

HPP30-工程塑料轴承 Plastic Plain Bearings

产品特性 Product Features

■ 低吸水性、高承载性能，可被用于潮湿环境而耐磨性能同样出色材料，特种金属粉末的掺入使得此轴承成为可被探混的材料

■ 连续使用温度：-50℃/+110℃

■ 适合多数中高载荷场合

■ 适合干运行、免维护

■ 特殊材料优异的热传导性

■ 适合低速运动

■ This material is with low water absorb characteristic and high load capacity. It is widely used for the humidity condition and wear resistance require special metal powder enables this material to be a detective one

■ Continuous working temperature: -50℃/+110℃

■ Suitable for medium and high load operation

■ Soft material shaft can be used

■ Maintenance-free dry operation

■ Excellent thermal conductivity

■ Good for low speed operation



材料性能 Material Properties	试验方法 Testing Method	单位 Unit	HPP30
密度 Density	ISO1183	g/cm ³	1.51
颜色 Color			红棕 Red Brown
对钢的动摩擦系数 Dynamic friction/steel(dry)			0.08-0.20
最大 P.V 值 Max. PV (dry)		N/mm ² × m/s	0.6
最大旋转速度值 Max. rotating velocity		m/s	1.0
最大摇摆速度值 Max. oscillating velocity		m/s	0.7
最大直线速度值 Max. linear velocity		m/s	3.0
抗拉强度 Tensile strength	ISO527	MPa	80
抗压强度 (轴向) Compressive strength(Axial)		MPa	75
弹性模量 E-module	ISO527	MPa	2500
允许最大表面静压力 (20℃) Max.static pressure of the surface, 20℃		MPa	70
邵氏硬度 Rockwell hardness	ISO868	D	77
连续工作温度 continuous work temperature		℃	-50/+110
短时运行温度 Short-time		℃	-50/+170
导热性 Thermal conductivity	ASTME1461	W/m × k	0.3
线性热膨胀系数 Linear coef. of thermal expansion	ASTMD696	K ⁻¹ × 10 ⁻⁵	8
RH50/23℃时的吸湿性 Moisture absorption RH50/23℃	ASTMD570	%	0.2
最大吸水率 23℃ Max. water absorption, 23℃		%	0.5
燃烧性能 Flammability	UL94		HB
体电阻率 Volume resistivity	IEC60093	Ω cm	> 10 ¹⁴
面电阻率 Surface resistivity	IEC60093	Ω	> 10 ¹⁵

HPP30-工程塑料轴承 Plastic Plain Bearings

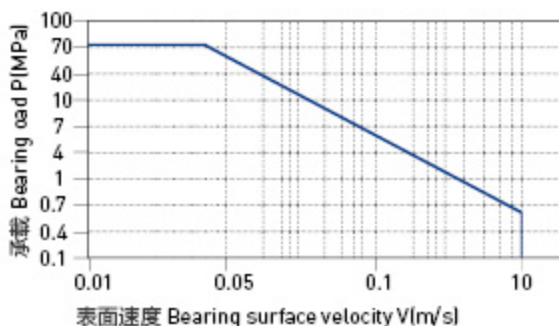
轴承PV值 PV Value

HPP30塑料轴承最大运行PV值为 $0.6\text{N/mm}^2 \times \text{m/s}$;由此决定轴承所承受的载荷与速度成反比, 详情查阅图表HPP30-1。

The max PV value of the HPP30 plastic bearing is $0.6\text{N/mm}^2 \times \text{m/s}$ which determines the load capacity of bearing is inversely proportional to the speed. Please refer to the chart for more detailed information (Graph HPP30-1).

图表 HPP30-1: PV 图表

Graph HPP30-1: Permissible PV value for HPP30



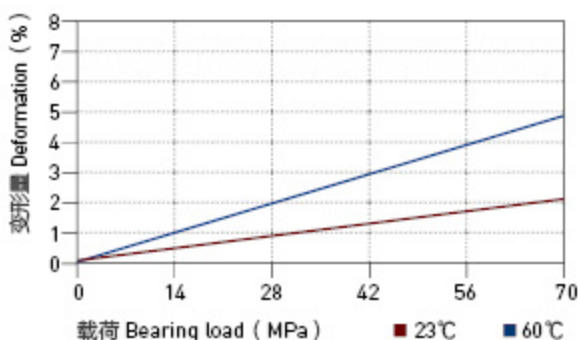
轴承的载荷、速度、温度 The Relation Of Load, Speed And Temperature

HPP30塑料轴承可承受最大静载荷为70Mpa, 在此载荷下轴承的最大压缩变形量参考图表HPP30-2, 轴承实际工作载荷小于70Mpa, 载荷还受到运行速度以及温度的影响, 速度越快 (Vmax: 1.0m/s)会导致摩擦温度上升, 而温度上升 (Tmax: 110°C)会导致轴承的承载能力逐渐减弱, 载荷随轴承工作温度变化情况参考图表HPP30-3。

HPP30 allows the max static load of 70Mpa, The max compressive deformation rate under the max load is listed in Graph HPP30-2; The actual load capacity of bearing is slightly less than 70Mpa, The bearing load is variable against the speed and temperature, Fast speed (Vmax: 1.0m/s) results into higher temperature (Tmax: 110°C) which decreases the load capacity of the bearing. Please refer to the Graph HPP30-3 for such variation.

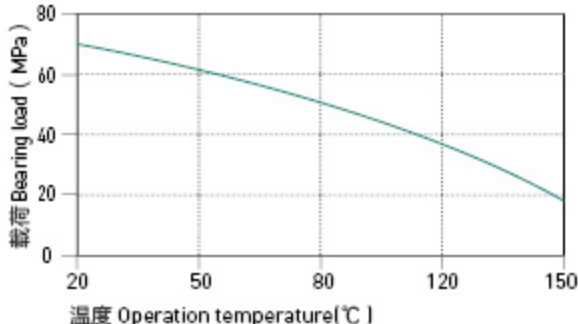
图表 HPP30-2: 载荷 - 温度 - 变形量图表

Graph HPP30-2: Load-Temperature deformation



图表 HPP30-3: 载荷 - 温度图表

Graph HPP30-3: Load-Temperature diagrams



HPP30-工程塑料轴承 Plastic Plain Bearings

轴承的摩擦系数、磨损、轴材料 Friction Factor, Wear And Shaft Material

■ 轴承的摩擦系数 Friction factor

图HPP30-4表明HPP30轴承和大多数滑动轴承一样在载荷不变的情况下摩擦系数会随着旋转速度的增加略有升高；图HPP30-5表明HPP30轴承摩擦系数在速度保持不变的情况下随着载荷的增加而逐步降低；图HPP30-6表明HPP30轴承最适合的轴表面粗糙度为Ra0.2-0.6 μ m，轴过于光滑或者过于粗糙都会导致摩擦系数升高。

Graph HPP30-4 shows that as most of the slide bearing materials, the friction factor of HPP30 is increasing along with the rotation speed under a certain loading while as shown in figure HPP30-5, it is decreased along with the increasing of loading when the operation speed is stable. From figure HPP30-6, it is found that the most suitable shaft roughness is Ra0.2 to Ra0.6. Smoother shaft or rougher shaft may result into friction increasing.

HPP30	干运行 Dry	油脂 Grease	油 Oil	水 Water
摩擦系数 μ Friction coef.	0.08-0.20	0.09	0.04	0.04

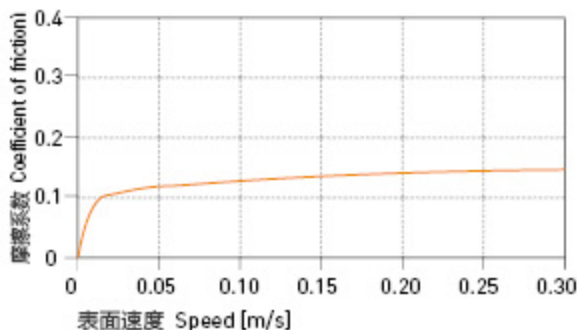
■ 磨损与轴材料 Wearing and shaft material

图HPP30-7都表明HPP30轴承的磨损受轴材料影响比较大，硬化钢轴和碳钢轴比较适合此轴承。HPP30在摆动运动时选择硬铬钢轴和硬化钢轴比较适合，在旋转运动中也是选择硬铬钢轴和硬化钢轴比较理想。

Graph HPP30-7 shows the wearing is considerably affected by the shaft materials. Heat-treated steel shaft and carbon steel shaft is good for this bearing material. HPP30 is suitable for hardened chrome steel and hardened steel shaft in oscillation operation and is suitable for hardened chrome steel and hardened steel shaft in rotation operation.

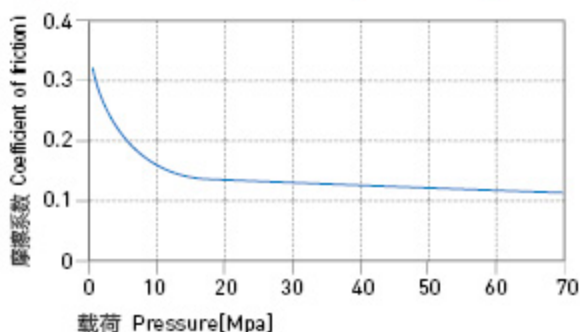
图表 HPP30-4: 摩擦系数与速度变化关系图表 P=2MPa

Graph HPP30-4: Coefficient of friction & the speed of bearing, P=2Mpa



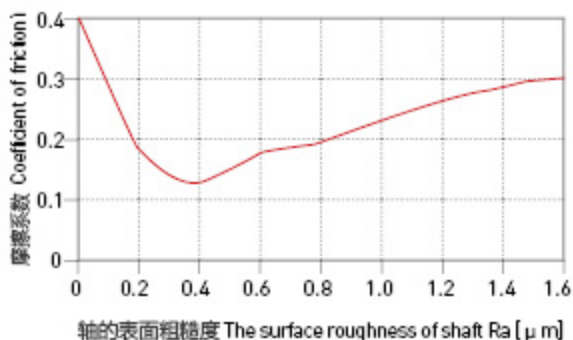
图表 HPP30-5: 摩擦系数与载荷变化关系图表 v=0.2m/s

Graph HPP30-5: Coefficient of friction & the pressure of bearing, v=0.2m/s



图表 HPP30-6: 摩擦系数与轴的轴表面粗糙度关系图表

Graph HPP30-6: Coefficient of friction & the surface roughness of shaft



HPP30-工程塑料轴承 Plastic Plain Bearings

轴承的摩擦系数、磨损、轴材料 Friction Factor, Wear And Shaft Material

■ 化学抗性 Chemical Resistance

HPP30塑料轴承能抵抗弱酸以及各类润滑油的腐蚀。

HPP30 is good at chemical resistance against weak acidic medium and various kinds of lubricants.

■ 吸水性 Water Absorbability

在标准大气压中, HPP30 塑料轴承的吸水率极低为0.2%, 浸泡水中最大平衡率为0.5%; 由此吸水率的特性, 此轴承可以应用于一般潮湿环境中。

The water absorb rate of HPP30 is 0.2% under the atmospheric pressure while it is 0.5% when the material is immersed into water. With its low water absorbability, the material is suitable for humid environment applications.

■ 抗UV性能 UV Resistance

HPP30长久暴露在紫外线下面颜色会发生褪变。材料性能会有所下降。

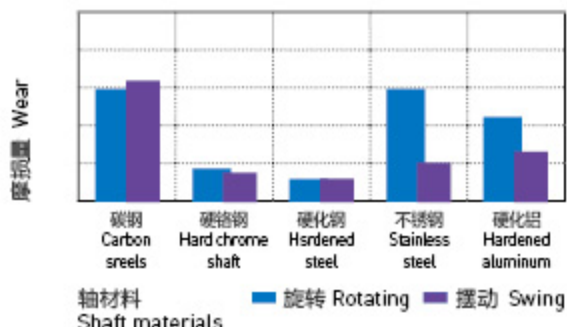
Disintegration could be possible for the material HPP30 after long period of exposing under the UV ray and therefore the performance of the material will be reduced.

■ 安装公差 Installation Tolerances

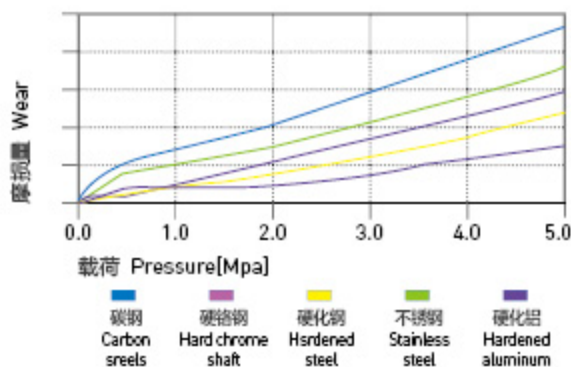
HPP30塑料轴承压装后公差Tolerances after pressfit

直径 Di. [mm]	HPP30 E10 [mm]	座孔 Housing H7 [mm]	轴 Shaft h9 [mm]
> 0-3	+0.014~+0.054	0~+0.010	0~-0.025
> 3-6	+0.020~+0.068	0~+0.012	0~-0.030
> 6-10	+0.025~+0.083	0~+0.015	0~-0.036
> 10-18	+0.032~+0.102	0~+0.018	0~-0.043
> 18-30	+0.040~+0.124	0~+0.021	0~-0.052
> 30-50	+0.050~+0.150	0~+0.025	0~-0.062
> 50-80	+0.060~+0.180	0~+0.030	0~-0.074
> 80-120	+0.072~+0.212	0~+0.035	0~-0.087
> 120-180	+0.085~+0.245	0~+0.040	0~-0.100

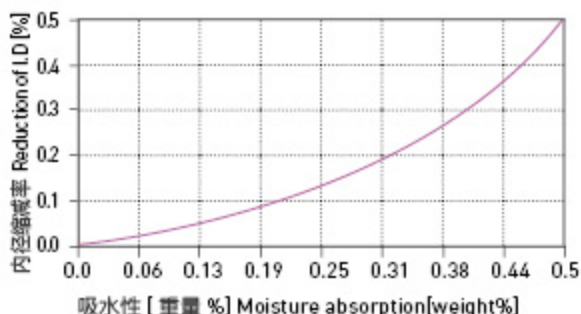
图表 HPP30-7: 在不同轴材料上旋转时的磨损量 $P=2MPa$, $v=0.2m/s$
Graph HPP30-7: The bearing wear under rotating with different shaft materials, $p=2MPa$, $v=0.2m/s$



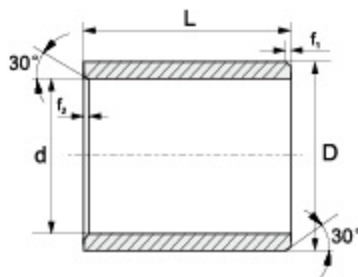
图表 HPP30-8: 旋转磨损随轴材料与压力变化关系 $v=0.2m/s$
Graph HPP30-8: The bearing wear & pressure under rotating with different shaft materials, $v=0.2m/s$



图表 HPP30-9: 吸水性的影响
Graph HPP30-9: Effect of moisture absorption on HPP30 bearings



HPP30 标准规格 直套 Metric Cylindrical Bushings



推荐安装公差 Recommend fitting tolerance:

座孔 Housing: H7

轴 Shaft: h9

订购编码 Order P/N:

HPP30-0304-03

材料 Material

d	f ₁	f ₂
1-6	0.3	0.5
6-12	0.5	
12-30	0.8	
>30	1.2	

订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP30-0304-03	3	+0.014/+0.054	4.5	3
HPP30-0304-05	3	+0.014/+0.054	4.5	5
HPP30-0304-06	3	+0.014/+0.054	4.5	6
HPP30-0305-05	3	+0.014/+0.054	5	5
HPP30-0405-04	4	+0.02/+0.068	5.5	4
HPP30-0405-06	4	+0.02/+0.068	5.5	6
HPP30-0405-08	4	+0.02/+0.068	5.5	8
HPP30-0406-06	4	+0.02/+0.068	6	6
HPP30-0507-05	5	+0.02/+0.068	7	5
HPP30-0507-08	5	+0.02/+0.068	7	8
HPP30-0507-10	5	+0.02/+0.068	7	10
HPP30-0507-12	5	+0.02/+0.068	7	12
HPP30-0507-18	5	+0.02/+0.068	7	18
HPP30-0608-04	6	+0.02/+0.068	8	4
HPP30-0608-05	6	+0.02/+0.068	8	5
HPP30-0608-06	6	+0.02/+0.068	8	6
HPP30-0608-08	6	+0.02/+0.068	8	8
HPP30-0608-10	6	+0.02/+0.068	8	10
HPP30-0608-11	6	+0.02/+0.068	8	11
HPP30-0810-05	8	+0.025/+0.083	10	5
HPP30-0810-06	8	+0.025/+0.083	10	6
HPP30-0810-08	8	+0.025/+0.083	10	8
HPP30-0810-10	8	+0.025/+0.083	10	10
HPP30-0810-11	8	+0.025/+0.083	10	11
HPP30-0810-12	8	+0.025/+0.083	10	12
HPP30-0810-15	8	+0.025/+0.083	10	15
HPP30-0811-10	8	+0.025/+0.083	11	10
HPP30-0812-10	8	+0.025/+0.083	12	10
HPP30-0911-06	9	+0.025/+0.083	11	6
HPP30-1012-04	10	+0.025/+0.083	12	4
HPP30-1012-05	10	+0.025/+0.083	12	5
HPP30-1012-06	10	+0.025/+0.083	12	6
HPP30-1012-08	10	+0.025/+0.083	12	8
HPP30-1012-10	10	+0.025/+0.083	12	10
HPP30-1012-12	10	+0.025/+0.083	12	12

订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP30-1012-15	10	+0.025/+0.083	12	15
HPP30-1014-10	10	+0.025/+0.083	14	10
HPP30-1014-16	10	+0.025/+0.083	14	16
HPP30-1012-18	10	+0.025/+0.083	12	18
HPP30-1012-20	10	+0.025/+0.083	12	20
HPP30-1214-06	12	+0.032/+0.102	14	6
HPP30-1214-08	12	+0.032/+0.102	14	8
HPP30-1214-10	12	+0.032/+0.102	14	10
HPP30-1214-12	12	+0.032/+0.102	14	12
HPP30-1214-15	12	+0.032/+0.102	14	15
HPP30-1214-20	12	+0.032/+0.102	14	20
HPP30-1214-25	12	+0.032/+0.102	14	25
HPP30-1214-30	12	+0.032/+0.102	14	30
HPP30-1215-20	12	+0.032/+0.102	15	20
HPP30-1216-12	12	+0.032/+0.102	16	12
HPP30-1315-07	13	+0.032/+0.102	15	7
HPP30-1315-10	13	+0.032/+0.102	15	10
HPP30-1416-08	14	+0.032/+0.102	16	8
HPP30-1416-10	14	+0.032/+0.102	16	10
HPP30-1416-12	14	+0.032/+0.102	16	12
HPP30-1416-15	14	+0.032/+0.102	16	15
HPP30-1416-20	14	+0.032/+0.102	16	20
HPP30-1416-25	14	+0.032/+0.102	16	25
HPP30-1517-10	15	+0.032/+0.102	17	10
HPP30-1517-12	15	+0.032/+0.102	17	12
HPP30-1517-15	15	+0.032/+0.102	17	15
HPP30-1517-17	15	+0.032/+0.102	17	17
HPP30-1517-20	15	+0.032/+0.102	17	20
HPP30-1517-25	15	+0.032/+0.102	17	25
HPP30-1618-10	16	+0.032/+0.102	18	10
HPP30-1618-12	16	+0.032/+0.102	18	12
HPP30-1618-15	16	+0.032/+0.102	18	15
HPP30-1618-20	16	+0.032/+0.102	18	20
HPP30-1618-25	16	+0.032/+0.102	18	25
HPP30-1619-5.5S	16	+0.015/+0.055	19	5.5

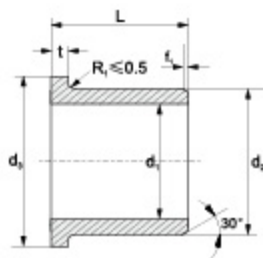
订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP30-1620-16	16	+0.032/+0.102	20	16
HPP30-1820-15	18	+0.032/+0.102	20	15
HPP30-1820-20	18	+0.032/+0.102	20	20
HPP30-1820-25	18	+0.032/+0.102	20	25
HPP30-2022-12	20	+0.04/+0.124	22	12
HPP30-2022-15	20	+0.04/+0.124	22	15
HPP30-2022-28	20	+0.04/+0.124	22	28
HPP30-2023-10	20	+0.04/+0.124	23	10
HPP30-2023-15	20	+0.04/+0.124	23	15
HPP30-2023-20	20	+0.04/+0.124	23	20
HPP30-2023-23	20	+0.04/+0.124	23	23
HPP30-2023-25	20	+0.04/+0.124	23	25
HPP30-2023-30	20	+0.04/+0.124	23	30
HPP30-2025-15	20	+0.04/+0.124	25	15
HPP30-2225-15	22	+0.04/+0.124	25	15
HPP30-2225-20	22	+0.04/+0.124	25	20
HPP30-2225-25	22	+0.04/+0.124	25	25
HPP30-2225-30	22	+0.04/+0.124	25	30
HPP30-2528-10	25	+0.04/+0.124	28	10
HPP30-2528-12	25	+0.04/+0.124	28	12
HPP30-2528-15	25	+0.04/+0.124	28	15
HPP30-2528-20	25	+0.04/+0.124	28	20
HPP30-2528-25	25	+0.04/+0.124	28	25
HPP30-2528-30	25	+0.04/+0.124	28	30
HPP30-2529-25	25	+0.04/+0.124	29	25
HPP30-2530-25	25	+0.02/+0.104	30	25
HPP30-2832-20	28	+0.04/+0.124	32	20
HPP30-2832-25	28	+0.04/+0.124	32	25
HPP30-2832-30	28	+0.04/+0.124	32	30
HPP30-3034-20	30	+0.04/+0.124	34	20
HPP30-3034-25	30	+0.04/+0.124	34	25
HPP30-3034-30	30	+0.04/+0.124	34	30
HPP30-3034-40	30	+0.04/+0.124	34	40

订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP30-3236-20	32	+0.05/+0.15	36	20
HPP30-3236-23	32	+0.05/+0.15	36	23
HPP30-3236-25	32	+0.05/+0.15	36	25
HPP30-3236-30	32	+0.05/+0.15	36	30
HPP30-3236-40	32	+0.05/+0.15	36	40
HPP30-3539-15	35	+0.05/+0.15	39	15
HPP30-3539-20	35	+0.05/+0.15	39	20
HPP30-3539-25	35	+0.05/+0.15	39	25
HPP30-3539-30	35	+0.05/+0.15	39	30
HPP30-3539-40	35	+0.05/+0.15	39	40
HPP30-3539-50	35	+0.05/+0.15	39	50
HPP30-4044-20	40	+0.05/+0.15	44	20
HPP30-4044-30	40	+0.05/+0.15	44	30
HPP30-4044-40	40	+0.05/+0.15	44	40
HPP30-4044-50	40	+0.05/+0.15	44	50
HPP30-4550-30	45	+0.05/+0.15	50	30
HPP30-4550-40	45	+0.05/+0.15	50	40
HPP30-4550-50	45	+0.05/+0.15	50	50
HPP30-5055-10	50	+0.05/+0.15	55	10
HPP30-5055-20	50	+0.05/+0.15	55	20
HPP30-5055-30	50	+0.05/+0.15	55	30
HPP30-5055-40	50	+0.05/+0.15	55	40
HPP30-5055-50	50	+0.05/+0.15	55	50
HPP30-5456-30	54	+0.060/+0.180	56	30
HPP30-6065-50	60	+0.060/+0.180	65	50
HPP30-7075-50	70	+0.060/+0.180	75	50
HPP30-8085-40	80	+0.060/+0.180	85	40
HPP30-8590-40	85	+0.072/+0.212	90	40
HPP30-125130-60S	125	+0.043/+0.143	130	60
HPP30-150155-60S	150	+0.043/+0.143	155	60

*d 公差为压入标准 H7 座孔 (ISO3547-1) 后公差

*Tolerance d: after being pressed into housing H7(ISO3547-1)

翻边轴套 Metric Flange Bushings



推荐安装公差 Recommend fitting tolerance:

座孔 Housing: H7

轴 Shaft: h9

订购编码 Order P/N:

HPP30 F-0304-03

材料 Material
 翻边轴套 Flange bushes

d	f
1-6	0.3
6-12	0.5
12-30	0.8
>30	1.2

订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.12} [mm]
HPP30F-0304-03	3	+0.014/+0.054	4.5	7.5	3	0.75
HPP30F-0304-05	3	+0.014/+0.054	4.5	7.5	5	0.75
HPP30F-040503	4	+0.02/+0.068	5.5	9.5	3	0.75
HPP30F-0405-06	4	+0.02/+0.068	5.5	9.5	6	0.75
HPP30F-050703	5	+0.02/+0.068	7	11	3	1
HPP30F-0507-04	5	+0.02/+0.068	7	11	4	1
HPP30F-0507-05	5	+0.02/+0.068	7	11	5	1
HPP30F-0608-04	6	+0.02/+0.068	8	12	4	1
HPP30F-0608-05	6	+0.02/+0.068	8	12	5	1
HPP30F-0608-06	6	+0.02/+0.068	8	12	6	1
HPP30F-0608-08	6	+0.02/+0.068	8	12	8	1
HPP30F-0608-10	6	+0.02/+0.068	8	12	10	1
HPP30F-0810-05	8	+0.025/+0.083	10	15	5	1
HPP30F-0810-06	8	+0.025/+0.083	10	15	6	1
HPP30F-0810-07	8	+0.025/+0.083	10	15	7	1
HPP30F-0810-09	8	+0.025/+0.083	10	15	9	1
HPP30F-0810-10	8	+0.025/+0.083	10	15	10	1
HPP30F-081014-12	8	+0.025/+0.083	10	14	12	1
HPP30F-081014-12F2	8	+0.025/+0.083	10	14	12	2
HPP30F-0810-12	8	+0.025/+0.083	10	15	12	1
HPP30F-081018-13	8	+0.025/+0.083	10	18	13	1
HPP30F-081017-15	8	+0.025/+0.083	10	17	15	1
HPP30F-081216-10	8	+0.013/+0.071	12	16	10	2
HPP30F-0912-10	9	+0.025/+0.083	12	18	10	2
HPP30F-1012-05	10	+0.025/+0.083	12	18	5	1
HPP30F-1012-06	10	+0.025/+0.083	12	18	6	1
HPP30F-1012-07	10	+0.025/+0.083	12	18	7	1
HPP30F-1012-08	10	+0.025/+0.083	12	18	8	1
HPP30F-1012-09	10	+0.025/+0.083	12	18	9	1
HPP30F-1012-10	10	+0.025/+0.083	12	18	10	1
HPP30F-1012-12	10	+0.025/+0.083	12	18	12	1
HPP30F-1012-15	10	+0.025/+0.083	12	18	15	1
HPP30F-1012-17	10	+0.025/+0.083	12	18	17	1
HPP30F-101216-12	10	+0.013/+0.071	12	16	12	2
HPP30F-101418-10	10	+0.013/+0.071	14	18	10	2
HPP30F-1214-04	12	+0.032/+0.102	14	20	4	1
HPP30F-1214-05	12	+0.032/+0.102	14	20	5	1
HPP30F-1214-06	12	+0.032/+0.102	14	20	6	1
HPP30F-1214-07	12	+0.032/+0.102	14	20	7	1
HPP30F-1214-09	12	+0.032/+0.102	14	20	9	1
HPP30F-1214-10	12	+0.032/+0.102	14	20	10	1
HPP30F-1214-12	12	+0.032/+0.102	14	20	12	1
HPP30F-1214-13	12	+0.032/+0.102	14	20	13	1
HPP30F-1214-15	12	+0.032/+0.102	14	20	15	1
HPP30F-1214-17	12	+0.032/+0.102	14	20	17	1
HPP30F-1214-18	12	+0.032/+0.102	14	20	18	1
HPP30F-1214-20	12	+0.032/+0.102	14	20	20	1
HPP30F121417-04	12	+0.032/+0.102	14	17	4	1
HPP30F-121417-05	12	+0.032/+0.102	14	17	5	1
HPP30F-121418-12F2	12	+0.016/+0.086	14	18	12	2
HPP30F-121418-25	12	+0.032/+0.102	14	18	25	1
HPP30F-121418-40F2	12	+0.016/+0.086	14	18	40	2
HPP30F-121620-10	12	+0.016/+0.086	16	20	10	2
HPP30F-121620-12	12	+0.016/+0.086	16	20	12	2

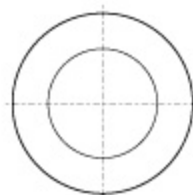
订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.12} [mm]
HPP30F-131519-12	13	+0.032/+0.102	15	19	12	1
HPP30F-1416-052	14	+0.032/+0.102	16	22	5.2	1
HPP30F-1416-08	14	+0.032/+0.102	16	22	8	1
HPP30F-1416-10	14	+0.032/+0.102	16	22	io	1
HPP30F-1416-12	14	+0.032/+0.102	16	22	12	1
HPP30F-1416-17	14	+0.032/+0.102	16	22	17	1
HPP30F-141620-06	14	+0.016/+0.086	16	20	6	2
HPP30F-141620-15	14	+0.016/+0.086	16	20	15	2
HPP30F-141822-20	14	+0.032/+0.102	18	22	20	2
HPP30F-151720-05	15	+0.032/+0.102	17	20	5	1
HPP30F-1517-09	15	+0.032/+0.102	17	23	9	1
HPP30F-1517-12	15	+0.032/+0.102	17	23	12	1
HPP30F-151720-12	15	+0.032/+0.102	17	20	12	1
HPP30F-1517-15	15	+0.032/+0.102	17	23	15	1
HPP30F-1517-17	15	+0.032/+0.102	17	23	17	1
HPP30F-1517-20	15	+0.032/+0.102	17	23	20	1
HPP30F-1518-12	15	+0.032/+0.102	18	23	12	1
HPP30F-1517-25	15	+0.032/+0.102	17	23	25	1
HPP30F-1618-12	16	+0.032/+0.102	18	24	12	1
HPP30F-1618-17	16	+0.032/+0.102	18	24	17	1
HPP30F-161822-22	16	+0.016/+0.086	18	22	22	2
HPP30F-162024-16	16	+0.016/+0.086	20	24	16	2
HPP30F-162024-22	16	+0.016/+0.086	20	24	22	2
HPP30F-1820-12	18	+0.032/+0.102	20	26	12	1
HPP30F-1820-17	18	+0.032/+0.102	20	26	17	1
HPP30F-1820-20	18	+0.032/+0.102	20	26	20	1
HPP30F-182024-22	18	+0.016/+0.086	20	24	22	2
HPP30F-2022-15	20	+0.04/+0.124	22	25	15	1.5
HPP30F-2023-11.5	20	+0.04/+0.124	23	30	11.5	1.5
HPP30F-2023-16.5	20	+0.04/+0.124	23	30	16.5	1.5
HPP30F-2023-21.5	20	+0.04/+0.124	23	30	21.5	1.5
HPP30F-2023-25	20	+0.04/+0.124	23	30	25	1.5
HPP30F-202330-15	20	+0.02/+0.104	23	30	15	2
HPP30F-202330-22	20	+0.02/+0.104	23	30	22	2
HPP30F-202430-20	20	+0.02/+0.104	24	30	20	2
HPP30F-202530-15	20	+0.02/+0.104	25	30	15	2
HPP30F-202732-20	20	+0.02/+0.104	27	32	20	2
HPP30F-2225-11.5	22	+0.04/+0.124	25	33	11.5	1.5
HPP30F-2528-11.5	25	+0.04/+0.124	28	35	11.5	1.5
HPP30F-2528-16.5	25	+0.04/+0.124	28	35	16.5	1.5
HPP30F-2528-21.5	25	+0.04/+0.124	28	35	21.5	1.5
HPP30F-252835-22	25	+0.02/+0.104	28	35	22	2
HPP30F-252835-32	25	+0.02/+0.104	28	35	32	2
HPP30F-253035-20	25	+0.02/+0.104	30	35	20	2.5
HPP30F-253035-25	25	+0.02/+0.104	30	35	25	2.5
HPP30F-303335-04	30	+0.02/+0.104	33	35	4	1
HPP30F-3034-09	30	+0.04/+0.124	34	42	9	2
HPP30F-3034-16	30	+0.04/+0.124	34	42	16	2
HPP30F-3034-26	30	+0.04/+0.124	34	42	26	2
HPP30F-3034-32	30	+0.04/+0.124	34	42	32	2
HPP30F-3034-37	30	+0.04/+0.124	34	42	37	2
HPP30F-303445-18	30	+0.02/+0.104	34	45	18	2
HPP30F-303445-22	30	+0.02/+0.104	34	45	22	2
HPP30F-303445-32	30	+0.04/+0.124	34	45	32	2

订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.15} [mm]
HPP30F-3236-16	32	+0.05/+0.15	36	40	16	2
HPP30F-3236-26	32	+0.05/+0.15	36	40	26	2
HPP30F-3539-16	35	+0.05/+0.15	39	47	16	2
HPP30F-3539-26	35	+0.05/+0.15	39	47	26	2
HPP30F-353950-22	35	+0.025/+0.125	39	50	22	2
HPP30F-4044-30	40	+0.05/+0.15	44	52	30	2
HPP30F-4044-40	40	+0.05/+0.15	44	52	40	2
HPP30F-404455-17	40	+0.025/+0.125	44	55	17	2
HPP30F-4550-25	45	+0.05/+0.15	50	58	25	2
HPP30F-4550-45	45	+0.05/+0.15	50	58	45	2
HPP30F-4550-50	45	+0.05/+0.15	50	58	50	2
HPP30F-455060-45	45	+0.025/+0.125	50	60	45	2.5
HPP30F-5055-20	50	+0.05/+0.15	55	63	20	2
HPP30F-5055-30	50	+0.05/+0.15	55	63	30	2

订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.15} [mm]
HPP30F-5055-40	50	+0.05/+0.15	55	63	40	2
HPP30F-5055-50	50	+0.05/+0.15	55	63	50	2
HPP30F-505563-50	50	+0.025/+0.125	55	63	50	2
HPP30F-505565-20.5	50	+0.025/+0.125	55	65	20.5	2.5
HPP30F-6065-60	60	+0.06/+0.18	65	73	60	2
HPP30F-657080-60	65	+0.03/+0.15	70	80	60	2.5
HPP30F-7075-50	70	+0.060/+0.180	75	83	50	2
HPP30F-758090-25	75	+0.030/+0.150	80	90	25	2.5
HPP30F-758090-40	75	+0.030/+0.150	80	90	40	2.5
HPP30F-9095110-50	90	+0.036/+0.176	95	110	50	2.5
HPP30F-120125140-50	120	+0.072/+0.212	125	140	50	2.5

*d₁ 公差为压入标准 H7 座孔 (ISO3547-1) 后公差*Tolerance d₁: after being pressed into housing H7(ISO3547-1)

垫片 Metric Thrust Washers



订购编码 Order PN:

HPP30 W-0509-006

HPP30 W-0509-006
 | | | | |
 垫片 Washer
 材料 Material

订购编码 Order PN	d ^{+0.25} [mm]	D _{-0.25} [mm]	T _{-0.05} [mm]
HPP30W-0509-006	5	9	0.6
HPP30W-0615-015	6	15	1.5
HPP30W-0620-015	6	20	1.5
HPP30W-0815-005	8	15	0.5
HPP30W-0815-015	8	15	1.5
HPP30W-0818-010	8	18	1.0
HPP30W-0818-015	8	18	1.5
HPP30W-1018-010	10	18	1.0
HPP30W-1018-015	10	18	1.5
HPP30W-1018-020	10	18	2.0
HPP30W-1024-015	10	24	1.5
HPP30W-1224-015	12	24	1.5
HPP30W-1226-015	12	26	1.5
HPP30W-1426-015	14	26	1.5
HPP30W-1430-015	14	30	1.5
HPP30W-1524-015	15	24	1.5
HPP30W-1630-015	16	30	1.5
HPP30W-1632-015	16	32	1.5
HPP30W-1832-015	18	32	1.5
HPP30W-1836-015	18	36	1.5

订购编码 Order PN	d ^{+0.25} [mm]	D _{-0.25} [mm]	T _{-0.05} [mm]
HPP30W-2030-015	20	30	1.5
HPP30W-2036-015	20	36	1.5
HPP30W-2038-015	20	38	1.5
HPP30W-2238-015	22	38	1.5
HPP30W-2242-015	22	42	1.5
HPP30W-2442-015	24	42	1.5
HPP30W-2444-015	24	44	1.5
HPP30W-2548-015	25	48	1.5
HPP30W-2644-015	26	44	1.5
HPP30W-2848-015	28	48	1.5
HPP30W-3054-015	30	54	1.5
HPP30W-3254-015	32	54	1.5
HPP30W-3662-015	36	62	1.5
HPP30W-3862-015	38	62	1.5
HPP30W-4266-015	42	66	1.5
HPP30W-4674-020	46	74	2.0
HPP30W-4874-020	48	74	2.0
HPP30W-5178-020	51	78	2.0
HPP30W-5278-020	52	78	2.0
HPP30W-6290-020	62	90	2.0