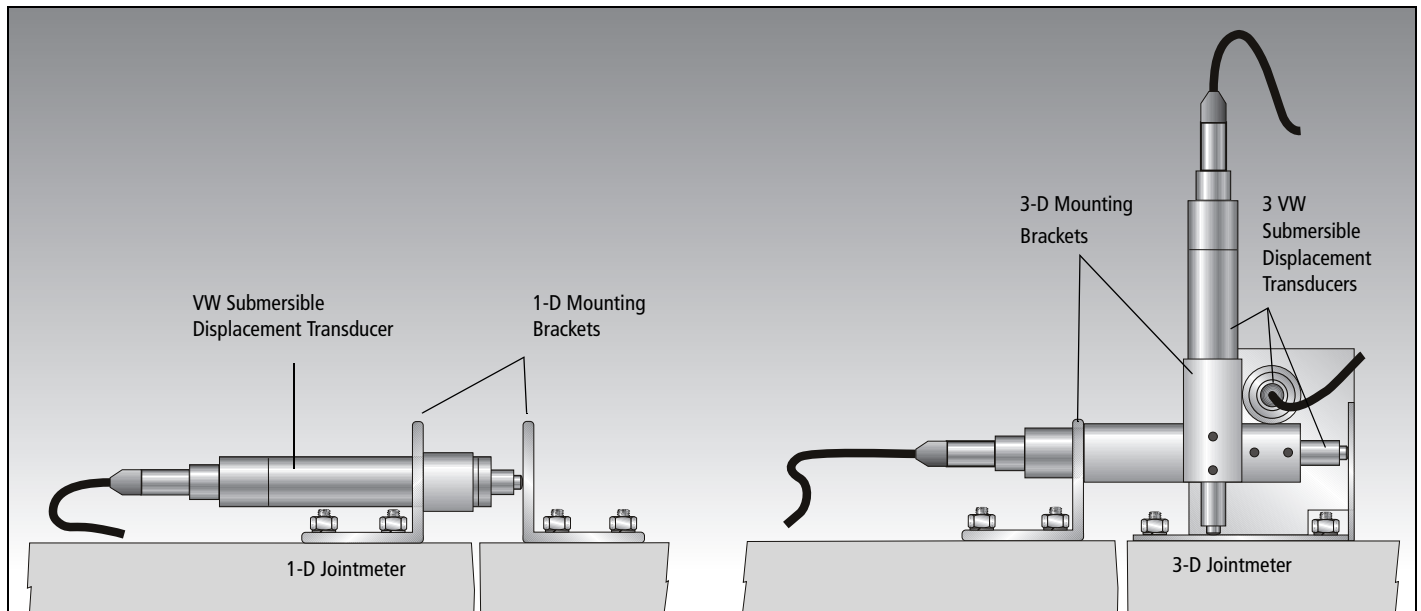


VW Submersible Jointmeters



Applications

The submersible jointmeter is used to monitor movement at joints and cracks and is designed to withstand extended submersion. Typical applications include:

- Monitoring movement at submerged construction joints in concrete dams.
- Monitoring joints or cracks in tunnels and tanks.

Operation

The submersible jointmeter consists of one or more VW displacement transducers, heavy duty sensor mounts and targets, and groutable anchors.

The groutable anchors are installed on opposite sides of the joint. A template ensures proper placement of the drill holes and keeps the anchors aligned as the epoxy grout cures.

The sensor mounts and targets are secured to the anchors, and the VW displacement transducers are positioned in the bracket. Finally, signal cable is routed to a readout station.

A VW indicator or data logger is used to read the transducers. The initial reading serves as a datum. Subsequent readings are compared to the initial to calculate the magnitude and rate of changes.

Advantages

High Resolution: The VW jointmeter detects movements as small as 0.01 mm with repeatability of ± 0.3 mm.

Multi-Axis Monitoring: The 1-D jointmeter monitors the X axis. The 3-D joint meter monitors the X, Y, and Z axes.

Easy Installation: A template and anchor kit make installation simple.

Manual or Automatic Readings: The jointmeter is easily connected to a data logger for unattended monitoring.

1-D SUBMERSIBLE JOINTMETER

The 1-D Jointmeter consists of a displacement transducer with signal cable, a 1-D mount, and an anchor kit. A 1-D template, which can be used with other jointmeters, is recommended to help with installation.

VW Submersible Transducer52612160

Vibrating wire transducer has a range of 60 mm (2.5"), resolution of 0.025% FS, and a repeatability of $\pm 0.5\%$ FS. A built-in thermistor or RTD provides temperature measurements. The transducer measures 38 x 368 mm (1.5 x 14.5"). Order one transducer per jointmeter. Does not include signal cable.

Signal Cable50613524

Shielded cable with four 22-gauge, tinned copper conductors and polyurethane jacket.

1-D Sensor Mount and Target52632110

Two stainless steel components. Both measure 102 x 102 x 102 mm (4 x 4 x 4 inch).

Anchor Kit52632120

Six M10 x 100 mm stainless steel all-thread anchors with washers and nuts. Does not include epoxy grout.

1-D Template52632114

Reusable template aids placement of drill holes for anchors and keeps anchors aligned while epoxy grout cures. Includes nuts to retain anchors.

3-D SUBMERSIBLE JOINTMETER

The 3-D Jointmeter consists of three displacement transducers with signal cable, a 3-D mount, and an anchor kit. A 3-D template, which can be used with other jointmeters, is recommended to help with installation.

VW Submersible Transducer52612160

Vibrating wire transducer has a range of 60 mm (2.5"), resolution of 0.025% FS, and a repeatability of $\pm 0.5\%$ FS. The transducer measures 38 x 368 mm (1.5 x 14.5"). Order three transducers per 3-D joint-meter. Does not include signal cable.

Signal Cable50613524

Order signal cable for each transducer. Shielded cable with four 22-gauge, tinned copper conductors and polyurethane jacket.

3-D Sensor Mount and Target52632101

Two stainless steel components, measuring 102 x 102 x 102 mm (4 x 4 x 4 inch) and 185 x 185 x 160 mm high (7.2 x 7.2 x 6.25").

Anchor Kit52632120

Six M10x100mm stainless steel all-thread anchors with washers and nuts. Does not include epoxy grout.

3-D Template52632108

Reusable template aids placement of drill holes for anchors and keeps anchors aligned while epoxy grout cures. Includes nuts to retain anchors.

READOUTS & DATA LOGGERS**Readouts**

VW Data Recorder and other pluck-type VW readouts. See separate data sheets for details.

Universal Terminal Box57711600

Optional terminal box provides connections for 12 sensors and an indicator. Sensors selected by rotary switch. Weatherproof fiberglass box measures 290 mm wide x 345 mm high x 135 mm deep (11.5 x 13.5 x 5.25").

Universal Connector57705001

Optional connector. Not required for terminal box or data logger.

Data Loggers

Campbell Scientific CR10X data logger with a VW interface and an AM16/32 multiplexer can accommodate 16 jointmeters with temperature readings or 32 jointmeters without temperature readings. See separate data sheet.