

VW Piezometer

Geosense® VWP-3000 Series of Vibrating Wire Piezometers use the well-proven method of converting fluid pressures on a sensitive diaphragm into a frequency signal. Frequency signals are particularly suitable for the demanding environment of Civil Engineering applications, since the signals are capable of long transmission distances without degradation, tolerant of wet wiring conditions and resistant to external electrical noise.

Working principle

The gauge operates on the principle that a tensioned wire, when plucked, vibrates at its resonant frequency. Around the wire is a magnetic coil which when pulsed by a vibrating readout or data logger interface plucks the wire and measures the resultant resonant frequency of vibration. A change in distance between the anchor and the diaphragm is related to pressure differentials and can be converted to a kPa reading. Temperature information can be used if logging regularly to determine swift temperature changes during which pressure readings may be exaggerated

Specifications

VWP-3000 *

Standard construction to measure groundwater elevations and pore pressures.

VWP-3100 *

Heavy duty body for direct burial in fills and dam embankments.

VWP-3200 *

Low pressure version to measure groundwater elevations and pore pressures.

VWP-3300 *

A low pressure vented version to compensate for barometric pressure changes

VWP-3400

Heavy duty Drive-in Type 1 featuring inclined ports to minimise smearing affects.

VWP-3500

Slim line Drive-in Type 2 featuring large surface area porous filter.

* Available with High or Low air entry filter

Features

- Reliable long-term performance
- Rugged, suitable for demanding environments
- High accuracy
- Insensitive to long cable lengths
- All non-drive-in models can have threaded adaptors to customer specifications

Applications

- Pore pressure measurement in soils and rocks
- Fluid pressures in hydro-fracture and pump tests



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Specifications

- VWP-3000 Vibrating Wire Piezometers may be read by the VW-2106 or any vibrating wire readout device and may be readily connected with data loggers with vibrating wire interface modules.
- Vibrating wire piezometers output a frequency signal and are therefore insensitive to resistance changes in connecting cables caused by contact resistance or leakage to ground.
- Cable may be readily and simply extended on site without special precautions. Gauges may be read up to 1000 metres away from their installed location.

Ordering Information

- Type
- Cable length
- Pressure Range



Technical Specifications

Materials	Stainless Steel
Excitation	Pluck or Swept Frequency
Over Voltage Protection	90 V gas plasma arrester
Thermistor	3k Ohms @ 25oC
Range	2200-3500 Hz
Nominal Zero Value	3130 Hz
Thermal Effect	0.05% FS / oC

About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing

Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal

Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclometers, Extensometers, Tiltmeters, Load Cells and Dataloggers