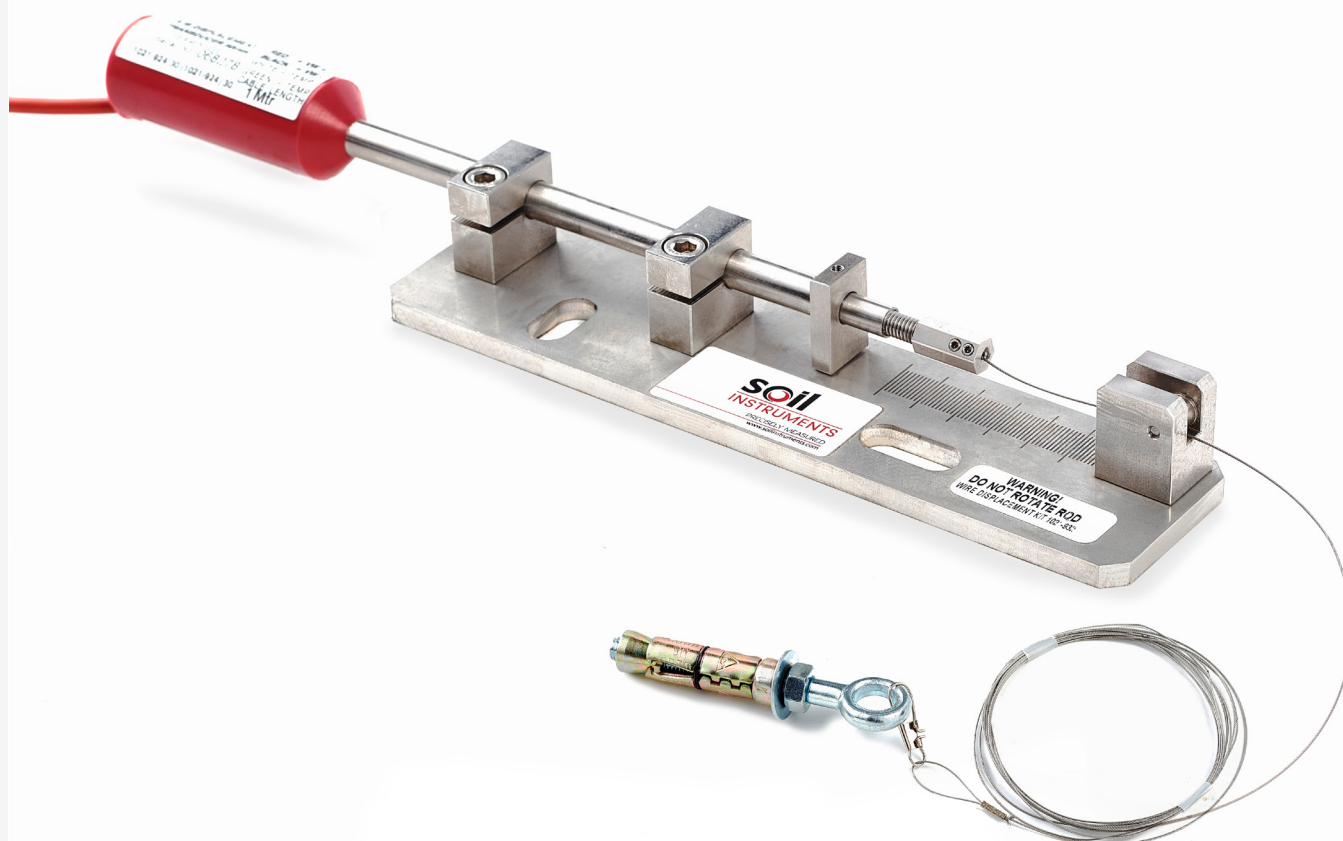


E8 VIBRATING WIRE DEFORMOMETER



Description

The Vibrating Wire Deformometer allows for monitoring the changes in the distance between the Deformometer and an anchor point.

Typical applications include the measurement of cracks, joints, structural deformations and convergence in tunnels.

The design allows for the anchor to be mounted on different planes to the Deformometer, or even perpendicular.

The Deformometer can even be submerged underwater.

Features

- Uses proven Vibrating Wire technology
- Suitable for long-term monitoring
- Suitable for manual or remote monitoring
- Fully waterproof
- Fitted with thermistor for temperature monitoring

Benefits

- Accurate, repeatable readings over long cable lengths
- Long working life, long-term stability and reliability
- Connecting cable is strong, screened and flexible



Comprehensive information about this product and our full range is available at soilinstruments.com
If you would like to speak with someone directly please call +44 (0)1825 765044 or email sales@soilinstruments.com

VIBRATING WIRE PRINCIPLE



A high carbon steel wire is held in tension between a fixed point and a movable point within the sensor.

The physical changes measured by the sensor result in small changes to the position of the movable point which results in a change to the tension of the wire.

The wire may be excited by either plucking or sweeping via a coil adjacent to the wire. The resulting resonant frequency (which is relative to the tension of the wire) is then recorded by the same coil. The reading can be displayed by instrument readout or recorded by data logging equipment.

Operation

The Deformometer consists of a telescoping sensor body incorporating a sprung tensioned vibrating wire element.

A change in distance between the Deformometer and the anchor will cause the connecting rod to move within the transducer body, changing the tension on the spring and thus the resonant frequency of the wire.

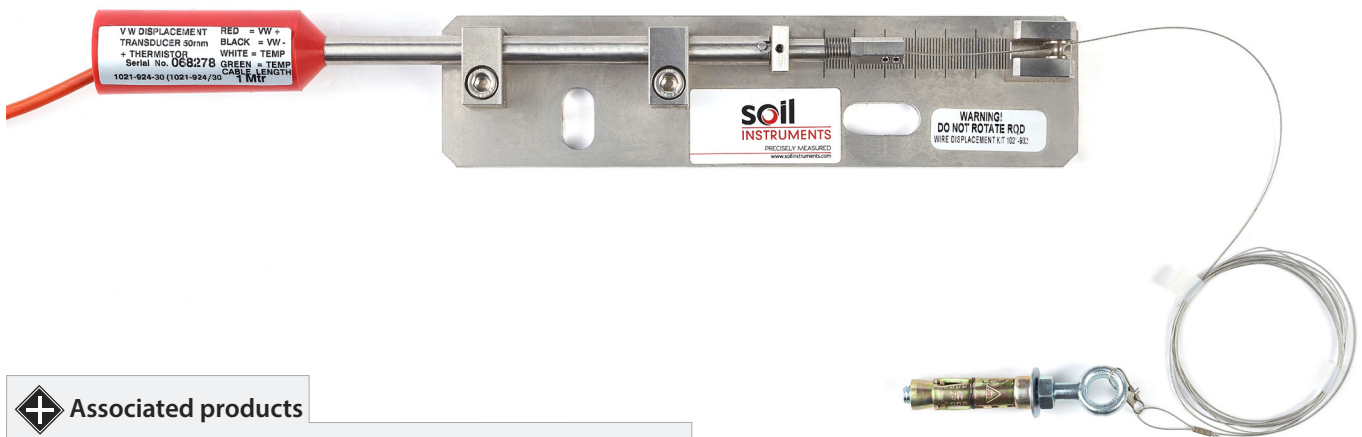
By setting the wire to mid-range the sensor can monitor both extension or convergence of the anchor position.

Applications

VW Deformometers measure displacements between two positions in structures.

Typical applications include:

- Tunnel convergence
- Construction joints
- Structural deformations
- Crack monitoring



Associated products

For details on:

Catalogue code:

VWnote

RO-1-VW-NOTE

Terminal and Junction Boxes

RO-TB/JB/TJ

Dataloggers

D1

View our full product range on soilinstruments.com

THE TECHNICAL RATING FOR THIS PRODUCT:

INTERMEDIATE



As the correct installation of any monitoring sensor or system is vital to maximise performance and accuracy, Soil Instruments makes the following recommendations, for the skill level of the installation contractor.

ADDITIONAL SUPPORT

We offer installation and monitoring services to support this system. For more information please email : sales@soilinstruments.com or call : +44 (0) 1825 765044

ADVANCED



The installer is trained and experienced in the installation of this type of instrument or systems, and is ideally a specialist Instrumentation and Monitoring contractor.

INTERMEDIATE



The installer already has previous experience and/or training in the installation of this instrument or system.

BASIC



As a minimum the installer has read and fully comprehends the manual, and if possible has observed these instruments or systems being installed by others.

Specifications

Vibrating Wire Deformometer

Range mm	30	50
Accuracy +/- % Full Scale	0.2	
Resolution % Full Scale ¹	0.025	
Operating Temperature °C	-12 to +80	
Excitation Method	Pluck or sweep	
Material	316 grade Stainless Steel	
Ingress Protection	IP68 to 1700kPa	
Thermistor Type	NTC 3K	
Thermistor Accuracy °C	+/-0.5	
Thermistor Resolution °C ¹	0.1	

Cable

Construction	4 core, PUR sheath, foil screen & drain wire
Diameter	4mm
Weight/m	30g

Anchors

Type	Expansion Eye Bolt	Threaded Eye Bolt
Material	Stainless Steel	Stainless Steel
Hole size	10mm	M6 threaded

Connecting wire

Material	Stainless Steel
Diameter	0.54mm

¹ Dependent on readout

Ordering Information

Vibrating Wire Deformometer

E8-30-VW	30mm range Vibrating Wire deformometer
E8-50-VW	50mm range Vibrating Wire deformometer

Cable

CA-3.1-4-IC	Instrument cable, 4 core, 7/0.2, screened, polyurethane jacket; priced per metre
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Accessories

E8-316-54	316 Stainless Steel extension wire 0.54mm diameter
E8-W-CR	Wire crimps
E8-EX-EYE	Expanding Eye Bolt fixing
E8-M6-EYE	Threaded Eye Bolt M6

soil
INSTRUMENTS



Bell Lane, Uckfield, East Sussex
TN22 1QL United Kingdom

t: +44 (0) 1825 765044
w: soilinstruments.com

e: sales@soilinstruments.com

Soil Instruments Ltd. Registered in England. Number: 07960087. Registered Office: 3rd Floor, 1 Ashley Road, Altrincham, Cheshire, WA14 2DT