

mirror tilting system

series PKS 1

- compact design
- orthogonal tilting axes
- available for ½" and 1" mirrors
- high resonant frequency due to high stiffness
- adaptable to vacuum conditions
- piezo driven fine adjustment range 1 mrad
- large manual offsetting angle of $\pm 2^\circ$

Applications:

- laser technology
- beam alignment
- scanning systems
- fine adjustment of optical mirrors



fig. 1: PKS 1-1/2" (without mirror)

concept

The tilting mirror system series PKS 1 has been developed for fast and fine mirror adjustment. Available for ½-inch and 1-inch mirrors, the system is designed for flexible use.

Especially for laser beam stabilization the series PKS can be integrated into the beam line easily.

The compact design and the high stiffness are a perfect for dynamic applications.

Laser beam steering can be realized in near real time.

specials

The piezo driven range of fine adjustment of 1mrad can be offset in a range of $\pm 2^\circ$ by using the fine-thread thumb screws.

The controlling voltage range is -20V to 130V. The resolution of the accuracy is dependant upon the noise level of the applied control signal.

Cable configuration can be changed for OEM applications upon request.

The series PKS is adaptable to vacuum conditions.

mounting instructions

The stage body can be mounted using screws to affix it. Two holes for M4 screws are located in the stage body.

A ½-inch mirror ($\varnothing 12.7\text{mm}$) for the PKS 1-½" and a 1-inch mirror (25.4mm) for the PKS 1-1" can be easily mounted on the system by using the set screw or they can be glued directly.

Rights reserved to change specifications as progress occurs without notice!

Technical data:

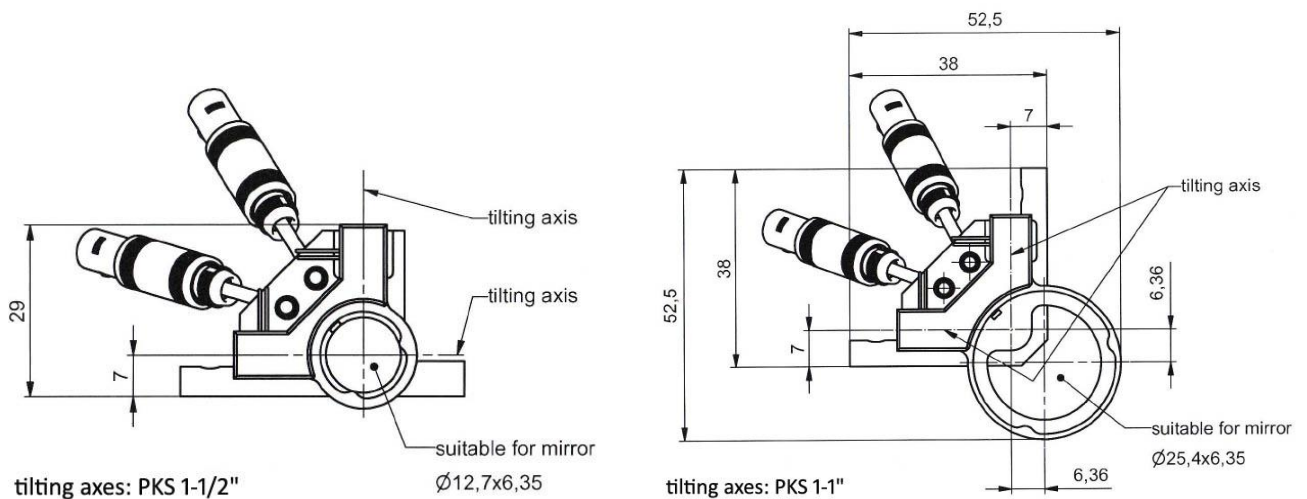
| | | unit | PKS 1-1/2" | PKS 1-1" |
|--|---------|----------------------|---------------------------|-------------------------|
| part no. | | - | K-700-00 | K-701-00 |
| axes | | - | Θ_x, Θ_y | |
| tilting angle, piezo-drive, open loop ($\pm 10\%$) | | Θ_x, Θ_y | mrad | |
| tilting angle, manual | | Θ_x, Θ_y | $^\circ$ | |
| capacitance ($\pm 20\%$) * | | Θ_x, Θ_y | μF | |
| resolution ** open loop | | Θ_x, Θ_y | μrad | |
| resonant frequency (incl. 10g mirror) | | Θ_x, Θ_y | 450/450 | 900/900 |
| dimensions (l x w x h) | | mm | 48 x 31 x 36 | 52.5 x 52.5 x 36 |
| maximum mirror diameter *** | | mm | $\varnothing 12.7$ (1/2") | $\varnothing 25.4$ (1") |
| voltage range | | V | -20 ... +130 | |
| connector | voltage | - | LEMO 0S.302 | |
| cable length | | m | 1 | |
| min. bend radius of cable | | mm | >15 | |
| temperature range | | $^\circ\text{C}$ | -20 ... +80 | |
| material | | - | stainless steel | |
| weight | | g | 84; without mirror | 140; without mirror |

* typical small signal behavior

** resolution of the system only limited by noise of the signal

*** mirrors are not included in delivery

Position of tilting axes per PKS system



Rights reserved to change specifications as progress occurs without notice!