

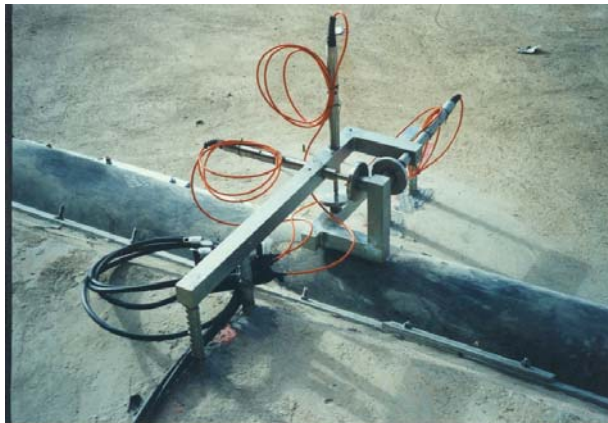
Applications

The measurement of surface and mass movement on:

- Construction joints in concrete dams.
- Rock and soil structures.
- Tunnel and shaft linings.
- Masonry structures.
- Bridge construction.

Operating Principle

The vibrating wire triaxial jointmeter consists of two elements each having a hot zinc coated arm attached to a reinforcing bar anchor stem. One arm incorporates three orthogonal (X,Y and Z) vibrating wire displacement transducers located in stainless steel bushes and spring loaded on stainless steel anvils mounted on the other arm.



Vibrating Wire Triaxial Jointmeter

The vibrating wire displacement transducer consists of a vibrating wire sensing element anchored at one end and connected to a spring loaded push rod at the other end. As the push rod is moved out from the transducer body the spring is elongated causing an increase in the vibrating wire tension. This tension is directly proportional to the spring extension and therefore the joint or crack opening or closing.

For details on vibrating wire readout units please refer to data sheet RO-1. The VW Triaxial Jointmeters can also be connected to a CR10X datalogger please refer to data sheet D1.

Advantages and Limitations

- Accurate, robust and very good long term stability.
- Accuracy unaffected by cable length.
- Suitable for remote reading and data-logging.
- Over-voltage surge arrestor fitted to protect against electrical damage.
- Connecting cable is strong, screened and flexible and can be used in lengths in excess of 1000m.
- Waterproof and sealed to 7 bar pressure (High pressure version available to 25 bar pressure).

Performance

- VW Triaxial Jointmeters are available with ranges up to 50mm.
- Resolution: 0.025% of range.
- Accuracy: $\pm 0.2\text{mm}$.
- Temperature effect $-0.02\text{mm}/^\circ\text{C}$ (typical).
- Operating temperature -30 to $+70^\circ\text{C}$.
- Cable: 4 Core screened.



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DATA SHEET
J3

Specification

Vibrating Wire Triaxial Jointmeters

J3-1-15-T VW Triaxial Jointmeter,
± 15mm Range with Thermistor.
Dimensions: 330x330x330 (mm)
Weight: 10kg.

J3-1-25-T VW Triaxial Jointmeter
± 25mm Range with Thermistor.
Dimensions: 330x330x330 (mm)
Weight: 10kg.

Connecting Cable and Fittings

CA-3.1-4-IC 4 Core screened cable
Please specify length at time of order.

CA-4.6 Cable End Plug & Cap
For 4 Core Screened Cable.

CA-4.1 Cable Joint Sealing Kit
For reinforcing and waterproofing crimped or soldered connections of cables. Comprising, split Perspex mould, twin pack epoxy resin sufficient for one connection, self adhesive sealing strips and instruction leaflets.
Weight 250g.

Installation Equipment

W6-4.4 Resin Cartridge
To fix anchor stems in drill holes. Comprising two part resin and catalyst hardener in duplex cartridge. Curing time approximately 30-40minutes depending on ambient temperature. Supplied c/w mixing nozzle and extension tube.
Dimensions: 180mm x 70mm, weight 470g.

W6-4.5 Cartridge Injection Gun
For dispensing resin from cartridge. Comprising robust steel mechanical lever operated dispenser. Dimensions: 300mm x 200mm, weight 1kg.

Vibrating Wire Readout Equipment

RO-VW Vibrating Wire Logger
See data sheet RO

CR10X -Datalogger
Refer to Data Sheet D1.

Ordering Information

J3-1-15-T VW Tri-axial Jointmeter,
± 15mm Range with Thermistor

J3-1-25-T VW Tri-axial Jointmeter
± 25mm Range with Thermistor

CA-3.1-4-IC 4 Core screened cable
Please specify length at time of order.

CA-4.6 Cable End Plug & Cap
For 4 Core Screened Cable

CA-4.1 Cable Joint Sealing Kit

W6-4.4 Resin Cartridge

W6-4.5 Cartridge Injection Gun

RO-1-VW-1 Vibrating Wire Logger
Capable of reading Thermistors

RO-1-VW-2 Vibrating Wire Logger
Unable to read Thermistors

