



**ACOUSTIC  
CONTROL  
SYSTEMS**

Instruments for nondestructive  
inspection of metals, plastics  
and concrete objects

# ULTRASONIC FLAW DETECTORS



**TRADITIONAL QUALITY  
AND MEASUREMENT ACCURACY  
IN A NEW DESIGN**

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# ULTRASONIC FLAW DETECTOR

## NEW-GENERATION, MINI TYPE

### A1211 Mini



## ULTRASONIC FLAW DETECTORS

- A1211 Mini
- A1212 MASTER
- A1214 EXPERT

All-digital, portable, Portable small-size general-purpose ultrasonic flaw detectors. They realize standard and special-purpose methods of ultrasonic inspection providing high efficiency and accuracy of measurements.

All features of an up-to-date flaw detector in a compact case. Ideal for work at hard-to-reach places. Can be used in cramped and hard conditions thanks to light weight and small size. Handy for traveling.

Ergonomic case of shockproof plastic – the device can be held with one hand, their accumulator batteries can be charged from mains or PC via the USB-cable. These instruments are easily operated and possess user-friendly interface as well.

### APPLICATION RANGE

- Chemical process industry, food processing industry, oil and gas industry
- Ship construction industry and ship repair
- Electricity-producing industry
- Pipe plants, iron and steel plants
- Transport sector and machine-building industry
- Aerospace sector
- Glass industry
- Municipal infrastructure sector

### AREA OF APPLICATION

- Testing of weld seams
- Search of places of corrosion, crack, internal stratifications and other flaws.
- Finding out the coordinates and evaluating the parameters of the flaws in objects from metals and plastic.
- Thickness measurement.

## APPLICATION

It is a handheld full-function ultrasonic flaw detector for ultrasonic inspection of metals, plastics and weld-joints and thickness measuring. Thanks to its extraordinarily small size and light weight this flaw detector can be used in cramped and hard conditions. It is very convenient for business trips.

It is the lightest flaw detector – **only 210 g** with the battery.

Specialists of any skill level can master the device even without training owing to its intuitive interface and simple and easy-to-use menu for quick setting and selecting of working configuration parameters.

The flaw detector has a high-contrast informative TFT display with the possibility to change the image orientation if the device is turned 90 degrees.

A cover with built-in magnetic holder provides reliable fastening on metal surfaces for comfortable work in difficult-to-reach places and on heights.

## FEATURES

- Measurement of the signal levels and defects coordinates.
- Choice of scale types: mm - depth,  $\mu$ s – time.
- Quick access to control functions.
- Three-level gate corresponding to the level of assessment of defects found (acceptance, reporting, examination) for correct sizing of defects across the thickness of the object of inspection.
- Display can show A-Scan and additional information: the ultrasound speed, thickness of the object of inspection, frequency signal reflection, gain.
- Indication of exceeding the reference level - color, sound, vibration.
- The battery level indicator.
- On-line control of the unit backlight.
- Discreteness of indicated measurements: 0.1 or 1 mm.
- USB connection to PC.
- Software for receiving data from the device and saving it to PC.
- Specialized soft cover to protect the electronics from dirt, dust and water, with the possibility of fastening it on a hand.

## DELIVERY KIT\*

- A1211 Mini – ultrasonic flaw detector
- Transducer S3568 2.5A0D10CL
- Transducer S5182 2.5A65D12CS
- Transducer S5096 5.0A70D6CS
- Single LEMO 00 – LEMO 00 cable 1.2 m
- 220 B – USB adapter
- USB A – Micro B cable
- Ultrasonic couplant, bottle 0.1 kg
- Soft cover
- Case



# ULTRASONIC FLAW DETECTOR



## MASTER A1212

### APPLICATION

- Weld joints inspection.
- Locating corrosion, cracks, internal stratifications and other flaws.
- Locating and sizing up flaws (discontinuities and inhomogeneities) in metal and plastic objects.

Digital TCG allows to modify the signal, basing on an arbitrary function set up by 32 node points. Mode points are set up, modified and deleted at a special TCG editing mode. Setup of TCG is performed to get pulses of equal height from equal reflectors providing correct sizing of flaws through the whole thickness of the object of inspection.

DGS-diagrams for single-crystal transducers show three curves on the screen, representing the acceptance, reporting and examination levels. The equivalent area of discontinuity is evaluated automatically.

With feature you avoid manual evaluations of flaw area to increase the testing efficiency significantly.

DAC-curves show three curves on the screen, representing the acceptance, reporting and examination levels. This allows you correctly estimate the validity of the detected defects, according to the current normative and methods of ultrasonic testing.

### FEATURES

- All features of an up-to-date flaw detector in a compact case.
- Ideal for work at hard-to-reach places.
- Can be used in cramped and hard conditions thanks to light weight and small size. Handy for travelling.
- It weights 800 grams with the battery.
- Maximum operation time – 9 hours.
- Ergonomic case of shockproof plastic – the device can be held with one hand.
- Large high-contrast color display with high resolution (640x480 pixels) enables you to work for a long time without straining your eyes.
- Voice comments can be added to saved imaged with the help of freehand Bluetooth set.
- The electronic unit can be mounted to a special pad to have both hands free and to work with comfort at hard-to-get places and at heights.
- A special soft cover with sun hood protects the electronic unit from dirt, water and dust and also from external light and sun beams.

### DELIVERY KIT

#### A1212 MASTER

- A1212 MASTER - flaw detector electronic unit
- D1771 4.0AOD12CL transducer
- S3568 2.5AOD10CL transducer
- S5182 2.5A65D12CS transducer
- S5096 5.0A70D6CS transducer
- LEMO 00 - LEMO 00 double cable 1.2 m
- LEMO 00 - LEMO 00 single cable 1.2 m
- Power adaptor with cable 220 V-15 V
- USB A - Micro B cable
- Calibrating sample V2/25
- Ultrasonic couplant, bottle 0.1 kg
- Soft cover
- Carrying map-case
- Travel bag

## EXPERT A1214



### FEATURES

- Classic version of an ultrasonic flaw detector offering all up-to-date functions.
- Large high-contrast color TFT display with high resolution (640 x 480 pixels) enables you to work for a long time without straining your eyes.
- User-friendly interface with shortcut keys.
- Voice comments can be added to saved imaged with the help of freehand Bluetooth set.
- Operating temperature range from -30 to +55°C.
- Maximum operating time – 18 hours.
- Weight of the flaw detector with the battery – 1.8 kg.
- Quick-detachable frost-resistant accumulator.

### DELIVERY KIT

#### A1214 EXPERT

- A1214 EXPERT – flaw detector electronic unit
- D1771 4.0AOD12CL transducer
- S3568 2.5AOD10CL transducer
- S5182 2.5A65D12CS transducer
- S5096 5.0A70D6CS transducer
- LEMO 00 - LEMO 00 double cable 1.2 m
- LEMO 00 - LEMO 00 single cable 1.2 m
- Power adaptor with cable 220 V-15 V
- USB A - Micro B cable
- Ultrasonic couplant, bottle 0.1 kg
- Calibrating sample V2/25
- Soft cover
- Travel bag

## GENERAL FEATURES

**A1212 MASTER and A1214 EXPERT flaw detectors offer a range of unique features thanks to entirely digital paths:**



The signal can be represented in undetected form – **RF type signals** (radio signal) in real time, making it possible to examine signal phases in details, to perform testing with a lot of structural noises and to distinguish signals from nearby reflectors.



**Digital TCG** allows to modify the signal, basing on an arbitrary function set up by 32 node points. Mode points are set up, modified and deleted at a special TCG editing mode. Setup of TCG is performed to get pulses of equal height from equal reflectors providing correct sizing of flaws through the whole thickness of the object of inspection.



**DGS-diagrams** for single-crystal transducers show three curves on the screen, representing the acceptance, reporting and examination levels. The equivalent area of discontinuity is evaluated automatically. With feature you avoid manual evaluations of flaw area to increase the testing efficiency significantly.



**DAC-curves** show three curves on the screen, representing the acceptance, reporting and examination levels. This allows you correctly estimate the validity of the detected defects, according to the current normative and methods of ultrasonic testing.



**Quick access to control functions.**

At any operation mode the lower part of the screen features an icon menu to access set up and functions quickly.

**Large library of configurations (100 variants).**

The device can be customized for various situations and objects in a lab, and on-site the operator can just select the right configuration from the menu. All settings are saved in the nonvolatile memory.

**Energy - independent memory for 2 000 display images (A-Scans with settings of inspection).**

At the MENU mode the signal and its description is shown at the upper part of the display allowing to adjust settings of inspection on-the-fly.

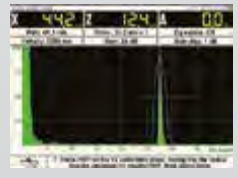


**Voice comments can be added to saved imaged with the help of freehand Bluetooth set (2 000 options).**

Within 20 seconds the user is able to record the necessary information about the test object with a reference to a frame of saved A-Scan.



**Semiautomatic procedure of angle correction and delay time in the wedge in case of transducer wearing.**



## PROCESSING RESULTS

Results can be transferred to an external PC to be processed, documented as A-Scans with settings of inspection and archiving.

Data are received and saved with special software – ADM 4, included in the Delivery set.

The device can be connected to a PC through a high speed USB-port.

