

series PSH 1 - 4

150 V

- fast triple actuator tilting platform for mirrors and other components up to 50mm diameter
- different tilting angles
- kHz-resonant frequency
- sub- μ m resolution
- additional z-axis piston movement
- optional position feedback sensor
- can be combined with other translation systems

applications:

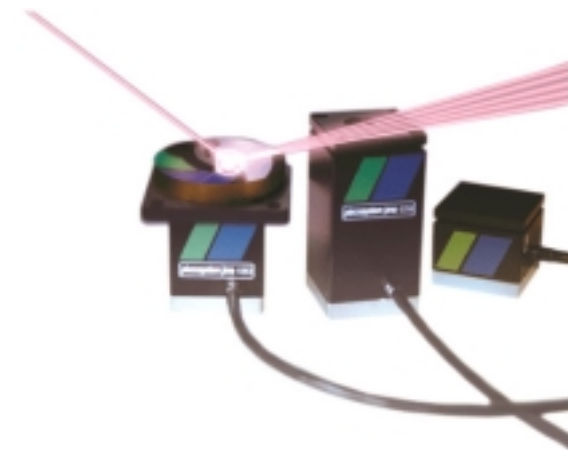
- laser tuning, laser beam stabilization
- scanning systems
- fine adjustments of optical mirrors
- optical stages
- cameras

technical data:

operating voltage:	-10 to +150 V
temperature range:	-20 to 80 °C
housing, tilting plate:	stainless steel
base plate:	stainless steel
connectors voltage / sensor:	LEMO
cable length:	1 m

options:

- integrated measurement system, e.g. strain gauges (accuracy typ. 0.4 to 0.6 %)
- vacuum version



PSH 2

PSH 4z

PSH 1z

The PSH tilting system series consist of three piezoelectric actuators. These actuators provide tilt to the top plate on three axes. Two axes are perpendicular to each other. Their construction is temperature compensated, i.e. changes in environmental temperature do not affect the tilting angle. By operating two axes simultaneously, the tilting the tilting angle of one axis can be magnified. The tilting mirror mounts are pre-loaded, thus they are extremely suitable for dynamic applications. One of their main parameters is a high resonant frequency.

mounting instructions:

Mirror mounts are pre-loaded. They can work under pulling and pushing forces. Because of their construction, they are very sensitive to lateral forces between the housing and the top plate.

During mounting, we recommend the use of our mounting clamp. This part protects the housing and the top plate while the mirror is installed.

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multiaxis tip/tilting platform series PSH part no.		unit	PSH 1 K-201-30	PSH 1z K-201-10	PSH 2 K-202-30	PSH 2z K-202-10	PSH 3 K-203-30	PSH 3z K-203-10	PSH 4 K-204-30	PSH 4z K-204-10
number of active axis	-		2	3	2	3	2	3	2	3
max. tilt **	mmrad		1	1	2	2	3	3	4	4
linear z-motion**	µm		-	8	-	16	-	26	-	33
operating voltage	V		-10...150	-10...150	-10...150	-10...150	-10...150	-10...150	-10...150	-10...150
capacitance per axis (±20%)***	nF		700	700	1800	1800	2500	2500	3600	3600
resonant freq. (unloaded)**	Hz		5800	5800	5400	5400	3900	3900	2700	2700
typ. scan freq ****	Hz		920	920	362	362	295	295	210	210
stiffness in z	N/µm		100	100	50	50	30	30	25	25
dimension length L	mm		25	25	25	25	25	25	25	25
width B	mm		25	25	25	25	25	25	25	25
height H	mm		23	23	33	33	42	42	51	51
mounting distance	-									
holes spacing	mm		20	20	20	20	20	20	20	20
threads	mm		M2 x 3	M2 x 3	M2 x 3	M2 x 3	M2 x 3	M2 x 3	M2 x 3	M2 x 3
connector voltage	-		LEMO 0S.250	LEMO 0S.250	LEMO 0S.250	LEMO 0S.250	LEMO 0S.250	LEMO 0S.250	LEMO 0S.250	LEMO 0S.250
multiaxis tip/tilting platform series PSH with feedback sensor part no.		unit	PSH 1 SG K-201-31	PSH 1z SG K-201-11	PSH 2 SG K-202-31	PSH 2z SG K-202-11	PSH 3 SG K-203-31	PSH 3z SG K-203-11	PSH 4 SG K-204-31	PSH 4z SG K-204-11
max. tilt** open loop	mmrad		1	1	2	2	3	3	4	4
closed loop	mmrad		0.8	0.8	1.6	1.6	2.4	2.4	3.2	3.2
dimension height H	mm		32	32	41	41	50	50	59	59
resolution* open loop	µrad		0.002	0.002	0.004	0.004	0.006	0.006	0.008	0.008
closed loop	µrad		0.02	0.02	0.04	0.04	0.06	0.06	0.08	0.08
non-linearity**	%		0.5	0.5	0.54	0.54	0.54	0.35	0.25	0.35
repeatability**	µrad		0.8	0.8	1.3	1.3	2.75	0.65	0.12	0.32
connector sensor	-		LEMO 0S.304	LEMO 0S.304	LEMO 0S.304	LEMO 0S.304	LEMO 0S.304	LEMO 0S.304	LEMO 0S.304	LEMO 0S.304

* values are based on measurement with the E-240-100 amplifier

** typ. value measured by -10 ÷ 150V

*** typ. value for small electrical field strength

**** unloaded