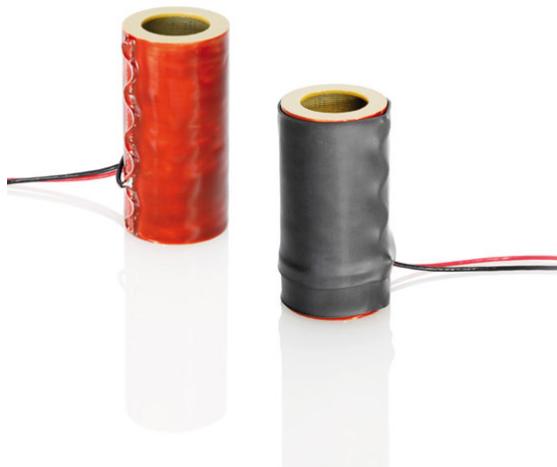


PICA Thru Ring Actuators

HIGH- LOAD PIEZO ACTUATORS WITH INNER HOLE



P-010.xxH – P-025.xxH

- + High load capacity
- + Extreme reliability: $>10^9$ cycles
- + Microsecond response
- + Sub- nanometer resolution
- + Large choice of designs

Stacked piezo linear actuator

Operating voltage 0 to 1000 V. Long lifetime without derating. High specific displacement. A mechanical preload can be attached via inner holes

Available options

- SGS sensors for positional stability
- PZT ceramic material
- Operating voltage range, displacement, layer thickness
- Load capacity, force generation
- Geometric shapes: round, rectangular, various cross sections
- Mechanical interface: flat
- Integrated piezoelectric detector layers
- Special high / low temperature versions
- UHV- compatible versions up to 10^{-9} hPa
- Non- magnetic versions
- Extra- tight length tolerances

Fields of application

Research and industry. For optics, precision mechanics and machining, laser tuning

Specifications

	Displace- ment μm	Diameter OD mm	Diameter ID mm	Length L mm	Blocking force N	Stiffness $N/\mu m$	Electrical capacitance nF	Resonant frequency kHz
P-010.00H	5	10	5	7	1200	230	15	144
P-010.10H	15	10	5	15	1700	110	40	67
P-010.20H	30	10	5	27	1800	59	82	39
P-010.40H	60	10	5	54	1800	29	180	21
P-016.00H	5	16	8	7	2900	580	42	144
P-016.10H	15	16	8	15	4100	270	120	67
P-016.20H	30	16	8	27	4500	150	230	39
P-016.40H	60	16	8	52	4700	78	490	21
P-025.10H	15	25	16	16	7400	490	220	63
P-025.20H	30	25	16	27	8700	290	430	39
P-025.40H	60	25	16	51	9000	150	920	22
P-025.50H	80	25	16	66	9600	120	1200	17

Travel range: at 0 to 1000 V, tolerance -10 / 20 %.

Length L: Tolerance ± 0.5 mm.

Blocking force, at 0 to 1000 V.
 Electrical capacitance: Tolerance $\pm 20\%$, measured at 1 V_{pp}, 1 kHz, RT.
 Resonant frequency at 1 V_{pp}, unloaded, unclamped. The value is halved for unilateral clamping.

Piezoelectric ceramic type: PIC151.
 Standard connections: FEP-insulated wire leads, 100 mm, AWG 24, Ø 1.15 mm.
 Operating voltage: 0 to 1000 V.
 Operating temperature range: -20 to 85 °C.
 Standard mechanical interfaces: ceramic rings (passive PZT).
 Outer surface: polyolefin shrink sleeving, black (outside); epoxy resin (inside).
 Recommended preload for dynamic operation: 15 MPa.
 Maximum preload for constant force: 30 MPa.

Custom designs or different specifications on request.

Order Information

P-010.00H
 PICA Thru Piezo Actuator, 5 µm Travel Range, OD 10 mm × ID 5 mm × L 7 mm
P-010.10H
 PICA Thru Piezo Actuator, 15 µm Travel Range, OD 10 mm × ID 5 mm × L 15 mm
P-010.20H
 PICA Thru Piezo Actuator, 30 µm Travel Range, OD 10 mm × ID 5 mm × L 27 mm
P-010.40H
 PICA Thru Piezo Actuator, 60 µm Travel Range, OD 10 mm × ID 5 mm × L 54 mm
P-016.00H
 PICA Thru Piezo Actuator, 5 µm Travel Range, OD 16 mm × ID 8 mm × L 7 mm
P-016.10H
 PICA Thru Piezo Actuator, 15 µm Travel Range, OD 16 mm × ID 8 mm × L 15 mm
P-016.20H
 PICA Thru Piezo Actuator, 30 µm Travel Range, OD 16 mm × ID 8 mm × L 27 mm
P-016.40H
 PICA Thru Piezo Actuator, 60 µm Travel Range, OD 16 mm × ID 8 mm × L 52 mm
P-025.10H
 PICA Thru Piezo Actuator, 15 µm Travel Range, OD 25 mm × ID 16 mm × L 16 mm
P-025.20H
 PICA Thru Piezo Actuator, 30 µm Travel Range, OD 25 mm × ID 16 mm × L 27 mm
P-025.40H
 PICA Thru Piezo Actuator, 60 µm Travel Range, OD 25 mm × ID 16 mm × L 51 mm
P-025.50H
 PICA Thru Piezo Actuator, 80 µm Travel Range, OD 25 mm × ID 16 mm × L 66 mm

Custom designs or different specifications on request.

Controllers / Drivers / Amplifiers

[E-481 PICA Piezo High-Power Amplifier / Controller](#)
[E-482 PICA High-Power Piezo Driver / Servo Controller](#)
[E-470 • E-472 • E-421 PICA Piezo Controller](#)
[E-508 PICA Piezo Amplifier Module](#)
[E-464 PICA Piezo Driver / Amplifier](#)
[E-462 PICA Piezo Driver](#)

Accessories

[P-177.50 Temperature Sensor and Protective Air Connection for PICA HVPZT](#)

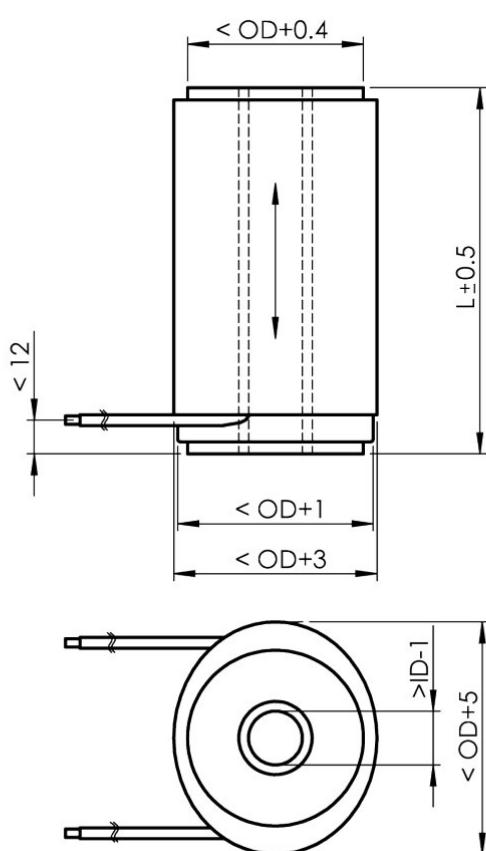
Related Products

[P-007 – P-056 PICA Stack Piezo Actuators](#)
[P-010.xxP – P-056.xxP PICA Power Piezo Actuators](#)
[P-212 PICA Power Piezo Actuator](#)
[P-225 PICA Power Piezo Actuators](#)
[PT120 – PT140 Piezo Tubes](#)

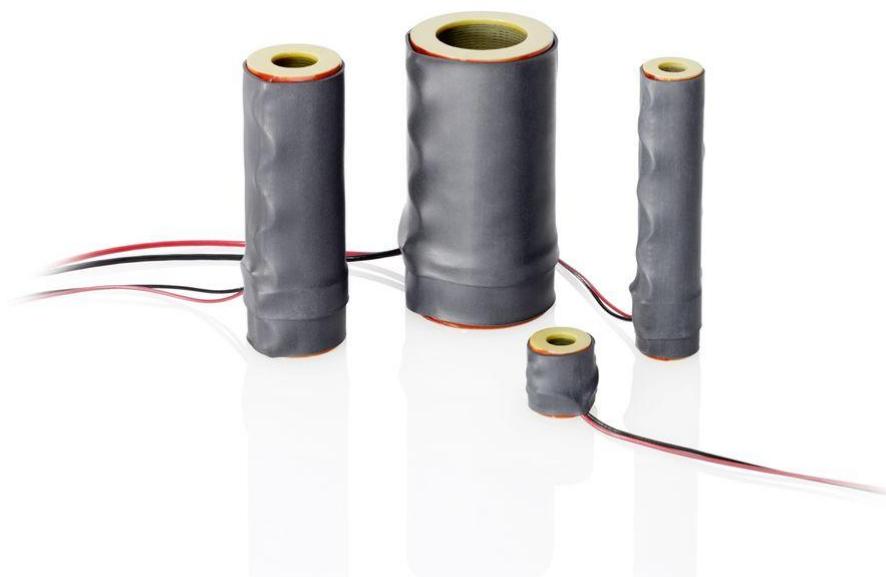
Technology

[Piezo Elements Made by Pressing Technology | For stacked piezo actuators, the piezo ceramic powder is pressed into compacts and then glued together as piezo stacks. Read more on the production process using pressing technology. Learn more ...](#)

Drawings / Images



PICA Thru, dimensions
in mm



PICA Thru are manufactured in various sizes Standard versions are delivered with stranded wires and are covered in black Custom designs are available on request