

# VW Crackmeter



## Applications

The VW crackmeter is suitable for surface monitoring of movement at joints and cracks in concrete structures or rock. Typical applications include:

- Monitoring joints for unexpected movement to provide early warning of performance problems.
- Monitor joints and cracks in structures that may be affected by nearby excavation and construction activities.
- Monitor cracks in structures that experienced seismic activity.

## Operation

The VW crackmeter consists of a VW displacement sensor and a mounting kit with groutable anchors. The anchors are installed on opposite sides of the crack. The sensor is then fixed to the anchors. Swivel joints accommodate movement in other planes.

Readings are taken with a VW read-out or a data logger. Calibration factors are applied to the frequency readings to convert them to a distance in mm or inches.

The initial reading establishes a baseline. Subsequent readings are compared to the baseline to determine the magnitude of changes in the distance across the crack.

## Advantages

**High Resolution:** The crackmeter can detect movements of 0.15 mm with a repeatability of  $\pm 0.3$  mm.

**Two Ranges:** The VW crackmeter is available in 60mm and 100 mm ranges (2.4 and 4 inch).

**Twist-Proof Shaft:** The crackmeter has a unique, twist-proof shaft that prevents accidental damage to the sensor during installation.

**Suitable for Data Logging:** The crackmeter is easily connected to a data logger for unattended monitoring. It can also be read manually.

**VW CRACKMETER**

60mm, Splashproof . . . . . 52636081

60mm, Waterproof . . . . . 52636088

100mm, Splashproof . . . . . 52636082

100mm, Waterproof . . . . . 52636089

The VW Crackmeter includes a vibrating wire displacement sensor, two swivel mounts, and two groutable anchors. Signal cable, ordered separately, is connected to the sensor at the factory.

**Sensor Type:** Vibrating wire. A built-in thermistor or RTD provides temperature measurements.

**Range:** 60 mm or 100 mm.

**Resolution:** 0.025% FS with VW Data Recorder.

**Calibration Accuracy:**  $\pm 0.1\%$  FS.

**Repeatability:**  $\pm 0.5\%$  FS.

**Waterproof Rating:** Waterproof crackmeter is rated to 17 bar (250 psi).

**Materials:** Stainless steel, neoprene O-rings.

**Nominal Length:** 60 mm crackmeter is 400 mm (15.7") long; 100 mm crackmeter is 530 mm (21") long.

**SPARE MOUNTING KIT**

Replacement Mounting Kit . . . . . 52636080

A mounting kit is included with the VW crackmeter. The replacement mounting kit is required when the crackmeter is moved to a new location. Kit includes two ball joints with anchor bolts and two rebar anchors.

**SIGNAL CABLE**

Signal Cable . . . . . 50613524

Shielded cable with four 22-gauge tinned copper conductors and polyurethane jacket. Specify cable length for each sensor.

Universal Connector . . . . . 57705001

Universal Terminal Box . . . . . 57711600

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 inch).

**READOUTS**

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

**DATA LOGGERS**

Compatible data loggers include the VW MiniLogger and the Campbell Scientific CR10X data logger. The CR10X with a VW interface and an AM16/32 multiplexer reads 16 crackmeters with temperature or 32 crackmeters without temperature. See data sheets for features and specifications.

