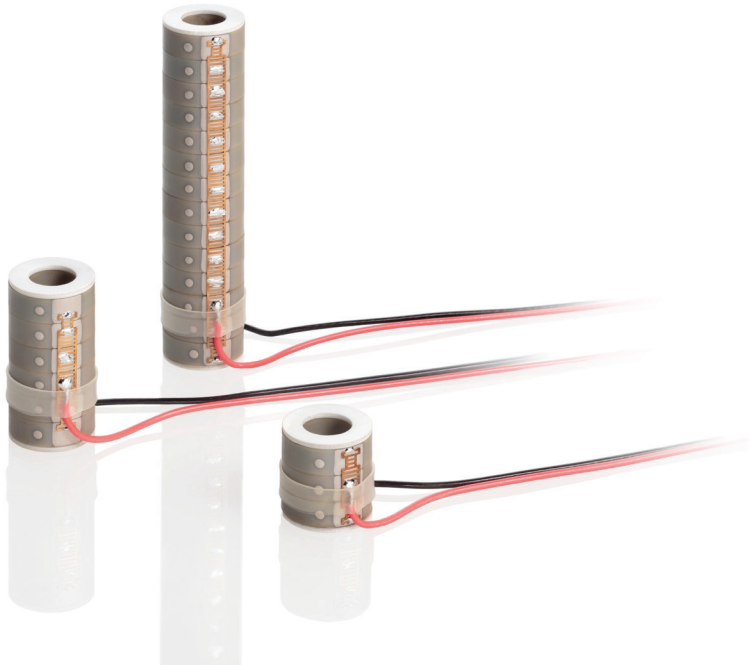


# PICMA® Stack Multilayer Ring Actuator

With Inner Hole



## P-080

- Inner hole for preload or as aperture for optical applications
- Superior lifetime
- Ideal for dynamic operation
- Microsecond response
- Subnanometer resolution
- UHV-compatible to  $10^{-9}$  hPa

### Multilayer stack actuators

Flexible travel range up to 30  $\mu\text{m}$ . Round cross section for easy integration. UHV-compatible to  $10^{-9}$  hPa, no outgassing, high bakeout temperature.

### PICMA® piezo linear actuators

Low operating voltage -20 to 100 V. Ceramic insulation. High reliability, long lifetime.

### Possible modifications

Different heights, fast mounting according to customer requirements. Variety of shapes. Precision-ground end plates for reduced tolerances

### Fields of application

Industry and research. For laser tuning, microdispensing, life sciences.

## Specifications

	P-080.311	P-080.341	P-080.391	Unit
Dimensions OD × ID × L	8 × 4.5 × 8.5	8 × 4.5 × 16	8 × 4.5 × 36	mm
Nominal travel range	5.5 ±20 %	11 ±20 %	25 ±10 %	μm
Blocking force	800	825	850	N
Stiffness	145	75	34	N/μm
Electrical capacitance	0.86	1.7	4.0	μF
Resonant frequency	135 ±20 %	85 ±20 %	40 ±20 %	kHz

All data at 0 to 100 V.

Axial resonant frequency: Measured at 1 V<sub>pp</sub>, unloaded, unclamped. The value is halved for unilateral clamping.

Electrical capacitance: Measured at 1 V<sub>pp</sub>, 1 kHz, RT, tolerance ±20 %.

Piezo ceramic type: PIC252. Ceramic end surfaces made of Al<sub>2</sub>O<sub>3</sub>.

Standard connections: PTFE-insulated stranded wires, UHV compatible, 100 mm, AWG 30, Ø 0.61 mm. For optional solderable contacts without stranded wires, change the last digit of the product number to 0 (e.g., P-080.310).

Operating voltage range: -20 to 100 V.

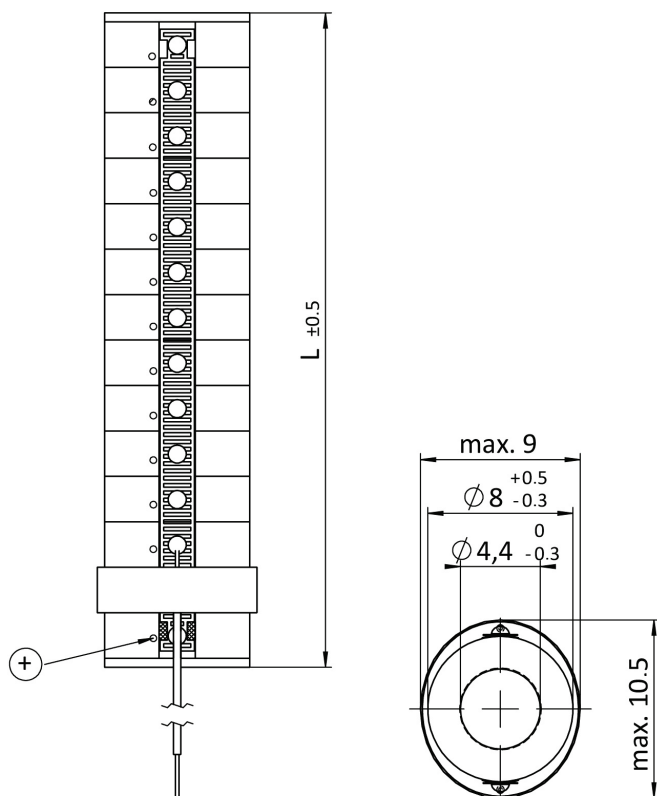
Operating temperature range: -40 to 150 °C.

Recommended preload for dynamic operation: 15 MPa.

Maximum preload for constant force: 30 MPa.

Ask about custom designs!

## Drawings / images



P-080 PICMA® Stack multilayer ring actuator, dimensions in mm. Length L, see data table.

## Ordering Information

### Actuators with PTFE-insulated stranded wires

#### **P-080.311**

PICMA® Stack multilayer ring actuator with inner hole, 5.5 µm travel range, OD 8 mm × ID 4.5 mm × L 8.5 mm, stranded wires

#### **P-080.341**

PICMA® Stack multilayer ring actuator with inner hole, 11 µm travel range, OD 8 mm × ID 4.5 mm × L 16 mm, stranded wires

#### **P-080.391**

PICMA® Stack multilayer ring actuator with inner hole, 25 µm travel range, OD 8 mm × ID 4.5 mm × L 36 mm, stranded wires

### Actuators with solderable contacts

#### **P-080.310**

PICMA® Stack multilayer ring actuator with inner hole, 5.5 µm travel range, OD 8 mm × ID 4.5 mm × L 8.5 mm

#### **P-080.340**

PICMA® Stack multilayer ring actuator with inner hole, 11 µm travel range, OD 8 mm × ID 4.5 mm × L 16 mm

#### **P-080.390**

PICMA® Stack multilayer ring actuator with inner hole, 25 µm travel range, OD 8 mm × ID 4.5 mm × L 36 mm

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