

Mold Cavity Pressure Sensor

with front: Ø 4 mm

Quartz sensor for cavity pressure up to 200 bar in plastics injection molding.

- · for low pressure injection molding
- Suitable for low viscosity materials
- Sensor with membrane

Description

The quartz sensor for mold cavity pressure Type 6167A... has a front of 4 mm diameter. An O-ring seals the annular gap of <10 μ m between sensor and mounting bore and thereby also center aligns the sensor in the bore.

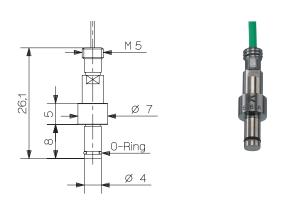
The electrical charge produced by the sensor (pC = picocoulomb) is converted by the Kistler charge amplifier into a proportional voltage of 0 \dots 10 V. The length of the sensor cable has no influence.

The pressure acts directly on the entire front of the sensor and is transferred to the quartz measuring element, which produces an electrical charge proportional to the pressure.

All parts of the sensor are corrosion-resistant. The exchangeable cable is screwed to the sensor with a tight seal. The connector is self-locking and splash-proof.

This product complies with the CE standard 89/336/EEC.

The sensor 6167AE is provided with a single-wire cable with a very small cross-sectional area and can be installed flexibly in the injection mold. The single-wire cable is exchangeable and can be cut to length as required. With the single-wire technique, electrical shielding is provided by the mold. It is therefore essential for the cable and connector to be completely integrated in the mold. To ensure easy installation, a connector to is included which is self-locking and splash-proof. With multi-cavity systems Type 6829A..., the sensor basic type is supplied with a single-wire cable, but without connector and mounting plate.



Application

This sensor measures mold cavity pressures up to 200 bar; it is particularly suitable for industrial applications for monitoring and open and closed loop control of the process. The diaphragm design of the sensor prevents low viscosity melts between sensor and bore from affecting the measuring result.

Caution! This sensor may never be used for gases or liquids!

Technical Data Type 6167A... and 6167AE

bar	0 200
bar	500
pC/bar	≈–16,5
% FSO	≤±1
kHz	≈150
°C	0 200*
°C	<450
%/°C	±0,02
TΩ	>10
TΩ	>1
	bar pC/bar % FSO kHz °C °C %/°C ΤΩ

* During machine faults, the mold temperature may rise to 240 °C without damaging the sensor; however, this may lead to measuring errors.

This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

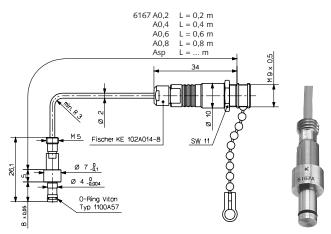
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Туре 6167А...

Patent No. US 6,212,963

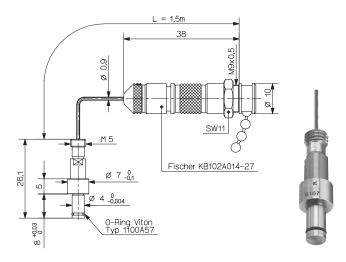
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Pressure sensor Type 6167A...



Quartz sensor for mold cavity pressures up to 200 bar for processing low-viscosity plastic melts (e.g. sheaths of IC components). Exchangeable high-temperature cable with connector.

Pressure sensor Type 6167AE



Alternative version of sensor Type 6167A... with single-wire technique. Simplified sensor installation thanks to the single-wire cable, which can be flexibly installed in the mold and cut to length as required. Both single-wire cable and connector are exchangeable.

Installation

The sensor is normally fixed in the mounting bore with the mounting nut (Type 6457), but a spacer sleeve can also be used.

The sensor front forms part of the cavity wall. The sensor must therefore be fitted so that its front comes exactly flush.

The sensor is center aligned in the 4 H7 bore.

If possible affix the connector to a protected part of the mold with the mounting plate (Art. No. 3.520.328) supplied.

For installing the sensor 6167AE equipped with single-wire technique, the following additional points must be observed. The single-wire cable must be installed completely in the mold. The connector supplied must be installed with the single-wire cable cut to length but without removal of the insulation. The connector is fitted and secured in the mold with the mounting plate.

In addition, the identification label (Art. No. 3.520.842) supplied indicating the sensor type and its sensitivity must also be fitted.

The mounting plate (Art. No. 3.520.328), the mounting nut (Art. No. 6457) and the identification label (Art. No. 3.520.842) are included in the parts supplied. For the sensors 6167AE, the schedule of parts supplied is supplemented with the connector Type 1839.

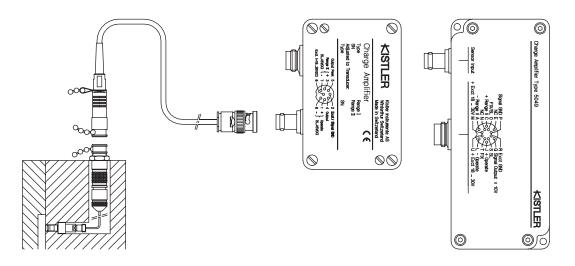
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Measuring Chain with Sensor Type 6167A... and Machine-Integrated Charge Amplifier

Cable Type 1667B with BNC-connector	Cable Type 1672B with TNC-connector
5039Axx2	5039Axx1
5049Axx2	5049Axx1

Fig. 1: Sensor Type 6167A... with charge amplifier Type 5039A... (1-channel) or with charge amplifier Type 5049A... (1-channel with SmartAmp)

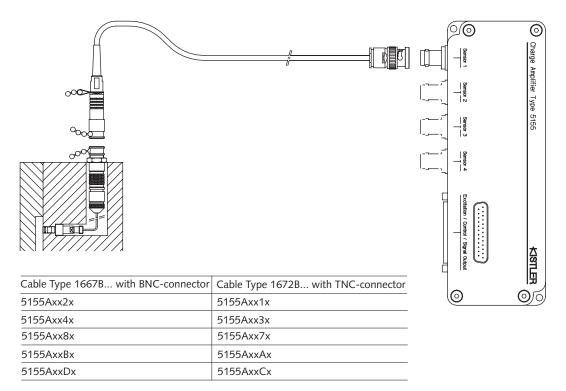
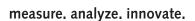


Fig. 2: Sensor Type 6167A... with charge amplifier Type 5155A... (1-, 2- or 4-channel; SmartAmp optional on one channel)

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Installation Examples

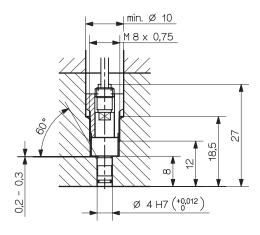


Fig. 1: Installation with mounting nut (Type 6457)

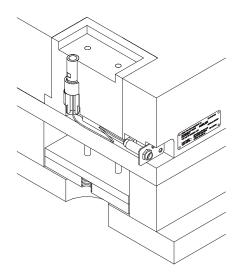


Fig. 3: Sensor, cable, mounting plate (Art. No. 3.520.328) and identification label (Art. No. 3.520.842)

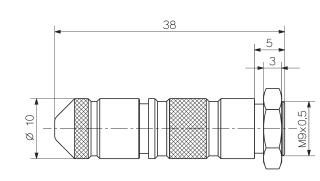


Fig. 5: Connector (Type 1839)

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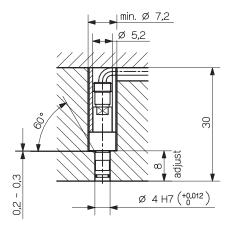


Fig. 2: Installation with spacer sleeve (Type 6459)

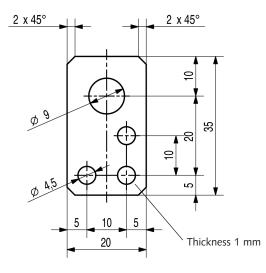


Fig. 4: Mounting plate (Art. No. 3.520.328)

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Accessories Included	Art. No.
Mounting nut	6457
Mounting plate	3.520.328
Identification label	3.520.842
 Connector (for single-wire 	
technique only)	1839
• Single-wire cable, with the length of 1,5 m (ready installed with sensor, for	
single-wire technique only)	1666A2
• O-ring, diameter 2,5 x 0,65 mm	1100A57
Optional Accessories	Туре
 High temperature extension cable 	
High temperature extension cable sheathed in steel braiding,	
- ·	
sheathed in steel braiding,	1672A2
sheathed in steel braiding, Fischer SE102A014 – TNC pos.,	1672A2 1672A5
sheathed in steel braiding, Fischer SE102A014 – TNC pos., Length 2 m	
sheathed in steel braiding, Fischer SE102A014 – TNC pos., Length 2 m Length 5 m	
sheathed in steel braiding, Fischer SE102A014 – TNC pos., Length 2 m Length 5 m • High temperature extension cable, Teflon	
 sheathed in steel braiding, Fischer SE102A014 - TNC pos., Length 2 m Length 5 m High temperature extension cable, Teflon Fischer SE102A014 - BNC pos., 	1672A5
 sheathed in steel braiding, Fischer SE102A014 - TNC pos., Length 2 m Length 5 m High temperature extension cable, Teflon Fischer SE102A014 - BNC pos., Length 2 m 	1672A5
 sheathed in steel braiding, Fischer SE102A014 – TNC pos., Length 2 m Length 5 m High temperature extension cable, Teflon Fischer SE102A014 – BNC pos., Length 2 m Length 5 m 	1672A5 1667B2 1667B5

Set of accessories Type 1300A81 consisting of:	Art. No.
 Step drill, diameter 7,2/3,85 	5.210.156
Countersink	5.210.158
 Twist drill, diameter 10 mm 	5.210.159
Reamer, diameter 4H7	5.210.155
• Tap M8 x 0,75	5.210.161
Finishing tool	7.110.296
Hexagonal socket wrench	5.210.118
Lapping tool	7.110.298
• Limit plug gage, diameter 4H7	5.210.162
Checking tool	7.110.300
• Clamp	3.050.175
Fork wrench SW4/SW5	5.210.164
Mounting Accessories	Туре
Socket wrench	1383
Extraction tool	1315A
 O-ring tool for exchanging 	

Ordering Key

Coaxial cable, L in m	0,2	
	0,4	
	0,6	
	0,8	
Coaxial cable with special lengths, specify L in m		
$(L_{min} = 0,1 \text{ m} / L_{max} = 5 \text{ m})$	sp	
with single-wire cable ($L = 1,5 \text{ m}$)	E	
with single-wire cable ($L = 5$ m)	E1	

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Туре 6167А 🗌

the cable