PICMA® Stack Multilayer Ring Actuator

WITH INNER HOLE

Multilayer stack actuators
Flexible travel range up to 30 µm. Annular cross-section for easy integration.
UHV-compatible to 10⁻⁹ hPa, high bakeout temperature

PICMA® piezo linear actuators
Low operating voltage -20 to 100 V. Ceramic insulation. High reliability and long lifetime

Available options
Different heights, easy to mount on customer request. Variety of shapes. Precision-ground end plates for reduced tolerances

Fields of application
Research and industry. For laser tuning, micro-dispensing, life sciences

P-080
- Inner hole for preload or as aperture for optical applications
- Superior lifetime
- Ideal for dynamic operation
- Microsecond response
- Subnanometer resolution

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Preliminary data

<table>
<thead>
<tr>
<th></th>
<th>P-080.311</th>
<th>P-080.341</th>
<th>P-080.391</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions OD x ID x L</td>
<td>8 x 4.5 x 8.5</td>
<td>8 x 4.5 x 16</td>
<td>8 x 4.5 x 36</td>
<td>mm x mm x mm</td>
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<tr>
<td>Nominal travel range</td>
<td>5.5 ± 20%</td>
<td>11 ± 20%</td>
<td>25 ± 10%</td>
<td>µm</td>
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<tr>
<td>Blocking force</td>
<td>800</td>
<td>825</td>
<td>850</td>
<td>N</td>
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<tr>
<td>Stiffness</td>
<td>145</td>
<td>75</td>
<td>34</td>
<td>N/µm</td>
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<tr>
<td>Electrical capacitance</td>
<td>0.86</td>
<td>1.7</td>
<td>4.0</td>
<td>pF</td>
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<tr>
<td>Resonant frequency</td>
<td>160</td>
<td>85</td>
<td>40</td>
<td>kHz</td>
</tr>
</tbody>
</table>

All data at 0 to 100 V.

Standard connections: PTFE-insulated stranded wires, 100 mm, AWG 30 (Ø 0.61 mm).
For optional solderable contacts without stranded wires, change order number extension to 0.
Piezo ceramic type PIC 252. Ceramic end plates made of Al₂O₃.
Recommended preload for dynamic operation: 15 MPa.
Maximum preload for constant force: 30 MPa.
Axial resonant frequency: measured at 1 Vpp, unloaded, unclamped.
The value is halved for unilateral clamping.
Electrical capacitance: Tolerance ±20%, measured at 1 Vpp, 1 kHz, RT.
Operating voltage: -20 to 100 V.
Operating temperature range: -40 to 150°C.
Ask about custom designs!

P080, dimensions in mm