

VID-345

MAGNETIC-EDDY-CURRENT FLAW DETECTOR



The magnetic-eddy-current flaw detector VID-345 is intended for detecting and measuring of depths of stress-corrosion fractures in ferromagnetic structures as well as fractures under the insulating coating and/or corrosion layer.

The device can also monitor thickness of the insulating coating on the controlled items.

The flaw detector operation is based on a combination of the magnetic and eddy-current methods that enable the user to monitor items with coarse and corroded surface and measure through a layer of insulating coating of varying thickness without additional readjustment.

Shock-resistant housing



OBJECTS OF CONTROL:

- pipes, pipelines,
- oil - and gas pipelines,
- containers, pressure vessels,
- power supply industry items, parts of structures and machinery.

OPERATION MODES

- Searching for stress-corrosion fractures, with simultaneous detection of their depth and monitoring the thickness of the insulating coating – used if the thickness of insulating coating is from 0 to 4 mm.
- Searching for stress-corrosion fractures – used when the thickness of insulating coating is over 4 mm.

EXPLOITATION ADVANTAGES

CONSTRUCTION ADVANTAGES

- Simultaneous detection and depth measurement of stress-corrosion fractures, thickness of the insulating coating and/or corrosion layer.
- Continuous monitoring of the thickness of insulating coating enables user to detect corrosion fissures.
- Real-time adjustment of readings.
- Adjustable threshold units for minimally detectable fracture depth and thickness of the insulating coating.
- Intuitive interface.

- Capability to use additional changeable sensors.
- Metallic housing of electronic unit for use in severe field conditions.
- The contact surface of the sensors is made of abrasion resistant zirconium ceramics.
- Signalization of the defect detection: lighting, audio signaling through loudspeakers or headphones.

MAIN TECHNICAL PARAMETERS

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| Minimum fracture opening | 0.05 mm |
| Minimum detectable fracture length | 5 mm |
| Detectable fracture depth range | 0.3–5 mm |
| Fracture depth measurement inaccuracy | 0.2 mm + 0.1h |
| Insulating coating thickness measurement range | 0–10 mm |
| Insulating coating thickness measurement inaccuracy | 10 % |
| Maximum insulating coating thickness allowing fracture depth measurement | 4 mm |
| Maximum insulating coating thickness allowing fracture detection | 10 mm |
| Operating temperatures range | -15° ... + 40 °C |
| Dimensions of the electronic unit of the flaw detector | 150 x 80 x 35 mm |
| Dimensions of the sensor | 25 x 25 x 60 mm |
| Power supply | Ni-MH accumulators (AA 1.5B ALK can also be used) |
| Time of device functioning | 10 hours |
| Control of accumulator discharge | yes |
| Weight of the electronic unit of the flaw detector | 0.5 kg |
| Warranty period | 12 months |



BASIC DELIVERY SET

| Elements | Quantity |
|---|----------|
| Electronic unit of the flaw detector | 1 |
| Sensor of the flaw detector | 1 |
| Cable for connecting the sensor to the flaw detector | 1 |
| Sample of crack | 1 |
| Sample of isolating coating | 1 |
| Accumulator (pre-installed in the device) | 2 |
| Charger | 1 |
| Headphones | 1 |
| Special case for the operator to carry the flaw detector on his chest | 1 |
| Bag for transportation and storage | 1 |

ACCESSORIES:

- Additional sensors
- Additional cables
- A set of reserve accumulators
- Reference samples

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