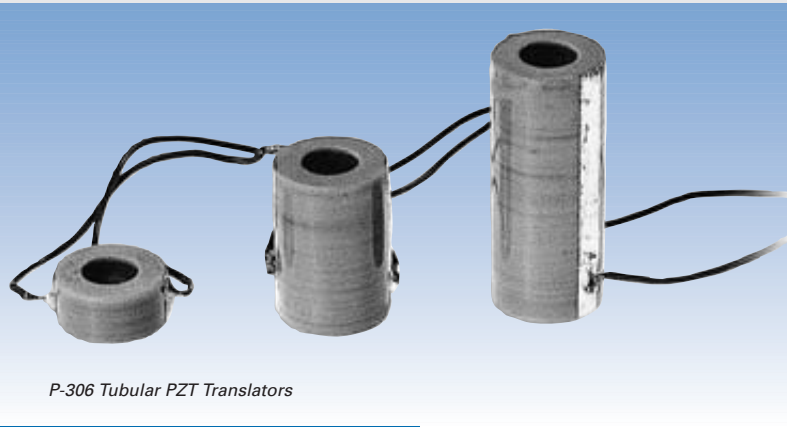


**P-305**  
**P-306**

**Replaced by P-010 Series PICA Actuators**

## Tubular HVPZT Stack Translators

>> Click <http://www.pi.ws/fwd/Piezo-Actuator> for the Latest Specs on these Products



P-306 Tubular PZT Translators

### Application Examples

- Optics
- Laser-tuning
- Image stabilization
- Confocal microscopy
- Fast valve control
- Precision mechanics
- Micropositioning
- Micromanufacturing

For more examples see page 1-3

- For OEM Applications
- Displacement to 40  $\mu\text{m}$
- Sub-msec Response
- Sub-Nanometer Resolution
- 5 mm and 8 mm Clear Aperture for Transmitted-Light Applications

P-300 series of tubular PZT stack translators are high-resolution linear actuators for static and dynamic applications. They provide sub-millisecond response and sub-nanometer resolution.

P-300 series translators are especially well suited for fine positioning of optical components and for precision mechanical applications. The axial aperture is ideal for transmitted-light applications and allows integration of the actuators into optical beam lines.

These translators feature displacement from 5  $\mu\text{m}$  to 40  $\mu\text{m}$  and are available with two standard diameters:

- 10 mm OD (outside-diameter) and 5 mm ID (inside diameter)
- 16 mm OD (outside-diameter) and 8 mm ID (inside diameter)

Vacuum, low-temperature, high-temperature and closed-loop versions are available on request.

### Ordering Information

#### P-305 Tubular HVPZT Stack Translators

**P-305.00**

5  $\mu\text{m}$

**P-305.10**

10  $\mu\text{m}$

**P-305.20**

20  $\mu\text{m}$

**P-305.40**

40  $\mu\text{m}$

#### P-306 Tubular HVPZT Stack Translators

**P-306.00**

5  $\mu\text{m}$

**P-306.10**

10  $\mu\text{m}$

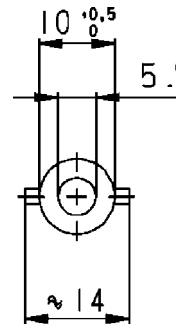
**P-306.20**

20  $\mu\text{m}$

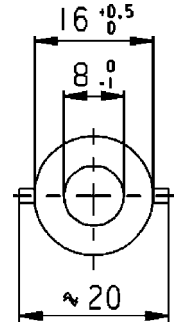
**P-306.40**

40  $\mu\text{m}$

**Custom Designs for Volume Buyers**



P-305 dimensions (in mm)



P-306 dimensions (in mm)

## Notes

See "PZT Control Electronics" section for our comprehensive line of low-noise modular and OEM control electronics for computer and manual control.

For mounting see page 1-7.

## Technical Data

Models	P-305.00	P-305.10	P-305.20	P-305.40	P-306.00	P-306.10	P-306.20	P-306.40	Units	Notes see p. 1-41
Open-loop travel @ 0 to -1000 V	5	10	20	40	5	10	20	40	μm ±20%	A4
* Open-loop resolution <	0.05	0.1	0.2	0.4	0.05	0.1	0.2	0.4	nm	C2
**Static large-signal stiffness	182	121	70	37	469	313	179	94	N/μm ±20%	D1
Push/pull force capacity	500 / 20	500 / 20	500 / 20	500 / 20	800 / 40	800 / 40	800 / 40	800 / 40	N	D3
Max. operating voltage	-1000	-1000	-1000	-1000	-1000	-1000	-1000	-1000	V	A7
Electrical capacitance	25	40	65	120	55	90	180	350	nF ±20%	F1
Dynamic operating current coefficient (DOCC)	6.25	6.25	6.25	6.25	14	14	14	14	μA/(Hz x μm)	F2
Unloaded resonant frequency (f <sub>0</sub> )	20	14	12	8	10	8.5	7	5.5	kHz ±20%	G2
Standard operating temperature range	-20 to 80	-20 to +80	-20 to +80	-20 to +80	-20 to +80	-20 to +80	-20 to +80	-20 to +80	°C	
Wire leads	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	PTFE, 100 mm ±5 mm, Ø 1.3	
Weight	4.3	6.3	10.3	20.5	9.5	17	24.2	46	g ±5%	K
Length	8	12	21	40	8	12	21	40	mm ±1	
Recommended Amplifier (codes explained p. 6-46)	B, I	B, I	B, I	B, I	B, I	B, I	B, I	B, I		

\* Resolution of PZT actuators is not limited by friction or stiction. Noise equivalent motion with E-507 amplifier

\*\* Dynamic small-signal stiffness ~50% higher