

### Applications

Vibrating Wire (VW) Piezometers are designed to monitor pore water pressure and piezometric level changes within soil and sub-surface environments.

Multiple specialised variations are available to suit project specifications.

#### Typical applications include:

- Deep excavations and underground structure monitoring
- Slope stability and ground improvement schemes
- Groundwater monitoring for Embankment and Dams

### Specifications

**Standard Ranges:** 345, 518, 690 kPa  
**Resolution:** 0.025% Full Scale  
**Accuracy:** 0.1% Full Scale  
**Temp Rating:** 0 to +80 °C  
**Frequency Range:** 1850-3500 Hz

**Models:** Low Air Entry (LAE)  
 High Air Entry(HAE)  
 Drive-In

### Installation

There are a number of installation methods that can be used on all variations of VW Piezometers.

Prior to installation, piezometers require soaking for a minimum of 24 hours to sully saturate the tip of the sensor and remove any air bubbles. Readings should be taken at multiple stages before, during and after saturation. Further zero readings must be taken immediately before installation into the ground.

For installations of the standard low (LAE) and high Air Entry (HAE) Piezometers where no drilling is required, the instrument is inverted and then buried in a saturated sand bed to ensure the sensor remains under a constant pressure.

For deeper, drilled installations, the piezometers are attached to piping and lowered to the required depth. Sand is added around the sensor to ensure saturation.

For Drive-In piezometers the sensors can be inserted directly into soil or sand (with an SPT-N value of under 10). This system is ideal for locations with soft soil, sand, or peat.



### Operation

The VW Piezometer measures water level by detecting changes in pressure on the diaphragm transducer located in the main housing of the sensor. The internal components of the piezometer record a frequency reading which is transmitted as a signal to the datalogger.

Within the datalogger the frequency is converted into an engineering value of pressure. This value represents the piezometric level and ground water pressure.

All readings are differential and are compared to a site zero reading taken post installation. This allows for the calculation of changes in groundwater level and pressure.



### Key Advantages

#### Versatility:

VW Piezometers can be installed in a range of environments. Different models are available to suit various installation methods and ground types.

#### Compatibility:

Instruments can be set up at any stage of a project when needed and are compatible with a wide array of data loggers.

#### Automated and Low Maintenance:

Systems can collect data for multiple years, providing high frequency, 24-hour data with minimal need for maintenance.