



#### 4. Piezocartridges: Low voltage actuators in casings with front mount threading



Stack actuators in cartridge-version offer elegant design features by simple attachment of an actuator to the mechanics using a front mounting thread. Using this thread a coarse adjustment for the system is provided. Piezocartridges can retrofit conventional lead screws. Mechanical arrangements for adjusting purposes can be very simply upgraded by using piezocartridges.

##### Standard configuration:

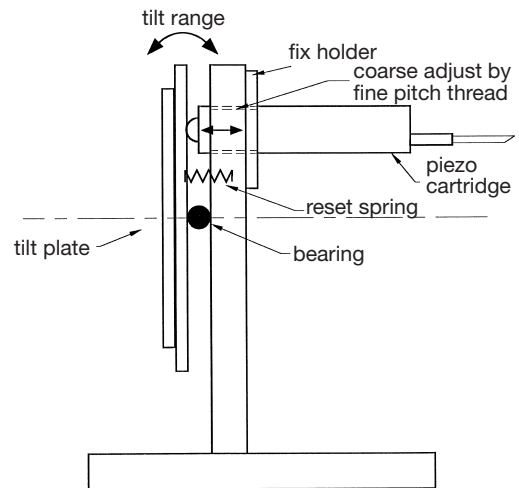
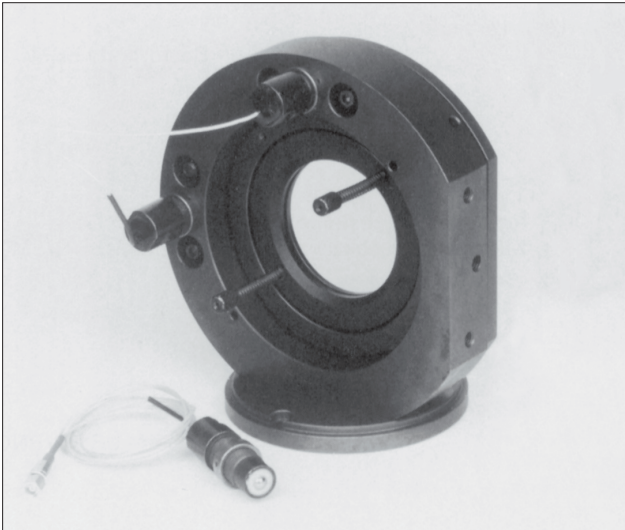
Casing: stainless steel  
Electrical connection: 1 m coaxial cable RG 178 with BNC connector

##### Options:

Coaxial cable RG178 with LEMO connectors  
00250 or 0S250  
Position detection  
Thermostable



#### 4. Piezocartridges: Low voltage actuators in casings with front mount threading



Schematic of a mirror mount based on piezo cartridges for coarse adjust by mounting screw and ultra fine adjustment by piezo action.

Piezoactuator types: FPSt M12(BD)



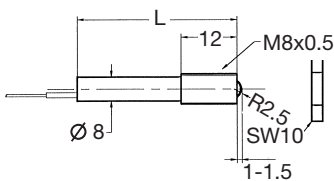
## Frontmount piezo-cartridges FPSt 150

### FPSt 150/4/... M8x0.5

(no internal prestress)

Maximum load: 150 N

Open loop sensitivity at 1 mV amplifier noise for actuator FPSt 150/4/20: approx. 0.1 Nanometer



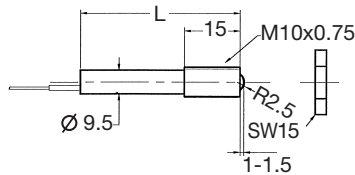
type	max, stroke	length	el. capacitance
	$\mu\text{m}$	mm	nF
FPSt 150/4/20 M8	27/20	22	340
FPSt 150/4/40 M8	55/40	40	700
FPSt 150/4/60 M8	80/60	58	1000

### FPSt 150/5/... M10x0.75

(no internal prestress)

Maximum load 600 N

Open loop sensitivity at 1 mV amplifier noise for actuator FPSt 150/5/20: approx. 0.1 Nanometer



type	max, stroke	length	el. capacitance
	$\mu\text{m}$	mm	nF
FPSt 150/5/20 M10	27/20	23	800
FPSt 150/5/40 M10	55/40	41	1600
FPSt 150/5/60 M10	80/60	59	2400
FPSt 150/5/80 M10	105/80	77	3200
FPSt 150/5/100 M10	130/100	95	4000

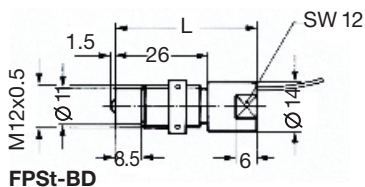
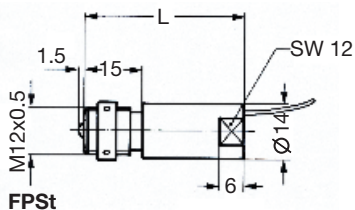
### FPSt 150/5/... M12x0.5(-BD) (former versions MPSt(-BD))

(no internal prestress)

For retrofitting translation stages MRL 80.25 and Newport mirror mounts SL

Maximum load: 600 N

Open loop sensitivity at 1 mV amplifier noise for actuator FPSt 150/5/20 : approx. 0.1 Nanometer



type	max, stroke	length	el. capacitance
	$\mu\text{m}$	mm	nF
FPSt 150/5/20 M12 (BD)	27/20	25 (27)	800
FPSt 150/5/30 M12 (BD)	40/30	34 (34)	1200
FPSt 150/5/40 M12 (BD)	55/40	43 (43)	1600
FPSt 150/5/60 M12 (BD)	80/60	61 (64)	2400
FPSt 150/5/80 M12 (BD)	105/80	79 (82)	3200
FPSt 150/5/100 M12 (BD)	130/100	97	4000
FPSt 150/5/120 M12 (BD)	160/120	115	4800
FPSt 150/5/140 M12 (BD)	190/140	133	5600



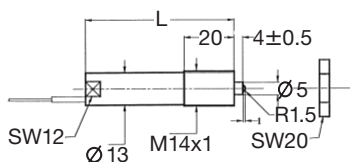
## Frontmount piezo-cartridges FPSt 150

### FPSt 150/7/... M14x1

Prestress force = max. tensile force = 200 N

Maximum load: 1500 N

Open loop sensitivity at 1 mV amplifier noise for actuator FPSt 150/7/20: approx. 0.1 Nanometer



type	max, stroke µm	length mm	el. capacitance µF
FPSt 150/7/20 M14	27/20	28	1.8
FPSt 150/7/40 M14	60/40	46	3.6
FPSt 150/7/60 M14	80/60	64	5.4
FPSt 150/7/80 M14	105/80	82	7.2
FPSt 150/7/100 M14	130/100	100	19
FPSt 150/7/120 M14	160/120	118	11
FPSt 150/7/140 M14	190/140	136	13
FPSt 150/7/>140 M14	>140	on request	

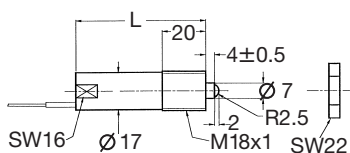
### FPSt 150/10/... M18x1

(with internal prestress)

Prestress force = max. tensile force = 400 N

Maximum load: 3000 N

Open loop sensitivity at 1 mV amplifier noise for actuator FPSt 150/10/20: approx. 0.1 Nanometer



type	max, stroke µm	length mm	el. capacitance µF
FPSt 150/10/20 M18	27/20	28	3.6
FPSt 150/10/40 M18	55/40	46	7.2
FPSt 150/10/60 M18	80/60	64	11
FPSt 150/10/80 M18	105/80	82	14
FPSt 150/10/100 M18	130/100	100	18
FPSt 150/10/120 M18	160/120	118	21
FPSt 150/10/140 M18	190/140	136	25
FPSt 150/10/>140 M18	>140	on request	