
VIBRATING WIRE PIEZOMETER

Model CL1

APPLICATIONS

The CL1 is an absolute-pressure transducer designed to measure fluid pressure. It is used mainly for the measurement of pore-water pressure in soil and rock masses. Typical applications are:

- Dam foundations
- Embankments and fills
- Natural slopes
- Foundation of large buildings
- Open-standpipe piezometers

DESCRIPTION

The CL1 consists of a cylinder with a cone-shaped ending. A bronze-beryllium bellow forms the sensitive part of the instrument. When under pressure, the longitudinal deformation of the elastic membrane (bellow) is monitored by a vibrating wire mounted in the axis of the cylinder.

A watertight, rigid housing protects the sensor components from the effects of water, mechanical shocks and external loads. An annular ceramic or sintered bronze filter prevents solid material from entering while ensuring hydraulic continuity between groundwater and the bellow.

Ceramic filters are used in fine soils and allow for measurements of negative pressure in unsaturated soil. They are supplied pre-saturated by the engineering plant.

The CL1 vibrating wire pressure sensing mechanism is self-compensating for temperature variations, making the thermal-zero shift correction negligible.

Frequency readings in Hertz are displayed directly on the readout.



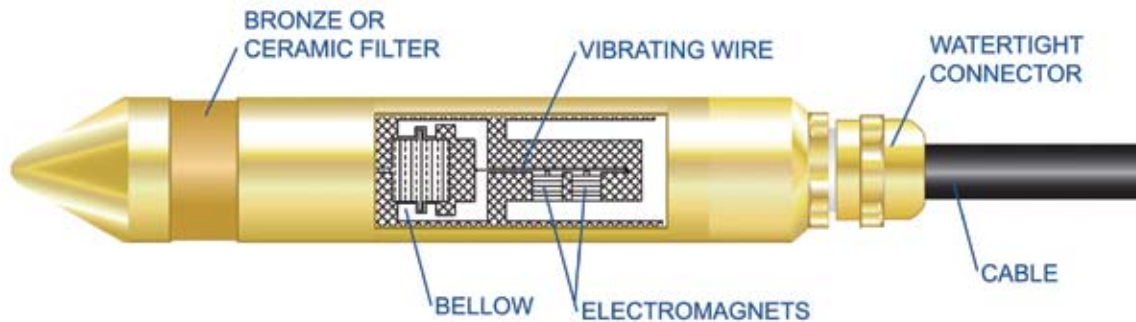
FEATURES

- Long-term reliability
- Simple non-electronic sensor
- Rugged and accurate
- Easy to install and use
- No maintenance
- Frequency output signal easy to process and transmit over long distances
- Frequency measured in sustained or damped reading mode

SPECIFICATIONS

Range*	300, 500, 1000, 2000, 3000, 5000 kPa
Accuracy	±0.25% F.S.
Resolution	±0.025% F.S.
Thermal drift	<0.1% F.S. / °C
Resistance of each coil	~90 Ω
Input signal, sinusoidal	150 to 170 mV rms
Output signal, sinusoidal	10 to 30 mV rms
Electrical cable	2 shielded pairs with central Kevlar™ core (13 mm diameter, 0.220 kg/m)
Filter	Bronze, ~10 kPa low air entry Ceramic, ~450 kPa high air entry
Length	315 mm
Diameter	40 mm
Weight	2 kg

*Other measurement ranges are available upon request.



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ORDERING INFORMATION

Please specify:

- Range
- Filter
- Cable length
- Readout instruments: PC8, SENSLOG