

## stack type actuators

### series P/S

- stack type actuator hermetic insulated
- applications in aggressive and humid environments (up to IP68)
- integrated mechanical pre-load
- very small and compact design
- motion up to 70  $\mu\text{m}$
- high stiffness up to 189 N/ $\mu\text{m}$

#### applications:

- use under special conditions
- valve technology
- automatisisation



fig.: series P/S

#### Concept

The piezo actuators of the series P/S based on multilayer stack type actuators without lever transmission. Depending on the type, actuators with a stroke of 18 $\mu\text{m}$  up to 70 $\mu\text{m}$  are available. They have a hermetically sealed housing. The special housing allows for the use in aggressive and humid environments. Due to the hermetic insulation longer life time is achieved.

#### Specials

The series P/S actuators are pre-loaded by the housing only. These actuators can handle depending on the ceramic size, loads up to 3400N. The construction of the housing tightly encloses the stack, thereby avoiding any mechanical play.

#### Mounting/Installation

The M3-thread in the bottom plate allows for easy adaptation in existing systems and guaranties an exact positioning. For mounting also the spanner flats on the bottom plate can be used. During installation and use, it is important not to subject the actuator tip to non axial forces.

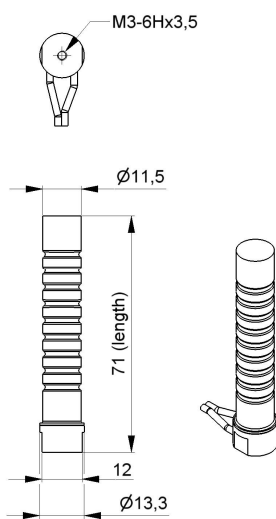
**Please pay attention to our “notes for mounting”, which are available as download on our homepage.**

**technical data:**

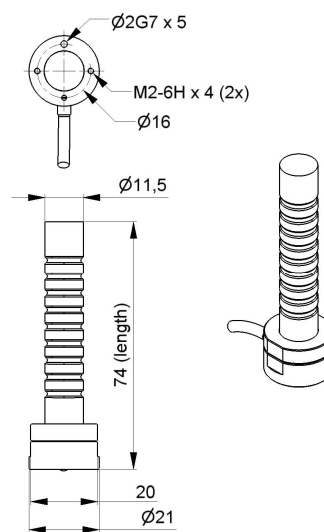
series P/S	unit	P 18/S08	P 50/S08	P 70/S08	P 18/S13	P 50/S13	P 70/S13	P 18/S22	P 50/S22	P 70/S22	
part. no.		P-752-30	P-755-30	P-757-30	P-752-00	P-755-00	P-757-00	P-752-50	P-755-50	P-757-50	
motion ( $\pm 10$ )%*	$\mu\text{m}$	18	50	70	18	50	70	18	50	70	
capacitance ( $\pm 20$ )%**	$\mu\text{F}$	0.5	1.5	2	1.5	4.5	6	5.4	16.2	21.6	
resolution***	nm	0.03	0.1	0.14	0.03	0.1	0.14	0.03	0.1	0.14	
resonant frequency***	kHz	18	6	4	14	10	8	24	9	6	
stiffness***	N/ $\mu\text{m}$	11.1	4.0	2.9	44.4	16	11.4	188.9	68	48.6	
blocking force***	N	200	200	200	800	800	800	3400	3400	3400	
operating voltage	V	-20...+130									
connector	voltage	stainless steel									
cable length	m	0.8m; without connector; color coded wires									
dimensions	length L	mm	30	70	90	31	71	91	30.5	73.5	90.5
	diameter D	mm	8	8	8	13.3	13.3	13.3	22	22	22
	spanner flats	mm	7	7	7	12	12	12	20	20	20

series P/S according standard IP 68	unit	P 18/S08	P 50/S08	P 70/S08	P 18/S13	P 50/S13	P 70/S13	
part no.		P-752-39	P-755-39	P-757-39	P-752-09	P-755-09	P-757-09	
motion ( $\pm 10$ )%*	$\mu\text{m}$	18	50	70	18	50	70	
capacitance ( $\pm 20$ )%**	$\mu\text{F}$	0.5	1.5	2	1.5	4.5	6	
resolution***	nm	0.03	0.1	0.14	0.03	0.1	0.14	
resonant frequency***	kHz	18	6	4	14	10	8	
stiffness***	N/ $\mu\text{m}$	11.1	4.0	2.9	44.4	16	11.4	
blocking force***	N	200	200	200	800	800	800	
cable configuration	m	length: 1m with connector LEMO 0S.302						
dimensions	length L	mm	33.5	73.5	93.5	34	74	94
	diameter D	mm	14	14	14	21	21	21
	spanner flats	mm	13	13	13	20	20	20

\* typical value measured with NV 40/3  
 \*\* typical value for small electrical field strength  
 \*\*\* please see piezoline



**series P/S 13**  
**example: P 50/S13 (P-755-00)**



**series P/S according standard IP 68**  
**example: P 50/S13 (P-755-09)**

**All drawings are subject to change without notice. For latest version please check [www.piezोजना.com](http://www.piezोजना.com)**