

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.

HIGH LOAD PIEZOELECTRIC SHAKER

PIEZOELECTRIC SHAKER
FOR HIGH LOAD OPERATIONS



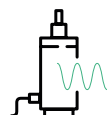
Concept

The new high load shaker is a state of the art high powered piezoelectric actuator that utilizes three high powered piezos working in parallel. This effectively triples the blocking force and load capacity of a standard hpower actuator which already leads its competitors in these areas. The piezo's are supplied with a single signal that is sent from the amplifier that is split in parallel across the piezos, ensuring that each stack receives the same exact inputs. The system precisely distributes the applied load across the three piezos using a specially developed support system, allowing all three ceramics to work together in one motion against one force. Without this achievement, an unbalanced load or out of sync motion would cause the system to fail due to irregular strains. The assembly of the finished system is so precise that at the full extension of $9\ \mu\text{m}$, an absolutely straight movement is realized with hardly any measurable deviation.

Product highlights

- max. amplitude $9\ \mu\text{m}$
- high force modulation
- high resonant frequency
- can handle 150 kN compressive load

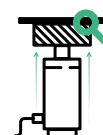
Applications:



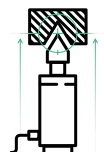
MODAL
ANALYSIS



VIBRATION
CONTROL

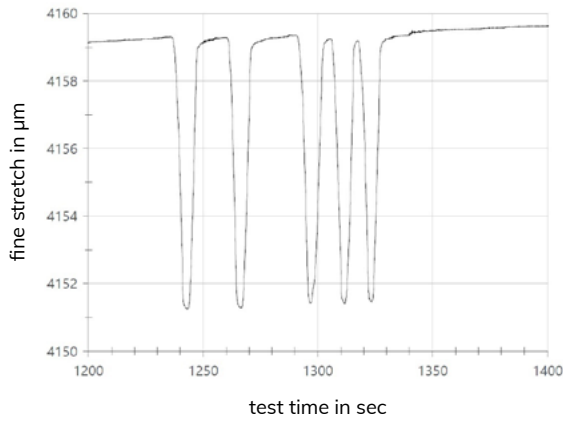


MATERIAL
TESTING

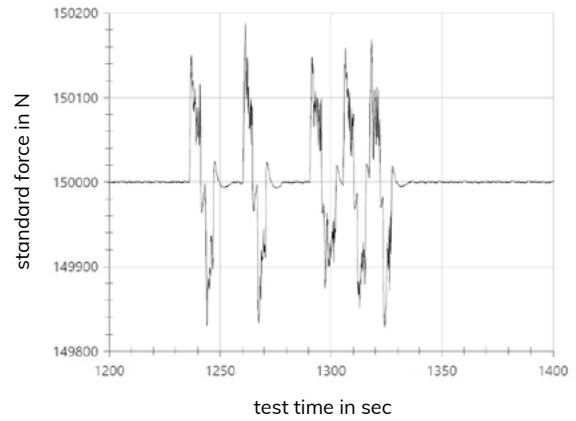


MECHANICAL
ENGINEERING

Detection actuator movement



Proof of force control



Technical data of Shaker

Part no. Unit PST 1000/35/7 VS145
- HP1-3500-07-VS145

| | | |
|----------------------------------|-------|----------------------------|
| Maximum amplitude | µm | 9 |
| Electrical capacitance | µF | 1,4 |
| Voltage range | V | 0 ... +1000 |
| Blocking force (Large signal) | kN | 66 |
| Stiffness (Large signal) | kN/µm | 9 |
| Resonant frequency (Stand alone) | kHz | 3,5 |
| Permissible load | kN | 150 |
| Dimensions (h x d) | mm | 180 x Ø145 |
| Temperature range | °C | -20 to +80 (-4°F to 176°F) |
| Material | - | stainless steel |
| Weight without cables | kg | 16 |
| Weight or with cables | kg | 18,5 |

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

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