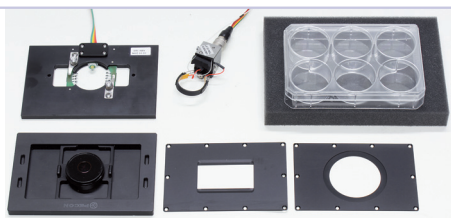




Upgrade your microscope with ***piezosystem jena***

Compatible with Zeiss, Nikon, Olympus and Leica

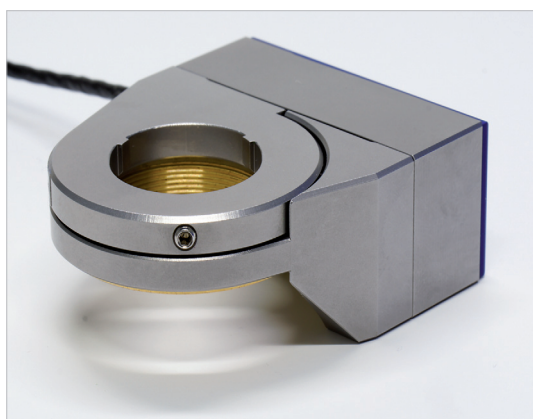


piezosystem jena: Experts in Precision

piezosystem jena relies on over 22 years of experience in the research and development of piezoelectric elements and translation stages for microscopy applications. The product development and production departments are located at the corporate headquarters in Jena Germany. From here we service our subsidiary in the U.S. and our world-wide representatives who support customers in over 40 countries. Piezoelectric nano-positioning technology has established itself in just a few years, due to numerous advantages over conventional drives.

Lens positioning systems

MIPOS series – with flex adapter technology

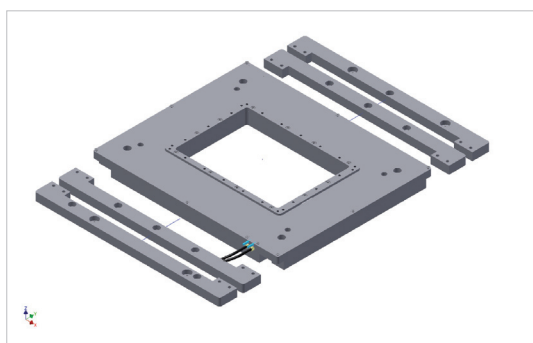


- Focus range up to 600 μm
- Threading size available for all standard microscopes
- Easy assembly with flex adapter technology
- Parfocal spacer rings for tube extension
- For inverted and upright microscope versions available

The MIPOS series was developed for the fine adjustment of micro objective lenses as well as the adjustment of nose-piece assemblies. They provide a motion range from 20 μm up to 600 μm , with extremely high position accuracy and resolution.

XY-axes sample positioning and scanning

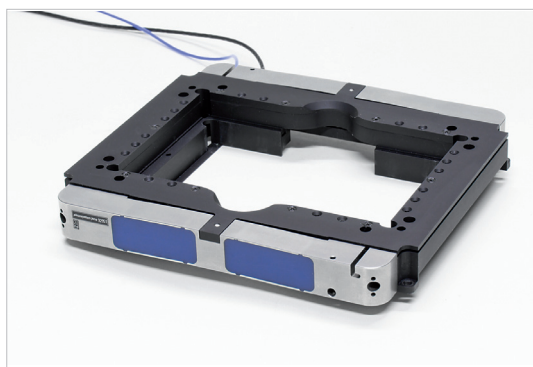
PXY 600 AP – xy sample scanning microscope stage with nanometer accuracy



- Long range piezo travel in XY-motion
- Bi-directional actuating with nanoX design
- Very flat and compact design
- Center aperture
- Combinable with PZ 300 AP

The new PXY 600 AP is a 2-axes microscopy stage. The motion range goes up to 600 μm . Because of the new design it is compatible with the PZ 300 AP and makes a complete microscopy solution. The stage fits to standard microscopes and supports sample holders and inserts.

PZ 300 AP – Z-axis microscope stage for confocal, fluorescence and laser scanning applications



- Travel range of 300 μm in closed loop
- Typical working frequency of 50 Hz
- Settling time in millisecond range
- Inside frame supports standard multi-well size
- Additional sample adapter available
- Stage insert with 128.5 mm x 86.5 mm

The PZ 300 AP is a Z-axis elevator stage with a motion range of up to 300 μm . Due to FEA optimization its dynamic behavior allows for "step-by-step" scanning at working frequencies up to 50 Hz. The stage fits into microscope stage openings with the dimensions of 160 mm x 110 mm, supports sample holders and inserts according to the multi-well standard.

All products are available as open-loop and closed-loop-version.



Accessories for Microscopy XY- and Z-Stage

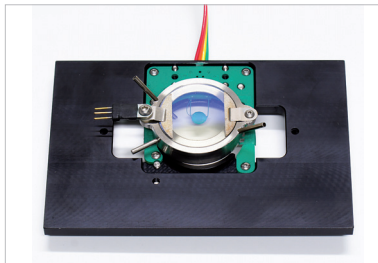


Standard Heating Stage: Top Incubator with gas flow meter for pre-mixed gas.

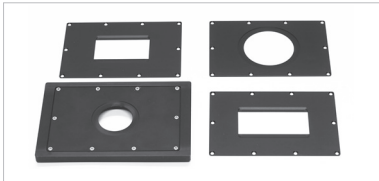
Ideal for live cell imaging with microscopy stages from **piezosystem jena** on an inverted microscope.

To be installed in place of specimen holder.

The Control unit is available at **piezosystem jena**.



Delta T Culture Dish System: Simulates host conditions on your microscopy stage to provide an optimal optical environment for microscopy. This two-step system allows you to plate the cells and observe them without having to transfer them to another structure. Components: Controller with real-time temperature display, Stage Adapter, and Dishes. Temperature range of ambient to 50 °C



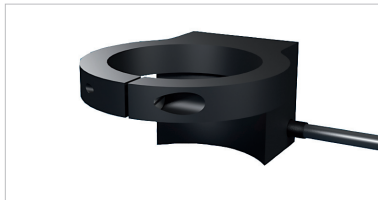
Insert Set: consisting of a flexible device with easy installation ideal for fixing various cultivation vessels microscopy-stage and 4 exchangeable plates for Petri dishes, POC Cell Cultivation Systems, object slides, Lab-Tek and Ibidi chambers. Two moveable, smooth-running brackets with a variable clamping range allow for an easy and quick setup. The frame can be leveled in the stage by 4 screws.



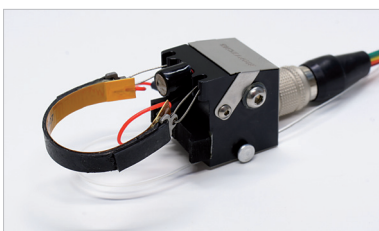
The **Object Holder** provides a sterile handling of the Petri dishes and slides and protects the cell cultures from contamination. Two different versions are available.

Accessories for MIPOS series

With the use of oil immersion objectives, the direct contact between the cell cultivation vessel and the colder objective leads to a significant cooling in the area of the observed cells.



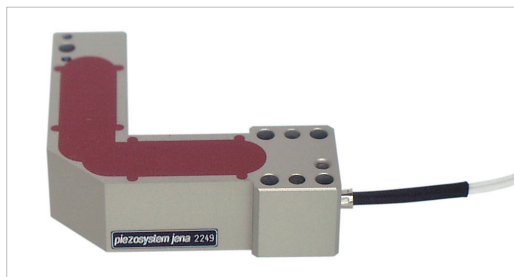
The cooling/heating objective ring is designed to stabilize the cooling or heating of microscope objectives in order to improve the temperature conditions in the observation area (better homogeneity). A circulator is needed to supply the Cooling/Heating Objective Ring with cooling or heating liquids. The Control unit is available at **piezosystem jena**.



Heating objective ring: The Controller is specifically designed to slowly heat the objective over a fifteen minute warm-up period then hold the objective at the set point value within 0.2 °C. It operates from ambient to 50 °C. Special safety circuitry is utilized with a 0.9 °C error window. If for any reason the temperature of the objective deviates after it has reached set point, the controller shuts down and sounds an alarm. The Control unit is available at **piezosystem jena**.

Further Applications for AFM, RAMAN and SNOM

PXY D12 and PZ D12



- Motion up to 200 μm in X- and Y-directions and up to 20 μm in Z-direction
- High resonant frequency
- Positioning sensor for feedback control
- Option: optimization for minimum noise in Z-direction

This system is optimized for high resonant frequency and high stiffness in both the X and Y axis. The PZ D12 element provides a motion of 8 μm or 20 μm in the z-direction. This element is equipped with a special adapter and can be easily mounted directly onto the PXY D12 element.

TRITOR 102 CAP



- 3D piezo based positioner
- Free central hole (40 mm)
- Sample positioning without mechanical play
- Motion range up to 100 μm
- Lowest settling time for fastest scan behavior

The TRITOR 102 CAP perfectly meets the requirements for sample alignment applications. The large central opening of 40 mm allows for the placement of the objective lens to be directly underneath the sample. Integrated closed loop feedback sensors guarantee long term high precision sample adjustment with nanometer accuracy.

MICI 140



- Motion up to 140 μm
- High resonant frequency
- Parallelogram construction

The MICI series was developed for improving the positioning accuracy of linear stages. The coarse adjustment is done with the micrometer screw and the final fine adjustment is achieved by the piezo element. With the use of the optional positioning sensor extremely high positioning stability and high reproducibility is guaranteed.

All products are suitable for the following microscopy techniques

Fluorescent Techniques		New Super-Resolution Techniques	
TIRF	Total Internal Reflectance Fluorescence	STED	stimulated emission depletion microscopy
FLIM	Fluorescence lifetime imaging microscopy	SIM	structured illumination microscopy
FRET	Fluorescence Resonance Energy Transfer	PALM	photo-activated localization microscopy
FISH	Fluorescence <i>in situ</i> hybridization	STORM	Stochastic Optical Reconstruction Microscopy
FRAP	Fluorescent Recovery after Photobleaching		
Optical Techniques		Image Processing Techniques	
ARS	Coherent Anti-Stokes Raman Scattering	Z-stacking	
DIC	Differential Interference Contrast	image deconvolution	
LSCM	Laser Scanning Confocal microscopy	Autofocus Algorithms	
2-P	Two Photon Microscopy	Image Mosaicing or Stitching	
		Time-Lapse	

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