

Handheld scanner FHS1
for microwave non-destructive testing

The handheld scanner FHS1 is used for the non-destructive testing of parts that are electrically isolating. Among these isolating materials are.

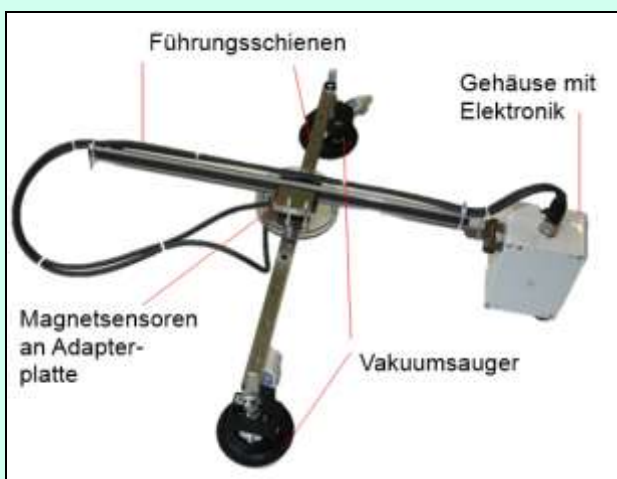
- plastics
- glass
- glass fibre reinforced plastic
- natural fibre reinforced plastic
- foams
- ceramic
- wood

as well as composites made from these materials.

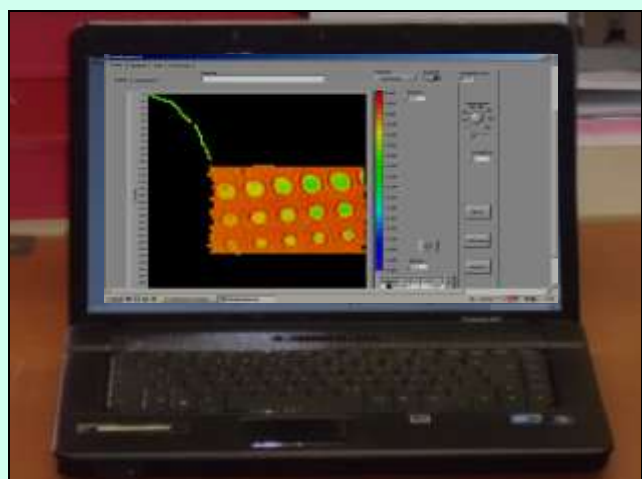
The handheld scanner FHS1 uses low power microwaves with a frequency of 24 GHz. It consists of a scan module and a laptop as the control and display module. Between both modules there is a wireless communication by Bluetooth. The scan module is fixed on the surface of the device under test by vacuum suction cups. The sensor (housing with electronics) can be guided by hand across an area of about 300 mm x 300 mm. Then a planar image of the reflection coefficient develops, similar to an ultrasonic C-scan, which shows the distribution of inhomogeneities under the surface of the device. Already existing values of a pixel are overwritten when scanning.

The instrument can be used on plane and slightly curved surfaces. These can have an arbitrary spatial orientation, e.g. horizontal or vertical. Besides of the C-scan display also a display in the complex plane of the reflection coefficient is possible.

The resulting data can be stored and are available for later postprocessing.



Scanmodul



Laptop as control and display module

Technical data of the FHS1:

- Test signal
 - frequency: 24 GHz
 - output power: <30 mW
- Scan area about. 300 mm x 300 mm
- Graphical display of the reflection coefficient in the x/y plane with the following adjustable parameters:
 - Real part or imaginary part
 - Projection phase angle: 0° bis 360°
 - Pixel size: adjustable from 1mm x 1mm to 5 mm x 5 mm
 - Intensity range: switchable between grayscale and rainbow
 - Intensity range: max. and min. adjusted automatically or by hand
- Optional display of the measured signal in the complex plane of the reflection coefficient
- The scan data can be stored in a text file for documentation and/or later postprocessing using the delivered software or a separate software.
- Power supply: 230 V AC, 50 Hz for laptop and for rechargeable battery in the scan module. Alternative power supply on request.

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