

# Piezotron Pressure Sensor

Type 6619AP25/AP35

## For engine diagnostics

New generation of uncooled high-temperature pressure sensor with tuned thermodynamic characteristics for measurement at the indicator valve of low and medium speed engines. This sensor is ready for new fuels including hydrogen.

- Available with 350 bar or 250 bar range
- Very stable sensitivity across temperature range
- Max. temperature 400°C
- Suitable for hydrogen combustion application

### Description

The Type 6619AP25/AP35 piezoelectric cylinder pressure sensor uses a Piezo Star crystal which guarantees very low thermal sensitivity deviation and excellent linearity. The low thermal shock error and the stable sensitivity across the full temperature allow cylinder pressure measurements with high precision even under unstable load conditions. The sensor and the connector are connected by a strong, temperature resistant cable with fluorelastomer coating.

This new technology also enables the sensor to cope with operating temperatures of 400°C for a limited time (<20 min.) this allows measurements at the indicator valve of 4-stroke engines.

### Application

This sensor is designed for periodical measurements at the indicator valve at 2-stroke and 4-stroke engines. The Type 6619AP25/AP35 is fully compatible with the Kistler Engine Tester 2516B1.

### Installation

Depending on the type of engine either adapter Type 6513A or 6513AK is recommended.

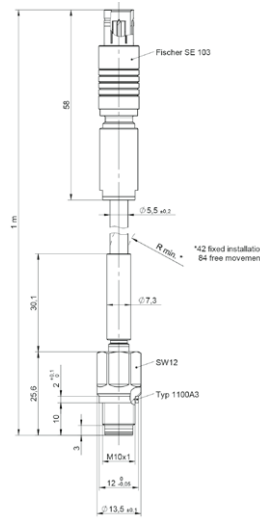
#### 2-stroke engines

Because of the relatively low temperature at the indicator valve Type 6513A is recommended.

#### 4-stroke engines

It's recommended to use the sensor with adapter Type 6513AK, as the higher operating temperature of this engines necessitates additional cooling to reduce the temperature at the sensor.

For direct mounting without adapter please see datasheet of Type 6019A ...



### Technical data

Range AP25/AP35	bar	0 ... 250/0 ... 350
Overload	bar	450
Sensitivity AP25/AP35	mV/bar	-20/-13
Natural frequency	kHz	≈65
Linearity, all ranges	%FSO	≤±0.3
Acceleration sensitivity		
axial	bar/g	<0.002
transverse	bar/g	<0.001
Operating temperature range		
Continuous	°C	-40 ... 350
short time (< 20 minutes)	°C	-40 ... 400
Electronics in plug	°C	-40 ... 90
Sensitivity shift		
200 ... ±150°C	%	±0.7
Thermal shock		
at 1,500 1/min, IMEP = 9 bar		
Δp	bar	≤±0.5
ΔIMEP	%	≤±2
Supply current	mA	4
Output bias	VDC	9 ... 14
Time constant at 20°C	s	≈900
Time constant at 200°C	s	>100
Time constant at 350°C	s	≈5
Output impedance	Ω	<100
Shock resistance	g	2,000
Tightening torque	N·m	15
Weight	g	160
Plug	Type	Fischer SE 103 pos.

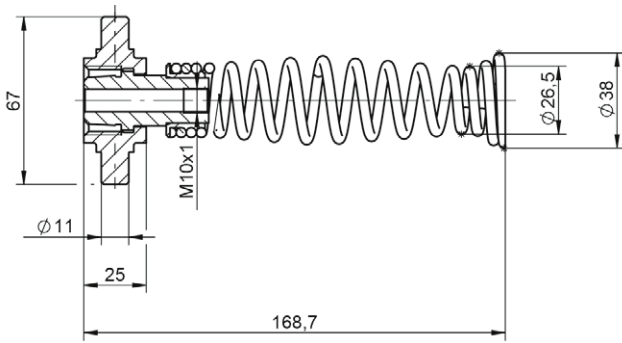


Fig. 3a: Thompson adapter Type 6513A

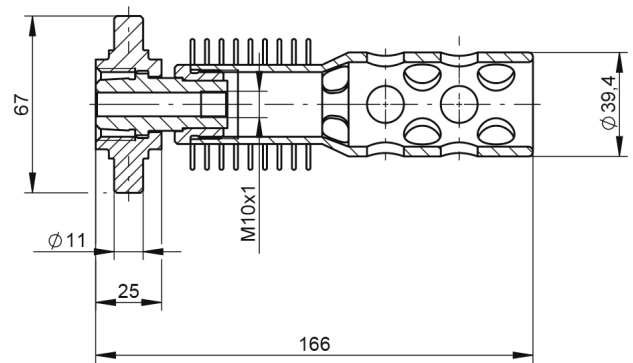


Fig. 3b: Thompson adapter with cooling fins Type 6513AK



Fig. 4: Sensor Type 6619AP installed in Thompson adapter Type 6513AK

#### Accessories

- |  |           |
|--|-----------|
| • Nickel seal                                    | 1100A3    |
| • Thompson adapter                               | 6513A     |
| • Thompson adapter with cooling fins             | 6513AK    |
| • Connecting cable Fischer KE103 neg. – BNC pos. | 1673A2/A5 |
| • Engine Peak Meter                              | 2516B1    |

#### Mounting accessories

- |   | Type    |
|---|---------|
| • Torque wrench 8 ... 40 N·m                                  | 1300A11 |
| • Fork wrench hex. 18 mm<br>for torque wrench                 | 1300A13 |
| • Tubular socket wrench hex. 14 mm<br>for ø18 mm fitting hole | 1300B6  |
| • Special key<br>for Thompson adapter Type 6513A              | 1300A1  |