

Series P

Stack Type Actuators



No pre-load



Motion up to 82 μm



Resolution down to 0.008 nm



High stiffness of up to 210 N/ μm



Very small and compact design



Concept

The series P of actuators are based on stack type actuators made by the multilayer technology. They come without a mechanical pre-load, but they still can withstand medium pressure forces. They should be used only in static applications. The piezo stack is encased in stainless steel housing with the top and bottom epoxide to eliminate mechanical play. To protect the ceramic multilayer actuator, they are filled with flexible silicon rubber material. The multilayer stack actuator provides sub-millisecond response and sub-nanometer resolution.

Specials:

As an option these actuators are available with strain gage sensors for motion control. This option will increase the outside diameter by 2mm. The accuracy will be increased to $<0.5\%$.

Applications

- Micro positioning
- Scanning microscopy
- Laser tuning
- Mirror adjustment
- Valve control
- Semiconductors

Series P

Technical Data

Series P		Unit	P 8/8	P 16/8	P 4/10	P 8/10	P 16/10	P 25/10	P 35/10	P 50/10	P 80/10
Part no.	-		P-101-00	P-102-00	P-110-00	P-111-00	P-112-00	P-113-00	P-114-00	P-115-00	P-117-00
Motion (-10/+20%)	μm		9	20	4	9	20	30	41	61	82
Capacitance (±20%)**	μF		0.18	0.36	0.34	0.8	1.8	2.6	3.6	5.4	7.2
Resolution***	nm		0.02	0.04	0.008	0.02	0.04	0.06	0.08	0.12	0.16
Stiffness	N/μm		22	10	210	94	42	28	20	14	10
Blocking forces	N		200	200	850	850	850	850	850	850	850
Operating Voltage	V		-20 ... +130								
Connector/Voltage	-		LEMO 05.302								
Cable length	m		1								
Dimensions	Length	mm	17	26	20	24	33	42	51	69	91
	Diameter		8	8	10	10	10	10	10	10	10

* typ. value measured with NV40/3

** typ. value for small electrical field strength

Options:

- full bridge strain gage sensors (outer diameter changes to 14mm from P 8/10 to P 80/10)
- top plate – spherical tungsten carbide (part no. Z-299-65)
- size: diameter 5mm x 2.5 mm, L +1 mm
- top plate – flat tungsten carbide (part no. Z-299-45)
- size: diameter 5mm x 1.5 mm
- other options available upon request

Rights reserved to change specifications as progress occurs without notice.

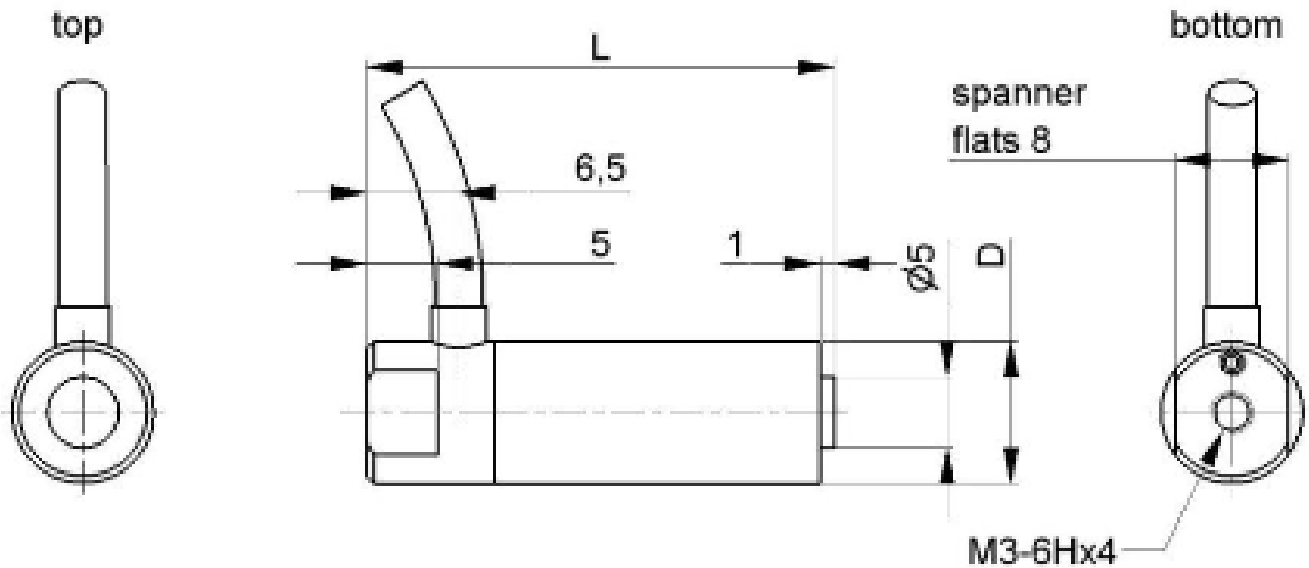
piezosystem jena GmbH
 Tel: +49 (3641) 66880
 E-Mail: info@piezोजना.com

piezosystem jena, Inc.
 Tel: +1-508-634-6688
 E-Mail: contact@psj-usa.com

www.piezोजना.com

Series P

Part Drawing



Serie P

Please pay attention to our "notes for mounting", which are available as download on our homepage.

<https://www.piezosystem.com/wp-content/uploads/2022/05/Mounting-Piezos.pdf>

Rights reserved to change specifications as progress occurs without notice.

piezosystem jena GmbH
Tel: +49 (3641) 66880
E-Mail: info@piezोजना.com

piezosystem jena, Inc.
Tel: +1-508-634-6688
E-Mail: contact@psj-usa.com

www.piezosystem.com