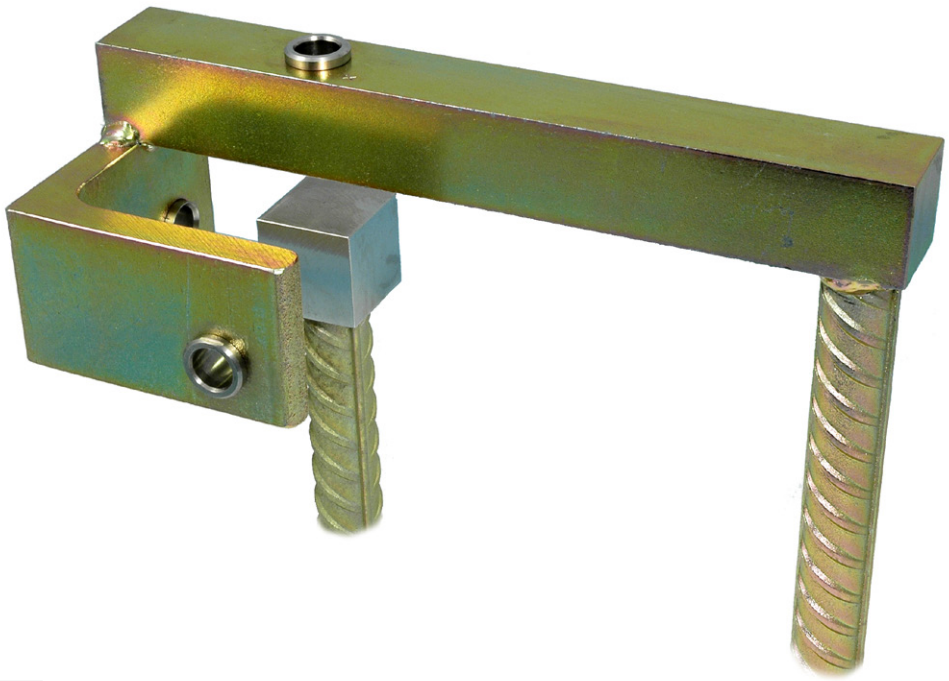
J5 MECHANICAL TRIAXIAL JOINTMETER

Datasheet J5



Description

The Mechanical Triaxial Jointmeter is designed to monitor three way displacement (X, Y and Z) across joints or cracks between adjoining concrete and rock structures.

The Jointmeter comprises two elements; a zinc coated measurement arm and a Stainless Steel reference head, both attached to reinforcing bar embedment anchor stems.

The measurement arm incorporates three orthogonal locating bushes, designed to receive a mechanical or electronic micrometer.

The Stainless Steel reference head is a cubic anvil, with precision machined reference faces, providing a surface against which the triaxial displacement measurements are made.

Manual measurement with a mechanical gauge is a more preferred option when fewer readings are required.

Features

- **Reads in X, Y and Z axes**
- **Accurate and precise**
- **Proven in long-term monitoring**
- **Simple in principle and operation**

Benefits

- **Three way independent movement monitoring in one easy installation**
- **Low and easy maintenance**
- **Long working life, long-term stability and reliability**

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

Operation

The arm anchor stems are embedded at either side of the joint, crack or fissure to be monitored, either in wet concrete at a construction joint, or grouted firmly into drilled holes in a pre-existing mass or structure, using cementatious or chemical grouts.

A temporary, removable jig maintains the two halves of the jointmeter in correct alignment at its mid-range, until the embedment medium has gained sufficient strength to be able to fully support the jointmeter.

Readings are acquired by recording the current distance from the measurement bushes to the reference anvil in X, Y and Z planes. The current readings are then subtracted from an initial base reading to give relative movement of the joint or crack.

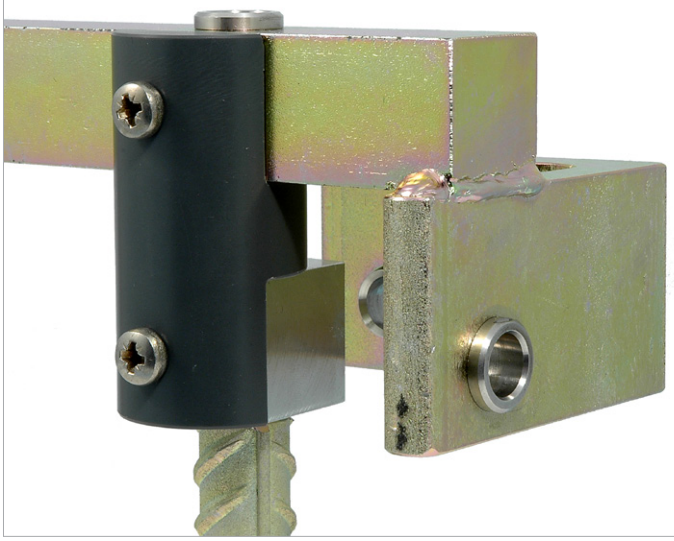
Applications

The Mechanical Triaxial Jointmeter is used for the measurement of X, Y and Z dimensional relative movement between two abutted structures or masses.

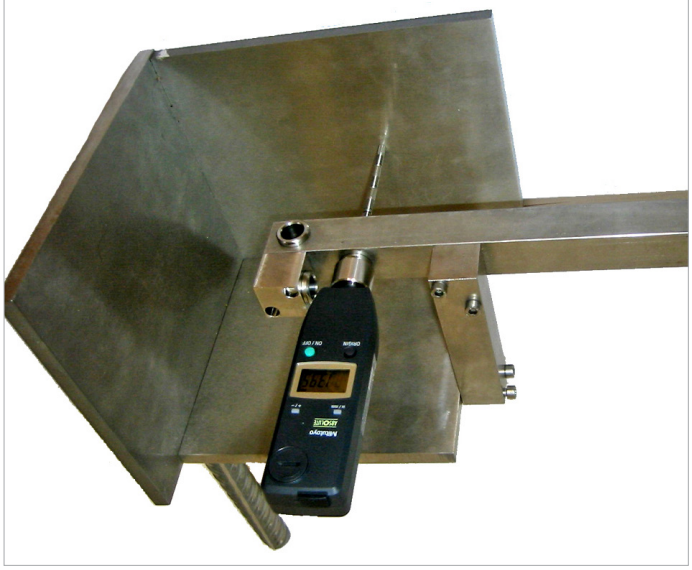
Typical applications include:

- Concrete dam construction joints
- Tunnel and shaft lining segments
- Bridge construction
- Masonry structures
- Structural and superficial cracks

Installation Jig



Mechanical Triaxial Jointmeter, ±75mm range



Associated products

For details on:	Catalogue code:
Vibrating Wire Embedment Jointmeter	J1
Vibrating Wire Triaxial Jointmeter	J3
Perimetric Jointmeter	J4

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Dial Depth Gauge

Digital Depth Gauge

THE TECHNICAL RATING FOR THIS PRODUCT:

BASIC

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@soil.co.uk**
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

Jointmeter

Ranges	±12mm	±35mm	±75mm
Dimensions[1]	H 248mm x L 242mm x W 94mm	H 275mm x L 345mm x W 125	H 345mm x L 385mm x W 208mm
Material	Mild steel, zinc coated frame | Stainless Steel reference surface		

Anchors

Type	Groutable
Material[2]	Zinc plated steel
Dimensions	165mm x Ø20mm | 214mm x Ø20mm

Reference Anvil (part of 3D mounting)

Material	Stainless Steel		
Dimensions	31mm x 31mm x 31mm	170mm x 165mm x Ø10mm	170mm x 165mm x Ø10mm

Reading Devices	Dial Depth Gauge	Digital Depth Gauge
Ranges	50mm	25mm[3]
Accuracy	±0.0.3mm	±0.0.2mm
Resolution	0.01mm	
Temperature range	-20 to +80°C	
Battery	N/A	1.5V replaceable battery

[1] Overall dimensions
[2] Available in Stainless Steel
[3] Extension pieces available

Ordering Information

Mechanical Triaxial Jointmeters	
J5-1.2	Mechanical Triaxial Jointmeter, ±12mm range
J5-3.5	Mechanical Triaxial Jointmeter, ±35mm range
J5-7.5	Mechanical Triaxial Jointmeter, ±75mm range
Reading Equipment	
J5-2.2-A	Dial depth gauge, 50mm range
J5-2.2	Digital depth gauge, 25mm range
J5-2.3	Extension piece, 20mm length; for depth gauge
J5-2.4	Extension piece, 30mm length; for depth gauge
J5-2.5	Extension piece, 100mm length; for depth gauge
Installation Equipment	
J5-1.2-J	Installation jig; for J5-1.2, includes fittings
J5-3.5-J	Installation jig; for J5-3.5, includes fittings
J5-7.5-J	Installation jig; for J5-7.5, includes fittings
J5-1.2-C	Protective cover; for Mechanical Triaxial Jointmeters, includes mounting kit
W6-4.4	Polyester resin cartridge; 150ml, to fix anchor into drill hole
W6-4.5	Cartridge injection tool
Manual	
MAN-66	Mechanical Triaxial Jointmeter with Dial Gauge

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