MIPOS 500

Microscope objective/ lens positioning system

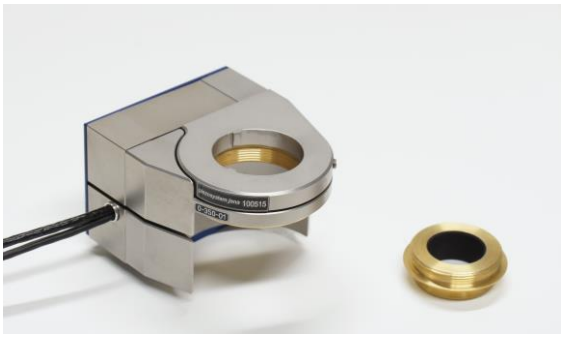

Image: MIPOS 500

Concept:

The systems of the MIPOS 500 series offer a nano positioning and scanning range up to 500 µm in open loop operation, and 400 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. The precise positioning repeatability of the MIPOS 500 series can be guaranteed by the use of the optional integrated measurement system. The design which includes integrated pre-load of the actuator offers high resonant frequency and highly parallel motion, and is available in an upside-down version for inverted microscopes. Due to the unique features of the MIPOS 500 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 threading type are available as an accessory.

Product highlights:

- 500 µm focusing range
- compact design
- high resonant frequency
- easy to attach on microscopes
- flexible use by Flex-Adapter
- optionally feedback sensor

Applications:

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

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piezosystemjena
incredibly precise

MIPOS 500

Technical data:

MIPOS series		unit	MIPOS 500	MIPOS 500 UD	MIPOS 500 SG	MIPOS 500 SG UD
Part no. for thread	M25x0.75	-	O-350-00	O-360-00	O-350-01	O-360-01
	W0.8x1/36" (RMS)	-	O-354-00	O-364-00	O-354-01	O-364-01
	M26x0.75	-	O-355-00	O-365-00	O-355-01	O-365-01
	M27x0.75	-	O-356-00	O-366-00	O-356-01	O-366-01
	M32x0.75	-	O-357-00	O-367-00	O-357-01	O-367-01
axis		-	Z			
motion in open loop (±10%)*		µm	500			
motion in closed loop (±0,2%)*		µm	-	-	400	
capacitance (±20%)**		µF	21.0			
integrated measurement system		-	-	-	strain gage	
resolution open loop ***		nm	0.9			
resolution closed loop***		nm	-	-	12	
typ. repeatability		nm	-	-	17	12
resonant frequency		Hz	230			
additional load = 80 g		Hz	180			
additional load = 105 g		Hz	170			
additional load = 300 g		Hz	110			
stiffness		N/µm	0.27			
rotational error (full motion)		µrad	<20			
voltage range		V	-20...+130			
connector****	voltage	-	LEMO 0S.302			
	sensor	-	-	-	LEMO 0S.304	
cable length		m	1		1.2	
material		-	stainless steel			
dimensions (LxWxH)		mm	60.5 x 50 x 36.4	60.2 x 50 x 35.5	60.5 x 50 x 40.1	62 x 50 x 41.5
weight		g	370			
max. lens diameter		mm	40			
max. lens weight		g	500			
option for standard microscopes		-	yes	no	yes	no
option for inverse microscopes		-	no	yes	no	yes

* typical value measured with NV 40/3 amplifier

** 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. That part number is extended by the suffix "D"

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Recommended configuration:

	Product name	Part. No Suffix.
Actuator	MIPOS 500 SG	O-35X-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 "objective lens positioning systems" www.piezosystem.com

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