

# PZS 2

## Piezoslit Stages



*Symmetrical motion of two slit edges*



*Opening up to 60  $\mu\text{m}$*



*Precise nanometer resolution down to 0.01 nm*



*Vacuum compatible version*



The PZS 2 two slit edges are driven by a single piezoelectric actuator. The piezoelectric slit system can be equipped with a strain gauge measurement system to avoid hysteresis, creep and temperature effects. The positioning accuracy of the piezo element with integrated measurement system is typically 0.1% or better.

The piezo slit system PZS is available in a UHV compatible version with a different body and slit edge material (INVAR).

### 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 2

## Technical Data

	<b>Unit</b>	<b>PZS 1</b>	<b>PZS 2</b>	<b>PZS 3</b>	<b>PZS 4</b>
Part no	-	O-101-00	O-102-00	O-103-00	O-101-80
Opening open-loop ( $\pm 10\%$ )*	$\mu\text{m}$	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	0.5	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

<b>series PZS with integrated measurement system</b>	<b>Unit</b>	<b>PZS 1 SG</b>	<b>PZS 2 SG</b>	-	<b>PZS 4 SG</b>
Part no	-	O-101-01	O-102-01		O-101-81
Opening closed-loop ( $\pm 10\%$ )*	$\mu\text{m}$	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

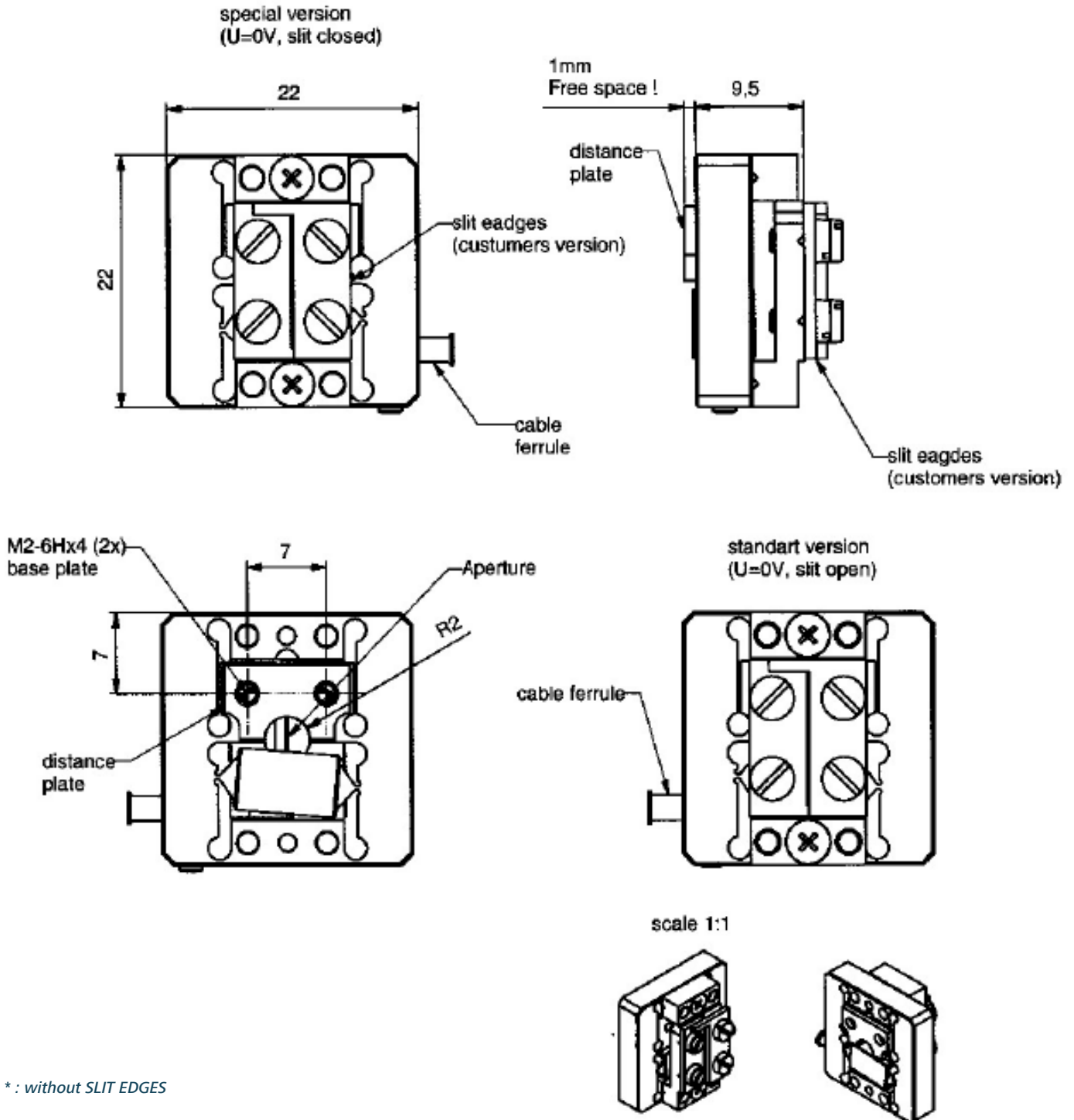
*Rights reserved to change specifications as progress occurs without notice!*

\* 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 2

## 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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**piezosystem jena GmbH**  
Tel: +49 (3641) 66880  
E-Mail: [info@piezोजना.com](mailto:info@piezोजना.com)

**piezosystem jena, Inc.**  
Tel: +1-508-634-6688  
E-Mail: [contact@psj-usa.com](mailto:contact@psj-usa.com)

[www.piezोजना.com](http://www.piezोजना.com)

# PZS 2

## Types of Mounting

bottom



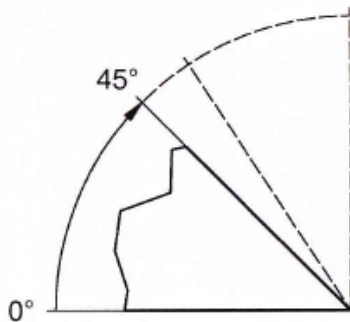
overlaped



top



edge angle



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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**piezosystem jena GmbH**  
Tel: +49 (3641) 66880  
E-Mail: [info@piezोजना.com](mailto:info@piezोजना.com)

**piezosystem jena, Inc.**  
Tel: +1-508-634-6688  
E-Mail: [contact@psj-usa.com](mailto:contact@psj-usa.com)

[www.piezोजना.com](http://www.piezोजना.com)