

PZ 250 CAP WL

High-precision wafer positioning in inspection systems

Concept:

The PZ 250 CAP WL makes the precise positioning of wafers of all kind with diameters up to 12". In closed loop control a motion in Z-direction of 250 μm is reachable. In this travel range steps in single figured nanometer area can be achieved. This position can be hold with the same precision. The angle error of the PZ 250 CAP WL is in the lower single figure μrad area. Therefore the PZ 250 CAP WL is well suited for applications like semi conductor and solar energy, lithography, surface inspection etc..

Specials:

The PZ 250 CAP WL offers a fast positioning in millisecond range. The repeatability is in a view nanometers. With a maximum load of 3 kg the PZ 250 CAP WL can also carry displays, conductor boards etc..

Assembling:

The PZ 250 CAP WL can be used as standalone version or implemented in a NIKON-stage L3-S12 14 x 12.

Furthermore **piezosystem jena** provides an adaption of the PZ 250 CAP WL to other systems.



image:PZ 250 CAP WL

characteristics:

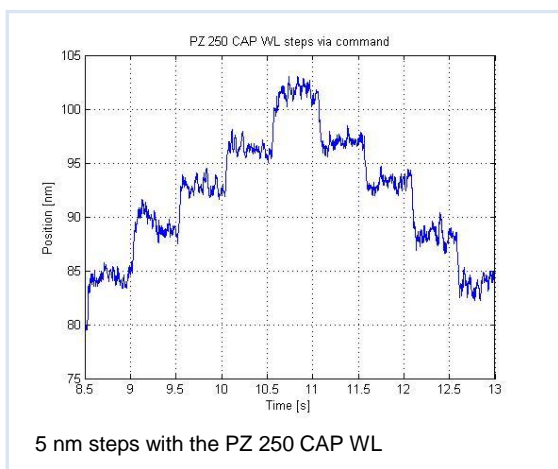
- positioning in millisecond range
- steps in single figure nanometer range
- stable positioning of a few nanometers
- very high repeatability

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

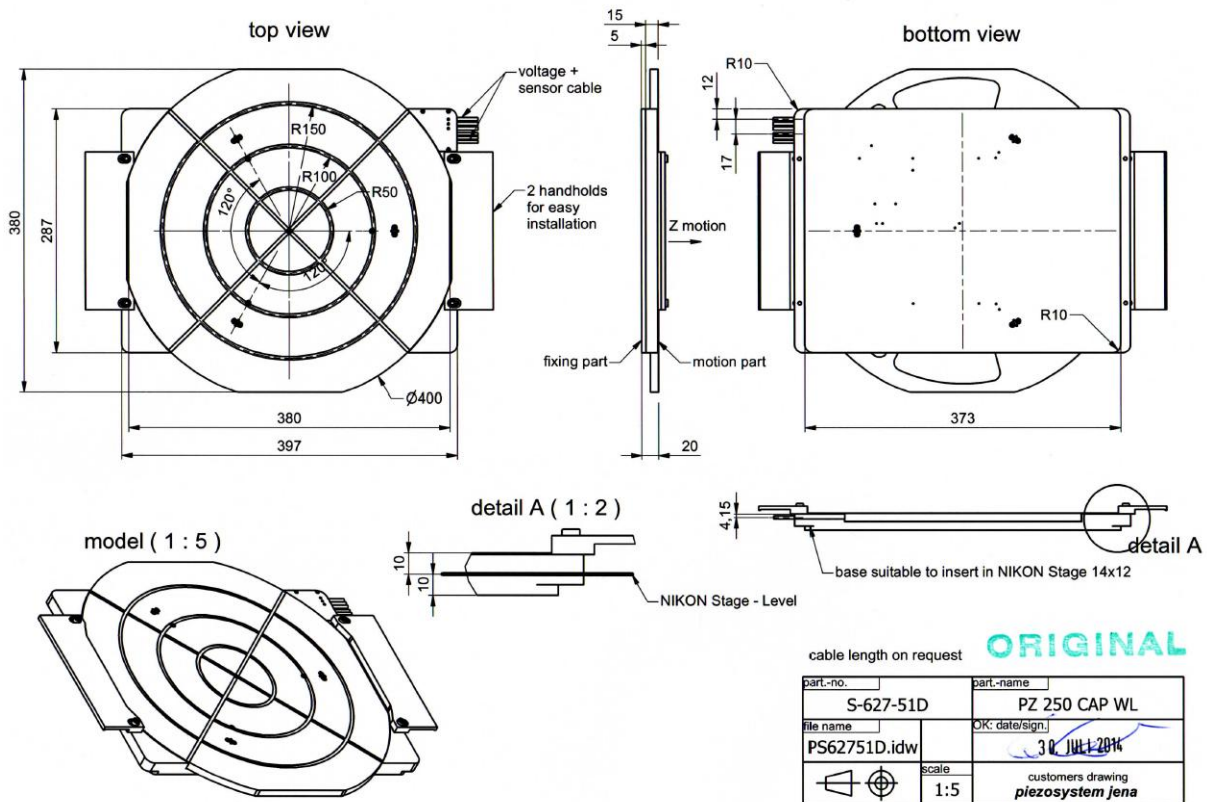
technical data

	Unit	PZ 250 CAP WL
part number	–	S-627-51 D
axes	–	Z
motion in open loop ($\pm 10\%$) *	μm	350
motion in closed loop *	μm	250
electrical capacitance	μF	86,4 (12 x 7,2)
integrated measurement system	–	CAP
resolution **	nm	3
typ. repeatability	nm	± 3
resonant frequency without load	Hz	50
resonant frequency with 1800 g	Hz	10
min. tilt roll/pitch/yaw	μrad	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	$^{\circ}\text{C}/\text{F}$	-20 ... +80/-4 ... 176

* typical value measured with 30DV50 amplifier

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

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