INETEC

NDT solutions

Creating reliable future
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ABOUT US

For almost thirty years, INETEC has been a name synonymous with technological and service excellence in the NDT industry. We have gained international acclaim for developing technologies for non-destructive examinations. In doing so, we are active in permanent programs of research, development, design, construction and fabrication of equipment, tools and probes, including software and instruments for non-destructive examinations. We offer a range of products and services meeting the highest standards such as ISO 9001, ISO 14001, OHSAS 18001, ISO/IEC 17025 etc.

In addition to this, in 1991 we established the INETEC NDE School and Training Center. Their purpose is to train, educate, qualify, and certify people in line with the requirements of SNT-TC-1A, CP-189 and eddy current method (QDA) in accordance with EPRI Guidelines.

Our commitment to quality in the spirit of trust has been acknowledged by numerous awards and long-term collaborations with our customers and partners.
INETEC VALUES

SAFETY
We do not cut corners when it comes to safety. We nurture a culture of safety and create reliable products and services that protect the environment and society on the whole.
Our guideline: Safety first.

PASSION
New challenges, new technologies and constant personal and professional growth inspire us. Passion is the foundation for our innovations and it drives us to aspire to perfection.
Our guideline: Nurture your passion.

INNOVATION
We foster innovation by supporting our people to put their ideas into action. We are looking forward to future developments in years to come...
Our guideline: Keep an open mind.

FLEXIBILITY
The world is changing rapidly and through our agile approach we ensure stability and safety of all our products and services. With such attitude, our customers receive sophisticated and customized solutions that best fit their needs.
Our guideline: Always be ready to adapt.

RESPONSIBILITY
We are a diverse group of experts in various fields and we trust each other to perform our tasks in a responsible manner. We pursue and encourage autonomy – we are responsible for delivering exceptional results. Our staff receive our support for their new ideas and initiatives.
Our guideline: Give and earn trust.

EFFICIENCY
Continuous learning and constant improvements enable us to work efficiently. Not only do we deliver our products and services on time, but we also strive for excellence in quality.
Our guideline: Learn from past experiences and communicate.
Since knowledge is a precious resource, we gather highly educated individuals with international experience in the field. As a strategy of life-long learning, we pursue additional qualification programs to keep up with current trends.

Number of qualification achievements of INETEC NDE personnel:

- Level III CP-189/SNT-TC-1A/ISO 9712-UT, ET, VT, MT, PT (21)
- Level I/II CP-189/SNT-TC-1A-UT, ET, VT, MT, PT (67)
- Level I/II ISO 9712-UT, ET, MT, PT (28)
- EPRI QDA-ET (17)
- EPRI PDI-UT (30)
- ASNT-UT, ET, VT, MT, PT (16)
The INETEC Quality Safety Environmental Management System is based on ISO 9001, ISO 14001, OHSAS 18001, ISO/IEC 17025 and meets the applicable requirements of the ASME Boiler and Pressure Vessel Code, 10CFR21 and 10CFR50 Appendix B quality assurance criteria for nuclear power plants.

Our goal is to improve nuclear safety and fully satisfy each customer according to the highest ethical and legal requirements.

We are committed to ensuring that our products and services conform to the expectations, needs and requirements of our customers and are therefore approved to international quality, environmental and occupational health and safety standards.

We possess other certifications and accreditations granted by our customers, professional engineering institutions and government appointed bodies concerned with quality issues.
EDDY CURRENT AND ULTRASOUND APPLICATION

EDDY CURRENT

- ATTACHMENT POINTS
- TURBINE AND JET ENGINE COMPONENTS
- WHEEL HUB
- MULTILAYERED ALUMINUM STRUCTURES
- AROUND FASTENERS
- MAIN AND CRITICAL STRUCTURES
ULTRASOUND

- TURBINE AND JET ENGINE COMPONENTS
- CFRP AND COMPOSITE FOR DELAMINATION AND DEFECTS
- LANDING GEAR
PRODUCTS

EDDY CURRENT
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FALCON II is new generation lightweight and versatile eddy current instrument with an integrated battery and industrial user interface with 7” display for on-site testing.

**KEY FEATURES**
- lightweight (1.6 kg with 2 batteries)
- 2 x integrated batteries with 8 hours of autonomy
- hot swappable batteries
- embedded 7” display with user controls and acquisition software
- supported methods:
  - Eddy Current
  - RFT
  - MFL
  - Pulsed EC
  - Conductivity & coating thickness
  - Rotating bolt hole inspection
- applicable for tubing and surface array inspection
- multiplexer version available
- compatible with other vendor probes through custom adapters
EDDY CURRENT PROBES

PRO PENCIL

- pencil probe for surface eddy current examinations
- suitable for small defect detections
- usually used for surface breaking crack detection
- reaches areas inaccessible to standard probes
- works in absolute mode channel
- customization available on request
PRO FORTIS

- array probe for surface eddy current examinations
- up to 16 cross wound coils mounted in the probe body, operated in driver pickup mode
- intended to be used with INETEC FALCON eddy current instrument
- coils are spring loaded in order to enable weld inspection
- position encoder included with probe
- all data easily evaluated by the EddyOne Analysis software
- wide area coverage-faster scanning
- customization available on request
PRO ESCALUS

**DISK SURFACE PROBE**

- designed as a 3-coil surface probe with 3 "pancake" coils in transmit/receive mode
- spring-loaded probe head to adapt to different parts of geometry
- probe assembly consists of two parts – probe adapter and probe body
- probe adapter provides a simple screw-on mechanism as a means of changing the probe in case of coil failure

**TURBINE BLADE PENCIL PROBE**

- designed as 4-coil surface probe with 4 "pancake" coils in transmit/receive mode
- spring-loaded probe head to adapt to different parts of geometry
- provides a means of inspecting geometries with very large curvatures
- detachable probe body in order to simplify maintenance
TURBINE BLADE FLEXIBLE ARRAY PROBES

- two shapes – turbine blade array probe and turbine blade root flexible array probe
- designed as flexible probes with 2 × 12 coils in transmit/receive mode
- flexible probe head is designed to adapt to turbine blade surfaces
- integrated multiplexer electronics
COMPRESSOR INNER CAVITY ARRAY PROBE
- designed as flexible probe with $2 \times 12$ coils in transmit/receive mode
- L-shape probe housing
- Integrated multiplexer electronics

BOLT HOLE PROBE
- designed as rotational probe with 2 coils in transmit/receive mode
- integrated motor and position feedback sensor
- detachable probe body in order to simplify maintenance
EDDY CURRENT SOFTWARE

EDDYONE ANALYSIS

- view recorded inspections
- multiple interactive display screens with lissajous, strip, 3D and color map charts
- all standard measurements: peak to peak, max rate, vertical max, and guess angle
- channel filters including band-pass, cross correlation and median filters
- standard mix channels
- report editor
- history management
- median filter in 3D view
- multilingual support
**ROBOTICS**

**ESCALUS** is a system designed to provide robotic inspections in hazardous places to reduce the risks of danger and maximize personnel safety. The examinations are performed by an industrial robotic system and eddy current probes specifically designed for this purpose. The system provides precise automatic examinations of the turbine blades and roots and other similar challenging applications.

**ESCALUS system consists of:**
- robot
- turn table
- control cabinet
- eddy current probes
- operator’s workstation
- pressurized air supply system
- power, control and signal cables
- protective cell with safety equipment

**Inspection scope:**
- compressor discs
- compressor housing
- turbines
- flange bolt holes
KEY FEATURES

- 6 degrees of freedom industrial robot with a rotational table
- remotely operated robotic tool changer
- rotational table optical indexing sensor
- inductive sensors on tool holder stand
- eddy current instrument in 19" rack
- 5 types of eddy current probes:
  - PRO ESCALUS disc surface probe
  - PRO ESCALUS turbine blade pencil probe
  - PRO ESCALUS turbine blade flexible array probe
  - PRO ESCALUS compressor inner cavity array probe
  - PRO ESCALUS bolt hole probe
- automated probe changing and calibration procedure
DOLPHIN 32/128 is a compact phased-array ultrasonic instrument. The latest advances in phased-array technology combine high power pulses with high-resolution imaging.

**KEY FEATURES**
- compact design (126 mm x 126 mm x 250 mm)
- user-friendly
- high pulsing power (200 Vpp)
- fast sampling frequency (100 MHz)
- multiplexed architecture 32 x 128
- compatible with SignyOne software
- supported methods:
  - Phased-Array
  - Time of Flight Diffraction
  - Mono-element Pulse Echo
  - Automated Ultrasonic Testing
ULTRASOUND PROBES

PRO ULTRA

- various models for automated and manual UT inspections
- single and dual element probes
- customizable signal central frequency from 500 kHz to 7 MHz
- customizable ultrasound beam angle and width with longitudinal and transversal wave polarization
- customizable probe size and design
- high signal-to-noise ratio
- various polymer wedge designs
- stainless steel and aluminum housing
- colour probe labelling
PRO ULTRA ARRAY

- NDE ultrasound phased array probes – single linear, dual linear, 2D matrix
- up to 4 MHz of signal central frequency
- composite piezoelectric elements
- customizable probe size and design
- high signal-to-noise ratio
- various polymer wedge designs
- stainless steel and aluminum housing
SignyOne Software Package is a unique solution for job preparation, acquisition, analysis and report preparation for ultrasound inspections. It supports manual and automatic acquisitions for all ultrasound techniques: Phased-Array, TOFD, conventional Pitch & Catch as well as conventional Pulse Echo.

**KEY FEATURES**

- manual and automatic inspections
- time-based, 1-axis or 2-axes encoder triggering
- multi-probe support
- supported probes: Phased Array, Time Of Flight Diffraction (TOFD), Pitch and Catch, Pulse Echo
- multiple interactive display screens with A-Scans, B-Scans, C-Scans, S-scans and FFT
- user customization of interface
- saving/loading layouts and beam setups
- online data visualization during acquisition
- gigabit Ethernet connection with instrument
- compatible with all DOLPHIN instruments
WHY INETEC?

Our flexibility as a middle-sized company enables higher customization of products and services for our clients.

Our highly educated and qualified personnel improve the business processes of our clients.

Our long term presence in the NDT industry makes us more knowledgeable in meeting all the requirements of our clients, which makes our clients more efficient.

Our references confirm our validity as a trustworthy business partner.

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