

## PZ 250 CAP WL

### *High-precision wafer positioning in inspection systems*

#### **Concept:**

The PZ 250 CAP WL has been developed for the precise positioning of wafers with diameters up to 12". In closed loop operation, the actuator offers a motion in Z-direction of 250 µm. Equipped with a capacitive sensor, that overcomes hysteresis and drift, single steps in nanometers can be achieved. Specified positions can be hold with high stability for a long period of time. The PZ 250 CAP WL is well suited for applications in the semiconductor industry, solar panel production, lithography, masken inspection among others.

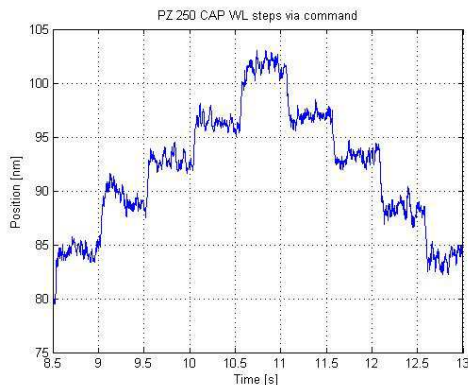
#### **Specials:**

The PZ 250 CAP WL offers a fast positioning in milliseconds. The repeatability is in nanometer range. Due to the high stiffness, the PZ 250 CAP WL can carry loads up to 3 kg.

#### **Mounting:**

The PZ 250 CAP WL can be used as stand alone version or can be used with the NIKON-stage L3-S12 14 x 12.

A tailored solution for your own system can be provided by **piezosystem jena**.



5 nm steps with the PZ 250 CAP WL



image: PZ 250 CAP WL

#### *characteristics:*

- positioning in millisecond range
- steps in single figure nanometer range
- stable positioning hold
- very high repeatability

#### *applications:*

- semiconductor and solar industry
- lithography
- display manufacturing
- surface structuring
- surface inspection
- chip verification
- verification of conductive paths
- measurement systems
- quality control
- bonding technology

#### *options:*

- vacuum clamping technology
- vacuum version
- active tilt correction

## PZ 250 CAP WL

### technical data

	unit	PZ 250 CAP WL
part number	–	S-627-51 D
axes	–	Z
motion in open loop ( $\pm 10\%$ ) *	$\mu\text{m}$	350
motion in closed loop *	$\mu\text{m}$	250
electrical capacitance	$\mu\text{F}$	86,4 (12 x 7,2)
integrated measurement system	–	CAP
resolution **	nm	3
typ. repeatability	nm	$\pm 3$
resonant frequency without load	Hz	50
resonant frequency with 1800 g	Hz	10
min. tilt roll/pitch/yaw	$\mu\text{rad}$	2/2/-
step accuracy	nm	5
min. offset in X/Y-direction	nm	20
cable length	m	on request
material	–	aluminum
dimensions (l x w x h)	mm	400 x 380 x 20
weight	g	2500
temperature range	$^{\circ}\text{C}/^{\circ}\text{F}$	-20 ... +80/-4 ... 176

\* typical value measured with 30DV50 amplifier

\*\* The resolution is only limited by the noise of the power amplifier and metrology.

