

PZS 1

Piezoslit Stages



Symmetrical motion of two slit edges



Opening up to 1500 µm



Precise resolution down to nm



Vacuum compatible version



Image: PZS 1

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)

Variants:

- PZS 1
- PZS 2
- PZS 3
- PZS 4

Recommended Controller:

NV200/D Net



E-730-820

Applications

- Optics
- Spectroscopy
- Vacuum systems
- Optical switches
- Shutters and scanners

PZS 1

Technical Data

	Unit	PZS 1	PZS 2	PZS 3	PZS 4
Part no	-	O-101-00	O-102-00	O-103-00	O-101-80
Opening open-loop ($\pm 10\%$)*	μm	0 to 230	0 to 60	0 to 1500	0 to 300
Capacitance ($\pm 20\%$)	μF	1.8	0.7	7.2	2.5
Resolution open-loop**	nm	0.5	0.01	3	0.6
Resonant frequency	Hz	450	1400	200	500
Aperture	mm	$\varnothing 8$	$\varnothing 4$	9 x 4	$\varnothing 10$
Dimensions (l/w/h)	mm	42 x 42 x 14	22 x 22 x 9.5	96 x 25 x 14	50 x 50 x 14
Weight	g	115	100	70	115
Vacuum compatible version part no.	-	PZS 1 V O-101-02	PZS 2 V O-102-02	PZS 3 V O-103-02	PZS 4 V O-181-82

<i>series PZS with integrated measurement system</i>	Unit	PZS 1 SG	PZS 2 SG	-	PZS 4 SG
Part no	-	O-101-01	O-102-01		O-101-81
Opening closed-loop ($\pm 10\%$)*	μm	190	50		240
Feedback sensors		strain gauge	strain gauge		strain gauge
Resolution closed-loop**	nm	3	0.8		8
Typ. repeatability	nm	15	6		20
Weight	g	130	115		130

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
PZS2	:	1 pair of slit edges (length: 14mm, height: 2mm) made from steel: part no. O-102-51
PZS3	:	1 pair of slit edges (length: 15mm, height: 3mm) made from steel: part no. O-103-51 made from invar: part no. O-103-71

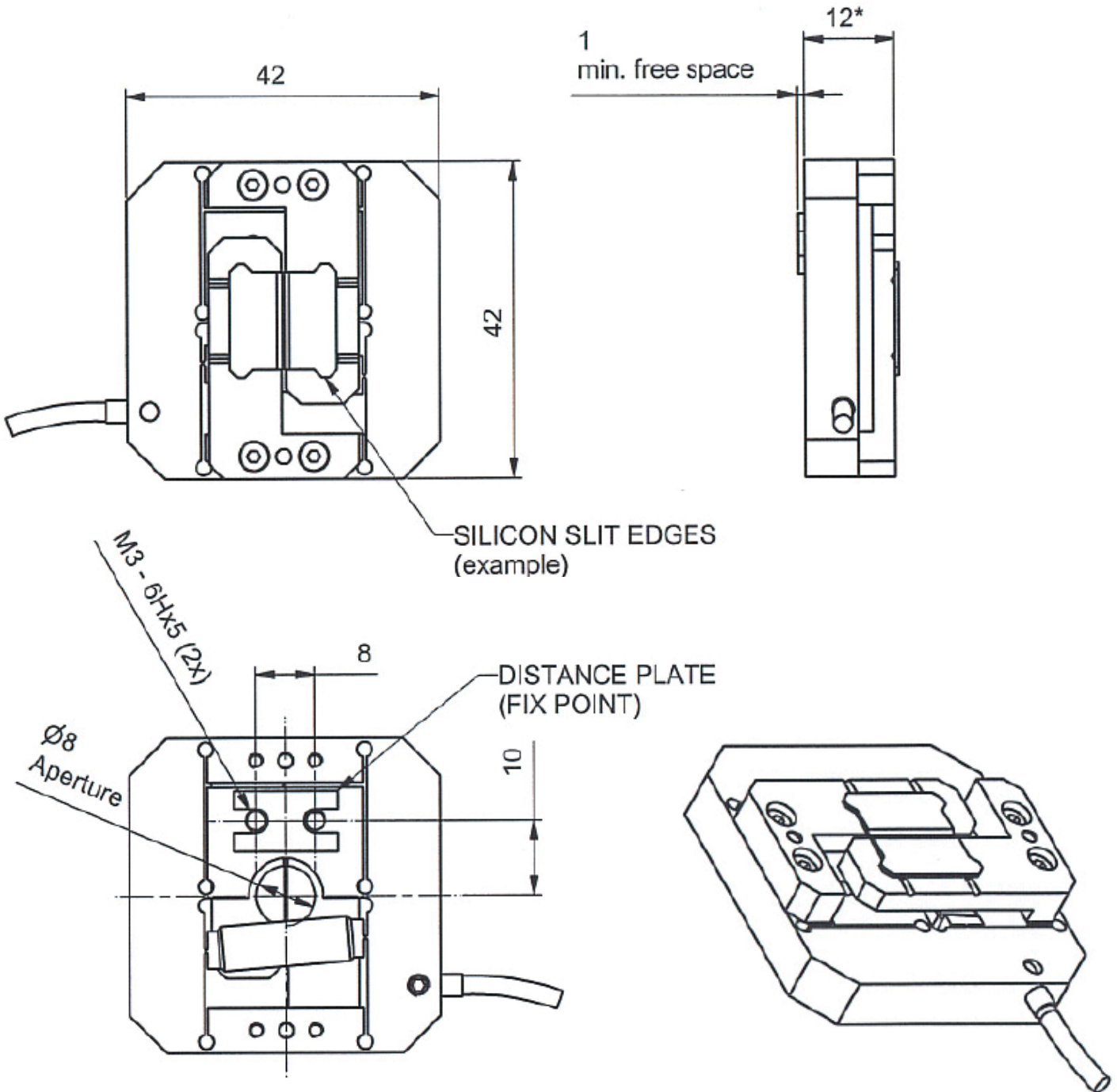
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* typical value measured with NV 40/3 amplifier (closed loop: NV 40/3 CLE amplifier) and the resolution is only limited by the noise of the power amplifier and metrology

** typical value for small electrical field strength

PZS 1

Part Drawing



* : without SLIT EDGES

Options:

- Silicon Slit Edges
- Stainless Steel Slit Edges

Drawing is valid for PZS 1 VAC (O-101-02) too.

Dimensions given in mm.

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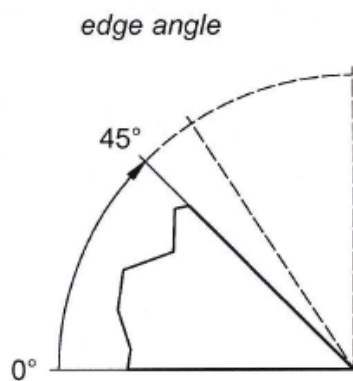
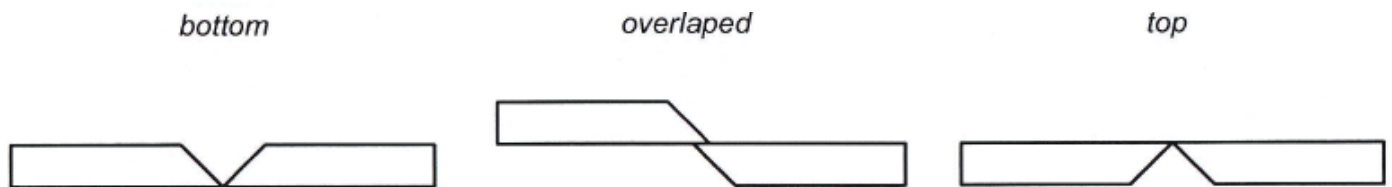
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Types of Mounting



standard configuration: bottom, 45°, stainless steel

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

alternative materials: invar, aluminium, copper, silicon

Dimensions given in mm.

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