

Eddy-Current Flaw Detector



Vector 50

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A universal eddy current flaw detector with a wide frequency range (from 1 Hz to 20 MHz) designed to address a broad range of control tasks for ferromagnetic and non-ferromagnetic materials using the eddy current method.

It is developed for inspection of various objects, including aviation engine parts, welded and brazed joints, rods, forgings, carbon fiber products, etc., to detect surface and subsurface defects (including under coatings), corrosion, damage caused by thermal effects, and others.

The high power of the device and the unique design of the transducers allow the "Vector-50" flaw detector to be used for detecting stress corrosion cracking (SCC) in pipelines under insulation up to 25 mm thick.

Ease of Use and Reliability

The flaw detector combines the latest advancements in analog and digital technology, user-friendly design, ergonomic construction, and high reliability. Total weight with batteries 1.5 kg only.

Intuitively Understandable User Interface

The VECTOR-50 flaw detector features an intuitively understandable user interface

Compatibility

The VECTOR-50 flaw detector can be used with any surface or subsurface eddy current differential and absolute transducers operating at frequencies from 10 Hz to 20 MHz.

It also supports various dynamic (rotational) transducers, including brands like FORSTER, ELOTEST, etc., when using special adapters

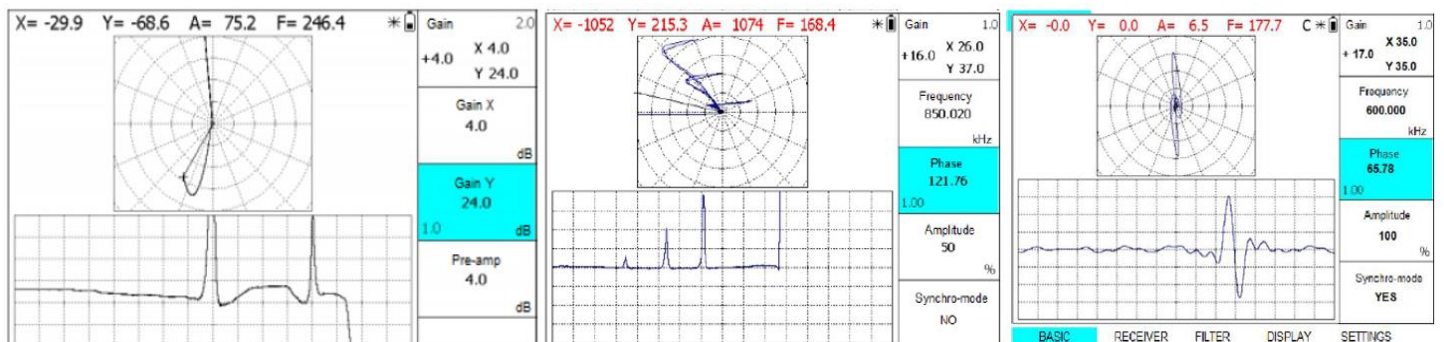
Screen

It has a large high contrast and bright screen and is equipped with a built-in Li-ion battery, allowing operation for 8 hours without recharging.

Standard Software Functions and Applications

The flaw detector is designed for inspecting metal products, carbon composites, and composites for surface and subsurface cracks, disruptions in material integrity and homogeneity, semi-finished products, and finished products made from different materials.

It can be used to measure thickness of protective coatings, depth of surface cracks, electrical conductivity of non-ferrous metals, and the content of ferritic phase in stainless chromium-nickel steels of austenitic and perlite classes.

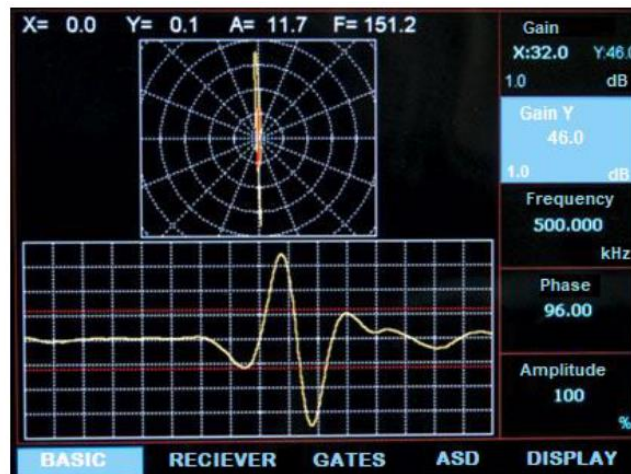


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Graph Display on the Device Screen

The VECTOR-50 flaw detector features simultaneous display of the signal on the amplitude-time and complex planes.

It offers separate amplification for the X and Y axes, synchronization mode for working with eddy current rotary transducers, and the ability to control various carbon composites.



Special Features of VECTOR-50

- Simultaneous display of the signal on the flaw detector screen in amplitude-time and complex planes.
- Separate amplification for the X and Y axes.
- Synchronization mode for working with eddy current rotary transducers.
- Capability to inspect various carbon composites.
- Detection of delamination's in composites using impedance transducers.
- Large memory for settings and results.
- Two adjustable ASD zones: box and segment.
- Various signal display modes



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TECHNICAL SPECIFICATION

Gain:	0 to 70 dB, in increments 0.1, 1, 2, 6, and 10 dB.
Pre-amplifier:	0 to 40 dB, in increments 0.1, 1, 2, 6, and 10 dB.
Frequency:	1 Hz to 20 MHz, in increments 1, 10, 100, and 1000 Hz.
Transducer excitation amplitude adjustment:	12.5%, 25%, 50%, 100%.
Vector Phase Rotation:	0 - 359 degrees, with steps of 0.01, 0.1, 1, 5, 10, 45, 90, and 180 degrees.
Low-pass filter:	Adjustable from 5 to 1000 Hz.
High-pass filter:	Adjustable from 2.5 to 500 Hz.
Operating modes:	Standard, sync mode, frequency scanning
Graph types:	XY, XY+YT, XY+AT, YT, YT+XT (1 or 2 graphs on the display)
Signal trace:	0-30 seconds, with steps of 1 second.
Gates (Amplitude-Sector Diagram):	box, segment.
Gate Alarm types:	defect in the zone, defect outside the zone.
Signal types:	vector, point.
Transducer types:	differential, absolute, rotary.
Memory for settings:	100 settings.
Memory for results:	500 traces.
Screen:	Colour TFT 640x480 with adjustable brightness and colour gamut. Special background change function for use in bright sunlight.
Interface:	USB.
Transducer connectors:	1 x Lemo1B + 1 x Lemo0B.
Operating time:	10 hours from batteries.
External power supply:	Power supply block from 220 V, 50 Hz AC.
Power supply voltage:	15V/3.5A DC.
Operating temperature range:	-30° C to +55° C.
Size (H x W x D):	200 mm x 225 mm x 80 mm.
Weight:	1.5 kg with batteries

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Delivery Kit's

BASIC KIT	IMPEDANCE+EC KIT	AVIATION KIT
Electronic unit Vector 50 with built in Li-Ion battery	Electronic unit Vector 50 with built in Li-Ion battery	Electronic unit Vector 50 with built in Li-Ion battery
Power supply unit 15V / 220V	Power supply unit 15V / 220V	Power supply unit 15V / 220V
Protective cover with bends	Protective cover with bends	Protective cover with bends
Software for data analysis	Software for data analysis	Software for data analysis
Operation manual	Operation manual	Operation manual
Transport case	Transport case	Transport case
Parametric transducer PVP-1 (1MHz)	Parametric transducer PVP-1 (1MHz)	Parametric transducer PVP-1 (1MHz)
Low-frequency transducer PVD-200- 3,5K (20kHz)	Low-frequency transducer PVD-200- 3,5K (20kHz)	Low-frequency transducer PVD-200- 3,5K (20kHz)
Cable Lemo B6 - Microdot 1,0m	Cable Lemo B6 - Lemo B6 1,5m	RVM-15 Rotor unit for flaw detector
USB cable for connection to PC	Cable Lemo B6 - Microdot 1,0m	RT-10 Rotor transducer for holes dia 10mm
	Cable Lemo B10 - Lemo B10 1,2m	RT-20 Rotor transducer for holes dia 20mm
	SP-SCAN-15 impedance transducer, single	Cable Lemo B6 - Lemo B6 1,5m
	RS4015K impedance transducer, dual	Cable Lemo B6 - Microdot 1,0m
		Cable Lemo B10 - Lemo B10 1,2m

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