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## 1. Application

Light-weight and easy-to-use, the battery powered PoroTest H20 wet sponge porosity detector is suitable for inspecting non-conductive layers on metallic substrates. Designed for in the field use, the H20 model is used for quality control and final inspection of all types of protective coatings.

## 2. Test principle

Working as a resistance detector, the PoroTest is sensitive to the electrical resistance in the non-conductive coating and the water-filled pore. A wet sponge is used as test sensor. If a pin-hole is encountered, the moisture from the wet sponge seeps into the hole to let the electrical current flow, activating an acoustic signal. Only pores are detected penetrating thoroughly through the non-conductive coating.





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### 3. Description

The PoroTest H20 is an easy-to-use gauge allowing for reliable and accurate porosity detection. Fitted with an integrated socket to connect the test cable, the detector handle is mounted on a round rod. The test sponge is fixed on top of the rod. A plastic housing which includes the batteries and the electronic part of the gauge is mounted on the rod. Operating on 9V direct current which is completely risk-free to the operator, an electrical signal is created as soon as the electrical resistance of the water-filled pore falls below 100 kOhm. With PoroTest H20 coatings down to 300  $\mu\text{m}$  can be tested for porosity.



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#### 4. Test procedure

1. Use tap water to moist the sponge. For decreasing the water's surface tension it is recommended to add a drop of mild detergent to the water.
2. Fix the clamp at the end of the measuring cable to the measuring object in order to establish the electrical contact between gauge and metallic substrate.
3. Switch on. A short beep confirms the gauge is ready for use (battery check).
4. First a performance test should be carried out: Guide the wet sponge smoothly over an uncoated area of the test object. A continuous signal confirms a good electrical contact between gauge and test object. For porosity testing, guide the sponge with slight pressure over the object to be tested. As soon as a pore is encountered, an acoustic signal will



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sound. You can locate the pore more precisely by applying the edge of the sponge over the area with the detected pore. Extreme moisture on the surface to be tested should be avoided. Do not wet or press the sponge excessively as this would impair definite location of the pores.



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## 5. Technical data

|                             |  |
|-----------------------------|--|
| Length of basic unit        | 300 mm / 11,81"  |
| Length of cable             | 1,5 m / 59"  |
| Dimensions of sponge sensor | 90 x 60 x 25 mm / 3.54" x 2.36" x 0.18"  |
| Gesamtgewicht               | ca. 390 g / approx. 12.53 ozs  |
| Power supply                | 9V block battery or alternatively<br>Zinc-Carbon battery (approx. 150 h continuous operation)<br>Alcaline-Manganese battery (approx. 220 h continuous operation)<br>Lithium battery (approx. 450 h continuous operation) |
| Operating temperature       | 0...50°C / 32...122°F  |
| Sensitivity                 | acoustic signal if test resistance<br>< approx. 100 kOhm   |
| Thickness range             | 0...300 microns  |



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## **6. After-sales service**

PoroTest H20 is manufactured according to state-of-the-art methods using high-quality components. In-process inspections ensure an optimum workmanship of the gauge.

Should you nevertheless detect an error or malfunction on the gauge, please inform the ElektroPhysik Service responsible for your products, giving the details and a description of the error or malfunction.

If there is anything specific you would like to know about the use, handling or operation of PoroTest H20, please contact your local dealer or refer directly to ElektroPhysik.

Please refer to the end of this manual for ElektroPhysik contact addresses.

