

XY Microscope Stage with PILine® Motor, Controller and Joystick

STABLE, DYNAMIC, LOW PROFILE



M-687

- Highest stability
- 0.1 μm resolution
- Travel range up to 135 mm \times 85 mm
- For inverted microscopes, free rotation of turret
- Suitable Z sample scanner available

Reference-class XY microscope stage

Controller and joystick included. 160 mm \times 110 mm clear aperture. Versions for inverted microscopes:

- Nikon Eclipse Ti-E/Ti-U/Ti-S (M-687.UN)
- Olympus IX2 (M-687.UO)

High-resolution piezo linear drive

Self-locking at rest. Low noise. Highest stability due to low thermal load and no need for lubricants. Large dynamics range of 10 $\mu\text{m/s}$ to 100 mm/s, ideal for operation via joystick and automated high-content methods

Direct-metrology linear encoder

High resolution and repeatability

User software

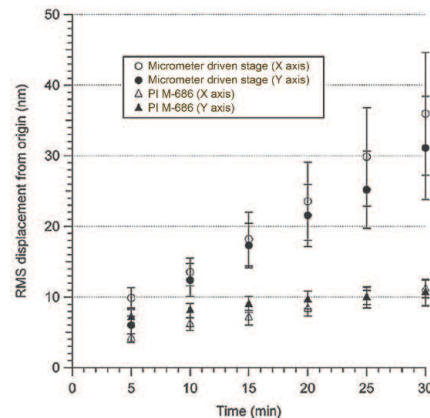
PIMikroMove. PI General Command Set (GCS). Drivers for LabVIEW. Compatible with μ Manager, MetaMorph, Andor iQ, MATLAB

Possible accessories

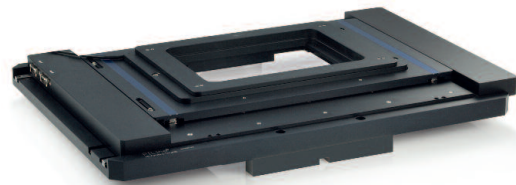
M-687.AP1 universal holder for slides and petri dishes

Fields of application

For inverted microscopes made by Nikon and Olympus, versions for other microscopes are available on request. For super-resolution microscopy, tiling, automated scanning microscopy

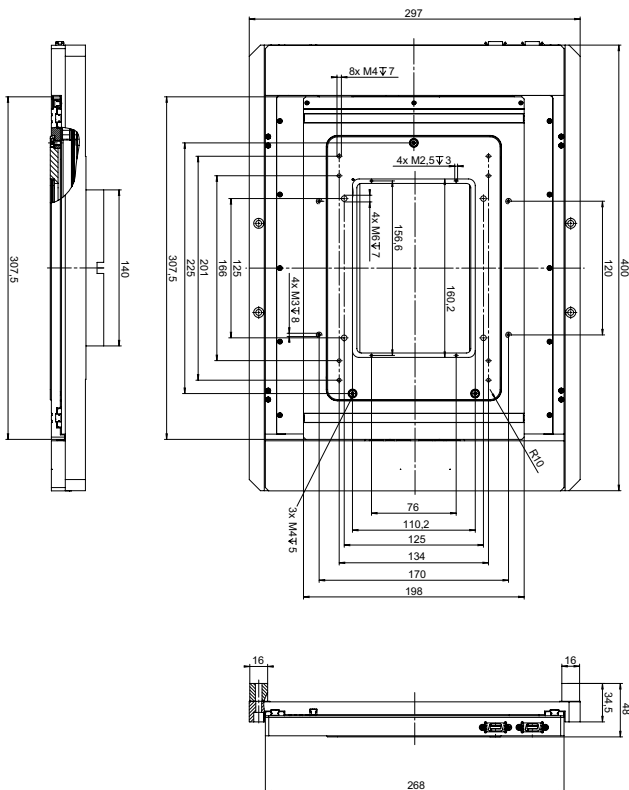


Stability of an M-686 XY stage in comparison to a stage with micrometer screw. Source: S.C. Jordan/P.C. Anthony: Design Considerations for Micro- and Nanopositioning: Leveraging the Latest for Biophysical Applications, Current Pharmaceutical Biotechnology, 2009, 10, 515-521

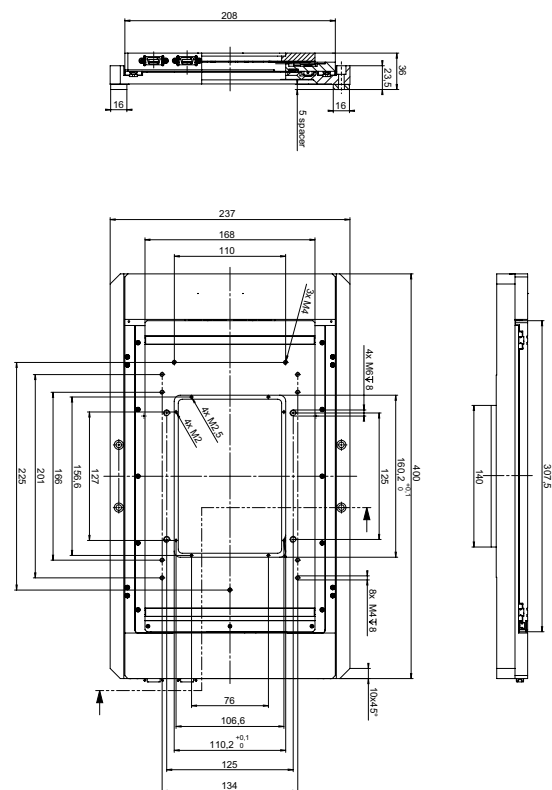


Suitable Z piezo stage with 200 μm stroke and 60 mm \times 110 mm clear aperture available on request

	M26821LNJ	M26821LOJ	Unit	Tolerance
	System with M-687.UN for Nikon microscopes	System with M-687.UO for Olympus microscopes		
Active axes	X, Y	X, Y		
Motion and positioning				
Travel range	135 mm × 85 mm	100 mm × 75 mm		
Integrated sensor	Linear encoder	Linear encoder		
Sensor resolution	0.1	0.1	µm	
Repeatability	0.3	0.3	µm	
Pitch / yaw	±300	±300	µrad	typ.
Velocity	120	120	mm/s	max.
Reference point switches	Optical, 1 µm repeatability	Optical, 1 µm repeatability		
Limit switches	Hall-effect	Hall-effect		
Mechanical properties				
Load	50	50	N	max.
Push / pull force	7	7	N	max.
Miscellaneous				
Operating temperature range	20 to 40	20 to 40	°C	
Material	Al (black anodized)	Al (black anodized)		
Mass	3.2	3.8	kg	±5%
Piezomotor controller	C-867.262 with USB joystick (included in delivery)			
Communication interfaces	USB, RS-232, Ethernet			
I/O connector	4 analog/digital in; 4 digital out (Mini-DIN, 9-pin); digital: TTL; analog: 0 to 5 V; USB joystick			
Command set	PI General Command Set (GCS)			
User software	PIMikroMove			
Software drivers	LabVIEW drivers, GCS-DLL, dynamic link libraries for Windows (DLL) and Linux			
Supported functionality	Start-up macro, macro, data recorder / trace memory, MetaMorph, µManager, Andor iQ, MATLAB			
Controller dimensions	320 mm × 150 mm × 80.5 mm (including mounting rails)			



M-687.UN for Nikon microscopes, dimensions in mm



M-687.UO for Olympus microscopes, dimensions in mm