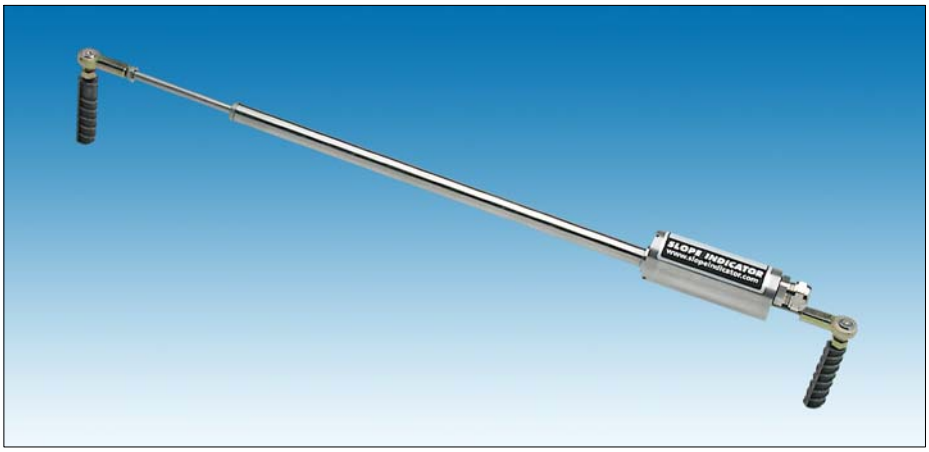
VW Crackmeter



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 set of groutable anchors. The anchors are installed on opposite sides of the crack. The sensor is then fixed to the anchors via ball joints, which accommodate movement in other planes.

Readings are taken with a VW readout 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 ±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 KITS

60mm, Splashproof 52636081
60mm, Waterproof 52636088

100mm, Splashproof 52636082
100mm, Waterproof 52636089

The VW Crackmeter consists of two components: a vibrating wire displacement sensor and a set of anchors. Part numbers for these components are listed below. Signal cable, ordered separately, is connected to the sensor at the factory.

Kit 52636081 includes displacement sensor 52636381 and anchor set 52636080.

Kit 52636088 includes displacement sensor 52636388 and anchor set 52636080.

Kit 52636082 includes displacement sensor 52636382 and anchor set 52636080.

Kit 52636089 includes displacement sensor 52636389 and anchor set 52636080.

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: ±0.1% FS.

Repeatability: ±0.5% FS.

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

Materials: Stainless steel body and shaft, Neoprene O-rings, plated-steel swivels, mild-steel anchors.

Nominal Length: 60 mm crackmeter is 400 mm (15.7") long; 100 mm crackmeter is 530 mm (21") long.
Operating Temperature Range:
-40°C to 80°C

SIGNAL CABLE

Signal Cable 50613524

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

EXTRA ANCHORS

Anchor Set 52636080

Set of two groutable anchors. Needed if the crackmeter is moved to a new location.

Ball Joint 02700196

One ball joint. Needed if either of the original ball joints supplied with the crackmeter are damaged or corroded.

TERMINAL BOXES

Terminal Box for 6 sensors 57711606
Terminal Box for 12 Sensors. 57711600
Terminal Box for 24 Sensors. 97711624

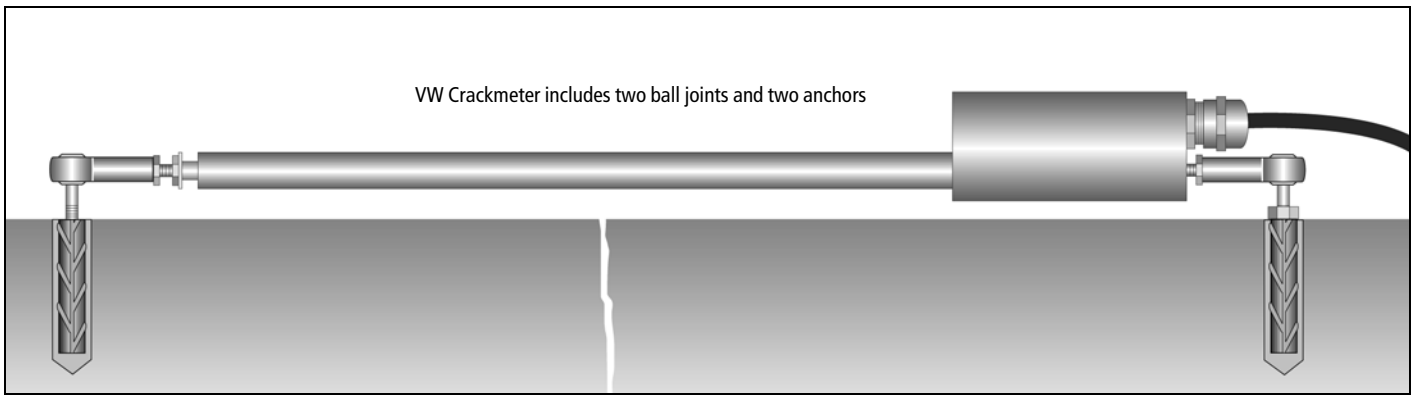
Provides terminals for signal cable from 6, 12, or 24 sensors. Sensors are selected by rotary switch. Small 6-sensor box is 240 x 190 x 120 mm (9.5 x 7.5 x 4.75"). Larger 12 and 24-sensor box is
290 x 345 x 135 mm (11.5 x 13.5 x 5.25").

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 CR1000 data logger. The CR1000 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.



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