

# Cylinder Pressure Sensor for Engine Monitoring

Type 6302A...

Small cylinder pressure sensor in probe configuration is designed for permanent operation in combustion engines where there is a minimum amount of space available. Particularly suitable for monitoring and closed-loop control of fast running diesel and gas engines. Its high thermal loading capacity and rugged design enable reliable knock detection.

- Service life 10<sup>9</sup> load cycles
- Knock-resistant
- Very good long term stability
- Simple mounting with swivel nut

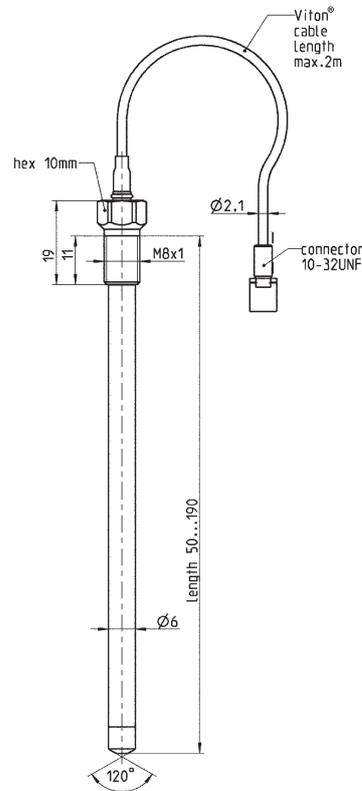
### Description

The variable length and small diameter of 6 mm enables the sensor to be mounted in very restricted spaces. The conical sealing and the swivel nut make installation of the sensor simple and uncomplicated. A cone with an angle of 120° is sufficient to provide a sealing surface. The sensor has an integrated high-temperature cable with a thermal resistance of >200 °C.

Apart from its good thermodynamic properties, the sensor is distinguished by high long term stability and very good linearity. The sensor is also available with an optional in-line charge amplifier.

### Application

The sensor is suitable for monitoring and closed-loop control of diesel and gas engines. If it is used in heavy-fuel engines, its service life may be shorter. In addition, the deposition of combustion residues may reduce its measuring accuracy.



### Technical Data

Range	bar	0 ... 250
Overload	bar	300
Sensitivity	pC/bar	≈-10
Natural frequency (measuring element)	kHz	≈130
Linearity, all ranges at ambient temperature	% FSO	≤±1
Acceleration sensitivity, axial	bar/g	<0,001
Operating temperature range (sensor, front part)	°C	-50 ... 350
Operating temperature range (cable)	°C	-50 ... 200
Sensitivity variation at 200 °C ±50	%	≤±1,5
Insulation resistance at 23 °C	Ω	≥10 <sup>13</sup>
$p_{max}$	%	<±1
Tightening torque	N·m	5
Material (sensor case)	W.-Nr.	DIN1.4542/1.4548 (AISI630)
Weight with cable	g	20

**Mounting Bores**

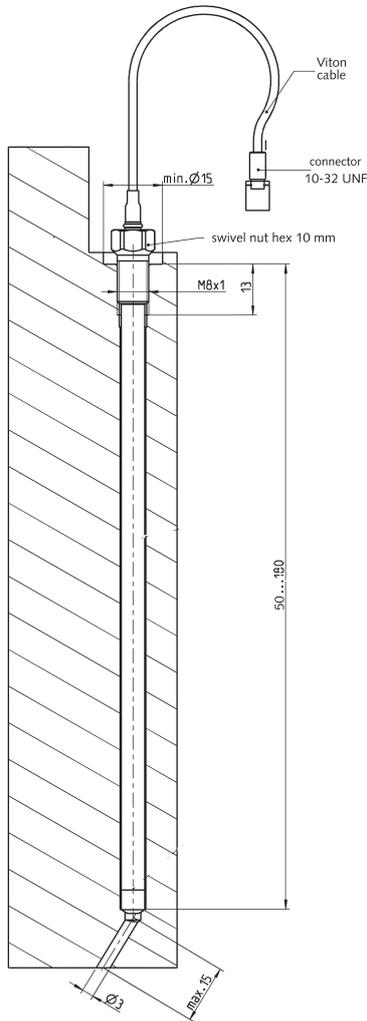


Fig. 1: Mounting bore for Type 6302A...

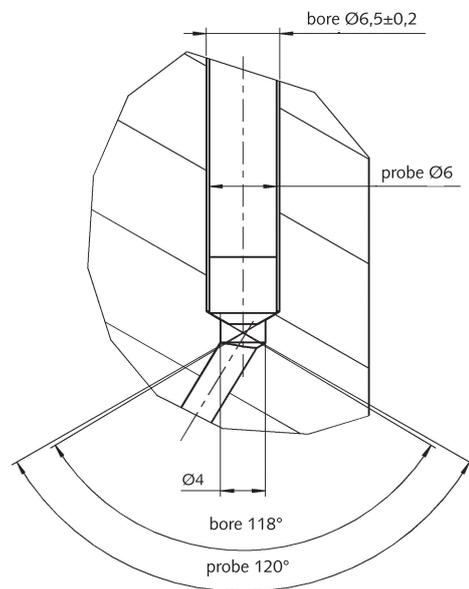


Fig. 2: Sealing face detail for Type 6302A...

**Accessories Included**

- None

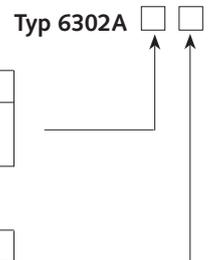
**Ordering Key**

**Probe length**

Standard probe length L = 120 mm	1
Probe with special lengths, specify L in mm (L <sub>min</sub> = 50 mm / L <sub>max</sub> = 180 mm)	9

**Cable**

Coaxial cable L = 1 m	0
Coaxial cable with special lengths, specify L in m (L <sub>min</sub> = 0,1 m / L <sub>max</sub> = 5 m)	9



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