

# OLYMPUS

Your Vision, Our Future

NONDESTRUCTIVE TESTING



## Innovation in **NDT**™

**R/D**  
TECH.

**SONIC**™

**NORTEC**™

**NDT** *engineering*  
*corporation*

**PANAMETRICS-NDT**™

# Olympus NDT

designs | manufactures  
and globally markets

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a range of innovative nondestructive testing instruments developed with a commitment to technology, design, and user friendliness. These products are used for inspection and maintenance in industrial and research fields ranging from aerospace and energy to transportation and manufacturing. Olympus NDT instruments contribute to product quality and add to the safety of infrastructure and facilities. Our leading edge technologies include ultrasound, ultrasound phased array, eddy current, and eddy current array. Olympus NDT offers products and services from high quality brands that have earned industry-wide reputations for providing cost-effective solutions and

excellent **support** and  
**customer service.**



R/D Tech® inspection systems are based on a range of NDT technologies that include eddy current, eddy current array, magnetic flux, ultrasound, and ultrasound phased array.



Panametrics-NDT™ portable ultrasonic testing equipment includes precision thickness gages, corrosion thickness gages, flaw detectors, pulser-receivers, and transducers.



Sonic® ultrasonic instruments consist of portable ultrasonic flaw detectors, transducers, and bond testing equipment.



Nortec® products include portable and rack-mounted eddy current flaw detectors, probes, and bothole scanners.



NDT Engineering ultrasonic transducers, eddy current probes and reference standards are primarily used for aerospace testing applications.

Nondestructive testing is accurate, reliable, and repeatable. Testing can be achieved by transmitting ultrasound or inducing eddy current into a material from one side, making it unnecessary to section parts. Material, time, and labor can be saved in applications that require testing for internal defects or measuring the thickness of parts where the opposite side is difficult or impossible to reach.

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### NDT Solutions

- Corrosion Testing
- Weld Inspection
- Bond Testing
- Flaw Detection
- Thickness Measurements
- Material Characterization
- Inline Testing
- Automated Systems
- Pipeline Inspection

### Industry Solutions

- Aerospace
- Infrastructure
- Energy
- Automotive
- Manufacturing
- R & D

### Technologies

-  Ultrasound
-  Ultrasound Phased Array
-  Eddy Current
-  Eddy Current Array
-  Remote Visual Inspection



With our decades of experience in ultrasonic thickness gaging, we have solutions for just about all your measurement challenges.



## Precision Thickness Gages

Accurate measurements are made with an ultrasonic transducer that transmits sound waves into the test material. These sound waves are reflected from the opposite or inside surface and travel back to the transducer. In essence, the gage listens for the echo from the opposite side. Virtually any material can be measured ultrasonically with our Panametrics-NDT™ thickness gages: metals, plastics, composites, fiberglass, ceramics, and glass. On-line or in-process measurement of extruded plastics and rolled metal is often possible, as is measurement of individual layers or coatings in multilayer fabrications.

*The 35 Series precision thickness gages feature optional live Waveform and Adjust Mode. 35DL and 35DL-HP have an alphanumeric data logger.*



*The Magna-Mike® thickness gage uses a magnetic probe and a small steel target ball that can be scanned inside plastic bottles and non-ferrous materials.*



*Among the 25DL family of gages is the 25MULTI PLUS that measures three layers plus total thickness simultaneously.*





QUALITY



## Ultrasonic Corrosion Thickness Gages

Corrosion thickness gaging is a well established technique for quickly and accurately measuring the remaining metal wall thickness of internally corroded or eroded pipes, tanks, and structural parts. Most models feature sophisticated on-board data loggers for analysis of inspection data.

*Pocket-sized corrosion thickness gages offer many practical measurement features. Choose from MG2, MG2-XT and MG2-DL.*



*The 37DL PLUS advanced versatile thickness gage is the standard in the industry and features Thru-Coat®, Echo-to-Echo, B-scan, EMAT, and optional Oxide/Scale measurement .*



## Ultrasonic Flow Detectors



*The new EPOCH XT features a bright multi-color LCD, digital receiver filtering, versatile battery options, dual USB ports, powerful data management, and numerous software features in a compact unit with a sealed case designed to meet IP67 requirements. This unit is EN 12668-1 compliant.*

Olympus NDT flaw detectors offer unmatched capability for a wide variety of test applications. We offer several brands with varying measurement features and application-specific software options to meet the demands for both basic and challenging inspection requirements. Ultrasonic flaw detection is widely used for locating and sizing hidden cracks, voids, disbonds, and similar discontinuities in welds, forgings, billets, axles, shafts, tanks and pressure vessels, turbines, and structural components.



*The EPOCH LT is a truly handheld, affordable flaw detector with many standard features and software options. This unit is only 1.5 inches thin (38 mm). The EPOCH LT weighs only 2.35 lbs. (1.0 kg)*



For versatility and ease of use, look no further than our EPOCH, Sonic, and OmniScan® flaw detectors.

Panametrics-NDT™ EPOCH flaw detectors have earned a reputation for excellence since the introduction of the world's first portable digital flaw detector - the EPOCH 2002 - in 1984.

Sonic flaw detectors are widely known for their rugged design and SmartKnob™ technology. They are the instruments of choice for many military nondestructive testing applications worldwide.

The portable R/D Tech OmniScan MX UT allows inspections simultaneously combining TOFD with conventional pulse echo testing. TOFD is a technique that uses two probes in pitch-catch mode. They now include EPOCH 4PLUS, 4, XT, and LT.



*The OmniScan MX with UT module offers TOFD (Time-of-Flight Diffraction) with conventional flaw detection and A-scan, B-scan, and C-scan displays.*



*The Sonic® 1200 series offers high ultrasonic resolution in a lightweight portable ultrasonic flaw detector with innovative design features and an uncluttered keypad for simple operation.*



Eddy current technology is fast, simple, and accurate. It is widely used in aerospace, automotive, petrochemical, and power generation industries.



## Eddy Current Flaw Detectors

Eddy current testing (EC) utilizes principles of electromagnetic induction to inspect metallic parts. An eddy current probe generates a magnetic field that induces currents that flow in a test piece, which affect the magnetic field and ultimately the magnitude and phase of the voltage in the coil. Applications include the detection of surface or near-surface defects, alloy sorting, conductivity thickness measurements, and the inspection of bolt holes and other cylindrical areas.

Nortec<sup>®</sup> eddy current instruments include rugged portables and rack-mounted units for laboratory, field, production, military, and aerospace applications.

*The full-featured Nortec 2000 series offers high display resolution, multiple scanner support, and single or dual frequency.*

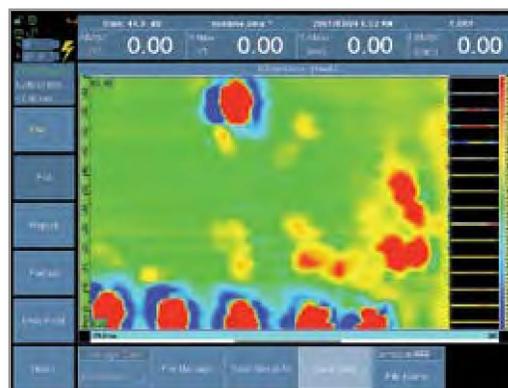


*The new Nortec 500, 500S, and 500D flaw detectors offer full VGA color display, internal balance coils, VGA output, and a bidirectional USB port. The 500S also offers conductivity measurements and scanner capability. The 500D additionally offers dual frequency capability.*



# RUGGED

The OmniScan® MX features EC (eddy current) and ECA (eddy current array) modules. Eddy current array technology allows to electronically drive several sensors positioned side-by-side in the same probe assembly.



*This OmniScan ECA screen shows data acquisition in a C-scan for quick and efficient defect detection.*



*The OmniScan MX EC software includes impedance plane and strip chart display, conductivity and thickness measurement mode, and C-scan surface mapping.*



*Nortec eddy current scanners offer a full range of application solutions for airframe hole inspection with or without fasteners, wheel bolt hole inspection, surface inspection, post production testing for cracks, tube plug testing, and low frequency inspections through multiple aircraft skin layers.*



Olympus NDT is the industry pioneer in ultrasound phased array technology. In the last 12 years, we have employed more than a thousand phased array units worldwide. Trust the undisputed leader.



## Phased Array Instruments

Phased array technology uses multiple ultrasonic elements and electronic time delays to create beams that can be steered, scanned, swept and focused electronically resulting in fast inspection speeds, full data storage, and multiple angle inspections. Phased arrays produce detailed cross-sectional pictures of internal structures similar to medical ultrasound images.



*OmniScan® MX PA. This rugged, portable R/D Tech OmniScan with phased array module offers high-speed acquisition rate and powerful software features to efficiently perform manual and automated inspections.*



*The OmniScan MX is a modular platform that allows you to switch among four technology modules: UT, PA, EC, ECA. The platform detects the module and the technology supported.*

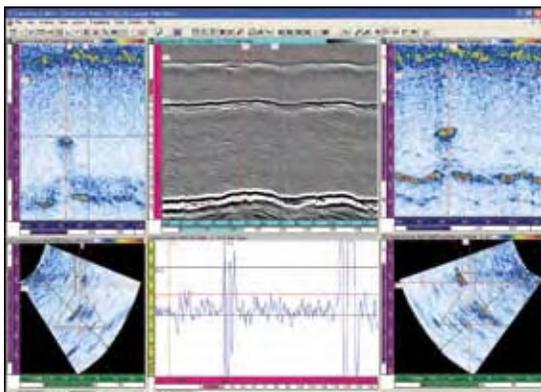


# LEADERSHIP

Olympus NDT is the proven leader and innovator in ultrasound phased array technology. For more than 12 years, the R/D Tech facility has applied this groundbreaking technology to real-world applications. From portable products to large automated systems, Olympus NDT can provide you with cost-effective solutions for a wide variety of applications.



*FOCUS LT. This compact ultrasound and phased array acquisition instrument offers a portable and reliable solution to the most demanding automated inspection requirements.*



*TomoView™ is a powerful and versatile software package that manages the acquisition of UT (ultrasonic testing) signals combined with the real-time imaging of these signals, as well as offline analysis of previously acquired data files. TomoView will drive the majority of R/D Tech instruments including the OmniScan units.*



RELIABLE

## Automated Systems

Olympus NDT delivers reliable, high performance automated systems based on various technologies. Automated inspection systems guarantee complete coverage and high performance in terms of productivity, sensitivity and repeatability of flaw sizing in testing processes that often require continuous testing with little down time. Digitization allows for easy integration into computer-based manufacturing, monitoring, and reporting systems.



*The PV-100 and PV-200 portable systems typically feature an OmniScan, a manual scanner with water feed, and software for cost-effective inspections.*



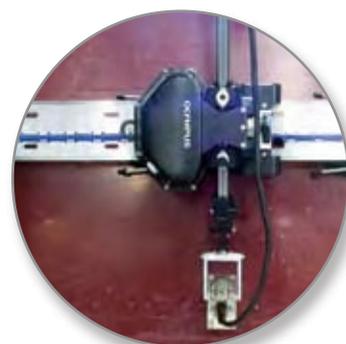
*The PipeWIZARD® is specifically designed for the automated inspection of pipeline girth welds using phased arrays for fast weld-to-weld inspection.*



When it comes to superior data acquisition and technological advancements, Olympus NDT Automated Systems are the logical choice.

Olympus NDT offers automated systems for a large number of applications:

- TomoScan III™, TomoScan FOCUS, and FOCUS LT combine phased array and conventional ultrasound along with superior electronics.
- MultiScan MS5800 systems can be used for UT weld inspection and corrosion mapping, EC tube inspection, and ECA for bar, rod, and tube inspection.
- OmniScan® MX, PipeWIZARD, and additional systems use TomoView™ software and various manual and motorized scanners.



*Olympus NDT offers a wide variety of rugged manual and motorized scanners designed for automated inspections.*



*MS5800 automated inspection systems combine ultrasound and eddy current technologies. They are ideally suited for in-service inspections.*



A line of versatile portable and rack-mountable instruments is the cornerstone for inline inspection solutions offered by Olympus NDT.



## *Inline Inspection Systems*

Inline inspection of steel tubes, bars, rods, plastic pipes, and various manufactured components detects flaws early in the production process and improves product quality. Olympus NDT offers a host of integrated high-speed inspection solutions including data acquisition units, probes, and sophisticated software for data analysis.



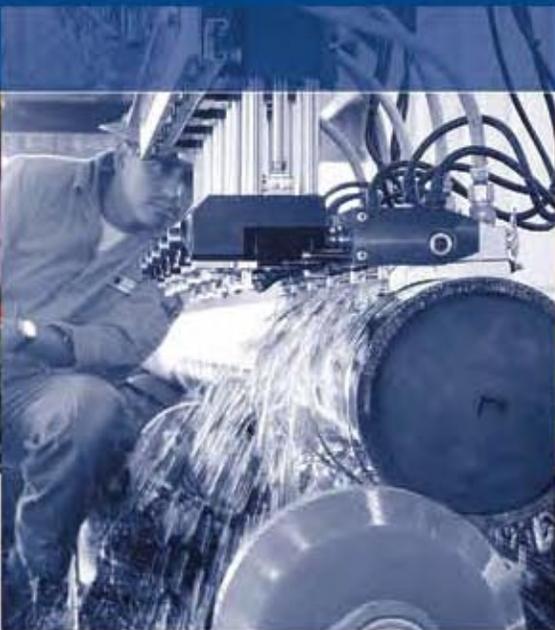
*The QuickScan® family of data acquisition units provides a host of inline solutions. QuickScan UT for multi-channel applications with conventional ultrasound, QuickScan PA and PA Dual using phased array ultrasound, and QuickScan EC for multi-channel inspection using eddy current.*



### ***Tube full-body inspection using linear phased array probes.***

*Designed for OCTG production, this R/D Tech system features a linear phased array probe cluster composed of several water wedges, each dedicated to one or two inspection modes. Taking full advantage of the phased-array technology, this system can accommodate large helical pitch (up to 120 mm) with homogeneous sensitivity for better repeatability.*





# INNOVATION



### **Bar volume inspection using cylindrical phased array probes.**

This R/D Tech multi-channel system is optimized for high-speed bar inspection (up to 3 m/s) on hot rolled bars with straightness up to 4 mm/m on rough surfaces. Phased array technology offers exceptional performance when detecting small defects (0.4 mm SDH and less) in volumetric inspections as well as high inspection speeds and complete 360-degree coverage for seamless or welded pipes less than 4 inch in diameter.



The new OmniScan iX is a high-speed industrial ultrasonic flaw detector designed for immersion or non-immersion testing of critical industrial components. This powerful, versatile instrument can be configured for 2, 4, or 8 conventional ultrasound channels.



# HIGH STANDARDS

## Probes and Transducers

All of our probes and transducers are available in various frequencies, element configurations, connector styles, and cable types. Our decades of experience in the design and manufacture of high quality, rugged probes and transducers help you to meet global inspection requirements. If our standard designs do not meet your specific requirements, please ask us about custom configurations.

### **Panametrics-NDT™ Ultrasonic Transducers**

More than 5000 ultrasonic transducer types are available in many styles, element diameters, frequencies, and connector choices. They offer quality, repeatability, and great performance.

### **Harisonic® Ultrasonic Transducers**

Harisonic transducers provide optimal performance and great sensitivity in immersion testing applications.

### **R/D Tech® Phased Array Probes**

Phased array application-specific probes have a frequency range from 0.5 MHz to 18 MHz and are available with 16, 32, 64, or 128 elements. Special probes may have several hundred elements. They may be medium- or highly-damped, or of the immersion or contact type.





Olympus NDT offers thousands and thousands of probes and transducers to choose from. For just about every application, we have the one you need!

#### R/D Tech Eddy Current Probes for Tube Inspection

These lightweight but solidly constructed eddy current, remote field, magnetic flux leakage, and IRIS ultrasound probes are used for ferromagnetic or non-ferromagnetic tube inspection applications.

#### Nortec® Eddy Current Probes

A complete line of standard and application-specific eddy current probes is available in many configurations and case styles.

#### R/D Tech Eddy Current Array Probes

These probes for corrosion detection, friction stir weld inspection, and surface and sub-surface detection accelerate the inspection process.

#### NDT Engineering Probes, Transducers, & Reference Standards

This brand offers more than 10,000 standard and special design eddy current probes, reference standards, ultrasonic transducers, and accessory items used primarily in aerospace applications.

*No other NDT company offers a larger selection of probes and transducers in these technologies:*

- *ultrasound*
- *phased array*
- *eddy current*
- *eddy current array*





*In addition to the major products featured on the previous pages, Olympus NDT offers other instruments and accessories to meet the demands of a wide variety of specialized inspection needs.*

*Sonic BondMaster™ 1000+ is a full multi-mode composite bond test instrument that employs resonance, mechanical impedance analysis, and ultrasound pitch-catch technologies to offer the best possible inspection method for a wide range of composite materials.*



*Panametrics-NDT™ ultrasonic pulser-receivers include computer- and manually controlled models and a high-voltage unit. Ultrasonic preamplifiers as well a remote pulser amplifier are also available.*



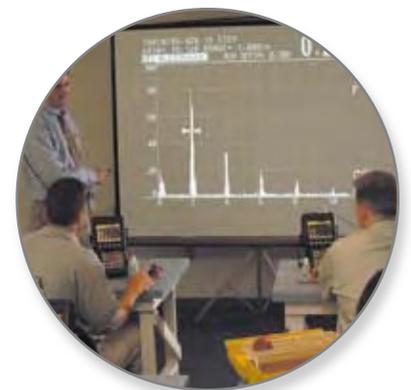
Train with the best! When you attend Olympus NDT classes, you will receive practical hands-on training using the most up-to-date instrumentation.

### Training

- Level I and II UT, and Advanced Detection and Sizing UT
- The Training Academy offers classes on Phased Array and other technologies in conjunction with several certified international training partners.

### Books

Our book series provides in-depth information while focusing on practical hands-on examples of ultrasound phased array technology and techniques. These educational books are filled with formulas, graphs, and illustrations along with clear explanations of inspection procedures. They are meant for both the expert as well the person who wants to know more about phased array technology and its applications.



*Training at Olympus NDT is fast-paced and solution-oriented. Expert instruction and advanced equipment help participants maximize learning experiences.*

*Each book is expertly written, attuned to practical applications, and up-to-date in NDT technology. Comprehensive coverage of important themes makes them important additions to your technical library.*



Olympus. We are the RVI technology leaders. Look no further.



## Remote Visual Inspection

Olympus, the world leader in remote visual inspection technology, offers a comprehensive product line of industrial videoscopes designed to meet the needs of many applications.



### **IPLEX II R Series** *Basic and Advanced Videoscopes*

Our latest line of advanced videoscopes offers a full range of features: clear, high-quality images, high maneuverability, still image and movie recording, and stereo measurement capabilities.

IPLEX II R Series image quality continues to advance with our new WIDER image processing algorithm, bringing out details in shadows or bright spots that cannot be observed with standard imaging technology.

### **IPLEX SX II R Series** *Videoscopes with Maximum Versatility*

Our most versatile videoscope features interchangeable insertion tubes to adapt your videoscope to many different applications. Interchangeable insertion tubes are available in 4.4 mm, 6.0 mm or 6.2 mm diameters and in lengths ranging from 3.5 m to 19 m.

### **Portable Videoscopes** *IPLEX MX R Series*

IPLEX MX R videoscopes are the ideal choice for applications where maximum portability and mobility are required. The compact, battery-powered IPLEX MX R is now available in 4.4 mm diameter with lengths ranging from 1.5 m to 3.0 m.





## *Applications Assistance*

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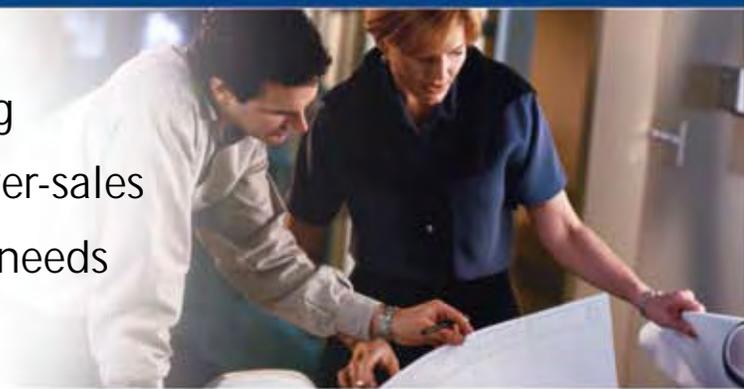
Olympus NDT offers a large selection of instruments and systems as part of its continuing effort to help you solve every nondestructive testing problem – from the basic to the very complex. We welcome the most challenging applications!

Our sales locations and engineering facilities have dedicated staff members that can answer all of your questions on applications, technologies, and instrument operation. These dedicated professionals are just one phone call or e-mail away from assisting you in selecting the most cost-effective solution to your application challenge.

We have application labs available in all of our major facilities in the world to assist customers in selecting the optimum Olympus NDT instrumentation, establishing correct instruments setups, and creating test procedures. We invite customers to send in material samples along with a description of test requirements. We will provide a no-charge evaluation and present a report on our test capabilities.

You can find immediate application answers on our website **[www.olympusNDT.com/applications](http://www.olympusNDT.com/applications)**, which provides myriad Application Notes describing detailed procedures on flaw detection, thickness gauging, and material characterization.

Our quality policy incorporates a strong customer orientation with dedicated after-sales service to reliably meet the customer's needs in a prompt and supportive fashion.



## *Customer Support*

Olympus NDT is committed to providing the very best technical support.

Our professionally staffed service centers worldwide can repair or calibrate your Panametrics-NDT, R/D Tech, Sonic, or Nortec equipment.

Visit **[www.olympusNDT.com/support](http://www.olympusNDT.com/support)** to locate the service center near you.

For immediate assistance please call (1) 781-419-3900 or 877-225-8380 toll free (North America), or send an e-mail to **[customer.service@olympusNDT.com](mailto:customer.service@olympusNDT.com)**.

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## ***Global Presence, Local Representation***

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The vision of Olympus is to become the leader in the NDT market by offering the Olympus NDT ultrasonic (UT) and eddy current (EC) technologies along with its remote visual inspection (RVI) portfolio. Combined, Olympus has now more than 1000 employees at many industrial locations throughout the world who are dedicated to providing innovative products, superior support and service, and customer-focused application assistance.

Olympus NDT is headquartered in Waltham, Massachusetts, USA with manufacturing and engineering facilities in Quebec (Canada), Kennewick (WA), Kent (WA), East Hartford (CT), and State College (PA).

### **Olympus NDT Corporation**

**48 Woerd Avenue, Waltham, Massachusetts, USA.**

**Tel: 781-419-3900; [info@olympusNDT.com](mailto:info@olympusNDT.com)**

Olympus NDT is also represented by a network of well-trained, experienced representatives located in most major industrial regions around the world.

Visit **[www.olympusNDT.com](http://www.olympusNDT.com)** to locate your nearest representative.



Your Vision, Our Future

Visit  
[www.olympusNDT.com](http://www.olympusNDT.com),

your one-stop source for Nondestructive Testing technologies and solutions. The site features our complete product line and is also an excellent source for accessing educational resources including application notes, training, books, theories, and technical information. Our site is available in the following languages:

English | Français | Deutsch | Español | 日本語 | 中文