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Manufacture and sale
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Operating manual

Strain gauge

Be sure to completely read this Operating Manual, so that you become sufficiently familiar with its contents, before you place this equipment into operation.

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1. Basic instructions

1.1 Designation

Strain gauge for measurement of crack movements and crack widths is supplied as follows:

with hemispherical measuring basefoot
10.1301 measuring length 100 mm
10.1302 measuring length 200 mm

with tubular basefoot
10.1303 measuring length 100 mm
10.1304 measuring length 200 mm

1.2 Purpose for which this system was designed

The Strain gauge is used to measure the change in length of concrete, steel, plastics, ceramics and many other materials as a result of stress, temperature and humidity changes by crack movements and shrinkage. Since the strain gauge is placed on the measurement section there could be measured many samples as often and in different time intervals with a single device.

1.3 Guarantee

Our **General Terms of Sales and Delivery** apply in all cases.

The Manufacturer guarantees that this Operating Manual has been prepared in conformity with the technical and functional parameters of the water tank as delivered. The Manufacturer reserves the right to add supplementary information to this Operating Manual as required.

The guarantee provided by the Manufacturer is the legal guarantee. This guarantee does not cover wear-and-tear parts.

The Manufacturer guarantees trouble-free operation only if the User observes the instructions in this Operating Manual, and only if the User employs the water tank for the purpose for which it is intended.

The Manufacturer shall not be liable for damages that may occur if the water tank is used for purposes for which it is not intended, or if the User does not observe the instructions and rules for operation as set forth in this Operating Manual.

No claims for damages may be lodged against the Manufacturer if the water tank is modified in its structural or constructional characteristics without the prior written consent of the Manufacturer, or if its functional characteristics are modified without such consent.

1.4 Acceptance of delivery

When accepting delivery of the water tank, first inspect it for its outer, visible condition. If this inspection is satisfactory, the machine may be accepted from the freight forwarder (railways, parcel service, or other haulage company).

If there are no shortcomings, and if there are no transport damages, then use the bill of delivery to make sure that the consignment is complete, and that all parts have been delivered.

If you assume or suspect transport damage, or if transport damage becomes apparent only after you have accepted the delivery, immediately make an exact report of the conditions and any damage as they exist. Send us this report immediately by fax or e-mail. Important: Absolutely do not make any changes to the delivered goods.

After we have studied your report, we can make a decision whether we can:

- Deliver spare parts to you, or
- Send a specialized fitter/installer to your plant, or
- Ask that you return the system to us for repair.

1.5 Scope of delivery

Strain gauge
Steel calibration piece
Double centre punch
case

2. Properties

measuring accuracy	0,01 mm	
measuring range	± 5 mm	
Case dimensions:	240 x 200 x 60 mm 1,0kg	for 100er models
	275 x 200 x 70 mm 1,5kg	for 200er models

3. Operation

Marking the measuring section

The object surface should be clean, grease-free and without excessive surface roughness. For hard and brittle materials measuring discs are attached with two-component glue.
As an adhesive calliper use the double centre punch for the models 10.1301 and 10.1302 and the double centre punch with hollow spike for the models 10.1303 and 10.1304.

The strain gauge is set with the two measuring feet in or on the prepared marks and the gauge will read. The difference between the two measurements, or the initial measurement, is a value of the change in length of the measuring object.

With the supplied steel calibration piece the strain gauge can be checked at any time at its zero position.

4. After-sales service

A great deal of care has been taken to ensure that this Operating Manual is correct. We cannot, however, guarantee that it is without mistakes or errors, or that all information contained herein will continue to remain valid in the event of technical changes.

4.1 Date of this version of the Operating Manual

Version no. 4
Jan 2005

4.2 Copyright

The copyright to this Operating Manual is held by:

TESTING Bluhm & Feuerherdt GmbH

This Operating Manual is intended for use only by the User and his/her staff. It contains instructions and data that may NOT be:

- Reproduced,
- Distributed, or
- Provided to any third party.

Any person acting in violation of the above stipulations may be prosecuted before a court of law.

4.3 Spare parts and technical help

If you have any questions of technical nature, or if you need spare parts, please get in touch with the following address:

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