

**M-631**  
**M-632**  
**M-633**

**Precision Micrometer Drives with  
Non-Rotating Tips**



M-631, M-632, M-633 Micrometers with non-rotating tips

**Ordering  
Information**

- M-631.00**  
Micrometer with non-rotating tip,  
10 mm
- M-632.00**  
Micrometer with non-rotating tip,  
25 mm
- M-633.00**  
Micrometer with non-rotating tip,  
50 mm

- 10, 25 and 50 mm Travel
- Pitch 0.5 mm/Rev.
- Low-Friction Construction
- 1 µm Manual Sensitivity
- Sub-nm Resolution with  
Optional PZT Actuator

M-631 through M-633 micrometer drives feature an extremely low-stiction, low-friction construction allowing for ultra-high resolution.

**Technical Data**

Models	M-631	M-632	M-633	Units	Notes see p. 7-96
Travel range	10	25	50	mm	
Manual sensitivity	1	1	1	µm	
Backlash	2	2	2	µm	
Max. push/pull force	50	50	50	N	
Max. lateral force	0.02	0.02	0.02	N (at tip)	
Drive screw pitch	0.5	0.5	0.5	mm	
Weight	0.1	0.15	0.2	kg	

**Non-Rotating Tip**

The non-rotating-tip design offers the following advantages over conventional rotating-tip micrometer drives:

- Elimination of torque-induced stage platform tilt
- Elimination of wear at the contact point
- Elimination of tip-angle-dependent wobble

M-631 through M-633 micrometer drives are also employed in the PI DC-Mike and Stepper-Mike motorized actuators featuring sub-micron resolution (see pages 7-66 and 7-74). All models come with standard flat tips. See page 7-75 for spherical tips and other options.

**High-Resolution Piezo Option**

An optional piezo tip provides 20 µm travel with sub-nanometer resolution for dynamic scanning and tracking (see page 7-75).

For mounting, the micrometers are clamped around the 19 mm section. Clamping around the 16 mm diameter section should only have a supporting function; high forces at this point will increase friction and reduce accuracy and resolution. For the same reason lateral forces on the tip must be avoided.

