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
Maintanance-free components
Simple design
High precision movements

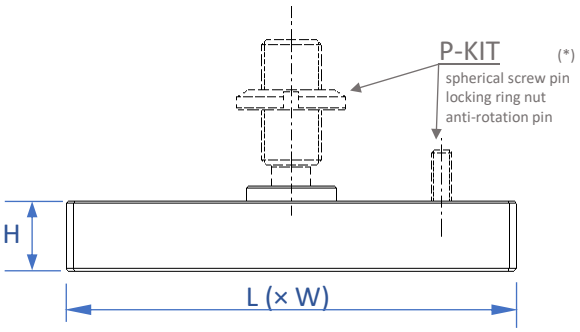
INDUSTRIAL SECTORS
LENGTH AND ANGLE METROLOGY
MASS AND FORCES METROLOGY
SEMICONDUCTOR
BIOMEDICAL

APPLICATIONS
Coordinate Measurings Machines
Wafer Handling
Optical test
Computed Tomography
Laser Cut and Scribing
Micro Milling Machines

RECTANGULAR SHAPE HPR series

DIMENSIONS AND PERFORMANCES


(HPR2.8)



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 *h*: LOAD *L* [N]	STIFFNESS *R* [N/µm]	AIR CONSUMPTION *Q* [l/min ANR]	performances @ maximum stiffness *R**: MAXIMUM STIFFNESS *R** [N/µm]	AIR GAP *h** [µm]	LOAD *L** [N]	AIR CONSUMPTION *Q** [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	59	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	**5400**	280	10.9	300	14	4200	13.9
WF10100P19000	**HPR5.2**	115 x 239 x 40	E1	M30 x 1.50	**5800**	345	9.9	360	12	5070	11.2
WF10100P20000	**HPR5.4**	115 x 254 x 50	E2	M30 x 1.50	**6100**	400	9.9	410	12	5300	11.2
WF10100P21000	**HPR5.6**	130 x 265 x 55	E3	M30 x 1.50	**7900**	460	9.3	620	14	5700	12.1

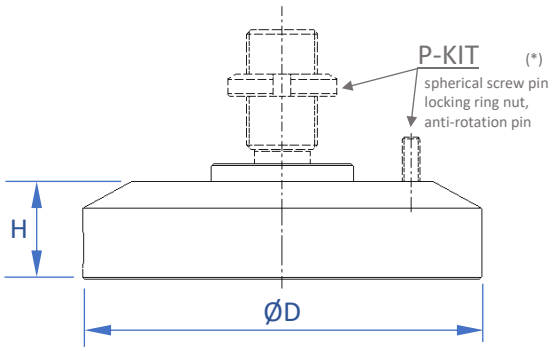
TOLERANCES FOR VALUES OF LOAD, STIFNESS, AIR CONSUMPTION: ±10%
VALUES REFERRED TO TEST ON STAINLESS STEEL PLANE | R_a = 0,6 µm

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

CIRCULAR SHAPE HPC series

DIMENSIONS AND PERFORMANCES


(HPC2.4)



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 *h*: LOAD *L* [N]	STIFFNESS *R* [N/µm]	AIR CONSUMPTION *Q* [l/min ANR]	performances @ maximum stiffness *R**: MAXIMUM STIFFNESS *R** [N/µm]	AIR GAP *h** [µm]	LOAD *L** [N]	AIR CONSUMPTION *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, STIFNESS, AIR CONSUMPTION: ±10%
VALUES REFERRED TO TEST ON STAINLESS STEEL PLANE | R_a = 0,4 µm

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

Compressed air quality must refer to **ISO 8573-1:2010**:

minimum requested:	**Class 2.4.1**	Class 2: particulate	Class 4: water	Class 1: oil
recommended:	**Class 1.3.0**	Class 1: particulate	Class 3: water	Class 0: oil

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