

Type 6003A

Standard cavity pressure sensor

- miniature version
- suitable for all mold and melt temperatures in injection molding!
- sensor front can be machined to adapt the cavity surface
- basis for quality monitoring and control in injection molding
- can be connected to any charge amplifier respectively injection molding machine



Description

The cavity pressure sensor type 6003A is the standard miniature sensor for industrial monitoring and control in injection molding. For decades sensors of this kind and dimension have been used to determine (and to change if necessary) the physical properties of a molded part even during production.

The piezoelectric measuring technology has become established for this application over the years, because the sensor itself is especially suitable for it. Due to the partially very fast injection processes certain demands develop which can only be met by very compact and stiff sensor designs. The reason for this is the high resulting natural frequency. Related technologies such as the strain gauge technology cannot nearly meet these demands.

The sensor itself however is only a small part of a whole measuring chain or of a whole measuring system which do not only contain many possible measuring and system failures, but also allow many possible misinterpretations.

Technical Data

Measuring range	bar	0 ... 2000
Overload	bar	2500
Sensitivity ¹⁾	pC/bar	ca. - 5
Maximum melt temperature (plastics) in the cavity ²⁾	°C	no limitation
Maximum mold temperature ³⁾	°C	200
Deviation of linearity	%	< ± 1
Natural frequency ⁴⁾	KHZ	> 80
Insulation resistance	Ω	> 10 ¹³ (at 20 °C)
Remark		
The sensors including connecting cable can be cleaned in an ultrasonic bath together with the mold inserts if a sealed protecting cap is used (cleaning agent: aqueous tenside solution).		

¹⁾ The exact sensitivity is shown on a separate calibration sheet

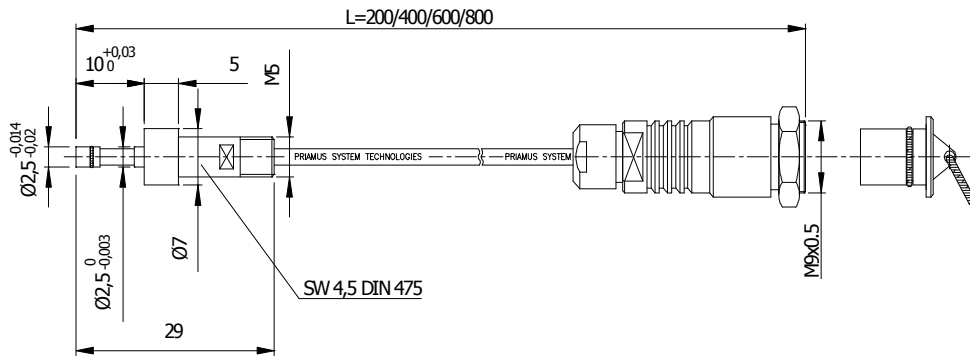
²⁾ The plastic melt cools immediately after contacting the cavity wall. The melt temperature is therefore without any practical meaning for the sensor (thermoplastics). For thermosets and elastomers the permanent melt temperatures are usually below 200 °C

³⁾ The permanent temperature of the sensor body can be higher than the specified value of the mold temperature. The temperature at the cable connector however is limited. In practice there are no mold temperatures higher than 200 °C expected.

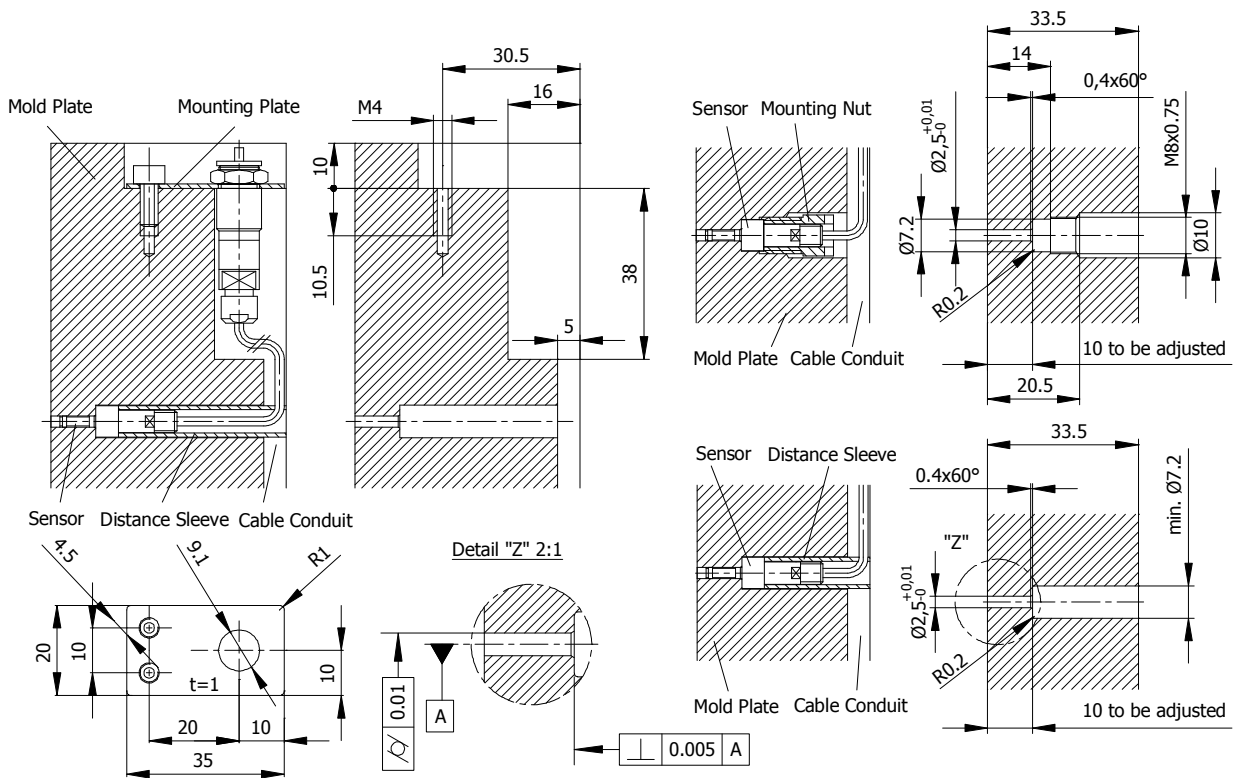
⁴⁾ The actual natural frequency of the sensor is far higher than the frequency spectrum of the effective signal

Dimensions

Type 6003A...



Mounting dimensions



subject to technical amendments

Scope of delivery

Article	Type	Article	Type
Mounting plate	6581A	Identification label	-
Mounting nut	6541A		

Accessories

Article	Type	Article	Type
Mounting / extraction tool for distance sleeve	6561A	Connecting cable	1052A... / 1066A...
Mounting / extraction tool for mounting nut	6562A	Extension cable	1071A.../ 1072A
Dummy	6503A	Distance sleeve	6522A

Order codes

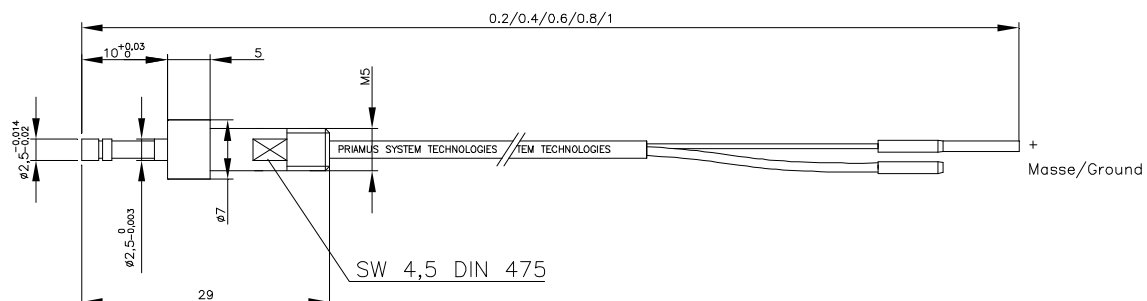
Sensor: Type 6003A
 Sensor including connecting cable type 1002A...: Type 6003A0,2 / 0,4 / 0,6 / 0,8

Type 6003A-M

Type 6003A-M has been developed especially to be connected to the multi pin connector type 1190B and has the following advantages:

- Easy handling
- Cost-effective (less cables are being needed)
- Can be assembled by the user
- Can be combined with sensors and quick disconnects
- Self-explanatory due to a clever color system

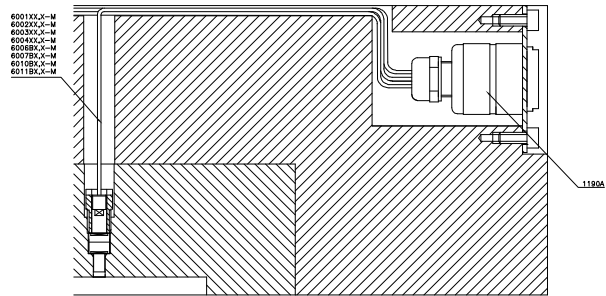
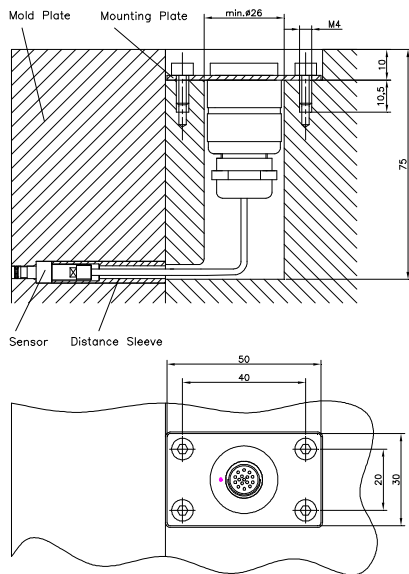
Dimensions



To mount the multi pin connector we recommend calculating 50 – 100 mm cable length.

Mounting dimensions multi pin connector

Connection sample



Scope of delivery

Article	Type	Article	Type
Mounting plate	6581A	Identification label	-
Mounting nut	6541A		

Accessories

Article	Type	Article	Type
Distance sleeve	6522A	Fischer multi pin connector (16-pin)	1190B
Mounting / extraction tool for distance sleeve	6561A	Ejector tool for crimp contacts	1310A
Mounting / extraction tool for mounting nut	6562A	Crimping pliers	1311A
Connecting cable	1053A 1054A 1055A 1056A	Crimping contacts	1312A
Dummy	6503A		

Order codes

Sensor inclusive connecting cable
type 1002Ax,x-M / 1004Ax,x-M:

Type 6003A0,2-M / Type 6003A0,4-M
Type 6003A0,6-M / Type 6003A0,8-M

subject to technical amendments