

The OmniScan MX2 Phased Array, ultrasonic flaw detector



African Fusion takes a look at Olympus' second generation OmniScan MX2 system, which has been adopted for use in PAUT training by SAIW.

With thousands of units in use throughout the world since its first releases some 10 years ago, the Olympus OmniScan MX phased array ultrasonic testing (PAUT) system has been one of the most successful portable and modular phased array test instruments produced to date.

This high-end, scalable platform is designed to deliver true next-generation NDT performance, with further increases in testing efficiencies for manual and advanced PAUT applications, faster setups, test cycles and reporting – and the system retains universal compatibility with all future- and previous-generation MX phased array and ultrasound modules.

The MX2 simplifies and speeds up the setup process with its intuitive Weld Overlay software feature, so NDT inspectors can start testing immediately. Featuring the industry-standard phased array user interface with faster-than-ever performance, a bigger and brighter 10.4 inch screen, new and unique intuitive touch-screen capabilities and faster data transfer, testing times and times between inspections are reduced, making for much better project completion and response rates.

Over the years, Olympus has devoted considerable effort into creating and deploying complete market solutions to meet specific customer needs. For small diameter pipe inspection, for example, when coupled with the COBRA manual scanner,

the OmniScan MX2 flaw detector is capable of inspecting pipes ranging from 21 mm OD (0.84-inch) to 115 mm (4.5-inch). With its very slim design, this manual scanner is ideal for inspecting pipes in areas with limited access.

For pressure vessels, complete inspection of welds can be performed manually or in a single scan using a scanner set up for a turnkey solution. Inspection results are available immediately, enabling detected problems to be fixed without delay.

The OmniScan PA system with the HydroFORM scanner offers an excellent inspection solution for the detection of wall-thickness reductions resulting from corrosion, abrasion, and erosion. For this application, PAUT offers superior inspection speed, data point density, and detection sensitivity.

NDT SetupBuilder

NDT SetupBuilder design software is an integral part of the Olympus line of automated and semi-automated ultrasonic testing products. NDT supervisors can use NDT SetupBuilder software to simulate the inspection strategy in order to determine the appropriate number of beams and angles. This configuration can be imported into the OmniScan MX2, reducing configuration time and manipulation errors.

The Calibration Wizard ensures that every focal law in every group is the direct equivalent of a single-channel conventional flaw detector for compliance to codes. The user is guided step-by-step through Velocity, Wedge Delay, Sensitivity, TCG, DAC, AWS, and encoder calibrations. TOFD PCS calibration and lateral wave straightening can also now be performed automatically.

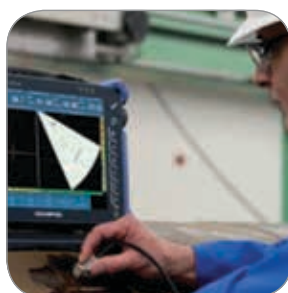
Analysis and OmniPC

This new software is the most efficient and affordable option for OmniScan data analysis and features the same analysis and reporting tools provided in the OmniScan onboard software, with the added flexibility that it can be run on a personal computer.

With OmniPC, the OmniScan unit can now be used strictly for scanning while analysis is performed simultaneously on a personal computer. This software can also be used in conjunction with extra-large screens for increased visibility, and with keyboard shortcuts for faster operation.

The OmniScan MX2 and OmniPC can both be used to generate reports with an indication table listing up to eight readings, such as amplitude, position, and size of the defects. The report can also be customised with additional readings and comments specific to each indication – and it can be saved as an HTML document for easy sharing.

RayTracing tools allow the indication positions to be represented on the weld profile; high-resolution images can be inserted along with all relevant inspection parameters; and, thanks to NDT SetupBuilder and OmniPC, the OmniScan MX2 can be used to perform all the steps required for the inspection directly on its large touch screen or be dedicated to calibration and acquisition tasks. The OmniScan MX2 flaw detector provides powerful inspection capabilities for manual and automated applications. It can be used with a full range of probes, scanners, and accessories, making Olympus the provider of choice for petrochemical, aerospace, and other industrial markets. ■



Key new features of the OmniScan MX2

- A bright and large touch screen.
- New phased array and TOFD modules.
- New NDT SetupBuilder Design Software.
- New OmniPC Analysis Software.