

# PNEUMATIC Drive

For simplifying mechanism designs

A pneumatic drive-type sensor is now on the market.



**SA-S110PD**  
0.1 μm resolution type  
**SA-S510PD**  
0.5 μm resolution type

The pneumatic drive method reduces mechanism design processes significantly to provide the ultimate system.

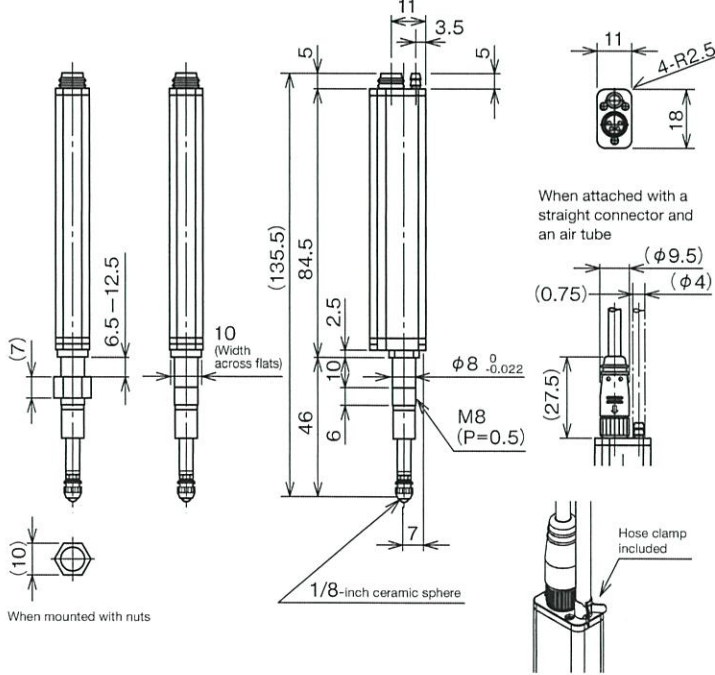
Using the pneumatic spindle operation simplifies the mechanism design management to help reduce costs. The reliable W-bearing structure ensures excellent durability, allowing the sensor to be used in a variety of environments.

## Pneumatic drive control available



Switching air ON/OFF moves the spindle up/down to make line control for each process easy.

- Portable terminal parts
- Camera parts
- Electronic components
- Automatic component inspection line
- Assembly



SA-S110PD/S510PD Specifications

Model	SA-S110PD	SA-S510PD
Position detection method	Optical absolute linear encoder method	
Measuring range	10 mm	
Resolution	0.1 μm	0.5 μm
Indication accuracy (P-P) *1	1.0 μm or less	2.0 μm or less
Measuring force	1.5 to 3 N *2	
Fluid used	Air	
Operating pressure range	0.10 to 0.12 MPa *3	
Air tube specification	Outer diameter: 4 mm / Inner diameter: 2.5 mm	
Withstand pressure	0.2 MPa	
Ingress protection rating *4	Equivalent to IP67	
Mass	Approx. 80 g	
Operating temperature/humidity range	-10 to 55°C / 35 to 80%RH (with no condensation or icing)	
Storage temperature/humidity range	-20 to 60°C / 35 to 80%RH	
Vibration resistance	10 to 500 Hz Double amplitude 3 mm (max 20 G) / 2 hours for each of the XYZ directions	
Impact resistance	1,960 mm/sec <sup>2</sup> (200 G)	
Grounding method	Capacitor grounding	
Cable *5	Sold separately as an option	
Measuring probe	Ceramic sphere with a diameter of 3.175 mm	

\*1: At an ambient temperature of 20°C.  
 \*2: The measuring force varies depending on the air pressure used.  
 Removing the seal cap allows the use of this sensor as a low-measurement force type. Refer to the manual that accompanies the product for the measuring force when the spindle is pushed in with each position, and for the relationship between the supply air pressure without the seal cap and the measuring force (in the right position). In addition, the measuring force depends on the product assembling accuracy and how worn the sealing material is (O-ring).  
 \*3: When the seal cap is removed, the operating pressure range is 0.03 to 0.12 MPa.  
 \*4: This applies only when it is in the right position, the air tube is connected, and the sealing part is not degraded or damaged. The ingress protection rating does not apply when the seal cap is removed.  
 \*5: An angle-type connector cable cannot be used.  
 Ⓞ This type is not fitted with rubber bellows.

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