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MIPOS 100

Lens Positioning System

- ***100 µm Focusing Range***
- ***Typ. Step Resolution 2 nm in closed-loop***
- ***Resonant Frequency up to 950 Hz***
- ***High Stiffness 1.4 N/µm***

The objective lens positioning system MIPOS 100 was developed for finely adjusting objectives / lenses. The maximum motion is 100 µm. The resolution of MIPOS 100 is very high and, in practice, only limited by the voltage noise of the power supply.

Mounting this system onto the microscope is very easy – screw the Flex-Adapter thread ring into the microscope and mount the lens positioning system on this ring with a screw. BBecause of the small size, the MIPOS does not interfere with any other objectives on the microscope turret.

All standard threads for Zeiss, Leica, Nikon, Olympus etc. are available for the top and bottom sides of the MIPOS 100. Objectives up to 500 g can be attached.

Variants:

- Inverse Version (UD)
- With strain gauge (SG)
- Larger focusing range and objective diameter (PL)

Recommended Controller:

NV200/D Net

Applications

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

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MIPOS 100

Technical Data

		Unit	MIPOS 100	MIPOS 100 UD	MIPOS 100 SG	MIPOS 100 SG UD
Part # for thread	M25x0.75	-	O-303-00	O-313-00	O-303-01	O-313-01
	W0.8x1/36" (RMS)	-	O-304-00	O-314-00	O-304-01	O-314-01
	M26x0.75	-	0-305-00	O-315-00	O-305-01	O-315-01
	M27x0.75	-	0-306-00	O-316-00	O-306-01	O-316-01
Axis		-	Z			
Motion in open-loop (±10%)*		µm	100			
Motion in closed-loop (±0,2%)*		µm	-	-	80	
Capacitance (±20%)**		µF	7.2			
Integrated Measurement System		-	-		strain gauge	
Resolution open-loop		nm	0.2			
Resolution closed-loop		nm	-		2	
Typ. Repeatability		nm	-		6	5
Resonant Frequency	unloaded	Hz	890			
	additional load = 80g		390			
	additional load = 105g		330			
	additional load = 300g		240			
Stiffness		N/µm	1.4			
Rotational Error (full motion)		µrad	<20			
Voltage		V	-20...+130			
Connector ****	Voltage	-	LEMO 0S.302			
	Sensor		-		LEMO 0S.304	
Cable Length		m	1.0		1.2	
Dimensions (LxWxH)		mm	48 x 40 x 16.5		48 x 40 x 29	
Mass		g	105		150	
Max. Lens Diameter		mm	30			
Max. Lens Weight		g	300			
Option for Standard Microscopes			yes	no	yes	no
Option for Inverse Microscopes			no	yes	no	yes

* typical value measured with 0.3mV 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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MIPOS 100

Technical Data

		Unit	MIPOS 100 PL	MIPOS 100 PL SG	MIPOS 100 PL CAP
Part # for thread	M25x0.75	-	O-323-00	O-323-01	O-323-06
	W0.8x1/36" (RMS)	-	O-324-00	O-324-01	O-324-06
	M26x0.75	-	0-325-00	O-325-01	O-325-06
	M27x0.75	-	0-326-00	O-326-01	O-326-06
	M32x0.75	-	O-327-00	O-327-01	O-327-06
Axis		-		Z	
Motion in open-loop (±10%)*		µm		140	
Motion in closed-loop (±0,2%)*		µm	-	100	
Capacitance (±20%)**		µF		3.4	
Integrated Measurement System		-	-	DMS	CAP
Resolution open-loop***		nm		0.3	
Resolution closed-loop***		nm	-	4	1
Typ. Repeatability		nm	-	7	6
Resonant Frequency	unloaded	Hz		410	
	additional load = 80g			300	
	additional load = 105g			270	
	additional load = 300g			210	
Stiffness		N/µm		1.2	
Rotational Error (full motion)		µrad		<4	
Voltage		V		-20...+130	
Connector ****	Voltage Sensor	-	-	LEMO 0S.302 LEMO 0S.304	LEMO 0S.650
Cable Length		m	1.0	1.2	1.6
Dimensions (LxWxH)		mm	60.7x50x23.5	60.5x50x35.3	60.2x50x34.5
Mass		g	105	150	210
Max. Lens Diameter		mm		40	
Max. Lens Weight		g		500	
Option for Standard Microscopes				yes	
Option for Inverse Microscopes				yes	

* Typical value measured with 0.3 mV noise controller.

** Typical value for a small electrical field strength.

*** The resolution is only limited by the noise of the controller.

**** 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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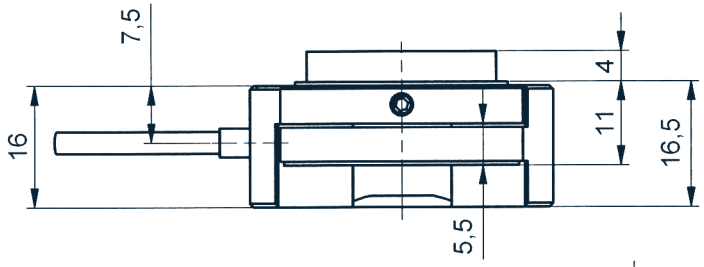
MIPOS 100

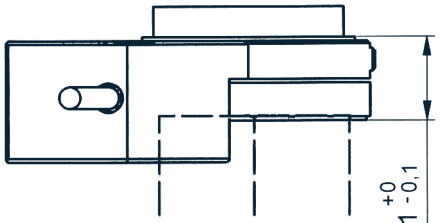
Part Drawing

front view

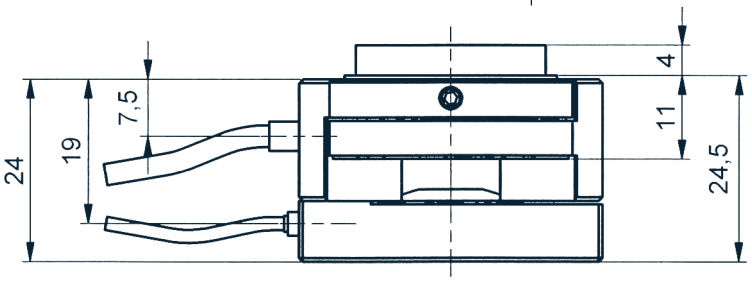
side view

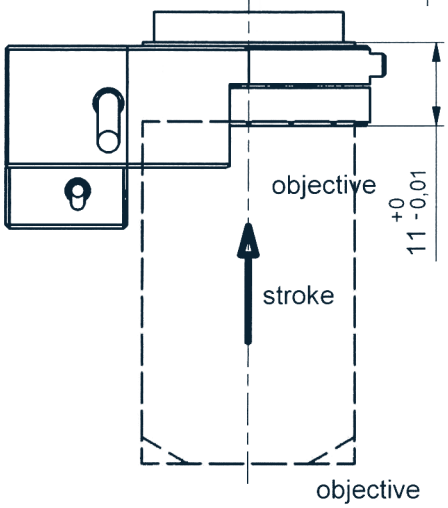
Standard





SG

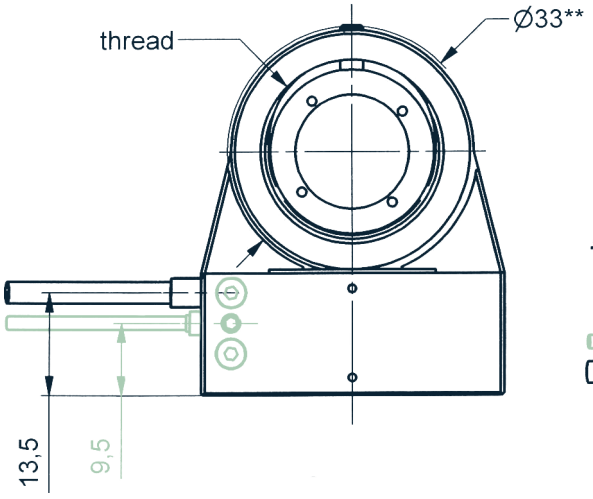




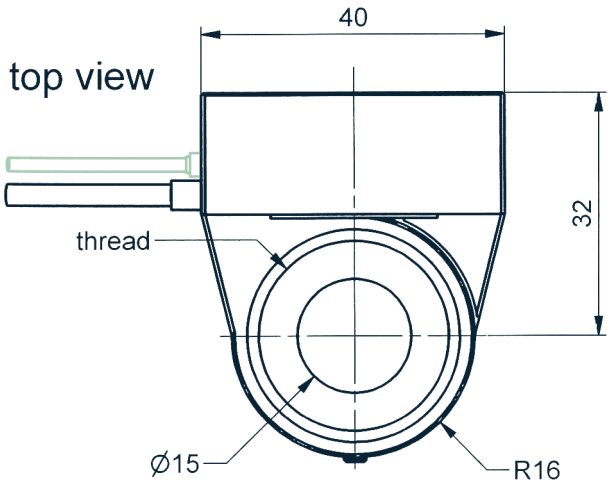
bottom view

Standard

SG



top view



Dimensions given in mm.

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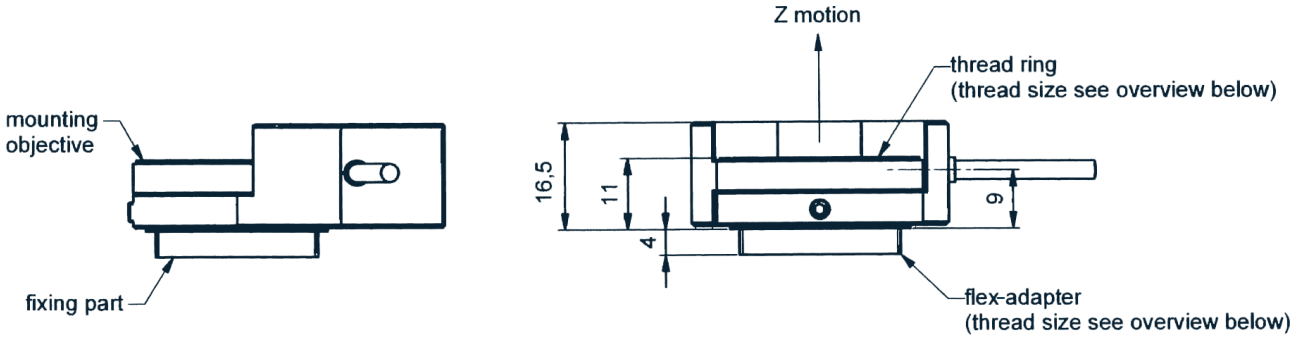
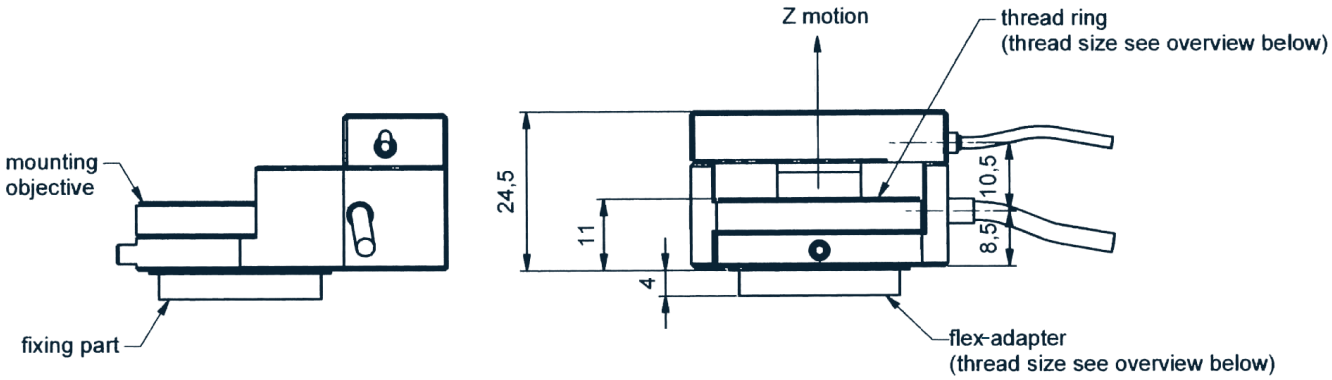
Part Drawing

UD

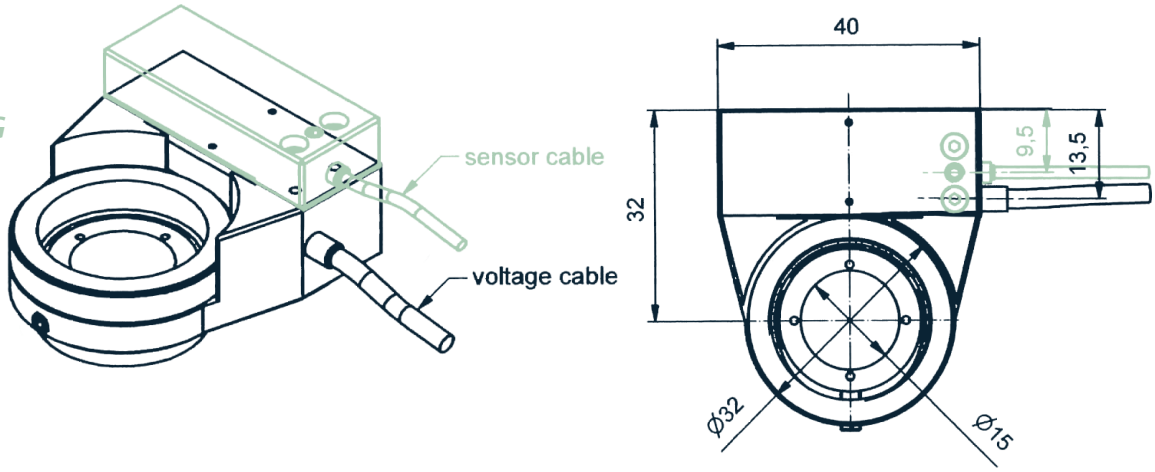


UD SG



UD

UD SG



Dimensions given in mm.

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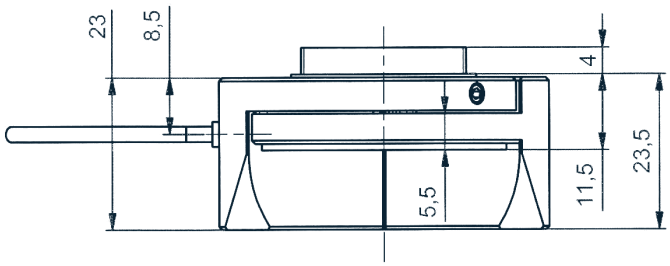
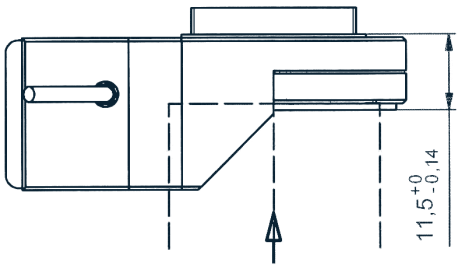
MIPOS 100

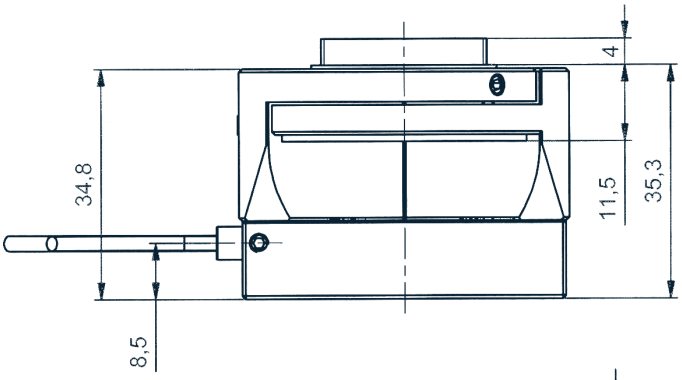
Part Drawing

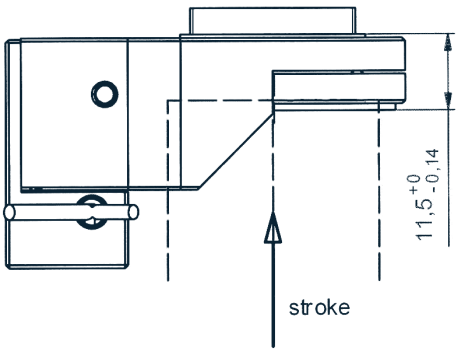
PL



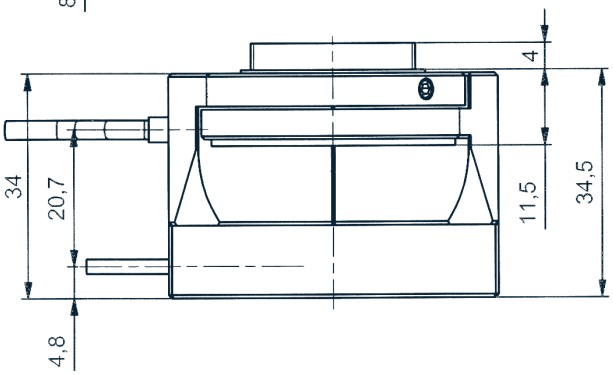


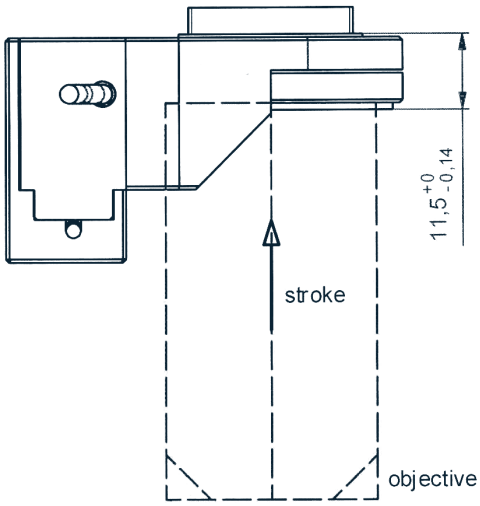
PL SG





PL CAP





Dimensions given in mm.

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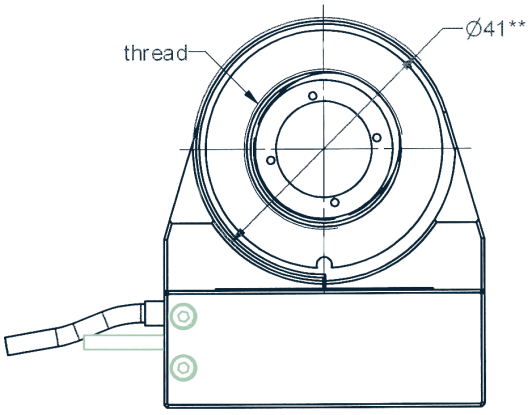
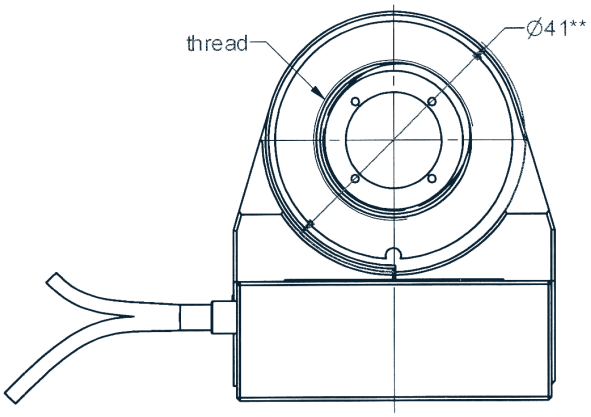
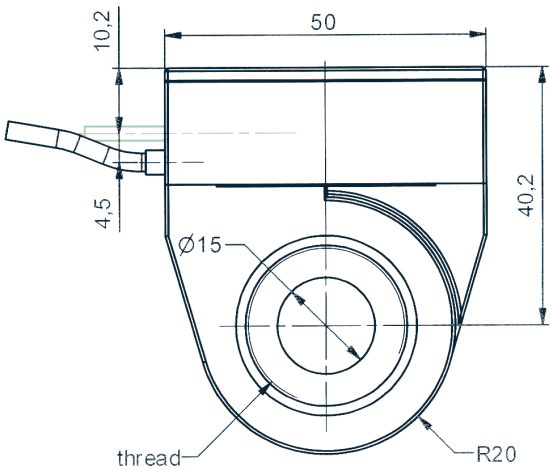
Part Drawing

PL





PL CAP



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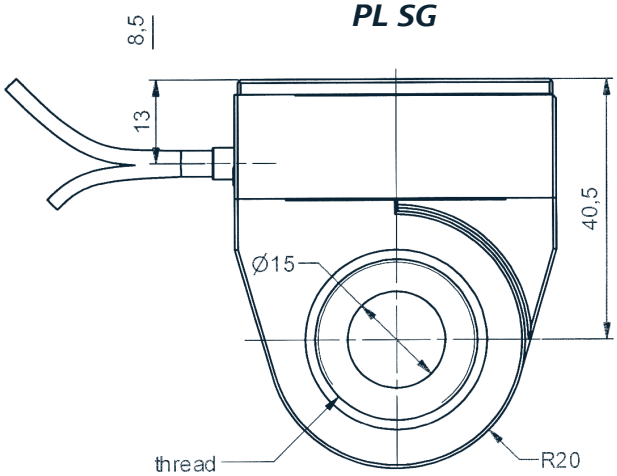
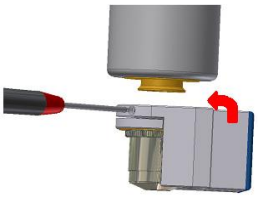


Dimensions given in mm.

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.

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