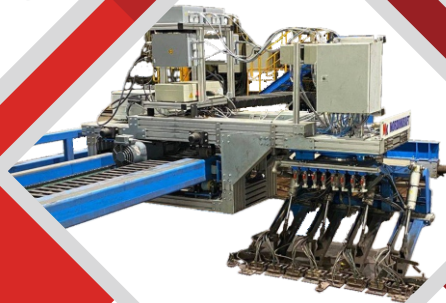
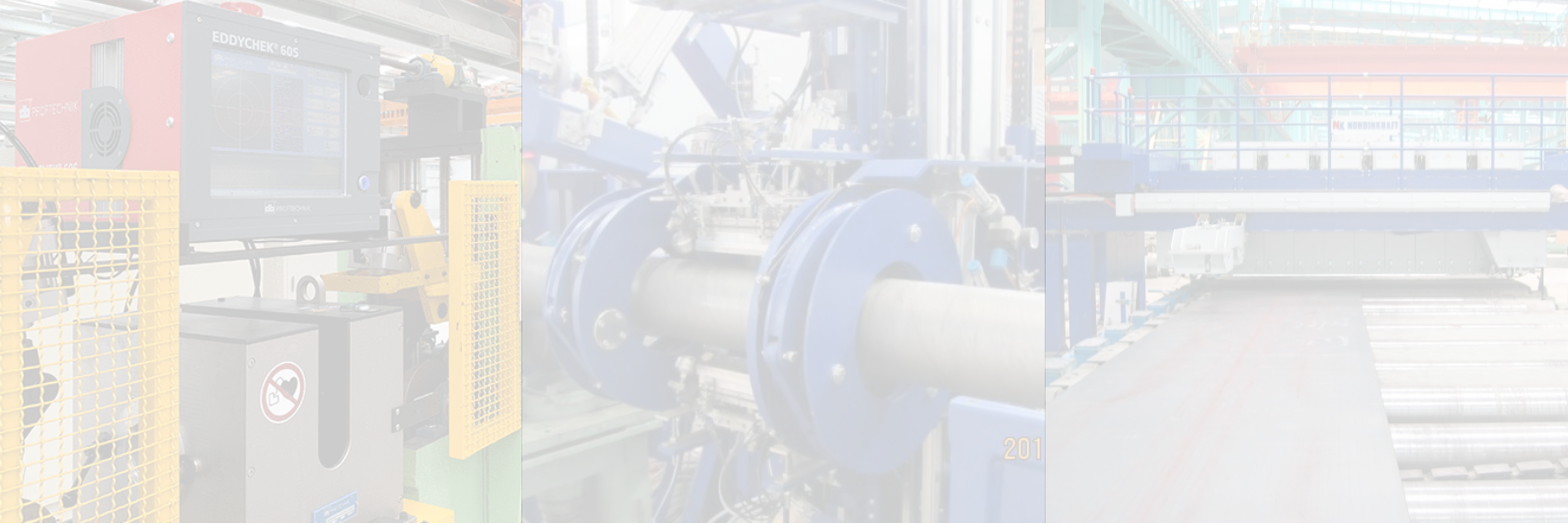


Automated NDT Systems





Thorough knowledge and enormous experience is the key to any Automated NDT System. We offer online/offline NDT Systems under the supervision of our principals who are world leaders in their respective fields. The process starts from identifying the appropriate NDT Technique, codes, inspection speed, end customer requirement, budget, etc. Based on the this information our objective is to offer a robust and cost-effective system.



Nordinkraft, Germany has more than 30 years of experience in the design, development, and production of automated ultrasonic systems. It offers inline and offline ultrasonic testing systems for industrial automatic inspection of plates, strips, ingots, welded & seamless pipes, bars, billets & rails, etc.



Tecscan, Canada is renowned for fully automated immersion ultrasonic testing systems. Their products comprise small tanks/ scanners to large multi-axis industrial ultrasonic immersion systems & squirter gantry systems for non-destructive testing in laboratory, industrial, and aerospace applications including complex composite parts & metallic skin structures.



Pruftechnik, Germany is specialized in Eddy Current Testing (ECT) and Magnetic Flux Leakage Testing (MFLT). Their top-notch solutions for tube, bars, and wires have gained recognition for their exceptional quality and performance, enabling customers to ensure the integrity and reliability of their products.

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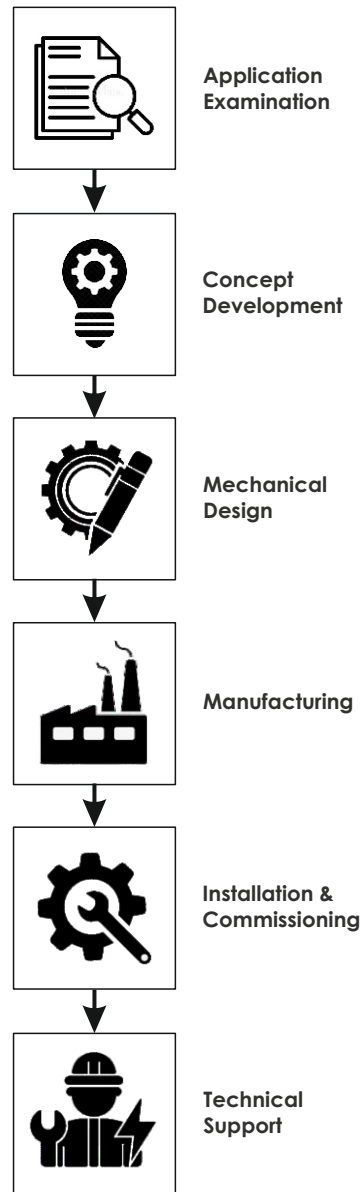
Sr. No.	Automated Systems	Technology	Page
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System Automation & Robotics

“Automation applied to an efficient operation will magnify the efficiency”

Apart from On-line/Off-line Systems, we also offer small systems (stationary/mobile) for various applications. Our approach is to understand customer requirements, applicable codes, inspection speed, application challenges, budget, etc., and based on this we identify the appropriate NDT Technique/Solution and our objective is to offer a robust and cost-effective System.

Our Automation Methodology



Retrofits:

One of the biggest challenges in today's world is technology obsolescence. Apart from selling new systems, we also support our customers with retrofits/upgrading to latest hardware & software either in NDT or in Automation.

Annual Maintenance Contract:

While the equipment is under warranty our professional services are available free of cost (subjected to our standard terms & conditions). Once the warranty is over, apart from providing post-warranty services we also offer an annual maintenance contract. During the contract, our trained engineers will check the equipment thoroughly for predictive and preventive maintenance to ensure that there are minimal break downs and the system is available for usage whenever required.



Plates, Strips, Slabs And Ingots

EMATEST-PL - Systems for Automatic Ultrasonic In-line Examination of Plates



Salient Features

- Detects internal imperfections like laminations, non-metallic inclusions, porosity, shell, sponge, etc. (equal to FBH 2*)
- Detection of surface & sub-surface defects (equal to notches 0.2 mm x 10 mm (D x W))
- Precise wall thickness measurement accuracy: ± 0.05 mm
- Plate Geometry Monitoring

Specification of Plates to be Tested

- Width: 100 mm - 6000 mm
- Length: from 3000 mm
- Thickness Range: 3 mm - 350 mm
- Material: carbon steel
- Surface Temperature: up to 600° C

NORDISCAN-PL - Systems for Automatic Ultrasonic off-line Examination of Plates



Salient Features

- Detects internal imperfections like laminations, non-metallic inclusions, porosity, shell, sponge, etc. (equal to FBH 2*)
- Detection of surface & sub-surface defects (equal to notches 0.2 mm x 10 mm (D x W))
- Precise wall thickness measurement accuracy: ± 0.05 mm
- Plate Geometry Monitoring

Specification of Plates to be Tested

- Width: 1000 mm - 6000 mm
- Length: from 1000 mm
- Thickness Range: 3 mm - 350 mm
- Material: carbon steel, stainless steel, aluminum, titanium, copper and alloys
- Surface Temperature: up to 250° C

ALUTEST-PL - Systems for Automatic Ultrasonic Examination of Non-Ferrous Plates and Ingots



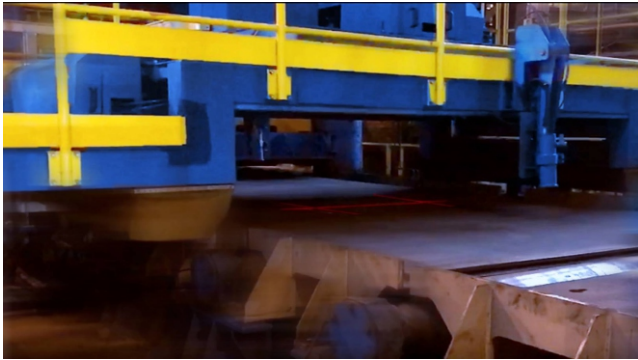
Salient Features

- Detects internal imperfections like laminations, non-metallic inclusions, porosity, shell, sponge, etc. (equal to FBH 0.8*)
- Detection of surface & sub-surface defects (equal to notches 0.2 mm x 10 mm (D x W))
- Precise wall thickness measurement accuracy: ± 0.05 mm
- Plate Geometry Monitoring

Specification of bars to be Tested

- Width: 1000 mm - 6000 mm
- Length: from 1000 mm
- Thickness Range: 3 mm - 800 mm
- Material: carbon steel, stainless steel, aluminum, titanium, copper and alloys

GEOMETRIX-PL - Automated Laser Geometry Measurement System for Plates, Strips & Slabs



Salient Features

- Inspection carried directly on the process line on the existing mill roll lines with modern measuring system, precision mechanics and sets of 2-D profilometers etc
- Measurement mode is automatic and non-contact
- Determining the length of the product with accuracy of $\leq \pm 1$ mm (0.03") or 0.03% of the maximal plate length
- Determining the width of the product with accuracy of $\leq \pm 1$ mm (0.03")
- Determining the maximum deviation from flatness of any type (concave, bulge, undulation, squareness), with accuracy of $\leq \pm 1$ mm (0.03") /m
- Definition of Camber, with accuracy of $\leq \pm 1$ mm (0.03")

NKE-PCS-5000 - Plate Surface Cleaning System



Salient Features

- This System is intended for high speed, in-line removal of dirt, dust, scale, and other foreign particles from the top plate surface lines
- Fully automated surface cleaning, perform at speed of up to 2 m/s
- Reliable cleaning of plate surfaces with the Nordinkraft patented method
- Rapid integration in the production line and low maintenance, with minimal consumables costs

EDDYSPOT - Systems for Automatic Non-Contact Detection of Hard Spots



Salient Features

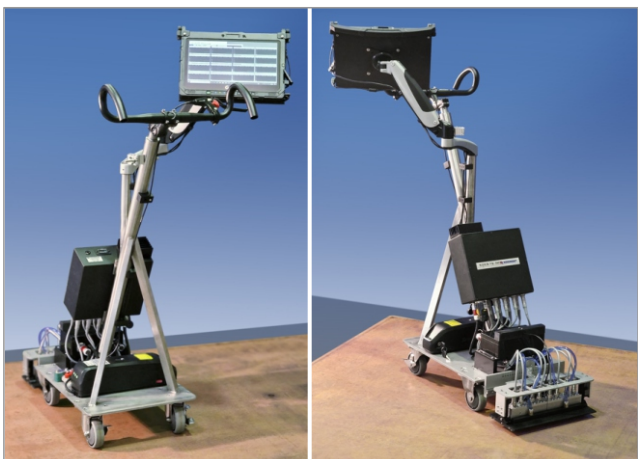
- Detects hard spots/ bruises of hot rolling process plates
- Type of applied probes: Patented multichannel EC Probe
- Reference Test Sensitivity: Hard Spots down to 10 x 10 mm are reliably detected

Specification of Plates to be Tested

- Width: 100 mm - 6000 mm
- Length: from 100 mm
- Thickness Range: unlimited
- Material: carbon steel and its alloys
- Surface Temperature: up to 600°C

[*Depending of material to be tested]

RIDER-NK-Solution for Certifying The Quality of Plates



High-capacity automatic examination - with the UT probes (for laminations and cracks) or with the EC probes (for Hard Spots).

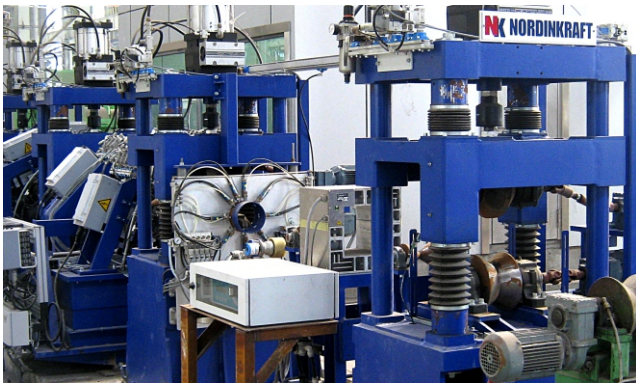
Salient Features

- Test for laminations, inclusions, etc. with longitudinal waves
- Equipped with the line of phased array probes
- Automatic evaluation of defective areas
- Reference time for examination of one plate 10000 mm x 3000mm is about 15 min
- Thickness Range: 5mm - 300mm
- Range of plate materials - steel, aluminum, bronze, copper, etc.
- To transmit/ receive shear waves in the direction of about 45 degrees
- Examination of plates for detecting of hard spots (HS) - areas of plates where the hardness of the material exceeds the pre-set limit



Bar & Billets

NORDISCAN-BB - Systems for Automatic Ultrasonic Examination of Bars and Billets



Salient Features

- Detection of inner defects like shrink holes, insulation, blowholes, inclusions etc. (equal to FBH 0.4*)
- Detection of surface and sub-surface defect is also possible (equal to notches 0.2 mm x 10 mm (D x W))
- Testing Speed: up to 2 m/s

Specification of Bars to be Tested

- Diameters: 5 mm - 1000 mm
- Length: from 1000 mm
- Material: carbon steel

[*Depending of material to be tested]

ALUTEST-BB - Systems for Automatic Ultrasonic Examination of Non-Ferrous Bars



Salient Features

- Detection of internal imperfections in rolled plates such as: laminations, non-metallic inclusions, porosity, shell, sponge, etc. (equal to FBH 0.4*)
- Detection of surface and sub-surface defects (equal to notches 0.2 mm x 10 mm (D x W))

Specification of bars to be Tested:

- Diameters: 5 mm – 1000 mm;
- Length: from 500 mm;
- Material: stainless steel, aluminum, titanium, copper and alloys

EDDYCHEK 6 Series

EDDYCHEK is a digital eddy current testing equipment that can be used in all major semi-finished applications at low or high speeds, for cold or hot materials.

EDDYCHEK 6 Series consists of

- EDDYCHEK 605 Compact
- EDDYCHEK 605
- EDDYCHEK 610



Salient Features

- It has a wide range of applications in the production of tube, pipe, bar, wire, strip, cable sheathing, and extruded sections (roll forming, tube mills, drawing machines) for any conductive material i.e. ferrous or non-ferrous metals
- Multichannel, Multi frequency testing with bandwidth of approx. 15kHz
- Up to 10 channels at up to 6 testing positions for EDDYCHEK 610 & Up to 5 channels at up to 3 testing positions for EDDYCHEK 605 & EDDYCHEK 605 compact
- Available in four systems for diameter 1.9mm to 140mm
- For use in production lines and during final inspection of tubes, bars and wires
- Specifically for the detection of longitudinal defects
- The minimum defect depth is 0.05mm, depending on the sample's surface quality

NOVAFLUX Inspection System

Highly Sensitive Inspection Of Black And Bright Metal Bars And Seamless Tubes



Salient Features

- Fully automatic quality control
- Complete logging of all test specimens
- Easy to integrate into existing finishing lines
- Material diameter 10-200mm
- 100% inspection with test speeds of up to 3m/s
- Material classification with 3 alarm levels

Semi-Automated MPI system for the inspection of long bars

Semi-Automatic magnetic particle inspection units consist of a material handling station and an integral Magnetic inspection unit. The Magnetic inspection unit provides low-voltage, high-amperage FWDC current for magnetization and AC current for demagnetization.



Salient Features

- Complete handling solution for offline system including loading table, singling, infeed conveyor, MPI, Outfeed, accept/reject
- Capable of testing part size ranging from 1m to 8m and diameter 20mm-200mm. In case of Rectangular cross section 20mm-180mm
- Load capacity up to 2 tons
- AC and FWDC Mag facility with capacity up to 8000Amp.
- Auto Demagnetization facility with coil only
- Current assurance indication & audible alerts
- Thyristor based stepless current control
- Two large, easy-to-read analogue meters confirms amperage sent through the part
- Low-voltage output with overload & short circuit protected switching
- Powder coated rust proof MS housing with matt finish
- Anti vibration mount
- Encoders based auto adjustable headstock and tailstock pneumatically operated for wide range of 1m -8m length of product
- HMI operated system for better human interpretation
- Foot Switch & push button (at control panel) for ease of operation
- Emergency Cut Off
- Dark room with black curtain & ventilation fan to facilitate inspection under UV/Black light
- 60 - 100 liters combined oil & water-based system SS tank for magnetic powder bath
- External pump system for particle auto shower agitation, circulation, and application
- PLC based reliable control & precise operation
- Automatic sequential mag shot
- Mag-shot-activation with 1-touch control to enable/disable this feature through HMI & foot switch
- User-controlled security systems with password protection, supervisor locks & customizable operator access profiles
- User friendly operator interface for auto & manual control parameter in-feed and operation mode selection and display
- Conveyor speed up to 20m/min



Tube & Wires

EDDYCHEK 6 Series



Eddycek 610

High-performance eddy current testing system for complex quality and process control tasks

- Reliable semi-finished product testing
- Tubes, bars & wire - all applications
- Up to 10 channels at 6 test positions
- Intuitive graphical user interface



Eddycek 605

Eddy current testing system for advanced quality and process control

- Reliable semi-finished product testing
- Tubes, bars & wire - all applications
- Up to 5 channels at 3 test positions
- Intuitive graphical user interface



Eddycek 605 Compact

The economic eddy current testing system for reliable quality and process control

- Reliable semi-finished product testing
- Tubes, bars & wire - all applications
- Up to 5 channels at 3 test positions
- Intuitive graphical user interface

Sensors & Accessories



Rotating systems

For identification of longitudinal defects

- Rotating systems in 4 sizes
- RS20: For the semi-finished products with dia. 2–20 mm (1/16–3/4 in)
- RS35HS: For the semi-finished products with dia. 3–35 mm (1/8–1 1/4 in)
- RS65: For the semi-finished products with dia. 5–65 mm (3/16–2 1/2 in)
- RS140: For the semi-finished products with dia. 10–140 mm (3/8–5 1/2 in)



Encircling Coil

Eddy current sensors for better quality control

- Various sensitivities available
- With or without absolute channel for circumferential crack detection
- Continuous monitoring
- Automatic parameter setting
- Test piece diameters: 0.1–227 mm (1/8–8 7/8 inches)
- Special designs available for unusual profiles



Segment Coils

Eddy current sensors for weld seam inspection

- Ideal for detecting a weld seam so that the seam can be positioned where needed for tube-forming processes such as bending.
- Special coils available
- Test piece diameters: 10–520 mm (3/8–20 7/16 inches) or flat
- Special coils available with 50°, 90° and 180° segment size

Applications

Testing Of Bars

- Sensitive testing of irregular shaped wire
- Rugged, adaptable, affordable

Testing Of Shaped Wire

- Sensitive testing of irregular shaped wire

Wire testing in drawing lines

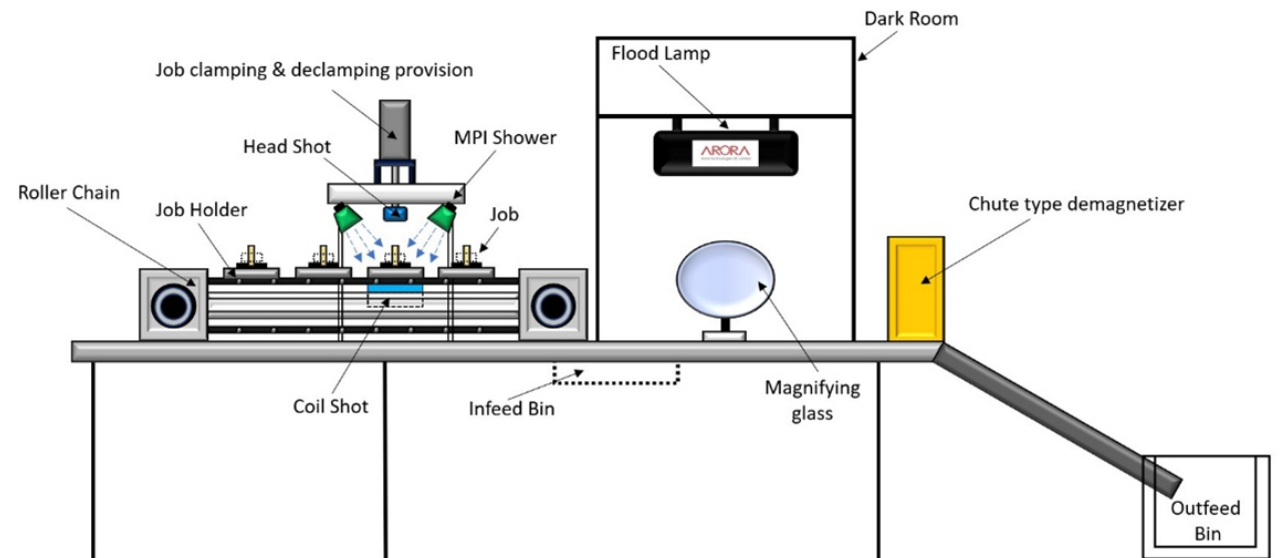
- Finds cracks, pores, and longitudinal defects
- Robust, but still very sensitive



Automotive Components

Semi-Automated MPI system for the inspection of Bearing Shell

It is a state of art Magnetic Particle testing system for the inspection of steel bearing shell. Ideal and cost-efficient semi-automated solution for bearing manufacturing companies for the inspection of ID and OD cracks. Provides easy & efficient operation with multiple job loading facility.



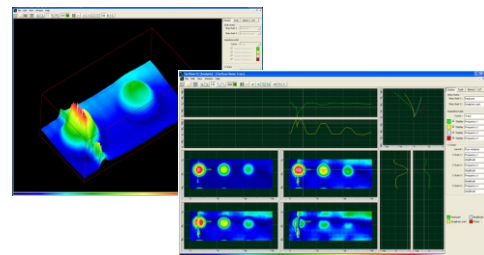
Bearing Inspection Systems



- Turnkey automated Eddy Current Bearing Inspection Systems.
- Designed for the inspection of Inner & Outer Raceways, Roller Bearings, Inner Grooves, and other bearing related defects
- Frequency: 10 Hz to 10 MHz
- Rotation: 0° to 360°
- Output voltage: 0 to 20 Vpp
- Analog output full scale: ±10V
- Digital data output: 16 bit, streaming via USB

TecView™ EC

True Windows® based Data Acquisition & Analysis software to performs automated Eddy Current testing.



- Complete multi-tasking software
- Intuitive user-interface & menu
- Multiple frequency capabilities
- Real-time C-Scan
- Complete multi-tasking software
- Intuitive user-interface & menu
- Multiple frequency capabilities
- Real-time C-Scan



Pipes & Rail

NORDISCAN-PI - Systems for Automatic Ultrasonic Examination of Pipes



- **Salient Features**
 - Weld Seam profiling & scarfing quality monitoring
 - Examination of pipe body & both ends; weld seam and HAZ
 - ID, OD, Mid wall & surface examination
 - Wall thickness measurement
- **Specification of Pipes to be Tested**
 - Seamless, ERW, Line Pipes (LSAW, HSAW)
 - Diameters: 10 mm - 1520 mm
 - Thickness: 0.4 mm - 60 mm
 - Material: carbon steel, stainless steel, aluminum, titanium, copper and alloys

NORDISCAN-RAIL - Systems for Automatic Ultrasonic Examination of Rails



- **Salient Features**
 - Detection of internal and surface defects in Railroad rails (like head, web, and foot)
 - Nordinkraft use state-of-the-art Ultrasonic Phased Array and EMAT probes
 - Complying international and local railway standards
 - Inspection speed 2m/s
- **Specification of Rails to be Tested**
 - Type of the Rails: P50, P65, P75, OP50, OP65, 60E1A1, 54E1A1, 54E1A2, 49E1A2 49E1, 49E2, 54E1, 50E6, 60E1, 60E2
 - Material: carbon steel and its alloys

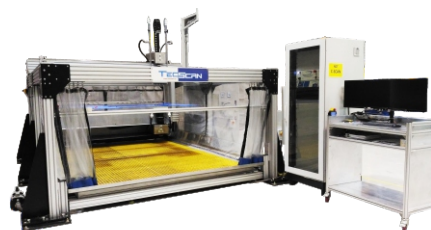
Composites

Ultrasonic Squirter/Gantry Systems



- Designed for non-destructive quality testing and raster scanning of larger parts & also to perform 3D scanning of complex composite and metallic structures
- Available in Overhead Bridge (with single or double bridge) & Side-Arms Ultrasonic Gantry system
- Inspection can be conducted in through-transmission and pulse-echo techniques
- Specially used when inspecting thick composite materials for delamination's and sandwiched honeycombs for evaluating the presence of bond failure or crushed cores

Ultrasonic Flatbed Systems



- Specially tailored for the aerospace industry for high throughput inspection of composite panels & various components
- Allows high speed UT scanning
- With multi-channel scanning technology and multiple ultrasonic probes
- Also, available with a customizable bed size



Immersion Scanners For Complex Geometries

Ultrasonic Immersion Scanners/ Systems

- Consists of three series of immersion ultrasonic testing systems such as TS Series which are standard systems for laboratory & simple industrial components testing, TC Series are custom systems for larger envelope scanning, Scan3D™ Series for automated 2D/ 3D ultrasonic immersion testing of complex aerospace and industrial parts
- Available in Automated or Manual Gimbal/ Gimbal or Swivel/ Gimbal assemblies, Turn Tables and Bar Stock Indexer
- Allows high scanning speed & high-performance

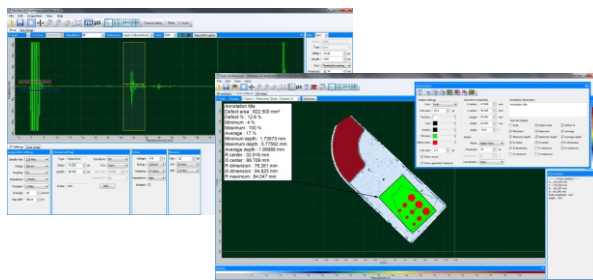


All systems are compatible for both Single element & Phased Array ultrasonic transducers. For managing the entire procedure of ultrasonic testing including scanner motion control, data acquisition, data analysis and interpretation modules, reporting, data management, imaging, Real-time A, B and C-Scans, advanced contour following or full 3D inspection, TecScan offer wide range of software packages like

TecView™ UT

One of the most advanced 64-bit NDT Data Acquisition & Analysis Ultrasonic Testing software!

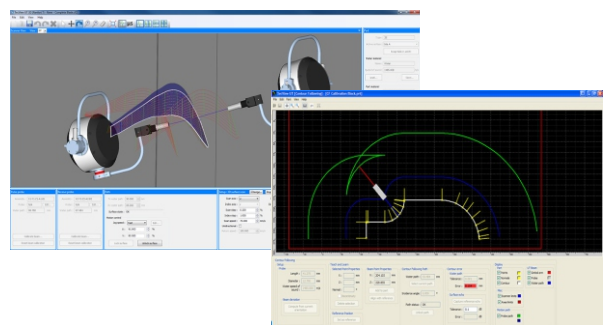
- Complete multi-tasking software
- Intuitive user interface & menu
- Full waveform digitalization
- Motion control of 12 axis
- Real-time A, B and C-Scans
- Imaging & analysis module
- Waveform processing utilities
- Image processing utilities
- Reporting capabilities



TecView™ 3D

State of art NDT UT software featuring basic and advanced contour following capabilities for the inspection of complex parts.

- Easy manual Teach & Learn with remote control pendant and remote monitor
- Part geometry extraction from CAD drawings
- Probe movement animation along part and interference check
- Automatic generation of the motor path at a given distance and angle from part
- Advanced and automated calculations for smooth multi-axis motion
- Sound path calculations for through transmission inspections
- Automatic positioning of imported scan plans



About Us

Keeping the vision of "Make in India", M/s. Arora Technologies (P) Limited is focusing on Manufacturing and Distribution of NDT Products & Accessories.

Our vision is to Innovate, design and manufacture NDT Products, Systems and Accessories for global markets by incorporating Quality & Excellence in our DNA. We are committed to build long-term relationships with our customers and pursue our business Through innovation, latest Technology & unrelenting quest for excellence.

Arora Technologies (P) Limited

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