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Technical specification for delivery of ultrasonic flaw detector

1. Description of the delivered equipment

Ultrasonic flaw detectors are used for non-destructive testing of base metal and welded joints of equipment and pipelines.

1.1. Input-output devices:

►Slot for memory card with SD card included;

►USB port;

►Video output type VGA;

►connectors type Lemo 1 for connecting conventional probes;

►Power connector.

1.2. Li-ion rechargeable battery (minimum 15 hours of battery life on a single charge), mains charger for mains from 220VAC to 240VAC with a frequency of 50Hz.

1.3. Display.

►Type- TFT / LCD;

►Minimum resolution 640x480 pixels;

►Minimum 60 Hz update rate.

1.4. To support TCG / DAC and a library with built-in DGS / AVG settings for various probes.

1.5. Range from 4 mm to 13000 mm in 1 mm increments.

1.6. Pulser energy settings 100 V, 200 V, 300 V or 400 V.

1.7. Receiver bandwidth from 0.2 MHz to 26 MHz (-3 dB).

1.8. Velocity in the range 650 ÷ 15000 m/s with a step of 1m/s.

1.9. Pulser damping 50, 100, 200, 400 Ω.

1.10. Gain range from 0 dB to 110 dB in 0.1 dB increments.

1.11. Refracted angle from 0º to 90º in 0.1º increments.

1.12. Operating temperature from -10 0C to +50 0C.

1.13. Receiver rectification: Full-wave, Negative or Positive Half-wave, RF signals.

1.14. Adjustment of the delay in the prism of the probe (automatic measurement of the delay).

1.15. Measuring apertures: amplitude, soundpath, depth distance, distance between two signals, thickness.

1.16. The flaw detector must be able to store settings for a minimum of 200 or more different probes with the possibility of updating.

1.17. Safe operation in explosive atmospheres according to MIL-STD-810F or equivalent(s).

1.18. The control panel shall be designed to meet the IP66 protection level according to IEC 60529-2004 or equivalent(s).

1.19. The flaw detector must be shock- and vibration resistant in accordance with MIL-STD-810F or equivalent(s).

1.20. The manufacturer must apply a certified quality system in accordance with BDS EN ISO 9001: 2015 “Quality management systems. Requirements” or equivalent(s), and must present a valid certificate.

1.21. Maximum weight of the ultrasonic flaw detector with mounted battery should not exceed 1.7 kilograms.

1.22. The body of the ultrasonic flaw detector should be made of shock-resistant material, front panel easy to clean and comfortable carrying handle.