ALSTOM Inspection Robotics’ tank floor robot allows precise corrosion mapping and flaws detection of ferritic floors, delivering high resolution scans with high positioning accuracy for improved structural assessments.

**Benefits**
- Light weight and handy
- High accuracy data acquisition and processing
- Immediate accurate wall thickness measurement of surface and back wall
- Remote control from outside the tank
- Auto-navigation & positioning
- Weld crossing capability

**Key features**
- Integrated NDT Systems
- Online measurement data monitoring
- Compatible with UT, EC, TOFD
- 3D laser scanner for automatic positioning

**For more information please contact:**
Advantec IS 株式会社
〒532 0031
大阪府大阪市浪区加島2-2-32
Phone: +06 6306 6380
Visit us online: www.advantec-is.com

**Tank floor Inspection scanner**

**Corrosion & flaws detection**

**High accuracy scanning Operation**

ALSTOM Inspection Robotics’ tank floor scanner is designed to perform accurate condition monitoring of coated and uncoated tank floors using AIR modular crawler.

The system continuously deploys Non Destructive Testing Technologies (both Ultrasounds and Eddy Current simultaneously) to scan the required surface, combined with optimized data acquisition software to deliver real-time results to the operator. The software delivers A scans, B scans and C scans, allowing for a full analysis of coating and steel thickness.

The robot’s mechanical design allows successful inspection of most of the floor surface (above 95%, depending on tank geometry) including the circular, as well as areas close to suspending pillars and below obstacles (such as delivery pipes, etc).

After set-up and calibration (below 30 minutes), the system can assess surfaces at speeds of 150mm/sec (around 40m²/hour) by adhering to the surface magnetically. The couplant used for the ultrasonic sensors is continuously fed and recovered within a filtered closed looped cycle; which allows for minimal couplant losses.

The robot unique navigation system uses advanced laser technology in order to provide both accurate positioning and guidance of the system at any time. It allows for the operator to focus on the data to be assessed; sitting either inside or outside the tank.

The lightweight design allows easy transportation and handling of the system, even for a single operator.

**Photos on the right:**
- Top: Overview of the analysis software
- Middle: Overview of the acquisition software
- Bottom: Floor corrosion mapping representation

**KEY SPECIFICATIONS**

**SUPPLY**

- Input voltage: 220 V to the base unit / 48V to the Robot
- Couplant: Automatic supply (water or other)
- Pump: 20 litre closed cycle pump

**NDT**

- Ultrasonic: 8 channels or 16 channels compatible with different sensors to adapt to coating properties and resolution requirements
- Eddy Current: Up to 8 or 16 channels

**INTERFACE**

- Communication: Ethernet 100 Mbts
- Umbilical cable: Up to 50 meters
- Laptop: Real-time data analysis – A scan, B scan and C scan available.

**Dimensions**

- Size: 410 x 200 x 410 mm
- Weight: 15kg

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