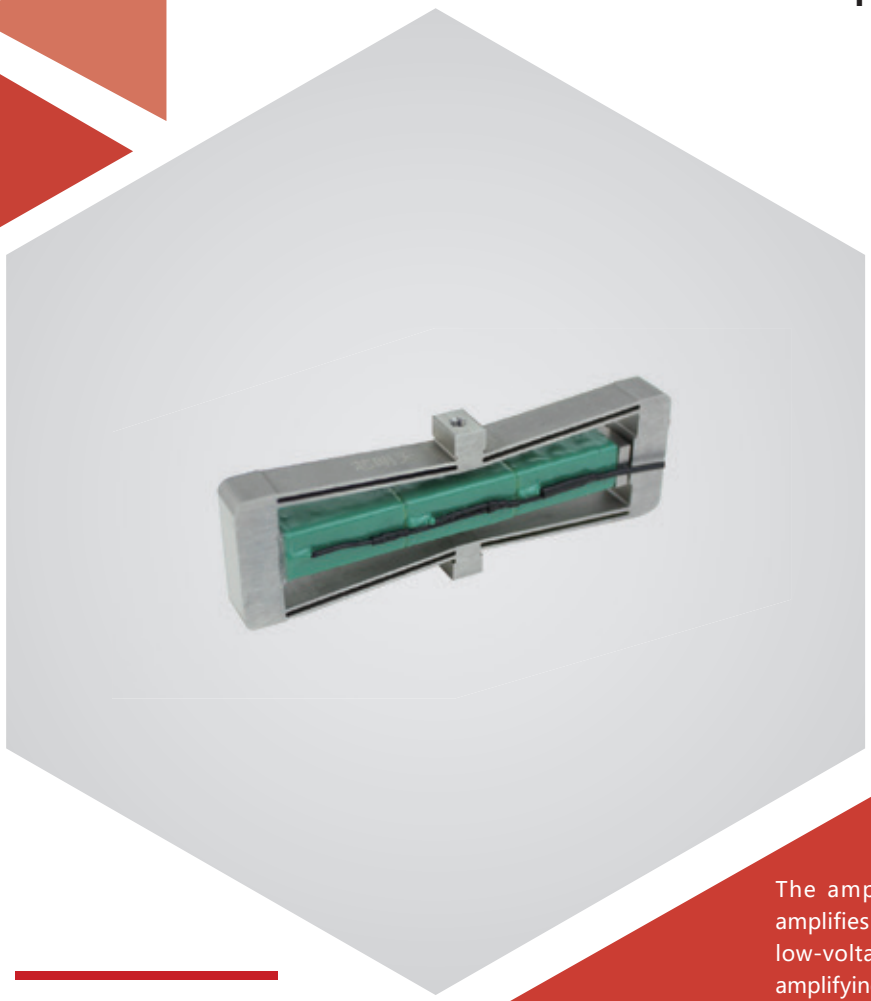
COREMORROW
Piezo Nano Motion

Make Your Motion and Control More Accurate!

X axis | 500R7

Amplified Piezo Actuators



Introduction

The amplified piezo actuator is an actuator that amplifies and outputs the displacement generated by low-voltage piezo stacks preloaded by a mechanical amplifying structure.

The amplified structure is an mechanical shell, and its material is generally steel. In addition to providing optimized pre-tightening force for piezo stacks, it also protects piezo stacks from tensile forces that can cause irreversible or even fatal damage to piezo stacks.

Characteristics »

- X Elongation
- Displacement to 500μm
- Fast response
- High resonant frequency
- Various models are available

Applications »

- Probe scanning
- Fiber stretching
- Micro-scanning
- Flow measurement technology
- Optical mirrors positioning
- Diamond turning
- laser cavity tuning
- Inkjet technology

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Technical Data

Type	500R7	Units
Active axes	X	
Travel range[1]	500	μm±20%
Blocking force	15	N
Unloaded resonant frequency	260	Hz±20%
Stiffness	0.03	N/μm±20%
El. capacitance	10.8	μF±20%
Material	Steel	
Operating temperature[2]	-20~80	℃
Cable length[3]	1.5	m±10mm
Voltage connector[3]	Bare wire	

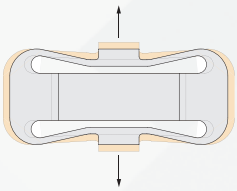
Note: Unless otherwise specified, the above parameters are measured at room temperature about 25° C.
[1] Nominal Stroke at 0~150V, Max. stroke at -20~150V. Recommended voltage 0~120V for long-term and high-reliable operation.
[2] Custom ultralow temperature and ultrahigh vacuum versions are available.
[3] Custom cable length and connector is available.
Note: The parameters mentioned above are related to the test environment and test equipment.

Principle

Piezo stacks produce deformation and displacement along the main axis, that is, the long axis direction, and the elliptical mechanical structure amplifies and outputs the displacement along the short axis direction.

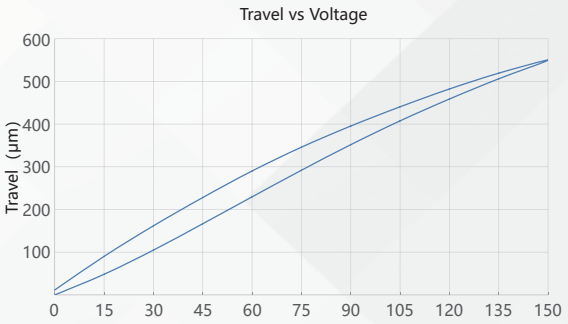
Type R: xxRx

Inward ellipse



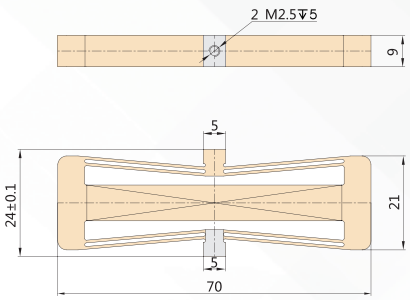
X Elongation

Curves



Disclaimer: The data here are typical, only for reference. Some variations will occur for different batch.

Drawing



Recommended Controllers

E01.C1
LCD, membrane button, up to 625mA
RS-232/RS-422/USB interface
Software secondary development

E53.C
Small size, 60mA
RS-232/RS-422/USB interface
Software secondary development

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