



HRO HAND ROTATING UNIT

High-resolution borehole inspection with rotating eddy current probes



Reliable detection of cracks and defects in boreholes. The FOERSTER HRO Hand Rotating Unit is a compact inspection tool for manual non-destructive testing of boreholes using rotating eddy current probes. It mechanically drives the probe while reliably transmitting sensor signals to the connected testing instrument.

By rotating the probe at a constant speed, the HRO uniformly scans the entire borehole circumference, enabling high inspection sensitivity and reproducible detection of even very small cracks and material discontinuities. Using standard probe elements, flaws as small as 0.1 mm in depth can be reliably detected. Flaws with an extension of ≥ 1 mm cannot be overlooked when the instrument is properly calibrated and operated by trained personnel.

Adjustable rotation speeds from 630 to 3000 rpm allow the inspection to be adapted to different probe types, bore diameters and inspection requirements. In addition to FOERSTER rotating probes, probes from other manufacturers can also be adapted.

Compact, lightweight and robust, the HRO is designed for mobile inspection in demanding industrial environments and is particularly suitable for maintenance and component inspection in aerospace, power generation and automotive applications.

In combination with the [TCM DEFECTOSCOP app](#), inspection data can be visualized in C-scan view, T-diagram and impedance plane display. Together with the TCM platform, the HRO provides a powerful and flexible solution for manual high-resolution borehole inspection.

YOUR ADVANTAGES AT A GLANCE

Reliable borehole inspection: Rotating eddy current probes enable complete circumferential scanning for dependable detection of cracks and material discontinuities.

High inspection performance: Adjustable rotation speeds from 630 to 3000 rpm allow optimal adaptation to different probes and inspection requirements.

High inspection sensitivity: Flaws as small as 0.1 mm in depth can be reliably detected using standard probe elements.

Constant rotational speed: Ensures stable signal quality and reproducible inspection results.

Flexible probe compatibility: Compatible with FOERSTER rotating probes as well as probes from other manufacturers.

Advanced visualization options: Inspection data can be displayed as C-scan, T-diagram or impedance plane using the TCM DEFECTOSCOP app.

Compact and robust design: Lightweight construction and industrial-grade housing enable comfortable use in demanding environments.

TECHNICAL INFORMATION

ROTATION SPEED:	630 – 3000 rpm
FREQUENCY RANGE:	30 kHz – 5 MHz
POWER SUPPLY:	5 – 24 V
DIMENSIONS:	38.1 × 88.5 × 26 mm
WEIGHT:	0.15 kg
OPERATING TEMPERATURE:	0 °C to +50 °C
MAX. RELATIVE HUMIDITY:	80% at 20 °C ambient temperature
PROTECTION CLASS:	IP54

ACCESSORIES



STANDARD ROTATING PROBES

High-resolution eddy current rotating probes for manual borehole inspection with the HRO hand rotating unit



REFERENCE DEFECT STANDARDS - BOREHOLE

Reference defects for calibration of inspection systems using rotating probes

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