

piezo electrical nosepiece focusing device for microscopes

MIPOS N100/2

- 100µm adjustment range(open loop)
- moves the nosepiece with nanometres accuracy
- high resonant frequency
- additional load up to 5kg
- optionally integrated sensor system

application:

- surface scanning and analysis
- semi-conductor analysis equipment
- scanning interferometry
- biotechnology (e.g. cell inspection)
- ray focusing for print processes



fig.: MIPOS N 100/2

Concept	Specials	Mounting/Installation
<p>The series MIPOS N100/2 design for moving the whole nosepiece objective revolver on microscopes with nanometres accuracy. The MIPOS N100/2 offers a positioning and scan-range up to 100 µm. These systems can be used with objectives, and objective revolvers with an aperture up to 20 mm.</p> <p>The mechanical flexure design with an integrated preload, offers a high resonant frequency and a high parallel motion. A load of 5kg can be carried without any impact in the optical axis.</p> <p>The MIPOS N100/2 is designed for universal use. Only an adapter plate for the specific mechanical interface is necessary. Please contact us for additional information.</p> <p>The MIPOS 100N/2 is a cost effective and simple solution to get a fine tuning focusing device for the microscope nosepiece with several micro objectives.</p>	<p>Adapter plates for the mounting of the MIPOS N100/2, to your existing assembly are easily installed.</p> <p>This allows for the use of the MIPOS N100/2 with any objectives, thus, making this process no longer time consuming and costly.</p> <p>Because of its stable construction the system has a high resonant frequency of 140Hz (with a mass of 5kg) making it suitable for dynamical applications especially in the field of confocal microscopy.</p> <p>The high stiffness of the system reduces overshooting behavior during scan applications.</p> <p>For long term positioning stability the MIPOS N100/2 can be equipped with a high resolution feedback sensor.</p>	<p>The MIPOS N100/2 is integrated between the objective revolver and tripod.</p> <p>The MIPOS N100/2 should not be work under compression loaded >30N.</p> <p>Please note that the MIPOS 100/2 reduces the mechanical distance between the microscopy stage and the objective lens. The optical axis is extended by 37mm.</p> <p>All necessary connecting cables leave the MIPOS on the right to the back.</p> <p>Please see on page 2 the typical mounting area for the MIPOS N100/2.</p>

technical data:

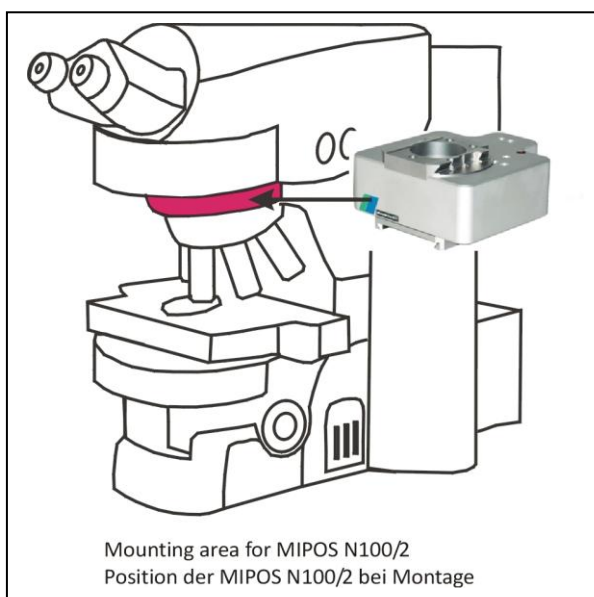
series MIPOS N100/2		unit	MIPOS N100/2	MIPOS N100/2 CAP
part no.		-	O-395-00	O-395-06
axis		-	Z	
motion open loop ($\pm 10\%$)*		μm	100	
motion closed loop ($\pm 0,2\%$)*		μm	-	80
capacitance ($\pm 20\%$)**		μF	21.3	
integrated measurement system		-	-	capacitive
resolution open loop***		nm	0.2	
closed loop***		nm	-	1
resonant frequency		Hz	480	
additional load = 5000g		Hz	140	
stiffness		N/ μm	3	
max. load		N	50	
lateral force limit		N	30	
rotational error (full motion) [roll/pitch/gier]		μrad	< 20	
voltage range		V	-20 ... +130	
connector	voltage	-	LEMO 0S.302 + ODU, 3pol. serie L	
	sensor	-	-	LEMO 0S.650
cable length		m	1.0	1.6
min. bend radius of cable		mm	>15	
material		-	stainless steel	
dimensions (l x w x h)		mm	111/100/48	
central aperture		mm	32	
weight		g	1100	
max. lens weight		g	5000	
option for standard microscopes		-	yes	
option for inverse microscopes		-	upon request	

* typical value measured with ENV 800 amplifier

** typical value for small electrical field strength

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

The series of micro lens and objective positioning systems MIPOS 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.piezojena.com .



Additional microscopy stages for XY axes available under “series-PXY-AP” www.piezojena.com

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