



Piezoelectric pressure transducer

FEATURES

- Designed for use in gas turbines
- Wide temperature range :
-70 °C to 700 °C (-94 °F to 1 290°F)
- Outstanding thermal behaviour (no pyroelectricity)
- Sensitivity virtually constant over product lifetime
- Very low response threshold
- Internal case insulation
- Active acceleration compensation



DESCRIPTION

The use of piezoelectric single-crystal in the CP 506 dynamic pressure transducer makes it an extremely stable and reliable device.

The transducer is applicable to either long-term monitoring of pressure pulsation in gas turbines or development testing.

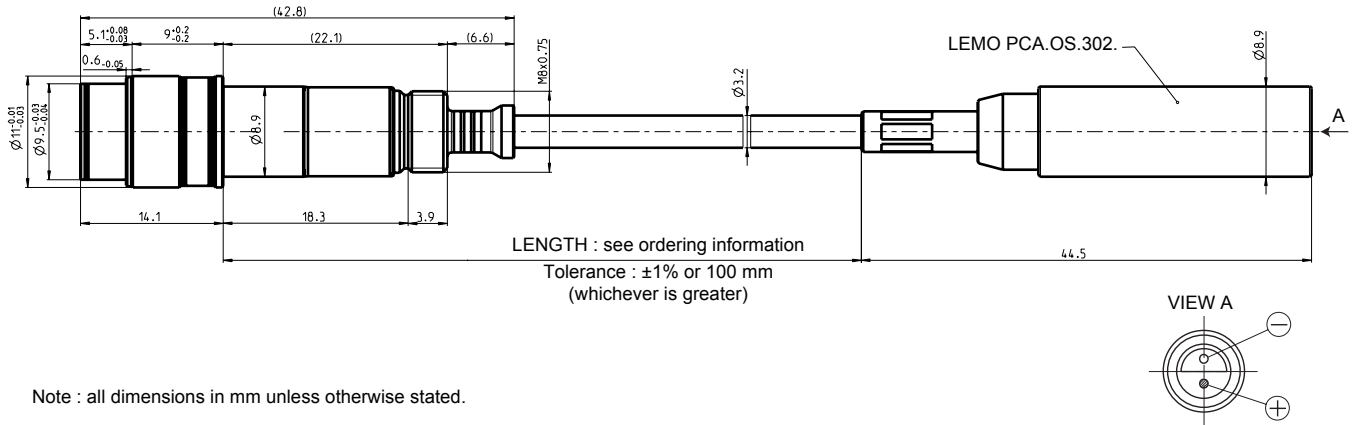
It has been specially designed to minimise sensitivity to acceleration.

It is fitted with an integral mineral insulated cable (twin conductors) which is terminated with a LEMO connector.



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MECHANICAL DRAWING



SPECIFICATIONS

GENERAL

Input power requirements : None
 Signal transmission : 2-pole system insulated from casing, charge output
 Signal processing : Charge converter

OPERATING

(at +23°C ±5°C or +73.4°F ±9°F)
 Sensitivity (typical) : 85 pC/bar (5.9 pC/psi)
 Dynamic measuring range (random) : 0 to 50 bar (0 to 725 psi)
 Burst pressure : >100 bar (1 450 psi)
 Linearity : ≤ 0.5% over dynamic measuring range
 Acceleration sensitivity
 • Axial : ≤ 0.25 mbar/g (≤ 0.0036 psi/g)
 • Radial : ≤ 0.2 mbar/g (≤ 0.003 psi/g)
 Frequency response : 2 to 15 000 Hz ±5% (lower cut-off frequency is determined by the electronics used)
 Resonant frequency : > 50 kHz (along sensitive axis)
 Transducer capacitance (including 1 m cable) : 122 pF nominal pole/pole, 157 pF nominal pole/ground
 Internal insulation resistance : > 10¹⁰ Ω at 25 °C (77 °F), > 10⁶ Ω at 700 °C (1 290 °F)

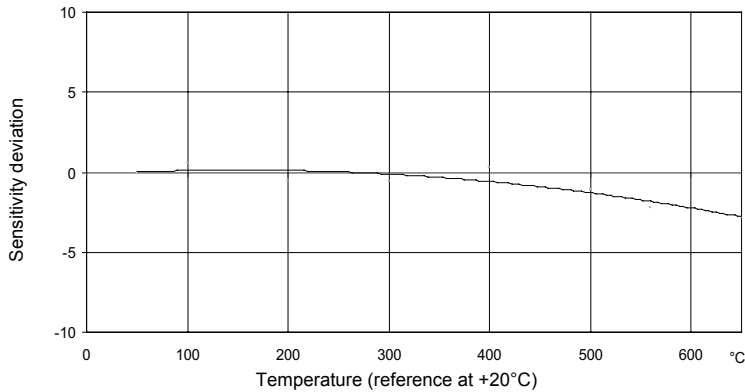
ENVIRONMENTAL

Temperature range (continuous operation) : -70 °C to +700 °C (-94 °F to +1 290°F)
 Maximum temperature : +750 °C (1 380°F)
 Housing material : Nimonic 90, hermetically welded
 Mounting torque : See mechanical drawing
 Connection type : 2-pole hard line cable (ø3.2 mm), insulated from casing, LEMO Connector

CALIBRATION

ISO 9001 certified calibration at +20°C with dead weight tester (3, 6, 8, 10, 12, 30, 50 bar). Sensitivity and linearity are determined according to DIN 16086.

TYPICAL RESPONSE CURVE



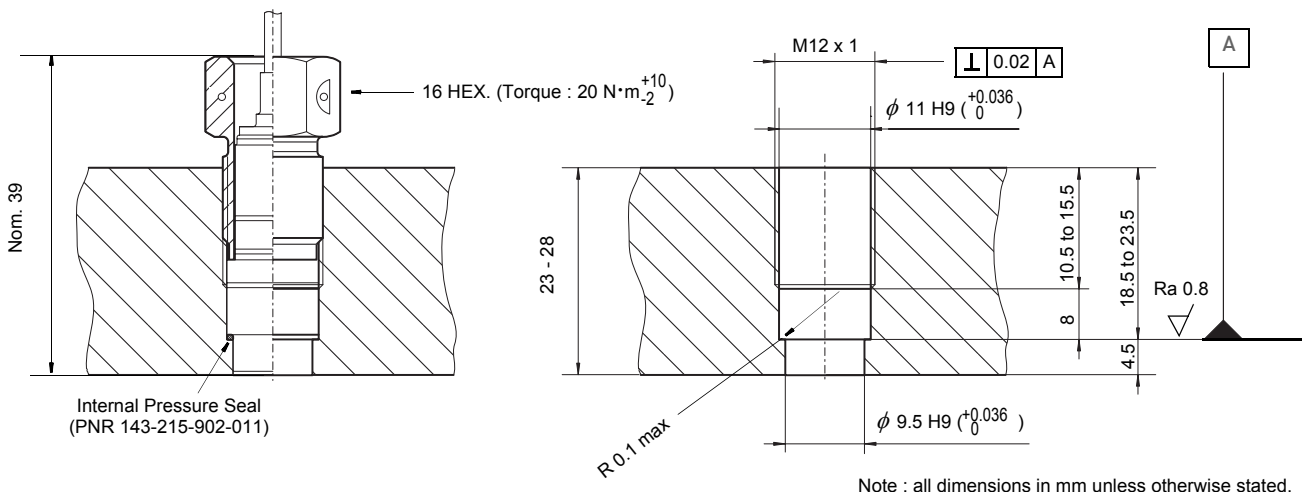
ORDERING INFORMATION

To order please specify :

Type	Designation	Ordering Number	Cable length
CP 506	Piezoelectric pressure transducer	143-506-00-011	2.5 m

ACCESSORIES

MA 104 Mounting Adapter for CP 506 (to be used with VM Lemo Connector)



Designation

MA 104 Mounting adapter

Ordering Number

809-104-000-011

ACCESSORIES (Continued)

CP 50X Pressure Seals

Designation	Ordering Number
MA Internal pressure seal	143-215-902-011
MA External pressure seal	143-215-903-011



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