



# FLAT AIR BEARINGS

## HPR, HPC



### INTENDED USE

The HPR and HPC flat air bearings series find their best application in linear movements, even with motorization, where zero friction is needed. Their high flexibility allows the customer to set up the guide system in various ways.

Due to its favorable load/size ratio, the HPR series (rectangular shape) has to be preferred to HPC series (circular shape) when the width of the guideways is a constraint.

As interface, a spherical fine-threaded screw pin allows the self-alignment on the surface during movement, and the fine adjustment of the air gap during set-up procedure.

### BENEFITS

**Zero friction**

**No wear**

**Smooth and silent movement without vibrations**

**Possibility of high accelerations and speeds**

**Maintenance-free components**

**Simple design**

**High precision movements**

### INDUSTRIAL SECTORS

**LENGTH AND ANGLE METROLOGY**

**MASS AND FORCES METROLOGY**

**SEMICONDUCTOR**

**BIOMEDICAL**

### APPLICATIONS

**Coordinate Measuring Machines**

**Wafer Handling**

**Optical test**

**Computed Tomography**

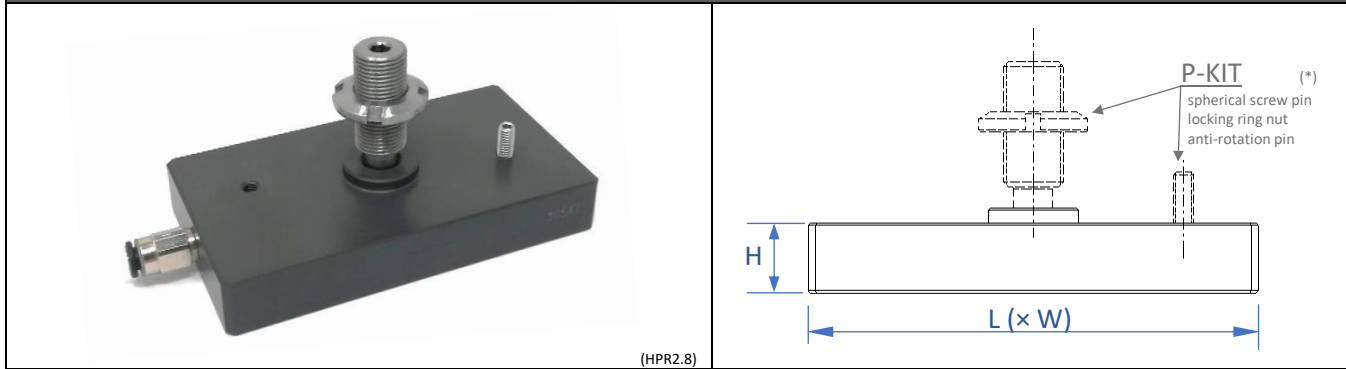
**Laser Cut and Scribing**

**Micro Milling Machines**



# RECTANGULAR SHAPE HPR series

## DIMENSIONS AND PERFORMANCES



The aerostatic performances mentioned in the table are referred to **4 bar (relative) air supply pressure**.

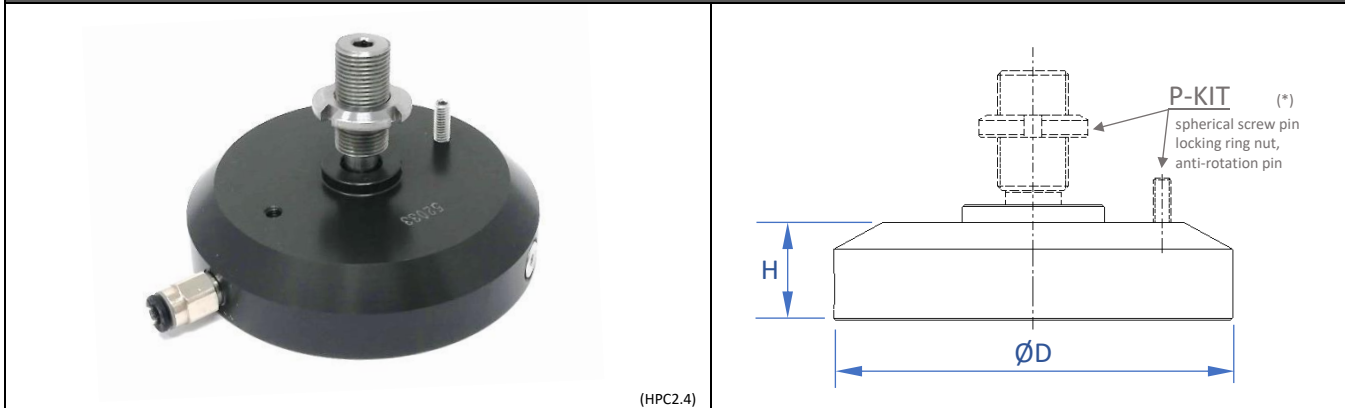
CODE	DESCR.	DIMENSIONS W x L x H [mm]	P-KIT (*)	Screw pin THREAD	performances @ 10µm air gap <i>h</i>			performances @ maximum stiffness <i>R*</i>			
					LOAD <i>L</i> [N]	STIFFNESS <i>R</i> [N/µm]	AIR CONSUMPTION <i>Q</i> [l/min ANR]	MAXIMUM STIFFNESS <i>R*</i> [N/µm]	AIR GAP <i>h*</i> [µm]	LOAD <i>L*</i> [N]	AIR CONSUMPTION <i>Q*</i> [l/min ANR]
WF10100P02000	HPR1.2	25 x 50 x 10	A1	M10 x 0.75	160	12	2.5	12	10.0	160	2.5
WF10100P04000	HPR2.0	30 x 68 x 15	B2	M12 x 1.00	290	25	4.7	41	6.0	460	2.2
WF10100P05000	HPR2.2	35 x 70 x 15	B2	M12 x 1.00	380	30	4.2	40	6.0	525	2.0
WF10100P06000	HPR2.4	40 x 80 x 15	B2	M12 x 1.00	530	43	4.8	46	8.0	625	3.7
WF10100P07000	HPR2.6	40 x 90 x 17	B2	M12 x 1.00	620	55	4.7	55	8.0	700	3.6
WF10100P08000	HPR2.8	50 x 90 x 17	B2	M12 x 1.00	780	60	5.0	70	7.5	1020	4.5
WF10100P09000	HPR3.0	50 x 100 x 21	C1	M16 x 1.00	970	86	5.5	91	8.5	1100	4.5
WF10100P10000	HPR3.2	50 x 110 x 21	C1	M16 x 1.00	1050	70	5.8	78	8.0	1200	3.0
WF10100P11000	HPR3.4	60 x 120 x 23	C1	M16 x 1.00	1340	110	5.0	124	8.0	1580	3.5
WF10100P12000	HPR3.6	70 x 140 x 29	C1	M16 x 1.00	1950	160	5.0	165	9.5	2100	4.5
WF10100P13000	HPR3.8	70 x 154 x 29	C1	M16 x 1.00	2100	160	5.2	170	8.5	2400	3.5
WF10100P14500	HPR4.0	80 x 155 x 30	D1	M25 x 1.50	2500	185	5.5	185	10.0	2500	5.5
WF10100P15000	HPR4.2	85 x 186 x 32	D2	M25 x 1.50	2750	185	6.6	197	7.0	3400	5.0
WF10100P18000	HPR5.0	100 x 224 x 43	E1	M30 x 1.50	4600	260	4.5	300	13.0	4200	5.0
WF10100P19000	HPR5.2	115 x 239 x 40	E1	M30 x 1.50	6000	320	4.5	390	14.0	5400	5.5
WF10100P20000	HPR5.4	100 x 254 x 50	E2	M30 x 1.50	7300	360	5.0	430	15.5	6000	6.0
WF10100P21000	HPR5.6	130 x 265 x 55	E3	M30 x 1.50	8000	420	5.7	500	16.0	7000	7.0

TOLERANCES FOR VALUES OF LOAD, STIFFNESS, AIR CONSUMPTION: ±10%  
 VALUES REFERRED TO TEST ON STAINLESS STEEL PLANE |  $R_a = 0,4 \mu\text{m}$

(\*) P-KIT to be ordered apart. Pneumatic fittings and pipes not included.

# CIRCULAR SHAPE HPC series

## DIMENSIONS AND PERFORMANCES



The aerostatic performances mentioned in the table are referred to **4 bar (relative) air supply pressure**.

CODE	DESCR.	DIMENSIONS ØD x H [mm]	P-KIT (*)	Screw pin THREAD	performances @ 10µm air gap <i>h</i>			performances @ maximum stiffness <i>R*</i>			
					L [N]	R [N/µm]	Q [l/min ANR]	R* [N/µm]	<i>h*</i> [µm]	L* [N]	Q* [l/min ANR]
WF10200P01000	HPC1.0	Ø040 x 12	A1	M10x0.75	210	18	3.5	21.5	6.5	280	2.2
WF10200P02M00	HPC1.2M	Ø050 x 13	A1	M10x0.75	350	32	3.5	35	8.5	400	2.7
WF10200P03M00	HPC2.0M	Ø060 x 18	B1	M12x1.00	525	48	3.1	51	9.0	575	2.8
WF10200P04000	HPC2.2	Ø070 x 19	B1	M12x1.00	700	54	3.5	62	7.0	830	2.0
WF10200P05000	HPC2.4	Ø075 x 22	B2	M12x1.00	780	75	4.0	82	8.0	950	3.0
WF10200P06000	HPC2.6	Ø080 x 22	B2	M12x1.00	870	87	4.6	98	7.5	1100	3.5
WF10200P07000	HPC3.0	Ø090 x 26	C1	M16x1.00	1300	135	4.5	135	10.0	1300	4.5
WF10200P10000	HPC4.0	Ø130 x 35	D2	M25x1.50	2100	220	5.4	220	10.0	2100	5.4
WF10200P11000	HPC4.2	Ø160 x 40	D2	M25x1.50	5000	250	7.5	255	12.0	4600	9.0

TOLERANCES FOR VALUES OF LOAD, STIFFNESS, AIR CONSUMPTION: ±10%  
 VALUES REFERRED TO TEST ON STAINLESS STEEL PLANE |  $R_a = 0,4 \mu\text{m}$

(\*) P-KIT to be ordered apart. Pneumatic fittings and pipes not included.