A1220 MONOLITH 3D

Compact ultrasonic pulse velocity and pulse echo tester for ultrasonic thickness measurements and flaw detection of concrete and reinforced concrete constructions and rocks

Ergonomic design of the flaw detector and its light weight, as well as capability of fastening the electronic unit in the specialized pad, provide convenient operation of the instrument in hard-to-reach areas and allow its working at height.
A compact handheld ultrasonic pulse velocity and pulse echo tester is designed for ultrasonic thickness measurements and flaw detection of concrete and reinforced concrete constructions and rocks.
The flaw detector represents an compact electronic unit is equipped with a large high-contrast TFT display and a keyboard.
Despite multifunctionality the instrument is easy to use due to its intuitive interface and icons menu providing quick access to main settings and functions of the instrument.

Ergonomic design of the flaw detector and its light weight (as little as 800 grams), as well as capability of fastening the electronic unit in the specialized pad, provide convenient operation of the instrument in hard-to-reach areas and allow its working at height.
All inspection results are recorded into the instrument's memory and can be transferred via the USB-port to the external PC for further processing, registration and archivation.

APPLICATIONS

Using one low frequency dry point contact antenna array M2502 0.05A0R100X60PS with shear wave and nominal frequency 50 kHz allows carrying out thickness measurement of the concrete objects up to 3 000 mm and reinforced concrete objects up to 600 mm.
The instrument allows to operator search for internal foreign inclusions, cavities, voids and cracks of the products and constructions made of reinforced concrete, stone and similar materials at one-sided access as well as search for embedded flaws of bronze castings.
It is possible to testing of the internal structure of the coarse-grained materials.
The results of inspection are slice and projection images by grid-scan function (B-Scan, C-Scan, D-Scan, thickness-profile) – visualization software INTROVIEW.

TECHNICAL FEATURES

• Maximum deepness of the echo-signals visualization (at transversal wave control):	2150 mm
• Maximum length of the signal realizations, visible on the device's screen:	1600 µs
• Maximum measured thickness of concrete (concrete grade 400):	600 mm

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• Minimal diameter of flaw in form of an air cylinder:	30 mm
• The error of measurements of flaw location thick-ness and depths:	10 %
• Time of one measurement processing and writing the result in memory:	10 s
• The number of single A-scans, that can be written into memory :	200
• Maximal area of controlled surface (MAP mode):	2 m^2
• Material velocity range:	1 000 – 9 999 m/s
• Drive-pulse generator amplitude:	20, 100, 200 V
• Pulse form:	Meandr, 0.5÷5.0 periods
• Pulse frequency:	1 – 50 Hz
• Receiving bandwidth:	10 – 300 kHz
• Gain setup range:	from 0 to 100 dB, step 1 dB
• The quantity of the programmable points of DAC function:	32
• DAC function setup range:	30 dB
• Power source:	Built-in battery
• Operation time:	14 h
• Battery charging time:	3 h
• Operating temperature range:	from –20 to +45 °C
• Display type:	TFT (640 x 480)
• Electronic unit size:	260 x 156 x 43 mm
• Electronic unit weight:	800 g
• Size of M2502 antenna array:	139 x 105 x 89 mm
• Weight of M2502 antenna array:	1,1 g

2D VERSION

- Software INTROVIEW
- Slice and projection images by grid-scan function (B-Scan, C-Scan, D-Scan, thickness-profile)

3D VERSION

- Software INTROVIEW
- Available imaging modes: 3D tomographic imaging by grid-scan function, advanced visualization and analysis functionality Slice and projection images by grid-scan function (B-Scan, C-Scan, D-Scan, thickness-profile)

ACCESSORIES

- A1220 MONOLITH – ultrasonic flaw detector;
- Antenna array M2502 0.05A0R100X60PS;
- Double LEMO 00 – LEMO 00 cable 1,2 m;
- USB A – Micro B cable;
- Net adaptor with cable 220V-15V;
- Carrying map-case;
- Soft cover;
- Case.

2D VERSION

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3D VERSION

- Software INTROVIEW
- Available imaging modes: 3D tomographic imaging by grid-scan function, advanced visualization and analysis functionality Slice and projection images by grid-scan function (B-Scan, C-Scan, D-Scan, thickness-profile)