

M-653 · M-655 Differential Micrometer Drive

Stroke to 20 mm, Manual



M-653.00 differential micrometer drive

- 0.1 μm Sensitivity
- 1 μm Graduations
- Travel Range up to 20 mm

Model	Travel range coarse/fine	Spindle pitch coarse/fine	Shaft \varnothing	Tip \varnothing	Total length at 0 mm
M-653.00	5/0.2 mm	0.4/0.02 mm	6 mm	3 mm	56 mm
M-655.00	20/1.0 mm	0.5/0.05 mm	12 mm	6,8 mm	112 mm

M-631 · M-632 · M-633 Micrometer Drive

Non-Rotating Tip, Optional Piezo Drive, Manual



M-633, M-632, M-631 Micrometers (from top)

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

Model	Travel range	Max. push/ pull force	Tip \varnothing	Shaft \varnothing	Total length at 0 mm
M-631.00	10 mm	50 N	12 mm	16 mm	76 mm
M-632.00	25 mm	50 N	12 mm	16 mm	110.5 mm
M-633.00	50 mm	50 N	12 mm	16 mm	170.5 mm

M-619 – M-626 Precision Micrometer Drive

Stroke to 25 mm, Manual



Micrometer drives with up to 25 mm travel

- 1 μm Sensitivity
- 10 μm Graduations
- Model M-626.05 with Lockable Spindle

Model	Travel range	Shaft \varnothing	Tip \varnothing	Total length at 0 mm
M-619.00	6.5 mm	6 mm	3.5 mm	37 mm
M-619.10	6.5 mm	6 mm	3.5 mm	44.5 mm
M-620.00	10 mm	6 mm	3 mm	44 mm
M-621.00	10 mm	8 mm	5 mm	45 mm
M-622.00	15 mm	10 mm	5.5 mm	63 mm
M-623.00	15 mm	12 mm	5.5 mm	69 mm
M-626.00 & M-626.05	18 mm	6 mm	3 mm	53 mm
M-626.10	18 mm	6 mm	3 mm	64.5 mm
M-624.00	25 mm	12 mm	6.8 mm	87 mm

M-631 · M-632 · M-633 Micrometer Drive

Non-Rotating Tip, Optional Piezo Drive, Manual



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

- 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.

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 page 1-42 and page 1-55). All models come with standard flat tips. See p. 1-58 for spherical tips and other options.

High-Resolution Piezo Option

An optional piezo tip provides 20 μm travel with sub-nanometer resolution for dynamic

Ordering Information

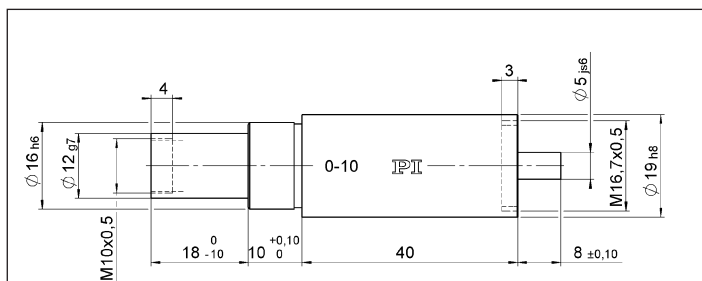
M-631.00
Micrometer with non-rotating tip, 10 mm

M-632.00
Micrometer with non-rotating tip, 25 mm

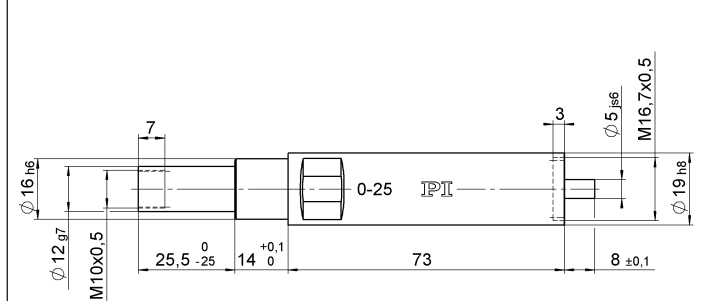
M-633.00
Micrometer with non-rotating tip, 50 mm

scanning and tracking (see p. 1-73).

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.



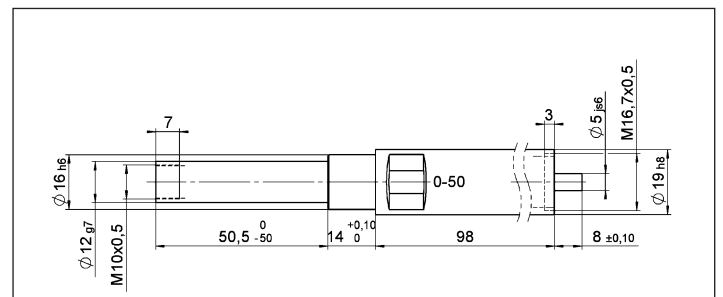
M-631 dimensions (in mm)



M-632 dimensions (in mm)

Technical Data

Models	M-631	M-632	M-633	Units
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



M-633 dimensions (in mm)