

VIBRATING WIRE MULTI-LEVEL PIEZOMETER PWS SERIES 02-100G



GENERAL DESCRIPTION

The multi-level vibrating wire piezometer is perfect for measuring pore pressures at various depths beneath a single surface location. It allows for quick and reliable installations because multiple PW-series piezometers are connected to a single communication cable.

The multi-level piezometer provides significant advantages in terms of time, resources and cost reduction related to installation, while providing quick and reliable reading at various depths.

TECHNICAL DESCRIPTION

THE SENSOR: The time proven design of the PW-series sensors allows them to be tied to the multi-level piezometer core cable and provide very reliable long-term performance. The sensor wire is fabricated using proven methods for ensuring an exceptional long-term stability. It is isolated in a vacuum sealed chamber to protect against corrosion. A gas filled spark gap is integrated into each sensor protects against electromagnetic surges and radio frequency interference. A triple watertight barrier is installed at the end of the cable to prevent water infiltration while the diaphragm is protected by a stainless steel or ceramic filter to ensures mechanical decoupling and prevent particle infiltration.

INSTALLATION: The installation of a multi-level piezometer is quick and reliable because multiple piezometers are connected to a single communication cable, which is in turn connected to the data acquisition system (SENSLOG) or readout (MB-3TL).

A typical installation of the multi-level piezometer utilizes a direct grouting installation so that only the multi-level piezometer string and a grout injection tube are needed to complete the installation. Once the grout has hardened, the piezometers are isolated from one another, allowing precise measurements of pore water pressure changes at various depths.

The multi-level piezometer allows the customer to define sensor spacing along the readout cable providing precise depth control based on site specific requirements. Junctions between each piezometer and the main cable are reinforced using epoxy resin for a waterproof and durable seal.



FEATURES

- Perfect for measuring pore water pressure at various depths for a same location
- Quick, reliable and reduction of installation costs
- Quick and durable installation
- Customizable spacing between each sensor
- Excellent reliability over a long period of time
- High resolution and accuracy
- Wide choice of measuring ranges
- Rugged stainless steel
- Protection against overvoltage
- Triple watertight barrier
- Temperature reading

SPECIFICATIONS

PERFORMANCE

Range	0.2, 0.35, 0.5, 0.75, 1, 1.5, 2, 3, 5 MPa
Accuracy ¹	± 0.1%
Linearity ¹	< ± 0.5% F.S.
Resolution with MB-3TL	0.025% F.S. (min.)
Thermal drift	± 0.1% F.S. / °C
Thermistor	3 kΩ (see model TH-T)
Cable	IRC-241

MODEL

Housing
Outside diameter
Length
Material
Filter

PWS

Slim
19 mm
200 mm
Stainless steel
Stainless steel, ~ 50 µm, ~ 10 kPa, low air entry pressure
Ceramic, ~ 1 µm, ~ 450 kPa, high air entry pressure

¹ Specifications achieved in laboratory conditions



ORDERING INFORMATION

PART NUMBER	DESCRIPTION	PLEASE SPECIFY
FR-1100G50100	Sleeve for sensor's tight connections	Number of piezometers per chain (max. 6 with temperature, 12 without temperature)
FR-1100DPWS	PWS piezometer	Measuring range for each sensor Distance from the ground for each sensor Filter type (stainless steel or ceramic)
CA-IRC241	12 shielded pairs communication cable	Total length of the cable , including enough length to reach readout or logger)
FR-1356050100	Readout unit	MB-3TL or SENSLOG

OPTIONAL ACCESSORIES (available upon request)

- Data acquisition system
- Junction box