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Certified System ISO 9001

PRODUCT CATEGORY:
PIEZOMETERS + TRANSDUCERS

Corrosion Proof Vibrating Wire Piezometer

The RST Corrosion Proof Vibrating Wire Piezometer VW2190 and VW2191-series are specially designed for extreme corrosive environments including use under demanding acidic geotechnical conditions, such as in heap leach mineral processing facilities. They provide excellent long-term accuracy and reliability.

Vibrating Wire Piezometers (VWP) are the electrical piezometers of choice for geotechnical monitoring as the frequency output of VW devices is immune to external electrical noise and able to tolerate wet wiring common in geotechnical applications. The VW2190/VW2191-series VW piezometers use the same measuring principle as a standard VW2100-series piezometer but differs in that the VW2190/VW2191-series have more robust body designs that resist corrosion damage – this includes differences in housing construction, signal cable choice and additional acid resistant protection.

The VW2190 and VW2191 piezometers consist of heavy duty VW transducers (316 stainless steel body), bladders filled with glycol solution and PVC housing to protect the bladder. In highly acidic groundwater conditions, corrosion can occur on the sensitive diaphragm of the pressure transducer within a standard VW2100-series piezometer. The VW2190 and VW2191 prevent the occurrence of corrosion damage by isolating the transducers within a glycol solution filled bladder.

For acidic conditions, signal cable model EL342202 (2 pair 22 AWG OSD orange HDPE jacket 0.25"ø) is used to resist extreme acidic attack and to ensure lasting monitoring information and must be used with models VW2190 and VW2191. HDPE was specifically selected due to its resistance to acid.

A final layer of anti-corrosive protection is applied to the outside of the assembly and consists of petrolatum, UV resistant and solvent-free tape on all exposed stainless steel surfaces. An additional shield made of heat shrink adhesive ensures long-term functionality.

Corrosion Proof Vibrating Wire Piezometer

SPECIFICATIONS

DESCRIPTION	SPECIFICATION
Over Range	1.5 X F.S.
Resolution	0.025% F.S. minimum
Accuracy	0.1% F.S.
Operating Temperature	-20 to 80°C (-4 to 176°F)
Thermal Zero Shift	<0.05% F.S./°C
Materials	Hermetically sealed stainless steel housing, PVC, Solvent-free tape, Stainless Steel (not exposed)
Thermistor Type	NTC 3K Ohms @ 25°C
Thermistor Interchangeability	±0.2°C
Thermistor Resolution	0.1°C
Pressure Range	0.07, 0.175, 0.35, 0.7, 1.0, 2.0, 3.0, 5.0, 7.5 MPa

> WHY IT IS IMPORTANT

Greatly minimizes the risk of potential data loss and site disruptions when compared to standard piezometers placed in low pH environments.

> APPLICATIONS

Copper heap leach pads.	Heap leach mineral processing facilities.
Monitoring wells with leachate solutions.	Monitoring pore pressures in low pH conditions.

> FEATURES

Robust construction.	Anti-corrosive protection.
Field proven reliability and accuracy.	Compatible with RST DT Series and RSTAR Affinity data loggers.
Signal cable with HDPE jacket capable of resisting harsh acidic environments.	

ORDERING

PART #	DESCRIPTION
VW2190	Heavy duty piezometer with bladder for saline environment with secondary corrosion protection. For use with EL380004, EL380004K or EL380004HDL cables
VW2191	Heavy duty piezometer with bladder for corrosive environment with secondary corrosion protection. For use with EL342202 cable.
EL342202	CABLE, 2 PAIR, 22 AWG OSD ORANGE HDPE JACKET 0.25"ø For use in acidic environments, leachate in land fills, and salt water.

RST Instruments Ltd. reserves the right to change specifications without notice. ELB0080A