

# Miniature Measuring Probe

Type 6055BB...

## for Non-Cooled Cylinder Pressure Measurement, M5 Thread Set Back

The miniature measuring probe with very small dimensions and M5 x 0,5 mounting thread is particularly suitable for direct installation in small-capacity combustion engines with more than 2 valves per cylinder.

- Particularly suitable for measurements with glow plug adapter Type 6535Q...
- Good temperature stability of the sensitivity
- Acceleration-compensated
- Front diameter 4,4 mm
- Low thermal shock error and long life thanks to the front seal
- Very high sensitivity

### Description

Type 6055BB... uses a new type of piezoelectric crystal with which a sensitivity of  $-20 \text{ pC/bar}$  is achieved.

This sensitivity over a temperature range of  $200 \pm 50 \text{ }^\circ\text{C}$  varies by not more than  $\pm 0,5 \%$ .

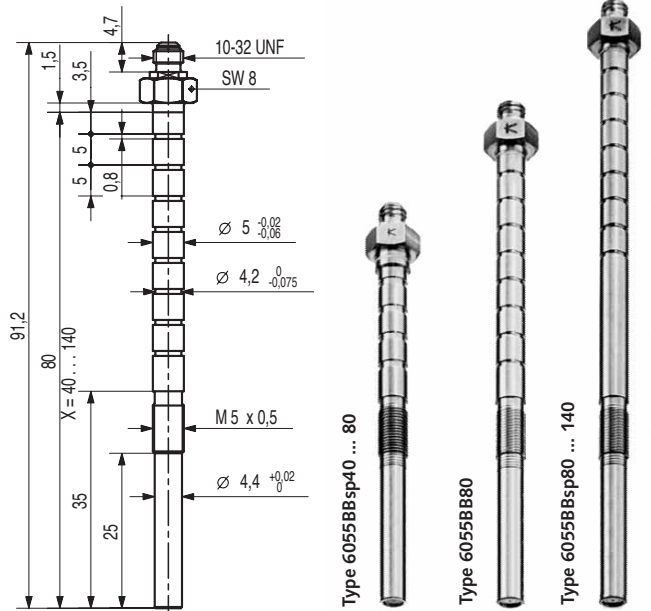
The influence of engine vibrations on the measuring signal is reduced by the passive acceleration compensation.

The front seal allows good heat dissipation and thus a maximum short-time probe operating temperature of  $400 \text{ }^\circ\text{C}$ .

### Application

The miniature probe allows measurement of the combustion chamber pressure of combustion engines under critical mounting conditions: e.g. on multi-valve engines, motor cycle and other small engines.

For using the Type 6055BB... in a glow plug adapter allows cylinder pressure indications without a separate mounting bore (Fig. 4); see also data sheet 000-075e (DB04.6531e).



The sturdy, turned diaphragm also allows measurements during engine knocking, in which it nevertheless guarantees highly accurate thermodynamic investigations thanks to its small thermal shock error.

### Installation

The structure of the mounting bore is shown in Figs. 1-3. When fitted through a coolant channel in the cylinder head, an O-ring is used as the seal.

**Technical Data for Type 6055BB...**

Measuring range	bar	0 ... 250
Calibrated ranges	bar	0 ... 50, 0 ... 100, 0 ... 150
Overload	bar	300
Sensitivity	pC/bar	≈-20
Natural frequency, nominal	kHz	≈130
Linearity in all ranges (at 23 °C)	%/FSO	≤±0,4
Hysteresis	%/FSO	<1
Acceleration sensitivity		
axial	bar/g	<0,0002
radial	bar/g	<0,0005
Operating temperature range	°C	-50 ... 400
Sensitivity shift		
200 °C ±50 °C	%	≈±0,5
200 °C +150 °C/-177 °C	%	≤±2
Insulation resistance		
at 23 °C	Ω	>10 <sup>13</sup>
at 200 °C	Ω	>10 <sup>11</sup>
at 350 °C	Ω	>10 <sup>9</sup>
Short term drift (thermal shock)	bar	≤±0,5
Δp <sub>mi</sub>	%	<±2
Δp <sub>max</sub>	%	<±1,5
Weight (6055BB60)	g	10
Connector	PTFE 10-32 UNF	

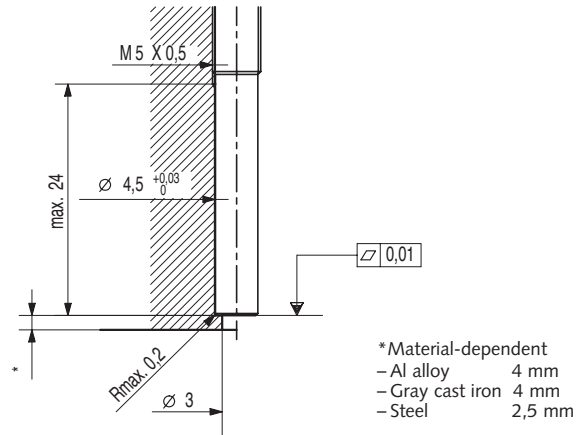


Fig. 2: Bore for sensor

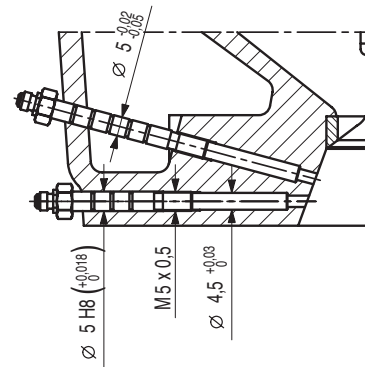


Fig. 3: Installation through coolant channel

000-420e-02.03 (DB03:6055BB6e)

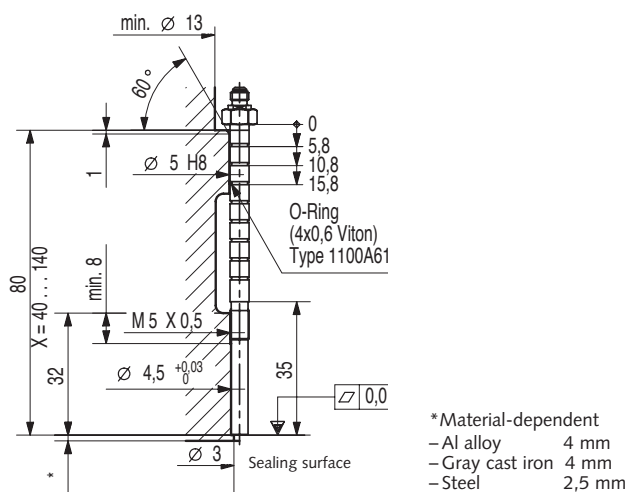


Fig. 1: Dimensions of the mounting bore

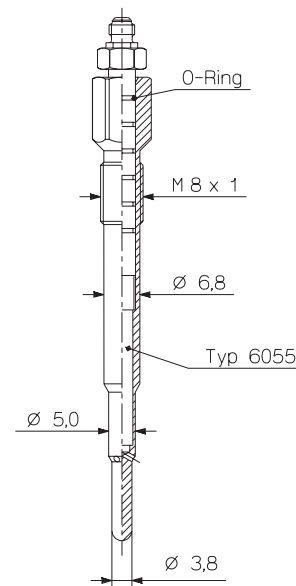


Fig. 4: Application in glow plug adapter

### Accessories Included

- O-ring Viton (4 x 0,6)

**Type**  
1100A61

- Torque wrench 1 ... 6 Nm 1300A17
- Special tap M5 x 0,5 1357A
- Special drill for bore 1300A63
- Adapter for pressure generator 6904 6591
- Reamer for bore 1300A99

### Optional Accessories

- Connecting cable Teflon BNC pos. 1631C...
- Connecting cable Teflon 10-32 UNF pos. 1635C...
- Connecting cable, metal 1957A1 10-32 UNF pos.

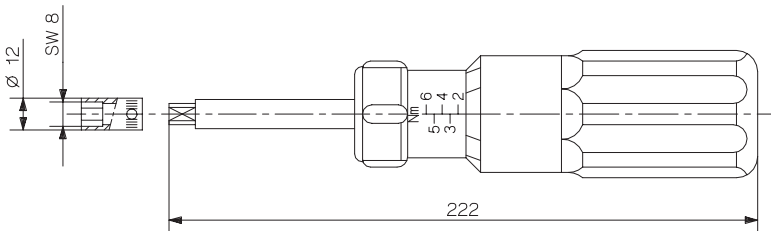


Fig. 5: Torque wrench Type 1300A17

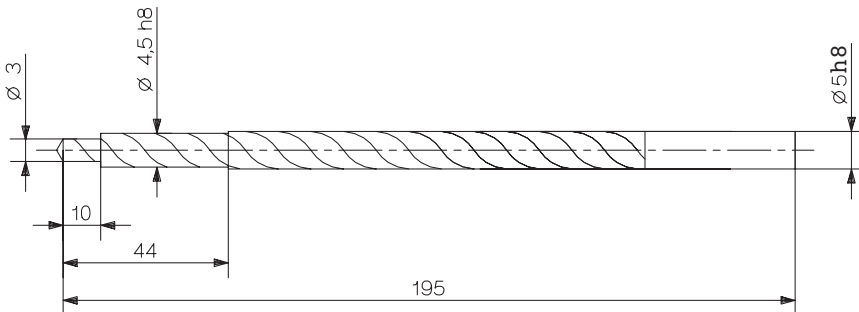


Fig. 6: Special drill for bore Type 1300A63

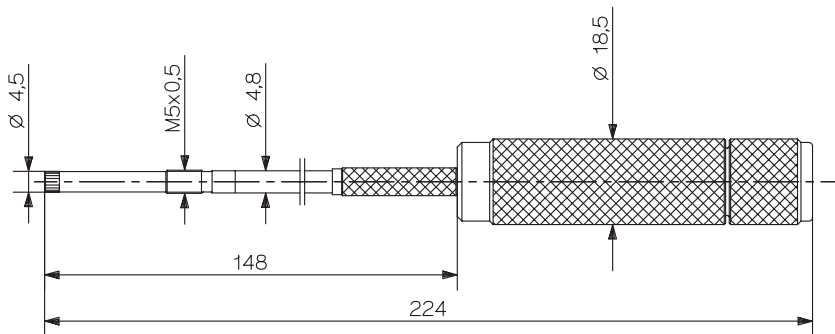


Fig. 7: Reamer Type 1300A99

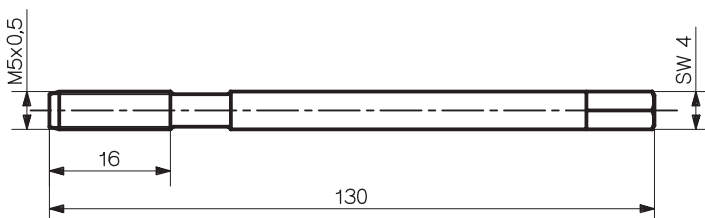


Fig. 8: Special tap Type 1357A

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