Technical
Specifications

FLOORMAP® X

MFL Array Tank Bottom Scanner

The world-leading multi-technology
tank inspection solution

Eddyfi
Technologies

FLOORMAP®X: 10TH GENERATION OF SETTING THE STANDARD

FloormapX delivers unparalleled improvements to tank bottom inspection for maximum coverage and efficiency.

Multi-technology Array Solution

MFL Array: 64 channel, 128 multi-orientated MFL sensors, configuration. It produces a highest resolution imaging and market leading Probability of Detection (PoD). On its own, MFL cannot differentiate if the corrosion is top side or bottom side of the tank bottom.

STARS: The patented technology enabling the FloormapX to differentiate between the top side and bottom side corrosion and report them separately. STARS also generates detailed top surface image profiles, even in the presence of coating, thus contributing to vital tank integrity information.

More Power for Thicker Plates and Optimal PoD

The advanced bridge design, inclusive of the most powerful rare-earth magnets, injects up to 30% more magnetic flux into the inspection surface compared to previous models. This, combined with an exceptional signal-to-noise ratio, allows the FloormapX to detect smaller defects and for the first time inspect tank bottoms up to 20 mm (3/4 in) thick with a high sensitivity.

Maximum Coverage, Critical Zone Included

Precision active steering facilitates the inspection of the critical zone to within 12mm (1/2 in) of the shell wall ensuring the FloormapX maximizes coverage in the most important areas. Its reduced profile and the ability to tilt the handle also delivers increased coverage under pipework, allowing for a more comprehensive inspection.

Features:

Precision active steering: for fast, high-quality curved scans in the critical zone. It drastically reduces dead zones by placing sensors where they are needed most, within 12 mm (1/2 in) of the tank shell. Comes with the capability to return to straight line driving at the simple push of a button.

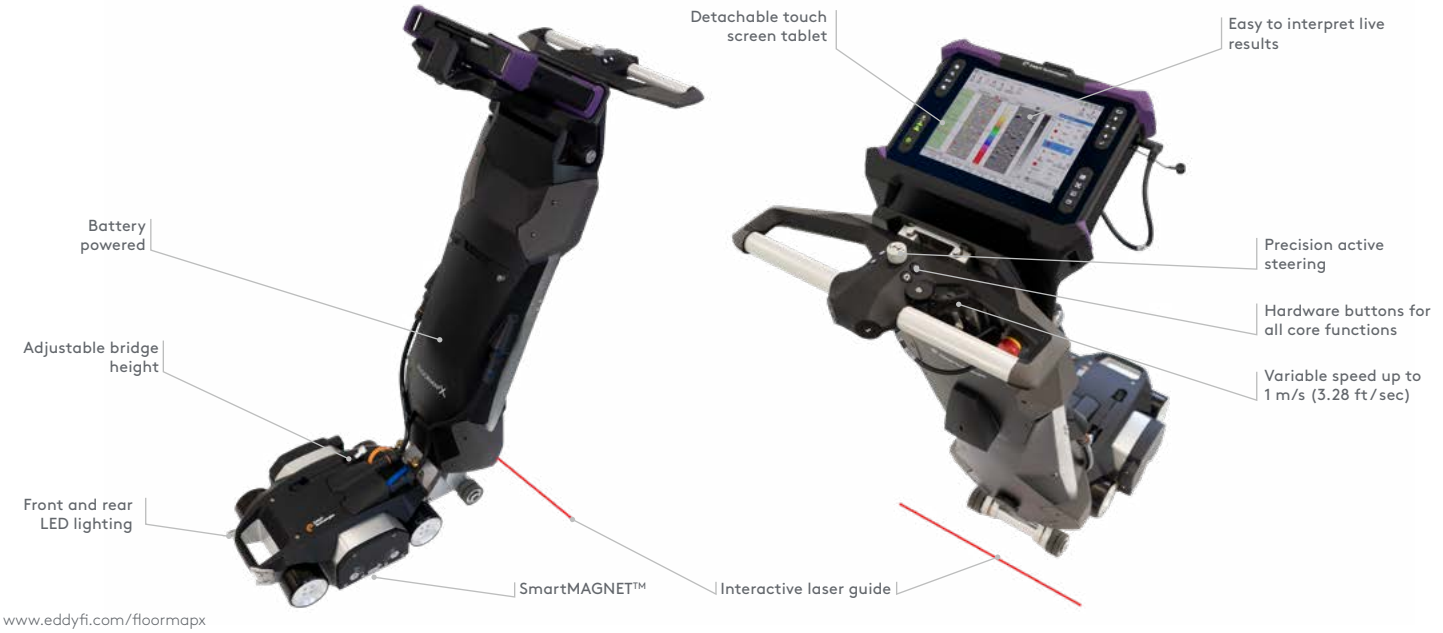
Interactive laser guide: marking the floor while you map is now fast and easy, thanks to laser-assisted defect location. The laser line is simulated live in the C-scan, allowing to correlate the physical location of tank floor defects with C-scan indications.

SmartMAGNET™: variable automated magnetic flux strength for optimized inspection performance depending on plate thickness. Besides, literally turn off powerful rare earth permanent magnets for easier storage and shipping, and safer handling.

Adjustable bridge height: reach maximum sensitivity where conditions allow, and easily raise the bridge to scan even in the most challenging conditions, such as undulated plates, repair plates and lap welds or when surface preparation is not ideal.

Onboard powerful lighting: front dimmable, focalized LEDs, with diffusing lens and rear LEDs. Based on chip-on-board technology providing high and uniform intensity, inline with API recommendations for visual inspection, to perfectly highlight product-side pitting and scan obstacles.

Easy-break™: optimized design for intuitive and ergonomic breaking of the magnets by operators.



www.eddyfi.com/floormapx

FULL FLOOR MAPPING OR FREESCAN™ MODE: THE CHOICE IS YOURS

The Floormap®X supports multiple scan modes and the capacity to map the annular plate, including the critical zone. Customizable reporting options to suit EEMUA 159 and API653 recommendations.

Inspection Flexibility with 3 Scanning Modes

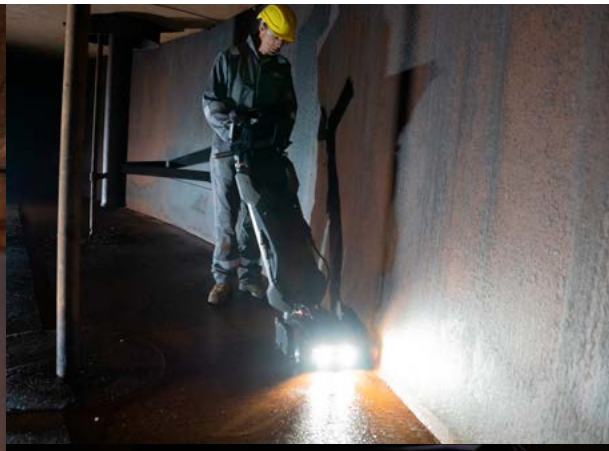
Mapping: A comprehensive inspection with full auditable data sets. Interrogate inspection data while in the tank or use the dedicated PC-based SIMS™ PRO analysis and reporting software. During a scan, the operator can see the live data for both top and bottom defects.

Freescan: A simple, fast detection mode leveraging all of the underlying technology for the best possible result. The quickest way to locate corrosion. Scan in any orientation, with no need to measure plates.

Pause on defect: A new feature built into both mapping and Freescan modes. Allows the scanner to pause during a scan for defect mark-up or prove-up. Continue the scan without missing a step; the data will be seamless.

Benefits:

- **Maximum coverage**, including critical zone
- **High-resolution** for increased Probability of Detection
- **Multi-technology** for top and bottom defect discrimination
- **Flexible scanning,** one scanner with three scan modes
- **Inspect thicker plates** up to 20 mm (3/4 in) thick
- **Unmatched reporting,** comprehensive and on-the-spot
- **10% reporting thresholds,** increase inspection intervals
- **EEMUA 159 and API 653** compliance
- **Modular design** for easier handling and transportation



SIMS™ GO

An intuitive software designed to increase workflow efficiency and produce accurate and comprehensive tank inspection data.

A first for the Floormap are real-time live scan displays during acquisition. An operator can see live MFL Array and STARS C-scan images. This feature combines seamlessly with an ability to pause the scan and use the laser-assisted defect location feature for rapid and precise defect location and identification. Prove-up times have never been so fast. Once proven, the operator can update the automated and editable indication list leading to a paperless reporting strategy.

With a minimal software button click approach, operators spend more quality time scanning. An ergonomic hardware thumb button allows operators to stop a scan, move to the next track, then start a scan without removing their hands from the drive handles or touching the tablet.

Once the inspection is complete, the removable tablet contains all the required data to produce a customizable report in accordance with EEMUA 159 and API 653 recommendations.

FLOORMAP TECHNICAL SPECIFICATION

Principle of operation	Array Magnetic Flux Leakage & Magnetic Field Reluctance (STARS)
Numbers of sensors / channels	256 Hall Effect sensors, 64 channels
Top and bottom discrimination	Yes, using STARS technology
Detection capability	as small as 20%, ø 2 mm (ø 0.080 in)
Test through coatings	Yes, if non-magnetic
Coating thickness	up to 10 mm (0.394 in)
Speed	Variable from 500 mm/sec to 1 m/sec (19.7 in/sec to 3.28 ft/sec)
Scan width	300 mm (12 in)
Scan coverage	up to 263 m²/h (2831 ft²/h)
Plate thickness range	4-20 mm (0.157 in to 3/4 in)
Positional accuracy	± 0.04% (± 3 mm over 8 metres) (± 3/32 in over 26 ft)
Method of propulsion	DC motor, anti-static drive wheels / or push pull
Dimensions (W × H × D)	510 × 980.5 × 690 mm (20 × 27.1 × 38.7 in), shipped in 2 transit cases
Operational weight	57.5 kg (126 lbs)
Minimum man-way size	500 mm (20 in)
Batteries	Supplied with 3 batteries and 1 charger for continuous use
Typical battery operational time	Up to 4 hours
Operating temperature	-10°C to 45°C (-14°F to 113°F)
Storage temperature	-35°C to 75°C (-31°F to 167°F)

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