

Piezoelectric High Pressure Sensor

- ✓ Highest pressure range up to 8000 bar (116000 psi)
- ✓ Ideal for fast pressure gradients i.e. shock waves
- ✓ Outstanding temperature stability
- ✓ Highest durability and reliability

The H-Series sensors are piezoelectric sensors designed to measure the most demanding dynamic pressure changes with up to 8000 bar as observed in shock waves caused by explosions or fast pressure drops in various media. The unique gallium phosphate (GaPO₄) single crystal sensing elements are characterized by superior sensitivity and linearity and are unaffected by temperature changes (no pyroelectricity). In combination with the high mechanical stiffness, the H-Series is well-suited for reliable dynamic high pressure measurements and allows for the detection of small pressure variations throughout the whole pressure range.

The front sealing housing with M10x1 mounting thread along with the clamp screw makes the sensors insensitive to different tightening torques and mounting conditions. The H-Series provides thus a versatile and easy to mount high pressure sensing solution with long term stability.

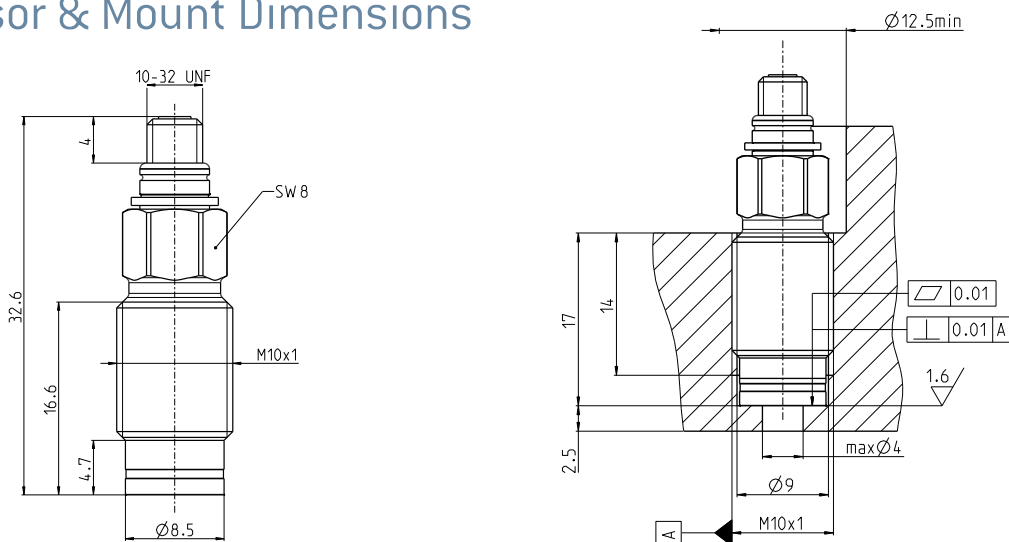


Specifications

Name	H-2	H-6	H-8
Operating principle	Piezoelectric based on GaPO ₄ (gallium phosphate) sensing elements, charge output		
Dynamic measuring range	0 ... 2000 bar (0 ... 29000 psi)	0 ... 6000 bar (0 ... 87000 psi)	0 ... 8000 bar (0 ... 116000 psi)
Overload pressure	2200 bar (31900 psi)	6600 bar (95700 psi)	8800 bar (127600 psi)
Sensitivity (nominal)	5.2 pC/bar (0.36 pC/psi)	3 pC/bar (0.21 pC/psi)	2.3 pC/bar (0.16 pC/psi)
Linearity	< ±1 % FSO		
Operating temperature (continuous)	-55°C ... 200°C (-67°F ... 392°F)		
Thermal sensitivity shift	± 0.02 %/°C		
Internal insulation resistance	> 10 ¹³ Ω (20°C / 68°F)		
Acceleration sensitivity (typ.)	axial ≤ 2 mbar/g (0.03 psi/g), radial ≤ 5 mbar/g (0.07 psi/g)		
Rise time	< 1 μs		
Shock resistance (axial / radial)	25000 g / 10000 g		
Natural Frequency	> 240 kHz		
Capacitance (nominal)	8 pF pole/ground		
Mounting torque	20 Nm		
Housing material	Stainless steel, hermetically welded		
Weight	~ 12 g		
Scope of Supply			
Sensor and 5 pcs sealing rings	✓		
Cable	1 m Teflon™ coated with 10-32 UNF connector incl. BNC coupling		
Test record, Documentation	✓		
Accessories			
Cable	0.5 ... 10 m Teflon™ coated with M4x0.35 or 10-32 UNF connector		
Sealing rings	Sets á 5 pcs		
Mounting tool	Socket to mount sensor with attached cable in bore, torque wrench		
Other	Membrane protection, silicone grease		

Piezocryst reserves the right to change specifications and accessories without notice.

Sensor & Mount Dimensions



Customer support

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