

HPP19-工程塑料轴承 Plastic Plain Bearings

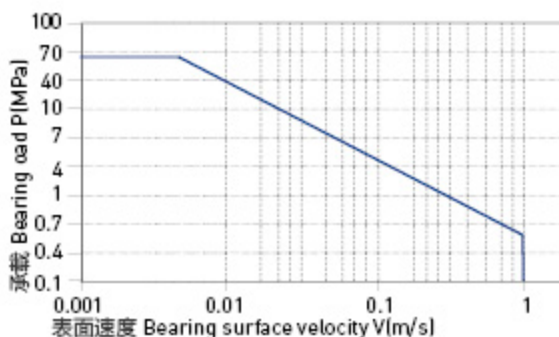
轴承PV值 PV Value

HPP19 塑料轴承最大运行 PV 值为 $0.4\text{N/mm}^2 \times \text{m/s}$; 由此决定轴承所承受的载荷与速度成反比, 详情查阅图表 HPP19-1。

The max PV value of the HPP19 plastic bearing is $0.4\text{N/mm}^2 \times \text{m/s}$ which determines the load capacity of bearing is inversely proportional to the speed. Please refer to the chart for more detailed information (Graph HPP19-1).

图表 HPP19-1: PV 图表

Graph HPP19-1: Permissible PV value for HPP19



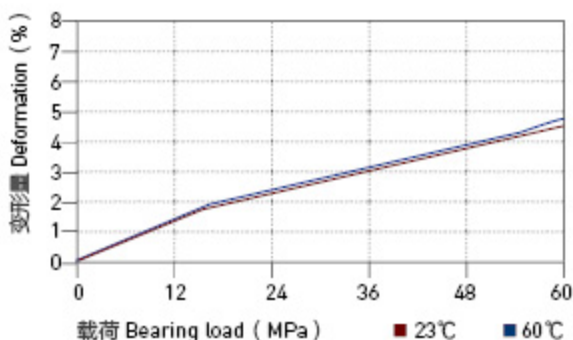
轴承的载荷、速度、温度 Load, Speed And Temperature

HPP19 系列轴承可承受最大静载荷为 60Mpa, 在此载荷下轴承的最大压缩变形量参考图表 HPP19-2, 轴承实际工作载荷略小于 60Mpa, 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: 180℃) 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 HPP19-3。

HPP19 allows the Max static load of 60Mpa, The max compressive deformation rate under the max load is listed in Graph HPP19-2, The actual load capacity of bearing is slightly less than 60Mpa, The bearing load is variable against the speed and temperature, Fast speed (Vmax: 1.0m/s) results into higher temperature (Tmax: 180℃) which decreases the load capacity of the bearing. Please refer to the Graph HPP19-3 for such variation.

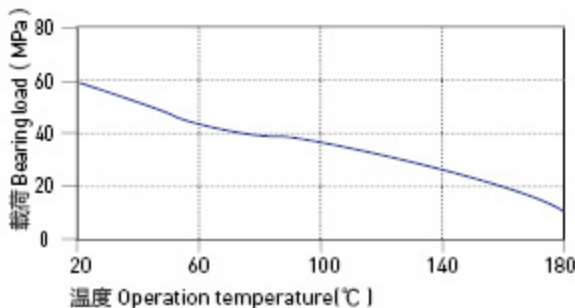
图表 HPP19-2: 载荷 - 温度 - 变形量图表

Graph HPP19-2: Load-Temperature deformation



图表 HPP19-3: 载荷 - 温度图表

Graph HPP19-3: Load-Temperature diagrams



HPP19-工程塑料轴承 Plastic Plain Bearings

轴承的摩擦系数、磨损、轴材料 -

■ 轴承的摩擦系数 Friction factor

图表 HPP19-4 表明 HPP19 轴承的摩擦系数随着运动速度的变化影响较小，而图表 HPP19-5 表明 HPP19 轴承的摩擦系数随着载荷的增加明显减小，在载荷超过 20Mpa 是逐渐趋于平稳；图表 HPP19-6 表明 HPP19 轴承的摩擦系数受轴粗糙度的影响也相对比较小；虽然如此，我们还是建议轴的表面不能太光滑，也不能过于出差，推荐使用轴的粗糙度为 Ra0.6~ 0.9 μ m；

HPP19 Bearing Friction factor is not so sensitive to the operation speed [see Graph HPP19-4]. The friction factor is considerably decreased along with the loading increasing and it will be turned to be stable when the loading reaches 20Mpa. Graph HPP19-5 shows the friction factor of the bearing is also not sensitive to the shaft roughness but we still recommend that the roughness of the shaft should be neither too smooth nor too rough. It is recommended to keep the roughness of the shaft to be with in the range of Ra0.6 to Ra0.9.

HPP19	干运行 Dry	油脂 Grease	油 Oil	水 Water
摩擦系数 μ Friction coef.	0.09~0.20	0.09	0.04	0.04

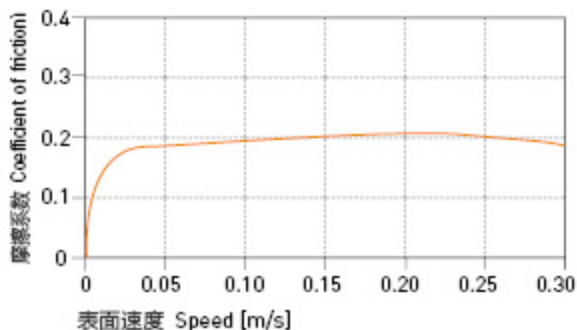
■ 磨损与轴材料 Wearing and shaft material

图表 HPP19-7 表明 HPP19 轴承在 2Mpa 下做旋转运动时，磨损随着轴材料的变化较大；通过实验表明 HPP19 轴承在做旋转运动时比较适合用于硬铬轴，不锈钢轴和硬铬轴上用于 HPP19 能获得良好的运行效果。图表 HPP19-8 表明硬铬轴更适合用于高载荷下的 HPP19 轴承，随着载荷的不断增大，轴承的磨损速率却变化较小，图表 HPP19-8 表明 HPP19 轴承在不同载荷下的差异。

Graph HPP19-7 shows that the HPP19 material is not sensitive with different materials under the rotating operation. It is suitable for hard shaft and high speed steel shaft as well as hard chrome steel shaft. Graph HPP19-8 shows that the hard chrome steel shaft is most suitable for using HPP19 bearing because the wearing speed is not sensitive when the loading is increased. From the Graph HPP19-8, it shows that HPP19 features different performance.

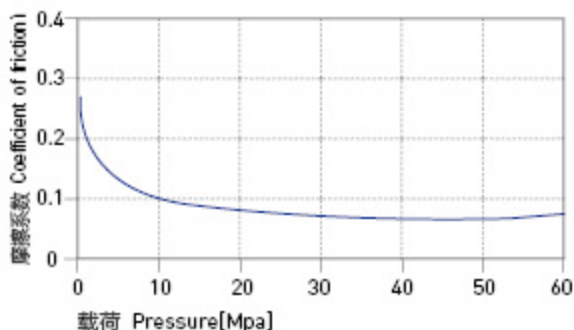
图表 HPP19-4: 摩擦系数与速度变化关系图表 P=2MPa

Graph HPP19-4: Coefficient of friction & the speed of bearing, P=2Mpa



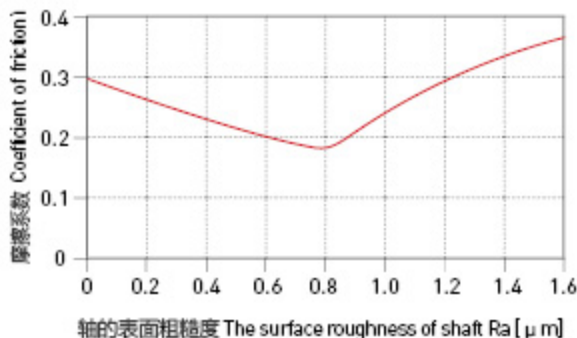
图表 HPP19-5: 摩擦系数与载荷变化关系图表 v=0.2m/s

Graph HPP19-5: Coefficient of friction & the pressure of bearing, v=0.2m/s



图表 HPP19-6: 摩擦系数与轴表面粗糙度关系图表

Graph HPP19-6: Coefficient of friction & the surface roughness of shaft



HPP19-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

HPP19 塑料轴承能抵抗弱碱以及各类润滑油的腐蚀。

HPP19 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, HPP19 塑料轴承的吸水率为 0.6%, 浸泡水中最大平衡吸水率为 1.9%; 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 HPP19 is 0.6% under the atmospheric pressure while it is 1.9% 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

HPP19 长久暴露在紫外线下颜色会发生褪变。材料性能基本都不会发生改变。

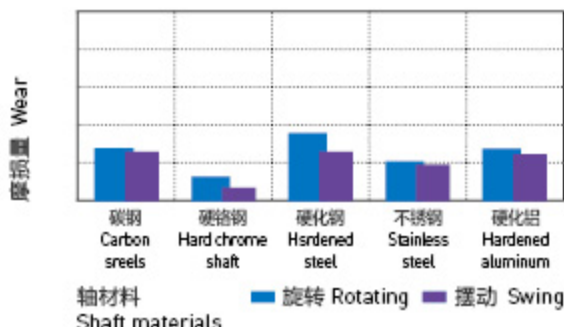
The color of HPP19 could be dimmed when it is exposed into the UV ray. The material performance stays stable.

■ 安装公差 Installation Tolerances

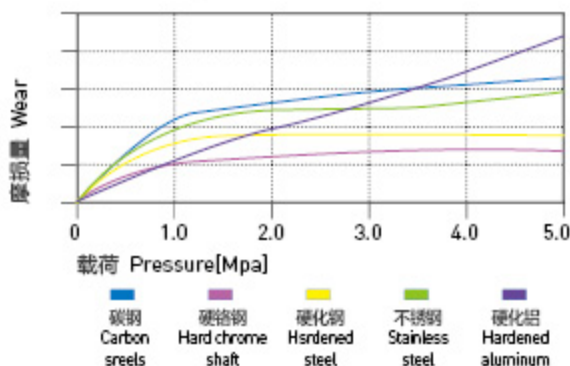
HPP19 塑料轴承压装后公差 Tolerances after pressfit

直径 Di. [mm]	HPP19 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 HPP19-7: 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 HPP19-7: The bearing wear under rotating with different shaft materials, $p=2\text{MPa}$, $v=0.2\text{m/s}$

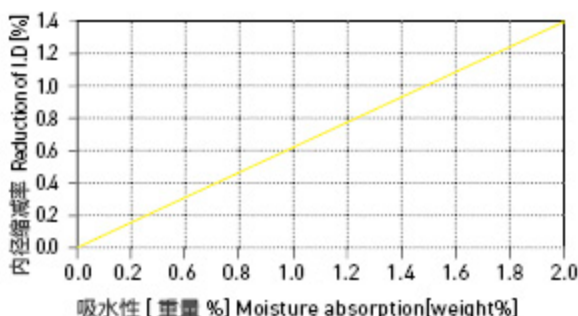


图表 HPP19-8: 旋转磨损随轴材料与压力变化关系 $v=0.2\text{m/s}$
Graph HPP19-8: The bearing wear & pressure under rotating with different shaft materials, $v=0.2\text{m/s}$

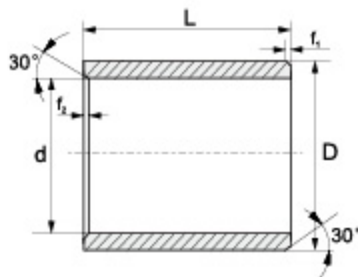


图表 HPP19-9: 吸水性的影响

Graph HPP19-9: Effect of moisture absorption on HPP19 bearings



HPP19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:

HPP19-0203-03

材料 Material

d D L

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]
HPP19-0203-03	2	+0.014/+0.054	3.5	3
HPP19-0304-03	3	+0.014/+0.054	4.5	3
HPP19-0304-05	3	+0.014/+0.054	4.5	5
HPP19-0304-06	3	+0.014/+0.054	4.5	6
HPP19-0405-04	4	+0.02/+0.068	5.5	4
HPP19-0405-06	4	+0.02/+0.068	5.5	6
HPP19-0506-05S	5	+0.01/+0.04	6	5
HPP19-0507-05	5	+0.02/+0.068	7	5
HPP19-0507-08	5	+0.02/+0.068	7	8
HPP19-0507-10	5	+0.02/+0.068	7	10
HPP19-0608-04	6	+0.02/+0.068	8	4
HPP19-0608-05	6	+0.02/+0.068	8	5
HPP19-0608-06	6	+0.02/+0.068	8	6
HPP19-0608-08	6	+0.02/+0.068	8	8
HPP19-0608-09	6	+0.02/+0.068	8	9
HPP19-0608-10	6	+0.02/+0.068	8	10
HPP19-0608-11	6	+0.02/+0.068	8	11
HPP19-0810-05	8	+0.025/+0.083	10	5
HPP19-0810-06	8	+0.025/+0.083	10	6
HPP19-0810-07	8	+0.025/+0.083	10	7
HPP19-0810-08	8	+0.025/+0.083	10	8
HPP19-0810-10	8	+0.025/+0.083	10	10
HPP19-0810-12	8	+0.025/+0.083	10	12
HPP19-0810-13	8	+0.025/+0.083	10	13
HPP19-0810-15	8	+0.025/+0.083	10	15
HPP19-0810-21	8	+0.025/+0.083	10	21
HPP19-1011-06	10	+0.025/+0.083	11	6
HPP19-1012-04	10	+0.025/+0.083	12	4
HPP19-1012-05	10	+0.025/+0.083	12	5
HPP19-1012-06	10	+0.025/+0.083	12	6
HPP19-1012-07	10	+0.025/+0.083	12	7
HPP19-1012-08	10	+0.025/+0.083	12	8
HPP19-1012-09	10	+0.025/+0.083	12	9
HPP19-1012-10	10	+0.025/+0.083	12	10
HPP19-1012-12	10	+0.025/+0.083	12	12
HPP19-1012-14	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]
HPP19-1012-15	10	+0.025/+0.083	12	15
HPP19-1012-17	10	+0.025/+0.083	12	17
HPP19-1012-20	10	+0.025/+0.083	12	20
HPP19-1213-12S	12	+0.016/+0.059	13	12
HPP19-1214-04	12	+0.032/+0.102	14	4
HPP19-1214-06	12	+0.032/+0.102	14	6
HPP19-1214-08	12	+0.032/+0.102	14	8
HPP19-1214-10	12	+0.032/+0.102	14	10
HPP19-1214-12	12	+0.032/+0.102	14	12
HPP19-1214-14	12	+0.032/+0.102	14	14
HPP19-1214-15	12	+0.032/+0.102	14	15
HPP19-1214-20	12	+0.032/+0.102	14	20
HPP19-1214-25	12	+0.032/+0.102	14	25
HPP19-1315-15	13	+0.032/+0.102	15	15
HPP19-1315-25	13	+0.032/+0.102	15	25
HPP19-1416-03	14	+0.032/+0.102	16	3
HPP19-1416-08	14	+0.032/+0.102	16	8
HPP19-1416-10	14	+0.032/+0.102	16	10
HPP19-1416-15	14	+0.032/+0.102	16	15
HPP19-1416-20	14	+0.032/+0.102	16	20
HPP19-1416-25	14	+0.032/+0.102	16	25
HPP19-1517-10	15	+0.032/+0.102	17	10
HPP19-1517-12	15	+0.032/+0.102	17	12
HPP19-1517-15	15	+0.032/+0.102	17	15
HPP19-1517-20	15	+0.032/+0.102	17	20
HPP19-1517-25	15	+0.032/+0.102	17	25
HPP19-1618-10	16	+0.032/+0.102	18	10
HPP19-1618-12	16	+0.032/+0.102	18	12
HPP19-1618-15	16	+0.032/+0.102	18	is
HPP19-1618-20	16	+0.032/+0.102	18	20
HPP19-1618-25	16	+0.032/+0.102	18	25
HPP19-1618-30	16	+0.032/+0.102	18	30
HPP19-1820-10	18	+0.032/+0.102	20	10
HPP19-1820-12	18	+0.032/+0.102	20	12
HPP19-1820-15	18	+0.032/+0.102	20	15
HPP19-1820-20	18	+0.0321/+0.102	20	20

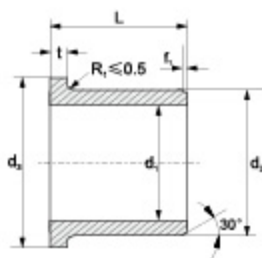
订购编码 Order PN	d [mm]	d- 公差 After fitting [mm]	D [mm]	L(h13) [mm]
HPP19-1820-25	18	+0.032/+0.102	20	25
HPP19-2022-20	20	+0.04/+0.124	22	20
HPP19-2022-30	20	+0.04/+0.124	22	30
HPP19-2023-10	20	+0.04/+0.124	23	10
HPP19-2023-15	20	+0.04/+0.124	23	15
HPP19-2023-20	20	+0.04/+0.124	23	20
HPP19-2023-25	20	+0.04/+0.124	23	25
HPP19-2023-30	20	+0.04/+0.124	23	30
HPP19-2225-15	22	+0.04/+0.124	25	15
HPP19-2225-20	22	+0.04/+0.124	25	20
HPP19-2225-25	22	+0.04/+0.124	25	25
HPP19-2225-30	22	+0.04/+0.124	25	30
HPP19-2528-12	25	+0.04/+0.124	28	12
HPP19-2528-15	25	+0.04/+0.124	28	15
HPP19-2528-20	25	+0.04/+0.124	28	20
HPP19-2528-24	25	+0.04/+0.124	28	24
HPP19-2528-25	25	+0.04/+0.124	28	25
HPP19-2528-30	25	+0.04/+0.124	28	30
HPP19-2528-35	25	+0.04/+0.124	28	35
HPP19-2832-30	28	+0.04/+0.124	32	30
HPP19-3034-15	30	+0.04/+0.124	34	15
HPP19-3034-20	30	+0.04/+0.124	34	20
HPP19-3034-24	30	+0.04/+0.124	34	24
HPP19-3034-25	30	+0.04/+0.124	34	25
HPP19-3034-30	30	+0.04/+0.124	34	30
HPP19-3034-35	30	+0.04/+0.124	34	35
HPP19-3034-40	30	+0.04/+0.124	34	40
HPP19-3236-30	32	+0.05/+0.15	36	30
HPP19-3236-40	32	+0.05/+0.15	36	40
HPP19-3539-14	35	+0.05/+0.15	39	14
HPP19-3539-20	35	+0.05/+0.15	39	20
HPP19-3539-25	35	+0.05/+0.15	39	25
HPP19-3539-30	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]
HPP19-3539-40	35	+0.05/+0.15	39	4C
HPP19-3539-50	35	+0.05/+0.15	39	5C
HPP19-3640-20	36	+0.05/+0.15	40	20
HPP19-4044-10	40	+0.05/+0.15	44	10
HPP19-4044-16	40	+0.05/+0.15	44	16
HPP19-4044-20	40	+0.05/+0.15	44	20
HPP19-4044-30	40	+0.05/+0.15	44	30
HPP19-4044-40	40	+0.05/+0.15	44	40
HPP19-4044-50	40	+0.05/+0.15	44	50
HPP19-4246-40	42	+0.05/+0.15	46	40
HPP19-4246-50	42	+0.05/+0.15	46	50
HPP19-4550-40	45	+0.05/+0.15	50	40
HPP19-4550-50	45	+0.05/+0.15	50	50
HPP19-5055-20	50	+0.05/+0.15	55	20
HPP19-5055-30	50	+0.05/+0.15	55	30
HPP19-5055-40	50	+0.05/+0.15	55	40
HPP19-5055-50	50	+0.05/+0.15	55	50
HPP19-5560-20	55	+0.06/+0.18	60	20
HPP19-5560-26	55	+0.06/+0.18	60	26
HPP19-5560-40	55	+0.06/+0.18	60	40
HPP19-5560-50	55	+0.06/+0.18	60	50
HPP19-5560-60	55	+0.06/+0.18	60	60
HPP19-6065-30	60	+0.06/+0.18	65	30
HPP19-6065-40	60	+0.06/+0.18	65	40
HPP19-6065-50	60	+0.06/+0.18	65	50
HPP19-6065-60	60	+0.06/+0.18	65	60
HPP19-6570-50	65	+0.06/+0.18	70	50
HPP19-7075-60	70	+0.06/+0.18	75	60
HPP19-7580-40	75	+0.06/+0.18	80	40
HPP19-115121-90	115	+0.072/+0.212	121	90
HPP19-120125-100	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:

HPP19 F-0304-03

d_1 d_2 L
 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]
HPP19F-0304-03	3	+0.014/+0.054	4.5	7.5	3	0.75
HPP19F-0304-05	3	+0.014/+0.054	4.5	7.5	5	0.75
HPP19F-0405-03	4	+0.02/+0.068	5.5	9.5	3	0.75
HPP19F-0405-04	4	+0.02/+0.068	5.5	9.5	4	0.75
HPP19F-0405-06	4	+0.02/+0.068	5.5	9.5	6	0.75
HPP19F-0506-3.5S	5	+0.01/+0.04	6	10	3.5	0.5
HPP19F-0506-05S	5	+0.01/+0.04	6	10	5	0.5
HPP19F-050614-06S	5	+0.01/+0.04	6	14	6	0.5
HPP19F-0507-03	5	+0.02/+0.068	7	11	3	1
HPP19F-0507-04	5	+0.02/+0.068	7	11	4	1
HPP19F-0507-05	5	+0.02/+0.068	7	11	5	1
HPP19F-0507-07	5	+0.02/+0.068	7	11	7	1
HPP19F-0607-10	6	+0.01/+0.04	7	11	10	0.5
HPP19F-0608-04	6	+0.02/+0.068	8	12	4	1
HPP19F-0608-05	6	+0.02/+0.068	8	12	5	1
HPP19F-0608-06	6	+0.02/+0.068	8	12	6	1
HPP19F-0608-07	6	+0.02/+0.068	8	12	7	1
HPP19F-0608-08	6	+0.02/+0.068	8	12	8	1
HPP19F-0608-10	6	+0.02/+0.068	8	12	10	1
HPP19F-0708-08S	7	+0.013/+0.049	8	12	8	0.5
HPP19F-0809-12	8	+0.013/+0.049	9	13	12	0.5
HPP19F-0810-04	8	+0.025/+0.083	10	15	4	1
HPP19F-0810-05	8	+0.025/+0.083	10	15	5	1
HPP19F-0810-07	8	+0.025/+0.083	10	15	7	1
HPP19F-0810-09	8	+0.025/+0.083	10	15	9	1
HPP19F-0810-10	8	+0.025/+0.083	10	15	10	1
HPP19F-0810-15	8	+0.025/+0.083	10	15	15	1
HPP19F-0810-30	8	+0.025/+0.083	10	15	30	1
HPP19F-1012-04	10	+0.025/+0.083	12	18	4	1
HPP19F-1012-05	10	+0.025/+0.083	12	18	5	1
HPP19F-1012-06	10	+0.025/+0.083	12	18	6	1
HPP19F-1012-07	10	+0.025/+0.083	12	18	7	1
HPP19F-1012-09	10	+0.025/+0.083	12	18	9	1
HPP19F-1012-10	10	+0.025/+0.083	12	18	10	1
HPP19F-1012-12	10	+0.025/+0.083	12	18	12	1
HPP19F-1012-15	10	+0.025/+0.083	12	18	15	1
HPP19F-1012-17	10	+0.025/+0.083	12	18	17	1
HPP19F-101216-06	10	+0.025/+0.083	12	16	6	1
HPP19F-101216-09	10	+0.025/+0.083	12	16	9	1
HPP19F-1213-12S	12	+0.016/+0.059	13	17	12	0.5
HPP19F-1214-06	12	+0.032/+0.102	14	20	6	1
HPP19F-1214-07	12	+0.032/+0.102	14	20	7	1
HPP19F-1214-09	12	+0.032/+0.102	14	20	9	1
HPP19F-1214-10	12	+0.032/+0.102	14	20	10	1
HPP19F-1214-11	12	+0.032/+0.102	14	20	11	1
HPP19F-1214-12	12	+0.032/+0.102	14	20	12	1
HPP19F-1214-15	12	+0.032/+0.102	14	20	15	1

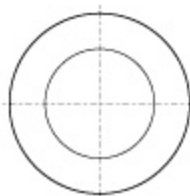
订购编码 Order PN	d ₁ [mm]	d ₁ -公差 After fitting [mm]	d ₂ [mm]	d ₂ [d13] [mm]	L[h13] [mm]	t _{0.15} [mm]
HPP19F-1214-17	12	+0.032/+0.102	14	20	17	1
HPP19F-1214-20	12	+0.032/+0.102	14	20	20	1
HPP19F-1214-24	12	+0.032/+0.102	14	20	24	1
HPP19F-1416-03	14	+0.032/+0.102	16	22	3	1
HPP19F-1416-04	14	+0.032/+0.102	16	22	4	1
HPP19F-1416-06	14	+0.032/+0.102	16	22	6	1
HPP19F-1416-08	14	+0.032/+0.102	16	22	8	1
HPP19F-1416-12	14	+0.032/+0.102	16	22	12	1
HPP19F-1416-17	14	+0.032/+0.102	16	22	17	1
HPP19F-1416-21	14	+0.032/+0.102	16	22	21	1
HPP19F-1517-05	15	+0.032/+0.102	17	23	5	1
HPP19F-1517-09	15	+0.032/+0.102	17	23	9	1
HPP19F-1517-12	15	+0.032/+0.102	17	23	12	1
HPP19F-1517-17	15	+0.032/+0.102	17	23	17	1
HPP19F-1517-20	15	+0.032/+0.102	17	23	20	1
HPP19F-1618-09	16	+0.032/+0.102	18	24	9	1
HPP19F-1618-12	16	+0.032/+0.102	18	24	12	1
HPP19F-1618-17	16	+0.032/+0.102	18	24	17	1
HPP19F-1618-21	16	+0.032/+0.102	18	24	21	1
HPP19F-1719-09	17	+0.032/+0.102	19	25	9	1
HPP19F-1719-25	17	+0.032/+0.102	19	25	25	1
HPP19F-1820-04	18	+0.032/+0.102	20	26	4	1
HPP19F-1820-06	18	+0.032/+0.102	20	26	6	1
HPP19F-1820-11	18	+0.032/+0.102	20	26	11	1
HPP19F-1820-12	18	+0.032/+0.102	20	26	12	1
HPP19F-1820-17	18	+0.032/+0.102	20	26	17	1
HPP19F-1820-22	18	+0.032/+0.102	20	26	22	1
HPP19F-1820-30	18	+0.032/+0.102	20	26	30	1
HPP19F-2023-3.2	20	+0.04/+0.124	23	30	3.2	1.5
HPP19F-2023-07	20	+0.04/+0.124	23	30	7	1.5
HPP19F-2023-11.5	20	+0.04/+0.124	23	30	11.5	1.5
HPP19F-2023-16.5	20	+0.04/+0.124	23	30	16.5	1.5
HPP19F-2023-21.5	20	+0.04/+0.124	23	30	21.5	1.5
HPP19F-222535-09	22	+0.04/+0.124	25	35	9	1.5
HPP19F-2427-10	24	+0.04/+0.124	27	32	10	1.5
HPP19F-2528-11.5	25	+0.04/+0.124	28	35	11.5	1.5
HPP19F-2528-16.5	25	+0.04/+0.124	28	35	16.5	1.5
HPP19F-2528-21.5	25	+0.04/+0.124	28	35	21.5	1.5
HPP19F-2528-30	25	+0.04/+0.124	28	35	30	1.5
HPP19F-2830-36	28	+0.04/+0.124	30	35	36	2
HPP19F-3032-12	30	+0.04/+0.124	32	37	12	1
HPP19F-3034-16	30	+0.04/+0.124	34	42	16	2
HPP19F-3034-20	30	+0.04/+0.124	34	42	20	2
HPP19F-3034-26	30	+0.04/+0.124	34	42	26	2
HPP19F-3034-37	30	+0.04/+0.124	34	42	37	2
HPP19F-3034-45	30	+0.04/+0.124	34	42	45	2
HPP19F-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 _{0.15} [mm]
HPP19F-3236-26	32	+0.05/+0.15	36	40	26	2
HPP19F-3539-07	35	+0.05/+0.15	39	47	7	2
HPP19F-3539-12	35	+0.05/+0.15	39	47	12	2
HPP19F-3539-16	35	+0.05/+0.15	39	47	16	2
HPP19F-3539-26	35	+0.05/+0.15	39	47	26	2
HPP19F-3539-36	35	+0.05/+0.15	39	47	36	2
HPP19F-4044-14	40	+0.05/+0.15	44	52	14	2
HPP19F-4044-20	40	+0.05/+0.15	44	52	20	2
HPP19F-4044-30	40	+0.05/+0.15	44	52	30	2
HPP19F-4044-40	40	+0.05/+0.15	44	52	40	2
HPP19F-4044-50	40	+0.05/+0.15	44	52	50	2
HPP19F-4246-50	42	+0.05/+0.15	46	53	50	2
HPP19F-4550-30	45	+0.05/+0.15	50	58	30	2
HPP19F-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 _{0.15} [mm]
HPP19F-5055-10	50	+0.05/+0.15	55	63	10	2
HPP19F-5055-40	50	+0.05/+0.15	55	63	40	2
HPP19F-5055-50	50	+0.05/+0.15	55	63	50	2
HPP19F-6065-07	60	+0.06/+0.18	65	73	7	2
HPP19F-6065-22	60	+0.06/+0.18	65	73	22	2
HPP19F-6065-30	60	+0.06/+0.18	65	73	30	2
HPP19F-6065-50	60	+0.06/+0.18	65	73	50	2
HPP19F-6570-50	65	+0.06/+0.18	70	78	50	2
HPP19F-7075-50	70	+0.06/+0.18	75	83	50	2
HPP19F-9095-11	90	+0.072/+0.212	95	103	11	2.5
HPP19F-100105-11.5	100	+0.072/+0.212	105	113	11.5	2.5
HPP19F-100105-100	100	+0.072/+0.212	105	113	100	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:

HPP19 W-0509-006

材料 Material

垫片 Washer

d D T

订购编码 Order PN	d ^{+0.25} [mm]	D _{0.25} [mm]	T _{-0.05} [mm]
HPP19W-0509-006	5	9	0.6
HPP19W-0615-015	6	15	1.5
HPP19W-0620-015	6	20	1.5
HPP19W-0815-005	8	15	0.5
HPP19W-0815-015	8	15	1.5
HPP19W-0818-010	8	18	1.0
HPP19W-0818-015	8	18	1.5
HPP19W-1018-010	10	18	1.0
HPP19W-1018-015	10	18	1.5
HPP19W-1018-020	10	18	2.0
HPP19W-1224-015	12	24	1.5
HPP19W-1426-015	14	26	1.5
HPP19W-1524-015	15	24	1.5
HPP19W-1630-015	16	30	1.5

订购编码 Order PN	d ^{+0.25} [mm]	D _{0.25} [mm]	T _{-0.05} [mm]
HPP19W-1832-015	18	32	1.5
HPP19W-2036-015	20	36	1.5
HPP19W-2238-015	22	38	1.5
HPP19W-2442-015	24	42	1.5
HPP19W-2640-0075	26	40	0.75
HPP19W-2644-015	26	44	1.5
HPP19W-2848-015	28	48	1.5
HPP19W-3254-015	32	54	1.5
HPP19W-3862-015	38	62	1.5
HPP19W-4266-015	42	66	1.5
HPP19W-4874-020	48	74	2.0
HPP19W-5278-020	52	78	2.0
HPP19W-6290-020	62	90	2.0

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