

PIFOC Specimen Z Positioner

With Large Aperture and Low Profile



P-737

- Travel ranges to 500 μm
- Clear aperture 128.5 mm \times 86.5 mm to accommodate well plates
- Low profile 20 mm
- Compatible with MetaMorph imaging software

Fields of application

- Super-resolution microscopy
- Light disc microscopy
- Confocal microscopy
- 3-D imaging
- Screening
- Interferometry
- Measuring technology
- Autofocus systems
- Biotechnology
- Semiconductor tests

Outstanding lifetime thanks to PICMA® piezo actuators

The patented PICMA® piezo actuators are all-ceramic insulated. This protects them against humidity and failure resulting from an increase in leakage current. PICMA® actuators offer an up to ten times longer lifetime than conventional polymer-insulated actuators. 100 billion cycles without a single failure are proven.

High guiding accuracy due to zero-play flexure guides

Flexure guides are free of maintenance, friction, and wear, and do not require lubrication. Their stiffness allows high load capacity and they are insensitive to shock and vibration. They are 100 % vacuum compatible and work in a wide temperature range.

Specifications

	P-737.1SL	P-737.2SL	P-737.5SL	Unit	Tolerance
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Active axes	Z	Z	Z		
Motion and positioning					
Integrated sensor	SGS	SGS	SGS		
Travel range at -20 to 120 V, open loop	150	280	550	μm	+20 % / -0 %
Travel range, closed loop	100	250	500	μm	
Resolution, open loop	0.8	1	1.6	nm	typ.
Resolution, closed loop	2.5	4	5	nm	typ.
Linearity error, closed loop	0.2	0.5	0.8	%	typ.
Repeatability	6	12	15	nm	typ.
Tilt θ_x	±36	±36	±36	μrad	typ.
Tilt θ_y	±36	±100	±100	μrad	typ.
Mechanical properties					
Resonant frequency, no load	270	210	122	Hz	±20 %
Resonant frequency, under load, 100 g	230	180	115	Hz	±20 %
Resonant frequency, under load, 200 g	210	155	100	Hz	±20 %
Push/pull force capacity in motion direction	50 / 20	50 / 20	50 / 20	N	max.
Drive properties					
Piezo ceramic	PICMA® P-885	PICMA® P-885	PICMA® P-885		
Electrical capacitance	6.3	9.3	13.8	μF	±20 %
Miscellaneous					
Operating temperature range	-20 to 80	-20 to 80	-20 to 80	°C	
Material	Aluminum	Aluminum	Aluminum		
Dimensions	220.5 mm × 138 mm × 27.3 mm	220.5 mm × 138 mm × 27.3 mm	220.5 mm × 150 mm × 27.3 mm		
Mass	0.7	0.7	0.85	kg	±5 %
Cable length	2	2	2	m	±10 mm
Sensor/voltage connection	LEMO	LEMO	LEMO		
Recommended electronics	E-503, E-625, E-665, E-709	E-503, E-625, E-665, E-709	E-503, E-625, E-665, E-709		

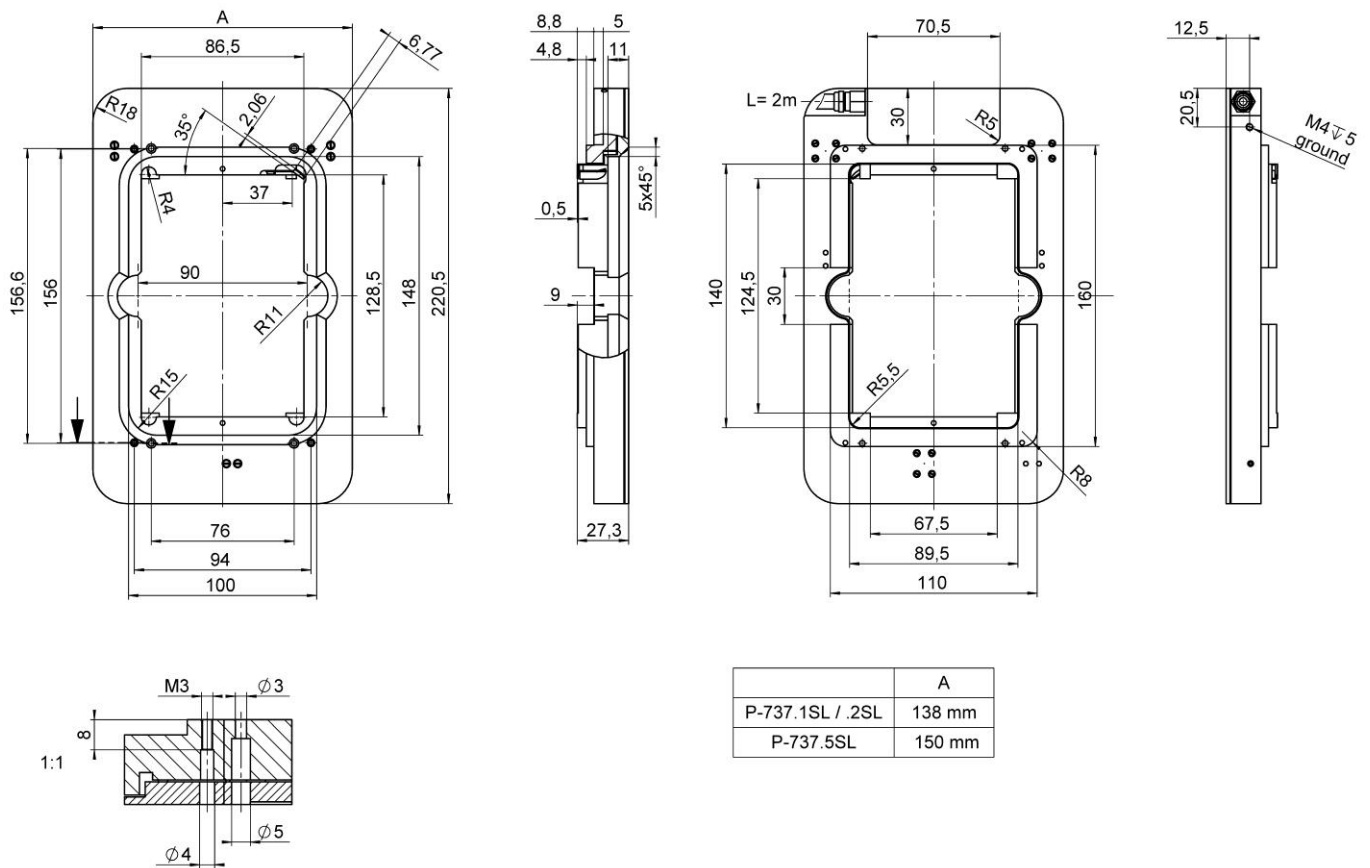
The resolution of the system is limited only by the noise of the amplifier and the measuring technology because PI piezo nanopositioning systems are free of friction.

All specifications based on room temperature (22 °C ±3 °C).

Versions with directly measuring, high-resolution capacitive sensors on request!

Ask about customized versions.

Drawings / Images



P-737, dimensions in mm

Ordering Information

P-737.1SL

PIFOC nanofocusing stage for microscope sample holder, 100 μ m, SGS, LEMO connector(s)

P-737.2SL

PIFOC nanofocusing stage for microscope sample holder, 250 μ m, SGS, LEMO connector(s)

P-737.5SL

PIFOC nanofocusing stage for microscope sample holder, 500 μ m, SGS, LEMO connector(s)

Accessories

P-737.AP1

Insertable holder for microscope slides, for the P-737 specimen Z positioner

P-737.AP2

Insertable holder for Petri dishes, for the P-737 specimen Z positioner