i+weld

PANDROL
Partners in excellence

i+detect (SonicVizio-WS-S)

Track Measurement and Analysis

Adding Value

The lightest ultrasonic testing system, easy to use and to carry both on and off track. Specifically suited for welds inspection, switches and crossings testing, defects confirmation or assessment.

SonicVizio-WS-H offers maximum versatility for various ultrasonic inspection works on track. With its lightweight and retractable design, operator can easily transport the equipment to inspect welds, switches & crossings, defects to confirm.

A probe equipped with cutting-edge ultrasonic technology can be offset to provide accurate inspection on any type of vignole or groove rail, as well as adapt to any worn rail profile.

Its innovative SonicView Software designed by track inspection experts provides ergonomic cutting edge features including automatic detection and listing of defects, all located through GNSS and track localisation unit thus ensuring inspections assessment from office.

TECHNICAL FEATURES

Easy mainenance

Minimalist day-to-day maintenance. Worn parts are all suppliable and easily replaceable with basic tools.

Special anti-wear sliding probe

Combines measurement reliability in all situations characteristic of sliding probes systems with durability of a wear-proof equipment.

Comprehensive reporting

Easy exportation of the raw data and PDF reports directly from the software, extensive export and storage management capabilities.

Light & Robust

Designed for easy handling and maneuverability on the track. SonicVizio-WS-H's carbon fibre construction ensures a high level of rigidity while remaining lightweight at 5kg.

Multiple Application Field

Applicable to aluminothermic and flash butt welds, it is suitable for all surface conditions and rail types.

Accessibility

User-friendly interface and automatic defect detection feature make the software accessible to all operators in the field regardless of their ultrasonic or informatic skills.

ADVANTAGES

- Software provides full display customization to suit all specifications and user preferences to display A-Scan, B-Scan or defect chart.
- No extraction time – can be used during traffic.
- No heavy maintenance and very few consumable parts.
- The modular system permits quickly changing the probe.

COMPONENTS

1. Telescopic handle
2. Water tank
3. Irrigation system
4. Probe
5. Encoder
6. Anti-derailment wheel

SPECIFICATIONS

Overview	
UT Smart Walking Stick	
Weight	5 kg
Operating temperature	-10° to 50°C
L x W x H	520 x 700 x 200 mm
Tank capacity	1L (approx. 2,5km)
Isolation	Electrically isolated
UT Probes	
Number of detection angles	5
Number of detection crystals per rail	10
Environmental protection	IP65 - 95% relative humidity
Probe protection	Special anti-wear system
Minimum detection wavelength	0,5mm for 0° 1mm for inclined elements
Angles	40°/ 70° / 0° TR / -40° / -70°
Frequency	4MHz for 0° element 2,25MHz for -/+ 40° and -/+ 70°
Maximum speed	6km/h
Odometer accuracy	2%

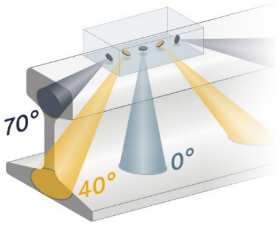
MEASUREMENT


Internal Cracks


Head Checking


Squat


Shelling / Shaving

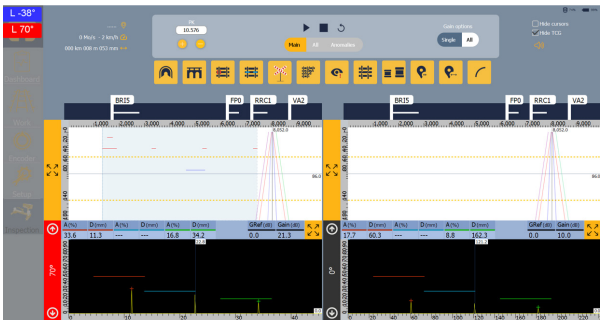


SOFTWARE

Pandrol SonicView UT Software is the perfect tool for efficient on-track inspection and flawless off-track analysis. Our Smart Software has been designed to make easier Ultrasonic Testing of the rail, engineered with user-friendly interface to be accessible for all levels - operators, technicians, engineers.

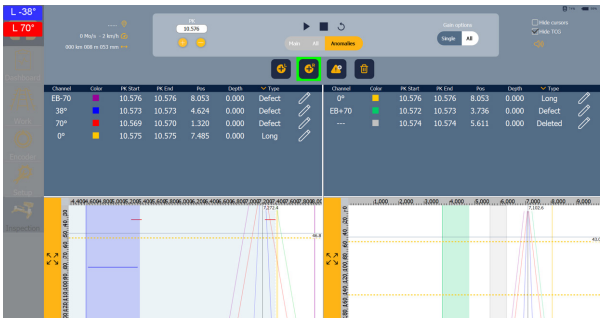
FIELD INTERFACE

- Comprehensive interface : A-SCAN & B-SCAN displays with both visual and audible alarms, fully customizable to please experienced users and to fit beginners.
- Offers complete data recording with automatic defect detection, providing end-of-shift reports ensuring inspection documentation and traceability.
- Enables the creation of geolocated events or comments on the track.



OFFICE INTERFACE

- Post-inspection data analysis including visualizing the entire inspection or just anomalies, creating new located defects and fill in with characterization data.
- Provides cursors tool allowing measurement of all defect components with an automatic integrated calculator.
- Individual exportation of defect sheet to document separately each defect to be validated by the track manager.

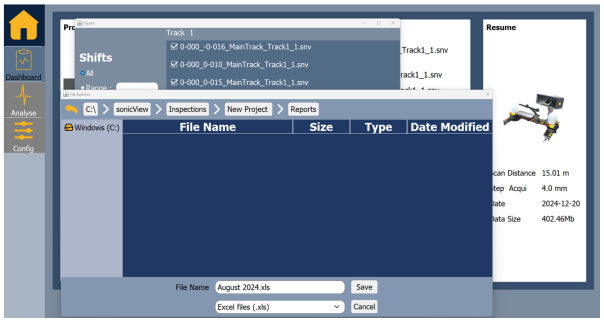


REPORTS

SonicView offers multiple export possibilities through all formats (.pdf, .csv, .xls, ...) with filtering and sorting of data to fit user preferences and specifications with 3 different export types :

- Defect sheets : location, dimensions, codification, classification, ...
- Reports : Line, Track, Week and Inspection reports
- Tabulated data : For global traceability and data-base management

Main menu



Export menu

SPECIFICATION

SonicBox – Ultrasonic Testing Flaw Detector	
Parameter	**Criteria**
Connector	Lemo00
Data throughput	Up to 320 Mb/s through USB 3.0
Ultrasonic channels	8
Pulse Repetition Frequency (PRF)	100 Hz - 20 Hz
A-Scan display	RF / Rectified / Enveloppe
B-Scan display	Strip chart / Full B-Scan chart
Operating systems	Windows, Linux, Android
L x W x H	47.9 x 171.6 x 90.0 mm
Weight	0,5 kg
Bandwidth	0,8 to 20 MHz

Tablet	
Display	14''
Protection	Ruggeddized - IP65
Autonomy	5 hrs / Hot-swappable batteries

UT Acquisition system	
Data recording modes	Full / Defects only
Acquisition step	Down to 2 mm
Odometer resolution	5000 pts / tr

Measurement technology

Ultrasonic Flaw Detector constitutes the heart of any ultrasonic testing equipment.

Readapted from Phased-Array technology and simplified for railway needs, Pandrol SonicBox combines versatility and precision at lower cost and greater accessibility than Phased Array industry.

Multi-angle detection enables identification with high precision of various types of rail defects, including head checks, squats, cracks, corrosion, break-outs, machining errors...

ADDITIONAL INFORMATION

Package including	
14" Tablet	1 x
Inspection & Analyse Unlimited SonicView License	1 x
SonicView Smart Software	1 x
Hot-swappable batteries	2 x
Spare parts package	1 x

Accessories	
Spare batteries	On demand
Dual dock station – Battery charger	On demand
Vertical defect probes	On demand
Calibration block V1	On demand
Calibration rail	On demand

Standard compliance

- EN 16729-1 and 3 : Requirements for ultrasonic inspection and evaluation principles and for identifying internal and surface rail defects
- EN 13977 : Safety requirements for mobile devices and trolley about construction and maintenance
- EN ISO 22232-1, 2 and 3 : Characterization and verification of ultrasonic testing equipment : Instruments, Probes, Combined equipment.