_8$	1.8632 1.8616	1.8713 1.8665	$2^1/_{16}$	2.0637 2.0625	1.500			30 EX 16
					1.875			30 EX 30
					2.250			30 EX 36
2	1.9881 1.9863	1.9963 1.9915	$1^3/_{16}$	2.1887 2.1875	1			32 EX 16
					1.500			32 EX 24
					2			32 EX 32
					2.500			32 EX 40

内径 Internal Diameter			外径 External Diameter		高度 Width	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	供货内径 Φ d_i	外径 D	装配座孔 D_H	L ± 0.01"	S		
$2^1/_4$	2.2378 2.2360	2.2463 2.2415	$2^7/_{16}$	2.4387 2.4375	2.010 1.990	0.0980 0.0962	$^5/_{16}$	36 EX 32
					2.260 2.240			36 EX 36
					2.510 2.490			36 EX 40
$2^1/_2$	2.4875 2.4857	2.4963 2.4915	$2^{11}/_{16}$	2.6887 2.6875	2.010 1.990			40 EX 32
					2.510 2.490			40 EX 40
$2^3/_4$	2.7351 2.7333	2.7457 2.7393	$2^{15}/_{16}$	2.9387 2.9375	2.010 1.990	0.0991 0.0965		44 EX 32
					2.510 2.490			44 EX 40
					3.010 2.990			44 EX 48
					3.510 3.490			44 EX 56
3	2.9849 2.9831	2.9959 2.9893	$3^3/_{16}$	3.1889 3.1875	2.010 1.990		$^3/_8$	48 EX 32
					3.010 2.990			48 EX 48
					3.760 3.740			48 EX 60
$3^1/_2$	3.4844 3.4822	3.4959 3.4893	$3^{11}/_{16}$	3.6889 3.6875	2.510 2.490			56 EX 40
					3.010 2.990			56 EX 48
					3.760 3.740			56 EX 60
4	3.9839 3.9817	3.9959 3.9893	$4^3/_{16}$	4.1889 4.1875	3.010 2.990			64 EX 48
					3.760 3.740			64 EX 60
					4.760 4.740			64 EX 76

5.12 EX 英制垫片规格及公差
EX Inch Thrust washer Specification & Tolerance



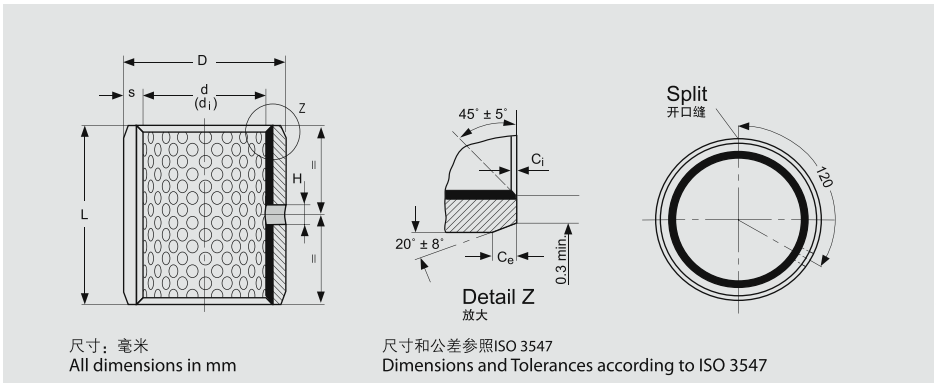
尺寸：毫米
All dimensions in mm

垫片型号标注方式
Washer Symbol

垫片型号标注方式 Washer Symbol	EX - □	WC	× ×
垫片型号 Washer Type			
垫片 Washer			
垫片内径 Washer I. D .			

内孔 Nominal Diameter Φd		外径 Outside Φ D		壁厚 Thickness s	装配孔大小 Dowel hole ΦH	装配孔中心距 Dowel Hole PCD ΦH_m	装配深度 Recess Depth H_a	型号 Part No
min.	max.	min.	max.	max. min.	max. min.	± 0.005"	max. min.	
0.500	0.510	0.865	0.875	0.0660 0.0625	0.077 0.067	0.6870	0.050 0.040	EX 06
0.562	0.572	0.990	1.000			0.7810		EX 07
0.625	0.635	1.115	1.125		0.109 0.099	0.8750		EX 08
0.687	0.697	1.177	1.187			0.9370		EX 09
0.750	0.760	1.240	1.250			1.0000		EX 10
0.812	0.822	1.365	1.375			1.0940		EX 11
0.875	0.885	1.490	1.500		0.140 0.130	1.1870		EX 12
1.000	1.010	1.740	1.750			1.3750		EX 14
1.125	1.135	1.990	2.000		0.171 0.161	1.5620		EX 16
1.250	1.260	2.115	2.125			1.6870		EX 18
1.375	1.385	2.240	2.250			1.8020		EX 20
1.500	1.510	2.490	2.500		0.202 0.192	2.0000		EX 22
1.625	1.635	2.615	2.625			2.1250		EX 24
1.750	1.760	2.740	2.750			2.2500		EX 26
2.000	2.010	2.990	3.000	0.0970 0.0935		2.5000	0.080 0.070	EX 28
2.125	2.135	3.115	3.125			2.6250		EX 30
2.250	2.260	3.240	3.250			2.7500		EX 32

5.13 EMT 直套规格及公差
EMT Sleeve Bushing Specification & Tolerance



尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.30	1.80 ± 0.60

直套型号标注方式
Bushing Symbol

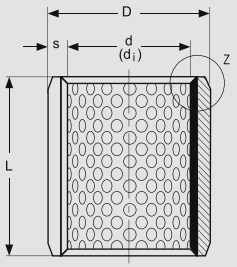
直套型号标注方式 Bushes Symbol	EMT - □	× ×	× ×
直套型号 Bushing Type			
直套内径 Bushing I. D.			
直套高度 Bushing Length			

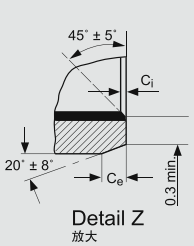
内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	装配后内径 Φ d_a	外径 D	装配座孔 Housing-Φ D_H	理论外径公差 O.D. Φ D_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
15	15.000 14.973	15.148 15.010	17	17.018 17.000	+0.065 +0.030	10	0.995 0.935	4	EMT 1510
						15			EMT 1515
						20			EMT 1520
16	16.000 15.973	16.148 16.010	18	18.018 18.000		10			EMT 1610
						15			EMT 1615
						20			EMT 1620
18	18.000 17.973	18.151 18.010	20	20.021 20.000		15			EMT 1815
						20			EMT 1820
						25			EMT 1825
20	20.000 19.967	20.181 20.020	23	23.021 23.000	+0.075 +0.035	10	1.490 1.430		EMT 2010
						15			EMT 2015
						20			EMT 2020
						25			EMT 2025
						30			EMT 2030
22	22.000 21.967	22.181 22.020	25	25.021 25.000		10		6	EMT 2210
						15			EMT 2215
						20			EMT 2220
						25			EMT 2225

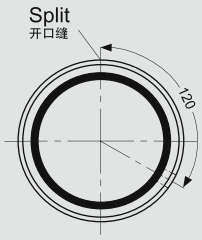
内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内径 Φd_a	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
25	25.000 24.967	25.181 25.020	28	28.021 28.000	+0.075 +0.035	15	1.490 1.430	6	EMT 2515
						20			EMT 2520
						25			EMT 2525
						30			EMT 2530
28	28.000 27.967	28.205 28.030	32	32.025 32.000	+0.085 +0.045	15	1.980 1.920		EMT 2815
						20			EMT 2820
						25			EMT 2825
						30			EMT 2830
						40			EMT 2840
30	30.000 29.967	30.205 30.030	34	34.025 34.000		15			EMT 3015
						20			EMT 3020
						25			EMT 3025
						30			EMT 3030
						40			EMT 3040
32	32.000 31.961	32.205 32.030	36	36.025 36.000		20			EMT 3220
						30			EMT 3230
						40			EMT 3240
						50			EMT 3250
35	35.000 34.961	35.205 35.030	39	39.025 39.000		20			EMT 3520
						25			EMT 3525
						30			EMT 3530
						40			EMT 3540
40	40.000 39.961	40.205 40.030	44	44.025 44.000		20		8	EMT 4020
						25			EMT 4025
						30			EMT 4030
						40			EMT 4040
						50			EMT 4050
45	45.000 44.961	45.205 45.030	50	50.025 50.000		25	2.460 2.400		EMT 4525
						30			EMT 4530
						40			EMT 4540
						50			EMT 4550
50	50.000 49.961	50.210 50.030	55	55.030 55.000	+0.100 +0.055	30			EMT 5050
						40			EMT 5030
						50			EMT 5040
						60			EMT 5050

内径 Internal Diameter			外径 External Diameter			高度 Length	壁厚 Wall Thickness	油孔直径 Oil Hole-Φ H	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	装配后内径 Φ d_a	外径 D	装配座孔 Housing-Φ D_H	理论外径公差 O.D. Φ D_t	ID<80 L ± 0.25 ID>80 L ± 0.50	S		
55	55.000 54.954	55.210 55.030	60	60.030 60.000	+0.100 +0.055	40	2.460 2.400	8	EMT 5540
						50			EMT 5550
						60			EMT 5560
60	60.000 59.954	60.210 60.030	65	65.030 65.000		30			EMT 6030
						40			EMT 6040
						50			EMT 6050
						60			EMT 6060
65	65.000 59.954	65.210 65.030	70	70.030 70.000		40			EMT 6540
						50			EMT 6550
						60			EMT 6560
						70			EMT 6570
70	70.000 69.954	70.210 70.030	75	75.030 75.000		40			EMT 7040
						50			EMT 7050
						60			EMT 7060
						80			EMT 7080
75	75.000 74.954	75.210 75.030	80	80.030 80.000		40		9.5	EMT 7540
						50			EMT 7550
						60			EMT 7560
						80			EMT 7580
80	80.000 79.954	80.215 80.030	85	85.035 85.000	+0.120 +0.070	40			EMT 8040
						50			EMT 8050
						60			EMT 8060
						80			EMT 8080
85	85.000 84.946	85.215 85.030	90	90.035 90.000		60			EMT 8560
						80			EMT 8580
90	90.000 89.946	90.215 90.030	95	95.035 95.000		50			EMT 9050
						60			EMT 9060
						80			EMT 9080
100	100.000 99.946	100.215 100.030	105	105.035 105.000		60			EMT 10060
						70			EMT 10070
						80			EMT 10080
120	120.000 119.946	120.220 120.030	125	125.040 125.000	+0.170 +0.100	50			EMT 12050
						60			EMT 12060
135	135.000 134.937	135.220 135.030	140	140.040 140.000		60			EMT 13560
						80			EMT 13580

5.14 E90/E92 直套规格及公差
E90/E92 Sleeve Bushing Specification & Tolerance







尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.40	1.80 ± 0.60

直套型号标注方式
Bushing Symbol

直套型号标注方式 Bushing Symbol	E9 - □	× ×	× ×
直套型号 Bushing Type			
直套内径 Bushing I. D.			
直套高度 Bushing Length			

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	装配后内孔尺寸 Φ d_i (H9)	外径 D	装配座孔 Housing-Φ D_H	理论外径公差 O.D. Φ D_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
10	9.984 9.957	10.043 10.000	12	12.018 12.000	+0.065 +0.030	10	E90/E92 1010
						15	E90/E92 1015
						20	E90/E92 1020
12	11.984 11.957	12.043 12.000	14	14.018 14.000		10	E90/E92 1210
						15	E90/E92 1215
						20	E90/E92 1220
14	13.984 13.957	14.043 14.000	16	16.018 16.000		10	E90/E92 1410
						15	E90/E92 1415
						20	E90/E92 1420
						25	E90/E92 1425
15	14.984 14.957	15.043 15.000	17	17.018 17.000		10	E90/E92 1510
						15	E90/E92 1515
						20	E90/E92 1520
						25	E90/E92 1525
16	15.984 15.957	16.043 16.000	18	18.018 18.000		10	E90/E92 1610
						15	E90/E92 1615
						20	E90/E92 1620
						25	E90/E92 1625

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
18	17.984 17.957	18.043 18.000	20	20.018 20.000	+0.065 +0.030	10	E90/E92 1810
						15	E90/E92 1815
						20	E90/E92 1820
						25	E90/E92 1825
20	19.980 19.947	20.052 20.000	23	23.021 23.000		10	E90/E92 2010
						15	E90/E92 2015
						20	E90/E92 2020
						25	E90/E92 2025
22	21.980 21.947	22.052 22.000	25	25.021 25.000		10	E90/E92 2210
						15	E90/E92 2215
						20	E90/E92 2220
						25	E90/E92 2225
						30	E90/E92 2230
24	23.980 23.947	24.052 24.000	27	27.021 27.000		15	E90/E92 2415
						20	E90/E92 2420
						25	E90/E92 2425
						30	E90/E92 2430
25	24.980 24.947	25.052 25.000	28	28.021 28.000	+0.075 +0.035	15	E90/E92 2515
						20	E90/E92 2520
						25	E90/E92 2525
						30	E90/E92 2530
28	27.980 27.947	28.052 28.000	32	32.021 32.000		15	E90/E92 2815
						20	E90/E92 2820
						25	E90/E92 2825
						30	E90/E92 2830
30	29.980 29.947	30.052 30.000	34	34.021 34.000		15	E90/E92 3015
						20	E90/E92 3020
						25	E90/E92 3025
						30	E90/E92 3030
						35	E90/E92 3035
						40	E90/E92 3040
32	31.975 31.936	32.062 32.000	36	36.025 36.000	+0.085 +0.045	15	E90/E92 3215
						20	E90/E92 3220
						25	E90/E92 3225
						30	E90/E92 3230

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
32	31.975 31.936	32.062 32.000	36	36.025 36.000	+0.085 +0.045	35	E90/E92 3235
						40	E90/E92 3240
						50	E90/E92 3250
35	34.975 34.936	35.062 35.000	39	39.025 39.000		15	E90/E92 3515
						20	E90/E92 3525
						25	E90/E92 3525
						30	E90/E92 3530
						35	E90/E92 3535
						40	E90/E92 3540
40	39.975 39.936	40.062 40.000	44	44.025 44.000		20	E90/E92 4020
						25	E90/E92 4025
						30	E90/E92 4030
						35	E90/E92 4035
						40	E90/E92 4040
						50	E90/E92 4050
45	44.975 44.936	45.062 45.000	50	50.025 50.000		20	E90/E92 4520
						25	E90/E92 4525
						30	E90/E92 4530
						35	E90/E92 4535
						40	E90/E92 4540
						50	E90/E92 4550
50	49.975 49.936	50.062 50.000	55	55.025 55.000		20	E90/E92 5020
						25	E90/E92 5025
						30	E90/E92 5030
						35	E90/E92 5035
						40	E90/E92 5040
						50	E90/E92 5050
						60	E90/E92 5060
55	54.970 54.924	55.074 55.000	60	60.030 60.000	+0.100 +0.055	20	E90/E92 5520
						25	E90/E92 5525
						30	E90/E92 5530
						35	E90/E92 5535
						40	E90/E92 5540
						50	E90/E92 5550
						60	E90/E92 5560

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
60	59.970 59.924	60.074 60.000	65	65.030 65.000	+0.100 +0.055	25	E90/E92 6025
						30	E90/E92 6030
						35	E90/E92 6035
						40	E90/E92 6040
						50	E90/E92 6050
						60	E90/E92 6060
						70	E90/E92 6070
65	64.970 64.924	65.074 65.000	70	70.030 70.000		30	E90/E92 6530
						35	E90/E92 6535
						40	E90/E92 6540
						50	E90/E92 6550
						60	E90/E92 6560
						70	E90/E92 6570
						80	E90/E92 6580
70	69.970 69.924	70.074 70.000	75	75.030 75.000		30	E90/E92 7030
						35	E90/E92 7035
						40	E90/E92 7040
						50	E90/E92 7050
						60	E90/E92 7060
						70	E90/E92 7070
						80	E90/E92 7080
75	74.970 74.924	75.074 75.000	80	80.030 80.000		30	E90/E92 7530
						35	E90/E92 7535
						40	E90/E92 7540
						50	E90/E92 7550
						60	E90/E92 7560
						70	E90/E92 7570
						80	E90/E92 7580
80	79.970 79.924	80.074 80.000	85	85.030 85.000		30	E90/E92 8030
						35	E90/E92 8035
						40	E90/E92 8040
						50	E90/E92 8040
						60	E90/E92 8060
						70	E90/E92 8070
						80	E90/E92 8080

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
85	84.964 84.910	85.087 85.000	90	90.035 90.000	+0.120 +0.070	30	E90/E92 8530
						35	E90/E92 8535
						40	E90/E92 8540
						50	E90/E92 8550
						60	E90/E92 8560
						70	E90/E92 8570
						80	E90/E92 8580
						90	E90/E92 8590
90	89.964 89.910	90.087 90.000	95	95.035 95.000		30	E90/E92 9030
						35	E90/E92 9035
						40	E90/E92 9040
						50	E90/E92 9050
						60	E90/E92 9060
						70	E90/E92 9070
						80	E90/E92 9080
						90	E90/E92 9090
95	94.964 94.910	95.087 95.000	100	100.035 100.000		40	E90/E92 9540
						50	E90/E92 9550
						60	E90/E92 9560
						70	E90/E92 9570
						80	E90/E92 9580
						90	E90/E92 9590
						100	E90/E92 95100
100	99.964 99.910	100.087 100.000	105	105.035 105.000		50	E90/E92 10050
						60	E90/E92 10060
						70	E90/E92 10070
						80	E90/E92 10080
						90	E90/E92 10090
						100	E90/E92 100100
105	104.964 104.910	105.087 105.000	110	110.035 110.000		50	E90/E92 10550
						60	E90/E92 10560
						70	E90/E92 10570
						80	E90/E92 10580
						90	E90/E92 10590
						100	E90/E92 105100

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
110	109.964 109.910	110.087 110.000	115	115.035 115.000	+0.120 +0.070	50	E90/E92 11050
						60	E90/E92 11060
						70	E90/E92 11070
						80	E90/E92 11080
						90	E90/E92 11090
						100	E90/E92 110100
115	114.964 114.910	115.087 115.000	120	120.035 120.000		50	E90/E92 11550
						60	E90/E92 11560
						70	E90/E92 11570
						80	E90/E92 11580
						90	E90/E92 11590
						100	E90/E92 115100
120	119.964 119.910	120.087 120.000	125	125.035 125.000		60	E90/E92 12060
						70	E90/E92 12070
						80	E90/E92 12080
						90	E90/E92 12090
						100	E90/E92 120100
125	124.957 124.894	125.100 125.000	130	130.040 130.000	+0.170 +0.100	60	E90/E92 12560
						70	E90/E92 12570
						80	E90/E92 12580
						90	E90/E92 12590
						100	E90/E92 125100
130	129.957 129.894	130.100 130.000	135	135.040 135.000		60	E90/E92 13060
						70	E90/E92 13070
						80	E90/E92 13080
						90	E90/E92 13090
						100	E90/E92 130100
135	134.957 134.894	135.100 135.000	140	140.040 140.000		60	E90/E92 13560
						70	E90/E92 13570
						80	E90/E92 13580
						90	E90/E92 13590
						100	E90/E92 135100
140	139.957 139.894	140.100 140.000	145	145.040 145.000		60	E90/E92 14060
						70	E90/E92 14070
						80	E90/E92 14080

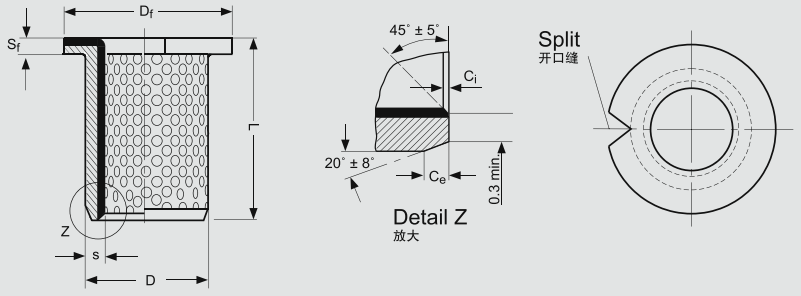
内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
140	139.957 139.894	140.100 140.000	145	145.040 145.000	+0.170 +0.100	90	E90/E92 14090
						95	E90/E92 14095
						100	E90/E92 140100
145	144.957 144.894	145.100 145.000	150	150.040 150.000		60	E90/E92 14560
						70	E90/E92 14570
						80	E90/E92 14580
						90	E90/E92 14590
						100	E90/E92 145100
150	149.957 149.894	150.100 150.000	155	155.040 155.000		60	E90/E92 15060
						70	E90/E92 15070
						80	E90/E92 15080
						90	E90/E92 15090
						100	E90/E92 150100
155	154.957 154.894	155.100 155.000	160	160.040 160.000		60	E90/E92 15560
						70	E90/E92 15570
						80	E90/E92 15580
						90	E90/E92 15590
						100	E90/E92 155100
160	159.957 159.894	160.100 160.000	165	165.040 165.000		60	E90/E92 16060
						70	E90/E92 16070
						80	E90/E92 16080
						90	E90/E92 16090
						100	E90/E92 160100
165	164.957 164.894	165.100 165.000	170	170.040 170.000		60	E90/E92 16560
						70	E90/E92 16570
						80	E90/E92 16580
						90	E90/E92 16590
						100	E90/E92 165100
170	169.957 169.894	170.100 170.000	175	175.040 175.000		60	E90/E92 17060
						70	E90/E92 17070
						80	E90/E92 17080
						90	E90/E92 17090
						100	E90/E92 170100
175	174.957 174.894	175.100 175.000	180	180.040 180.000		60	E90/E92 17560
						70	E90/E92 17570

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
175	174.957 174.894	175.100 175.000	180	180.040 180.000	+0.170 +0.100	80	E90/E92 17580
						85	E90/E92 17585
						90	E90/E92 17590
						100	E90/E92 175100
180	179.957 179.894	180.100 180.000	185	185.040 185.000		60	E90/E92 18060
						70	E90/E92 18070
						80	E90/E92 18080
						90	E90/E92 18090
						100	E90/E92 180100
185	184.950 184.878	185.115 185.000	190	190.046 190.000		60	E90/E92 18560
						65	E90/E92 18565
						70	E90/E92 18570
						80	E90/E92 18580
						90	E90/E92 18590
						100	E90/E92 185100
190	189.950 189.878	190.115 190.000	195	195.046 195.000		60	E90/E92 19060
						70	E90/E92 19070
						80	E90/E92 19080
						90	E90/E92 19090
						100	E90/E92 190100
195	194.950 194.878	195.115 195.000	200	200.046 200.000	+0.210 +0.130	60	E90/E92 19560
						70	E90/E92 19570
						80	E90/E92 19580
						90	E90/E92 19590
						100	E90/E92 195100
200	199.950 199.878	200.115 200.000	205	205.046 205.000		60	E90/E92 20060
						70	E90/E92 20070
						80	E90/E92 20080
						90	E90/E92 20090
						100	E90/E92 200100
205	204.950 204.878	205.115 205.000	210	210.046 210.000		60	E90/E92 20560
						70	E90/E92 20570
						80	E90/E92 20580
						90	E90/E92 20590
						100	E90/E92 205100

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
215	214.950 214.878	215.115 215.000	220	220.046 220.000	+0.210 +0.130	60	E90/E92 21560
						70	E90/E92 21570
						80	E90/E92 21580
						90	E90/E92 21590
						100	E90/E92 215100
225	224.950 224.878	225.115 225.000	230	230.046 230.000		60	E90/E92 22560
						70	E90/E92 22570
						80	E90/E92 22580
						90	E90/E92 22590
						100	E90/E92 225100
230	229.950 229.878	230.115 230.000	235	235.046 235.000		60	E90/E92 23060
						70	E90/E92 23070
						80	E90/E92 23080
						90	E90/E92 23090
						100	E90/E92 230100
240	239.950 239.878	240.115 240.000	245	245.046 245.000		60	E90/E92 24060
						70	E90/E92 24070
						80	E90/E92 24080
						90	E90/E92 24090
						100	E90/E92 240100
250	249.950 249.878	250.115 250.000	255	255.046 255.000		60	E90/E92 25060
						70	E90/E92 25070
						80	E90/E92 25080
						90	E90/E92 25090
						100	E90/E92 250100
260	259.944 259.863	260.130 260.000	265	265.052 265.000	+0.260 +0.170	60	E90/E92 26060
						70	E90/E92 26070
						80	E90/E92 26080
						90	E90/E92 26090
						100	E90/E92 260100
270	269.944 269.863	270.130 270.000	275	275.052 275.000		60	E90/E92 27060
						70	E90/E92 27070
						80	E90/E92 27080
						90	E90/E92 27090
						100	E90/E92 270100

内径 Internal Diameter			外径 External Diameter			高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t	ID<80 L ± 0.25 ID>80 L ± 0.50	
280	279.944 279.863	280.130 280.000	285	285.052 285.000	+0.260 +0.170	60	E90/E92 28060
						70	E90/E92 28070
						80	E90/E92 28080
						90	E90/E92 28090
						100	E90/E92 280100
290	289.944 289.863	290.130 290.000	295	295.052 295.000		60	E90/E92 29060
						70	E90/E92 29070
						80	E90/E92 29080
						90	E90/E92 29090
						100	E90/E92 290100
300	299.944 289.863	300.130 300.000	305	305.052 305.000		60	E90/E92 30060
						70	E90/E92 30070
						80	E90/E92 30080
						90	E90/E92 30090
						100	E90/E92 300100

5.15 E90/E92 翻边规格及公差
E90/E92 Flange Bushing Specification & Tolerance



尺寸：毫米
All dimensions in mm

尺寸和公差参照ISO 3547
Dimensions and Tolerances according to ISO 3547

内外倒角尺寸表
Inside & Outide Chamfers

壁厚 Wall thickness S	内倒角 Inside Chafmer C_i	外倒角 Outside Chamfer C_e
1.00	0.30 ± 0.20	0.60 ± 0.40
1.50	0.40 ± 0.30	0.60 ± 0.40
2.00	0.40 ± 0.30	1.20 ± 0.40
2.50	0.60 ± 0.30	1.80 ± 0.60

翻边型号标注方式
Bushing Symbol

直套型号标注方式 Bushing Symbol	E9□ - F	× ×	× ×
直套型号 Bushing Type			
直套内径 Bushing I. D.			
直套高度 Bushing Length			

内径 Internal Diameter			外径 External Diameter			法兰外径 Flang Φ D_f	高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φ d_s	装配后内孔尺寸 Φ d_i(H9)	外径 D	装配座孔 Housing-Φ D_H	理论外径公差 O.D. Φ D_t		ID<80 L ± 0.25 ID>80 L ± 0.50	
25	24.980 24.947	25.052 25.000	28	28.021 28.000	+0.075 +0.035	35	15	E90F/E92F 2515
							20	E90F/E92F 2520
							25	E90F/E92F 2525
30	29.980 29.947	30.052 30.000	34	34.021 34.000		45	20	E90F/E92F 3020
							25	E90F/E92F 3025
							20	E90F/E92F 3020
35	34.975 34.936	35.062 35.000	39	39.025 39.000		50	20	E90F/E92F 3520
							25	E90F/E92F 3525
							30	E90F/E92F 3530
							35	E90F/E92F 3535
40	39.975 39.936	40.062 40.000	44	44.025 44.000	+0.085 +0.045	55	25	E90F/E92F 4025
							30	E90F/E92F 4030
							35	E90F/E92F 4035
							40	E90F/E92F 4040
45	44.975 44.936	45.062 45.000	50	50.025 50.000		60	30	E90F/E92F 4530
							35	E90F/E92F 4535
							40	E90F/E92F 4540
							50	E90F/E92F 4550

内径 Internal Diameter			外径 External Diameter			法兰外径 Flang Φ D_f	高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t		ID<80 L ± 0.25 ID>80 L ± 0.50	
50	49.975 49.936	50.062 50.000	55	55.025 55.000	+0.085 +0.045	65	30	E90F/E92F 5030
							35	E90F/E92F 5035
							40	E90F/E92F 5040
							50	E90F/E92F 5050
55	54.970 54.924	55.074 55.000	60	60.030 60.000		70	30	E90F/E92F 5530
							35	E90F/E92F 5535
							40	E90F/E92F 5540
							50	E90F/E92F 5550
60	59.970 59.924	60.074 60.000	65	65.030 65.000		75	30	E90F/E92F 6030
							35	E90F/E92F 6035
							40	E90F/E92F 6040
							50	E90F/E92F 6050
							60	E90F/E92F 6060
65	64.970 64.924	65.074 65.000	70	70.030 70.000		80	30	E90F/E92F 6530
							35	E90F/E92F 6535
							40	E90F/E92F 6540
							50	E90F/E92F 6550
							60	E90F/E92F 6560
70	69.970 69.924	70.074 70.000	75	75.030 75.000	+0.100 +0.055	85	35	E90F/E92F 7035
							40	E90F/E92F 7040
							50	E90F/E92F 7050
							60	E90F/E92F 7060
							70	E90F/E92F 7070
75	74.970 74.924	75.074 75.000	80	80.030 80.000		90	35	E90F/E92F 7535
							40	E90F/E92F 7540
							50	E90F/E92F 7550
							60	E90F/E92F 7560
							70	E90F/E92F 7570
80	79.970 79.924	80.074 80.000	85	85.030 85.000		100	40	E90F/E92F 8040
							50	E90F/E92F 8050
							60	E90F/E92F 8060
							70	E90F/E92F 8070
							80	E90F/E92F 8080
90	89.964 89.910	90.087 90.000	100	100.035 100.000	+0.120 +0.070	110	50	E90F/E92F 9050
							60	E90F/E92F 9060

内径 Internal Diameter			外径 External Diameter			法兰外径 Flang Φ D_f	高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t		ID<80 L ± 0.25 ID>80 L ± 0.50	
95	94.964 94.910	95.087 95.000	100	100.035 100.000	+0.120 +0.070	115	70	E90F/E92F 9070
							80	E90F/E92F 9080
							90	E90F/E92F 9090
100	99.964 99.910	100.087 100.000	105	105.035 105.000		120	50	E90F/E92F 10050
							60	E90F/E92F 10060
							70	E90F/E92F 10070
							80	E90F/E92F 10080
							90	E90F/E92F 10090
110	109.964 109.910	110.087 110.000	115	115.035 110.000		130	50	E90F/E92F 11050
							60	E90F/E92F 11060
							70	E90F/E92F 11070
							80	E90F/E92F 11080
							90	E90F/E92F 11090
120	119.964 119.910	120.087 120.000	125	125.035 125.000		140	60	E90F/E92F 12060
							70	E90F/E92F 12070
							80	E90F/E92F 12080
							90	E90F/E92F 12090
130	129.957 129.894	130.100 130.000	135	135.040 135.000	+0.170 +0.100	155	60	E90F/E92F 13060
							70	E90F/E92F 13070
							80	E90F/E92F 13080
							90	E90F/E92F 13090
140	139.957 139.894	140.100 140.000	145	145.040 145.000		165	60	E90F/E92F 14060
							70	E90F/E92F 14070
							80	E90F/E92F 14080
							90	E90F/E92F 14090
150	149.957 149.894	150.100 150.000	155	155.040 155.000		180	60	E90F/E92F 15060
							70	E90F/E92F 15070
							80	E90F/E92F 15080
							90	E90F/E92F 15090
160	159.957 159.894	160.100 160.000	165	165.040 165.000		190	60	E90F/E92F 16060
							70	E90F/E92F 16070
							80	E90F/E92F 16080
							90	E90F/E92F 16090
170	169.957 169.894	170.100 170.000	175	175.040 175.000		200	60	E90F/E92F 17060
							70	E90F/E92F 17070

内径 Internal Diameter			外径 External Diameter			法兰外径 Flang Φ D_f	高度 Length	型号 Part No
内径 d	装配轴径 Shaft-Φd_s	装配后内孔尺寸 Φd_i(H9)	外径 D	装配座孔 Housing-ΦD_H	理论外径公差 O.D. ΦD_t		ID<80 L ± 0.25 ID>80 L ± 0.50	
170	169.957 169.894	170.100 170.000	175	175.040 175.000	+0.170 +0.100	200	80	E90F/E92F 17080
							90	E90F/E92F 17090
180	179.957 179.894	180.100 180.000	185	185.040 185.000		215	60	E90F/E92F 18060
							70	E90F/E92F 18070
							80	E90F/E92F 18080
							90	E90F/E92F 18090
190	189.950 189.878	190.115 190.000	195	195.046 195.000	+0.210 +0.130	225	60	E90F/E92F 19060
							70	E90F/E92F 19070
							80	E90F/E92F 19080
							90	E90F/E92F 19090
200	199.950 199.878	200.115 200.000	205	205.046 205.000		235	60	E90F/E92F 20060
							70	E90F/E92F 20070
							80	E90F/E92F 20080
							90	E90F/E92F 20090
225	224.950 224.878	225.115 225.000	230	230.046 230.000		260	60	E90F/E92F 22560
							70	E90F/E92F 22570
							80	E90F/E92F 22580
							90	E90F/E92F 22590
250	249.950 249.878	250.115 250.000	255	255.046 255.000		290	60	E90F/E92F 25060
							70	E90F/E92F 25070
							80	E90F/E92F 25080
							90	E90F/E92F 25090
265	264.944 264.863	265.130 265.000	270	270.052 270.000	+0.260 +0.170	305	60	E90F/E92F 26560
							70	E90F/E92F 26570
							80	E90F/E92F 26580
							90	E90F/E92F 26590
285	284.944 284.863	285.130 285.000	290	290.052 290.000		325	60	E90F/E92F 28560
							70	E90F/E92F 28570
							80	E90F/E92F 28580
							90	E90F/E92F 28590
300	299.944 299.863	300.130 300.000	305	305.052 305.000		340	60	E90F/E92F 30060
							70	E90F/E92F 30070
							80	E90F/E92F 30080
							90	E90F/E92F 30090

6 轴公差表(250)
Shaft Tolerance Table (250)

≥	<	c9	d8	e7	e8	f7	g6	h5	h6	h7	h8	js6	js7	k6	m6	n6	p6	p7	r6	s6
-	3	-60 -85	-20 -34	-14 -24	-14 -28	-6 -16	-2 -8	0 -4	0 -6	0 -10	0 -14	± 3	± 5	+6 0	+8 +2	+10 +4	+12 +6	+16 +6	+16 +10	+20 +14
3	6	-70 -100	-30 -48	-20 -32	-20 -38	-10 -22	-4 -12	0 -5	0 -8	0 -12	0 -18	± 4	± 6	+9 +1	+12 +4	+16 +8	+20 +12	+24 +12	+23 +15	+27 +19
6	10	-80 -116	-40 -62	-25 -40	-25 -47	-13 -28	-5 -14	0 -6	0 -9	0 -15	0 -22	± 4.5	± 7	+10 +1	+15 +6	+19 +10	+24 +15	+30 +15	+28 +19	+32 +23
10	18	-95 -138	-50 -77	-32 -50	-32 -59	-16 -34	-6 -17	0 -8	0 -11	0 -18	0 -27	± 5.5	± 9	+12 +1	+18 +7	+23 +12	+29 +18	+36 +18	+34 +23	+39 +28
18	24	-110 -162	-65 -98	-40 -61	-40 -73	-20 -41	-7 -20	0 -9	0 -13	0 -21	0 -33	± 6.5	± 10	+15 +2	+21 +8	+28 +15	+35 +22	+43 +22	+41 +28	+48 +35
24	30																			
30	40	-120 -182	-80 -119	-50 -75	-50 -89	-25 -50	-9 -25	0 -11	0 -16	0 -25	0 -39	± 8	± 12	+18 +2	+25 +9	+33 +17	+42 +26	+51 +26	+50 +34	+59 +43
40	50	-130 -192																		
50	65	-140 -214	-100 -146	-60 -90	-60 -106	-30 -60	-10 -29	0 -13	0 -19	0 -30	0 -46	± 9.5	± 15	+21 +2	+30 +11	+39 +20	+51 +32	+62 +32	+60 +41	+72 +53
65	80	-150 -224																	+62 +43	+78 +59
80	100	-170 -257	-120 -174	-72 -107	-72 -126	-36 -71	-12 -34	0 -15	0 -22	0 -35	0 -54	± 11	± 17	+25 +3	+35 +13	+45 +23	+59 +37	+72 +37	+73 +51	+93 +71
100	120	-180 -267																	+76 +54	+101 +79
120	140	-200 -300	-145 -208	-85 -125	-85 -148	-43 -83	-14 -39	0 -18	0 -25	0 -40	0 -63	± 12.5	± 20	+28 +3	+40 +15	+52 +27	+68 +43	+83 +43	+88 +63	+117 +92
140	160	-210 -310																	+90 +65	+125 +100
160	180	-230 -330																	+93 +68	+133 +108
180	200	-240 -355	-170 -242	-100 -146	-100 -172	-50 -96	-15 -44	0 -20	0 -29	0 -46	0 -72	± 14.5	± 23	+33 +14	+46 +17	+60 +31	+79 +50	+96 +50	+106 +77	+151 +122
200	225	-260 -375																	+109 +80	+159 +130
225	250	-280 -395																	+113 +84	+169 +140
250	280	-300 -430	-190 -271	-110 -162	-110 -191	-56 -108	-17 -49	0 -23	0 -32	0 -52	0 -81	± 16	± 26	+36 +14	+52 +20	+66 +34	+88 +56	+108 +56	+126 +94	+190 +158
280	315	-330 -460																	+130 +98	+202 +170
315	355	-360 -500	-210 -299	-125 -182	-125 -214	-62 -119	-18 -54	0 -25	0 -36	0 -57	0 -89	± 18	± 28	+40 +4	+57 +21	+73 +37	+98 +62	+119 +62	+114 +108	+226 +190
355	400	-400 -540																	+150 +114	+244 +208
400	450	-440 -595	-230 -327	-135 -198	-135 -232	-68 -131	-20 -60	0 -27	0 -40	0 -63	0 -97	± 20	± 31	+45 +5	+63 +23	+80 +40	+108 +68	+131 +68	+166 +126	+272 +232
450	500	-480 -635																	+172 +132	+292 +252

7 座孔公差表(250)
Housing Tolerance Table (250)

≥	<	B10	C9	D8	E7	E8	F7	G7	H6	H7	H8	JS7	K7	M7	N7	P7	R7	S7	T7
-	3	+180 +140	+85 +60	+34 +20	+24 +14	+28 +14	+16 +6	+12 +2	+6 0	+10 0	+14 0	± 5	0 -10	-2 -12	-4 -14	-6 -16	-10 -20	-14 -24	-
3	6	+188 +140	+100 +70	+48 +30	+32 +20	+38 +20	+22 +10	+16 +4	+8 0	+12 0	+18 0	± 6	+3 -9	0 -12	-4 -16	-8 -20	-11 -23	-15 -27	-
6	10	+208 +150	+116 +80	+62 +40	+40 +25	+47 +25	+28 +13	+20 +5	+9 0	+15 0	+22 0	± 7	+5 -10	0 -15	-4 -19	-9 -24	-13 -28	-17 -32	-
10	14	+200 +150	+138 +95	+77 +50	+50 +32	+59 +32	+34 +16	+24 +6	+11 0	+18 0	+27 0	± 9	+6 -12	0 -18	-5 -23	-11 -29	-16 -34	-21 -39	-
14	18																		
18	24	+244 +160	+162 +110	+98 +65	+61 +40	+73 +40	+41 +20	+28 +7	+13 0	+21 0	+33 0	± 10	+6 -15	0 -21	-7 -28	-14 -35	-20 -41	-27 -48	-
24	30																		-33 -54
30	40	+270 +170	+182 +120	+119 +80	+75 +50	+89 +50	+50 +25	+34 +9	+16 0	+25 0	+39 0	± 12	+7 -18	0 -25	-8 -33	-17 -42	-25 -50	-34 -59	-39 -64
40	50	+280 +180	+192 +130																-45 -70
50	65	+310 +190	+214 +140	+146 +100	+90 +60	+106 +60	+60 +30	+40 +10	+19 0	+30 0	+46 0	± 15	+9 -21	0 -30	-9 -39	-21 -51	-30 -60	-42 -72	-55 -85
65	80	+320 +200	+224 +150														-32 -62	-48 -78	-64 -94
80	100	+360 +220	+257 +170	+174 +120	+107 +72	+125 +72	+71 +36	+47 +12	+22 0	+35 0	+54 0	± 17	+10 -25	0 -35	-10 -45	-24 -59	-38 -73	-58 -93	-78 -113
100	120	+380 +240	+267 +180														-41 -76	-66 -101	-91 -126
120	140	+420 +260	+300 +200	+208 +145	+125 +85	+148 +85	+83 +43	+54 +14	+25 0	+40 0	+63 0	± 20	+12 -28	0 -40	-12 -52	-28 -68	-48 -88	-77 -117	-107 -147
140	160	+440 +280	+310 +210														-50 -90	-85 -125	-119 -159
160	180	+470 +310	+330 +230														-53 -93	-93 -133	-131 -171
180	200	+525 +340	+355 +240	+242 +170	+146 +100	+172 +100	+96 +50	+61 +15	+29 0	+46 0	+72 0	± 23	+13 -33	0 -46	-14 -60	-33 -79	-60 -106	-105 -151	-149 -195
200	225	+565 +380	+375 +260														-63 -109	-113 -159	-163 -209
225	250	+605 +420	+395 +280														-67 -113	-123 -169	-179 -225
250	280	+690 +480	+430 +300	+271 +190	+162 +110	+191 +110	+108 +56	+69 +17	+32 0	+52 0	+81 0	± 26	+16 -36	0 -52	-14 -66	-36 -88	-74 -126	-138 -190	-198 -250
280	315	+750 +540	+460 +330														-78 -130	-150 -202	-220 -272
315	355	+830 +600	+500 +360	+299 +210	+182 +125	+214 +125	+119 +62	+75 +18	+36 0	+57 0	+89 0	± 28	+17 -40	0 -57	-16 -73	-41 -98	-87 -144	-169 -226	-247 -304
355	400	+910 +680	+540 +400														-93 -150	-187 -224	-273 -330
400	450	+1010 +760	+595 +440	+327 +230	+198 +135	+232 +135	+131 +68	+83 +20	+40 0	+63 0	+97 0	± 31	+18 -45	0 -63	-17 -80	-45 -108	-103 -166	-209 -272	-307 -370
450	500	+1090 +840	+635 +480														-109 -172	-229 -292	-337 -400

8 卷制轴套检测 Wrapped Bushing Measurement

在自由状态下，卷制类轴套有一定的开口缝，不能精确的测量外径和内径。所以，卷制类轴承的内外径应有专业的测量工具和设备进行。

In free state, wrapped bushing will not be closed, which is impossble to accurately measure External diameter & Internal diameter. When wrapped bushing Measured, special gauges and test equipments is necessary.

外径检测 Test external diameter ISO 3547-2 TEST B

轴套用力压入环规通规（最大加力250N）通过

Press the bushing into Go ring gange. And push bushing throngh by hand (Max. force 250N)

用上述同样方法和相同力压入环规止端不通过

Use the above same way & press, bushing can not go into No Go ring gauge.

内径检测 Test Internal diameter ISO 3547-2 TEST C

当轴套压入环规，塞规通端通过用较小力，塞规止端通过用较大力不超过250N

Press the bushing into ring gauge. The Go plug gauge could be inserted by a light pressure. The No Go plug gauge could not be inserted by heary pressure (Max.force 250N)

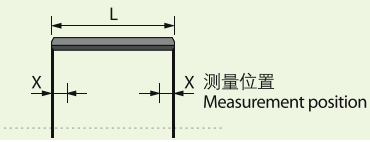
注意：轴套压入环规，轴套外径可能会永久减小

Note: When the bushing is pressed into ring gauge, external diameter could be permanent reduction.

壁厚测量 Wall thickness Meaurment

轴套壁厚测量: 按轴套高度在轴套轴向上测量一点，两点或三点。

The wall thickness of bushing is measured by profession gauge at one, two, or three positions according to bushing length.



L [mm]	X [mm]	Measurement position
L≤15	L/2	1
15 < L≤50	4	2
50 < L≤90	6 and L/2	3
L > 90	8 and L/2	3

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