

## HPP23-工程塑料轴承 Plastic Plain Bearings

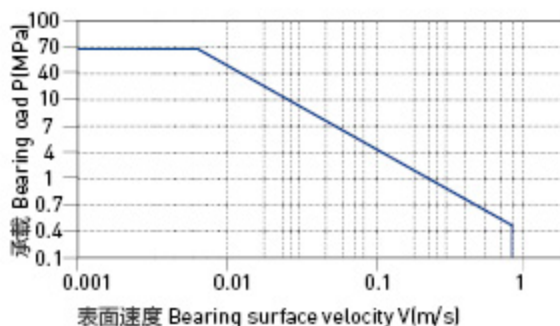
### 轴承PV值 PV Value

HPP23塑料轴承最大运行PV值为 $0.3\text{N/mm}^2 \times \text{m/s}$ ;由此决定轴承所承受的载荷与速度成反比, 详情查阅图表HPP23-1。

The max PV value of the HPP23 plastic bearing is  $0.3\text{N/mm}^2 \times \text{m/s}$  which determines the load capacity of bearing is inversely proportional to the speed. Please refer to the chart for more detailed information (Graph HPP23-1).

图表 HPP23-1: PV 图表

Graph HPP23-1: Permissible PV value for HPP23



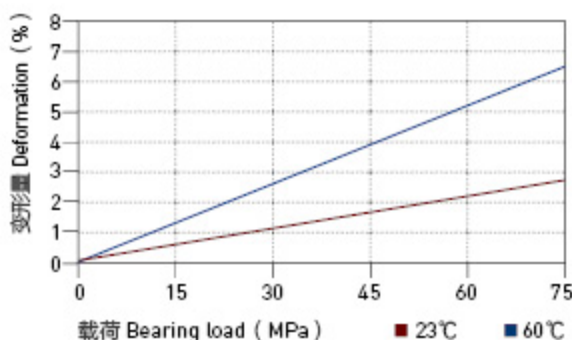
### 轴承的载荷、速度、温度 The Relation Of Load, Speed And Temperature

HPP23塑料轴承可承受最大静载荷为75Mpa, 在此载荷下轴承的最大压缩变形量参考图表HPP23-2, 轴承实际工作载荷略小于75Mpa, 载荷还受到运行速度以及温度的影响, 速度越快 (Vmax: 0.8m/s) 会导致摩擦温度上升, 而温度上升 (Tmax: 110℃) 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HPP23-3。

HPP23 allows the Max static load of 75Mpa. The max compressive deformation rate under the max load is listed in Graph HPP23-2, The actual load capacity of bearing is slightly less than 25Mpa, The bearing load is variable against the speed and temperature, Fast speed (Vmax: 0.8m/s) results into higher temperature (Tmax: 110℃) which decreases the load capacity of the bearing. Please refer to the Graph HPP23-3 for such variation.

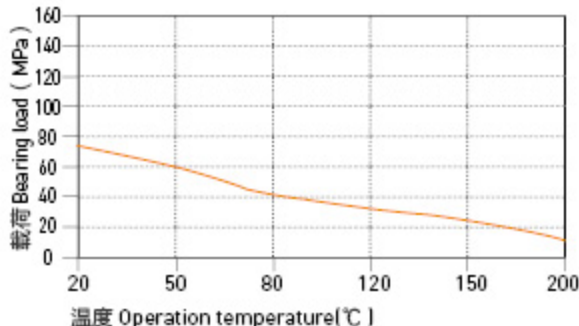
图表 HPP23-2: 载荷 - 温度 - 变形量图表

Graph HPP23-2: Load-Temperature deformation



图表 HPP23-3: 载荷 - 温度图表

Graph HPP23-3: Load-Temperature diagrams



## HPP23-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

图表HPP23-4与图表HPP23-5表明HPP23轴承的摩擦系数会受到运行速度以及轴承载荷影响而发生变化,当轴承载荷在20Mpa以内时,这种表现特别明显。同时图表HPP23-6显示HPP23轴承的摩擦系数还会受到对磨轴表面粗糙度的影响,轴表面太光滑或者太粗糙都会导致轴承的摩擦系数和磨损值增大,我们推荐轴表面粗糙度为Ra0.1~0.3mm最为合适。

Graph HPP23-4 and Graph HPP23-5 show that the friction factor of HPP23 is variable along with the changing of the operation speed and bearing loading especially when the bearing loading is within 20Mpa. In the mean Graph HPP23-6 shows that the friction factor of HPP23 is also affected by the shaft surface roughness. Too rough shaft surface or too fine shaft surface will increase the wearing and friction factor. The recommended shaft surface roughness is Ra0.1~0.3.

HPP23	干运行 Dry	油脂 Grease	油 Oil	水 Water
摩擦系数 $\mu$ Friction coef.	0.05~0.15	0.09	0.04	0.04

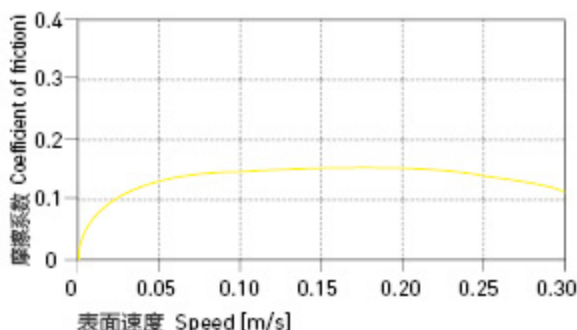
#### ■ 磨损与轴材料 Wearing and shaft material

图表HPP23-7与图表HPP23-8表明HPP23无论是在普通轴上运行还是在硬质轴上运行磨损值基本相当,根据图表显示HPP23最适合的轴材料为硬化轴和硬铬钢轴;根据图表HPP23-8显示HPP23在摆动运动下的磨损值会略优越于旋转运动下的磨损值。

Graph HPP23-7 and Graph HPP23-8 show that the wearing of HPP23 is similar either against the normal shaft or hardened shaft. The most suitable shaft materials for HPP23 are hardened steel and hardened chrome steel. Graph HPP23-8 shows that the wearing feature is better in oscillation operation than in rotation operation.

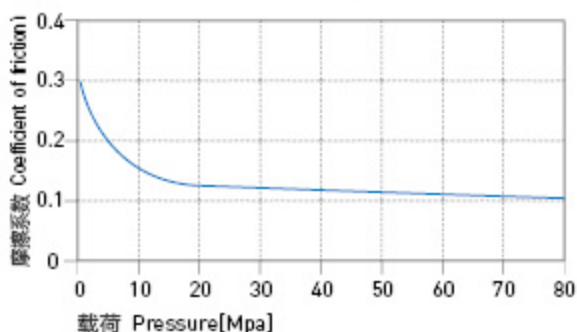
图表 HPP23-4: 摩擦系数与速度变化关系图表 P=2MPa

Graph HPP23-4: Coefficient of friction & the speed of bearing, P=2Mpa



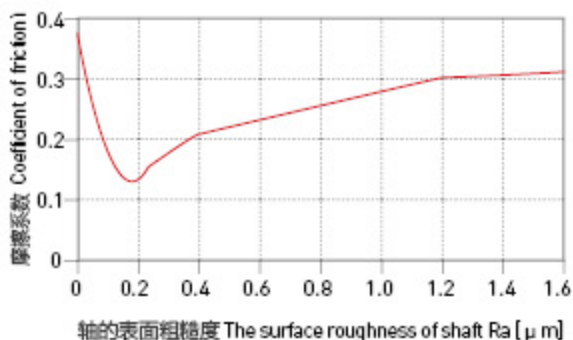
图表 HPP23-5: 摩擦系数与载荷变化关系图表 v=0.2m/s

Graph HPP23-5: Coefficient of friction & the pressure of bearing, v=0.2m/s



图表 HPP23-6: 摩擦系数与轴表面粗糙度关系图表

Graph HPP23-6: Coefficient of friction & the surface roughness of shaft



## HPP23-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

HPP23塑料轴承能抵抗弱碱以及各类润滑油的腐蚀。

HPP23 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，HPP23塑料轴承的吸水率极低为1.3%，浸泡水中最大平衡率为5.5%；由于此吸水率的特性，我们必须考虑此轴承的应用环境。

The water absorb rate of HPP23 is 1.3% under the atmospheric pressure while it is 5.5% 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

HPP23长久暴露在紫外线下颜色基本不会改变。材料基本都不会发生改变。

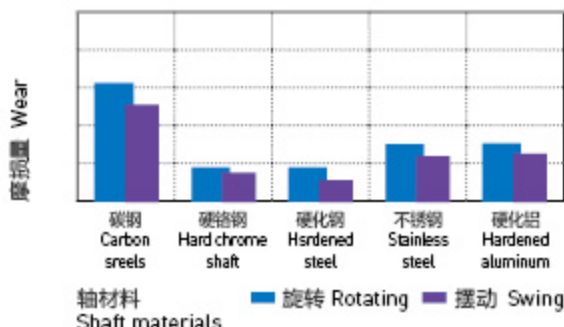
HPP23 can maintain its color unchanged when it is exposed into the UV ray. The material performance stays stable.

#### ■ 安装公差 Installation Tolerances

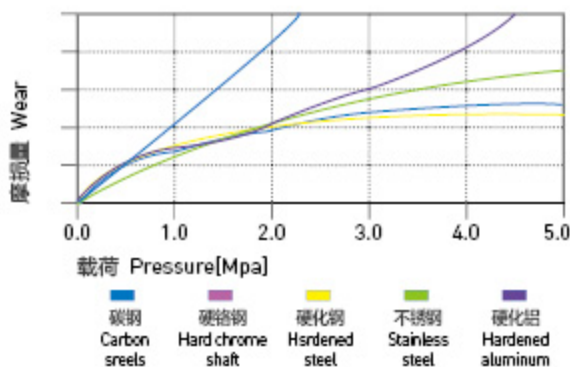
HPP23塑料轴承压装后公差Tolerances after pressfit

直径 DI. [ mm ]	HPP23 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 HPP23-7: 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 HPP23-7: The bearing wear under rotating with different shaft materials,  $p=2\text{MPa}$ ,  $v=0.2\text{m/s}$

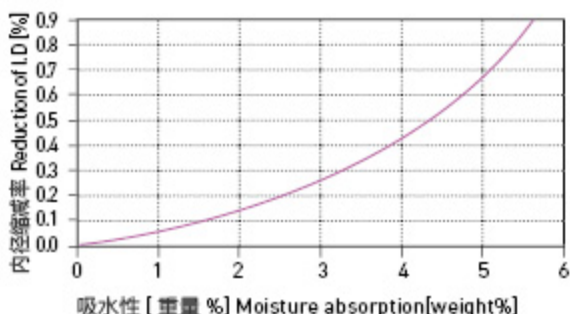


图表 HPP23-8: 旋转磨损随轴材料与压力变化关系  $v=0.2\text{m/s}$   
Graph HPP23-8: The bearing wear & pressure under rotating with different shaft materials,  $v=0.2\text{m/s}$



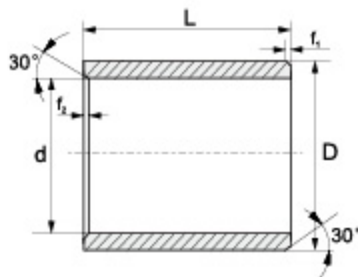
图表 HPP23-9: 吸水性的影响

Graph HPP23-9: Effect of moisture absorption on HPP23 bearings





## HPP23标准规格 Standard Plastic Plain Bearings



推荐安装公差 Recommend fitting tolerance:

座孔 Housing: H7

轴 Shaft: h9

订购编码 Order P/N:

HPP23-0203-03

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]
HPP23-0203-03	2	+0.014/+0.054	3.5	3
HPP23-0304-03	3	+0.014/+0.054	4.5	3
HPP23-0304-05	3	+0.014/+0.054	4.5	5
HPP23-0304-06	3	+0.014/+0.054	4.5	6
HPP23-0405-04	4	+0.02/+0.068	5.5	4
HPP23-0405-06	4	+0.02/+0.068	5.5	6
HPP23-0506-05S	5	+0.01/+0.04	6	5
HPP23-0507-05	5	+0.02/+0.068	7	5
HPP23-0507-08	5	+0.02/+0.068	7	8
HPP23-0507-10	5	+0.02/+0.068	7	10
HPP23-0608-04	6	+0.02/+0.068	8	4
HPP23-0608-05	6	+0.02/+0.068	8	5
HPP23-0608-06	6	+0.02/+0.068	8	6
HPP23-0608-08	6	+0.02/+0.068	8	8
HPP23-0608-09	6	+0.02/+0.068	8	9
HPP23-0608-10	6	+0.02/+0.068	8	10
HPP23-0608-11	6	+0.02/+0.068	8	11
HPP23-0810-05	8	+0.025/+0.083	10	5
HPP23-0810-06	8	+0.025/+0.083	10	6
HPP23-0810-07	8	+0.025/+0.083	10	7
HPP23-0810-08	8	+0.025/+0.083	10	8
HPP23-0810-10	8	+0.025/+0.083	10	10
HPP23-0810-12	8	+0.025/+0.083	10	12
HPP23-0810-13	8	+0.025/+0.083	10	13
HPP23-0810-15	8	+0.025/+0.083	10	15
HPP23-0810-21	8	+0.025/+0.083	10	21
HPP23-1011-06	10	+0.025/+0.083	11	6
HPP23-1012-04	10	+0.025/+0.083	12	4
HPP23-1012-05	10	+0.025/+0.083	12	5
HPP23-1012-06	10	+0.025/+0.083	12	6
HPP23-1012-07	10	+0.025/+0.083	12	7
HPP23-1012-08	10	+0.025/+0.083	12	8
HPP23-1012-09	10	+0.025/+0.083	12	9
HPP23-1012-10	10	+0.025/+0.083	12	10
HPP23-1012-12	10	+0.025/+0.083	12	12
HPP23-1012-14	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]
HPP23-1012-15	10	+0.025/+0.083	12	15
HPP23-1012-17	10	+0.025/+0.083	12	17
HPP23-1012-20	10	+0.025/+0.083	12	20
HPP23-1213-12S	12	+0.016/+0.059	13	12
HPP23-1214-04	12	+0.032/+0.102	14	4
HPP23-1214-06	12	+0.032/+0.102	14	6
HPP23-1214-08	12	+0.032/+0.102	14	8
HPP23-1214-10	12	+0.032/+0.102	14	10
HPP23-1214-12	12	+0.032/+0.102	14	12
HPP23-1214-14	12	+0.032/+0.102	14	14
HPP23-1214-15	12	+0.032/+0.102	14	15
HPP23-1214-20	12	+0.032/+0.102	14	20
HPP23-1214-25	12	+0.032/+0.102	14	25
HPP23-1315-15	13	+0.032/+0.102	15	15
HPP23-1315-25	13	+0.032/+0.102	15	25
HPP23-1416-03	14	+0.032/+0.102	16	3
HPP23-1416-08	14	+0.032/+0.102	16	8
HPP23-1416-10	14	+0.032/+0.102	16	10
HPP23-1416-15	14	+0.032/+0.102	16	15
HPP23-1416-20	14	+0.032/+0.102	16	20
HPP23-1416-25	14	+0.032/+0.102	16	25
HPP23-1517-10	15	+0.032/+0.102	17	10
HPP23-1517-12	15	+0.032/+0.102	17	12
HPP23-1517-15	15	+0.032/+0.102	17	15
HPP23-1517-20	15	+0.032/+0.102	17	20
HPP23-1517-25	15	+0.032/+0.102	17	25
HPP23-1618-10	16	+0.032/+0.102	18	10
HPP23-1618-12	16	+0.032/+0.102	18	12
HPP23-1618-15	16	+0.032/+0.102	18	is
HPP23-1618-20	16	+0.032/+0.102	18	20
HPP23-1618-25	16	+0.032/+0.102	18	25
HPP23-1618-30	16	+0.032/+0.102	18	30
HPP23-1820-10	18	+0.032/+0.102	20	10
HPP23-1820-12	18	+0.032/+0.102	20	12
HPP23-1820-15	18	+0.032/+0.102	20	15
HPP23-1820-20	18	+0.0321/+0.102	20	20

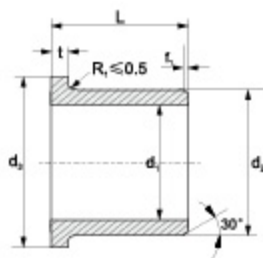
订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP23-1820-25	18	+0.032/+0.102	20	25
HPP23-2022-20	20	+0.04/+0.124	22	20
HPP23-2022-30	20	+0.04/+0.124	22	30
HPP23-2023-10	20	+0.04/+0.124	23	10
HPP23-2023-15	20	+0.04/+0.124	23	15
HPP23-2023-20	20	+0.04/+0.124	23	20
HPP23-2023-25	20	+0.04/+0.124	23	25
HPP23-2023-30	20	+0.04/+0.124	23	30
HPP23-2225-15	22	+0.04/+0.124	25	15
HPP23-2225-20	22	+0.04/+0.124	25	20
HPP23-2225-25	22	+0.04/+0.124	25	25
HPP23-2225-30	22	+0.04/+0.124	25	30
HPP23-2528-12	25	+0.04/+0.124	28	12
HPP23-2528-15	25	+0.04/+0.124	28	15
HPP23-2528-20	25	+0.04/+0.124	28	20
HPP23-2528-24	25	+0.04/+0.124	28	24
HPP23-2528-25	25	+0.04/+0.124	28	25
HPP23-2528-30	25	+0.04/+0.124	28	30
HPP23-2528-35	25	+0.04/+0.124	28	35
HPP23-2832-30	28	+0.04/+0.124	32	30
HPP23-3034-15	30	+0.04/+0.124	34	15
HPP23-3034-20	30	+0.04/+0.124	34	20
HPP23-3034-24	30	+0.04/+0.124	34	24
HPP23-3034-25	30	+0.04/+0.124	34	25
HPP23-3034-30	30	+0.04/+0.124	34	30
HPP23-3034-35	30	+0.04/+0.124	34	35
HPP23-3034-40	30	+0.04/+0.124	34	40
HPP23-3236-30	32	+0.05/+0.15	36	30
HPP23-3236-40	32	+0.05/+0.15	36	40
HPP23-3539-14	35	+0.05/+0.15	39	14
HPP23-3539-20	35	+0.05/+0.15	39	20
HPP23-3539-25	35	+0.05/+0.15	39	25
HPP23-3539-30	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]
HPP23-3539-40	35	+0.05/+0.15	39	40
HPP23-3539-50	35	+0.05/+0.15	39	50
HPP23-3640-20	36	+0.05/+0.15	40	20
HPP23-4044-10	40	+0.05/+0.15	44	10
HPP23-4044-16	40	+0.05/+0.15	44	16
HPP23-4044-20	40	+0.05/+0.15	44	20
HPP23-4044-30	40	+0.05/+0.15	44	30
HPP23-4044-40	40	+0.05/+0.15	44	40
HPP23-4044-50	40	+0.05/+0.15	44	50
HPP23-4246-40	42	+0.05/+0.15	46	40
HPP23-4246-50	42	+0.05/+0.15	46	50
HPP23-4550-40	45	+0.05/+0.15	50	40
HPP23-4550-50	45	+0.05/+0.15	50	50
HPP23-5055-20	50	+0.05/+0.15	55	20
HPP23-5055-30	50	+0.05/+0.15	55	30
HPP23-5055-40	50	+0.05/+0.15	55	40
HPP23-5055-50	50	+0.05/+0.15	55	50
HPP23-5560-20	55	+0.06/+0.18	60	20
HPP23-5560-26	55	+0.06/+0.18	60	26
HPP23-5560-40	55	+0.06/+0.18	60	40
HPP23-5560-50	55	+0.06/+0.18	60	50
HPP23-5560-60	55	+0.06/+0.18	60	60
HPP23-6065-30	60	+0.06/+0.18	65	30
HPP23-6065-40	60	+0.06/+0.18	65	40
HPP23-6065-50	60	+0.06/+0.18	65	50
HPP23-6065-60	60	+0.06/+0.18	65	60
HPP23-6570-50	65	+0.06/+0.18	70	50
HPP23-7075-60	70	+0.06/+0.18	75	60
HPP23-7580-40	75	+0.06/+0.18	80	40
HPP23-115121-90	115	+0.072/+0.212	121	90
HPP23-120125-100	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:

HPP23 F-0304-03

材料 Material  
 翻边轴套 Flange bushes  
 d<sub>1</sub> d<sub>2</sub> L

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

订购编号 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>0.12</sub> [mm]
HPP23F-0304-03	3	+0.014/+0.054	4.5	7.5	3	0.75
HPP23F-0304-05	3	+0.014/+0.054	4.5	7.5	5	0.75
HPP23F-0405-03	4	+0.02/+0.068	5.5	9.5	3	0.75
HPP23F-0405-04	4	+0.02/+0.068	5.5	9.5	4	0.75
HPP23F-0405-06	4	+0.02/+0.068	5.5	9.5	6	0.75
HPP23F-0506-3.5S	5	+0.01/+0.04	6	10	3.5	0.5
HPP23F-0506-05S	5	+0.01/+0.04	6	10	5	0.5
HPP23F-050614-06S	5	+0.01/+0.04	6	14	6	0.5
HPP23F-0507-03	5	+0.02/+0.068	7	11	3	1
HPP23F-0507-04	5	+0.02/+0.068	7	11	4	1
HPP23F-0507-05	5	+0.02/+0.068	7	11	5	1
HPP23F-0507-07	5	+0.02/+0.068	7	11	7	1
HPP23F-0607-10	6	+0.01/+0.04	7	11	10	0.5
HPP23F-0608-04	6	+0.02/+0.068	8	12	4	1
HPP23F-0608-05	6	+0.02/+0.068	8	12	5	1
HPP23F-0608-06	6	+0.02/+0.068	8	12	6	1
HPP23F-0608-07	6	+0.02/+0.068	8	12	7	1
HPP23F-0608-08	6	+0.02/+0.068	8	12	8	1
HPP23F-0608-10	6	+0.02/+0.068	8	12	10	1
HPP23F-0708-08S	7	+0.013/+0.049	8	12	8	0.5
HPP23F-0809-12	8	+0.013/+0.049	9	13	12	0.5
HPP23F-0810-04	8	+0.025/+0.083	10	15	4	1
HPP23F-0810-05	8	+0.025/+0.083	10	15	5	1
HPP23F-0810-07	8	+0.025/+0.083	10	15	7	1
HPP23F-0810-09	8	+0.025/+0.083	10	15	9	1
HPP23F-0810-10	8	+0.025/+0.083	10	15	10	1
HPP23F-0810-15	8	+0.025/+0.083	10	15	15	1
HPP23F-0810-30	8	+0.025/+0.083	10	15	30	1
HPP23F-1012-04	10	+0.025/+0.083	12	18	4	1
HPP23F-1012-05	10	+0.025/+0.083	12	18	5	1
HPP23F-1012-06	10	+0.025/+0.083	12	18	6	1
HPP23F-1012-07	10	+0.025/+0.083	12	18	7	1
HPP23F-101209	10	+0.025/+0.083	12	18	9	1
HPP23F-101210	10	+0.025/+0.083	12	18	10	1
HPP23F-1012-12	10	+0.025/+0.083	12	18	12	1
HPP23F-1012-15	10	+0.025/+0.083	12	18	15	1
HPP23F-1012-17	10	+0.025/+0.083	12	18	17	1
HPP23F-101216-06	10	+0.025/+0.083	12	16	6	1
HPP23F-101216-09	10	+0.025/+0.083	12	16	9	1
HPP23F-1213-12S	12	+0.016/+0.059	13	17	12	0.5
HPP23F-1214-06	12	+0.032/+0.102	14	20	6	1
HPP23F-1214-07	12	+0.032/+0.102	14	20	7	1
HPP23F-1214-09	12	+0.032/+0.102	14	20	9	1
HPP23F-1214-10	12	+0.032/+0.102	14	20	10	1
HPP23F-1214-11	12	+0.032/+0.102	14	20	11	1
HPP23F-1214-12	12	+0.032/+0.102	14	20	12	1
HPP23F-1214-15	12	+0.032/+0.102	14	20	15	1

订购编号 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>0.12</sub> [mm]
HPP23F-1214-17	12	+0.032/+0.102	14	20	17	1
HPP23F-1214-20	12	+0.032/+0.102	14	20	20	1
HPP23F-1214-24	12	+0.032/+0.102	14	20	24	1
HPP23F-1416-03	14	+0.032/+0.102	16	22	3	1
HPP23F-1416-04	14	+0.032/+0.102	16	22	4	1
HPP23F-1416-06	14	+0.032/+0.102	16	22	6	1
HPP23F-1416-08	14	+0.032/+0.102	16	22	8	1
HPP23F-1416-12	14	+0.032/+0.102	16	22	12	1
HPP23F-1416-17	14	+0.032/+0.102	16	22	17	1
HPP23F-1416-21	14	+0.032/+0.102	16	22	21	1
HPP23F-1517-05	15	+0.032/+0.102	17	23	5	1
HPP23F-1517-09	15	+0.032/+0.102	17	23	9	1
HPP23F-1517-12	15	+0.032/+0.102	17	23	12	1
HPP23F-1517-17	15	+0.032/+0.102	17	23	17	1
HPP23F-1517-20	15	+0.032/+0.102	17	23	20	1
HPP23F-1618-09	16	+0.032/+0.102	18	24	9	1
HPP23F-1618-12	16	+0.032/+0.102	18	24	12	1
HPP23F-1618-17	16	+0.032/+0.102	18	24	17	1
HPP23F-1618-21	16	+0.032/+0.102	18	24	21	1
HPP23F-1719-09	17	+0.032/+0.102	19	25	9	1
HPP23F-1719-25	17	+0.032/+0.102	19	25	25	1
HPP23F-1820-04	18	+0.032/+0.102	20	26	4	1
HPP23F-1820-06	18	+0.032/+0.102	20	26	6	1
HPP23F-1820-11	18	+0.032/+0.102	20	26	11	1
HPP23F-1820-12	18	+0.032/+0.102	20	26	12	1
HPP23F-1820-17	18	+0.032/+0.102	20	26	17	1
HPP23F-1820-22	18	+0.032/+0.102	20	26	22	1
HPP23F-1820-30	18	+0.032/+0.102	20	26	30	1
HPP23F-2023-3.2	20	+0.04/+0.124	23	30	3.2	1.5
HPP23F-2023-07	20	+0.04/+0.124	23	30	7	1.5
HPP23F-2023-11.5	20	+0.04/+0.124	23	30	11.5	1.5
HPP23F-2023-16.5	20	+0.04/+0.124	23	30	16.5	1.5
HPP23F-2023-21.5	20	+0.04/+0.124	23	30	21.5	1.5
HPP23F-222535-09	22	+0.04/+0.124	25	35	9	1.5
HPP23F-2427-10	24	+0.04/+0.124	27	32	10	1.5
HPP23F-2528-11.5	25	+0.04/+0.124	28	35	11.5	1.5
HPP23F-2528-16.5	25	+0.04/+0.124	28	35	16.5	1.5
HPP23F-2528-21.5	25	+0.04/+0.124	28	35	21.5	1.5
HPP23F-2528-30	25	+0.04/+0.124	28	35	30	1.5
HPP23F-2830-36	28	+0.04/+0.124	30	35	36	2
HPP23F-3032-12	30	+0.04/+0.124	32	37	12	1
HPP23F-3034-16	30	+0.04/+0.124	34	42	16	2
HPP23F-3034-20	30	+0.04/+0.124	34	42	20	2
HPP23F-3034-26	30	+0.04/+0.124	34	42	26	2
HPP23F-3034-37	30	+0.04/+0.124	34	42	37	2
HPP23F-3034-45	30	+0.04/+0.124	34	42	45	2
HPP23F-3236-16	32	+0.05/+0.15	36	40	16	2

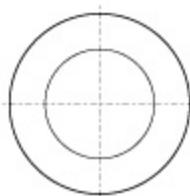
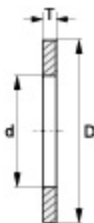


订购编码 Order PN	$d_1$ [mm]	$d_1$ -公差 After fitting [mm]	$d_2$ [mm]	$d_2[d13]$ [mm]	L[h13] [mm]	$t_{L12}$ [mm]
HPP23F-3236-26	32	+0.05/+0.15	36	40	26	2
HPP23F-3539-07	35	+0.05/+0.15	39	47	7	2
HPP23F-3539-12	35	+0.05/+0.15	39	47	12	2
HPP23F-3539-16	35	+0.05/+0.15	39	47	16	2
HPP23F-3539-26	35	+0.05/+0.15	39	47	26	2
HPP23F-3539-36	35	+0.05/+0.15	39	47	36	2
HPP23F-4044-14	40	+0.05/+0.15	44	52	14	2
HPP23F-4044-20	40	+0.05/+0.15	44	52	20	2
HPP23F-4044-30	40	+0.05/+0.15	44	52	30	2
HPP23F-4044-40	40	+0.05/+0.15	44	52	40	2
HPP23F-4044-50	40	+0.05/+0.15	44	52	50	2
HPP23F-4246-50	42	+0.05/+0.15	46	53	50	2
HPP23F-4550-30	45	+0.05/+0.15	50	58	30	2
HPP23F-4550-50	45	+0.05/+0.15	50	58	50	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]	$t_{L12}$ [mm]
HPP23F-5055-10	50	+0.05/+0.15	55	63	10	2
HPP23F-5055-40	50	+0.05/+0.15	55	63	40	2
HPP23F-5055-50	50	+0.05/+0.15	55	63	50	2
HPP23F-6065-07	60	+0.06/+0.18	65	73	7	2
HPP23F-6065-22	60	+0.06/+0.18	65	73	22	2
HPP23F-6065-30	60	+0.06/+0.18	65	73	30	2
HPP23F-6065-50	60	+0.06/+0.18	65	73	50	2
HPP23F-6570-50	65	+0.06/+0.18	70	78	50	2
HPP23F-7075-50	70	+0.06/+0.18	75	83	50	2
HPP23F-9095-11	90	+0.072/+0.212	95	103	11	2.5
HPP23F-100105-11.5	100	+0.072/+0.212	105	113	11.5	2.5
HPP23F-100105-100	100	+0.072/+0.212	105	113	100	2.5

\* $d_1$  公差为压入标准 H7 座孔 (ISO3547-1) 后公差\*Tolerance  $d_1$ : after being pressed into housing H7(ISO3547-1)

## 垫片 Metric Thrust Washers



订购编码 Order PN:

HPP23 W-0509-006

$d$   $D$   $T$   
 垫片 Washer  
 材料 Material

订购编码 Order PN	$d^{+0.25}$ [mm]	$D_{-0.25}$ [mm]	$T_{-0.05}$ [mm]
HPP23W-0509-006	5	9	0.6
HPP23W-0615-015	6	15	1.5
HPP23W-0620-015	6	20	1.5
HPP23W-0815-005	8	15	0.5
HPP23W-0815-015	8	15	1.5
HPP23W-0818-010	8	18	1.0
HPP23W-0818-015	8	18	1.5
HPP23W-1018-010	10	18	1.0
HPP23W-1018-015	10	18	1.5
HPP23W-1018-020	10	18	2.0
HPP23W-1224-015	12	24	1.5
HPP23W-1426-015	14	26	1.5
HPP23W-1524-015	15	24	1.5
HPP23W-1630-015	16	30	1.5

订购编码 Order PN	$d^{+0.25}$ [mm]	$D_{-0.25}$ [mm]	$T_{-0.05}$ [mm]
HPP23W-1832-015	18	32	1.5
HPP23W-2036-015	20	36	1.5
HPP23W-2238-015	22	38	1.5
HPP23W-2442-015	24	42	1.5
HPP23W-2640-0075	26	40	0.75
HPP23W-2644-015	26	44	1.5
HPP23W-2848-015	28	48	1.5
HPP23W-3254-015	32	54	1.5
HPP23W-3862-015	38	62	1.5
HPP23W-4266-015	42	66	1.5
HPP23W-4874-020	48	74	2.0
HPP23W-5278-020	52	78	2.0
HPP23W-6290-020	62	90	2.0

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