

## HPP1-工程塑料轴承 Plastic Plain Bearings

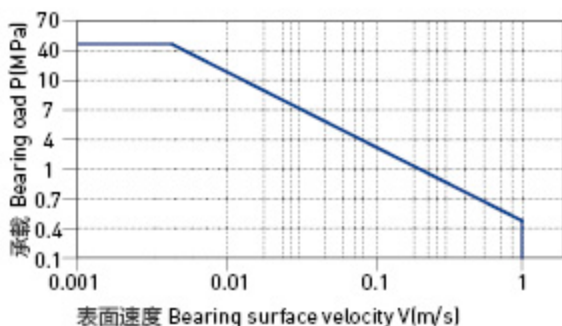
### 轴承PV值 PV Value

HPP1塑料轴承最大运行PV值为 $0.5\text{N/mm}^2 \times \text{m/s}$ ;由此决定轴承所承受的载荷与速度成反比, 详情查阅图表HPP1-1。

The max PV value of the HPP1 series bearing is  $0.5\text{N/mm}^2 \times \text{m/s}$  which determines the load capacity of bearing is inversely proportional to the speed. Please refer to the chart for more detailed information (Graph HPP1-1).

图表 HPP1-1: PV 图表

Graph HPP1-1: Permissible PV value for HPP1



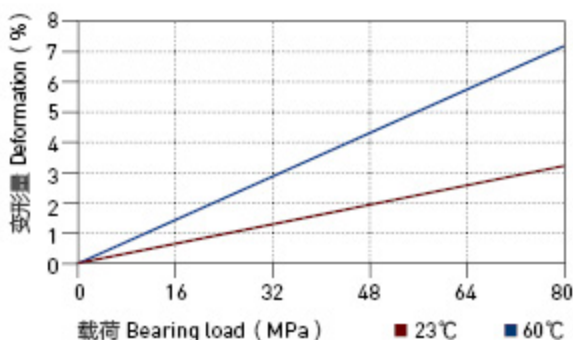
### 轴承的载荷、速度、温度 The Relation Of Load, Speed And Temperature

HPP1塑料轴承可承受最大静载荷为80Mpa, 在此载荷下轴承的最大压缩变形量参考图表HPP1-2; 轴承实际工作载荷小于80Mpa, 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: 130℃)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HPP1-3。

HPP1 allows the max static load of 80Mpa, The max compressive deformation rate under the max load is listed in Graph HPP1-2; The actual load capacity of bearing is slightly less than 80Mpa, The bearing load is variable against the speed and temperature, Fast speed (Vmax: 1.0m/s) results into higher temperature (Tmax: 130℃) which decreases the load capacity of the bearing. Please refer to the Graph HPP1-3 for such variation.

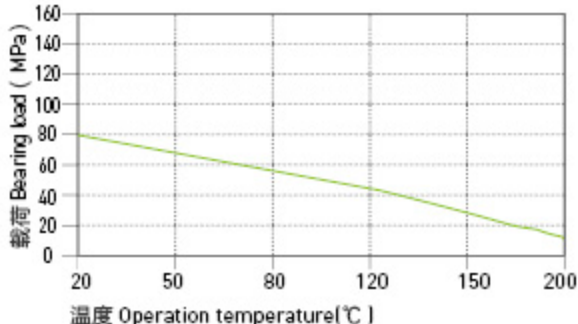
图表 HPP1-2: 载荷 - 温度 - 变形量图表

Graph HPP1-2: Load-Temperature deformation



图表 HPP1-3: 载荷 - 温度图表

Graph HPP1-3: Load-Temperature diagrams



## HPP1-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

滑动轴承的摩擦系数与轴承的载荷、运行速度以及轴材料表面粗糙度都息息相关；HPP1轴承的摩擦系数随着载荷的增加而降低（图表HPP1-5），随着运行速度的增加而升高（图表HPP1-4）；这就表明HPP1轴承适用于高载低速的应用场合；而轴表面粗糙度越光滑或者越粗糙都会导致轴承的摩擦系数增加，HPP1推荐的表面粗糙度是在Ra0.5—Ra0.8（图表HPP1-6）；

The friction factor of the sliding bearings is relative to the bearing load, operation speed and the roughness of the shaft material. HPP1 Bearing Friction factor decreased along with the increasing of the loading [See Graph HPP1-5] and increased along with the increasing of the operation speed (See Graph HPP1-4). The above feature induces the HPP1 material is applicable for the high load and low speed operation while too smooth and too rough surface may result into the increasing of friction factor. The recommended surface roughness of HPP1 is Ra0.5–Ra0.8 [See Graph HPP1-6].

HPP1	干运行 Dry	油脂 Grease	油 Oil	水 Water
摩擦系数 $\mu$ Friction coef.	0.08–0.18	0.09	0.04	0.04

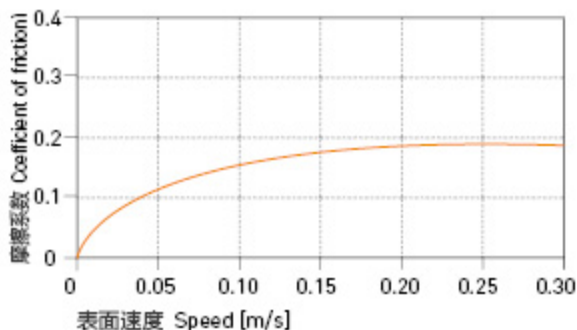
#### ■ 磨损与轴材料 Wearing and shaft material

通过轴承在不同轴上的测试表明HPP1低载时在碳钢轴和硬铬轴运行性能最好（见图表HPP1-7和图表HPP1-8）；当然，随着轴承承受载荷的增加，对轴硬度要求也越高；较软的轴容易先产生磨损，导致轴承磨损也随之加大。当轴承的载荷超过2Mpa时，轴承的磨损会随着轴硬度的增加而随之减少。图表HPP1-8表明HPP1在摆动运动下的效果要好于旋转运动，在同等工况条件下摆动运动下的磨损要小于旋转运动，特别是在高载荷下这种趋势就越明显。

Test of the bearing against various shaft materials shows that the material HPP1 features the best performance where the shaft material is carbon steel and hard chrome steel under low loading. [See Graph HPP1-7 and Graph HPP1-8]. Therefore, the higher the load is, the more critical the hardness of the shaft will have to be. The softer shaft will be worn off sooner and as a result, the bearing wearing will be increased. But when the loading is increased over 2Mpa, the wearing of the bearing will be better along with the increasing of the shaft hardness.

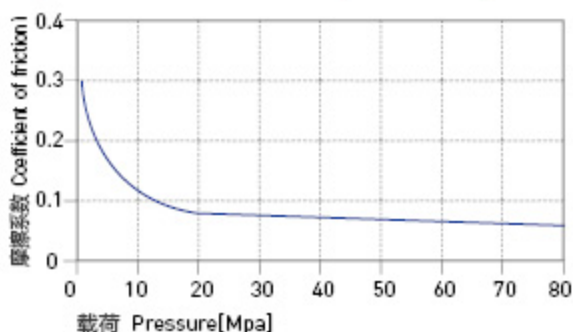
图表 HPP1-4: 摩擦系数与速度变化关系图表 P=2Mpa

Graph HPP1-4: Coefficient of friction & the speed of bearing, P=2Mpa



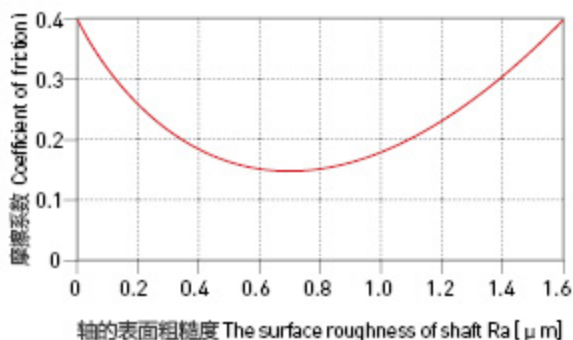
图表 HPP1-5: 摩擦系数与载荷变化关系图表 v=0.2m/s

Graph HPP1-5: Coefficient of friction & the pressure of bearing, v=0.2m/s



图表 HPP1-6: 摩擦系数与轴表面粗糙度关系图表

Graph HPP1-6: Coefficient of friction & the surface roughness of shaft



## HPP1-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

Refer to Graph HPP1-8. It shows that the material HPP1 is better under the oscillation operation comparing with the rotation. Under the same condition, the wearing feature of the oscillation operation is much better than that of the rotation operation. This feature is sharply improved under higher loading.

#### ■ 化学抗性 Chemical Resistance

HPP1塑料轴承能抵抗弱碱、弱酸以及各类润滑油的腐蚀。

HPP1 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, HPP1塑料轴承的吸水率为0.7%, 浸泡水中最大平衡吸水率为4.0%; 由于吸水率的特性, 我们必须考虑次轴承的应用环境。

The water absorb rate of HPP1 is 0.7% under the atmospheric pressure while it is 4.0% when the material is immersed into water. The application environment has to be considered because of its water absorb properties.

#### ■ 抗UV性能 UV Resistance

HPP1长久暴露在紫外线下颜色基本不会改变。材料性能基本都不会发生改变。

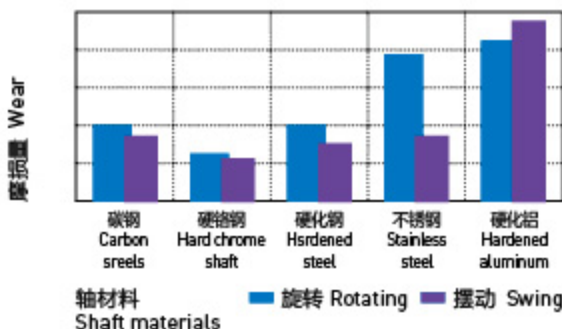
HPP1 can maintain its color unchanged when it is exposed into the UV ray. The material performance stays stable.

#### ■ 安装公差 Installation Tolerances

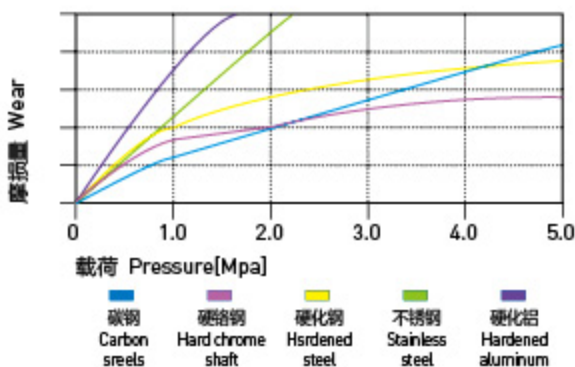
HPP1塑料轴承压装后公差Tolerances after pressfit

直径 Di. [ mm ]	HPP1 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 HPP1-7: 在不同轴材料上旋转时的磨损量  $P=2\text{MPa}$ ,  $v=0.2\text{m/s}$   
Graph HPP1-7: The bearing wear under rotating with different shaft materials,  $p=2\text{MPa}$ ,  $v=0.2\text{m/s}$

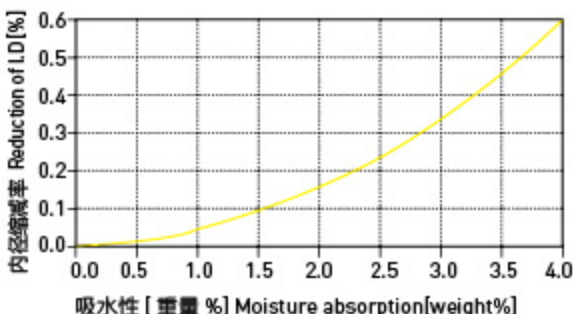


图表 HPP1-8: 旋转磨损随轴材料与压力变化关系  $v=0.2\text{m/s}$   
Graph HPP1-8: The bearing wear & pressure under rotating with different shaft materials,  $v=0.2\text{m/s}$



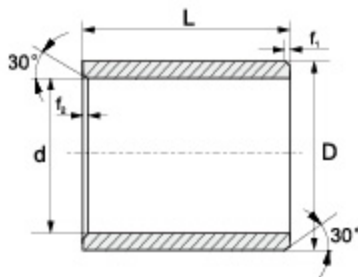
图表 HPP1-9: 吸水性的影响

Graph HPP1-9: Effect of moisture absorption on HPP1 bearings





## HPP1 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:

HPP1-0203-03

材料 Material

d	f <sub>1</sub>	f <sub>2</sub>
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]
HPP1-0203-03	2	+0.014/+0.054	3.5	3
HPP1-0304-03	3	+0.014/+0.054	4.5	3
HPP1-0304-05	3	+0.014/+0.054	4.5	5
HPP1-0304-06	3	+0.014/+0.054	4.5	6
HPP1-0405-04	4	+0.02/+0.068	5.5	4
HPP1-0405-06	4	+0.02/+0.068	5.5	6
HPP1-0506-05S	5	+0.01/+0.04	6	5
HPP1-0507-05	5	+0.02/+0.068	7	5
HPP1-0507-08	5	+0.02/+0.068	7	8
HPP1-0507-10	5	+0.02/+0.068	7	10
HPP1-0608-04	6	+0.02/+0.068	8	4
HPP1-0608-05	6	+0.02/+0.068	8	5
HPP1-0608-06	6	+0.02/+0.068	8	6
HPP1-0608-08	6	+0.02/+0.068	8	8
HPP1-0608-09	6	+0.02/+0.068	8	9
HPP1-0608-10	6	+0.02/+0.068	8	10
HPP1-0608-11	6	+0.02/+0.068	8	11
HPP1-0810-05	8	+0.025/+0.083	10	5
HPP1-0810-06	8	+0.025/+0.083	10	6
HPP1-0810-07	8	+0.025/+0.083	10	7
HPP1-0810-08	8	+0.025/+0.083	10	8
HPP1-0810-10	8	+0.025/+0.083	10	10
HPP1-0810-12	8	+0.025/+0.083	10	12
HPP1-0810-13	8	+0.025/+0.083	10	13
HPP1-0810-15	8	+0.025/+0.083	10	15
HPP1-0810-21	8	+0.025/+0.083	10	21
HPP1-1011-06	10	+0.025/+0.083	11	6
HPP1-1012-04	10	+0.025/+0.083	12	4
HPP1-1012-05	10	+0.025/+0.083	12	5
HPP1-1012-06	10	+0.025/+0.083	12	6
HPP1-1012-07	10	+0.025/+0.083	12	7
HPP1-1012-08	10	+0.025/+0.083	12	8
HPP1-1012-09	10	+0.025/+0.083	12	9
HPP1-1012-10	10	+0.025/+0.083	12	10
HPP1-1012-12	10	+0.025/+0.083	12	12
HPP1-1012-14	10	+0.025/+0.083	12	14

订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP1-1012-15	10	+0.025/+0.083	12	15
HPP1-1012-17	10	+0.025/+0.083	12	17
HPP1-1012-20	10	+0.025/+0.083	12	20
HPP1-1213-12S	12	+0.016/+0.059	13	12
HPP1-1214-04	12	+0.032/+0.102	14	4
HPP1-1214-06	12	+0.032/+0.102	14	6
HPP1-1214-08	12	+0.032/+0.102	14	8
HPP1-1214-10	12	+0.032/+0.102	14	10
HPP1-1214-12	12	+0.032/+0.102	14	12
HPP1-1214-14	12	+0.032/+0.102	14	14
HPP1-1214-15	12	+0.032/+0.102	14	15
HPP1-1214-20	12	+0.032/+0.102	14	20
HPP1-1214-25	12	+0.032/+0.102	14	25
HPP1-1315-15	13	+0.032/+0.102	15	15
HPP1-1315-25	13	+0.032/+0.102	15	25
HPP1-1416-03	14	+0.032/+0.102	16	3
HPP1-1416-08	14	+0.032/+0.102	16	8
HPP1-1416-10	14	+0.032/+0.102	16	10
HPP1-1416-15	14	+0.032/+0.102	16	15
HPP1-1416-20	14	+0.032/+0.102	16	20
HPP1-1416-25	14	+0.032/+0.102	16	25
HPP1-1517-10	15	+0.032/+0.102	17	10
HPP1-1517-12	15	+0.032/+0.102	17	12
HPP1-1517-15	15	+0.032/+0.102	17	15
HPP1-1517-20	15	+0.032/+0.102	17	20
HPP1-1517-25	15	+0.032/+0.102	17	25
HPP1-1618-10	16	+0.032/+0.102	18	10
HPP1-1618-12	16	+0.032/+0.102	18	12
HPP1-1618-15	16	+0.032/+0.102	18	15
HPP1-1618-20	16	+0.032/+0.102	18	20
HPP1-1618-25	16	+0.032/+0.102	18	25
HPP1-1618-30	16	+0.032/+0.102	18	30
HPP1-1820-10	18	+0.032/+0.102	20	10
HPP1-1820-12	18	+0.032/+0.102	20	12
HPP1-1820-15	18	+0.032/+0.102	20	15
HPP1-1820-20	18	+0.0321/+0.102	20	20

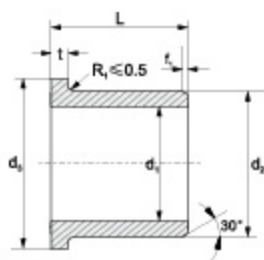
订购编码 Order PN	d [mm]	d-公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP1-1820-25	18	+0.032/+0.102	20	25
HPP1-2022-20	20	+0.04/+0.124	22	20
HPP1-2022-30	20	+0.04/+0.124	22	30
HPP1-2023-10	20	+0.04/+0.124	23	10
HPP1-2023-15	20	+0.04/+0.124	23	15
HPP1-2023-20	20	+0.04/+0.124	23	20
HPP1-2023-25	20	+0.04/+0.124	23	25
HPP1-2023-30	20	+0.04/+0.124	23	30
HPP1-2225-15	22	+0.04/+0.124	25	15
HPP1-2225-20	22	+0.04/+0.124	25	20
HPP1-2225-25	22	+0.04/+0.124	25	25
HPP1-2225-30	22	+0.04/+0.124	25	30
HPP1-2528-12	25	+0.04/+0.124	28	12
HPP1-2528-15	25	+0.04/+0.124	28	15
HPP1-2528-20	25	+0.04/+0.124	28	20
HPP1-2528-24	25	+0.04/+0.124	28	24
HPP1-2528-25	25	+0.04/+0.124	28	25
HPP1-2528-30	25	+0.04/+0.124	28	30
HPP1-2528-35	25	+0.04/+0.124	28	35
HPP1-2832-30	28	+0.04/+0.124	32	30
HPP1-3034-15	30	+0.04/+0.124	34	15
HPP1-3034-20	30	+0.04/+0.124	34	20
HPP1-3034-24	30	+0.04/+0.124	34	24
HPP1-3034-25	30	+0.04/+0.124	34	25
HPP1-3034-30	30	+0.04/+0.124	34	30
HPP1-3034-35	30	+0.04/+0.124	34	35
HPP1-3034-40	30	+0.04/+0.124	34	40
HPP1-3236-30	32	+0.05/+0.15	36	30
HPP1-3236-40	32	+0.05/+0.15	36	40
HPP1-3539-14	35	+0.05/+0.15	39	14
HPP1-3539-20	35	+0.05/+0.15	39	20
HPP1-3539-25	35	+0.05/+0.15	39	25
HPP1-3539-30	35	+0.05/+0.15	39	30

订购编码 Order PN	d [mm]	d-公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP1-3539-40	35	+0.05/+0.15	39	40
HPP1-3539-50	35	+0.05/+0.15	39	50
HPP1-3640-20	36	+0.05/+0.15	40	20
HPP1-4044-10	40	+0.05/+0.15	44	10
HPP1-4044-16	40	+0.05/+0.15	44	16
HPP1-4044-20	40	+0.05/+0.15	44	20
HPP1-4044-30	40	+0.05/+0.15	44	30
HPP1-4044-40	40	+0.05/+0.15	44	40
HPP1-4044-50	40	+0.05/+0.15	44	50
HPP1-4246-40	42	+0.05/+0.15	46	40
HPP1-4246-50	42	+0.05/+0.15	46	50
HPP1-4550-40	45	+0.05/+0.15	50	40
HPP1-4550-50	45	+0.05/+0.15	50	50
HPP1-5055-20	50	+0.05/+0.15	55	20
HPP1-5055-30	50	+0.05/+0.15	55	30
HPP1-5055-40	50	+0.05/+0.15	55	40
HPP1-5055-50	50	+0.05/+0.15	55	50
HPP1-5560-20	55	+0.06/+0.18	60	20
HPP1-5560-26	55	+0.06/+0.18	60	26
HPP1-5560-40	55	+0.06/+0.18	60	40
HPP1-5560-50	55	+0.06/+0.18	60	50
HPP1-5560-60	55	+0.06/+0.18	60	60
HPP1-6065-30	60	+0.06/+0.18	65	30
HPP1-6065-40	60	+0.06/+0.18	65	40
HPP1-6065-50	60	+0.06/+0.18	65	50
HPP1-6065-60	60	+0.06/+0.18	65	60
HPP1-6570-50	65	+0.06/+0.18	70	50
HPP1-7075-60	70	+0.06/+0.18	75	60
HPP1-7580-40	75	+0.06/+0.18	80	40
HPP1-115121-90	115	+0.072/+0.212	121	90
HPP1-120125-100	120	+0.072/+0.212	125	100

\*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:

HPP1 F-0304-03

 翻边轴套 Flange bushes  
 材料 Material

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

订购编码 Order PN	d <sub>1</sub> [mm]	d <sub>1</sub> - 公差 After fitting [mm]	d <sub>2</sub> [mm]	d <sub>2</sub> [d13] [mm]	L[h13] [mm]	t <sub>0.15</sub> [mm]
HPP1F-0304-03	3	+0.014/+0.054	4.5	7.5	3	0.75
HPP1F-0304-05	3	+0.014/+0.054	4.5	7.5	5	0.75
HPP1F-0405-03	4	+0.02/+0.068	5.5	9.5	3	0.75
HPP1F-0405-04	4	+0.02/+0.068	5.5	9.5	4	0.75
HPP1F-0405-06	4	+0.02/+0.068	5.5	9.5	6	0.75
HPP1F-0506-3.5S	5	+0.01/+0.04	6	10	3.5	0.5
HPP1F-0506-05S	5	+0.01/+0.04	6	10	5	0.5
HPP1F-050614-06S	5	+0.01/+0.04	6	14	6	0.5
HPP1F-0507-03	5	+0.02/+0.068	7	11	3	1
HPP1F-0507-04	5	+0.02/+0.068	7	11	4	1
HPP1F-0507-05	5	+0.02/+0.068	7	11	5	1
HPP1F-0507-07	5	+0.02/+0.068	7	11	7	1
HPP1F-0607-10	6	+0.01/+0.04	7	11	10	0.5
HPP1F-0608-04	6	+0.02/+0.068	8	12	4	1
HPP1F-0608-05	6	+0.02/+0.068	8	12	5	1
HPP1F-0608-06	6	+0.02/+0.068	8	12	6	1
HPP1F-0608-07	6	+0.02/+0.068	8	12	7	1
HPP1F-0608-08	6	+0.02/+0.068	8	12	8	1
HPP1F-0608-10	6	+0.02/+0.068	8	12	10	1
HPP1F-0708-08S	7	+0.013/+0.049	8	12	8	0.5
HPP1F-0809-12	8	+0.013/+0.049	9	13	12	0.5
HPP1F-0810-04	8	+0.025/+0.083	10	15	4	1
HPP1F-0810-05	8	+0.025/+0.083	10	15	5	1
HPP1F-0810-07	8	+0.025/+0.083	10	15	7	1
HPP1F-0810-09	8	+0.025/+0.083	10	15	9	1
HPP1F-0810-10	8	+0.025/+0.083	10	15	10	1
HPP1F-0810-15	8	+0.025/+0.083	10	15	15	1
HPP1F-0810-30	8	+0.025/+0.083	10	15	30	1
HPP1F-1012-04	10	+0.025/+0.083	12	18	4	1
HPP1F-1012-05	10	+0.025/+0.083	12	18	5	1
HPP1F-1012-06	10	+0.025/+0.083	12	18	6	1
HPP1F-1012-07	10	+0.025/+0.083	12	18	7	1
HPP1F-1012-09	10	+0.025/+0.083	12	18	9	1
HPP1F-1012-10	10	+0.025/+0.083	12	18	10	1
HPP1F-1012-12	10	+0.025/+0.083	12	18	12	1
HPP1F-1012-15	10	+0.025/+0.083	12	18	15	1
HPP1F-1012-17	10	+0.025/+0.083	12	18	17	1
HPP1F-101216-06	10	+0.025/+0.083	12	16	6	1
HPP1F-101216-09	10	+0.025/+0.083	12	16	9	1
HPP1F-1213-12S	12	+0.016/+0.059	13	17	12	0.5
HPP1F-1214-06	12	+0.032/+0.102	14	20	6	1
HPP1F-1214-07	12	+0.032/+0.102	14	20	7	1
HPP1F-1214-09	12	+0.032/+0.102	14	20	9	1
HPP1F-1214-10	12	+0.032/+0.102	14	20	10	1
HPP1F-1214-11	12	+0.032/+0.102	14	20	11	1
HPP1F-1214-12	12	+0.032/+0.102	14	20	12	1
HPP1F-1214-15	12	+0.032/+0.102	14	20	15	1

订购编码 Order PN	d <sub>1</sub> [mm]	d <sub>1</sub> - 公差 After fitting [mm]	d <sub>2</sub> [mm]	d <sub>2</sub> [d13] [mm]	L[h13] [mm]	t <sub>0.15</sub> [mm]
HPP1F-1214-17	12	+0.032/+0.102	14	20	17	1
HPP1F-1214-20	12	+0.032/+0.102	14	20	20	1
HPP1F-1214-24	12	+0.032/+0.102	14	20	24	1
HPP1F-1416-03	14	+0.032/+0.102	16	22	3	1
HPP1F-1416-04	14	+0.032/+0.102	16	22	4	1
HPP1F-1416-06	14	+0.032/+0.102	16	22	6	1
HPP1F-1416-08	14	+0.032/+0.102	16	22	8	1
HPP1F-1416-12	14	+0.032/+0.102	16	22	12	1
HPP1F-1416-17	14	+0.032/+0.102	16	22	17	1
HPP1F-1416-21	14	+0.032/+0.102	16	22	21	1
HPP1F-1517-05	15	+0.032/+0.102	17	23	5	1
HPP1F-1517-09	15	+0.032/+0.102	17	23	9	1
HPP1F-1517-12	15	+0.032/+0.102	17	23	12	1
HPP1F-1517-17	15	+0.032/+0.102	17	23	17	1
HPP1F-1517-20	15	+0.032/+0.102	17	23	20	1
HPP1F-1618-09	16	+0.032/+0.102	18	24	9	1
HPP1F-1618-12	16	+0.032/+0.102	18	24	12	1
HPP1F-1618-17	16	+0.032/+0.102	18	24	17	1
HPP1F-1618-21	16	+0.032/+0.102	18	24	21	1
HPP1F-1719-09	17	+0.032/+0.102	19	25	9	1
HPP1F-1719-25	17	+0.032/+0.102	19	25	25	1
HPP1F-1820-04	18	+0.032/+0.102	20	26	4	1
HPP1F-1820-06	18	+0.032/+0.102	20	26	6	1
HPP1F-1820-11	18	+0.032/+0.102	20	26	11	1
HPP1F-1820-12	18	+0.032/+0.102	20	26	12	1
HPP1F-1820-17	18	+0.032/+0.102	20	26	17	1
HPP1F-1820-22	18	+0.032/+0.102	20	26	22	1
HPP1F-1820-30	18	+0.032/+0.102	20	26	30	1
HPP1F-2023-3.2	20	+0.04/+0.124	23	30	3.2	1.5
HPP1F-2023-07	20	+0.04/+0.124	23	30	7	1.5
HPP1F-2023-11.5	20	+0.04/+0.124	23	30	11.5	1.5
HPP1F-2023-16.5	20	+0.04/+0.124	23	30	16.5	1.5
HPP1F-2023-21.5	20	+0.04/+0.124	23	30	21.5	1.5
HPP1F-222535-09	22	+0.04/+0.124	25	35	9	1.5
HPP1F-2427-10	24	+0.04/+0.124	27	32	10	1.5
HPP1F-2528-11.5	25	+0.04/+0.124	28	35	11.5	1.5
HPP1F-2528-16.5	25	+0.04/+0.124	28	35	16.5	1.5
HPP1F-2528-21.5	25	+0.04/+0.124	28	35	21.5	1.5
HPP1F-2528-30	25	+0.04/+0.124	28	35	30	1.5
HPP1F-2830-36	28	+0.04/+0.124	30	35	36	2
HPP1F-3032-12	30	+0.04/+0.124	32	37	12	1
HPP1F-3034-16	30	+0.04/+0.124	34	42	16	2
HPP1F-3034-20	30	+0.04/+0.124	34	42	20	2
HPP1F-3034-26	30	+0.04/+0.124	34	42	26	2
HPP1F-3034-37	30	+0.04/+0.124	34	42	37	2
HPP1F-3034-45	30	+0.04/+0.124	34	42	45	2
HPP1F-3236-16	32	+0.05/+0.15	36	40	16	2

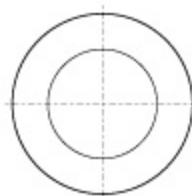


订购编码 Order PN	d <sub>1</sub> [mm]	d <sub>1</sub> -公差 After fitting [mm]	d <sub>2</sub> [mm]	d <sub>3</sub> [d13] [mm]	L[h13] [mm]	t <sub>0.15</sub> [mm]
HPP1F-3236-26	32	+0.05/+0.15	36	40	26	2
HPP1F-3539-07	35	+0.05/+0.15	39	47	7	2
HPP1F-3539-12	35	+0.05/+0.15	39	47	12	2
HPP1F-3539-16	35	+0.05/+0.15	39	47	16	2
HPP1F-3539-26	35	+0.05/+0.15	39	47	26	2
HPP1F-3539-36	35	+0.05/+0.15	39	47	36	2
HPP1F-4044-14	40	+0.05/+0.15	44	52	14	2
HPP1F-4044-20	40	+0.05/+0.15	44	52	20	2
HPP1F-4044-30	40	+0.05/+0.15	44	52	30	2
HPP1F-4044-40	40	+0.05/+0.15	44	52	40	2
HPP1F-4044-50	40	+0.05/+0.15	44	52	50	2
HPP1F-4246-50	42	+0.05/+0.15	46	53	50	2
HPP1F-4550-30	45	+0.05/+0.15	50	58	30	2
HPP1F-4550-50	45	+0.05/+0.15	50	58	50	2

订购编码 Order PN	d <sub>1</sub> [mm]	d <sub>1</sub> -公差 After fitting [mm]	d <sub>2</sub> [mm]	d <sub>3</sub> [d13] [mm]	L[h13] [mm]	t <sub>0.15</sub> [mm]
HPP1F-5055-10	50	+0.05/+0.15	55	63	10	2
HPP1F-5055-40	50	+0.05/+0.15	55	63	40	2
HPP1F-5055-50	50	+0.05/+0.15	55	63	50	2
HPP1F-6065-07	60	+0.06/+0.18	65	73	7	2
HPP1F-6065-22	60	+0.06/+0.18	65	73	22	2
HPP1F-6065-30	60	+0.06/+0.18	65	73	30	2
HPP1F-6065-50	60	+0.06/+0.18	65	73	50	2
HPP1F-6570-50	65	+0.06/+0.18	70	78	50	2
HPP1F-7075-50	70	+0.06/+0.18	75	83	50	2
HPP1F-9095-11	90	+0.072/+0.212	95	103	11	2.5
HPP1F-100105-11.5	100	+0.072/+0.212	105	113	11.5	2.5
HPP1F-100105-100	100	+0.072/+0.212	105	113	100	2.5

\*d<sub>1</sub> 公差为压入标准 H7 座孔 (ISO3547-1) 后公差\*Tolerance d<sub>1</sub>: after being pressed into housing H7(ISO3547-1)

## 垫片 Metric Thrust Washers



订购编码 Order PN:

HPP1 W-0509-006

HPP1 | W | 0509 | 006  
 | | | |  
 d | D | T  
 垫片 Washer  
 材料 Material

订购编码 Order PN	d <sup>+0.25</sup> [mm]	D <sub>-0.25</sub> [mm]	T <sub>-0.05</sub> [mm]
HPP1W-0509-006	5	9	0.6
HPP1W-0615-015	6	15	1.5
HPP1W-0620-015	6	20	1.5
HPP1W-0815-005	8	15	0.5
HPP1W-0815-015	8	15	1.5
HPP1W-0818-010	8	18	1.0
HPP1W-0818-015	8	18	1.5
HPP1W-1018-010	10	18	1.0
HPP1W-1018-015	10	18	1.5
HPP1W-1018-020	10	18	2.0
HPP1W-1224-015	12	24	1.5
HPP1W-1426-015	14	26	1.5
HPP1W-1524-015	15	24	1.5
HPP1W-1630-015	16	30	1.5

订购编码 Order PN	d <sup>+0.25</sup> [mm]	D <sub>-0.25</sub> [mm]	T <sub>-0.05</sub> [mm]
HPP1W-1832-015	18	32	1.5
HPP1W-2036-015	20	36	1.5
HPP1W-2238-015	22	38	1.5
HPP1W-2442-015	24	42	1.5
HPP1W-2640-0075	26	40	0.75
HPP1W-2644-015	26	44	1.5
HPP1W-2848-015	28	48	1.5
HPP1W-3254-015	32	54	1.5
HPP1W-3862-015	38	62	1.5
HPP1W-4266-015	42	66	1.5
HPP1W-4874-020	48	74	2.0
HPP1W-5278-020	52	78	2.0
HPP1W-6290-020	62	90	2.0

\* 根据要求提供定位孔设计 The fixing bore design upon request