

Piezoresistive Pressure Transducers

For Media Temperatures up to 350 °C

Series 13

Watercooled pressure transducers are used for accurate static and dynamic measurements in fluids up to 350 °C. The sensor, an integrated silicon cell with four diffused strain gauge resistors, is located in the watercooled section of the oil-filled body. The oil transmits the pressure from the flush steel diaphragm to the sensor, isolating it from the temperature of the media. This allows very accurate pressure measurements over a wide temperature range without influencing the pressure or flow conditions.

Originally developed for blow down tests on water-cooled reactors, these transducers find many applications in high temperature chemical reactions and engine tests.

Specifications

Series PA(A)-13 Low Pressure

Pressure Ranges	10	20	50	100	200	400	bar
Overpressure	15	30	75	150	300	500	bar
Signal Output typ.	160	160	160	160	160	160	mV

PA: Sealed Gauge. Zero at atmospheric pressure (at calibration day)

Linearity, incl. Hysteresis	< 0,5 %FS (0,1 / 0,2 %FS at reduced Full Scale)
Repeatability	< 0,1 %FS
Zero	< 5 mV (compensatable externally with R5)
Operating Temperature	20...350 °C media temperature

Temperature Coefficients of Zero
with Change of Media Temperature < 0,25 mV / 100 °C

Temperature Coefficients of Zero
with Change of Cooling Water Temp. < 0,0125 mV / °C

Cooling Water Flow Rate ≈ 0,2 l / Min.

Cooling Water Temperature Rise ≈ 5 °C / 100 °C media temperature

Natural Frequency (Resonance) > 5 kHz

Material Housing Stainless Steel 1.4435 (opt. Hastelloy C-276)

Material Diaphragm Stainless Steel 1.4435 (opt. Hastelloy C-276)



High Pressure Version

Electrical Connections

blue	-OUT
black	+IN
red	+OUT
white	-IN
yellow	-IN