Krautkrämer HydraStar
Automated robotic ultrasonic inspection solution for small to medium sized aerospace composite parts

- Leading accuracy values
- Broadest application flexibility
- 40+ years experience in composite inspection
- Improved serviceability and global support

Innovation starts here.
Configuration flexibility to match your precise application

Krautkrämer HydraStar systems are available in a wide array of constructions for specific customer application needs. Operators can choose from a variety of phased array and conventional ultrasonic application tools to efficiently conduct Pulse Echo or Through Transmission Testing of both planar and complex three-dimensional composite parts performance.

The HydraStar dual configuration consists of two robots mounted on linear slides that can operate in our patented synchronous motion for TTU inspection or be controlled independently for Pulse Echo applications.

The HydraStar single configuration consists of one robot mounted in either a fixed location with a turntable or mounted on a linear slide employing a yoke tool for TTU inspection and a complete set of Pulse Echo application tools.

Key Highlights:

- Automatic tool changer
- ALOK data compression
- Patented Reverse Phasing Contour Adaptation (RPCA)
- UT instruments compliant to all relevant NDT standards
- Compliant to main aerospace manufacturing standards
- On site UT instrument certification with our CERT-2 system
- Digital Interfaces to Manufacturing Execution System (MES)
- Data analysis to main aerospace manufacturing standards
- One software to cover scan plan set-up and scan data evaluation
- Use of standard robots with unmodified mechanics and controllers
- Geometry teach-in from CAD models, laser metrology and manual methods
- Local service support incl. global Tech-Support Team, RSA and tailor made SSA
- Use of patented AAC (Adaptive Accuracy Control) for best possible tool alignment for TTU inspection
Flexible answers for all application needs

The Krautkrämer HydraStar design incorporates several Waygate Technologies patents including wide area phased array squirters and our patented Reverse Phasing Contour Adaptation (RPCA) which result in industry leading testing performance and improve productivity for all application needs.

Conventional TTU squirters
Dual frequency inspection in a single pass using Waygate Technologies annular ultrasonic transducer design, achieving twice the throughput of conventional single channel squirters.

Wide area phased array TTU squirters
Waygate Technologies patented phased array squirters provide up to a 15 mm wide scan area in a single pass.

Phased array skin bubbler
Provides Pulse Echo inspection with up to a 86 mm track width in a single pass. Geometrical variations within the test part are compensated by Waygate Technologies patented RPCA (Reverse Phasing Contour Adaptation) method.

Phased array inside radius bubbler
Inspects concave (inner) radii in a single scan track/path. Geometrical variations within the test part are compensated by Waygate Technologies patented RPCA (Reverse Phasing Contour Adaptation) method.

Phased array outside radius bubbler
Inspects convex (outer) radii in a single scan track/path. Geometrical variations within the test part are compensated by Waygate Technologies patented RPCA (Reverse Phasing Contour Adaptation) method.

Stringer tool
Provides Pulse Echo inspection of the stringer web of T-shaped stringers or variations of it typically in a single pass at 100% coverage using a phased array probe with up to 128 elements.

For more detailed information, please visit our website or contact your local sales representative.

waygate-tech.com

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