

# Quartz Pressure Sensor for Engine Diagnostics

Type 7013C/CA

Industrial sensor for measuring cylinder pressures in internal combustion engines. Sensor and cable together form an oil- and splash-proof unit.

Suitable for long-time measurements and arduous duties.

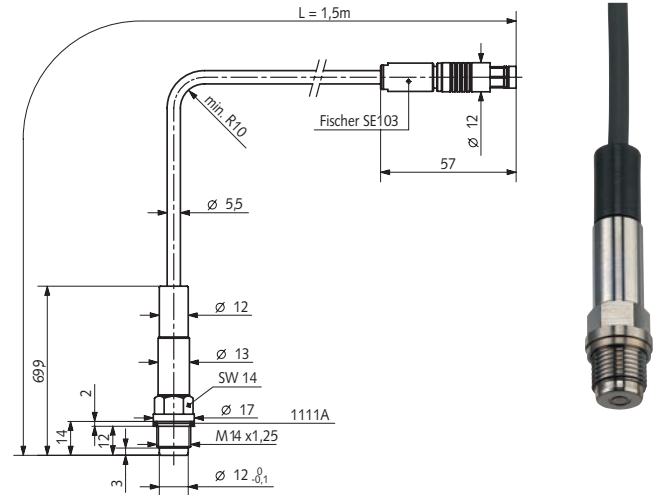
- Viton® cable, rugged
- Available with integrated impedance converter (Piezotron®), too
- Linearity excellent

### Description

The use of polystable quartz elements assures security from twinning even under high mechanical stressing. As a result, the sensitivity remains largely constant between -50 ... 350 °C.

### Application

Measuring in combustion chambers under severe conditions of fouling, moisture etc. Special design makes the sensor largely insensitive to combustion residues, and therefore suitable for arduous duties as well as longtime measurements.



### Technical Data

Range	bar	0 ... 250
Calibrated partial ranges	bar	0 ... 50
Overload	bar	300
Sensitivity	pC/bar	≈-40
Natural frequency	kHz	≈70
Linearity, all ranges	%FSO	≤±0,5
Acceleration sensitivity		
axial	bar/g	<0,002
transverse	bar/g	<0,001
Operating temperature range	°C	-50 ... 350
Sensitivity shift		
200... ±150 °C	%	≤±3
200 ±50 °C	%	≈1
Thermal shock		
at 1 500 1/min, p <sub>mi</sub> = 9 bar		
Δp	bar	≤±0,3
Δp <sub>mi</sub>	%	≤±2
Insulation resistance at 20 °C	Ω	≥10 <sup>13</sup>
Shock resistance	g	2 000
Tightening torque	N·m	25
Capacitance, with cable	pF	7
Weight	g	160
Plug	Type	Fischer SE 103 pos.

### Mounting

Can be fitted without adapter into an indicator hole (ø18 mm, thread M14x1,25). For measuring at the indicator valve the sensor can be mounted into Thompson adapter Type 7513A.

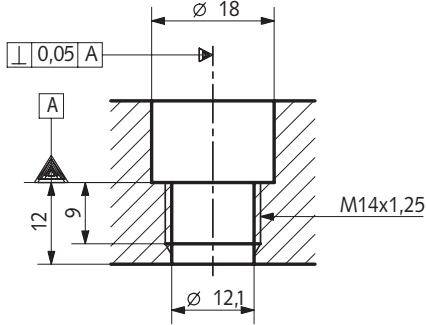


Fig. 1: Fitted into combustion chamber with hole ø18 mm, seal Type 1111A, diaphragm flush mounted with the combustion chamber

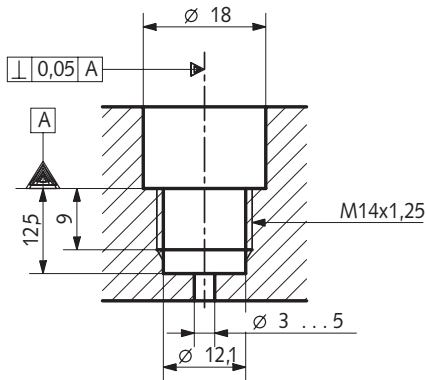


Fig. 2: As fig.1, with set-back diaphragm

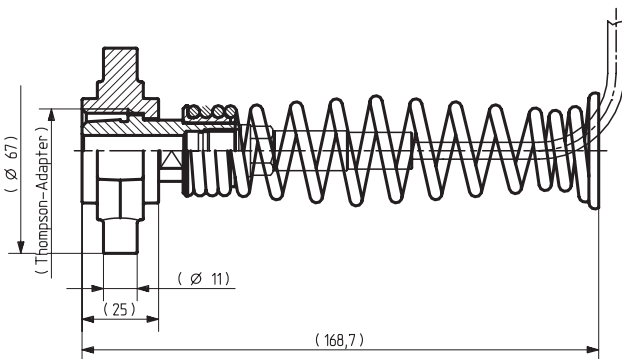


Fig. 3: Fitted in Thompson adapter Type 7513A on indicator valve

### Accessories

- Nickel seal Type 1111A
- Thompson adapter 7513A
- Connecting cable Fischer KE103 neg. – BNC pos. 1673A2/A5

### Mounting Accessories

- Torque wrench 8 ... 40 N·m Type 1300A11
- Fork wrench hex.18 mm for torque wrench 1300A15
- Tubular socket wrench hex.14 mm 1377  
for ø18 mm fitting hole
- Special key for Thompson adapter Type 7513A 1300A1

### Ordering Key

	Type 7013	
Pressure sensor	C	□
Pressure sensor mounted in Thompson adapter Type 7513A	CA	□

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