

## ABOUT HPOWER

hpower actuators combine fastest response times in  $\mu\text{s}$ , 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 1000/16

SERIES PST WITHOUT CASING AND WITHOUT PRELOAD, DIAMETER 16MM



### 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 12kN. The actuators are available in different lengths, a stack with a length of 50 mm usually possesses a maximum motion of 50 - 70  $\mu\text{m}$  (0.1% - 0.15% of the length).

### Product highlights

- max. load: 15000 N
- max. force generation: 12000 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:



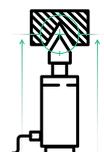
MODAL ANALYSIS



VIBRATION CONTROL



MATERIAL TESTING



MECHANICAL ENGINEERING

### Technical data of PSt 1000/16 series

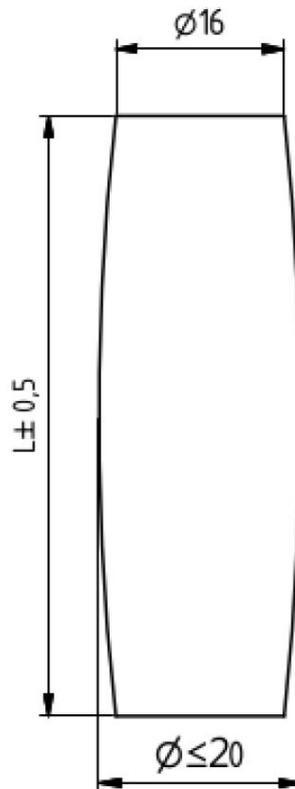
type	motion, $\mu\text{m}^*$	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N**	Maximum load, N	Capacity, nF	Stiffness, N/ $\mu\text{m}^{***}$
PSt 1000/16/07	7	1000	9	60	12000	15000	60	800
PSt 1000/16/20	20	1000	18	40	12000	15000	150	400
PSt 1000/16/40	40	1000	36	25	12000	15000	360	200
PSt 1000/16/60	60	1000	54	20	12000	15000	540	120
PSt 1000/16/80	80	1000	72	15	12000	15000	720	90

\*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 1000/16 series



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and we will help configuring  
the best solution.

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