

### Piezoelectric Pressure Transducer Type CP 216

#### FEATURES

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- Extreme temperature capability -70°C to +520°C
- High-pressure capability 350 bar
- High reliability
- Internal case insulation
- Certified for use in explosive atmospheres
- Sensitivity: 200 pC/bar typical

#### WEIGHT

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- Transducer: 12 g
- Integral cable: 25 g/m

#### DESCRIPTION

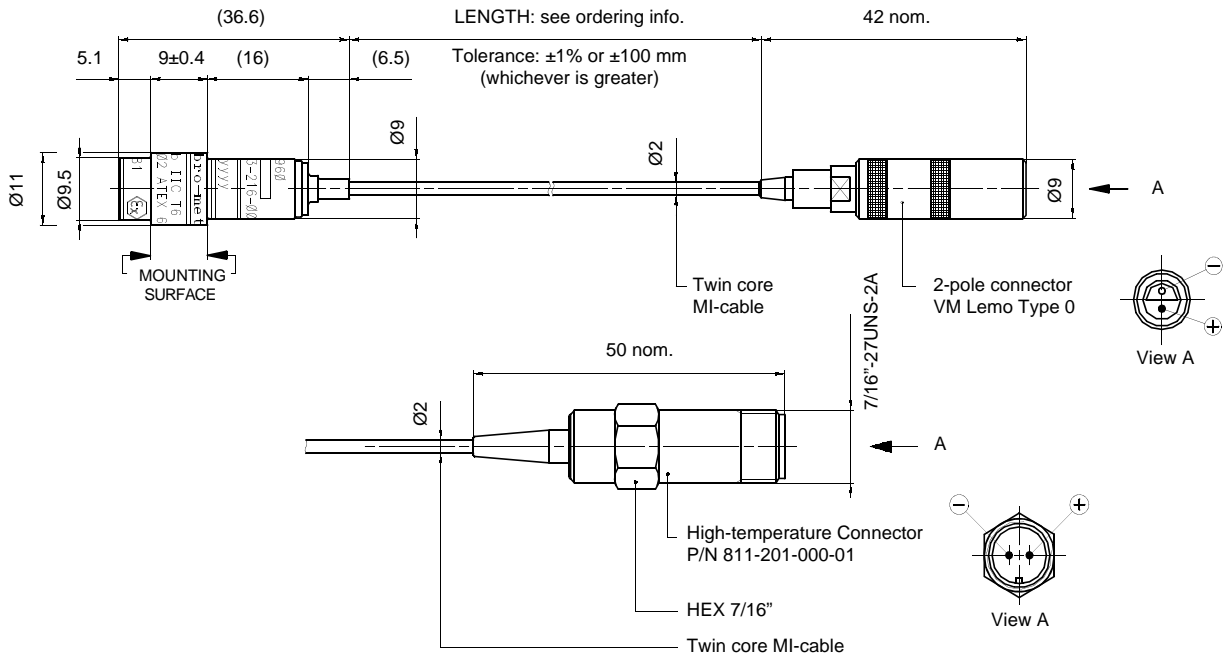
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The CP 216 is a compression mode dynamic pressure transducer. It is an extremely stable device thanks to the use of man-made piezoelectric material.

The transducer is designed for long-term monitoring or development testing. It is fitted with an integral mineral insulated cable (twin conductors) which is terminated by either a Lemo connector or a high-temperature connector developed by Vibro-Meter.



**MECHANICAL DRAWING**



**SPECIFICATIONS**

**ELECTRICAL**

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

**OPERATING**

(at +23°C ±5°C)

- Sensitivity (at 2 Hz) : 200 pC/bar typical
- Dynamic measuring range (random) : 0.0005 bar to 250 bar nominal
- Overload capacity (spikes) : Up to 350 bar
- Linearity : ± 1% over dynamic measuring range
- Acceleration sensitivity : ≤ 0.5 pC/g (≤ 0.0025 bar/g)
- Resonant frequency : > 80 kHz
- Frequency response : 2 to 15 000 Hz ±5% (lower cut-off frequency is determined by the electronics used)
- Internal insulation resist. : Min. 10<sup>9</sup> Ω (5x10<sup>4</sup> at +450°C)
- Capacitance :
  - *Transducer* : 320 pF nominal pole/pole  
13 pF nominal pole/ground
  - *Integral cable* : 270 pF/m nominal pole/pole  
210 pF/m nominal pole/ground

## ENVIRONMENTAL

Temperature range

- *Continuous* : -54°C to +470°C
- *Extreme* : -70°C to +520°C

Shock acceleration

: < 2000 g peak (half sine 1 ms) along sensitive axis

Explosive atmosphere

: Available in Ex version. EC type examination certificate :  
LCIE 02 ATEX 6106 X II 2 G (Zones 1, 2)  
Ex ib IIC T6 to T1



For specific parameters of the mode of protection concerned and special conditions for safe use, please refer to the "EC type examination certificate" that is available from Vibro-Meter SA on demand.

Corrosion, humidity

: Nimonic 90, hermetically welded (Inconel 600 for cable)

Radiations

- *Gamma flux* :  $10^{10}$  erg/g no effect
- *Neutron flux* :  $10^{17}$  n/cm<sup>2</sup> no effect

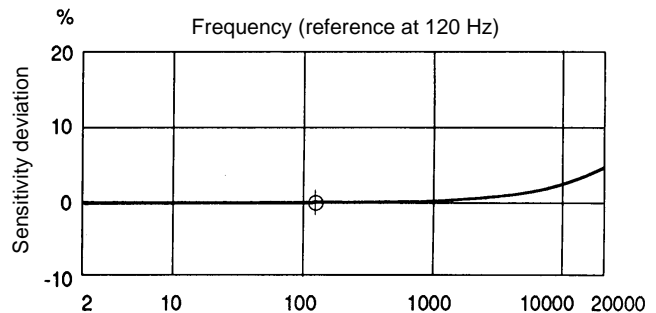
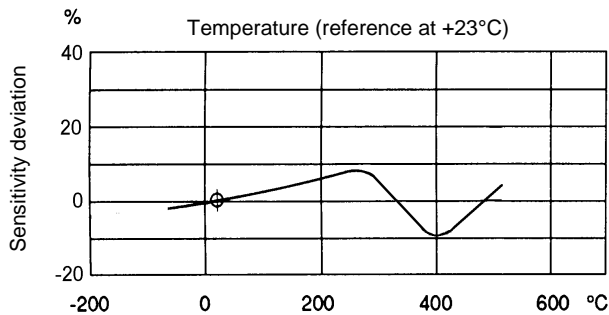
Mounting

: See manual

## CALIBRATION

Dynamic calibration at factory at 1 bar peak and 2 Hz (+23°C). No subsequent calibration necessary.

## TYPICAL RESPONSE CURVES



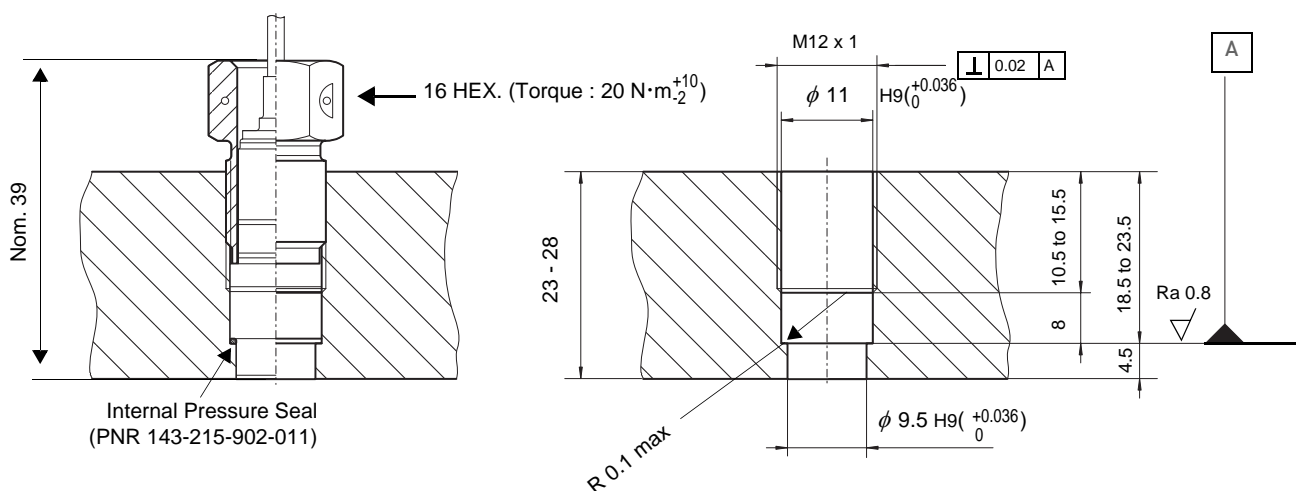
**ORDERING INFORMATION**

To order please specify :

Type	Designation	Ordering Number		
CP 216	Piezoelectric Pressure Transducer with VM Lemo connector	143-216-000-0X	1	cable length defined on order
			2	cable length 0.5 m
			3	cable length 1 m
			4	cable length 2 m
			5	cable length 3 m
CP 216	Piezoelectric Pressure Transducer with VM high-temperature connector	143-216-000-1X	1	cable length defined on order
			2	cable length 0.5 m
			3	cable length 1 m
			4	cable length 2 m
			5	cable length 3 m

**ACCESSORIES**

**MA 104 Mounting Adapter for CP 216 Version 0XX (for VM Lemo Connector)**



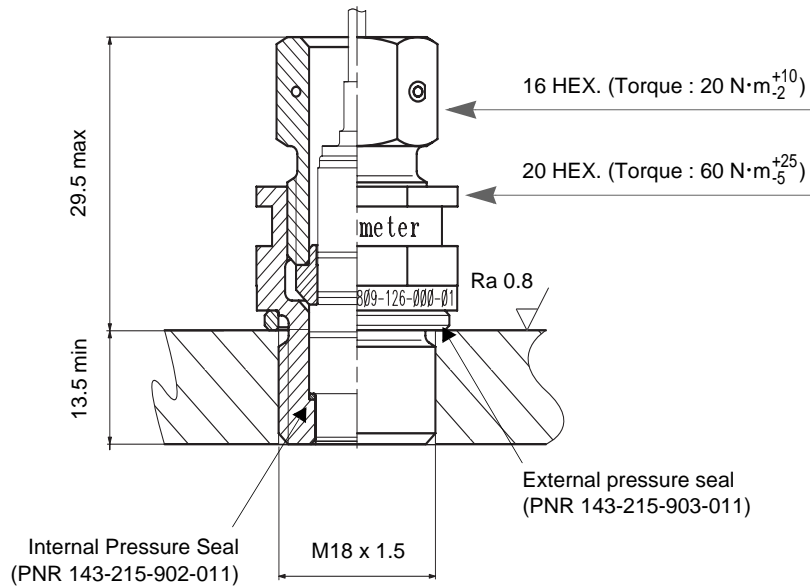
Note: All dimensions in mm

**Designation**  
MA 104 Mounting adapter

**Ordering Number**  
809-104-000-011

**ACCESSORIES (Continued)**

**MA 126 Mounting Adapter for CP 216 Version 1XX (for VM High-temperature Connector)**



**Note:** All dimensions in mm

**Designation**  
MA 126 Mounting adapter

**Ordering Number**  
809-126-000-011

**CP21X Pressure Seals**

**Designation**  
MA Internal pressure seal  
MA External pressure seal

**Ordering Number**  
143-215-902-011  
143-215-903-011



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