

## Crack depth meter TQ 281M electro potential



**Crack depth meter TQ 281M** – high-precision instrument for measuring the depth of cracks exposed on various metals and alloys (incl. stainless steel, duraluminum), previously detected by other methods.

The operating principle of the Crack Depth Meter – AC electro potential measuring that provides prompt and precise depth test (in comparison to traditional methods).

The device is the most efficient in combination with other crack-revealing methods: magnetic particle, capillary or eddy-current.

### Typical control objects:

- Shafts, rolls, rolling mills, details of constructions, machines and mechanisms;
- Pipes, tubes, oil-and-gas pipelines;
- Pressure vessels;
- Energy industry devices.

### Exploitation advantages

- Control of ferromagnetic and non-ferromagnetic materials (stainless steel, aluminum alloys, etc.)
- Wide measuring range – from 0.2 to 100.0 mm.
- Low impact of the material electromagnetic properties on the measurement result.
- The device is equipped with various design sensors to control products of irregular shape.
- Mobile spring-loaded contact electrodes of the sensor enable the user to perform measurements on curved surfaces.
- Crack Depth Meter works successfully in field, workshop and laboratory conditions.

### Exploitation

#### Stages of crack depth measuring

Setting of the "0" – measuring on flawless location of the object.

Measuring of crack depth – contact electrodes are located on the opposite sides of the crack, measurement result in mm is shown on the screen.

#### Requirements for control objects

- Surface roughness – below or equal to 40 Rz (10 Ra)
- Stable electric contact with the sensor electrodes

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### Technical specification

Characteristic	Values
Measuring range (crack depth)	0,5-30 mm
Estimating range (device can approximately estimate the crack of such depth)	30 – 100 mm
Measuring accuracy	up to 20 %
Maximum crack width (depending on the sensor design)	up to 3,5 mm
Minimum crack length	5 crack depths, no less than 3 mm
Power supply	accumulator
Display lighting	yes
Automatic switch off	yes
Electronic unit dimensions	150x80x30 mm
Weight	0.4 kg
Operating temperature range	+5 ... +40 °C
Warranty	1 year

### Basic delivery set:

- Electronic unit – 1 piece
- Accumulator – 1 piece
- Sensor "1x4" – 1 piece
- Test block with 3 cracks – 1 piece
- Charger – 1 piece
- Soft case – 1 piece
- Cuff to fix device on arm – 1 piece
- Bag for carrying and storing – 1 piece

### Accessories

- Sensor "2x2" for hard-to-reach areas (fillets etc.)
- Sensor "3+1" for cracks deeper than 30 mm (with external electrode)

