

# EQUIPOS DE MEDICIÓN Y ENSAYOS NO DESTRUCTIVOS



## PORTABLE ULTRASONIC FLAW DETECTORS

### DGT-FD850



1. The maximum sampling rate of up to 640MHz, the measurement resolution 0.1mm, minimum range 2mm.
2. Operating frequency 0.5MHz ~ 20MHz, sensitivity margin of up to 62dB, low frequency there is a better signal to noise ratio.
3. High brightness, high-resolution (800x480) color TFT LCD display, the best reading test results.
4. High-performance pulse square wave generator with adjustable options, and the probe to achieve the best match (non-inductive coil probe can be achieved excellent incentive), high attenuation material either detect or thin work pieces can bring optimal performance.
5. Small size, light weight, battery, can work for more than eight hours.
6. With LAN network interface, remote instrument control and data transmission. When the instrument is as a square wave transmitter, it can provide control of the instrument parameters.
7. Two-dimensional incremental encoder interface for accurate position detection imaging (B, TOFD sweep).
8. Simultaneous analog RF waveform output, output impedance 50Ω, can be used as source data acquisition and probe tests.
9. High-speed USB interface to an external U disk data storage and dump.
10. Built-in charging function; battery and DC power supply automatically detects the display; charging, automatic switching power supply, charging temperature dual protection.
11. A variety of software features, covering all aspects of testing; unique originality universal knob to adjust the way to make testing more easily worry; humanized menu design, Chinese and English language menus
12. Automatic test probe frequency, automatically optimizing the width of the square wave, with the probe and optimal instrument.
13. Images of the thickness of the alarm function, waveform storage function and a variety of continuous waveform measurement mode.
14. Fixed index measuring instruments function and waveform envelope function to achieve the peak memory.

# PORTABLE ULTRASONIC FLAW DETECTORS

## DGT-FD850



| Items                      | Parameters                                                                                                                                                                                                                                                                                           |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transmitted Pulse          | Square wave, Emitter voltage of 25V ~ 400V continuously adjustable, stepping 25V, continuously adjustable width 30ns ~ 1000ns, Continuously adjustable width 30ns ~ 1000ns, Stepping 5ns. Under 400V/200V, both edges of less than 10ns, Automatic optimization for high-frequency excitation pulse. |
| Work Mode                  | Single, double, penetration                                                                                                                                                                                                                                                                          |
| Launch Damping             | 400, 100Ω                                                                                                                                                                                                                                                                                            |
| Operating Frequency        | 0.5 ~ 20MHz, broadband and narrowband two types                                                                                                                                                                                                                                                      |
| Gain Range                 | 0.0 ~ 110.0dB                                                                                                                                                                                                                                                                                        |
| Gain Step Value            | 0.1, 1.0, 2.0, 6.0 dB. 0.1dB gear acceleration provides intelligent regulation                                                                                                                                                                                                                       |
| Velocity Range             | 1000 ~ 20000 m / s. Continuously adjustable in steps of 1, 10, 100m / s. Built-in 8 velocity values commonly used materials                                                                                                                                                                          |
| Detection Range            | 2.0 ~ 14000mm (longitudinal wave in steel). Continuous adjustable, step value 0.1, 1, 10, 100mm                                                                                                                                                                                                      |
| Detection Methods          | Positive half wave, negative half wave, full-wave, RF                                                                                                                                                                                                                                                |
| Alarm                      | Two-way real-time hardware-driven alarm signal<br>Optional: gate alarm (into the wave, wave loss), the thickness of the alarm, DAC curve Alarm, AVG curve alarm, the alarm signal optional buzzer (sound), light-emitting diode (light)                                                              |
| Display                    | 7-inch high-resolution TFT color LCD screen, big screen, dot-matrix 800×480                                                                                                                                                                                                                          |
| Pulse Shift                | -45 ~ 9999mm                                                                                                                                                                                                                                                                                         |
| Probe Zero Value           | 0 ~ 999.99μs                                                                                                                                                                                                                                                                                         |
| Pulse Repetition Frequency | 25~1000Hz, automatic or manual adjustment mode                                                                                                                                                                                                                                                       |
| Vertical Linearity Error   | ≤3%                                                                                                                                                                                                                                                                                                  |
| Level Linearity Error      | ≤0.3%                                                                                                                                                                                                                                                                                                |
| Sensitivity Margin         | > 62dB (200Φ2 flat bottom hole)                                                                                                                                                                                                                                                                      |
| Resolution                 | > 36dB                                                                                                                                                                                                                                                                                               |
| Dynamic Range              | ≥32dB                                                                                                                                                                                                                                                                                                |
| Rejection                  | (0-99) %, does not affect the linearity and gain                                                                                                                                                                                                                                                     |
| RF Output Impedance        | 50Ω                                                                                                                                                                                                                                                                                                  |
| Electrical Noise Level     | <10%                                                                                                                                                                                                                                                                                                 |
| Probe Interface            | BNC or Lemo                                                                                                                                                                                                                                                                                          |
| Data Port                  | USB interface                                                                                                                                                                                                                                                                                        |
| Power                      | High-capacity lithium battery, no memory effect; 220V AC (with adapter).                                                                                                                                                                                                                             |
| Working Time               | Continuous work more than eight hours                                                                                                                                                                                                                                                                |
| Ambient temperature        | -30 °C ~ 50 °C                                                                                                                                                                                                                                                                                       |
| Relative humidity          | (20-95) % RH                                                                                                                                                                                                                                                                                         |
| Weight                     | 1.4kg (including battery)                                                                                                                                                                                                                                                                            |

# PORTABLE ULTRASONIC FLAW DETECTORS



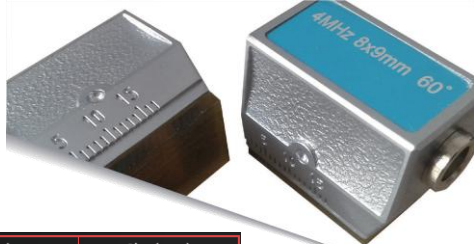
## DGT-FD800

1. Automated display precise flaw location (Depth d、 level p、 distance s、 amplitude、 sz dB、  $\phi$ )
- 2.2. Automated switch three staff gauge ((Depth d、 level p、 distance s);
- 3.3. Automated calibration of transducer Zero-point, Angles, Front edge and material Velocity ;
- 4.4. Convenient to make and use DAC\TCG and AVG to evaluate the echo, the curve can be modified and compensated
- 5.5. 6dB DAC functions;
- 6.6. 100 independence setup, any criterion can be input freely, we can work in the scene without test block;
- 7.7. Big memory of 1000 A graph
- 8.8. Automated gain and gain scan;
- 9.9. Peak Hold and Peak Memory ;
- 10.10. B scan;
- 11.11. AWS D1.1
- 12.12. Automated make video of test process and play; use upan, the length of video is unlimited.
- 13.13. Powerful pc software and reports can be export to excel;
- 14.14. Li battery, continue working time up to 10 hours;
- 15.15. The embeded software can be online updated;

|                               |                              |
|-------------------------------|------------------------------|
| Measuring range (mm)          | 0--10000                     |
| Vertical linearity error      | $\leq 3\%$                   |
| Horizontal linearity error    | $\leq 0.1\%$                 |
| Sensitivity margin            | $\geq 62\text{dB}$           |
| Dynamic scope                 | $\geq 34\text{dB}$           |
| Resolution                    | $\geq 36\text{dB}$           |
| Frequency range (MHz)         | 0.5 --20                     |
| Gain (dB)                     | 0 --120                      |
| Velocity                      | 1000 --15000                 |
| Measurement mode              | single、 dual、 THRU           |
| Reject                        | 0-80%                        |
| Pulse shift ( $\mu\text{s}$ ) | -20--+3400                   |
| Zero                          | ( $\mu\text{s}$ ) 0.0--99.99 |
| Port type                     | BNC                          |
| Operating temperature         | -20--50                      |
| H×W×D(mm)                     | 240×156×50                   |
| Weight (kg)                   | 1.0(with Battery)            |

# PORTABLE ULTRASONIC FLAW DETECTORS

## TRANSDUCERS/PROBES



| Transducer                       | Connector        | Angle                   | Size(mm)                                                        |
|----------------------------------|------------------|-------------------------|-----------------------------------------------------------------|
| Angle Beam<br>Transducer         | Lemo00           | 30°, 45°, 60°, 70°, 80° | 6x6, 8x9, 10x10<br>13x13, 14x16, 18x18<br>20x20, 20x22<br>30x30 |
| Straight Beam<br>Transducer      | Lemo00<br>Lemo01 | 0°                      | Φ5, Φ8, Φ10, Φ12<br>Φ14, Φ16, Φ20<br>Φ25, Φ30                   |
| Dual Straight Beam<br>Transducer | Lemo00           | 0°                      | Φ8, Φ10, Φ12<br>Φ14, Φ20<br>Φ25, Φ30                            |

# PORTABLE ULTRASONIC FLAW DETECTORS

## CABLES



| Single Cables                 |           |
|-------------------------------|-----------|
| Connectors                    | Length(m) |
| Lemo00 to Lemo00              | 2.0       |
| Lemo00 to Lemo01              | 2.0       |
| Lemo00 to Microdot            | 2.0       |
| Lemo00 to BNC                 | 2.0       |
| Lemo01 to Lemo01              | 2.0       |
| Lemo01 to Microdot            | 2.0       |
| Lemo01 to BNC                 | 2.0       |
| BNC to Microdot               | 2.0       |
| BNC to BNC                    | 2.0       |
| Dual Cables                   |           |
| Dual Lemo00 to Dual Lemo00    | 2.0       |
| Dual Lemo00 to Dual Mini-Lemo | 2.0       |
| Dual Lemo00 to Dual Lemo01    | 2.0       |
| Dual Lemo00 to Dual Microdot  | 2.0       |
| Dual Lemo00 to Dual BNC       | 2.0       |
| Dual Lemo01 to Dual Microdot  | 2.0       |
| Dual BNC to Dual Microdot     | 2.0       |



## PORTABLE ULTRASONIC FLAW DETECTORS

### CALIBRATION BLOCKS

#### V1 CALIBRATION BLOCK

Calibration of shear and compression wave probes. Checking beam angle, emergent point and resolution. Calibration of time base and gain settings.

#### DSC DISTANCE/ SENSITIVITY CALIBRATION BLOCK

Straight Beam: distance, amplitude. Angle Beam: index point, sound path angle (45°-70°), distance, sensitivity.

#### PHASED ARRAY BLOCK TYPE B

The Phased Array "Type B" Calibration Block is used as baseline block to determine long-term instrument performance changes, generate DAC curves, and evaluate linear/ angular resolution, focusing ability and beam steering capability.

#### V2 CALIBRATION BLOCK

Small calibration block for on-site checking of miniature shear wave probe index, time base, beam angle and gain, engraved reference mark scales from 35 to 75 degrees.

#### MINIATURE ANGLE BEAM (ROMPAS) CALIBRATION BLOCK

Straight Beam: distance angle beam, index point, sound path angle (30°-70°).

#### PHASED ARRAY BLOCK TYPE A

The Phased Array "Type A" Calibration Block is used during the initial setup and calibration of a phased array ultrasonic unit. It can be used to perform tasks such as beam angle verification, calibration for wedge delay, sensitivity calibration, performing DAC/TCG for thickness up to 50 mm, and crack sizing.



## PORTABLE ULTRASONIC FLAW DETECTORS

### CALIBRATION BLOCKS

#### DC DISTANCE CALIBRATION BLOCK

Straight Beam: distance, amplitude.  
Angle Beam: index point, distance.

#### DS DISTANCE/ SENSITIVITY CALIBRATION BLOCK

Straight Beam: distance, horizontal  
linearity, sensitivity.

#### IIW BEAM PROFILE BLOCK

Angle Beam: beam profile  
(45°, 60°, 70°), probe angle.

#### SC SENSITIVITY CALIBRATION BLOCK

Angle Beam: sound path angle  
(45°, 60°, 75°), sensitivity.

#### RC (AWS) RESOLUTION CALIBRATION BLOCK

Angle Beam: resolution (45°, 60°, 70°).

#### ASME BASIC CALIBRATION BLOCK

Used for establishment of primary  
reference responses for UT examination  
of welds.



## PORTABLE ULTRASONIC THICKNESS GAUGE

### DGT-TG130

|                                 |                                    |                          |                    |                          |
|---------------------------------|------------------------------------|--------------------------|--------------------|--------------------------|
| Measuring Range(Steel)          | 0.7mm-225.0mm with 5MHz Transducer |                          |                    |                          |
|                                 | 5.0mm-300.0mm with 2MHz Transducer |                          |                    |                          |
| Operating Temperature           | -10 -- 60℃                         |                          |                    |                          |
| Lower Limit Steel Pipes         | Φ20mm*3.0mm                        |                          |                    |                          |
| Display Resolution (Selectable) | 0.1mm/0.01mm or 0.01/0.001inch     |                          |                    |                          |
| Data Output                     | RS232 Output for Printer or PC     |                          |                    |                          |
| Measuring Accuracy              | ±1% thickness+0.1mm                |                          |                    |                          |
| Sound Velocity                  | 1000m/s—9999m/s                    |                          |                    |                          |
| Power Supply                    | 2pcs AA Batteries 1.5V             |                          |                    |                          |
| Battery Life                    | 100 hours without backlight        |                          |                    |                          |
| Dimensions                      | 152mm×74mm×35mm                    |                          |                    |                          |
| Weight                          | 370g                               |                          |                    |                          |
| Transducer Specifications       |                                    |                          |                    |                          |
| Transducer                      | Measuring Range<br>(Steel)         | Contact Area<br>Diameter | Frequency<br>(MHz) | Operating<br>Temperature |
| TSTU32                          | 5.0-300.0mm                        | 22mm                     | 2                  | -10 -- 60℃               |
| 5PΦ10                           | 0.7-225.0mm                        | 10mm                     | 5                  | -10 -- 60℃               |



## PORTABLE ULTRASONIC THICKNESS GAUGE

### DGT-TG140

|                                             |                                                                                                |
|---------------------------------------------|------------------------------------------------------------------------------------------------|
| Measuring Range                             | 0.75mm~300.0mm (0.03inch~11.8inch)                                                             |
| Units                                       | Metric / Imperial unit selectable                                                              |
| Sound Velocity Range                        | 1000m/s~9999m/s (0.039~0.394 in/μs)                                                            |
| Display Resolution                          | 0.01mm or 0.1mm (lower than 100.0mm)<br>0.1mm (more than 99.99mm)                              |
| Accuracy                                    | ± (0.5%Thickness+0.04) mm,<br>depends on materials & conditions                                |
| Data Memory                                 | 5 files (up to 100 values for each file) of stored values<br>5 Sound Velocity of stored values |
| Power Source                                | 2pcs 1.5V AA size batteries<br>250 hours typical operating time (LED backlight off)            |
| Outline Dimensions                          | 150mm×74mm×32mm                                                                                |
| Workpiece Surface Temperature               | - 10 ~ 60 °C                                                                                   |
| Minimum Thickness Value<br>Capture Capacity | With a minimum thickness value capture capacity                                                |
| Measurement Cycle                           | 4 times / SEC, scanning of single point measurement<br>mode 20 times per second                |
| Weight                                      | 238 g                                                                                          |



## PORTABLE ULTRASONIC THICKNESS GAUGE

**DGT-TG320/321/322/330/331/332**

| Model                 | 320                                | 321       | 322         | 330   | 331       | 332         |
|-----------------------|------------------------------------|-----------|-------------|-------|-----------|-------------|
| Measuring range(mm)   | 0.7~300                            |           |             |       |           |             |
| Resolution(mm)        | 0.1                                |           | 0.01        | 0.1   | 0.1       | 0.01        |
| Accuracy(mm)          | ±(0.5%H+0.04) mm, H is thickness   |           |             |       |           |             |
| Velocity range(m/s)   | 5920                               | 1000~9999 |             | 5920  | 1000~9999 |             |
| Velocity measurement  | √                                  |           |             |       |           |             |
| Storage               | N                                  |           | 2000 Groups | N     |           | 2000 Groups |
| Shell                 | Plastic                            |           |             | Metal |           |             |
| Operating temperature | -10°C~60°C                         |           |             |       |           |             |
| Dampness              | 20%~90%                            |           |             |       |           |             |
| Dimensions            | 130×70×25mm                        |           |             |       |           |             |
| Power supply          | 2 AAA alkaline batteries           |           |             |       |           |             |
| Weight                | 200g                               |           |             | 420   |           |             |
| Standard Delivery     | Main unit, Probes, Couplant bottle |           |             |       |           |             |
| Optional Accessories  | Probes, Couplant                   |           |             |       |           |             |



## PORTABLE ULTRASONIC THICKNESS GAUGE

DGT-TG342/352

| Model                 | 342                                                                        | 352                          |
|-----------------------|----------------------------------------------------------------------------|------------------------------|
| Measuring range(mm)   | 0.75~300                                                                   |                              |
| Resolution(mm)        | 0.01                                                                       |                              |
| Accuracy(mm)          | $\pm(0.5\%H+0.04)$ mm,H is thickness                                       |                              |
| Velocity range(m/s)   | 1000~9999                                                                  |                              |
| Velocity measurement  | √                                                                          |                              |
| Operating temperature | 0°C~40°C                                                                   |                              |
| Dampness              | 20%~90%                                                                    |                              |
| Dimensions            | 230×86×46mm                                                                |                              |
| Power supply          | Rechargeable NI-MH battery                                                 | Rechargeable Lithium battery |
| Printer               | Build-in High-speed Thermal Printer,<br>Width for printer paper:44.5±0.5mm |                              |
| Weight                | 400g                                                                       |                              |
| Standard Delivery     | Main unit,2 probes(Φ10、Φ8),Couplant,Charger, Paper for printer             |                              |
| Optional Accessories  | Probes, Couplant, Paper for printer, 4 steps calibration block for 352     |                              |



## PORTABLE ULTRASONIC THICKNESS GAUGE (WITH THROUGH COATING FUNCTION) DGT-TG400

|                         |                                                                                                 |
|-------------------------|-------------------------------------------------------------------------------------------------|
| Measuring Range (Steel) | Pulse-Echo mode: (0.65-600) mm (in Steel)<br>Echo-Echo mode: (3-30) mm                          |
| Display                 | 4.5 digits LCD with EL backlight                                                                |
| Sound Velocity Range    | (1000-9999) m/s                                                                                 |
| Resolution              | 0.1mm/0.01mm                                                                                    |
| Accuracy                | $\pm (0.5\% \text{ Thickness} + 0.01) \text{ mm}$ , depends on materials and conditions         |
| Memory                  | up to 20 files (up to 99 values for each file) of stored values                                 |
| Power Source            | Two "AA" size, 1.5 Volt alkaline batteries. 100 hours typical operating time (EL backlight off) |
| Communication           | USB1.1                                                                                          |
| Outline dimensions      | 150mm×74mm×32 mm                                                                                |
| Weight                  | 245g                                                                                            |
| Operating Temperature   | - 20°C - + 60°C                                                                                 |
| Storage Temperature     | -30°C - + 70°C                                                                                  |
| Relative Humidity       | $\leq 90\%$                                                                                     |



## PORTABLE ULTRASONIC THICKNESS GAUGE

### DGT-TG500

|                             |                                                                                                                    |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------|
| Operating Principle         | I-E(interface-echo) mode with single-crystal delayed probe<br>E-E(echo-echo)mode with single-crystal delayed probe |
| Measuring Range             | 1.5-20mm (I-E mode)<br>0.3-10mm (E-E mode)                                                                         |
| Unit and Display Resolution | mm-0.001, 0.01, 0.1<br>inch-0.0001, 0.001, 0.01                                                                    |
| Probe Zero Adjustment       | 1-point Calibration<br>2-point Calibration                                                                         |
| Measuring Error             | $\pm 0.005\text{mm}(<3\text{mm})$ ; $\pm 0.05\text{mm}(<20\text{mm})$                                              |
| Display                     | 128×64 dot-matrix LCD screen with EL backlight<br>(42mm×57mm)                                                      |
| Measuring Update Rate       | 4Hz in standard measurement mode                                                                                   |
| Material Velocity Range     | 1000-9999m/s, 0.0394-0.3937in/us                                                                                   |
| Data Logger Capacity        | Up to 500 readings can be divided into a maximum of 5 files(user-selectable)                                       |
| Operating Language          | English                                                                                                            |
| Power Supply                | Two 1.5V AA Alkaline batteries, warning with low voltage                                                           |
| Operating Time              | Up to 200 hours with alkaline batteries (without backlight)<br>depending on operating mode                         |
| Auto-shut off               | After 5 minutes of non-use<br>-10°C to +50°C(Specification to -20°C/-4°F on request)                               |
| Size                        | 149mm×73mm×32mm (H×W×D)                                                                                            |
| Weight                      | 200g including batteries                                                                                           |



## PORTABLE ULTRASONIC COATING THICKNESS GAUGE

**DGT-CTG210/211/220/221/222/232**

| Model                                | 210                                                                                                                                  | 211                | 220                     | 221                | 222        | 232        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------|--------------------|------------|------------|
| Operating principle                  | Magnetic induction (Fe)                                                                                                              | Eddy Current (NFe) | Magnetic induction (Fe) | Eddy Current (NFe) | Fe and NFe | Fe and NFe |
| Measuring range (μm)                 | 0~1250μm                                                                                                                             |                    |                         |                    |            |            |
| Probe                                | Settled                                                                                                                              |                    | Changeable              |                    |            |            |
| Shell                                | Plastic                                                                                                                              |                    |                         |                    |            | Metal      |
| Accuracy                             | $\pm [ (1\sim3\%)H+1 ]$                                                                                                              |                    |                         |                    |            |            |
| Low range resolution (μm)            | 0.1μm                                                                                                                                |                    |                         |                    |            |            |
| Min curvature of the min area (mm)   | Convex1.5 Concave9                                                                                                                   |                    |                         |                    |            |            |
| Diameter of the min area (mm)        | Φ7                                                                                                                                   |                    |                         |                    |            |            |
| Critical thickness of substrate (mm) | 0.5                                                                                                                                  |                    |                         |                    |            |            |
| Memory                               | 500 Groups measured data                                                                                                             |                    |                         |                    |            |            |
| Dimensions                           | 115×70×30mm                                                                                                                          |                    |                         |                    |            |            |
| Power supply                         | AAA Alkaline battery                                                                                                                 |                    |                         |                    |            |            |
| Standard configuration               | Main Machine, 5 calibration specimens (50μm、100μm、200μm、500μm、1000μm), Fe or NFe probe, Fe or NFe substrate. Two probes for 222&232. |                    |                         |                    |            |            |
| Optional Accessories                 | Probes, Specimens                                                                                                                    |                    |                         |                    |            |            |



## PORTABLE ULTRASONIC COATING THICKNESS GAUGE

DGT-CTG242/262

| Model                                | 242                                                                                                                          | 262                          |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Operating principle                  | Magnetic induction or Eddy current (Fe or NFe)                                                                               |                              |
| Measuring range (μm)                 | 0~1250μm                                                                                                                     |                              |
| Accuracy                             | ±[ (1~3%)H+1]                                                                                                                |                              |
| Low range resolution (μm)            | 0.1μm                                                                                                                        |                              |
| Min curvature of the min area (mm)   | Convex1.5                                                                                                                    | Concave9                     |
| Diameter of the min area (mm)        | Φ7                                                                                                                           |                              |
| Critical thickness of substrate (mm) | 0.5                                                                                                                          |                              |
| Operating temperature                | 0°C~40°C                                                                                                                     |                              |
| Magnetic field                       | No strong magnetic field environment                                                                                         |                              |
| Memory                               | 500 measured data                                                                                                            |                              |
| Dimensions                           | 230×86×46mm                                                                                                                  |                              |
| Printer                              | Build-in High-speed Thermal Printer,<br>Width for printer paper:44.5±0.5mm                                                   |                              |
| Power supply                         | Rechargeable NI-MH battery                                                                                                   | Rechargeable lithium-battery |
| Standard configuration               | Main unit,5 specimens (50um、100um、200um、500um<br>1000um), Charger, paper for printer, Fe or NFe probe,Fe or NFe<br>substrate |                              |
| Optional Accessories                 | Probes, Specimens, Paper for printer                                                                                         |                              |



## PORTABLE ULTRASONIC COATING THICKNESS GAUGE

DGT-CTG250A/251A/252A

| Model                                | 250A                                                              | 251A         | 252A                               |
|--------------------------------------|-------------------------------------------------------------------|--------------|------------------------------------|
| Operating principle                  | Magnetic induction                                                | Eddy current | Magnetic induction or Eddy current |
| Measuring range (μm)                 | 0~1250μm                                                          |              | 0~6000μm                           |
| Accuracy                             | $\pm[(1\sim3\%)H+1]$                                              |              |                                    |
| Low range resolution (μm)            | 1μm                                                               |              |                                    |
| Min curvature of the min area (mm)   | Convex1.5 Concave20                                               |              |                                    |
| Diameter of the min area (mm)        | Φ10                                                               |              |                                    |
| Critical thickness of substrate (mm) | 0.5                                                               |              |                                    |
| Memory                               | 320 Groups                                                        |              |                                    |
| Operating temperature                | 0°C~40°C                                                          |              |                                    |
| Dampness                             | 20%~90%                                                           |              |                                    |
| Magnetic field                       | No strong magnetic field environment                              |              |                                    |
| Dimensions                           | 150×55.5×23mm                                                     |              |                                    |
| Power supply                         | AAA Alkaline battery                                              |              |                                    |
| Weight                               | 120g                                                              |              |                                    |
| Standard configuration               | Main unit, 2 Calibration specimens (S1, S2), Fe and NFe substrate |              |                                    |



## PORTABLE ULTRASONIC COATING THICKNESS GAUGE

DGT-CTG250/251/252/253

| Model                                | 250                                                               | 251                | 252                                              | 253                     |
|--------------------------------------|-------------------------------------------------------------------|--------------------|--------------------------------------------------|-------------------------|
| Operating principle                  | Magnetic induction (Fe)                                           | Eddy current (NFe) | Magnetic induction and Eddy current (Fe and NFe) | Magnetic induction (Fe) |
| Measuring range (μm)                 | 0~1250μm                                                          |                    |                                                  | 0~6000μm                |
| Accuracy                             | ±[ (1~3%)H+1]                                                     |                    |                                                  |                         |
| Low range resolution (μm)            | 1μm                                                               |                    |                                                  |                         |
| Min curvature of the min area (mm)   | Convex1.5 Concave20                                               |                    |                                                  |                         |
| Diameter of the min area (mm)        | Φ10                                                               |                    |                                                  |                         |
| Critical thickness of substrate (mm) | 0.5                                                               |                    |                                                  |                         |
| Operating temperature                | 0°C~40°C                                                          |                    |                                                  |                         |
| Dampness                             | 20%~90%                                                           |                    |                                                  |                         |
| Magnetic field                       | No strong magnetic field environment                              |                    |                                                  |                         |
| Dimensions                           | 150×55.5×23mm                                                     |                    |                                                  |                         |
| Power supply                         | AAA Alkaline battery                                              |                    |                                                  |                         |
| Weight                               | 120g                                                              |                    |                                                  |                         |
| Standard configuration               | Main unit, 2 Calibration specimens (S1, S2), Fe and NFe substrate |                    |                                                  |                         |

# PORTABLE ULTRASONIC COATING THICKNESS GAUGE

## DGT-CTG300



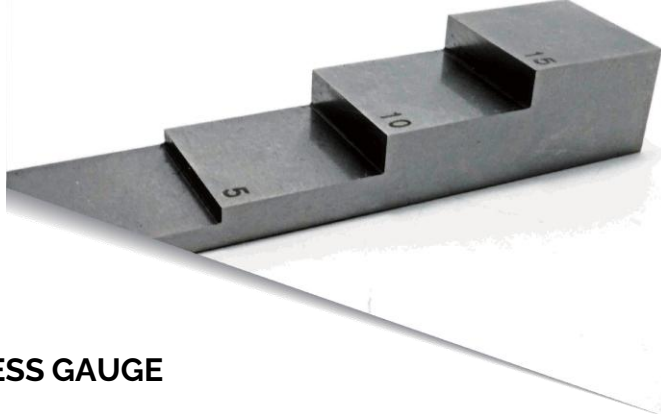
|                         |                                                          |          |            |          |                                                |        |
|-------------------------|----------------------------------------------------------|----------|------------|----------|------------------------------------------------|--------|
| Measuring range         | 0-1250μm, depends on probes, MAX 10mm for the probe F10. |          |            |          |                                                |        |
| Working principle       | Magnetic & Eddy                                          |          |            |          |                                                |        |
| Substrate               | FE / NFE base                                            |          |            |          |                                                |        |
| Resolution              | 0.1μm                                                    |          |            |          |                                                |        |
| Display                 | 128x64 LCD with backlight                                |          |            |          |                                                |        |
| Accuracy                | ±2%H+1um    Note: H is thickness reading                 |          |            |          |                                                |        |
| Memory                  | 5 files x 100 values                                     |          |            |          |                                                |        |
| Unit switch             | Metric (μm) Imperial (mil)                               |          |            |          |                                                |        |
| Working temperature     | Operation Temp.: -10~50°C    Storage Temp.: -30~70°C     |          |            |          |                                                |        |
| Power                   | AA battery 2pcs                                          |          |            |          |                                                |        |
| Weight                  | 340g                                                     |          |            |          |                                                |        |
| Size                    | 115×67×31mm                                              |          |            |          |                                                |        |
| Transducers             |                                                          |          |            |          |                                                |        |
| Model                   |                                                          | F400     | F1         | F1/90    | F10                                            | N1     |
| Working principle       |                                                          | Magnetic |            |          |                                                | Eddy   |
| Measuring Range<br>(μm) |                                                          | 0-400    | 0-1250     | 0-10000  | 0-1250<br>(0-40 Chromium<br>plating on copper) | 10-200 |
| Resolution(μm)          |                                                          | 0.1      |            |          | 10                                             | 0.1    |
| Measuring<br>Conditions | Minimal Curvature<br>Radius(mm)                          | Convex1  | Convex 1.5 | Straight | 10                                             | 3      |
|                         | Basic Materials'<br>Diameter of Minimal<br>Area(mm)      | Φ3       | Φ7         | Φ7       | Φ40                                            | Φ5     |
|                         | Minimum Critical<br>Thickness                            | 0.2      | 0.5        | 0.5      | 2                                              | 0.3    |



## PORTABLE ULTRASONIC THICKNESS GAUGE

### TRANSDUCERS

| Model   | Frequency (MHz) | Diameter (mm) | Connector | Description                                                                     |
|---------|-----------------|---------------|-----------|---------------------------------------------------------------------------------|
| P5EE    | 5               | 10            | Lemo00    | Trough Coating Measurement                                                      |
| P02     | 2               | 14            |           | For thick, highly attenuating, or highly scattering materials                   |
| P05     | 5               | 10            |           | Normal Measurement                                                              |
| P05/90° | 5               | 10            |           | Normal Measurement                                                              |
| P07     | 7               | 6             |           | For thin pipe wall or small curvature pipe wall measurement                     |
| P10     | 10              | 4             |           | Thin work piece:<br>For thin pipe wall or small curvature pipe wall measurement |
| PHT5    | 5               | 10            |           | For high temperature (lower than 550°C) measurement.                            |



## PORTABLE ULTRASONIC THICKNESS GAUGE

### 4/5/7/10-STEP BLOCKS

#### 4 STEPS TEST BLOCKS

Dimensions 80x20mm

4A type steps thickness:  
6.25mm, 12.5mm, 18.75mm, 25mm

4B type steps thickness:  
5mm, 10mm, 15mm, 20mm

#### 5 STEPS TEST BLOCKS

Dimensions 100x20mm

5A type steps thickness:  
2.5mm, 5mm, 7.5mm, 10mm, 12.5mm

5B type steps thickness:  
2mm, 4mm, 6mm, 8mm, 10mm

#### 10 STEPS TEST BLOCKS

Dimension 200x20mm

10A type steps thickness:  
2.5mm, 5mm, 7.5mm, 10mm, 12.5mm,  
15mm, 17.5mm, 20mm, 22.5mm, 25mm

10B type steps thickness: 2mm, 4mm,  
6mm, 8mm, 10mm, 12mm, 14mm,  
16mm, 18mm, 20mm

10C type steps thickness: 1mm, 2mm,  
3mm, 4mm, 5mm, 6mm, 7mm, 8mm,  
9mm, 10mm

#### 7 STEPS TEST BLOCKS

Dimension 140x20mm

7A type steps thickness:  
3mm, 12.5mm, 24mm, 30mm, 36mm,  
42mm, 48mm

7B type steps thickness:  
1mm, 1.5mm, 2mm, 4mm, 6mm, 8mm,  
10mm

# MEDIDORES DE RUGOSIDAD





## SURFACE ROUGHNESS TESTERS

### DGT-SRT200A

|                                   |                                                                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The maximum driving trip          | 17.5mm/0.7inch                                                                                                                                             |
| Indicating error                  | Not more than $\pm 10\%$                                                                                                                                   |
| Variation of indication           | Not more than 6%                                                                                                                                           |
| The measured profile              | Roughness, waviness, the original contour                                                                                                                  |
| Parameter                         | Ra (0.005 $\mu\text{m}$ -16 $\mu\text{m}$ ) ,<br>Rz (0.02 $\mu\text{m}$ -160 $\mu\text{m}$ ) ,<br>Rq, Rx, Rt, Rp, Rv, R3z, R3y, RzJIS, Rsk, Rku, Rsm, Rmr. |
| Filter                            | RC,PCRC,Gauss,ISO13565                                                                                                                                     |
| The sampling length L             | 0.25mm,0.8mm,2.5mm,8mm                                                                                                                                     |
| Evaluation length L               | (1-5)l                                                                                                                                                     |
| Internal storage capacity         | 100 groups of original data                                                                                                                                |
| External input / output interface | USB                                                                                                                                                        |
| Electric source                   | Built-in rechargeable lithium ion battery<br>or external power adapter                                                                                     |
| The performance index of sensor   |                                                                                                                                                            |
| The detection principle           | Current induction                                                                                                                                          |
| Measuring range                   | 160 $\mu\text{m}$                                                                                                                                          |
| Tip radius                        | 5 $\mu\text{m}$                                                                                                                                            |
| Tip material                      | Diamond                                                                                                                                                    |
| Stylus force                      | 4mN(0.4gf)                                                                                                                                                 |
| Stylus angle                      | 90°                                                                                                                                                        |
| The guide head vertical radius    | 45mm                                                                                                                                                       |



## SURFACE ROUGHNESS TESTERS

### DGT-SRT300(HIGH PRECISION)

|                        |                     |                                                                                                          |
|------------------------|---------------------|----------------------------------------------------------------------------------------------------------|
| Measuring Range        | Z-axis (vertical)   | 160μm                                                                                                    |
|                        | X-axis (horizontal) | 17.5mm                                                                                                   |
| Resolution             | Z-axis (vertical)   | 0.01μm/±20μm                                                                                             |
|                        |                     | 0.02μm/±40μm                                                                                             |
|                        |                     | 0.04μm/±80μm                                                                                             |
| Measuring Items        | Parameters          | Ra Rz==Ry(JIS)<br>Rq Rt==Rmax<br>Rp Rv R3z R3y Rz(JIS)<br>Rs Rsk Rku Rsm Rmr Rpc, Rk, Rpk, Rvk, Mr1, Mr2 |
|                        | Standard            | ISO, ANSI, DIN, JIS                                                                                      |
|                        | Graph               | Supporting curve, roughness profile, direct contour                                                      |
| Filter                 |                     | RC, PC-RC, Gauss, D-P                                                                                    |
| Sampling length (lr)   |                     | 0.25, 0.8, 2.5mm                                                                                         |
| Evaluation length (ln) |                     | Ln=lr×n<br>n=1~5                                                                                         |
| Sensor                 | Measuring Principle | displacement differential inductor                                                                       |
|                        | Stylus              | Natural diamond, 90 cone angle, 5μm tip radius                                                           |
|                        | Dynamometer         | <4mN                                                                                                     |
|                        | Guide head          | Carbide, the sliding direction radius 40mm                                                               |
|                        | Sliding Speed       | lr=0.25, Vt=0.135mm/s, lr=0.8, Vt=0.5mm/s<br>lr=2.5, Vt=1mm/s, Return, Vt=1mm/s                          |
| Indicator Error        |                     | no more than ±10%                                                                                        |
| Indication Fluctuation |                     | no more than 6%                                                                                          |
| Power                  |                     | Built-in lithium-ion rechargeable battery, charged by DC5V, 800mA charger                                |
| Dimension              |                     | 158×63.5×46mm                                                                                            |
| Weight                 |                     | About 300g                                                                                               |

## SURFACE ROUGHNESS TESTERS

### DGT-SRT432



|                         |                                                                |
|-------------------------|----------------------------------------------------------------|
| Roughness parameter     | Ra, Ry, Rq, Rz, Rt, R5m, R5, Rp, Rv, R3z, RSk, Rmax, Rmr       |
| Measuring range         | Ra:0.005-16μm<br>Rz:0.02-160μm                                 |
| Resolution              | 0.001μm                                                        |
| Sample length/Range     | 0.25mm, 0.8mm, 2.5mm/±20μm, ±40μm, ±80μm,                      |
| Evaluation length       | 1.25mm, 4mm, 5mm/Option from 1L-5L (L means the sample length) |
| Standard                | ISO, DIN, ANSI, JIS, FCC, CE                                   |
| Filtering methods       | RC, PC-RC, GAUSS, D-P,                                         |
| Accuracy                | ±5%                                                            |
| Repeat ability          | <2%                                                            |
| Sensor                  | Piezocrystal                                                   |
| Radius of sensor stylus | 5μm                                                            |
| Stylus angle            | 90°                                                            |
| Memory                  | 100 Groups                                                     |
| Power supply            | Rechargeable Lithium-Ion battery                               |
| Operating temperature   | 0 °C ~40 °C                                                    |
| Weight                  | 440g                                                           |
| Dimensions              | 119×47×65mm                                                    |
| Standard configuration  | Main Unit, Standard sensor, standard block, Power adapter      |

## SURFACE ROUGHNESS TESTERS

### DGT-SRT451



|                                         |                                                                                                  |
|-----------------------------------------|--------------------------------------------------------------------------------------------------|
| Roughness parameter                     | Ra, Rz, Rq, Rt                                                                                   |
| Measuring range                         | Ra:0.05-10.0μm<br>Rz:0.1-50μm                                                                    |
| Resolution                              | 0.01μm                                                                                           |
| Cut-off lengths                         | 0.25mm / 0.8mm / 2.5mm                                                                           |
| Evaluation length                       | 1.25mm / 4mm / 5mm                                                                               |
| Tracing length                          | 6mm                                                                                              |
| Standard                                | ISO, DIN, ANSI, JIS, FCC, CE                                                                     |
| Accuracy                                | ±6%                                                                                              |
| Repeatability                           | <3%                                                                                              |
| Sensor                                  | Piezocrystal                                                                                     |
| Sensor stylus arc radius and Angle      | Radius of sensor stylus:10.0±2.5μm    Angle:90°                                                  |
| Sensor stylus force and its change rate | Sensor stylus forc: ≤0.016N;<br>change rate: ≤800N/m                                             |
| Pressure of sensor head                 | ≤0.5N                                                                                            |
| Power supply                            | Rechargeable 3.7V Lithium-Ion battery                                                            |
| Operating temperature                   | 0 °C ~40 °C                                                                                      |
| Weight                                  | 200g                                                                                             |
| Dimensions                              | 106×70×24mm                                                                                      |
| Standard configuration                  | Main Unit, Standard sensor, Model for multi-standard groove,<br>Power adapter, Calibration block |

## SURFACE ROUGHNESSTESTERS

### ACCESSORIES



#### STANDARD SENSOR

Measure the width greater than 2mm, groove depth less than 3mm groove, or step height of less than 3mm the surface roughness.

#### SENSOR FOR DEEP GROOVE

Measure the width greater than 3mm, groove depth less than 10mm groove.

#### SENSOR FOR SMALL HOLE

Measure the width greater than 5mm surface roughness.

#### STANDARD BLOCKS

Ra: 0.4, 0.8, 1.6, 2.0.

#### SENSOR FOR CURVED SURFACE

Measure the width greater than 3mm radius of curvature of concave and convex surface of the workpiece surface.

#### EXTENSION BAR

It can stretch out 50mm sensor.

#### LATERAL SENSOR

It can be used to turn at right angles to the sensor measurements.

#### MEASURING PLATFORMS

More information please contact us.

# DETECTORES DE FALLOS A RAYOS X



TRADING COMPANY

**OUR MAIN PRODUCTS  
ARE INDUSTRIAL  
X-RAY MACHINES.**

SINCERE SERVICE



## X-RAY FLAW DETECTORS

### Portable X-ray Flaw Detectors

- XXQ series are with **directional glass x-ray tube**.
- Portable X-ray flaw detector is made up by x-ray generator, controller, connecting cable, power cable and accessories.
- The intelligent design for controllers, the tube voltage and exposing time can be preset, the timer is digital.

The controllers have over-voltage protection, over-current protection, less-current protection and exposing delay function. Strong impact resistance and anti-jamming performance for the complex work environment.

- X-ray generators have over-temperature protection. When the generator is over-temperature, it will shut down the high voltage automatically.
- We have over 30-year-experience on industrial x-ray machines, and the x-ray machines we produce have smaller dimensions, lighter weight, best quality, longer trouble-free cycle and lower maintenance cost.

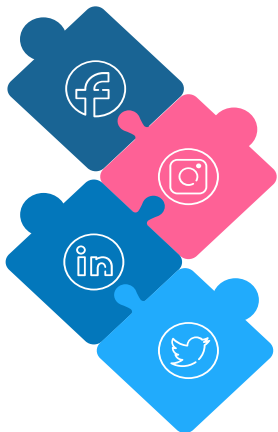
## X-RAY FLAW DETECTORS

- XXQ-3505
- XXQ-3005
- XXQ-2505
- XXQ-2005
- XXQ-1605
- XXQ-1005
- XXH-3505Z
- XXH-3005Z
- XXH-2505Z
- XXH-2005Z
- XXH-1505Z
- XXGH-3505Z
- XXGH-3005Z
- XXGH-2505Z
- XXGH-2005Z
- XXG-3505
- XXG-3005
- XXG-2505
- XXG-2005
- XXG-1605
- DGT-350
- DGT-300
- DGT-250
- DGT-200
- DGT-160



|                                           |
|-------------------------------------------|
| XXQ Series – Directional glass X-Ray Tube |
| XXH Series – Panoramic glass              |
| XXGH Series – Panoramic ceramic           |
| XXG Series – Directional ceramic          |
| DGT Series – Directional ceramic          |

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