

Piezoelectric Pressure Sensor

Type G-3



This sensor is designed for monitoring dynamic pressure and quasistatic pressure up to 250bar. Due to its **active acceleration compensation**, the sensor delivers a very clean signal even at highly vibrating systems. The exceptional small size (M5x0.5 thread) and the high temperature resistance up to 400°C make the sensor suitable for a wide range of applications.

BENEFITS

- Active acceleration compensated
- High temperature stability (400°C / 752°F)
- High natural frequency
- Virtually constant sensitivity over the entire lifetime

SPECIFICATIONS

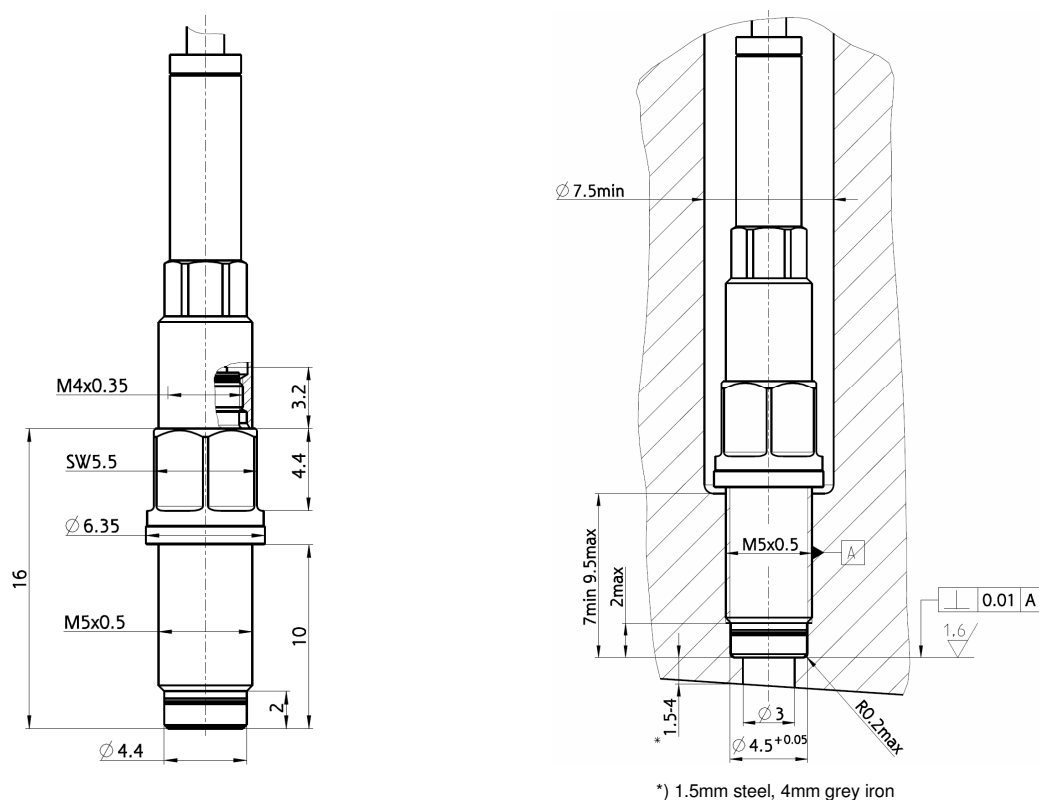
Operating principle	Piezoelectric, charge output
Sensing element	GaPO ₄ (gallium phosphate)
Dynamic measuring range	0 ... 250 bar, (0 ... 3625 psi)
Overload pressure	300 bar, (4350 psi)
Sensitivity	16 pC/bar, (1.1 pC/psi)
Linearity	≤ 0.3% (0...250 bar, 0...3625 psi)
Operating temperature (continuous)	-50 °C ... +400 °C, (-58 °F ... +688 °F)
Sensitivity coefficient	-2.1*10 ⁻⁴ °C ⁻¹
Internal insulation resistance	> 10 ¹³ Ω (25 °C / 77 °F), > 10 ⁹ Ω (400 °C / 752 °F)
Acceleration sensitivity (typ.)	axial ≤ 0.05 mbar/g (0.0007 psi/g), radial ≤ 0.15 mbar/g (0.002 psi/g)
Shock resistance	>2000 g
Natural Frequency	105 kHz
Capacitance (nominal)	8,5 pF pole/ground
Mounting torque	1,5 Nm
Housing material	stainless steel, hermetically welded

DESCRIPTION

Pressure that is applied to the membrane of the sensor introduces force to the four transversally arranged high sensitive piezo crystal elements. An internal accelerometer with a tuned mass is mounted in line with the sensing elements and suppresses vibration signals introduced from shaking the sensor. This additional measure in combination with the unique crystal material (GaPO_4) guarantees the very stable operation.

MOUNTING & SENSOR DIMENSIONS

The sensor can be screwed directly to the measuring object. The sensor shoulder ($\varnothing 8.45\text{mm}$) seals the sensor in the mounting bore. High frequent pressure changes can be measured best, when the additional volume in front of the membrane is kept small.



All dimensions are in mm, the piezo cables are detachable.

ACCESSORIES

- Piezo input cable, standard: 1m (BV2443), 2m (BV2445)
- Piezo input cable, steel braided: 1m (BV2444), 2m (BV2446)
- BNC coupling (EU2077)
- Gasket, steel (YF0612)

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