SysTel Geotech India Pvt. Ltd.

ISO 9001

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PIEZOMETERS	SI-PZ-000
	Model SI-PZ-000 Series Piezometer are used to measure groundwater elevations and pore-water pressures in bore holes, embankments, concrete structures, pipe lines, wells etc. Our Piezometer incorporate vibrating wire sensor with the resonant frequency of vibration of a tensioned steel wire which is proportional to the strain or tension in the wire. This fundamental relationship is utilized in a variety of configurations for the measurement of pressure. Vibrating wire sensors are well known for their long term stability. The design contributes to the outstanding features and performances : • Unprecedented sensitivity • Long term stability and reliability • Isolation of the sensor from the effects of total stresses acting on the body of the Piezometer • Robust and sturdy construction • Slim-line design

FEATURES:

- Accurate, highly sensitive and reliable
- In-built thermistor and gas discharge tube
- Extremely stable for long term operations
- Frequency output for transmission over long distances
- Suitable for remote reading, scanning and data logging
- Stainless steel construction
- Waterproof

TYPICAL APPLICATION:

- Measurement of pore water and other fluid pressures for the design and monitoring of Foundations, retaining walls, hydraulic structures, tunnels, underground works, slopes and open excavations
- Uplift pressure measurement
- Sea water application

MODEL SI-PZ-001

Piezometer consists of rigid cylindrical housing having the Vibrating Wire Sensor inside it. One end of the housing has a high-air or low-air entry filter. The opposite end contains the sealed cable entry. With the filter in place, the main diaphragm of the Piezometer is isolated from the solid particles and senses only the fluid pressure to be measured. The filter is easily removable for calibration and saturation. The Piezometer is designed to be embedded in soil, earth/rock, fills and concrete. It can be inserted in boreholes and small diameter pipes.

MODEL SI-PZ-002

Piezometer with a threaded adapter permits it to be coupled directly to hydraulic pressure lines. A typical application is for uplift pressure measurement in dams.

OPERATION:

Any change in the pressure acting on the diaphragm of the Piezometer is communicated to the sensor and changes the tension of the wire. The wire is plucked by energizing the coil magnet so that it vibrates at its natural resonant frequency. The resonant frequency is proportional to the square root of the tension of the wire. A conventional readout unit can accurately measure the frequency of the wire. A microprocessor based readout unit can display the frequency as well as the value of the measured pressure directly in engineering units. The Piezometer is suitable for connection to data loggers for recording data in engineering units automatically at pre determined intervals. By the use of appropriate software, the data logger can present recorded data in desired formats, predict trends of variations and even generate alarms at pre-determined set points. The thermistor mounted in the Piezometer enables simultaneous measurement of temperature. This allows any corrections to be made in the observed readings due to temperature changes. The SI-series Piezometer with lightning protection are available on request.

ACCESSORIES:

- Ceramic or sintered stainless steel filter
- High air entry filter
- Terminal boxes
- Surge protection
- Splice kits
- Armored cable

STANDARD PIEZOMETER	SMALL DIA. PIEZOMETER	DRIVE POINT PIEZOMETERS
SPECIFICATION MODEL SI-PZ-10x	SPECIFICATION MODEL SI-PZ-20x	SPECIFICATION MODEL SI-PZ-30x
Standard Ranges: 5-200 Ksc Over Range: 2 × rated pressure Sensitivity: 0.1% FS Accuracy ±0.5% F.S. Temp. Range −40°C to +125°C Length × Diameter 140 × 20.0mm 194 × 25.4 mm 140 × 25.4 mm	Standard Ranges:5-200 Ksc. Over Range: 2 × rated pressure Sensitivity: 0.1% FS Accuracy ±0.5% F.S. Temperature Range: −20°C to +70°C Length × Diameter 133 × 20 mm 165 × 20 mm	Standard Ranges:5-200 Ksc. Over Range: 2 × rated pressure Sensitivity: 0.1% FS Accuracy ±0.5% F.S. Temperature Range: −20°C to +70°C Temperature Range −20°C to +70°C Length × Diameter 187 × 35.0 mm