framatome

Mono Robot NDT Systems

for Ultrasonic Inspection of Complex Components

The Mono Robot NDT Systems are our solution for best flexibility.

Challenge

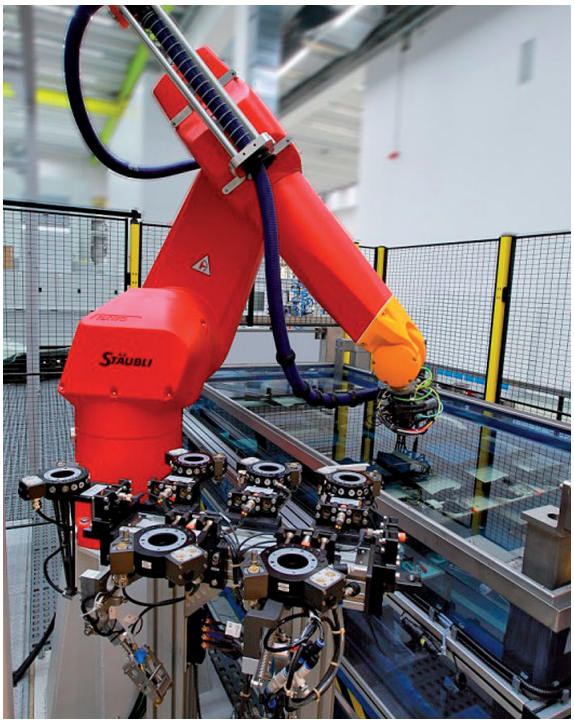
Today, aircrafts are made of more than 50 percent of composite materials (CFRP). Small to medium components, from ailerons to beams, stringers, ribs, struts, are often used in production and must be inspected with the same quality as the larger components. Thus, the testing systems have to provide high flexibility to accommodate many different shapes in fully automated inspection as well as the ability to be used with many different technologies. The necessity for high production rates has to be combined with an outstanding reliable detection quality.

Solution

The Mono Robot NDT Systems are flexible, high-efficiency machines for ultrasonic non-destructive testing (NDT). Precision 6 axis robots, with extraordinary performances, are working on 3D components (proprietary technology). The inspection volume can be increased with an additional linear or rotational axis.

The high performance robot is combined with the latest ultrasonic system SAPHIR*quantum* and tailor-made ultrasonic probes. The generic ISQUS software for control, acquisition and evaluation is an easy configurable package included in the supply. The integration of these outstanding components ensures complete inspection of your components.

Mono Robot System with two working areas



Mono Robot System with tool changer

Customer benefits

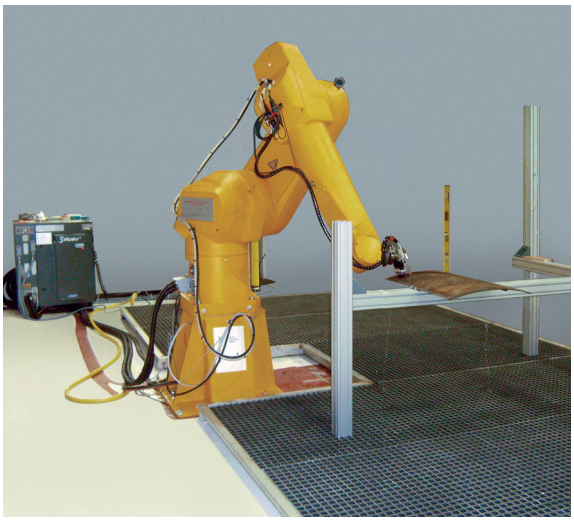
- Availability of different inspection technologies:
  - Contact technique with phased array for skins and radii
  - Through transmission for honeycomb
  - Immersion technique in a separate basin
- Excellent stability and reliability for maximized up-time
- Future proof with high flexibility for all part shapes
- Excellent performances and outstanding inspection quality

Your performance
is **our** everyday **commitment**

Technical information

- Tool changer with different probes: single or multi-element, flat or curved
- Contact technique, immersion and squirter mode
- Through transmission and pulse echo mode
- Latest light-weight composite yoke for standard squirter probes
- Immersion basin for small components
- Fully automated scanning sequences (ghost shifts)
- Flexible configuration with different robots and modular rail or turntable
- High-quality mechanics for long-term stability
- Phased array probes for flat or curved shapes
- Up to 1000 mm/sec effective scanning speed with squirter technique
- High-power pulser and high-power probes for highly attenuative components
- Integrated offline programming (OLP) for optimum coverage and anti-collision check
- Advanced ISQUS software with A-, B-, D- and C-scans (2D and 3D) and all state-of-the-art evaluation functions
- Defect representation in 3D mode
- Compatible with Airbus software NDT Kit (ULTIS®)
- The latest ultrasonic SAPHIR^{quantum} system stands for excellent performances and outstanding inspection quality

The Mono Robot NDT Systems are compatible with Airbus, Boeing, Bombardier, Embraer, Premium Aerotech, Saab requirements.



Mono Robot System operating in contact mode

Mono Robot System on rail for an increased inspection volume

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