

# PAHS

## Stack Actuator with Direct Translator



*> 4x the stroke at lower capacity  
at only 20% more length*



*Similar repeatability as a  
standard system*



*Works with existing controllers*



*Easy plug and play solution  
when space is critical*



The new actuator series PAHS from piezosystem jena achieves higher motion at similar length as conventional actuators. With **more than 4 times higher travel** than normal piezo actuators, they are a perfect solution when space is limited but still high resolution requirements exist.

PAHS actuators operate with the same **voltage band of 150V** and can therefore easily be integrated into existing systems by using the same con-trollers and amplifiers from piezosystem jena.

Like the PAHL Series, these actuators have high blocking forces and can move large masses. Due to the **integrated mechanical pre-load**, they can work under tensile forces and work well in dynamic applications. Their high resonant frequency guarantees fast settling times.

### Variants:

- Standard
- With strain gauge
- Vacuum

### Recommended Controller:

NV200/D Net

### Applications

- Small space positioning applications
- Larger travel, medium speed dynamic motion
- Quasi static motion for medium masses

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## Technical Data

	<i>Unit</i>	<i>closed loop</i>		<i>open loop</i>	
	-	for comparison		for comparison	
Part #	-	P-172-51	<b>P-503-01D</b>	P-173-00	<b>P-505-00</b>
Direct Translation	-	without	<b>with</b>	without	<b>with</b>
Actuator Name	-	PAHL 40/20 SG	<b>PAHS180 SG DIG</b>	PAHL 60	<b>PAHS240</b>
Motion @ -20 .. 130V*	µm	42	<b>188</b>	63	<b>250</b>
Motion CL*	µm	34	<b>160</b>	50	-
Capacitance**	µF	<b>14</b>		<b>20</b>	
Resonant Frequency @ 5gr	Hz	12000	<b>540</b>	8000	<b>480</b>
Blocking Force	N	3500	<b>800</b>	3500	<b>800</b>
Resolution OL***	nm	0.08	<b>0.36</b>	0.12	<b>0.54</b>
Resolution CL***	nm	0.8	<b>4</b>	-	-
max. Nonlinearity	nm	130	<b>1060</b>	-	-
	%	0.4	<b>0.663</b>	-	-
Repeatability	mm	1	<b>8</b>	-	-
	%	0.004	<b>0.05</b>	-	-
Casing Diameter	mm	<b>20</b>		<b>20</b>	
Casing Length	mm	60.5	<b>76</b>	72	<b>91</b>

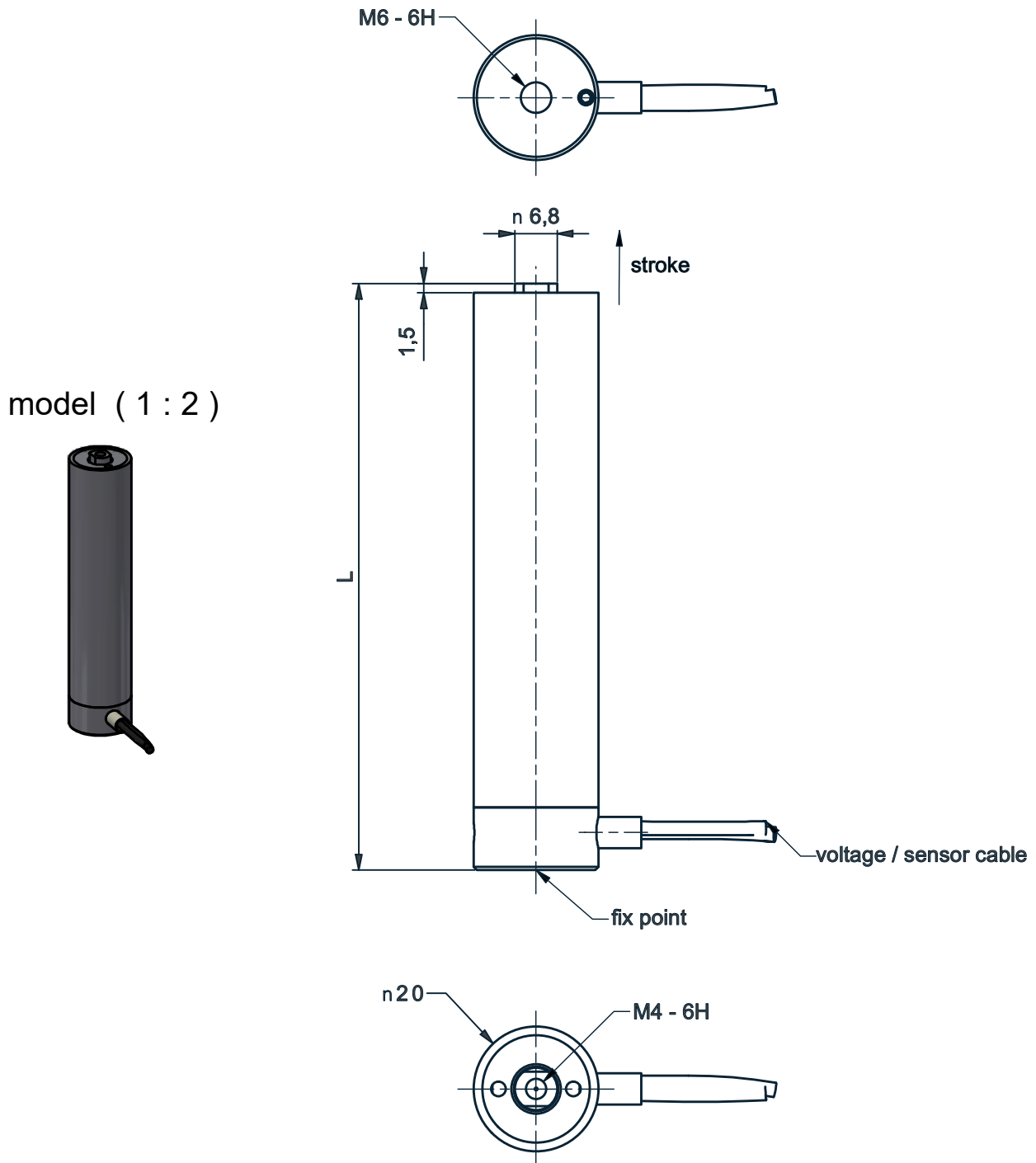
\* Typical value measured with 0.3mV Controller

\*\*typical value for a small electrical field strength

\*\*\* Typical values, measured at -20 V ... +130 V

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## Technical Drawing



We reserve the right to make changes to technical data and designs in the interest of technical progress.