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 1mrad**
- **large manual offsetting angle of ±2°**

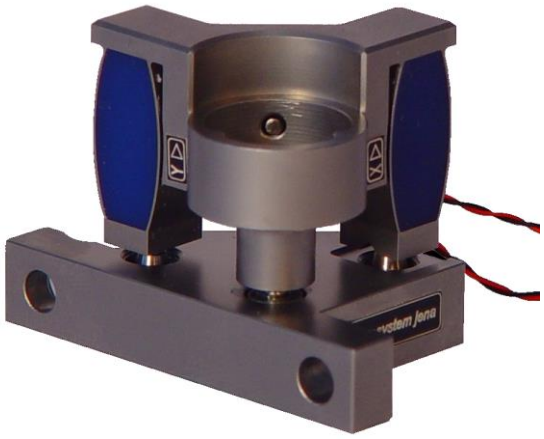

fig.1: PKS 1-1/2” (without mirror)

Applications:

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

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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 ±2° 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 (Ø12.7mm) 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.

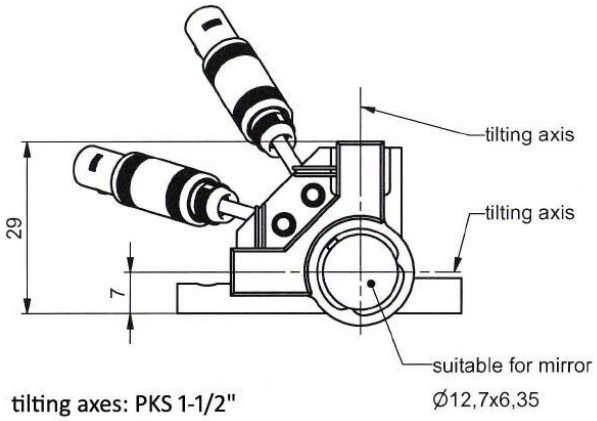
Telefon: +49 (3641) 66880 • Fax: +49 (3641) 668866 • info@piezojena.com • http://www.piezojena.com

Technical data:

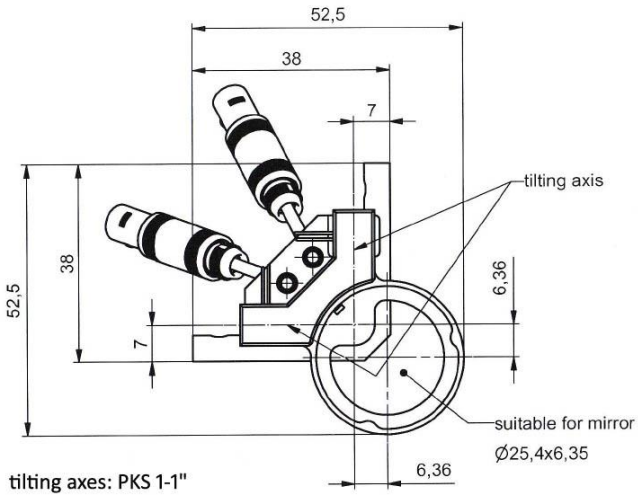
		unit	PKS 1-1/2“	PKS 1-1“
part no.		-	K-700-00	K-701-00
axes		-	Θx, Θy	
tilting angle, piezo-drive, open loop (±10%)	Θx, Θy	mrad	1	
tilting angle, manual	Θx, Θy	°	±2	
capacitance (±20%) *	Θx, Θy	µF	0.8	
resolution ** open loop	Θx, Θy	µrad	0.002	
resonant frequency (incl. 10g mirror)	Θx, Θy	Hz	450/450	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	Ø12.7 (1/2”)	Ø25.4 (1”)
voltage range		V	-20 ... +130	
connector	voltage	-	LEMO 0S.302	
cable length		m	1	
temperature range		°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



tilting axes: PKS 1-1/2"



tilting axes: PKS 1-1"