

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 VS45

SERIES PST WITH CASING AND PRELOAD,
DIAMETER 45 MM



Concept

Solid Stack type actuators with casing and preload are 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 $150\ \mu\text{m}$ or even higher on request, while generating maximum forces 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 $50\ \mu\text{m}$ to $70\ \mu\text{m}$ (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:



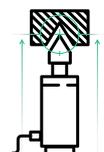
MODAL
ANALYSIS



VIBRATION
CONTROL



MATERIAL
TESTING

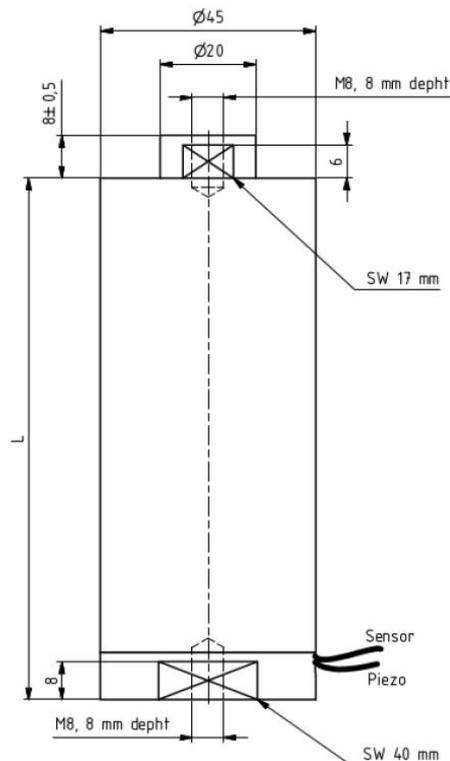


MECHANICAL
ENGINEERING

Technical data of PSt 1000/35 VS45 series

type	motion, μm^*	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N**	Maximum load, N	Capacity, nF	Stiffness, $\text{N}/\mu\text{m}^{***}$
PSt 1000/35/07 VS45	7	1000	33	40	50000	70000	300	4000
PSt 1000/35/20 VS45	18	1000	43	35	50000	70000	800	2000
PSt 1000/35/40 VS45	40	1000	60	30	50000	70000	1600	1000
PSt 1000/35/60 VS45	60	1000	78	27	50000	70000	2500	600
PSt 1000/35/80 VS45	80	1000	96	23	50000	70000	3300	450
PSt 1000/35/100 VS45	100	1000	114	20	50000	70000	4100	350
PSt 1000/35/150 VS45	150	1000	154	7	50000	70000	5700	220

Technical drawing of PSt 1000/35 VS45 series



*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.

Get in touch with us
and we will help configuring
the best solution.

phone: +1 508-381-0425 (USA) +49 3641 6688-38 (GERMANY)

fax: +1 508-634-6868 (USA) +49 3641 6688-66 (GERMANY)

e-mail: givememore@hpowermotion.com