

MIPOS 250

Microscope objective/ lens positioning system

Concept:

The systems in the MIPOS 250 series offer a nano positioning and scanning range up to 250 μm in open loop operation, as well as 200 μm in closed loop. They can be assembled with objectives that have a diameter of up to 40 mm. **piezosystem jena's** successful parallelogram design guarantees high parallel motion without influencing the optical path.

Positioning repeatability can be guaranteed by the use of an integrated measurement system. The design which includes integrated pre-load of the actuator offers high resonant frequency and highly parallel motion. Due to the unique features of the MIPOS 250 series, fast scanning applications can be accurately realized with the shortest settling times.

Specials:

Adapter thread rings for the nose piece are available separately. They allow for fast mounting and exchanging of the MIPOS system on the microscope without removing other objectives. These Flex-Adapters are available for all standard microscopes and allow the MIPOS series to be universally applicable. Parfocal tube extensions for each



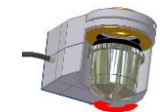
Image: MIPOS 250

Product highlights:

- 250 μm focusing range
- compact design
- high resonant frequency
- easy to attach on microscopes
- flexible use by Flex-Adapter
- optionally integrated measurement system

Applications:

- surface scanning and analysis
- AFM microscopy
- biotechnology (e.g. cell scanning)
- beam focusing for printing processes
- semiconductor test equipment



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 screw



Spacer rings to compensate for the extended optical path and flex adapters for all common threads are available

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Technical data:

MIPOS series		unit	MIPOS 250	MIPOS 250 SG	MIPOS 250 CAP
part no. for thread	M25x0.75	-	O-370-00	O-370-01	O-370-06
	W0.8x1/36" (RMS)	-	O374-00	O-374-01	O-374-06
	M26x0.75	-	O-375-00	O-375-01	O-375-06
	M27x0.75	-	O-376-00	O-376-01	O-376-06
	M32x0.75	-	O-377-00	O-377-01	O-377-06
axis		-		Z	
motion in open loop ($\pm 10\%$)*		μm		250	
motion in closed loop ($\pm 0,2\%$)*		μm	-		200
capacitance ($\pm 20\%$)**		μF		10.2	
integrated measurement system		-	-	strain gage	capacitive
resolution open loop***		nm		0.5	
resolution closed loop***		nm	-	5.0	1.0
typ. repeatability		nm	-	9	8
resonant frequency		Hz		320	
additional load = 80 g		Hz		250	
additional load = 105 g		Hz		230	
additional load = 300 g		Hz		155	
stiffness		N/ μm		0.4	
rotational error (full motion)		μrad		<10	<6
voltage range		V		-20...+130	
connector	voltage	-		LEMO 05.302	
	sensor	-	-	LEMO 05.304	LEMO 05.650
cable length		m	1.0	1.2	1.6
material		-		stainless steel	
dimensions (LxWxH)		mm	60.7 x 50 x 23.5	60.5 x 50 x 35.3	60.2 x 50 x 34.5
weight		g	255	255	350
max. lens diameter		mm		40	
max. lens weight		g		500	
option for standard microscopes		-	yes	yes	yes
option for inverse microscopes		-	yes	yes	yes

* typical value measured with NV 40/3 CLE

** 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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Recommended Configuration:

	Product name	Part. No Suffix.
Actuator	MIPOS 250 SG	O-307x-01E
Amplifier/ Controller	NV 40/1 CLE	E-101-73

The MIPOS series of micro lens and objective positioning systems offers a travel range from 20 µm up to 500 µm in z-axis. Available for standard and inverted microscopes.

More details under “z-axis-lens-positioning” www.piezosystem.com

Rights reserved to change specifications as progress occurs without notice!