

## STACK TYPE ACTUATORS SERIES PSt 1000/10

SERIES PST WITHOUT CASING AND  
WITHOUT PRELOAD, DIAMETER 10MM



### Concept

Solid stack type actuators are made based on a special smart material known as PZT ceramics. This enables these actuators to achieving outstanding performance with a motion range from 0µm to 260 µm or even higher on request, while generating maximum force of up to 4kN.

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).

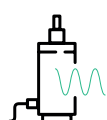
### Product highlights

- max. load: 5000 N
- max. force generation: 4000 N
- high stiffness
- high resonant frequency

### Options

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

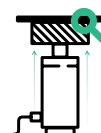
### Applications:



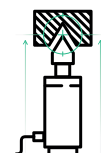
MODAL  
ANALYSIS



VIBRATION  
CONTROL



MATERIAL  
TESTING



MECHANICAL  
ENGINEERING

### Technical data of PSt 1000/10 series

type	motion, µm	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N	Maximum load, N	Capacity, nF	Stiffness, N/µm
PSt 1000/10/07	7	0...+1000	9	60	12000	15000	20	300
PSt 1000/10/20	20	0...+1000	18	40	12000	15000	45	150
PSt 1000/10/40	40	0...+1000	36	25	12000	15000	110	75
PSt 1000/10/60	60	0...+1000	54	20	12000	15000	170	50
PSt 1000/10/80	80	0...+1000	72	15	12000	15000	220	35

# 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 achieving outstanding performance with a motion range from 0µm to 260 µm 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 µm (0.1% - 0.15% of the length).

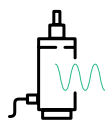
## Product highlights

- max. load: 15000 N
- max. force generation: 12000 N
- high stiffness
- high resonant frequency

## Options

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

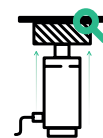
## Applications:



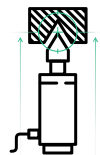
MODAL  
ANALYSIS



VIBRATION  
CONTROL



MATERIAL  
TESTING



MECHANICAL  
ENGINEERING

## Technical data of PSt 1000/16 series

type	motion, µm	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N	Maximum load, N	Capacity, nF	Stiffness, N/µm
PSt 1000/16/07	7	0...+1000	9	60	12000	15000	60	800
PSt 1000/16/20	20	0...+1000	18	40	12000	15000	150	400
PSt 1000/16/40	40	0...+1000	36	25	12000	15000	360	200
PSt 1000/16/60	60	0...+1000	54	20	12000	15000	540	120
PSt 1000/16/80	80	0...+1000	72	15	12000	15000	720	90

## STACK TYPE ACTUATORS SERIES PSt 1000/25

SERIES PST WITHOUT CASING AND  
WITHOUT PRELOAD, DIAMETER 25MM



### Concept

Solid stack type actuators are made based on a special smart material known as PZT ceramics. This enables these actuators to achieving outstanding performance with a motion range from 0µm to 260 µm or even higher on request, while generating maximum force of up to 25kN. 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).

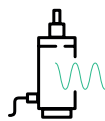
### Product highlights

- max. load: 35000 N
- max. force generation: 25000 N
- high stiffness
- high resonant frequency

### Options

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

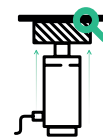
### Applications:



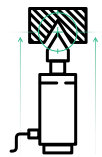
MODAL  
ANALYSIS



VIBRATION  
CONTROL



MATERIAL  
TESTING



MECHANICAL  
ENGINEERING

### Technical data of PSt 1000/25 series

type	motion, µm	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N	Maximum load, N	Capacity, nF	Stiffness, N/µm
PSt 1000/25/07	7	0...+1000	9	60	25000	35000	140	1800
PSt 1000/25/20	20	0...+1000	18	40	25000	35000	350	900
PSt 1000/25/40	40	0...+1000	36	25	25000	35000	800	450
PSt 1000/35/60	60	0...+1000	54	20	25000	35000	1250	300

## 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 achieving outstanding performance with a motion range from 0 $\mu$ m to 260  $\mu$ 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  $\mu$ m (0.1% - 0.15% of the length).

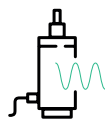
### Product highlights

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

### Options

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

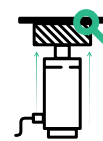
### Applications:



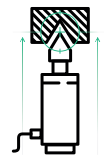
MODAL  
ANALYSIS



VIBRATION  
CONTROL



MATERIAL  
TESTING

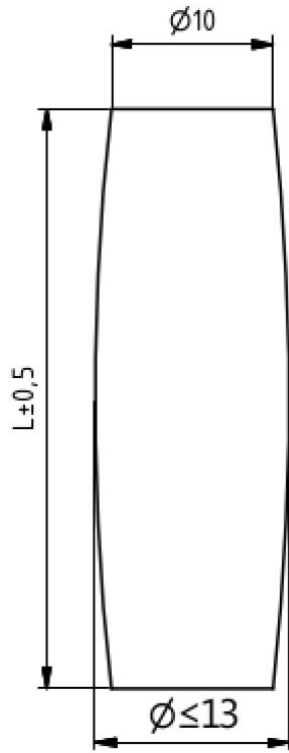


MECHANICAL  
ENGINEERING

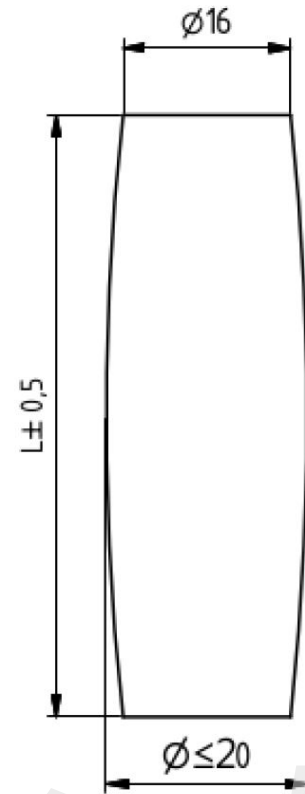
### Technical data of PSt 1000/35 series

type	motion, $\mu$ m	voltage range, V	Length, mm	resonant frequency, kHz	Blocking force, N	Maximum load, N	Capacity, nF	Stiffness, N/ $\mu$ m
PSt 1000/35/07	7	0...+1000	9	60	50000	70000	300	4000
PSt 1000/35/20	20	0...+1000	18	40	50000	70000	800	2000
PSt 1000/35/40	40	0...+1000	36	25	50000	70000	1600	1000
PSt 1000/35/60	60	0...+1000	54	20	50000	70000	2500	600
PSt 1000/35/80	80	0...+1000	72	15	50000	70000	3300	450

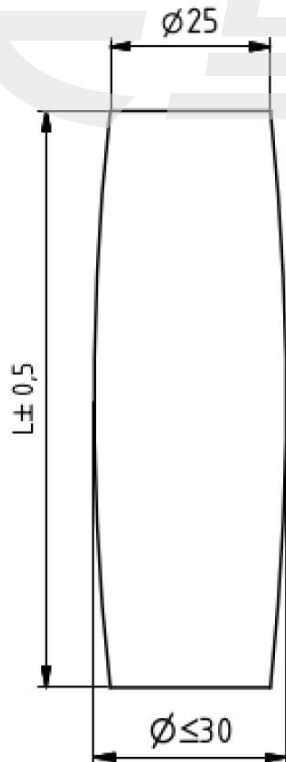
Technical drawing of PSt 1000/10 series



Technical drawing of PSt 1000/16 series



Technical drawing of PSt 1000/25 series



Technical drawing of PSt 1000/35 series

