

ABOUT HPOWER

hpower actuators combine fastest response times in μs , superior kHz dynamics, high force generation in the range of tens of kN and nanometer precision in a way that is unmatched by any other linear driving system. The actuation can be obtained without any mechanical wear, making the actuators extremely durable. hpower products include ring and stack type actuators, as well as shakers and shock generators. hpower is the result of the collaboration between piezosystem jena and Piezomechanik GmbH and therefore combines centuries of piezo expertise with new innovations.

STACK TYPE ACTUATORS SERIES PSt 1000/35

SERIES PST WITHOUT CASING AND
WITHOUT PRELOAD, DIAMETER 35MM



Concept

Solid stack type actuators are made based on a special smart material known as PZT ceramics. This enables these actuators to achieve outstanding performance with a motion range from $0\mu\text{m}$ to $260\mu\text{m}$ or even higher on request, while generating maximum force of up to 50kN. The actuators are available in different lengths, a stack with a length of 50 mm usually possesses a maximum motion of 50 - 70 μm (0.1% - 0.15% of the length).

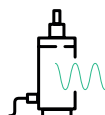
Product highlights

- max. load: 70000 N
- max. force generation: 50000 N
- high stiffness
- high resonant frequency

Options

- low temperature modification
- ultra high vacuum (UHV) modification
- strain gauge (SG) measurement system
- piezo material HP (high power & capacitance)

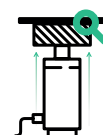
Applications:



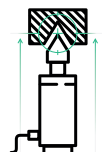
MODAL
ANALYSIS



VIBRATION
CONTROL



MATERIAL
TESTING



MECHANICAL
ENGINEERING

Technical data of PSt 1000/35 series

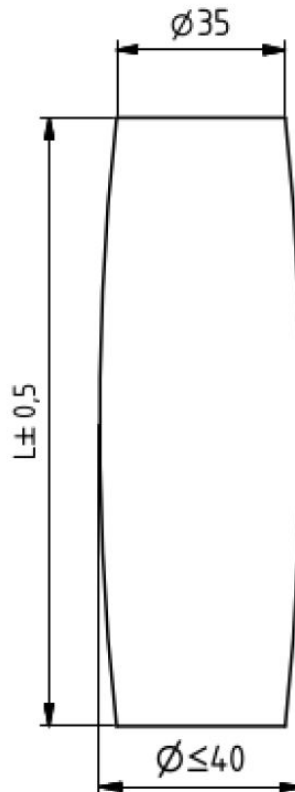
type	motion, μm^*	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N**	Maximum load, N	Capacity, nF	Stiffness, N/ μm^{***}
PSt 1000/35/07	7	1000	9	60	50000	70000	300	4000
PSt 1000/35/20	20	1000	18	40	50000	70000	800	2000
PSt 1000/35/40	40	1000	36	25	50000	70000	1600	1000
PSt 1000/35/60	60	1000	54	20	50000	70000	2500	600
PSt 1000/35/80	80	1000	72	15	50000	70000	3300	450

*Motion at voltage 0V to 1000V. Motion with -200 to 1000V amplifier can be up to 30% higher.

**Maximum blocking force at -200V to 1000V. Blocking force with 0V to 1000V amplifier can be up to 30% - 40% less.

***Determined with a short-circuited actuator and respectively connected amplifier.

Technical drawing of PSt 1000/35 series



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and we will help configuring
the best solution.

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