DEFECTOMETER M 1.837

Compact mobile crack test device for aircraft and automobile components

Eddy current testing made simple

The DEFECTOMETER M 1.837 is ideally suited for all situations requiring mobile crack testing. The device has a defect resolution starting from just 20 µm and numerous automatic functions. The LED scale reading and LCD display ensure good legibility even in broad daylight or complete darkness. The long operating life of 35 hours and USB port make it a perfect companion for manual crack and hardness testing and the separation of materials.

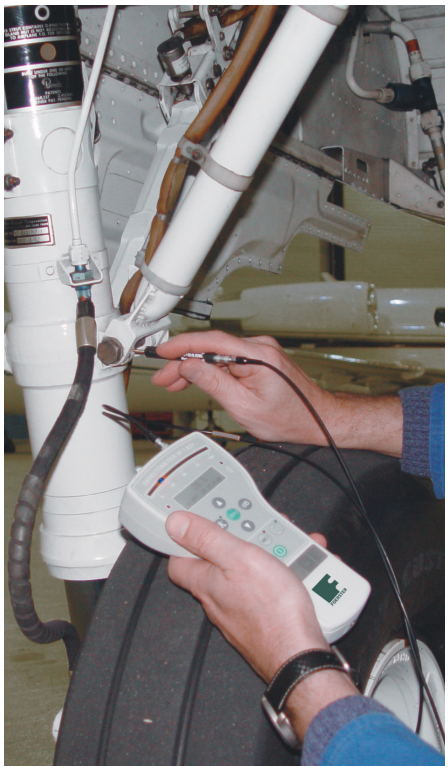
Your advantages at a glance

- Ergonomic design for easy one hand operation
- High sensitivity with a defect resolution of 20 µm
- Automatic lift-off, zero and tilt compensation
- LED and acoustic warning for lifted off probe
- Very good legibility of the LED scale display and the LCD display
- USB port for the visualization and documentation of the testing results
- 35-hour operation with activated backlighting
- Use of five probes for all materials
- Integrated calibration standard

Mobile crack detection with DEFECTOMETER M 1.837

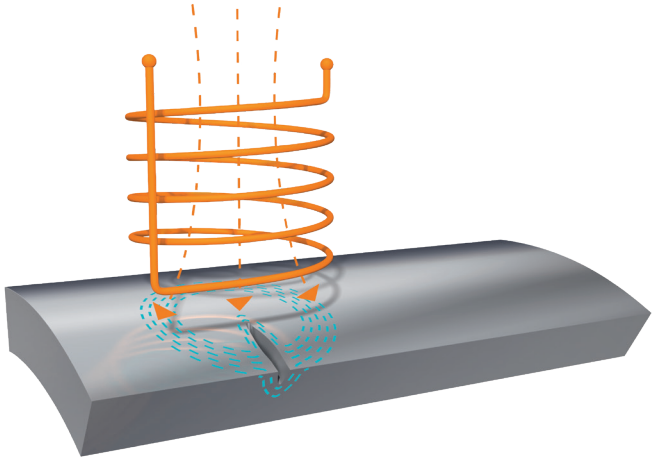
Variety of applications

- Testing for surface cracks on turbine blades, on wheels, on wings around rivets etc. on aircrafts
- Testing of surface cracks on bridges
- Testing of surface cracks on gas pipelines
- The flaw resolution is approximately 20 µm
- Simple sorting tasks
- Identification of hardness changes and detection of surface cracks on automotive components
- Detection and evaluation of surface cracks on semi-finished products



Non-destructive eddy current principle

When an alternating current flows in a coil the magnetic field of the coil induces circulating eddy currents in close proximity to a conducting surface. Any defects or irregularities in the grain structure will effect the loading on the coil and thus its impedance. By monitoring the voltage across the coil, defects like cracks or pores are detected in the material of interest.



Eddy Current Testing principle

DEFECTOMETER special sensors

The respective probe elements are available as a shielded and unshielded version. The shielding reduces the expansion of the magnetic field, so testing closer to material edges is possible.

The five different probe elements can be used in a wide variety of probe shapes. The probe form can be adapted individually to the respective requirement. If, for example, an incorrect bolt has been installed in a machine, the probe shape can be adapted so that the bolt can be reached without dismounting the machine. For more frequent applications, test kits are available to guarantee a simple and, above all, safe procedure.

Accessories

Eddy current probes

Carrying bag
1.837.01-7200

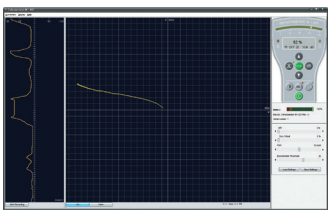
Holding device
1.837.01-7400

Universal power supply

Headphones foldable
1.837.01-7400

Calibration standards

NFe	1.837.01-1110
Fe	1.837.01-1120
Aust	1.837.01-1130
Ti	1.837.01-1140



PC software
1.837.01-8200

Airbus HFEC Inspection Kit
1.837.69-0038

Technical data

Feature	DEFECTOMETER M 1.837
Flaw detection	> 20 µm crack depth
Sensitivity range	20 dB in steps of 0.5 dB
Flaw threshold	-99% to +99% in steps of 1% in combination with red LED and acoustic indicator
Zero offset	0 - 99 %
Lift off warning	LED and acoustic
Inspection speed	0 - 0.15 m/s
Batteries	6 NiMH rechargeable battery type AA or standard batteries
Battery charger	Integrated into device
Power supply	110 - 240 V
Serial interface	USB
Operation time	35 hours (with NiMH rechargeable battery)
Range of operation temperature	-10 to +55 °C
Dimensions	81 x 178 x 42 mm (w x h x d)
Weight	400 g