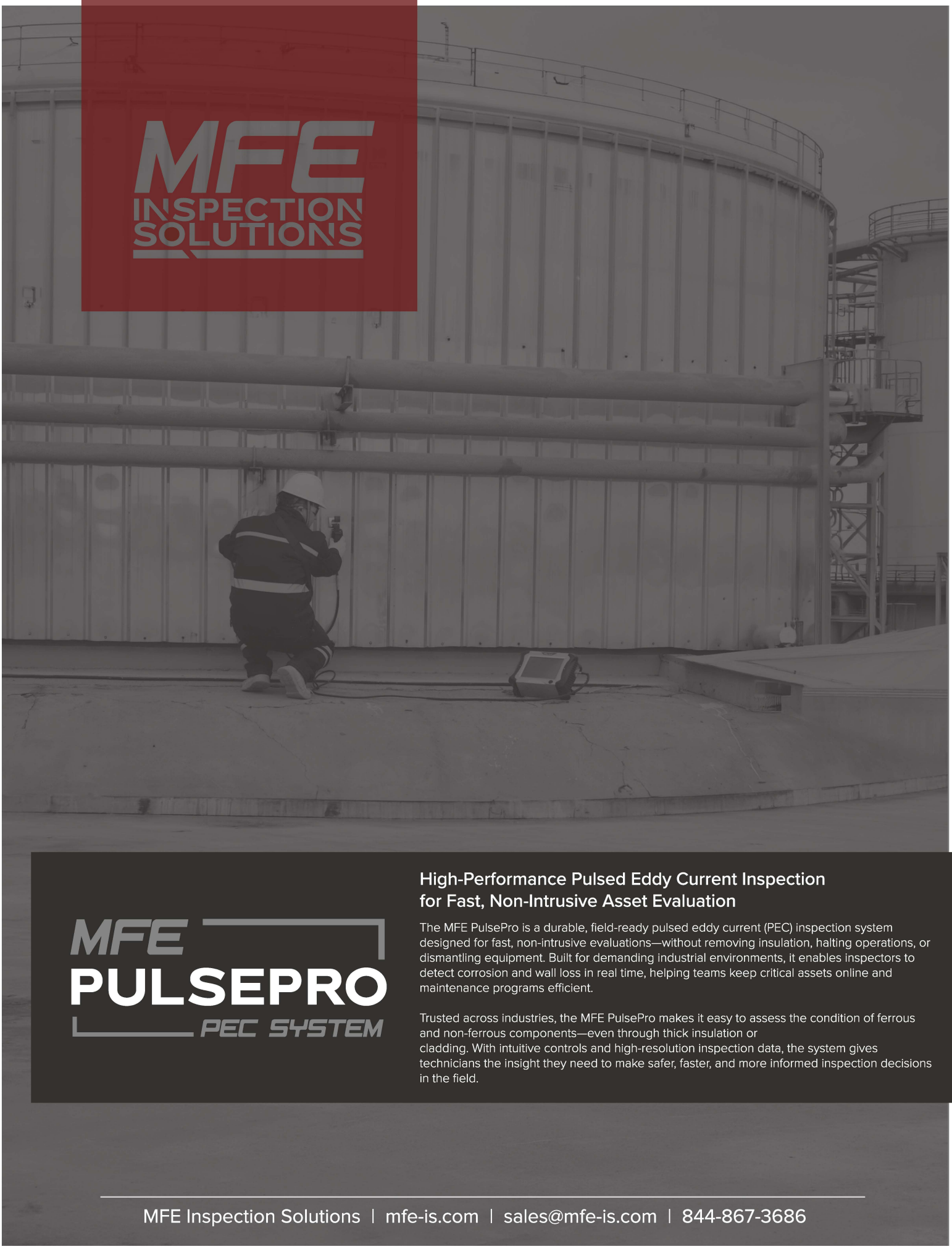


MFE INSPECTION SOLUTIONS

MFE PULSEPRO PEC SYSTEM

High-Performance Pulsed Eddy Current Inspection for Fast, Non-Intrusive Asset Evaluation

The MFE PulsePro is a durable, field-ready pulsed eddy current (PEC) inspection system designed for fast, non-intrusive evaluations—without removing insulation, halting operations, or dismantling equipment. Built for demanding industrial environments, it enables inspectors to detect corrosion and wall loss in real time, helping teams keep critical assets online and maintenance programs efficient.

Trusted across industries, the MFE PulsePro makes it easy to assess the condition of ferrous and non-ferrous components—even through thick insulation or cladding. With intuitive controls and high-resolution inspection data, the system gives technicians the insight they need to make safer, faster, and more informed inspection decisions in the field.

MFE Inspection Solutions | mfe-is.com | sales@mfe-is.com | 844-867-3686

MFE PulsePro: Pulsed Eddy Current Inspection for Fast Corrosion Screening Through Insulation

The MFE PulsePro is a rugged, field-ready pulsed eddy current (PEC) inspection system built for industrial asset integrity programs. It enables rapid screening of insulated assets so inspection teams can locate corrosion under insulation without costly insulation removal or plant downtime.

Fast Corrosion Screening Through Insulation

Scan insulated piping, vessels, and tanks to quickly identify areas of potential wall loss without insulation removal.

Built for Industrial Asset Integrity

Designed for use across refineries, power plants, and chemical facilities where corrosion under insulation poses a major reliability risk.

Scan Through Up to 300 mm of Insulation

Detect corrosion and wall thinning through insulation and metal cladding. Inspections can reach up to 300 mm (12 in) under aluminum or stainless steel jackets and 150 mm (6 in) under iron jackets under optimal conditions.*

Inspect Carbon Steel & Stainless Steel

Perform inspections on both ferrous and non-ferrous materials, including carbon steel and stainless steel, using dedicated probe configurations.

No Subscription Licensing

MFE PulsePro operates without recurring subscription licensing, allowing inspection teams to deploy the system without ongoing software or usage fees.

Screen Large Areas Quickly

Quickly scan insulated piping, tanks, and vessels to identify corrosion risks while assets remain in operation, including assets operating from −200 °C to +800 °C (−328 °F to +1472 °F).

**Maximum depth depends on inspection conditions.*

Why MFE PulsePro Stands Apart

Traditional inspection methods often require insulation removal, extensive surface preparation, or equipment shutdowns to evaluate asset condition. The MFE PulsePro streamlines this process by enabling rapid screening of insulated assets while systems remain in operation. By quickly identifying corrosion risks across large inspection areas, inspection teams can prioritize detailed follow-up testing and focus resources where they are needed most.

Feature	PulsePro PEC Inspection	Traditional UT Inspection
Inspect Through Insulation	✓	Requires insulation removal
Surface Preparation	Not required	Cleaning required
High Temperature Inspection	✓	Limited capability
Large Area Screening	Fast scanning	Point-by-point inspection

Applications

The MFE PulsePro is used across industrial facilities to screen piping, tanks, and vessels for corrosion and wall thinning. It enables inspection teams to evaluate asset condition and prioritize maintenance across large infrastructure systems.

Industrial & Chemical Processing

- Chemical plant piping and vessels
- Insulated storage tanks and reactors
- Process pipelines and transfer lines
- Asset integrity screening for corrosion and wall loss
- Large-area corrosion monitoring programs

Oil & Gas

- Insulated process piping and pipelines
- Storage tanks and pressure vessels
- Refineries and petrochemical facilities
- Offshore platforms and processing units
- Corrosion under insulation (CUI) screening programs

Power Generation

- Steam lines and high-temperature piping
- Boilers and heat exchanger piping
- Insulated vessels and plant piping systems
- Turbine auxiliary piping and process lines
- Structural steel with insulation or fireproofing

Inspection Workflow & System Accessories

The MFE PulsePro system supports a streamlined inspection workflow that combines thermal verification, rapid PEC screening, and EMAT thickness confirmation. Specialized probes and accessories allow inspectors to efficiently locate and validate corrosion across a wide range of industrial assets.

Step 1 — Thermal Verification

Use the Infrared Temperature Module to verify surface temperature conditions before inspection, ensuring measurements remain within the system's operating range.

Step 2 — Flexible Inspection Coverage

Select the appropriate PEC probe size and extension rod configuration to adapt to different asset geometries, inspection heights, and access conditions.

Step 3 — Rapid PEC Screening

If applicable, the PEC Array Probe enables rapid screening of larger inspection volumes when inspection conditions allow. **(Coming Soon)**

Step 4 — Thickness Confirmation

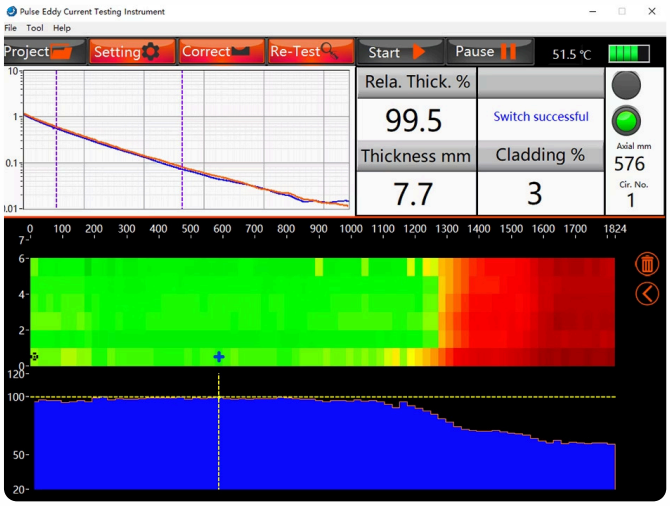
Use the EMAT Probe to confirm wall thickness without surface preparation or couplant, while the integrated RGB camera documents the inspection location.

Real-Time Corrosion Imaging & Probe Display

The MFE PulsePro delivers real-time B-Scan and C-Scan corrosion mapping directly on screen, while the probe's built-in LCD display lets operators stay focused on scanning without looking back at the main console.

Corrosion Mapping

- C-Scan heat map shows corrosion size & shape
- B-Scan displays a cross-sectional depth profile of wall thickness changes
- Software auto-highlights suspected defect areas



Built-In Probe LCD Display

- Real-time wall thickness % and distance encoder readings
- On-screen status indicators: OK, Error, Run, Pause
- K1 / K2 shortcut keys for quick probe control

Technical Data Specifications

The following table outlines the key technical specifications of the MFE PulsePro Pulsed Eddy Current Inspection System.

Product Components	Specification
Working Temperature	–10°C to +60°C (14 °F to 140 °F)
Temperature of Tested Medium	–200°C to +800°C (–328°F to +1472°F)
Power	AC 100–240 V, 50 Hz ±1%, ≤ 100 VA
Battery	Built-in rechargeable lithium battery Approx. 8 hours continuous operation
Probe Sizes	Small (P1): 106 × 61 × 52 mm (≈4.2 × 2.4 × 2.0 in) 0.5 kg (≈1.1 lb) Medium (P2): 148 × 73 × 192 mm (≈5.8 × 2.9 × 7.6 in) 1 kg (≈2.2 lb) Large (P3): 186 × 95 × 97 mm (≈7.3 × 3.7 × 3.8 in) 1.5 kg (≈3.3 lb)
Probe Cable Length	5 m (≈16.4 ft) standard 30 m (≈98.4 ft) optional
Max Cladding Thickness	≤300 mm (12 in) stainless steel/aluminum ≤150 mm (6 in) iron
Wall Thickness Detection Range	2–100 mm (0.08–4 in)
Pipe Diameter	≥21 mm (0.83 in)
Metal Protective Layer Thickness	≤1 mm (0.04 in)
Repeated Detection Accuracy	±2%
Corrosion Defect Sensitivity	5% (volume ratio)
Measuring Speed	Up to 15 measurements per second depending on wall thickness

Contact MFE Inspection Solutions

MFE Inspection Solutions supports inspection teams with advanced technologies for asset integrity and corrosion detection. Our inspection specialists can assist with PulsePro demonstrations, configuration, and deployment support for your inspection program.

Scan to Learn More

Scan the QR code to visit the MFE PulsePro product page and access additional information, documentation, and product resources.

SCAN ME