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VUCAM XO

The new VUCAM® XO is a budget priced high performance portable industrial video borescope.

It combines new imaging and digital graphic user interface technologies with field proven industrial video endoscope manufacturing.



Customers with the demand for a very small, light weight and portable visual inspection equipment will enjoy the proven ergonomic user interface, the touch screen operation and precise camera control.

Easy to adjust for best vision with a tilt mechanism, the 5,7" VGA resolution touch screen is integrated inside a lightweight robust carbon fiber housing. A lifetime warranty high power LED light source provides excellent illumination to the scene. The camera head can be remotely articulated through 360°.

Compatible industry proven optical adapters offer additional fields of view and direction of view advantages. There will be no inspection area unreached and unseen.

The resulting high quality crisp image is displayed for evaluation and captured digitally as JPEG or digital video onto SD card. Text comments can be edited without covering any of the valuable image information and recorded using a fully featured touch keyboard. Data recall & documentation is simple and managed in standard PC software.

SWIFT SCANNER

Swift is a compact single axis, magnetic wheeled scanner that holds a pair of probes for weld inspection. This low profile scanner operates on 3" pipe (Ø88.9mm) up to flat.

Swift has the innovative option of pivoting wheel units to enable B or D scans. Swift provides a simple scanner design capable of accurate high performance inspections in difficult access areas. Two sets of magnetic wheels firmly attach the Swift scanner to ferritic inspection surfaces, providing stability and a smooth rolling action, whilst scanning. Tool-free probe holders provide the operator with quick setups & adjustment of probes & wedges. The single direction Swift is fitted with a



brake to lock the scanner in position at any given point, allowing the operator to freely move away from the inspection area and then resume scanning at the same point.

Swift comes complete with a spring loaded waterproof wheel encoder to provide accurate defect sizing, with a high-resolution encoder of 33 steps/mm.

The Swift scanner offers exceptional flexibility and signal quality in a compact user-friendly unit.

temate® PXI Pulser/Receiver Card

The temate® PXI Pulser/Receiver is a high-power ultrasonic instrument designed to be installed on a standard PXI or Compact PCI chassis. The instrument provides 8kW (1200Vpp toneburst) of power which is ideal for researchers and integrators interested in a compact, high-power ultrasonic instrument to drive EMAT and piezoelectric transducers (standard or air-coupled).

The pulser can be operated directly from the PXI computer using dedicated software that permits modifying all pulsing



parameters, or use the factory-provided drivers to set the equipment from a separate application. The received signal can be viewed on the same computer, an external oscilloscope,

streamed to another application. Data streaming can include TOF and Peak-Amplitude for three independent gates or the complete waveform of the signal, all at full PRF rates. Driver application examples are provided in both C++ and Labview. The unit permits operation in Pitch-Catch or Pulse-Echo modes using a built-in Transmit/Receive switch.

The temate® PXI Pulser/Receiver is the most power-dense instrument in the market and the only high-power ultrasonic tone-burst pulser that can be integrated in a conventional PXI or CompactPCI chassis.

BOLT X PRO

Digital or Direct Radiography (DR) is a form of x-ray imaging, where a flat panel detector is used instead of film. With these, the images can be viewed on monitor immediately after acquisition, which takes few seconds and can be stored/forwarded wherever they are needed. As these images are digital, multiple copies of the image data are always identical.

The basic advantages of DR system are:

- It is more efficient for over and under exposure as well as the ability to apply special image processing techniques that enhance overall display of the image.
- Time efficiency through bypassing chemical processing and reduction in costs associated with processing, managing and storing films.

- Less radiation can be used to produce an image of similar contrast to conventional radiography. As a result exposure times are shortened from minutes to seconds.
- These are lightweight, robust & easy to use in harsh industrial environments.

In the NDT industry, sometimes mobility is of the highest importance as inspections need to take place in either very distant or hard-to-reach places. For such situation BoltX Probe comes the ideal choice. With a physical size of only 195 X 125 X 35 mm (7.67 X 4.92 X 1.37") and a weight of about 1.5 kg, this portable digital X-ray panel can be carried anywhere. With a pixel pitch of 75 µm it is ISO 17636-2 compliant.

This CMOS technology based compact and lightweight unit encompasses spectacular X-ray capabilities with convenient packaging in a small case or backpack, which also serves as its operational platform. The BoltX Pro is user friendly with incredible "Plug and Play" capabilities & is easy to set up, allowing inspections to be carried out with minimum interference to the production and maintenance.



RotoUTscan

CMS, France ultrasonic rotating heads RotoUTscan inspect products from Ø 25 mm up to 250 mm and are designed for tubes and bars flaws detection (material in carbon steel, stainless steel, titanium) at high speeds for :

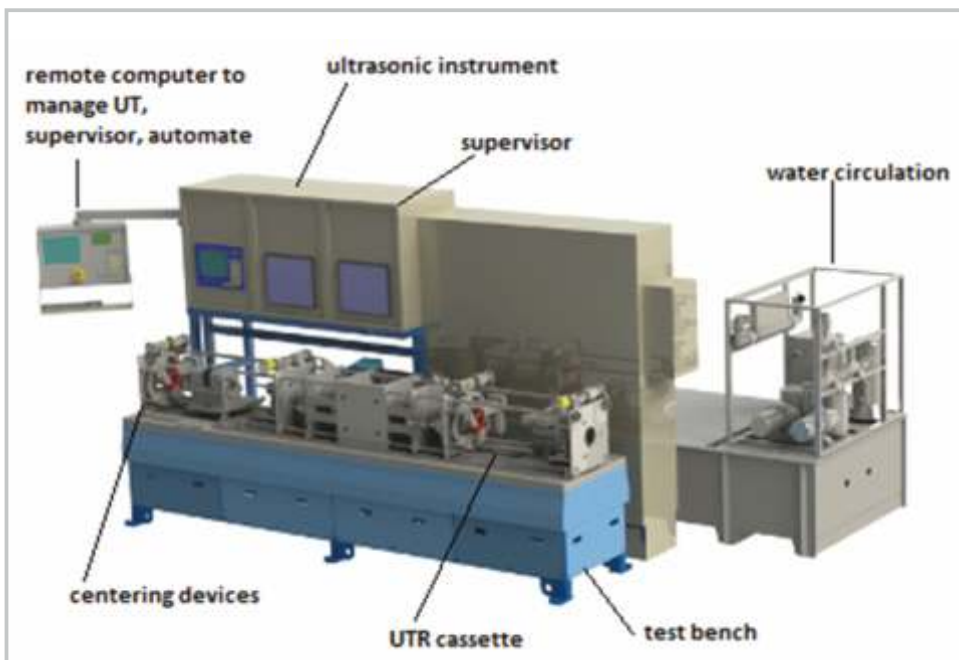
- Longitudinal defect detection
- Transversal defect detection
- Thickness and diameter measurement of the product, OD, ID and ovalization
- High precision inspection and accuracy detection defect : 25 µm of WT and measurement accuracy ± 2 µm

General Composition of System:

- Mechanical bench
- Water circulation system
- Ultrasonic head
- Centering devices for guiding the product
- Ultrasonic electronic multi-channel
- Supervisor with report software

Advantages:

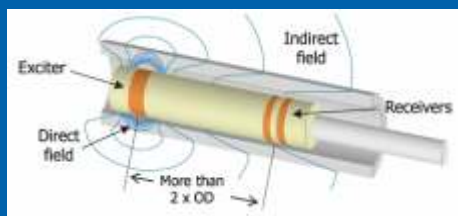
- 4 inspection targets in one system (longitudinal, transverse, thickness & diameter measurement)
- A great modularity - each block can be change separately
- Reliable, totally adapted to customer configuration with the 2 cassettes series (UTR-6T & UTR-12T). Other available upon request
- Real time WT/OD/ID
- High resolution up to 1µm & high accuracy up to ±2µm
- Minimum OD 6 mm & WT 0.4 mm
- Minimum flaw depth 5% or 10% WT
- Meet quality standards such as DIN, BS ASTM, ASME and other.



What's new in Inspection Services ?

Remote Field Testing (RFT)

Remote Field Testing (RFT) is an electromagnetic method of nondestructive testing whose main application is finding defects in ferrous tubes. RFT may also be referred to as RFEC (remote field eddy current) or RFET (remote field electromagnetic technique). An RFT probe is pushed inside the tube and is able to detect inside and outside defects with approximately equal sensitivity (although it can not discriminate between the two).



The basic RFT probe consists of an exciter coil (also known as a transmit or send coil) which sends a signal to the detector (or receive coil). The exciter coil is pumped with an AC current and emits a magnetic field. The field travels

outwards from the exciter coil, through the pipe wall, and along the pipe. The detector is placed inside the pipe two to three pipe diameters away from the exciter and detects the magnetic field that has travelled back in from the outside of the pipe wall (for a total of two through-wall transits). In areas of metal loss, the field arrives at the detector with a faster travel time (greater phase) and greater signal strength (amplitude) due to

the reduced path through the steel. Hence the dominant mechanism of RFT is through-transmission.

The main differences between RFT and conventional eddy-current testing (ECT) is in the coil-to-coil spacing. The RFT probe has widely spaced coils to pick up the through-transmission field. The typical ECT probe has coils or coil sets that create a field and measure the response within a small area, close to the object being tested.

Suitability According to Tubing Material:

Material		ECT	RFET	IRIS	NFT / MFL
Non Ferromagnetic	Tube	Excellent	Not Suitable	Excellent	Not Suitable
	Integral Finned Tube	Excellent	Not Suitable	Excellent	Not Suitable
Low Ferromagnetic	Tube	Not Suitable	Excellent	Excellent	Excellent
	Integral Finned Tube	Not Suitable	Excellent	Excellent	Excellent
Ferromagnetic	Tube	Not Suitable	Excellent	Excellent	Excellent
	Integral Finned Tube	Not Suitable	Excellent	Good	Excellent
	Aluminium Finned Tube	Not Suitable	Not Suitable	Excellent	Excellent

Thickness Mapping of Boiler Tubes

Frequent failures of boiler tubes due to reduction in thickness through erosion have been a critical issue for boiler operator. Conventional ultrasonic thickness gauges allow thickness readings at selected spots whereas EMAT (Electro Magnetic Acoustic Transducer) technique gives us complete line scan of the tube from one side. This technique does not need any couplant it can be used with minimum surface preparation and gives ample data to study the thickness of boiler tubes.

With EMAT technique we get exact reduction in boiler tube thickness compared to competitive electromagnetic based technologies, which gives you percentage reduction and are also very sensitive to the surface conditions.

Apart from detecting reduction in thickness the EMAT technique is capable of detecting hydrogen damage, pitting & caustic gouging (by measuring signal attenuation).



Our Training School

We had planned and executed the Training & Certification program suitable for both Employer based certification and NDT Level I, Level II according to SNT-TC-1A & CP 189. We are also working in the process of getting accreditation from BINDT for PCN UT 3.1, 3.2, Phased Array and TOFD Level 2 courses. We provide training for ASNT Level III for a range of methods. Choose from a variety of NDT methods including Liquid Penetrant Testing, Magnetic Particle

Testing, Ultrasonic Testing, Eddy Current Testing, Product Technology, Material Evaluation and Familiarization in Phased Array and Time of Flight Diffraction according to SNT-TC-1A & CP 189. We supply to companies in a wide range of industrial sectors like Power, Nuclear, Shipping, Defense, Aerospace, Pre-service, In-Service, Oil, Gas and Pressure Vessels. Our courses are based heavily on practical exercises, which when combined with the

recording, reporting and answering of quizzes, results in the understanding of a specific syllabus segment. Up front lecturing is reduced to a minimum and the emphasis is on training to the precise, specific needs of the individual. Exercises are regularly backed up by the tutor, and all teaching is reviewed by texts, standards & computer based learning where possible.

We also provide NDT Level III consultancy services.



Company News

Presentation of ECTANE in NANSO business meet held in Vadodara on 5th April 2014



Participated in NANSO business meet held in Mumbai on 5th July 2014



Skill up gradation of Team Members

In April 2014, Mr. Dhanasekaran went to M/s. Eddyfi, Canada for ECT, RFET, IRIS & ECA training and to M/s. Innerspec Technologies, USA for enhancing EMAT, MRUT, Surface and Bulk wave applications knowledge. He also completed ASNT level III certifications (ET, MT) in May 2014.



In June 2014, Mr. Nandha Kumar visited M/s. Silverwing, Dubai for equipment familiarization in MFL (Magnetic Flux Leakage) Pipescan and Scorpion B-Scan thickness mapping for storage tanks. He also completed PCN Level II in TOFD and PAUT and ASNT Level III (UT, RT) certification in April and May 2014 respectively.

Upcoming Trade Shows

For this year NDTs India will participate / exhibit in following trade shows. For more information please feel free to contact us.

Trade Shows	Location	Duration
National Symposium on Steel Mill Rolls	Ranchi	September 10-11, 2014
Tube India	Mumbai	October 28-30, 2014
Indian Nuclear Energy	Mumbai	November 6-8, 2014
ADIPEC	Abu Dhabi	November 10-13, 2014
NDE 2014	Pune	December 4-6, 2014
India Composites Show	Mumbai	December 10-12, 2014