

# DAC 109

## Piezoelectric Pressure Sensor

### Special characteristics

- Robust design for long-term operation
- Internal leader element
- High linearity across the whole pressure and temperature range
- High temperature resistance (350 °C / 662 °F)
- Constant sensitivity across the entire service life



### Description

The DAC 109 is an extremely durable sensor for continuous pressure monitoring in difficult environments. Installation with M14 thread, various sealing options and an internal leader element allow long-term, continuous operation. The Double Shell™ design offers high mechanical separation from the influences of the mounting hole.

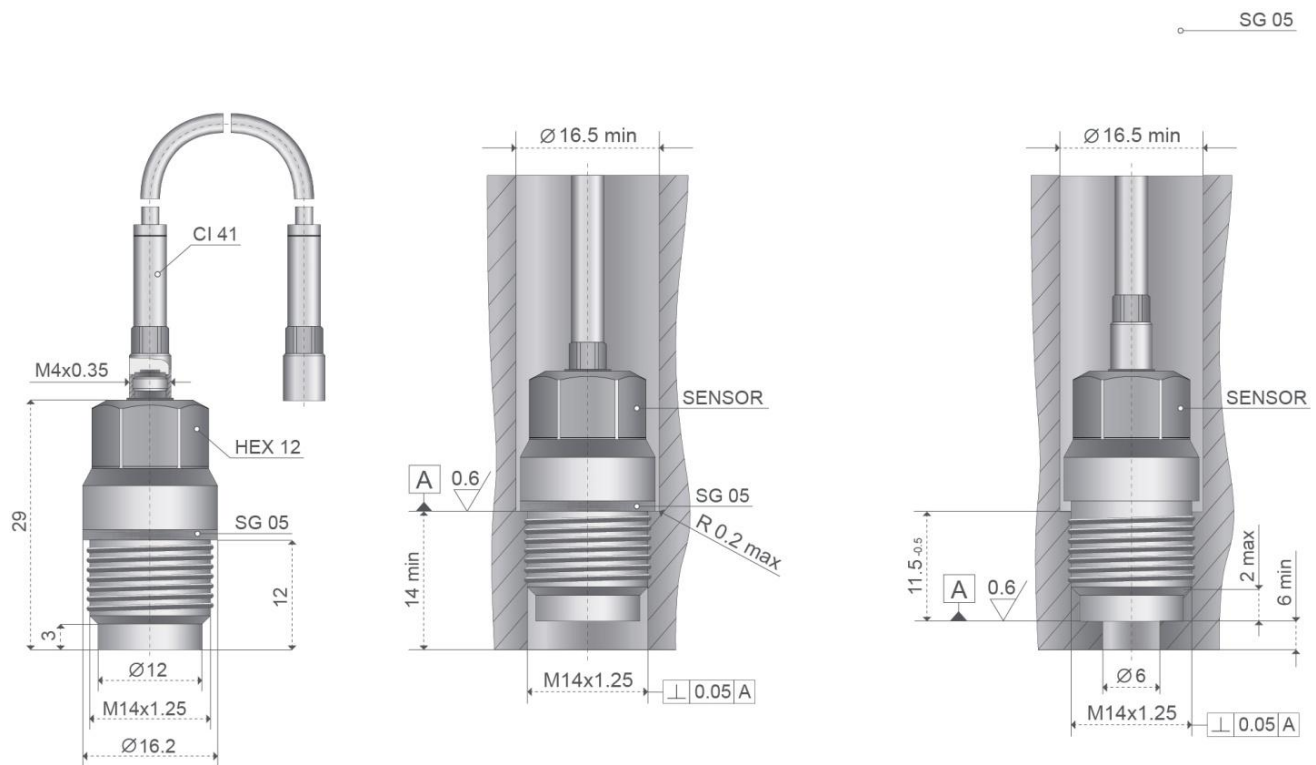
### Applications

Endurance test stands

Condition monitoring

Technical Data		
Nominal pressure range	[bar]	0 ... 250 (0 ... 3625 psi)
Overload	[bar]	300 (4350 psi)
Service life (load change)		10 <sup>8</sup>
Sensitivity (nominal)	[pC/bar]	20 (1.4 pC/psi)
Linearity (nominal)	[%]	≤ ± 0.5
Operating temperature	[°C]	-40 ... 350 (-40 ... 662 °F)
Insulation resistance at 20 °C	[Ω]	≥ 10 <sup>13</sup>
Acceleration sensitivity	(typ.)	≤ 0.0002 [axial]
Shock	[g]	≥ 2000
Natural frequency	[kHz]	approx. 90
Capacitance	[pF]	7
Tightening torque	[Nm]	20 ... 25
Thermal sensitivity		≤ 0.5 %      20 ... 350 °C ≤ ± 0.2 %    250 ± 100 °C
Thread diameter		M14x1.25 [stepped grommet seal]
Cable connection (negative)		M4x0.35
Weight (without cable)	[g]	34

## Dimensions in mm and mounting



The sensor can be screwed directly into the object to be measured. The sensor rear side ( $\varnothing 16.2$  mm,  $\varnothing 12.0$  mm) seals the sensor in the mounting hole. Rapid changes in pressure are best detected when the volume in front of the membrane is kept as small as possible.

All cables can be removed.

Teflon piezo input cable (1 m) and 1 x seal ring are included in the scope of supply.

## Accessories

Name	quantity	BDS-order number
Piezo Input cable Teflon	2 m	BDV4712
Piezo Input cable Teflon	3 m	BDV5041
Piezo Input cable steel braid	1 m	BDV2444
Piezo Input cable steel braid	2 m	BDV2446
Piezo Input cable steel braid	3 m	BDV4954
Piezo Input cable Viton	1 m	BDV4707
Piezo Input cable Viton	2 m	BDV4708
Piezo Input cable Viton	3 m	BDV5806
M4/0.35 to BNC coupling	piece	BDU2077