CONVEX-Si - Tape Extensometer

Extensometer

LIGHTWEIGHT, DUST PROOF, ROBUST CONSTRUCTION, WITH DIGITAL DISPLAY

The CONVEX-Si is a digital tape extensometer which quickly and accurately measures changes in distance between two reference points in any orientation.

Description

The **CONVEX-Si** digital tape extensometer basically consists of a steel survey tape with punched holes, loaded on a reel fixed to the body of the instrument.

There is a digital LCD display to accurately read the relative change between two reference points. By turning the rotary protection drum, it is easy to get quick access to the digital display function buttons through the opening provided for this purpose.

Two hooks are provided, one at the movable end of the tape and the other on the reel frame.

Tensioning of the tape to a predetermined load is easily done by rotating a large knurled collar until two reference lines are precisely aligned. Visual alignment is optimized by the use of two superim-posed magnifying lenses. The **CONVEX-Si** can be easily handled by only one person.

For an actual measurement, the **CONVEX-Si** is stretched between two reference points consisting of two stainless steel eyebolts fixed on their respective anchor.

A verification frame can be used to regularly check the repeatability of the instrument.

Key Features

- New Austrian Tunneling Method (NATM) also compliant with a "design as you monitor"
- Lightweight, dust proof, robust and reliable construction
- Digital LCD display and its protective window
- Stainless Steel Measuring Tape
- Can be operated by one person

Applications

- Sheet piling deformation
- Tunnel convergence
- Slope stability
- Mine roof sag

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Specifications

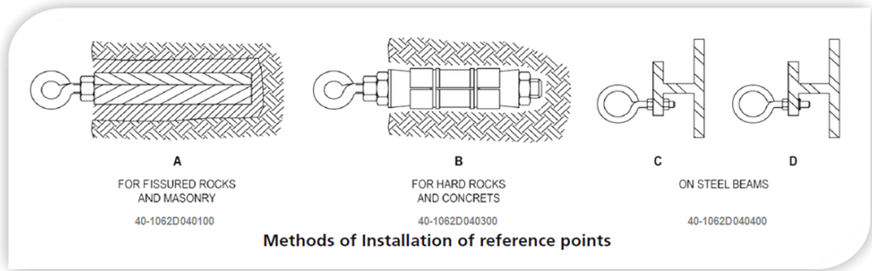
CONVEX-Si / DIGITAL TAPE EXTENSOMETER	
Ranges	20 m, 30 m
LCD indicator resolution	0.01 mm
Repeatability	± 0.10 mm
Operating temperature	-10°C to 60°C
REFERENCE POINTS	
Eyebolt	Stainless steel with two nuts
Diameter	6.35 mm
Length	50 mm

ANCHORS	
Type A	
Anchor diameter	20 mm
Anchor length	150 mm
Type B	
Drilled hole diameter	13 mm
Drilled hole depth	35 mm

Optional Accessories

Proper anchoring of the reference points is required to complete an accurate measurement. The anchors, which must be chosen according to the conditions, are either rebars (A) to be grouted in boreholes or expansion shell anchors (B). The eyebolts can also be directly bolted (C) or welded (D) on structural steel beams.

To take a reading, the snap hook fixed on the movable end of the tape is attached to one reference point. Moving towards the opposite anchor, the tape unwinds until it is possible to fix the hook mounted on the reel onto the second reference point. The slack in the tape is then taken up by winding up the reel and the locking pin located at the front of the extensometer is then inserted into the nearest hole of the tape. The knurled collar is then rotated to tension the tape up to a predetermined value of 133.5 N (30 lbf) corresponding to the precise alignment of the two reference lines.



Methods of Installation of reference points

Ordering information

PART NUMBER	DESCRIPTION
99-1062F-EXT20	Digital Tape Extensometer Model CONVEX-Si with 20m of SS tape. With Carrying case.
99-1062F-EXT30	Digital Tape Extensometer Model CONVEX-Si with 30m of SS tape. With Carrying case.
FR-1062050200	Verification frame
40-1062040100	1 reference point with anchor A
40-1062040300	1 reference point with anchor B
40-1062040400	1 reference point (eyebolt & nuts / anchor C or D)
99-1062F-TAPE20	20 m tape
99-1062F-TAPE30	30 m tape

Ordering information

- Reference points and anchors
- Verification frame
- Replacement Tape

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