

HPP13-工程塑料轴承 Plastic Plain Bearings

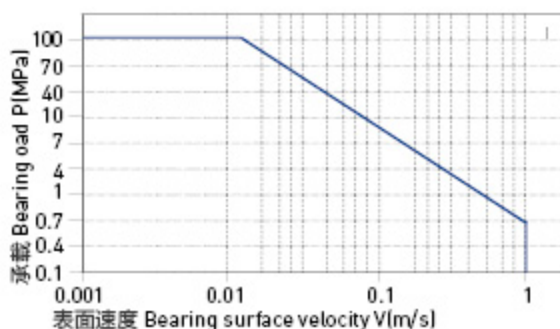
轴承PV值 PV Value

HPP13 塑料轴承最大运行 PV 值为 $0.7\text{N/mm}^2 \times \text{m/s}$; 由此决定轴承所承受的载荷与速度成反比, 详细查阅图表 HPP13-1。

The max PV value of the HPP12 plastic bearing is $0.7\text{N/mm}^2 \times \text{m/s}$ which determines the load capacity of bearing is inversely proportional to the speed. Please refer to the chart for more detailed information (Graph HPP12-1).

图表 HPP13-1: PV 图表

Graph HPP13-1: Permissible PV value for HPP13



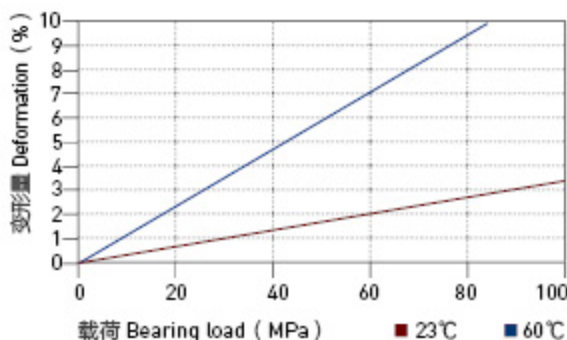
轴承的载荷、速度、温度 Load, Speed And Temperature

HPP13 系列轴承可承受最大静载荷为 120Mpa, 在此载荷下轴承的最大压缩变形量参考图表 HPP13-2, 轴承实际工作载荷略小于 120Mpa, 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: 150℃) 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 HPP13-3。

HPP13 allows the Max static load of 120Mpa, The max compressive deformation rate under the max load is listed in Graph HPP13-2, The actual load capacity of bearing is slightly less than 120Mpa, The bearing load is variable against the speed and temperature, Fast speed (Vmax: 1.0m/s) results into higher temperature (Tmax: 150℃) which decreases the load capacity of the bearing. Please refer to the Graph HPP13-3 for such variation.

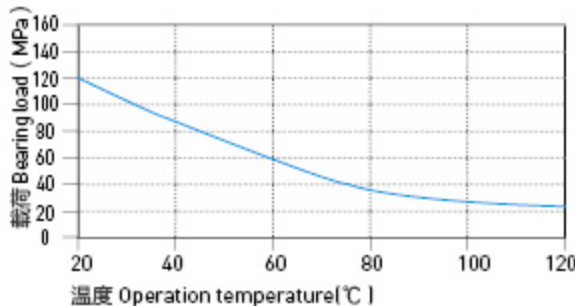
图表 HPP13-2: 载荷 - 温度 - 变形量图表

Graph HPP13-2: Load-Temperature deformation



图表 HPP13-3: 载荷 - 温度图表

Graph HPP13-3: Load-Temperature diagrams



HPP13-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 HPP13-4 表明 HPP13 轴承的摩擦系数在载荷保持不变的情况下受速度变化影响比较小；同样在图表 HPP13-5 表明 HPP13 轴承在速度保持不变的情况下受载荷变化的影响相对也比较小；此轴承为所有滑动轴承中摩擦系数不受运行速度以及载荷影响较大的典型轴承。根据图表 HPP13-6 显示 HPP13 轴承的摩擦系数在超过 Ra0.4 后轴表面粗糙度几乎对轴承的摩擦系数没有任何影响，我们推荐使用轴表面粗糙度为 Ra0.1~ 0.4 μ m。

Graph HPP13-4 shows that the friction factor of HPP13 is not considerably affected by the operation speed when the loading is stable. At the meantime, Graph HPP13-5 shows that the friction factor of HPP13 is not considerably affected by the loading when the operation speed is stable. This bearing is the only typical material whose friction factor is not sensitive to the operation speed and loading. Graph HPP13-6 tells that the friction factor of HPP13 will not be affected by the shaft roughness when the shaft roughness is better than Ra0.4. The recommended Shaft roughness is Ra0.1~0.4.

HPP13	干运行 Dry	油脂 Grease	油 Oil	水 Water
摩擦系数 μ Friction coef.	0.05~0.20	0.09	0.04	0.04

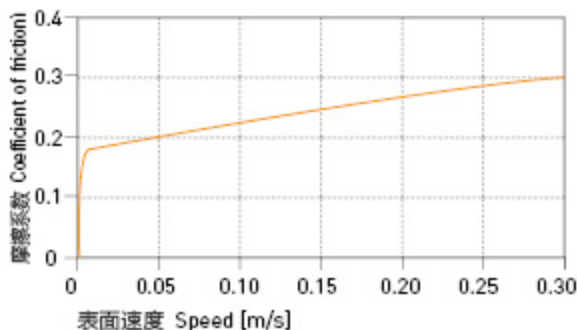
■ 磨损与轴材料 Wearing and shaft material

图表 HPP13-7 与图表 HPP13-8 表明 HPP16 轴承比较适合采用硬铬钢轴或硬化钢轴；图表 HPP13-7 表明 HPP13 轴承在做摆动运动下的磨损性能要优越于在旋转运动下的磨损性能。图表 HPP13-8 表明 HPP13 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 HPP13-7 and Graph HPP13-8 tells that HPP16 is suitable for both hard chrome steel shaft and hardened steel shaft. Graph HPP13-8 shows that the wearing feature of HPP16 is better in oscillation operation than in rotation operation. Hardened chrome steel shaft and hardened steel shaft is the better choice under oscillation operation and hardened steel shaft and hardened chrome steel shaft is the better choice under rotation operation.

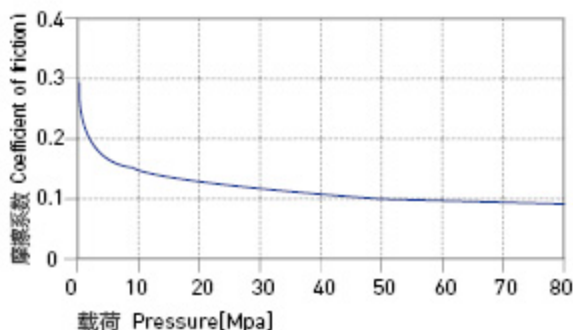
图表 HPP13-4: 摩擦系数与速度变化关系图表 P=2MPa

Graph HPP13-4: Coefficient of friction & the speed of bearing, P=2Mpa



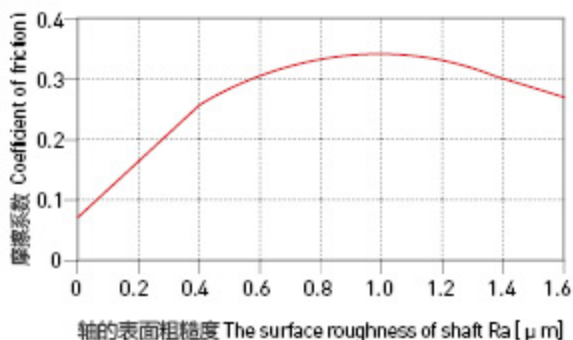
图表 HPP13-5: 摩擦系数与载荷变化关系图表 v=0.2m/s

Graph HPP13-5: Coefficient of friction & the pressure of bearing, v=0.2m/s



图表 HPP13-6: 摩擦系数与轴表面粗糙度关系图表

Graph HPP13-6: Coefficient of friction & the surface roughness of shaft



HPP13-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

HPP13 塑料轴承能抵抗弱碱以及各类润滑油的腐蚀。

HPP13 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, HPP13 塑料轴承的吸水率为 1.1%, 浸泡水中最大平衡吸水率为 4.6%; 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 HPP13 is 1.1% under the atmospheric pressure while it is 4.6% 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

HPP13 长久暴露在紫外线下长久后材料可能会变脆, 不能承受冲击力。

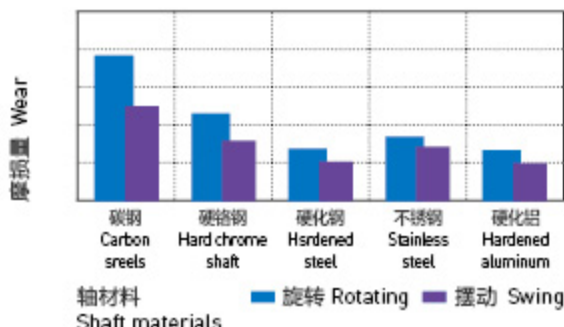
HPP13 can become brittle and lost its impact resistance when it is exposed into UV ray for a certain period of time.

■ 安装公差 Installation Tolerances

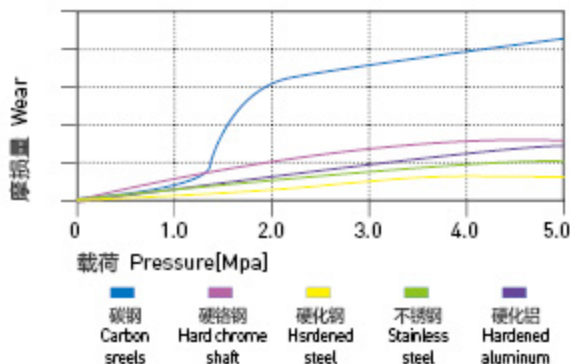
HPP13 塑料轴承压装后公差 Tolerances after pressfit

直径 DI. [mm]	HPP13 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
> 0-120	+0.072~+0.212	0~+0.035	0~-0.087
> 120-180	+0.085~+0.245	0~+0.040	0~-0.100

图表 HPP13-7: 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 HPP13-7: The bearing wear under rotating with different shaft materials, $p=2\text{MPa}$, $v=0.2\text{m/s}$

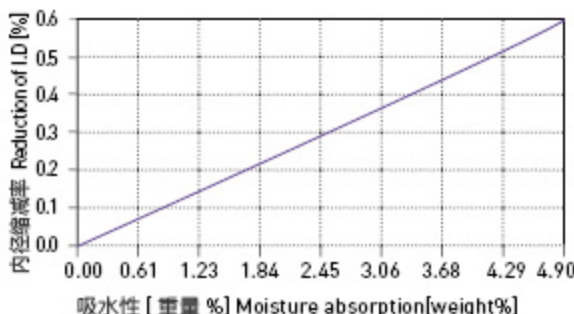


图表 HPP13-8: 旋转磨损随轴材料与压力变化关系 $v=0.2\text{m/s}$
Graph HPP13-8: The bearing wear & pressure under rotating with different shaft materials, $v=0.2\text{m/s}$

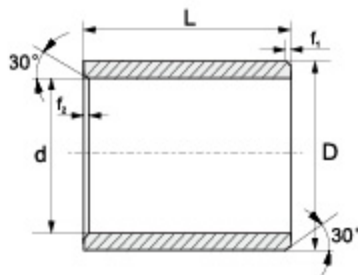


图表 HPP13-9: 吸水性的影响

Graph HPP13-9: Effect of moisture absorption on HPP13 bearings



HPP13标准规格Standard 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:

HPP13-0203-03
 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]
HPP13-0203-03	2	+0.014/+0.054	3.5	3
HPP13-0304-03	3	+0.014/+0.054	4.5	3
HPP13-0304-05	3	+0.014/+0.054	4.5	5
HPP13-0304-06	3	+0.014/+0.054	4.5	6
HPP13-0405-04	4	+0.02/+0.068	5.5	4
HPP13-0405-06	4	+0.02/+0.068	5.5	6
HPP13-0506-05S	5	+0.01/+0.04	6	5
HPP13-0507-05	5	+0.02/+0.068	7	5
HPP13-0507-08	5	+0.02/+0.068	7	8
HPP13-0507-10	5	+0.02/+0.068	7	10
HPP13-0608-04	6	+0.02/+0.068	8	4
HPP13-0608-05	6	+0.02/+0.068	8	5
HPP13-0608-06	6	+0.02/+0.068	8	6
HPP13-0608-08	6	+0.02/+0.068	8	8
HPP13-0608-09	6	+0.02/+0.068	8	9
HPP13-0608-10	6	+0.02/+0.068	8	10
HPP13-0608-11	6	+0.02/+0.068	8	11
HPP13-0810-05	8	+0.025/+0.083	10	5
HPP13-0810-06	8	+0.025/+0.083	10	6
HPP13-0810-07	8	+0.025/+0.083	10	7
HPP13-0810-08	8	+0.025/+0.083	10	8
HPP13-0810-10	8	+0.025/+0.083	10	10
HPP13-0810-12	8	+0.025/+0.083	10	12
HPP13-0810-13	8	+0.025/+0.083	10	13
HPP13-0810-15	8	+0.025/+0.083	10	15
HPP13-0810-21	8	+0.025/+0.083	10	21
HPP13-1011-06	10	+0.025/+0.083	11	6
HPP13-1012-04	10	+0.025/+0.083	12	4
HPP13-1012-05	10	+0.025/+0.083	12	5
HPP13-1012-06	10	+0.025/+0.083	12	6
HPP13-1012-07	10	+0.025/+0.083	12	7
HPP13-1012-08	10	+0.025/+0.083	12	8
HPP13-1012-09	10	+0.025/+0.083	12	9
HPP13-1012-10	10	+0.025/+0.083	12	10
HPP13-1012-12	10	+0.025/+0.083	12	12
HPP13-1012-14	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]
HPP13-1012-15	10	+0.025/+0.083	12	15
HPP13-1012-17	10	+0.025/+0.083	12	17
HPP13-1012-20	10	+0.025/+0.083	12	20
HPP13-1213-12S	12	+0.016/+0.059	13	12
HPP13-1214-04	12	+0.032/+0.102	14	4
HPP13-1214-06	12	+0.032/+0.102	14	6
HPP13-1214-08	12	+0.032/+0.102	14	8
HPP13-1214-10	12	+0.032/+0.102	14	10
HPP13-1214-12	12	+0.032/+0.102	14	12
HPP13-1214-14	12	+0.032/+0.102	14	14
HPP13-1214-15	12	+0.032/+0.102	14	15
HPP13-1214-20	12	+0.032/+0.102	14	20
HPP13-1214-25	12	+0.032/+0.102	14	25
HPP13-1315-15	13	+0.032/+0.102	15	15
HPP13-1315-25	13	+0.032/+0.102	15	25
HPP13-1416-03	14	+0.032/+0.102	16	3
HPP13-1416-08	14	+0.032/+0.102	16	8
HPP13-1416-10	14	+0.032/+0.102	16	10
HPP13-1416-15	14	+0.032/+0.102	16	15
HPP13-1416-20	14	+0.032/+0.102	16	20
HPP13-1416-25	14	+0.032/+0.102	16	25
HPP13-1517-10	15	+0.032/+0.102	17	10
HPP13-1517-12	15	+0.032/+0.102	17	12
HPP13-1517-15	15	+0.032/+0.102	17	15
HPP13-1517-20	15	+0.032/+0.102	17	20
HPP13-1517-25	15	+0.032/+0.102	17	25
HPP13-1618-10	16	+0.032/+0.102	18	10
HPP13-1618-12	16	+0.032/+0.102	18	12
HPP13-1618-15	16	+0.032/+0.102	18	is
HPP13-1618-20	16	+0.032/+0.102	18	20
HPP13-1618-25	16	+0.032/+0.102	18	25
HPP13-1618-30	16	+0.032/+0.102	18	30
HPP13-1820-10	18	+0.032/+0.102	20	10
HPP13-1820-12	18	+0.032/+0.102	20	12
HPP13-1820-15	18	+0.032/+0.102	20	15
HPP13-1820-20	18	+0.0321/+0.102	20	20

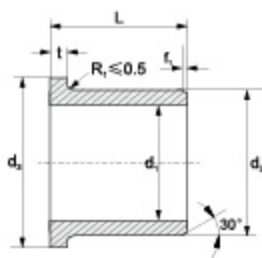
订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP13-1820-25	18	+0.032/+0.102	20	25
HPP13-2022-20	20	+0.04/+0.124	22	20
HPP13-2022-30	20	+0.04/+0.124	22	30
HPP13-2023-10	20	+0.04/+0.124	23	10
HPP13-2023-15	20	+0.04/+0.124	23	15
HPP13-2023-20	20	+0.04/+0.124	23	20
HPP13-2023-25	20	+0.04/+0.124	23	25
HPP13-2023-30	20	+0.04/+0.124	23	30
HPP13-2225-15	22	+0.04/+0.124	25	15
HPP13-2225-20	22	+0.04/+0.124	25	20
HPP13-2225-25	22	+0.04/+0.124	25	25
HPP13-2225-30	22	+0.04/+0.124	25	30
HPP13-2528-12	25	+0.04/+0.124	28	12
HPP13-2528-15	25	+0.04/+0.124	28	15
HPP13-2528-20	25	+0.04/+0.124	28	20
HPP13-2528-24	25	+0.04/+0.124	28	24
HPP13-2528-25	25	+0.04/+0.124	28	25
HPP13-2528-30	25	+0.04/+0.124	28	30
HPP13-2528-35	25	+0.04/+0.124	28	35
HPP13-2832-30	28	+0.04/+0.124	32	30
HPP13-3034-15	30	+0.04/+0.124	34	15
HPP13-3034-20	30	+0.04/+0.124	34	20
HPP13-3034-24	30	+0.04/+0.124	34	24
HPP13-3034-25	30	+0.04/+0.124	34	25
HPP13-3034-30	30	+0.04/+0.124	34	30
HPP13-3034-35	30	+0.04/+0.124	34	35
HPP13-3034-40	30	+0.04/+0.124	34	40
HPP13-3236-30	32	+0.05/+0.15	36	30
HPP13-3236-40	32	+0.05/+0.15	36	40
HPP13-3539-14	35	+0.05/+0.15	39	14
HPP13-3539-20	35	+0.05/+0.15	39	20
HPP13-3539-25	35	+0.05/+0.15	39	25
HPP13-3539-30	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]
HPP13-3539-40	35	+0.05/+0.15	39	40
HPP13-3539-50	35	+0.05/+0.15	39	50
HPP13-3640-20	36	+0.05/+0.15	40	20
HPP13-4044-10	40	+0.05/+0.15	44	10
HPP13-4044-16	40	+0.05/+0.15	44	16
HPP13-4044-20	40	+0.05/+0.15	44	20
HPP13-4044-30	40	+0.05/+0.15	44	30
HPP13-4044-40	40	+0.05/+0.15	44	40
HPP13-4044-50	40	+0.05/+0.15	44	50
HPP13-4246-40	42	+0.05/+0.15	46	40
HPP13-4246-50	42	+0.05/+0.15	46	50
HPP13-4550-40	45	+0.05/+0.15	50	40
HPP13-4550-50	45	+0.05/+0.15	50	50
HPP13-5055-20	50	+0.05/+0.15	55	20
HPP13-5055-30	50	+0.05/+0.15	55	30
HPP13-5055-40	50	+0.05/+0.15	55	40
HPP13-5055-50	50	+0.05/+0.15	55	50
HPP13-5560-20	55	+0.06/+0.18	60	20
HPP13-5560-26	55	+0.06/+0.18	60	26
HPP13-5560-40	55	+0.06/+0.18	60	40
HPP13-5560-50	55	+0.06/+0.18	60	50
HPP13-5560-60	55	+0.06/+0.18	60	60
HPP13-6065-30	60	+0.06/+0.18	65	30
HPP13-6065-40	60	+0.06/+0.18	65	40
HPP13-6065-50	60	+0.06/+0.18	65	50
HPP13-6065-60	60	+0.06/+0.18	65	60
HPP13-6570-50	65	+0.06/+0.18	70	50
HPP13-7075-60	70	+0.06/+0.18	75	60
HPP13-7580-40	75	+0.06/+0.18	80	40
HPP13-115121-90	115	+0.072/+0.212	121	90
HPP13-120125-100	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:

HPP13 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 ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.15} [mm]
HPP13F-0304-03	3	+0.014/+0.054	4.5	7.5	3	0.75
HPP13F-0304-05	3	+0.014/+0.054	4.5	7.5	5	0.75
HPP13F-0405-03	4	+0.02/+0.068	5.5	9.5	3	0.75
HPP13F-0405-04	4	+0.02/+0.068	5.5	9.5	4	0.75
HPP13F-0405-06	4	+0.02/+0.068	5.5	9.5	6	0.75
HPP13F-0506-3.5S	5	+0.01/+0.04	6	10	3.5	0.5
HPP13F-0506-05S	5	+0.01/+0.04	6	10	5	0.5
HPP13F-050614-06S	5	+0.01/+0.04	6	14	6	0.5
HPP13F-0507-03	5	+0.02/+0.068	7	11	3	1
HPP13F-0507-04	5	+0.02/+0.068	7	11	4	1
HPP13F-0507-05	5	+0.02/+0.068	7	11	5	1
HPP13F-0507-07	5	+0.02/+0.068	7	11	7	1
HPP13F-0607-10	6	+0.01/+0.04	7	11	10	0.5
HPP13F-0608-04	6	+0.02/+0.068	8	12	4	1
HPP13F-0608-05	6	+0.02/+0.068	8	12	5	1
HPP13F-0608-06	6	+0.02/+0.068	8	12	6	1
HPP13F-0608-07	6	+0.02/+0.068	8	12	7	1
HPP13F-0608-08	6	+0.02/+0.068	8	12	8	1
HPP13F-0608-10	6	+0.02/+0.068	8	12	10	1
HPP13F-0708-08S	7	+0.013/+0.049	8	12	8	0.5
HPP13F-0809-12	8	+0.013/+0.049	9	13	12	0.5
HPP13F-0810-04	8	+0.025/+0.083	10	15	4	1
HPP13F-0810-05	8	+0.025/+0.083	10	15	5	1
HPP13F-0810-07	8	+0.025/+0.083	10	15	7	1
HPP13F-0810-09	8	+0.025/+0.083	10	15	9	1
HPP13F-0810-10	8	+0.025/+0.083	10	15	10	1
HPP13F-0810-15	8	+0.025/+0.083	10	15	15	1
HPP13F-0810-30	8	+0.025/+0.083	10	15	30	1
HPP13F-1012-04	10	+0.025/+0.083	12	18	4	1
HPP13F-1012-05	10	+0.025/+0.083	12	18	5	1
HPP13F-1012-06	10	+0.025/+0.083	12	18	6	1
HPP13F-1012-07	10	+0.025/+0.083	12	18	7	1
HPP13F-1012-09	10	+0.025/+0.083	12	18	9	1
HPP13F-1012-10	10	+0.025/+0.083	12	18	10	1
HPP13F-1012-12	10	+0.025/+0.083	12	18	12	1
HPP13F-1012-15	10	+0.025/+0.083	12	18	15	1
HPP13F-1012-17	10	+0.025/+0.083	12	18	17	1
HPP13F-101216-06	10	+0.025/+0.083	12	16	6	1
HPP13F-101216-09	10	+0.025/+0.083	12	16	9	1
HPP13F-1213-12S	12	+0.016/+0.059	13	17	12	0.5
HPP13F-1214-06	12	+0.032/+0.102	14	20	6	1
HPP13F-1214-07	12	+0.032/+0.102	14	20	7	1
HPP13F-1214-09	12	+0.032/+0.102	14	20	9	1
HPP13F-1214-10	12	+0.032/+0.102	14	20	10	1
HPP13F-1214-11	12	+0.032/+0.102	14	20	11	1
HPP13F-1214-12	12	+0.032/+0.102	14	20	12	1
HPP13F-1214-15	12	+0.032/+0.102	14	20	15	1

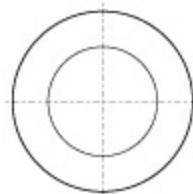
订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.15} [mm]
HPP13F-1214-17	12	+0.032/+0.102	14	20	17	1
HPP13F-1214-20	12	+0.032/+0.102	14	20	20	1
HPP13F-1214-24	12	+0.032/+0.102	14	20	24	1
HPP13F-1416-03	14	+0.032/+0.102	16	22	3	1
HPP13F-1416-04	14	+0.032/+0.102	16	22	4	1
HPP13F-1416-06	14	+0.032/+0.102	16	22	6	1
HPP13F-1416-08	14	+0.032/+0.102	16	22	8	1
HPP13F-1416-12	14	+0.032/+0.102	16	22	12	1
HPP13F-1416-17	14	+0.032/+0.102	16	22	17	1
HPP13F-1416-21	14	+0.032/+0.102	16	22	21	1
HPP13F-1517-05	15	+0.032/+0.102	17	23	5	1
HPP13F-1517-09	15	+0.032/+0.102	17	23	9	1
HPP13F-1517-12	15	+0.032/+0.102	17	23	12	1
HPP13F-1517-17	15	+0.032/+0.102	17	23	17	1
HPP13F-1517-20	15	+0.032/+0.102	17	23	20	1
HPP13F-1618-09	16	+0.032/+0.102	18	24	9	1
HPP13F-1618-12	16	+0.032/+0.102	18	24	12	1
HPP13F-1618-17	16	+0.032/+0.102	18	24	17	1
HPP13F-1618-21	16	+0.032/+0.102	18	24	21	1
HPP13F-1719-09	17	+0.032/+0.102	19	25	9	1
HPP13F-1719-25	17	+0.032/+0.102	19	25	25	1
HPP13F-1820-04	18	+0.032/+0.102	20	26	4	1
HPP13F-1820-06	18	+0.032/+0.102	20	26	6	1
HPP13F-1820-11	18	+0.032/+0.102	20	26	11	1
HPP13F-1820-12	18	+0.032/+0.102	20	26	12	1
HPP13F-1820-17	18	+0.032/+0.102	20	26	17	1
HPP13F-1820-22	18	+0.032/+0.102	20	26	22	1
HPP13F-1820-30	18	+0.032/+0.102	20	26	30	1
HPP13F-2023-3.2	20	+0.04/+0.124	23	30	3.2	1.5
HPP13F-2023-07	20	+0.04/+0.124	23	30	7	1.5
HPP13F-2023-11.5	20	+0.04/+0.124	23	30	11.5	1.5
HPP13F-2023-16.5	20	+0.04/+0.124	23	30	16.5	1.5
HPP13F-2023-21.5	20	+0.04/+0.124	23	30	21.5	1.5
HPP13F-222535-09	22	+0.04/+0.124	25	35	9	1.5
HPP13F-2427-10	24	+0.04/+0.124	27	32	10	1.5
HPP13F-2528-11.5	25	+0.04/+0.124	28	35	11.5	1.5
HPP13F-2528-16.5	25	+0.04/+0.124	28	35	16.5	1.5
HPP13F-2528-21.5	25	+0.04/+0.124	28	35	21.5	1.5
HPP13F-2528-30	25	+0.04/+0.124	28	35	30	1.5
HPP13F-2830-36	28	+0.04/+0.124	30	35	36	2
HPP13F-3032-12	30	+0.04/+0.124	32	37	12	1
HPP13F-3034-16	30	+0.04/+0.124	34	42	16	2
HPP13F-3034-20	30	+0.04/+0.124	34	42	20	2
HPP13F-3034-26	30	+0.04/+0.124	34	42	26	2
HPP13F-3034-37	30	+0.04/+0.124	34	42	37	2
HPP13F-3034-45	30	+0.04/+0.124	34	42	45	2
HPP13F-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]	$t_{\pm 0.16}$ [mm]
HPP13F-3236-26	32	+0.05/+0.15	36	40	26	2
HPP13F-3539-07	35	+0.05/+0.15	39	47	7	2
HPP13F-3539-12	35	+0.05/+0.15	39	47	12	2
HPP13F-3539-16	35	+0.05/+0.15	39	47	16	2
HPP13F-3539-26	35	+0.05/+0.15	39	47	26	2
HPP13F-3539-36	35	+0.05/+0.15	39	47	36	2
HPP13F-4044-14	40	+0.05/+0.15	44	52	14	2
HPP13F-4044-20	40	+0.05/+0.15	44	52	20	2
HPP13F-4044-30	40	+0.05/+0.15	44	52	30	2
HPP13F-4044-40	40	+0.05/+0.15	44	52	40	2
HPP13F-4044-50	40	+0.05/+0.15	44	52	50	2
HPP13F-4246-50	42	+0.05/+0.15	46	53	50	2
HPP13F-4550-30	45	+0.05/+0.15	50	58	30	2
HPP13F-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]	$t_{\pm 0.16}$ [mm]
HPP13F-5055-10	50	+0.05/+0.15	55	63	10	2
HPP13F-5055-40	50	+0.05/+0.15	55	63	40	2
HPP13F-5055-50	50	+0.05/+0.15	55	63	50	2
HPP13F-6065-07	60	+0.06/+0.18	65	73	7	2
HPP13F-6065-22	60	+0.06/+0.18	65	73	22	2
HPP13F-6065-30	60	+0.06/+0.18	65	73	30	2
HPP13F-6065-50	60	+0.06/+0.18	65	73	50	2
HPP13F-6570-50	65	+0.06/+0.18	70	78	50	2
HPP13F-7075-50	70	+0.06/+0.18	75	83	50	2
HPP13F-9095-11	90	+0.072/+0.212	95	103	11	2.5
HPP13F-100105-11.5	100	+0.072/+0.212	105	113	11.5	2.5
HPP13F-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:

HPP13 W-0509-006

d D T
 垫片 Washer
 材料 Material

订购编码 Order PN	$d^{+0.25}$ [mm]	$D_{\pm 0.25}$ [mm]	$T_{\pm 0.16}$ [mm]
HPP13W-0509-006	5	9	0.6
HPP13W-0615-015	6	15	1.5
HPP13W-0620-015	6	20	1.5
HPP13W-0815-005	8	15	0.5
HPP13W-0815-015	8	15	1.5
HPP13W-0818-010	8	18	1.0
HPP13W-0818-015	8	18	1.5
HPP13W-1018-010	10	18	1.0
HPP13W-1018-015	10	18	1.5
HPP13W-1018-020	10	18	2.0
HPP13W-1224-015	12	24	1.5
HPP13W-1426-015	14	26	1.5
HPP13W-1524-015	15	24	1.5
HPP13W-1630-015	16	30	1.5

订购编码 Order PN	$d^{+0.25}$ [mm]	$D_{\pm 0.25}$ [mm]	$T_{\pm 0.16}$ [mm]
HPP13W-1832-015	18	32	1.5
HPP13W-2036-015	20	36	1.5
HPP13W-2238-015	22	38	1.5
HPP13W-2442-015	24	42	1.5
HPP13W-2640-0075	26	40	0.75
HPP13W-2644-015	26	44	1.5
HPP13W-2848-015	28	48	1.5
HPP13W-3254-015	32	54	1.5
HPP13W-3862-015	38	62	1.5
HPP13W-4266-015	42	66	1.5
HPP13W-4874-020	48	74	2.0
HPP13W-5278-020	52	78	2.0
HPP13W-6290-020	62	90	2.0

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