

# Quartz-Sensor

Type 6175A2

## for Mold Cavity Pressure with Front $\varnothing 12$ mm (Aluminum and Magnesium)

Quartz sensor Type 6175A2 for measuring cavity pressures up to 2 000 bar when die casting aluminum and magnesium.

- Robust adapter design
- Design without diaphragm and with flat, machinable front
- Integral high-temperature cable meeting IP65 protection requirements

### Description

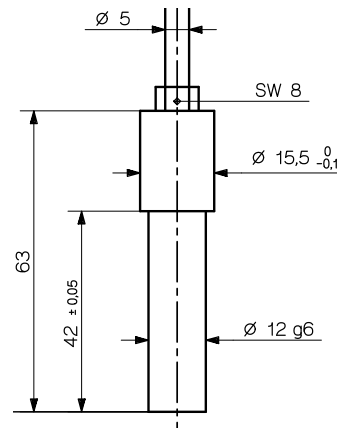
The sensor Type 6175A2 consists of a high temperature quartz sensor built into a rugged adapter. The sensor has a front diameter of 8 mm, is flush with the front of the adapter, separated by a cylindrical gap of  $<10 \mu\text{m}$ , and measures the pressure directly.

This acts on a quartz sensor element, which yields a proportional electrical charge. A charge amplifier converts the charge into a proportional output voltage of 0 ... 10 V or a proportional output current of 4 ... 20 mA, irrespective of the length of the sensor cable. All parts of the sensor are corrosion-resistant. The non-detachable high-temperature cable protected with steel sheathing meets IP65 protection requirements.

### Application

The rugged sensor without a diaphragm measures cavity pressures up to 2 000 bar in diecasting of aluminum. The temperature of the melt in contact with the front must not exceed 850 °C. This sensor is particularly suitable for monitoring and open- and closed-loop control in industrial production, where it can be used in conjunction with the charge amplifier Type 5039A.

For more complex data processing (such as peak pressure monitoring) Kistler CoMo Injection Type 2869... or the DataFlow-System Type 2865... may be used.



### Technical Data

Range	bar	0 ... 2 000
Overload	bar	2 500
Sensitivity (at 250 °C)	pC/bar	$\approx -6,7$
Linearity, all ranges	%FSO	$\leq \pm 2$
Operating temperature range	°C	0 ... 300
Connector	°C	0 ... 200
Mold (sensor, cable)	°C	0 ... 300
Melt (at the front of the sensor)	°C	$< 850$
Insulation resistance		
at 20 °C	$\Omega$	$\geq 10^{13}$
at 300 °C	$\Omega$	$\geq 10^{11}$

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**Mounting**

The sensor is usually fixed with a spacer sleeve in the mounting bore.

The sensor front becomes part of the cavity wall. Therefore the sensor must be fitted so its front is exactly flush and does not leave a mark on the molded part. The front can be machined to a depth of 1,5 mm at maximum.

The sensor is centered in the 12 H7 bore. If possible fix the connector with the furnished mounting plate (Art. no. 3.520.450) in a well protected location on the mold. The insulating plate Art. no. 3.750.062 protects against heat. Also attach the identification label showing the sensor sensitivity.

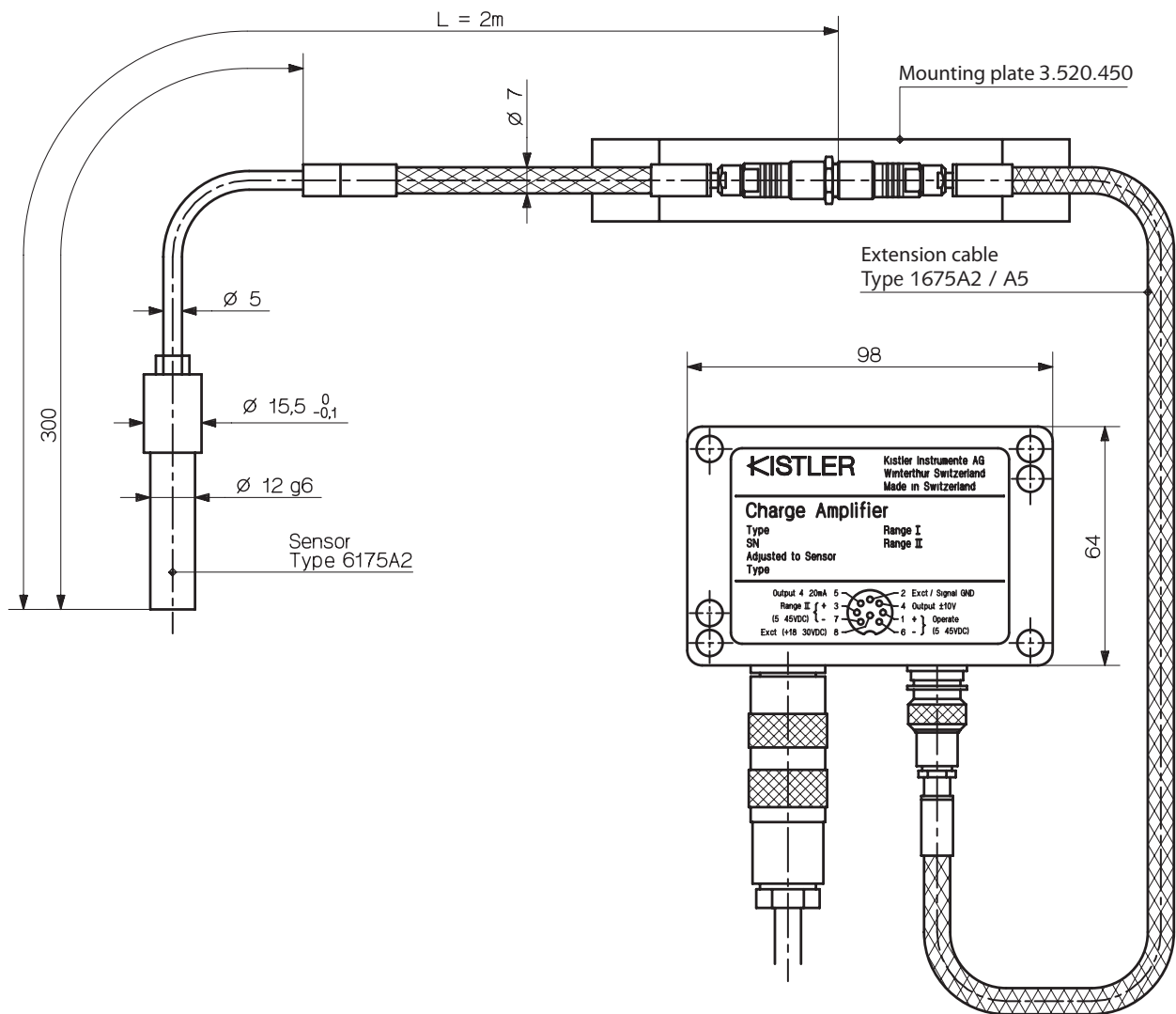


Fig. 1: Quartz sensor measuring chain with integral cable, connector and amplifier Type 5039A...

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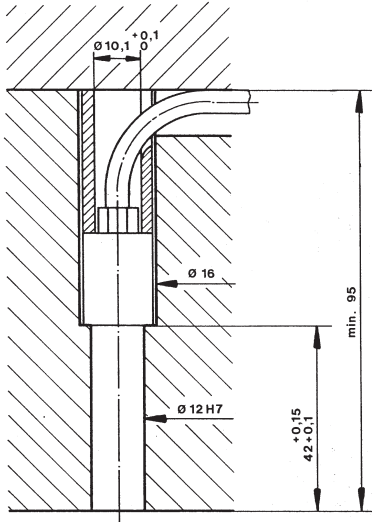


Fig. 2: Mounting with spacer sleeve Art. No. 3.060.085

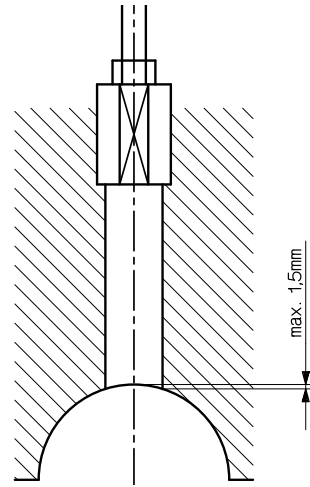


Fig. 3: Sensor with machined front and collar to prevent rotation

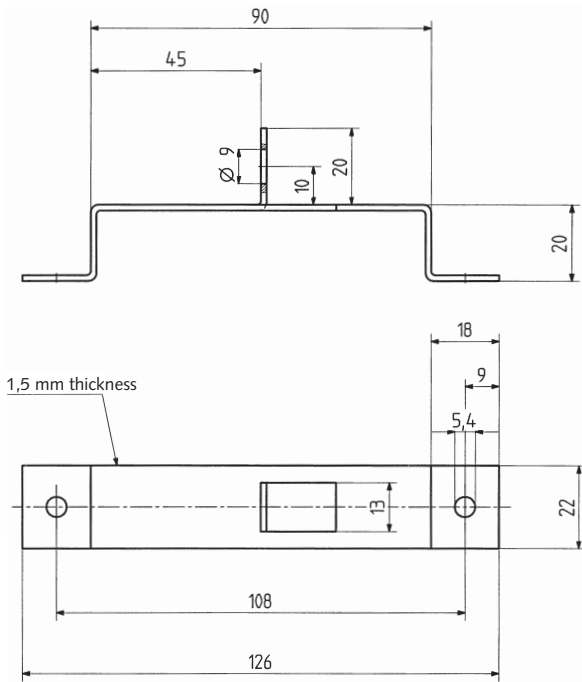


Fig. 4: Mounting plate Art. No. 3.520.450 for connector

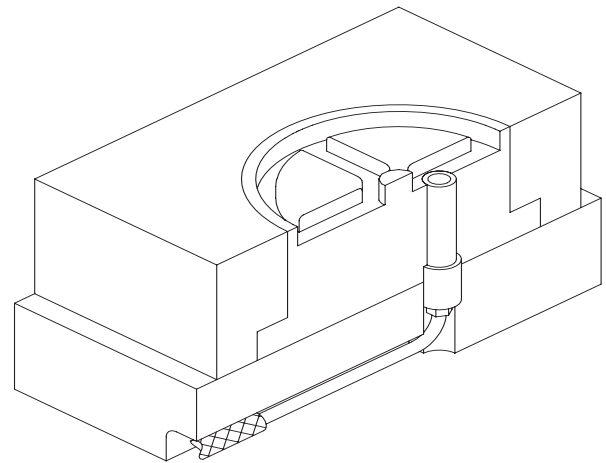


Fig. 5: Mounting example: sensor type 6175A2 mounted in mold insert

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## Included Accessories

- Mounting plate
- Insulation plate
- Identification label
- Spacer sleeve

## Art. No.

3.520.450  
3.750.062  
3.520.451  
3.060.085

## Ordering Code

- Quartz-Sensor with integral high-temperature cable L = 2 m, for aluminum- and die-cast magnesium

## Type

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## Accessories (optional)

- High-temperature extension cable, steel-sheathed, TNC pos.,  
Length 2 m 1675A2  
Length 5 m 1675A5
- Dummy sensor 6575
- Extraction tool for dummy sensor 1291Asp0,2 ... 1
- Charge amplifier with voltage output with standard range I (20 000 pC) 5039A2x1  
with customer-specified range I (min. 5 000 pC, max. 50 000 pC) 5039A3x1
- Charge amplifier with voltage output 4–20 mA with customer-specified range I (min. 5 000 pC, max. 50 000 pC) 5039A3x1Y36

## Type

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