

PSH 4/1

1-Axis Mirror Tilting Platform



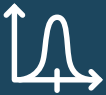
smallest piezo scanner available



tilting range 4 mrad



sub- μ rad resolution



6.5 kHz resonant frequency



The piezoelectrical 1-axis mirror tilting system and scanning platform PSH 4/1 is designed for ultra fast positioning tasks with nanometer accuracy. It is well suited for beam steering, scanning applications, vibration control, beam alignment and beam tracking tasks.

The PSH 4/1 was developed as an ultra fast scanning system for kHz frequencies. The miniature system is based on two active actuators. It provides \pm tilting with a total travel range of up to 4 mrad. Because of the internal pre-load, the system shows a very short settling time and the resonant frequency is greater than 6.5 kHz when unloaded.

Because of the special flexure hinge design (FEA calculated) the system is free of friction and mechanical play. The piezo mirror tilting and scanning platforms PSH 4/1 is available in cryogenic and vacuum versions. Optical components such as mirrors can be mounted directly on top of the system plate.

Recommended Controller:
NV200/D Net

Applications

- Laser Alignment
- Scanning Systems
- Medical Engineering
- Laser Beam Stabilization
- Laser Beam Metrology

PSH 4/1

Technical Data

	<i>Unit</i>	<i>PSH 4/1</i>
Part #	-	K-120-00
Axes	-	1
Tilting range ($\pm 10\%$)*	mrad ($^{\circ}$)	± 2
Electrical capacitance ($\pm 20\%$)**	μF	0.2
Resolution ***	μrad	0.008
Mirror****	-	without
Resonant frequency (unloaded)	Hz	6.500
Voltage	V	-20 ... 130
Connector*****	-	ODU 3pin
Operating temperature	$^{\circ}\text{C}$	(-4 $^{\circ}\text{F}$... +176 $^{\circ}\text{F}$)
Material	-	Aluminum/Stainless Steel
Dimensions ($\varnothing \times l$)	mm	$\varnothing 12 \times 20$
Mass	g	20

* typical value measured with piezo controller 30DV50

** typical value for small electrical field strength

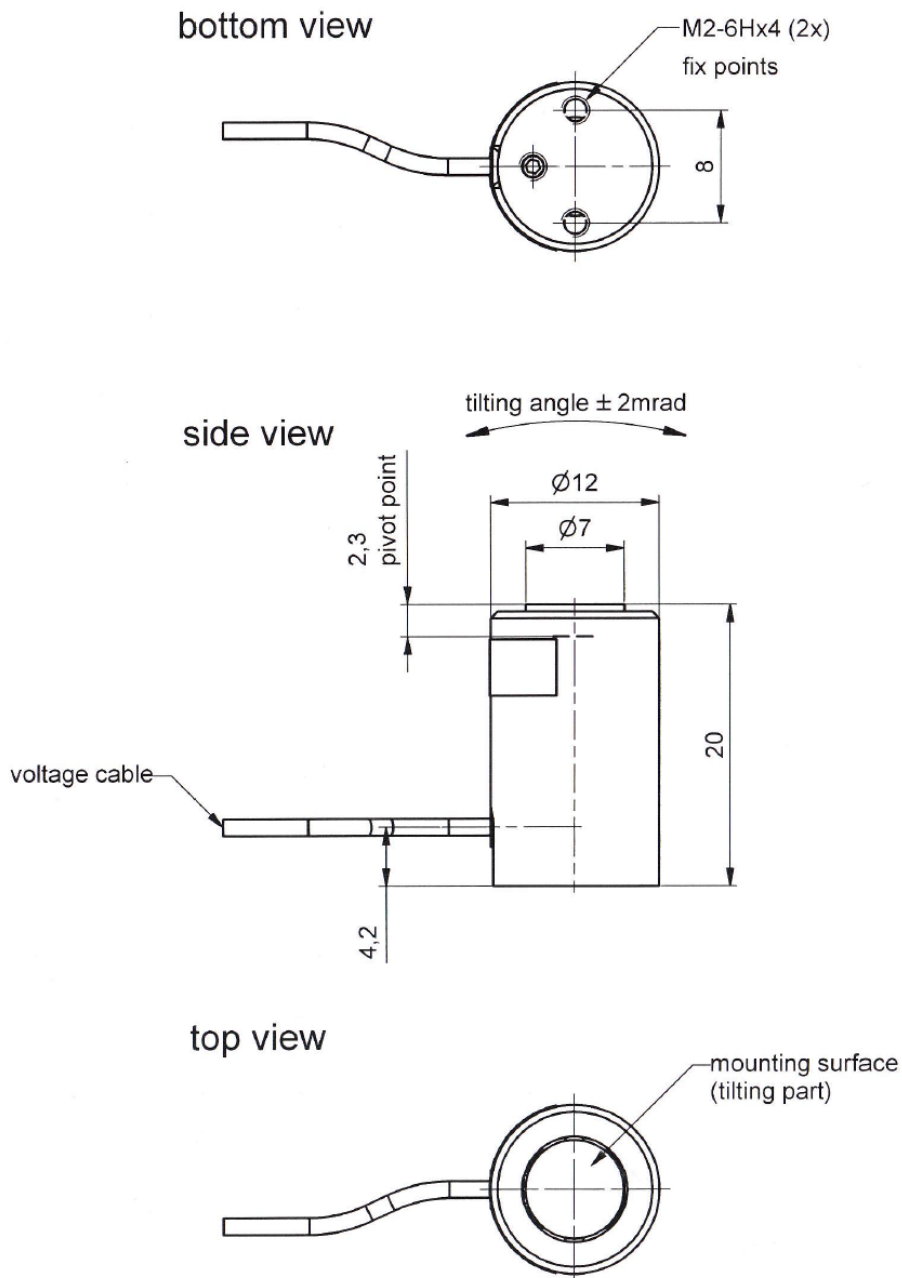
*** The resolution is only limited by the noise of the power amplifier and metrology

**** as an option a 1/20 Wave Flat Fused Silica 0.5" Dia. Enhanced Aluminum can ordered separately

***** additional connector configurations

PSH 4/1

Technical Drawing



Dimensions given in mm.

We reserve the right to make changes to technical data and designs in the interest of technical progress.

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