

vibro-meter
certified by

CP 103

Piezoelectric Pressure Transducer Type CP 103

CHARACTERISTICS

- Extreme temperature capability -196°C to +700°C
- High-pressure capability 250 bar
- For use in gas turbines
- Operational in primary circuit of PWR, APWR, BWR, ABWR, FBR and HTGR
- Proven reliability
- Will meet NRC guide 1.20, IEEE 323-1974
- CENELEC approved

FEATURES

- Internal case insulation
- VC2 type crystal element
- Frequency response
2 Hz to 10,000 Hz
- Sensitivity
232 pC/bar (16 pC/psi)

WEIGHT

Accelerometer : 120 g
Integral cable : 40 g/m



DESCRIPTION

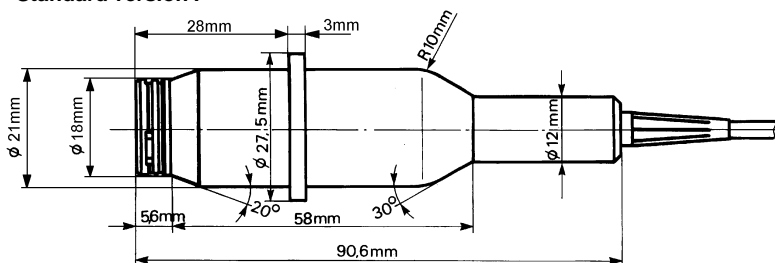
The use of VC2 type single crystal material in the CP 103 compression mode dynamic pressure transducer provides an extremely stable instrument.

The transducer is applicable either to long-term monitoring or development testing. It has been specially designed to minimise the sensitivity to acceleration.

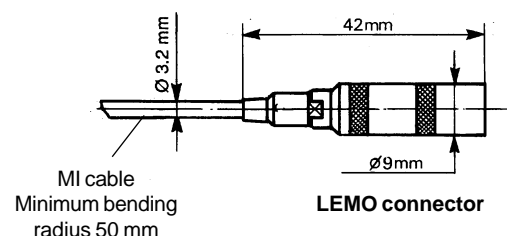
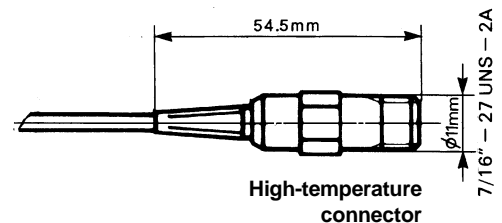
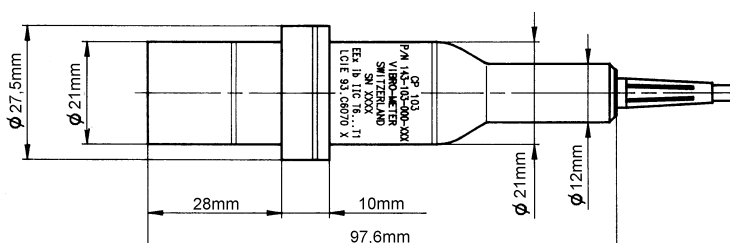
It is fitted with an integral mineral insulated cable (two conductors) which is terminated with a Lemo or a high-temperature connector from VIBRO-METER.

Mechanical Diagram :

Standard version :



EEx i version :



SPECIFICATIONS

CP 103

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) : 232 pC/bar ± 5% typical
Dynamic measuring range (random) : 0.00004 bar to 20 bar nom.
Overload capacity (spikes) : Up to 250 bar
Linearity : ±1% over dynamic measuring range
Acceleration sensitivity : ≤0.05 pC/g (≤0.00025 bar/g)
Resonant frequency : >50 kHz
Frequency response : 2 to 10,000 Hz ±5% (lower cut-off frequency is determined by the electronics used)
Internal insulation resist. : Min. 10⁹ Ω (10⁷ Ω at 300°C)

Capacitance
 - Transducer : 80 pF nominal pole/pole
 18 pF nominal pole/ground (asymmetry 1 pF max.)
 - Integral cable : 200 pF/m nominal pole/pole
 300 pF/m nominal pole/ground

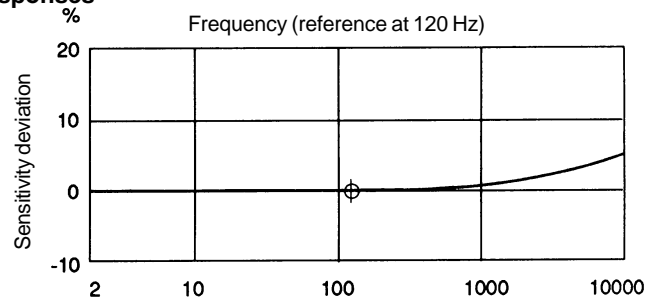
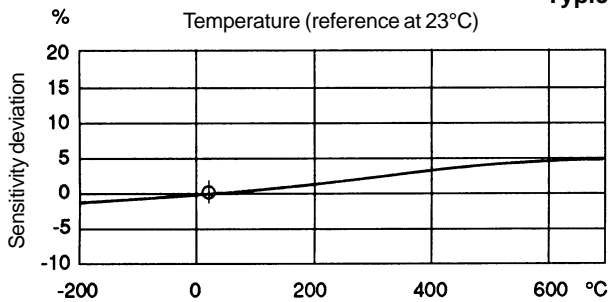
ENVIRONMENTAL
Temperature range : -196°C to +650°C
Shock acceleration : <2000 g peak (half sine 1 ms) along sensitive axis
Corrosion, humidity : Inconel 600, hermetically welded

Radiations
 - Gamma flux : 10¹¹ erg/g no effect
 - Neutron flux : 10¹⁸ n/cm² no effect

Mounting
 Flange : Ø27.5/21 mm x 3 mm

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

Typical responses



Ordering Information :

To order please specify :

- Type and Designation : CP 103 Piezoelectric Pressure Transducer
- Ordering No. : 143-103-000-XY

X	Description of option
5	With LEMO connector
6	With high temperature connector
7	With high temperature connector, Ex i version, LCIE 93.C6070 X, EEx ib IIC T6..T1
8	With LEMO connector, cable with double braid stainless steel protection

Y	Description of option
0	Cable length defined in order
1	Cable length 12.5 m
2	Cable length 25 m
3	5 m

XY	Description of option
75	High temp. connector, Ex i version, double braid stainless steel protection, cable length 5 m
76	High temp. connector, Ex i version, double braid stainless steel protection, cable length 10 m



Due to the continual development of products, Vibro-Meter reserves the right to modify these specifications without forewarning.



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- ◆ USA ◆ Canada
- ◆ Singapore ◆ United Kingdom
- ◆ Russia ◆ Ukraine

Agents in over 30 countries

Vibro-Meter is a member of the Meggitt Aerospace Systems Division