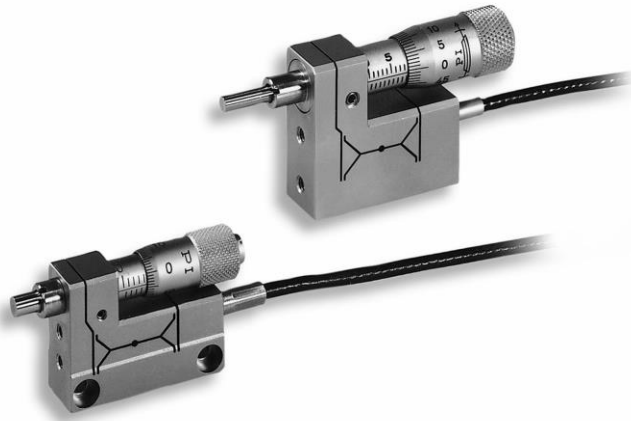


Piezoelectric Micrometer Drive

Integrated Piezo Drive with Subnanometer Resolution



P-853 • P-854

- Travel ranges to 18 mm
- Piezo fine travel range to 25 μm
- Subnanometer resolution
- Dynamic operation to 10 Hz
- Alternative for standard micrometer drives

Fields of application

- Laboratory automation
- Automatic alignment for optics

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

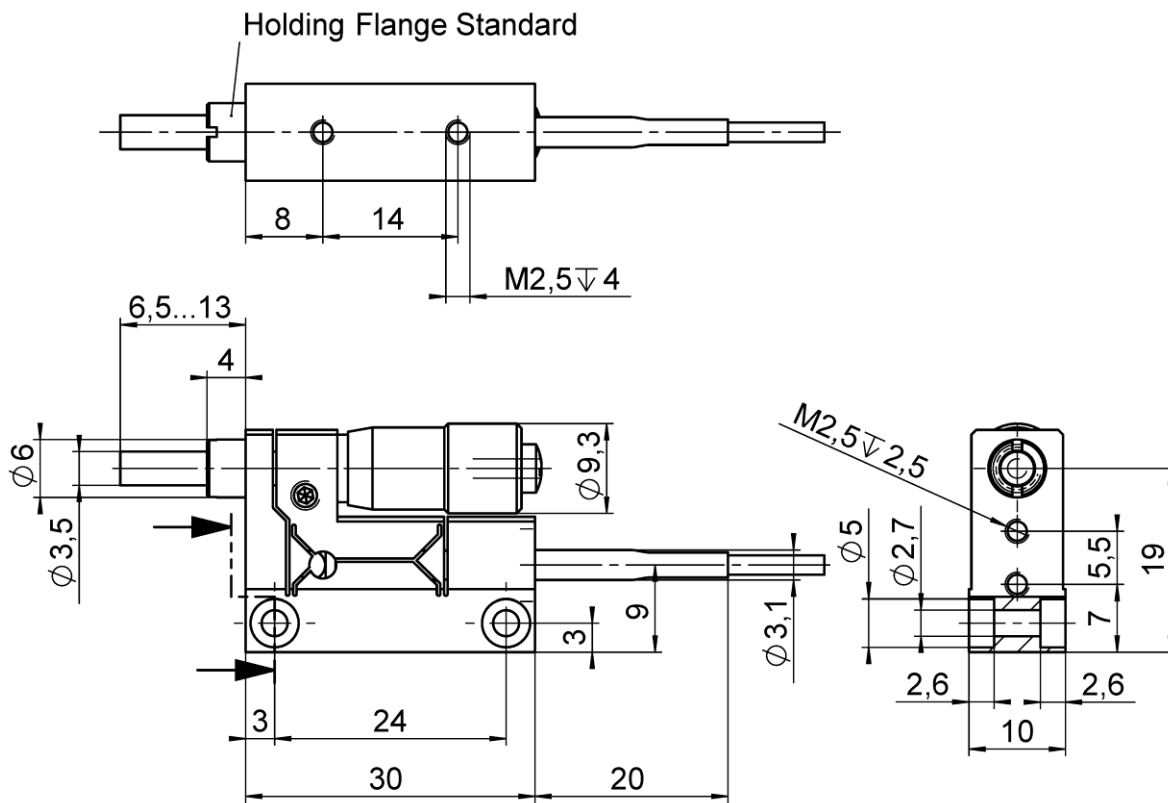
	P-853.00	P-854.00	Unit	Tolerance
Travel range (micrometer screw)	6	18	mm	
Piezo fine travel range, at 0 to 100 V	25	25	μm	±20 %
Min. incremental motion (piezo drive)	<1	<1	nm	
Manual sensitivity (micrometer screw)	1	1	μm	
Axial pull force capacity	10	20	N	max.
Axial push force capacity	5	5	N	max.
Micrometer drive	M-619.10	M-626.10		
Drive screw pitch	0.5	0.5	mm/rev.	
Stiffness	1	1.5	N/μm	
Electrical capacitance (PZT)	0.45	1.5	μF	
Electrical connection	LEMO FFA.00.250, male Coaxial cable RG 178, PTFE insulated, 1 m	LEMO FFA.00.250, male Coaxial cable RG 178, PTFE insulated, 1 m		
Mass	0.05	0.1	kg	
Housing material	Nonmagnetic stainless steel	Nonmagnetic stainless steel		
Recommended electronics	E-610, E-836	E-610, E-836		

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.

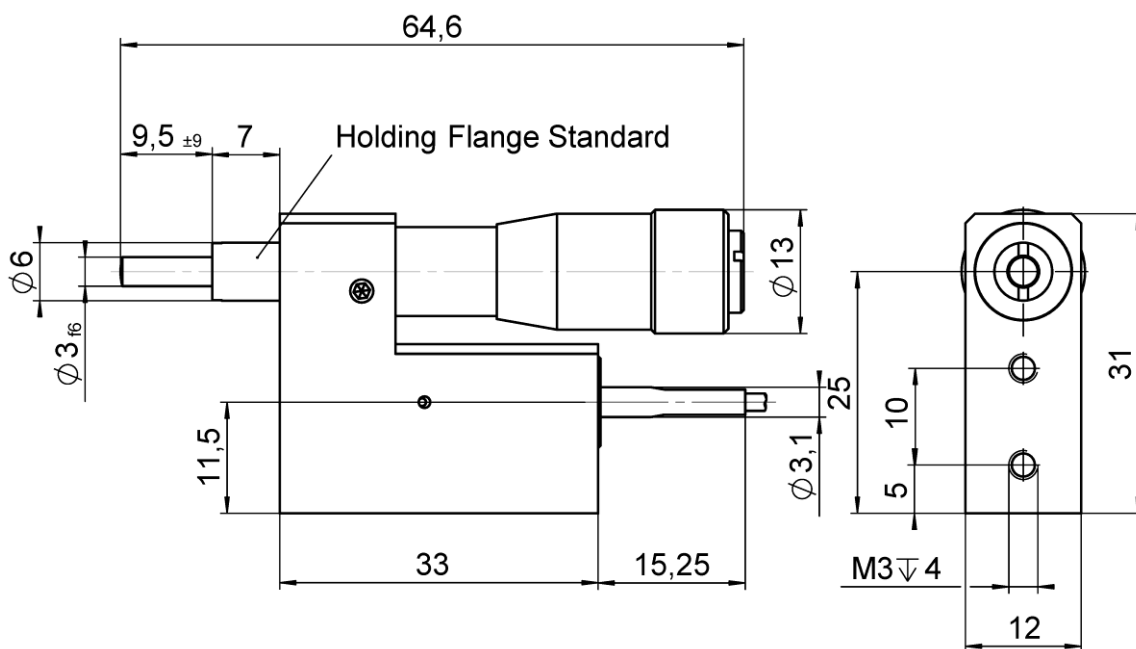
All specifications based on room temperature (22 °C ±3 °C).

Ask about customized versions.

Drawings / Images



P-853, dimensions in mm



P-854, dimensions in mm

Ordering Information

P-853.00

PiezoMike hybrid drive, 6 mm, 25 μ m

P-854.00

PiezoMike hybrid drive, 18 mm, 25 μ m