Operating Manual
Reciprocating Piston Electrode
for resistive material moisture measuring device with banana plug cables

GHE 91

Please carefully read these instructions before use!
Please consider the safety instructions!
Please keep for future reference!

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WEEE-Reg.-Nr. DE 93889386
1 General Note

Read this document carefully and get used to the operation of the device before you use it. Keep this document within easy reach near the device for consulting in case of doubt.

Mounting, start-up, operating, maintenance and removing from operation must be done by qualified, specially trained staff that have carefully read and understood this manual before starting any work.

The manufacturer will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device. The manufacturer is not liable for any costs or damages incurred at the user or third parties because of the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection or of the device. The manufacturer is not liable for misprints.

2 Safety

2.1 Intended Use

The injection probe has to be used only for measuring in split logs, cut wood and similar. An additional display has to be connected (e.g. GMH 3830 / -50) plus measuring cable GMK 38 and measuring nails GST 91.

The measuring is based on electrical resistance measuring. When using the electrode keep the operation hints in mind – otherwise there is a risk of injury!

2.2 Safety signs and symbols

Warnings are labeled in this document with the followings signs:

![DANGER] Caution! This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.

![Attention] Attention! This symbol warns of possible dangers or dangerous situations which can provoke damage to the device or environment at non-observance.

![Note] Note! This symbol point out processes which can indirectly influence operation or provoke unforeseen reactions at non-observance.

2.3 Safety guidelines

This device has been designed and tested in accordance with the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the device.

![DANGER] Risk of injury! Only use this injection probe is extremely carefully, keep it out of reach from children.

3 Operating and Maintenance

- Treat the electrode carefully (do not throw, hit against etc.). Protect plugs and sockets from soiling.
- The plastic insulator which includes the nail holder has to be clean and dry, when this is not the case, faulty measurements may occur.
4 General Information

4.1 Construction

The resistance oft the good in between the 2 measuring nails is measured.

1.) Measuring nails (GST 91, not in scope of supply)
2.) Nail holder with screw caps
3.) Isolator
4.) Lower limiter
5.) Guiding axis
6.) Sliding hammer
7.) Handle and upper limiter

4.2 Mounting of measuring nails:

Loosen screw caps and insert the measuring nails, afterwards remount and fasten tightly with 12 mm wrench.

5 Specification

<table>
<thead>
<tr>
<th>Measuring principle</th>
<th>Resistive material moisture measuring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>2 x Banana sockets for cable GMK 38</td>
</tr>
<tr>
<td>Diameter</td>
<td>Largest-Ø 50 mm</td>
</tr>
<tr>
<td>Length over all</td>
<td>Without measuring nails: 300 mm</td>
</tr>
<tr>
<td>Nail holders</td>
<td>Screw cap SW 12 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>ca. 1260 g</td>
</tr>
</tbody>
</table>

6 Reshipment

**DANGER**

All devices returned to the manufacturer have to be free of any residual of measuring media and/or other hazardous substances. Measuring residuals at housing or sensor may be a risk for persons or environment

Use a adequate transport package for reshipment, especially for fully functional devices. Please make sure that the device is protected in the package by enough packing materials.

7 Disposal instructions

**DANGER**

The device must not be disposed in the unsorted municipal waste! Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.
8 Operation

- Set the electrode with the nails on the measuring spot.

- Lay your flat hand on top of the handle.

- Take the sliding hammer in the other hand: Keep the hand within the dedicated section with measuring nails: By hammering with the sliding hammer against the lower limiter.

- Drive in hammer against the lower limiter.

- Measure:

  connect with measuring cable GMK 38
  To the display instrument,
  take reading
  disconnect

- Pull out the nails by hammering against the upper limiter/handle.

  Attention: the electrode may jump out of position, keep in a safe position not to get hit. Especially take care in head/face area.

More information for the measuring in wood: Please refer to operating manual of GMH 38xx.