



# NOVOTEST

## Phased Array Flaw Detector NOVOTEST UD4701

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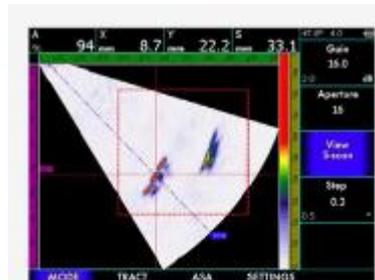
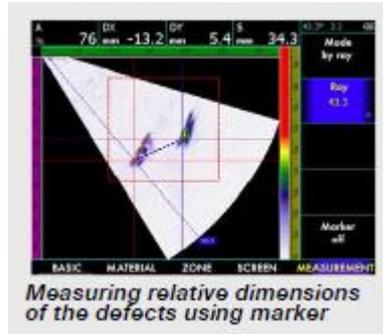
<b>Name</b>	Phased Array Flaw Detector NOVOTEST UD4701PA
<b>Photo</b>	

Portable ultrasonic flaw detector NOVOTEST UD4701PA – device for detecting defects in finished products, semi-finished products and welded joints, as well as determining their coordinates and using DAC and DGS functions. Equipped with a contrast color TFT display (resolution of 640×480), reliable enclosure, the device is always ready for operation, both in the laboratory and in locations with aggressive environmental influences such as temperature, dirt and precipitation. In addition to traditional functions, the flaw detector has an input of a 2-axis encoder, which allows user to connect various scanners to build C-, B- and other scans and TOFD scan of the tested part of the product.

Use the device may not even highly be qualified specialists, since adjustment and calibration takes less than 5 minutes, and pre-defined functions allow for quick inspection and ensure the quality of the results.

NOVOTEST UD4701PA allows user to assess the state of products or structural elements on site and without pre-testing. This flaw detector is indispensable in such industries like construction, machine building, production of rolled metal, power engineering, research works, chemistry, mining etc.

**Purpose**



**Standards**

EN 12668-1, ISO 18563-1

**Advantages**

- 16-channel PA with C-SAFT / TFM signal processing
- Recording of signals by 1 or 2 position rotary encoder
- RF Amplifier for equalizing the sensitivity at the corners of the input
- Adjusting the aperture and the scanning angle
- Normal Flaw Detector Mode
- TOFD mode
- Weld geometry constructor;
- Interface: USB
- Easy and convenient firmware upgrade via USB
- Power: Li-ion battery or external power supply
- Up to 10-12 hours of battery life

**Standard set**

- Phased Array Flaw Detector
- UT-probes – 2 pcs
- Cable for probes
- Power supply and charger
- Memory card
- Calibration certificate
- Operating manual
- Case



**Specification**

Weight	1.4 kg with batteries
Size (H x W x L)	200 mm x 225 mm x 80 mm
Operating temperature range	From -30 C to +55 C
Supply voltage	15V / 2,5A DC
External power supply	Power Supply 220B AC
Working hours	Not less 10 hours of operation from the built-in battery
Battery	Li-ion 10.8V, 5000 mA/h
Transducer connectors	2 X Lemo00,1 X Lemo 16
Firmware Upgrade	Self-powered by USB
Menu Language	Russian, English
Interface	USB
Memory	200 settings with A-signal
	1000 monitoring protocols and scan results
Display	Color high contrast, TFT 640 x 480 pixels, (130 x 100 mm).
Changing the color schemes of the screen for viewing and lighting conditions	Yes
Processing the image on the screen after "freezing" the screen	Full-featured processing and analysis
Support for the weld inspection standard AWS D1.1	Yes, with automatic calculation D1.1 Ratio
Comparison with the saved reference signal	Automatic in the entire amplification range
Estimation of the size of defects in the classical flaw detector mode	Built-in ADD diagrams
Amplitude measurement	In percentage of the height of the screen
	In dB relative to the threshold level in the zone
	In dB relative to the reference signal,
	By DAC

Automatic Defect Alarm	Light, sound
Simultaneous display of signals on the screen in the PR mode in manual mode	S-scan
	A-scan + S-scan,
	A-scan + B-scan,
	S-scan + B-scan,
	A-scan + S-scan + B-scan
Determination of linear dimensions between reflectors in S-scan	By two markers, set manually or automatically
Calculation of the coordinates of the reflectors on the S-scan	Automatically in the entire range of S-scan, using a mathematical model of the prism in the memory of the flaw detector, the accuracy of determining the coordinates to 0.1mm
Algorithm for finding a defect in the testeing zone	Automatically on the maximum amplitude of the signal in the zone, auto at the maximum amplitude of the signal on the selected beam, manually
Control Zones	Rectangular zone for allocation of a part of a signal on an S-scan with an accuracy of setting boundaries to 0.1mm
	2 independent time-domain zones
Display of signals on the screen (visualization)	A-scan, B-scan, C-scan, D-scan, S-scan, L-scan, TOFD
Digital signal filtering	Yes
Analog Signal Filtering	Yes
Additional key + dB	6
Electrical damping of the converter to increase the resolution	25 $\Omega$ , 50 $\Omega$ , 600 $\Omega$
Gain Control Range	100 dB, in step 0.5, 1, 2, 6 dB
Amplifier	Broadband: 0.1-20 MHz, with the option of narrowband filters
B-Scan	Display of real weld geometry (True-to-geometry imaging)
Using TOFD	Single-channel TOFD with recording by the path of probe or time
Using scanners	Any 2-axis scanners with optical encoders, scans in the memory of the device, analysis of scans in the device, and in a special analysis software
Welded joint geometry designer	Built-in helper, displaying the cutting of the seam on the scan image
Automatic calibration of ultrasonic velocity	Yes
Automatic calibration of the control range for a given seam thickness	Yes

	Frequency of recurrences	Is automatically set depending on the set parameters
	Sounding impulse	Radio pulse amplitude of 50 V, with adjustable number of periods (0.5-5)
	Speed range	100 – 10 000 m/s
	Scanning mode	S-scan (sector scan), L-scan (linear scan with a constant angle)
	Scan	min.: 0 – 5 mm
		Max.: 0 – 3200 mm (depends on the operating modes and the converter)
		In step 0.1, 1, 5, 10 mm
	Automatic calibration of the delay in the prism	With V-2 calibration block from reflector, calibration of TOFD converters
	Leveling of sensitive in depth	TVG, up to 10 dB / $\mu$ s, with an accuracy of 0.01 dB / $\mu$ s
	Aligning the sensitivity at the corners while scanning	2D correction (10 lines in depth, 20 points for corner correction each)
	Adjusting the angle scan angle	From 0,3 to 2 degrees
	Adjustment of working aperture	4, 8 and 16 simultaneously working elements
	Adjustment of the FR parameters of the converter	Automatic from non-volatile memory of the device
	Algorithm for signal processing	Digital signal focusing using the C-SAFT / TFM method
	Type of PHAs used	Any classic 16-channel PA
<b>Available options</b>	<ul style="list-style-type: none"> <li>○ Additional UT-probes</li> <li>○ Additional cables for probes</li> <li>○ Charger</li> <li>○ Case for comfortable operating</li> <li>○ <u>Calibration blocks</u></li> </ul>	
<b>Warranty</b>	Standard 3-year warranty. Extended warranty up to 5 years is also available	
<b>Payment</b>	100% in advance. TT, WU, PayPal, Credit card	
<b>Delivery</b>	CIP, FCA etc. DHL, TNT, FedEx, UPS etc. Shipment - within 1 week	

## Company info:

Our company **NOVOTEST** designs and manufactures instruments for **NON-DESTRUCTIVE QUALITY TESTING**. We are located in Ukraine, 5 Spasskaya str., Novomoskovsk.

**NOVOTEST** produces instruments for measuring a wide range of parameters and quality control for the majority of products:

- metal hardness of various types;
- coatings thickness;
- ultrasonic flaw detectors;
- ultrasonic thickness gauges;
- instruments for magnetic testing;
- construction materials quality monitoring instruments;
- environmental control equipment and many other devices.



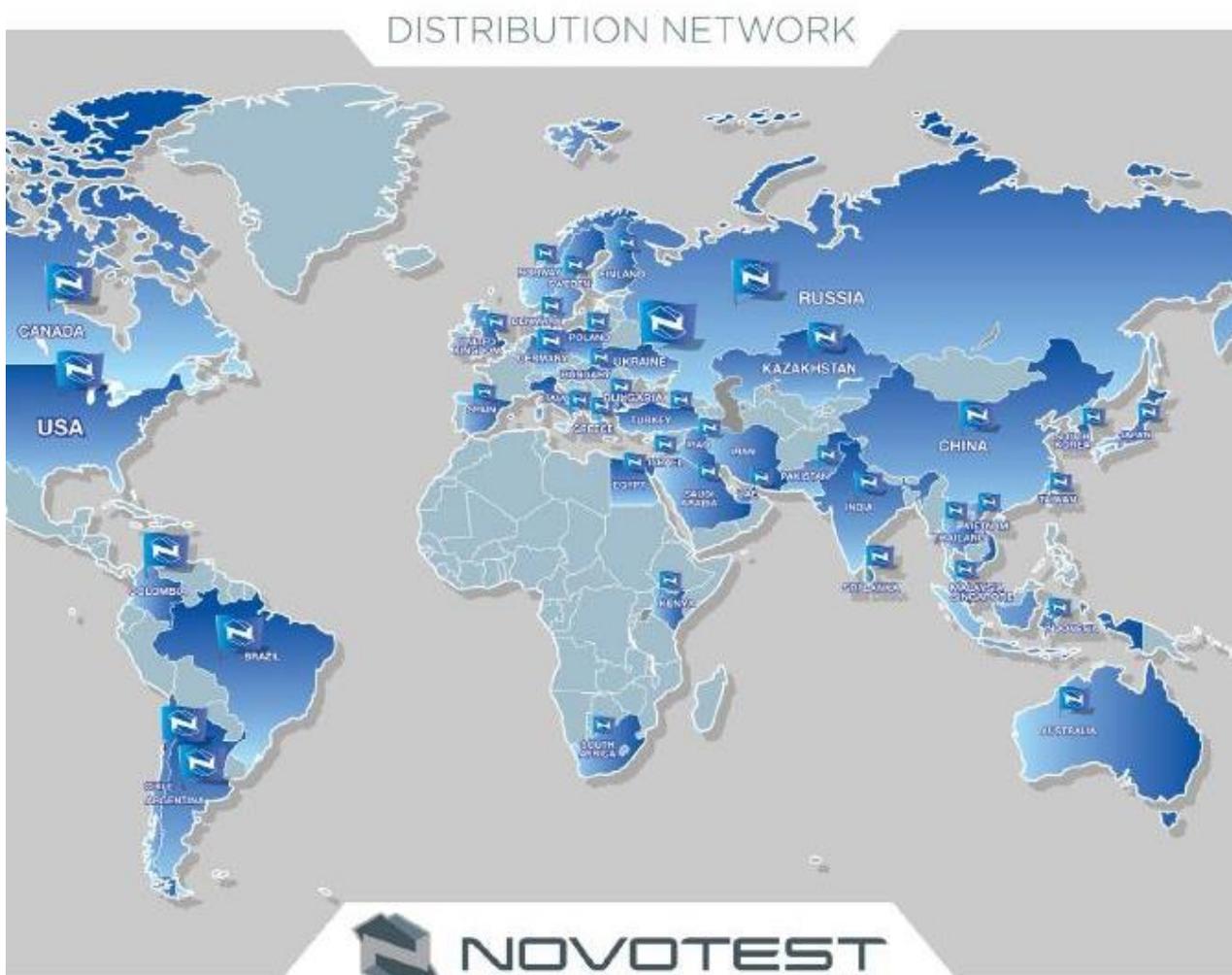
## Our benefits:

- More than 10 years on NDT market;

- Leading manufacturer of NDT devices in Ukraine;
- Representative offices in more than 30 countries around the world;
- All our devices are covered by standard 3-year warranty. Extended warranty up to 5 years is also available;
- Powerful development center;
- Constant expansion of the product range;
- Manufacturing customized NDT systems;
- Solutions for non-standard NDT tasks;
- After-sales service and technical support;
- Individual approach for cooperation with dealers.

For any information, please feel free to contact us!

We will be glad to answer for any questions!



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