

# special systems

## piezoslit PZS (patent pending)

Two slit edges are driven by single piezo-electric actuator. The piezoslit element is constructed with solid state flexure hinges arranged within a parallelogram design. This ensures a synchronized movement of the slit edges in respect to the center line. To avoid influence of hysteresis, creep and temperature effects, the piezoslit can be equipped with a strain gage measurement system. The positioning accuracy of the integrated measurement system is typically 0.2% or better.

### zero volt position

- version 1: edges open (standard position)
- version 2: edges closed (must be notified with order)

### please order separately

- PZS 1/PZS 4: 1 pair of slit edges (length: 22mm, height 2mm) made from steel: part no. O-101-51 made from invar: part no. O-101-59

- PZS 2: 1 pair of slit edges (length: 14mm, height 2mm) made from steel: part no. O-102-51

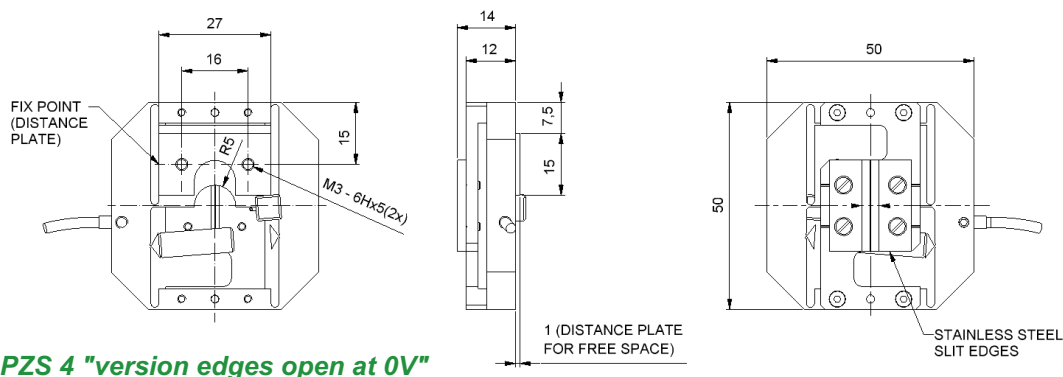
- PZS 3: 1 pair of slit edges (length: 15mm, height: 3mm) made from steel: O-103-51 made from invar: O-103-71

series PZS part no.	unit	PZS 1 O-101-00	PZS 2 O-102-00	PZS 3 O-103-00	PZS 4 O-101-80
opening ( $\pm 10\%$ )*	$\mu\text{m}$	0 to 230	0 to 60	0 to 1500	0 to 300
capacitance ( $\pm 20\%$ )**	$\mu\text{F}$	1.8	0.7	7.2	2.5
resolution***	open loop	nm	0.01	3	0.6
resonant frequency***		Hz	1400	200	500
dimensions (l x w x h)		mm	22x22x9.5	96x25x14	50x50x14
aperture		mm	$\varnothing 8$	9 x 4	$\varnothing 10$
weight		g	115	70	115
vacuum compatible version part no.	unit	PZS 1 V O-101-02	PZS 2 V O-102-02	PZS 3 V O-103-02	PZS 4 V O-101-82

series PZS with integrated measurement system part no.	unit	PZS 1 SG O-101-01	PZS 2 SG O-102-01	PZS 4 SG O-101-81	
opening ( $\pm 0.2\%$ )	closed loop	$\mu\text{m}$	190	50	240
integrated measurement system			strain gage	strain gage	strain gage
resolution***	closed loop	nm	3	0.8	8
typ. repeatability***		nm	15	6	20
weight		g	130	115	130

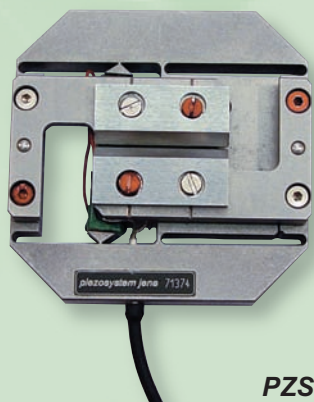
\* typical value measured with NV 40/3 (closed loop NV 40/3 CLE) \*\* typical value for small electrical field strength \*\*\* please see chapter's general remarks for explanation

All drawings are subject to change without notice. For latest version please check [www.piezojena.com](http://www.piezojena.com)

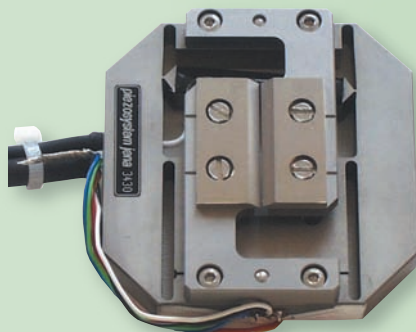


PZS 4 "version edges open at 0V"

# piezoslit PZS (patent pending)



PZS 4

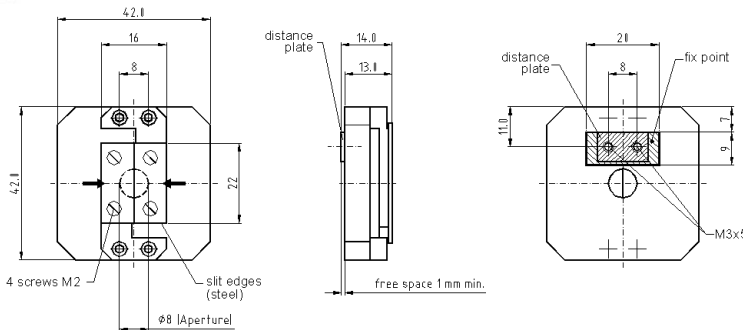
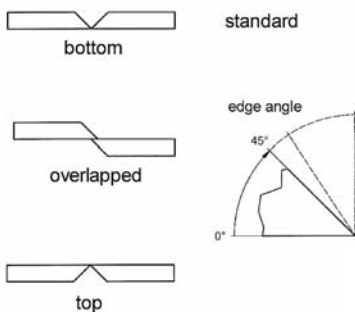


PZS 4 SG

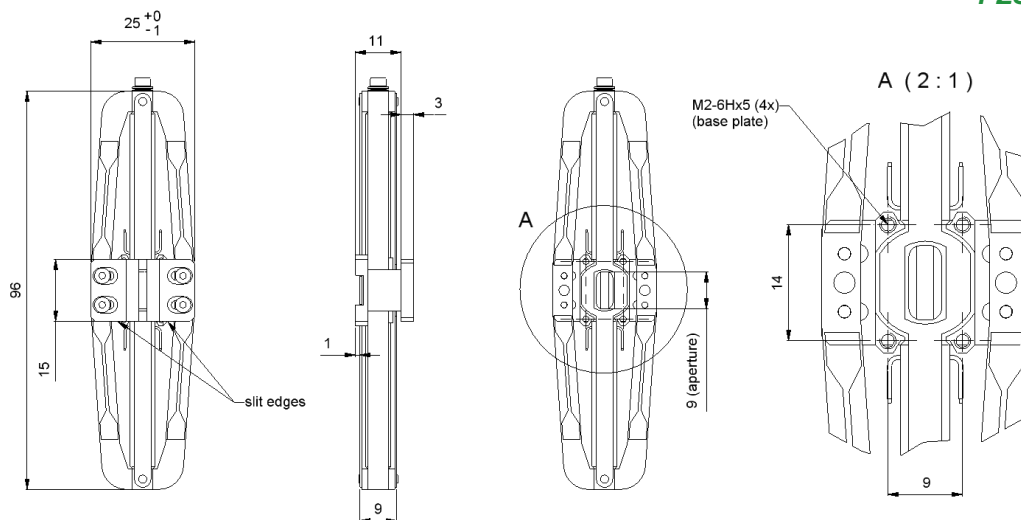
- symmetrical motion of two slit edges driven by only one piezo actuator
- opening up to 1500µm
- short response time
- vacuum compatible version
- version with measurement system
- 3 assembly variants of the slit edges

piezosystemjena

types of mounting

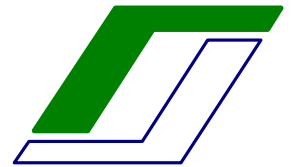


PZS 1

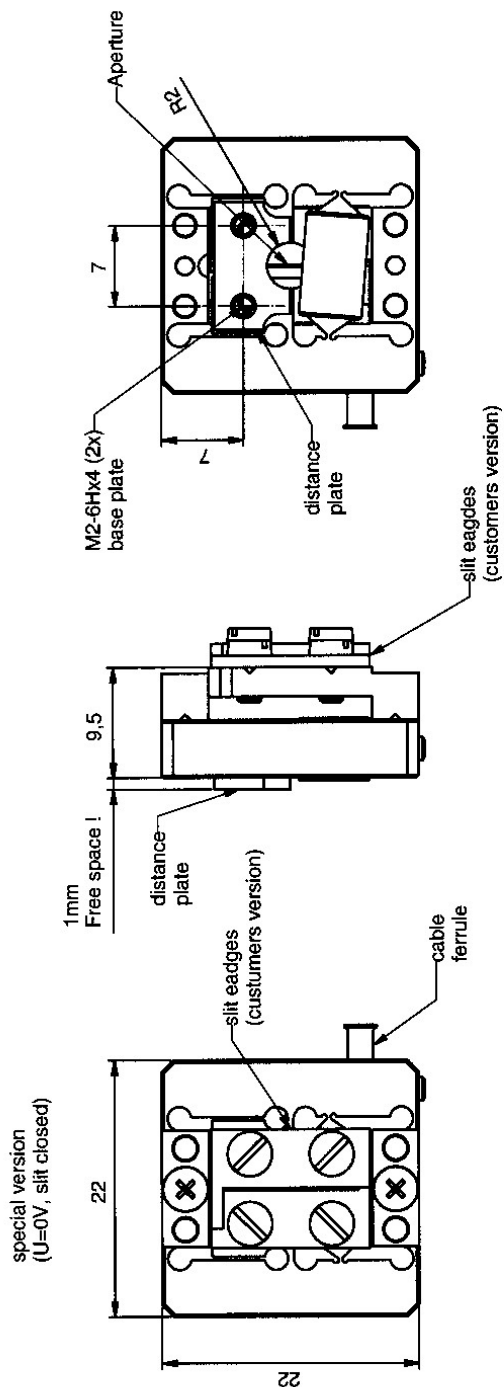


PZS 3

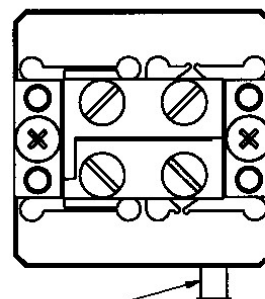
All drawings are subject to change without notice. For latest version please check [www.piezojena.com](http://www.piezojena.com)



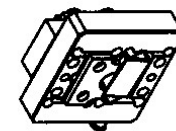
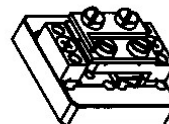
COMPETENCE  
IN PRECISION



standart version  
(U=0V, slit open)



scale 1:1



ORIGINAL

part.-no.	part.-name	scale	customers drawing
O-102-00	PZS2	2:1	piezosystem jena
file name	OK: date/sign.		
PO10200	16. MAI 2002 K <sub>6</sub>		

# Montageformen

types of mounting

unten  
bottom



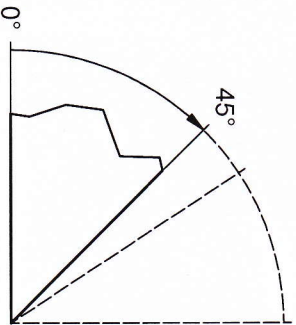
überlappend  
overlaped



oben  
top



Schneidenwinkel  
edge angle



Alternativmaterialien: Invar, Aluminium, Kupfer, Silizium  
alternative materials: Invar, aluminium, copper, silicon

Standardausführung: unten, 45°, Edelstahl  
standard configuration: bottom, 45°, stainless steel

- PZS 1/4: O-101-51
- PZS 2: O-102-51
- PZS 3: O-103-51

**ORIGINAL**

part.-no.		part.-name	
	O-15X-99		Spaltschneiden - slit edges
file name		OK: date/sign.	FEB. 2009
	PO15X99		
	scale		customers drawing
			piezosystem jena