

nanoMIPOS 400

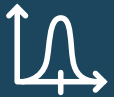
Lens Positioning System



400 μm Focusing Range



**Typ. Step Resolution 1 nm
in Closed-Loop**



**Resonant Frequency up to
300 Hz**



High Stiffness 0.3 N/ μm



The nanoMIPOS offers a nano-positioning and scanning range up to 400 μm in open loop operation, as well as 320 μm in closed loop. The system can be assembled with objectives of up to 39 mm in diameter and 1 kg in weight. The system shows a low tilt of <math><5 \mu\text{rad}</math>.

The sophisticated monolithic guidance design, consisting of solid flexure hinges, means the trajectory is free of mechanical play and friction – a feature offered by all piezosystem jena stages.

The advanced nanoMIPOS 400 design is FEA optimized to show an outstanding minimum of lateral and rotational offset, as well as excellent guidance accuracy, while offering robustness against off center and lateral loads.

To avoid drift and hysteresis, the nanoMIPOS 400 can be equipped with a capacitive measurement system. In combination with the piezosystem jena controller, this system offers high stability, linearity, repeatability and accuracy in closed loop operation.

Variants:

- With capacitive sensor (CAP)

Recommended Controller:

NV200/D Net

Applications

- Surface scanning and analysis
- AFM microscopy
- Biotechnology (e.g. cell scanning)
- Beam focusing for printing processes
- Semiconductor testing

nanoMIPOS 400

Technical Data

		Unit	nanoMIPOS 400	nanoMIPOS 400 CAP
Artikelnr.	M25x0.75	-	O-543-00	O-543-06
	W0.8x1/36" (RMS)	-	O-544-00	O-544-06
	M26x0.75	-	O-545-00	O-545-06
	M27x0.75	-	O-546-00	O-546-06
	M32x0.75	-	O-547-00	O-547-06
Axis		-		Z
Motion in Open-Loop (±10%)*		µm		400
Motion in Closed-Loop (±0,2%)*		µm	-	320
Capacitance (±20%)**		µF		6
Integrated Measurement System		-	-	CAP
Resolution Open-Loop***		nm		0.8
Resolution Closed-Loop***		nm		1
typ. Repeatability		nm		10
Resonant Frequency	unloaded			300
	additional load = 80g	Hz		250
	additional load = 105g			220
	additional load = 300g			140
Stiffness		N/µm		0.3
Rotational Error (full motion)		µrad		<5
Voltage Range		V		-20...+130
Connector ****	Voltage	-	ODU series L 3pin	
	Sensor	-	-	LEMO 0S.650
Cable Length		m	1	1.6
Dimensions (LxWxH)		mm	65 x 45 x 40	
Weight		g	300	315
Max. Lens Diameter		mm		39
Max. Lens Weight		kg		1
Option for Standard Microscopes				yes

* typical value measured with 0.3 mV Controller

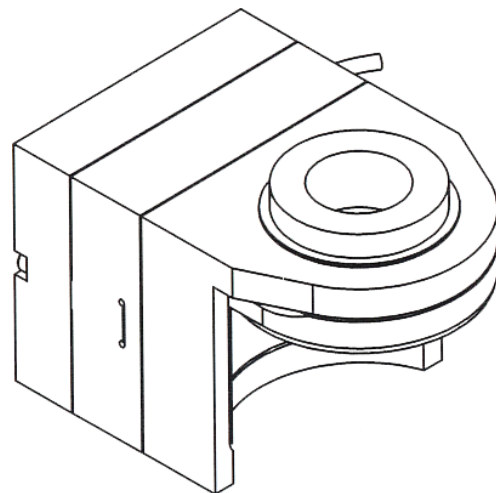
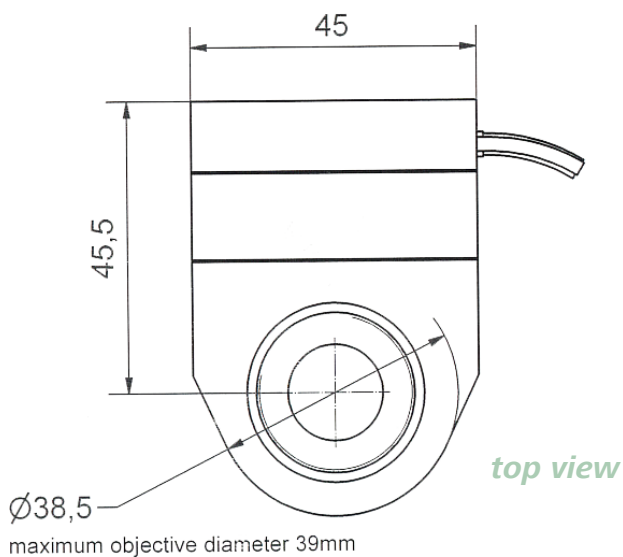
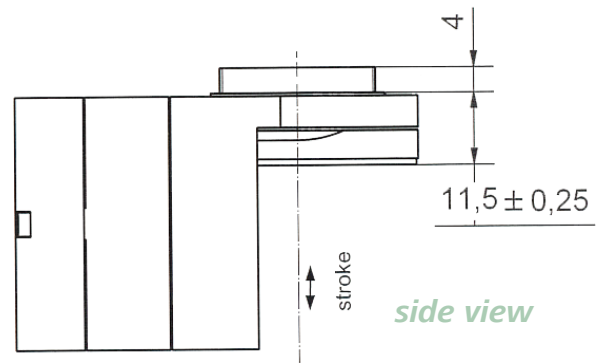
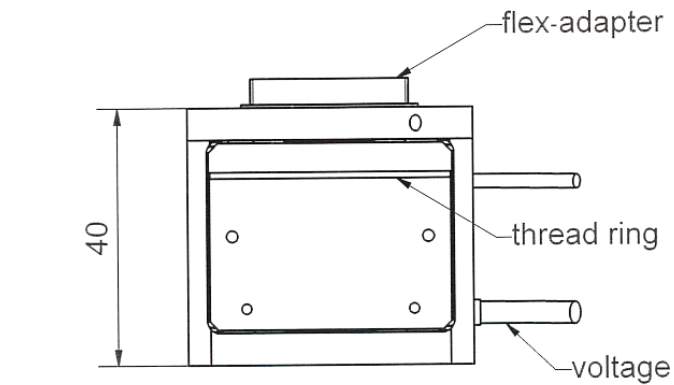
** typical value for small electrical field strength

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

**** in combination with a digital controller unit, the system comes with a sub-D 15 connector. The part number is extended by the suffix "D"

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Technical Drawing



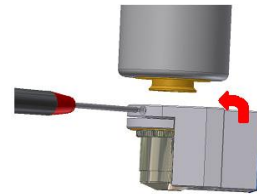
Maße in mm angegeben.



1. Screw the objective into the MIPOS



2. Screw the Flex-Adapter into the microscope



3. Clamp the MIPOS on the Flex-Adapter using the attachment

Rights reserved to change specifications as progress occurs without notice.

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