

High voltage ring actuators without casing

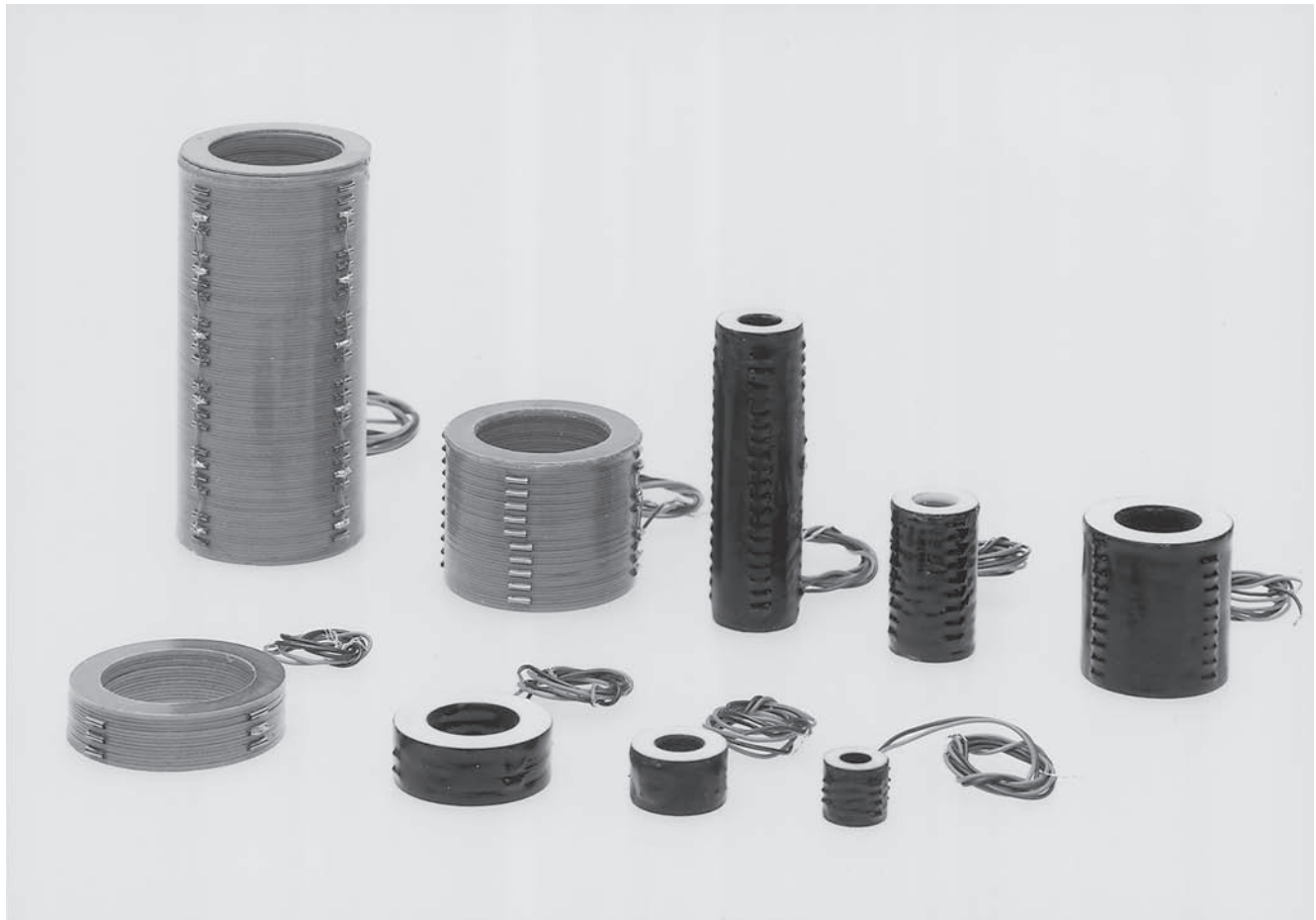
Technology: discrete stacking

Endfaces PZT ceramics or corundum (alumina)

Endfaces completely electrically insulated, surface insulation coating

Wiring by 2 pigtailed

General data: see brochure: "Piezomechanics: An Introduction"



Stroke A/B

PSt 500: A: -100 V thru +500 V
 B: 0 V thru +500 V

Max. force generation: for -100 V thru +500 V

PSt 1000: A: -200 V thru +1000 V
 B: 0 V thru +1000 V

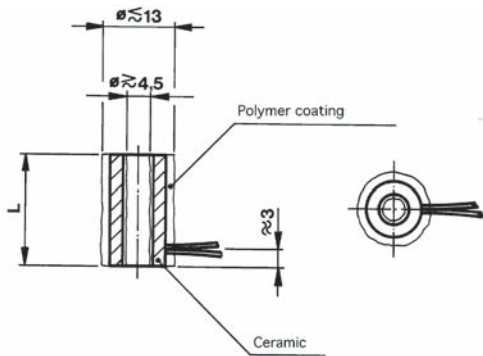
Max. force generation: for -200 V thru +1000 V

HPSt 500/10-5/... und HPSt 1000/10-5/...

Maximum load: 3500 N

Maximum force generation: 2800 N

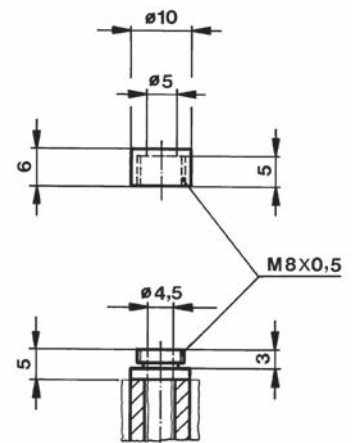
Open loop sensitivity for 5 mV noise for actuator HPSt 500/10-5/5: approx. 0.05 Nanometer



Type	max. stroke μm	length mm	el. capacitance nF	stiffness N/μm	resonance frequency kHz
HPSt 500/10-5/5	12/7	9	65	200	40
HPSt 500/10-5/15	25/17	18	180	100	25
HPSt 500/10-5/25	35/25	27	260	70	20
HPSt 500/10-5/40	55/40	36	350	50	15
HPSt 500/10-5/> 40	> 40	on request			
HPSt 1000/10-5/5	13/8	9	15	210	50
HPSt 1000/10-5/15	25/17	18	40	110	35
HPSt 1000/10-5/25	35/25	27	65	75	25
HPSt 1000/10-5/40	55/40	36	90	55	20
HPSt 1000/10-5/60	80/60	54	140	35	15
HPSt 1000/10-5/>60	> 60	on request			

Options:

Threaded end pieces HAg (together with 1 screw cap)



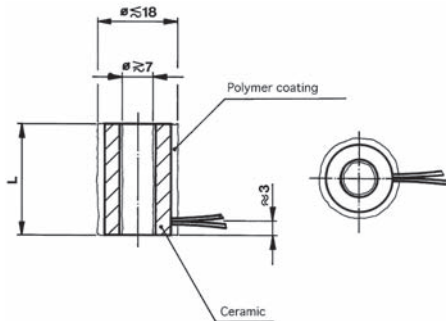
HAg

PSSt 500/15-8/... und PSSt 1000/15-8/...

Maximum load: 9000 N

Maximum generation force: 5500 N

Open loop sensitivity for 5 mV noise for actuator HPSt 500/15-8/5: approx. 0.05 Nanometer



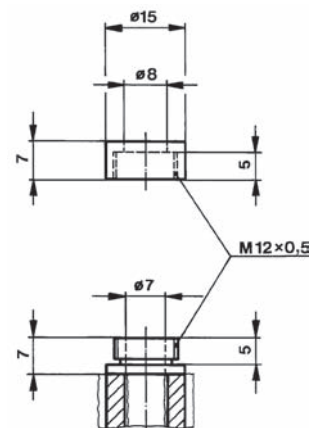
Type	max. stroke μm	length mm	el. capacitance nF	stiffness N/ μm	resonance frequency kHz
HPSt 500/15-8/5	12/7	9	140	550	40
HPSt 500/15-8/15	25/17	18	360	280	25
HPSt 500/15-8/25	35/25	27	520	180	20
HPSt 500/15-8/40	55/40	36	720	130	15
HPSt 500/15-8/60	80/60	54	1100	90	12
HPSt 500/15-8/80	105/80	72	1500	60	10
HPSt 500/15-8/L>80	> /80	on request			
HPSt 1000/15-8/5	12/7	9	35	600	50
HPSt 1000/15-8/15	25/17	18	90	300	35
HPSt 1000/15-8/25	35/25	27	130	200	25
HPSt 1000/15-8/40	55/40	36	180	150	20
HPSt 1000/15-8/60	80/60	54	270	100	15
HPSt 1000/15-8/80	105/80	72	360	70	12
HPSt 1000/15-8/>80	> 80	> 72	on request		

Options:

Threaded end pieces HA_g (together with 1 screw cap)

Optics adaptor 0A 1/2" (see section C)

Piezo ceramics: HP, HS, HT

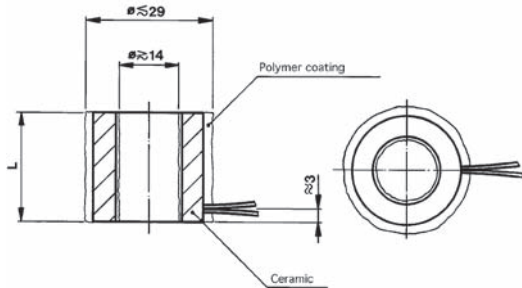


HPSt 1000/25-15/...

Maximum load: 22000 N

Maximum force generation: 13000 N

Open loop sensitivity for 10 mV noise for actuator HPSt 1000/25-15/5: approx. 0.05 Nanometer



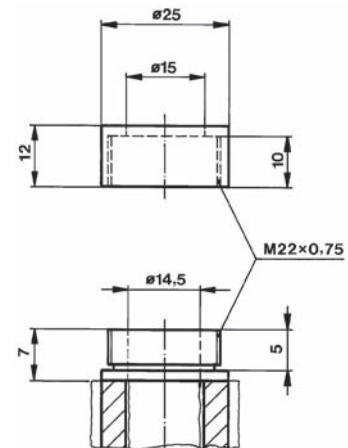
Type	max. stroke μm	length mm	el. capacitance nF	stiffness N/ μm	resonance frequency kHz
HPSt 1000/25-15/5	12/7	9	85	1200	50
HPSt 1000/25-15/15	25/17	18	210	600	35
HPSt 1000/25-15/25	35/25	27	310	400	25
HPSt 1000/25-15/40	55/40	36	420	300	20
HPSt 1000/25-15/60	80/60	54	650	180	15
HPSt 1000/25-15/80	105/80	72	900	130	12
HPSt 1000/25-15/> 80	> /80	> 72	on request		

Options:

Threaded end pieces HA9 (together with 1 screw cap)

Optics adaptor OA 1" (see section C)

Piezo ceramics: HP, HS, HT

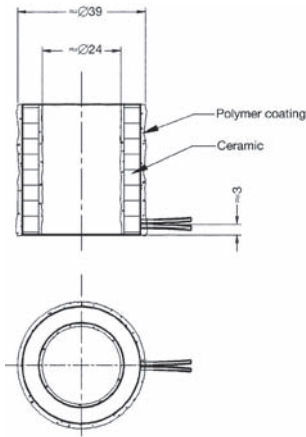


HPSt 1000/35-25/...

Maximum load: 35000 N

Maximum force generation: 20000 N

Open loop sensitivity for 10 mV noise for actuator HPSt 1000/35-25/5: approx. 0.05 Nanometer

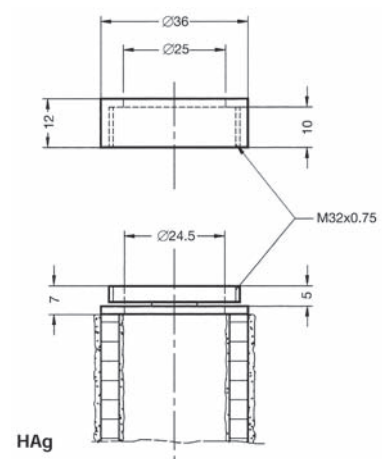


Type	max. stroke μm	length mm	el. capacitance nF	stiffness N/μm	resonance frequency kHz
HPSt 1000/35-25/5	12/7	9	120	2000	50
HPSt 1000/35-25/15	25/17	18	300	1000	35
HPSt 1000/35-25/25	35/25	27	450	700	25
HPSt 1000/35-25/40	55/40	36	600	500	20
HPSt 1000/35-25/60	80/60	54	900	350	15
HPSt 1000/35-25/80	105/80	72	1300	250	12
HPSt 1000/35-35/100	130/100	90	1800	160	10
HPSt 1000/35-25/>100	> /100	> 90	on request		

Options:

Threaded end pieces **HAg** (together with 1 screw cap)

Piezo ceramics HP, HS, HT



High voltage ring actuators, with internally prestressed casing VS

HPSt 500/10-5/... VS18 and HPSt 1000/10-5/... VS18

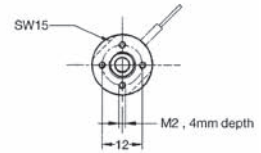
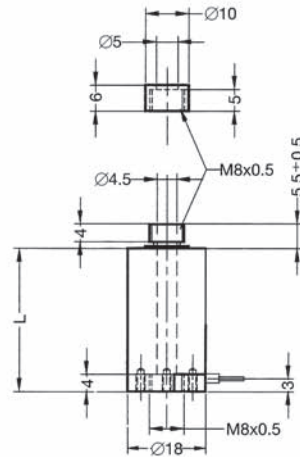
General data: see brochure: "Piezomechanics: An Introduction"

Prestress force = max. tensile force = 200 N

Maximum load: 3500 N

Maximum force generation: 2800 N

Open loop sensitivity for 10 mV noise for actuator PSt 1000/10-5/7 VS18: approx. 0.05 Nanometer



Type		max. stroke	length	el. capacitance	stiffness	resonance frequency
		µm	mm	nF	N/µm	kHz
HPSt 500/10-5/7 VS18		12/7	24	65	200	30
HPSt 500/10-5/15 VS18		25/17	33	180	100	25
HPSt 500/10-5/25 VS18		35/25	42	260	70	20
HPSt 500/10-5/40 VS18		55/40	51	350	50	15
HPSt 500/10-5/>40 VS18		> /40	on request			
HPSt 1000/10-5/7 VS18		12/7	24	15	210	35
HPSt 1000/10-5/15 VS18		25/17	33	40	110	27
HPSt 1000/10-5/25 VS18		35/25	42	65	75	22
HPSt 1000/10-5/40 VS18		55/40	51	90	55	20
HPSt 1000/10-5/60 VS18		80/60	69	140	35	17
HPSt 1000/10-5/>60 VS18		> /60	on request			

Standard configuration:

Coaxial cable RG 178 length 1.5 m with connectors BNC or LEMOSA 0S250 1 screw cap for top

Options:

UHV compatibility

Low temperature application

Thermostable modification

Negative polarity

Piezo ceramics: HP, HS, HT

Adaptor rings AR: see section C

HPSt 500/15-8/... VS22 and HPSt 1000/15-8/... VS22

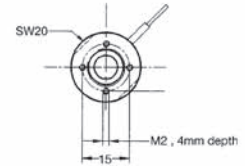
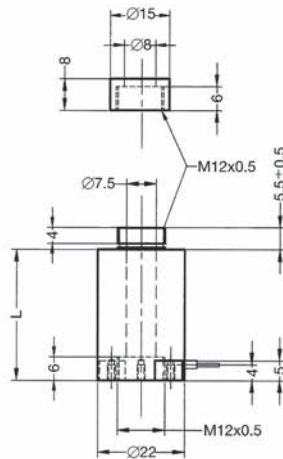
General data: see brochure: "Piezomechanics: An Introduction"

Prestress force = max. tensile force = 400 N

Maximum load: 9000 N

Maximum force generation: 5500 N

Open loop sensitivity for 5 mV noise for actuator HPSt 500/15-8/7 VS22: approx. 0.05 Nanometer



Type		max. stroke µm	length mm	el. capacitance nF	stiffness N/µm	resonance frequency kHz
HPSt 500/15-8/7 VS22		13/8	26	140	550	30
HPSt 500/15-8/15 VS22		25/17	35	360	280	25
HPSt 500/15-8/25 VS22		35/25	44	520	180	20
HPSt 500/15-8/40 VS22		55/40	53	720	130	15
HPSt 500/15-8/60 VS22		80/60	71	1100	90	12
HPSt 500/15-8/80 VS22		105/80	89	1500	60	10
HPSt 500/15-8/>80 VS22		>/80	on request			
HPSt 1000/15-8/7 VS22		13/8	26	35	600	35
HPSt 1000/15-8/15 VS22		25/17	35	90	300	27
HPSt 1000/15-8/25 VS22		35/25	44	130	200	22
HPSt 1000/15-8/40 VS22		55/40	53	180	150	17
HPSt 1000/15-8/60 VS22		80/60	71	270	100	14
HPSt 1000/15-8/80 VS22		105/80	89	360	70	12
HPSt 1000/15-8/>80 VS22		> /80	on request			

Standard configuration:

Coaxial cable RG 178 length 1.5 m with connectors BNC or LEMOSA 0S250

Options:

UHV compatibility

Low temperature application

Thermostable modification

Negative polarity

Piezo ceramics: HP, HS, HT

Positions sensor

Optics adaptor 0A1/2": see section C

Adaptor rings AR: see section C

HPSt 1000/25-15/... VS35

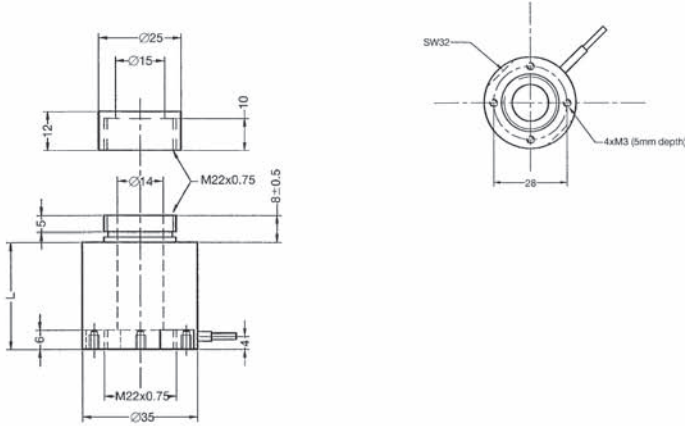
General data: see brochure: "Piezomechanics: An Introduction"

Prestress force = max. tensile force = 2000 N

Maximum load: 22000 N

Maximum force generation: 13000 N

Open loop sensitivity for 10 mV noise for actuator PSt 1000/25-15/7 VS35: approx. 0.05 Nanometer



Type	max. stroke μm	length mm	el. capacitance nF	stiffness N/μm	resonance frequency kHz
HPSt 1000/25-15/7 VS35	13/8	26	85	1200	40
HPSt 1000/25-15/15 VS35	25/17	35	210	600	30
HPSt 1000/25-15/25 VS35	35/25	44	310	400	25
HPSt 1000/25-15/40 VS35	55/40	53	420	300	25
HPSt 1000/25-15/60 VS35	80/60	71	650	180	20
HPSt 1000/25-15/80 VS35	105/80	89	900	130	15
HPSt 1000/25-15/>80 VS35	> / 80	on request			

Standard configuration:

Coaxial cable RG 178 length 1.5 m with connectors BNC or LEMOSA 0S250

Options:

Coaxial cable RG 316 for power application

UHV compatibility

Low temperature application

Thermostable modification

Negative polarity

Piezo ceramics: HP, HS, HT

Position sensor

Optics adaptor 0A 1": see section C

Adaptor rings AR: see section C

HPSt 1000/35-25/...VS45

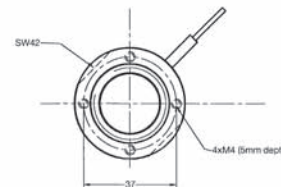
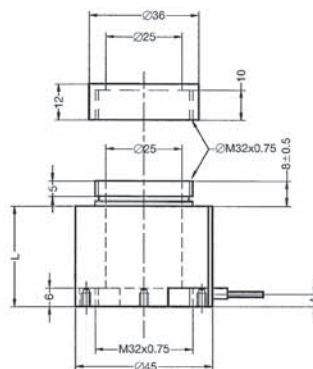
General data: see chapter 1.2.2.

Prestress force = max. tensile force = 3000 N

Maximum load: 35000 N

Maximum force generation: 20000 N

Open loop sensitivity for 10 mV noise for actuator HPSt 1000/35-25/7 VS45: approx. 0.05 Nanometer



Type		max. stroke	length	el. capacitance	stiffness	resonance frequency
		μm	mm	nF	N/ μm	kHz
HPSt 1000/35-25/7	VS45	12/7	26	120	2000	40
HPSt 1000/35-25/15	VS45	25/17	35	300	1000	30
HPSt 1000/35-25/25	VS45	35/25	44	450	700	25
HPSt 1000/35-25/40	VS45	55/40	53	600	500	20
HPSt 1000/35-35/60	VS45	80/60	71	900	350	15
HPSt 1000/35-25/80	VS45	105/80	89	1300	250	12
HPSt 1000/35-25/100	VS45	130/100	107	1800	160	10
HPSt 1000/35-25/>100	VS45	/> 100	on request			

Standard configuration:

Coaxial cable RG 178 length 1.5 m with connectors BNC or LEMOSA 0S250

Options:

Coaxial cable RG 316 for power applications

UHV compatibility

Low temperature modification

Thermostable modification

Position sensor

Negative polarity

Piezo ceramics: HP, HS, HT