

## Ultrasonic Thickness Gauges (A1207- UT-PEN)



### FREE SOFTWARE

- Real-time digital values
- A-Scans
- Thickness profile (B- Scan)
- Customized measurement gates
- 2D value map data acquisition
- Saving results as image and raw data (A-Scans)
- Extendable material library



### FEATURES

- ✓ Simple adjustment and easy to use
- ✓ Small size and weight (can be carried in pocket)
- ✓ Four preset ultrasound velocity levels allow the user to select any one of them quickly
- ✓ Required velocity value can be set
- ✓ The instrument can work at temperatures from -30 up to +50 0C
- ✓ Built-in LiPol rechargeable battery
- ✓ Micro-USB port for charging the rechargeable battery from PC or mains, when a power adapter is connected



### DELIVERY KIT

- ✓ A1207 – an ultrasonic thickness gauge with a built-in rechargeable battery and a single crystal transducer
- ✓ Power adapter 220 V – USB
- ✓ USB A - Micro B cable
- ✓ Calibration sample
- ✓ Bag



## A1207 NEW

- A revised model of the pocket-type thickness gauge combining usability and convenience with new functional capabilities
- The thickness gauge is enclosed into a one-piece case with a removable tip having a built-in changeable wear proof single crystal transducer with operating frequency of 4 mhz
- The instrument is an unbeatable tool for express ultrasonic inspection of wall thickness of the boilers and vessels, hull plates and other objects made of ferrous and non-ferrous metals, as well as for ultrasonic thickness measurements of the small-diameter metal and plastic pipes (from 20 mm)

### FUNCTIONALITY

- ❑ Single crystal transducer with a wear proof ceramic protective cover and small diameter of the working surface allows testing of corroded surfaces with the minimum radius of curvature from 10 mm.
- ❑ Hot-pluggable built-in transducer can be easily replaced by the user by means of unscrewing the tip and detaching the transducer capsule from the instrument without extra tools.
- ❑ User friendly menu allows prompt selection of the parameters.
- ❑ Built-in Bluetooth module provides communication and real-time display (online-thickness gauge) of digital measurement results and A-Scans of the signals to the screen of a smartphone or a tablet PC.
- ❑ Dedicated software application allows viewing the digital measurement results and A-Scans of the signals for the iOS and Android devices.
- ❑ Automatic calibration of delay time (zero) of the built in transducer.



### SPECIFICATION

Thickness measurement range (for steel)	from 0.8 to 100.0 mm
Type and frequency of the changeable transducer	single crystal, 4 MHz
Diameter of the working surface of the transducer	8 mm
Discreteness of measurements representation	0.1, 0.01 mm
Basic measurement accuracy for thickness X, not more:	$\pm (0.005X + 0.1)$ mm
Measurement units	mm, inches
Range of ultrasonic velocity	from 1 000 to 9 000 m/s
Discreteness of velocity tuning	1 m/s
Display type	LCD
Power	built-in LiPol rechargeable battery
Period of continuous operation of the instrument at positive temperatures	16 hours
Operating temperature range	from -30 to +50 0C
Overall dimensions	125 x 25 x 15 mm
Weight	40 g



## Ultrasonic Thickness Gauges



### CMX

The CMX measures material and coating thickness while detecting pit & flaws in a single mode (PECT). It has auto probe zero, auto probe recognition, auto temperature compensation, selectable transducer table for precision linearty.

### MVX

The MVX A/B Scan is equipped to provide users a complete set inspection tools: (RF Waveform, +/- Rectified waveform, Time Based B scan and large digits). The A scan Rectified mode is used for detecting Flaws/ Pits in Pulse Echo mode.



### UMX

UMX-2 is underwater Material & Coating thickness gauge, designed for offshore inspections and rated to a depth of 1000 feet (300m). It is very versatile, offering both dual and single element transducers.





## Ultrasonic Thickness Gauge Leeb 322

Adapted to measure the thickness of good conductor for ultrasonic, such as metal (steel, cast iron, aluminum, copper), plastic, ceramic, glass, glass fiber and so on.



- ✓ Able to measure the ultrasonic velocity in turn if the thickness value is known in order to improve the measurement precision.
- ✓ Optional software to process the memory data on the PC.
- ✓ Zero adjustment: auto returning to zero when you press the key after the probe is put on the specimen.
- ✓ Simply and easily operated.



## Ultrasonic Thickness Gauge Uee 930

### Functions & Features

- ✓ High quality and precision
- ✓ With 2 probes (Standard probe and Angle probe)
- ✓ Integrated with a 4mm calibration block
- ✓ Two display units: mm and inch
- ✓ With coupling state indication
- ✓ Measuring sound velocity: according to the known thickness of the object, sound velocity of it can be measured directly
- ✓ Software for PC connection and data transmission, analysis
- ✓ 3 years warranty and life-long services



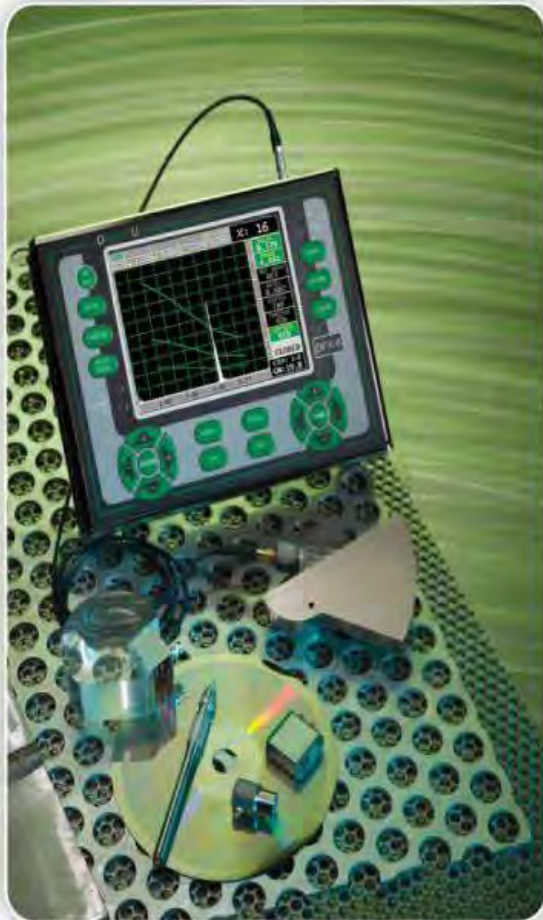
### Measuring Materials

Adapted to all kinds of materials which are good conductor of ultrasonic wave, such as metals (steel, cast iron, aluminum, copper and etc), plastic, ceramics, composites, epoxies, glass and etc.



## Ultrasonic Flaw Detectors

### Functions & Features :- DFX-8 +



- ✓ Measurement Gates: Two independent gates (Flaw), and three gates (thickness)
- ✓ Blankview sunlight readable QVGA TFT color display
- ✓ IP65 standard, with the durable shell (oil-proof, water-proof and dust-proof)
- ✓ Large data storage with multiple formats: Alpha numeric grid and sequential w/auto identifiers
- ✓ 4 GB internal and up to 64 GB External SD slot
- ✓ Sizing Toolkits: DAC, AWS, TCG, DGS
- ✓ Detection Modes: Z-Cross, Flank & Peak
- ✓ RS232 Output: RS232 PC serial interface. For use with B-Scan encoders (crawlers)
- ✓ Automatic Calibration: Longitudinal (straight), or Shear (angle)
- ✓ Screen Capture: bitmap graphic capture for quick documentation
- ✓ Remote Commander: Java PC software allows remote display
- ✓ Trigonometric display of beam path, depth, surface distance, and curved surface correction
- ✓ Auto Interface Gate-Automatic adjustment of interface

### APPLICATION

Specifically setup to very accurately measure thickness, locate pits, flaws and blind surface corrosion. Designed to detect, size, position, and differentiate between flaw types in various materials and welded joints. Widely used in electric power, petrochemical, boiler and pressure vessel, steel, military, aerospace, railway transportation, automobiles, machinery, and other fields.

## Functions & Features :- Uee 953



- ✓ IP65 standard, with the durable shell (oil-proof, water-proof and dust-proof)
- ✓ PC software is available for data analysis, management and reports printing with measuring video function
- ✓ DAC and AVG are automatically formed, and can be corrected and compensated
- ✓ Freely switch to four kinds of standards (depth D, level P, distance S, amplitude H)
- ✓ Functions such as Auto-gain and peak memory improve detection efficiency
- ✓ 13 built-in testing standards are available
- ✓ Storage: 500-1000 pieces of A-scan images and data
- ✓ The width and intensity of launch pulse are adjustable
- ✓ AWS standards are available

## Functions & Features :- A1212

- ✓ The most lightweight flaw detector - 800 grams with the battery
- ✓ Ergonomical design - the device can be conveniently held with one hand
- ✓ Shockproof, IP65 construction
- ✓ Memory for 500 A-Scans with corresponding parameters
- ✓ DAC - Function
- ✓ Build in DGS diagrams for single crystal probes with automatic evaluation of the flaw equivalent area
- ✓ Additional modes : "freeze", "zoom"
- ✓ B-Scan available
- ✓ Thickness measurement available





## Portable Hardness Tester

### Functions & Features :- Leeb 120

- ✓ Hardness standards HL, HRB, HRC, HB, HV, HS can be used, free conversion between different standards
- ✓ Can calibrate HL, HRC, HB
- ✓ On the basis of Leeb hardness measurement principle, can be used to detect a variety of metal materials for accurate and stable measurement value
- ✓ Automatically identify the 8 types of impact devices, replacing without re-calibration
- ✓ Small, portable, and accurate. Suitable for harsh operating environment, anti vibration, shock and electromagnetic interference



### Measuring Materials

Steel and cast steel, alloy tool steel, stainless steel, gray cast iron, nodular cast iron, cast aluminum alloy, copper zinc alloys (brass), an alloy of copper and tin, copper (bronze), forged steel.

### Functions & Features :- Uee 910

- ✓ High quality and precision
- ✓ Automatically identify 7 types of Impact devices for special application
- ✓ Freely switch to hardness scales HRB, HRC, HV, HB, HS,HL
- ✓ PC Software for data transmission, analysis and measurement reports printing
- ✓ Test at any angle, even upside down
- ✓ Upper and lower limit and sound alarm
- ✓ Conversion to tensile strength (U.T.S)
- ✓ 3 years warranty and life-long services



**Uee 910**

## Shore Hardness Tester Leeb810A/810D



### Functions & Features :-

- ✓ Leeb810A is the Shore A type digital hardness tester for the rubber
- ✓ It applies to plastic (such as films, medical equipment, etc.), synthetic rubber (such as seals, tires, rubber roller, wire and cable, etc.), and other related chemical products
- ✓ Leeb810D is the Shore D type digital hardness tester for the plastic
- ✓ It applies to hard plastic (such as thermoplastics, hard resin, nylon, Plexiglass, etc.), synthetic hard rubber and other related chemical products (such as anti-corrosion materials, fire-retardant materials, paint, etc.)
- ✓ Maximum locking storage, automatic calculation of the mean and under-voltage alarm.
- ✓ Data transmission: can be connected to the PC



## Bench-Type Hardness Tester

### Digital Rockwell Hardness Tester LHRS-150

- ✓ Digital, Multi-Function LCD display
- ✓ Electric load; Automatic loading & unloading
- ✓ With printer for data output
- ✓ Rockwell Scales: HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRK, HRL, HRM, HRR
- ✓ Conversion to Vickers, Brinell scales. Shape correction settings for curved surfaces
- ✓ Automatic testing process without manual operating error
- ✓ Meets or exceeds GB/T230.2, ISO 6508-2, ASTM E18 standards
- ✓ Optional Plastic Rockwell Accessories



### Digital Micro Vickers Hardness Tester LHVS-1000Z (Touch Screen)



- ✓ Integrated casting shell
- ✓ With 7-inch large LCD screen, menu structure
- ✓ Automatic measuring process, easy operation
- ✓ High-definition optical system, the brightness of light source can be adjusted in 20 levels
- ✓ With hardness value conversion function, tolerance judgment by hardness upper and lower limit
- ✓ Corner length D1 and D2 can be read directly by the system
- ✓ Measurement results can be output by the printer
- ✓ Automatic turret function: The objective and Indenter can automatically switch

### Digital Brinell Hardness Tester LHB-3000D

- ✓ Closed-loop sensor loading, electronic control system
- ✓ Photoelectric sensor and other systems with 10-level test force
- ✓ Soft key input, the conversion between the test method and various hardness can be selected
- ✓ The data of each operation process and test result can be displayed on the LCD large screen
- ✓ The data of the test result can be output by the printer
- ✓ Manual switching on Press head and objective lens





## MAGNETIC PARTICLE INSPECTION KITS (MPI)

### W-SWFD WET FLUORESCENT / DRY METHOD KIT



#### KIT CONTAINS :-

- ✓ WE-6 AC Yoke
- ✓ 4-Cleaner Remover
- ✓ Pie Gauge
- ✓ Magnetometer
- ✓ Calibration Certificate
- ✓ Carrying Case
- ✓ Flash Light Charger
- ✓ 4-Fluorescent Particle Bath
- ✓ 4-Dry Method Powder
- ✓ Powder Bulb
- ✓ SPR-365 UV LED Flash
- ✓ Operator Instructions
- ✓ UV Protective Spectacles
- ✓ Travel Charger Kit

- ✓ Magnetic Particle Inspection (MPI) is a Non-Destructive Testing (NDT) and Evaluation (NDE).
- ✓ Method for detecting surface and slightly subsurface discontinuities (cracks and defects).
- ✓ The W-SWFD Kit offers the inspector the ultimate in convenience for fast spot checks.
- ✓ We offer more than 15 models of Yokes, that can be paired with more than 6 styles of Kits.
- ✓ Our Kits are offered in Dry Method, Wet Visible Method (Black or White), or Wet Fluorescent Method.

### W-WF WET FLUORESCENT METHOD KIT



#### KIT CONTAINS :-

- ✓ WE-6 AC Yoke
- ✓ 4-Fluorescent Particle Bath
- ✓ 4-Cleaner Remover
- ✓ Pie Gauge
- ✓ Powder Bulb
- ✓ Magnetometer
- ✓ Black Light Kit
- ✓ 7 Amp Hour Battery Pack
- ✓ Operator Instructions
- ✓ Carrying Case
- ✓ UV Protective Spectacles
- ✓ Flash Light Charger
- ✓ Travel Charger Kit



## YOKES



**WE-6 AC YOKE**



**WE-7 AC/DC YOKE**



**WE-8 12 VOLT DC YOKE**

### YOKES FEATURES :-

- ✓ Portable Yokes.
- ✓ Compact, Light Weight.
- ✓ Comfortable to Handle.
- ✓ High Quality Power Cord.
- ✓ Rugged Strain Relief.
- ✓ Cord Protector.
- ✓ Sealed Switch.
- ✓ Urethane Rubber Housing.
- ✓ CE / UL / CSA Certified.



**W-6CS SPECIALITY YOKE**



**WC-9 CORDLESS**

## ACCESSORIES



**MAGNETOMETER**



**SPR-365 UV FLASH LIGHT**



**POWDER BULB**



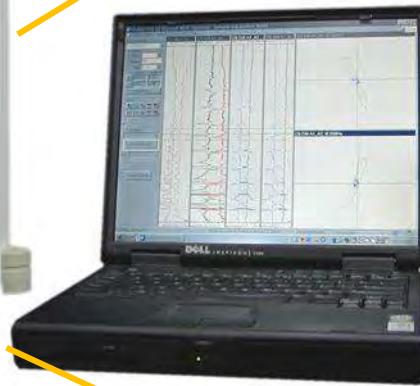
**FERROSCOPE 308**  
RFT/ECT Instrument and Software



Carbon Steel, and non-ferrous Heat Exchanger Tube inspection



I-PIT Pipeline and pipe spool inspection tools



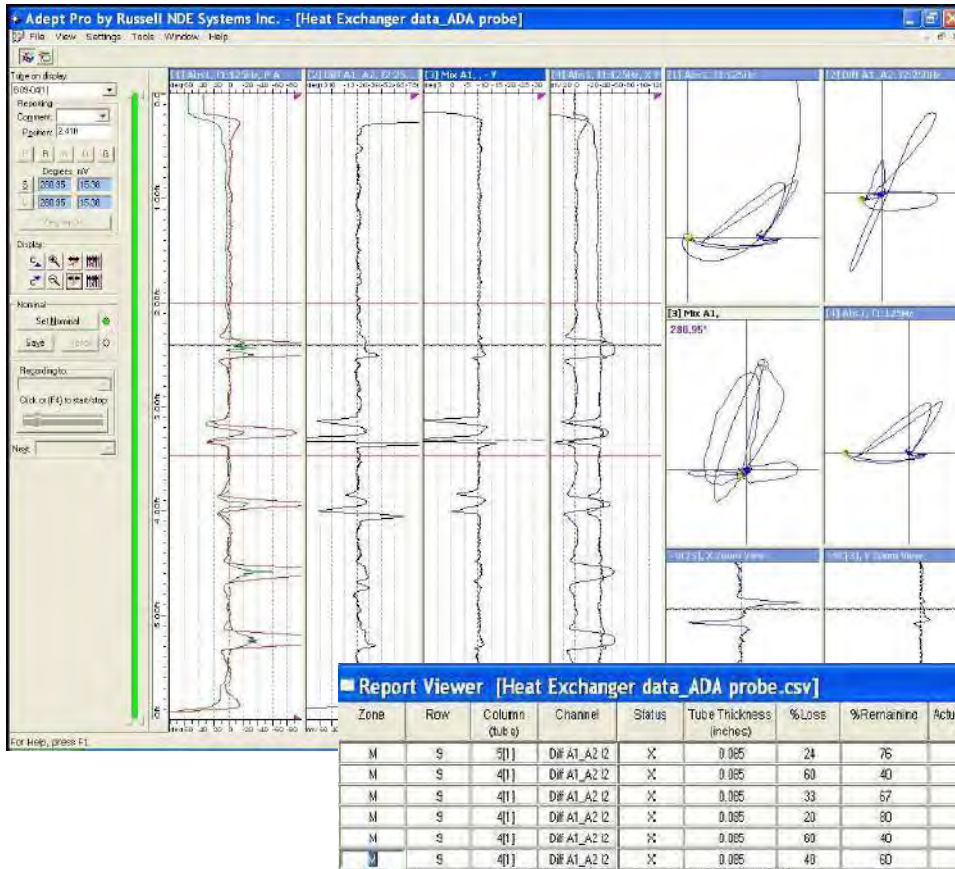
E-PIT (External Pipe Integrity Tool) For Pipeline or Boiler Tubes



**FERROSCOPE: THE MOST VERSATILE RFT INSTRUMENT ON THE MARKET: BAR NONE!**

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**Built-in report generator creates a .csv file (Excel ® compatible) Within Adept-Pro™ software.**

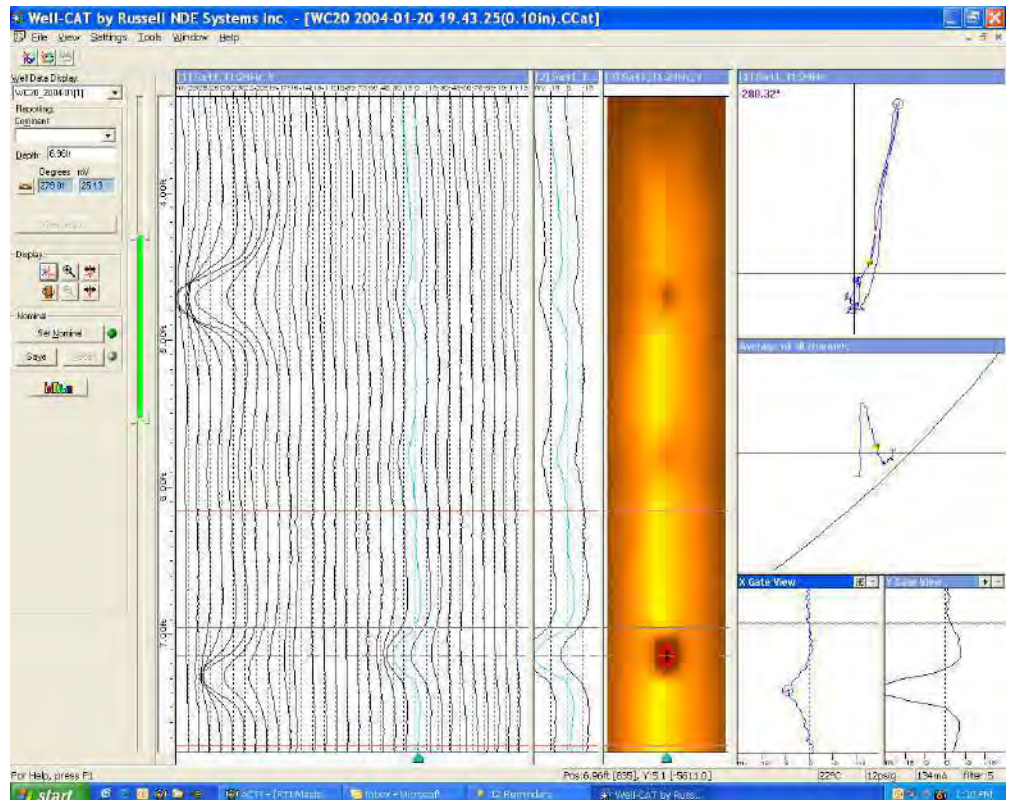
**All parameters of the test are captured for the report.**

**Data can be compared for trending either on-screen or within the spreadsheet.**

**Multi-channel strip charts with Colour Map image “Pipeview” (shown) or “Global View”.**

**Voltage Planes display the data from within the gated area, on the blue highlighted channel**

**After calibration the click of one button makes an entry in the built-in Report Generator.**



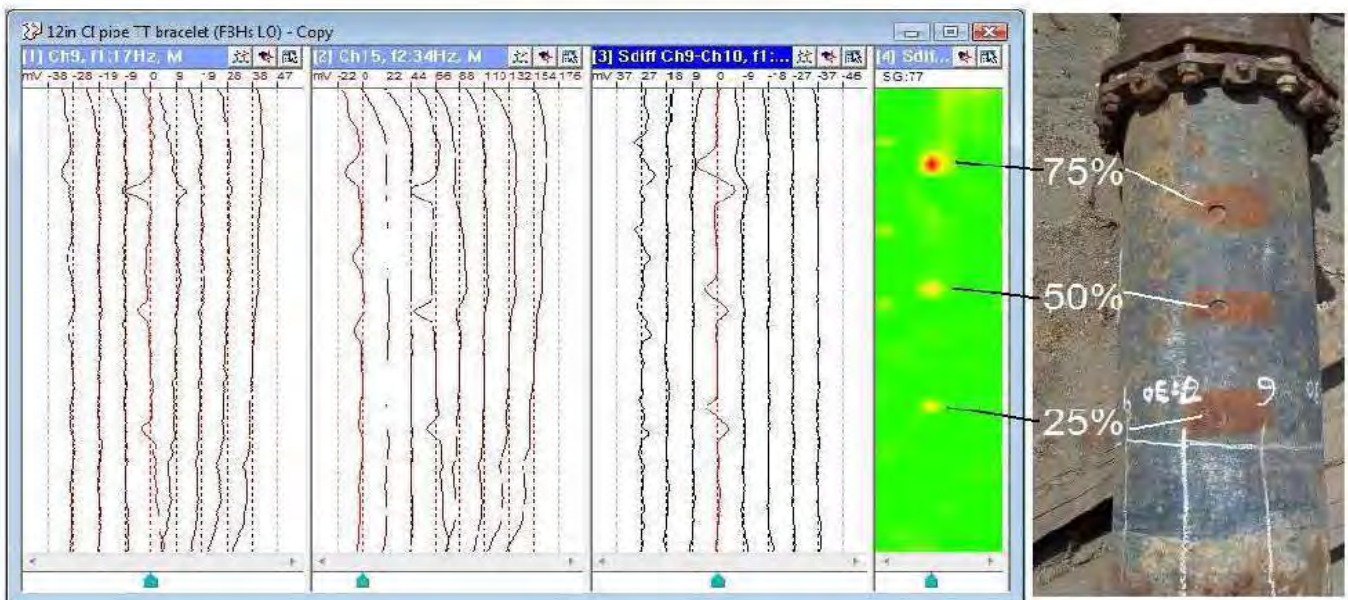


## Introducing Brand New Tools For Rapid Corrosion Screening of Piping



### Works For the Detection Of:

- Corrosion under Insulation (CUI)
- Near & Far Surface Wall Loss
- Localized & Cluster Pitting
- External & Internal Erosion





## **E-Pit™ Tool** **E-Pit™ (External Pipe Integrity Tool) for** **Pipeline and Boiler Tubes**



### **E-Pit™** **(External Pipeline** **Integrity Tool)**



E-Pit™ Tools are designed to inspect tubes & pipes from the outside surface to detect internal (ID) & external (OD) defects. This is useful for situations where a pipe must be inspected before it is taken out of service. E-Pit™ can inspect through coatings ( e.g. Yellow Jacket™) of up to 0.200" (5mm) thickness.

### **E-Pit™ tool applications :**

- \* Detection of ID & OD Defects in pipelines without need to remove coatings.
- \* Detection of ID & OD defects in boiler water wall tubes.
- \* Detection & sizing of ID & OD defects with equal sensitivity.

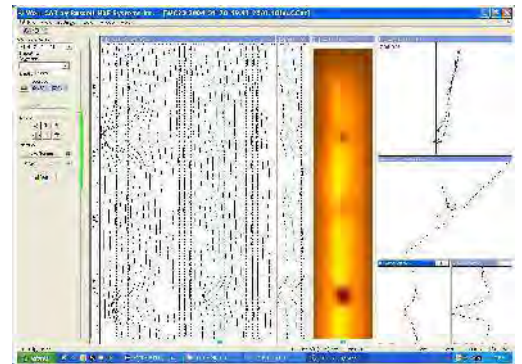




## I-Pit™ (Internal Pipeline Integrity Tool)



I-Pit tools are introduced to the pipeline at a cut end & can



be pushed by hand or air pressure to the target distance. They are then winched back by using simple & electric winch. Inspection speed 33"/mi & data are displayed after following the inspection on computer. Data analysis is a semi-automatic & a report is created as the analysis is being performed. Depending on the line condition, it is usually done the next day, off site, to reduce labor cost.

The multi channel I-Pit tools inspect 360° of the pipe & display the data as color map, strip chart log voltage plane. Unlike MFL tools, I-Pit tools contain no magnets so they can be pushed with relative ease for up to 330' each way from an access point.

## I-Pit system applications :

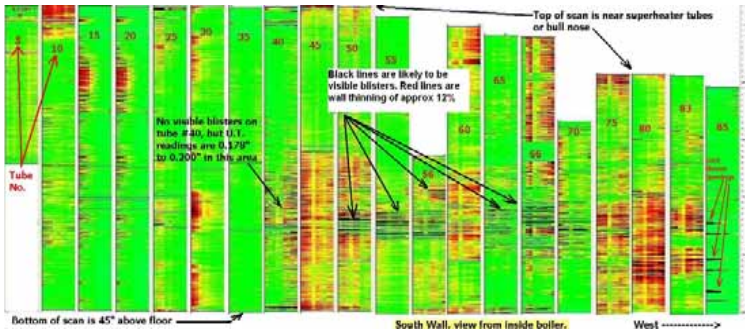
- \* After a pipeline failure, 100mm each side of the repair for more corrosion damage
- \* Check an old or abandoned line before re-commissioning it
- \* Pipeline from 2" to 8" diameter, in wall thickness to 0.375"



# Robotic Inspection of Boiler Water Wall Tubes

*"Robotic Boiler Water Wall inspection a Resolution over existing technology"*

For boilers that are not scaffolded, a magnetic "wall-crawler" can be used to carry the "E-Pit" probe up the water wall. The crawler can handle water walls up to 200' height & tube sizes from 1.5" to 3.5". Inspection speed is 10'/min. so an entire wall, 100' high & 100 tubes wide can be inspected in less than 3-12 hour shift. The E-Pit probe inspects the flame side of the tube to within 3/8" of each web, using 12 detection coils for high precision. Pits as small as 1/8" can be detected.



The results are displayed as color maps, strip carts & voltage planes. In the image, an entire water wall is mapped (every 5th tube).

In the sample at right, the internal defect detected was graphitization. Also detectable are: internal pitting, thermal fatigue, soot blower erosion: hydrogen attack and chelant corrosion.

