



Lyft™

Pulsed Eddy Current Reinvented



Lyft

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PEC REINVENTED: CUI PROGRAMS REDEFINED

Corrosion under insulation (CUI) is possibly the greatest unresolved asset integrity problem in the industry. Current methods for measuring wall thickness with liftoff, without removing insulation, all have severe limitations and existing pulsed eddy current (PEC) solutions rely on outdated technology. It's time for evolution. It's time for *Lyft*™.

The Evolution of PEC

Eddyfi introduces *Lyft*—a reinvented, high-performance PEC solution. The patent-pending system features a portable, state-of-the-art instrument, real-time C-scan imaging, fast data acquisition (up to 15 readings per second) with grid-mapping and dynamic scanning modes, and flexibility with long cables (20 m/65 ft). It can also scan through thick metal (up to 38 mm / 1.5 in) and insulation (up to 152 mm / 6 in liftoff), as well as aluminum, stainless steel, and galvanized steel weather jackets.

Reliable and Repeatable Results

The *Lyft* software is packed with automation and advanced algorithms that remove operator-specific dependence, thanks to the power of the SmartPULSE™ technology. It automatically optimizes pulser and receiver parameters (gain, duration, time gates, filters, etc.). SmartPULSE also optimizes wall thickness (WT) measurements, which ensures optimum performance and repeatability, while limiting the need for advanced knowledge of pulsed eddy current.

Powerful Embedded Software

The multi-touch, user-friendly software includes several innovative features, including real-time C-scan imaging (grid mapping and dynamic modes), complete WT measurements (ID and OD corrosion), as well as complete inspection management and reporting capabilities.

The Best of PEC Made Portable

The *Lyft* instrument is sealed and designed for IP65. Its magnesium alloy casing is tough, water and dust resistant, and cools without any external air exchange. The adjustable stand, the top handle, and four corner anchor points make it practical for on-site inspections. The embedded and portable Windows® PC offers standard connect-anywhere capabilities and advanced productivity tools that optimize field testing. The premium-quality 26.4 cm (10.4 in) LED display is optically bonded, non-reflective, comes with 3 mm (1/8 in) strengthened glass, and is designed for gloved hands, under any lighting conditions. The system also comes with two, hot-swappable batteries for extended battery operation.

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Heavy-duty bumpers, hooked for harnessing

Quick Copy: Transfer all inspection files to USB at the touch of a button

Powerful connectivity

Protective doors

10.4", non-reflective, backlit, high-resolution multi-touch display

Battery life (typical): 6–8 hours



A NEW KIND OF PEC

Eddyfi has garnered R&D, a world-class portable instrument, software, sensors, and accessories, as well as dedicated application engineers and support teams to transform PEC into a technique capable of achieving its full potential. Who else but Eddyfi to reinvent an eddy current technique and redefine CUI programs.

Optimized Performance for WT and Liftoff

The **Lyft** solution includes three plug-and-play probes of different sizes for the right balance between WT and liftoff. The probe family allows enough flexibility to support metal thicknesses up to 38 mm (1.5 in), 152 mm (6 in) insulation, stainless steel/aluminum/galvanized steel weather jackets, and the capability to inspect the hard-to-reach areas of varying geometries. All the probes have an embedded encoder and a keypad that makes operation easy. Accessories include poles (up to 4.6 m/15 ft) and long extension cables (15 m/50 ft) for rope access.

Get Eddyfi Certified Anywhere

Our offices in Québec, Houston, Lyon, and Abu Dhabi are geared to offer PEC training (at our offices or at your site) that will give you the necessary knowledge and skills to efficiently use PEC when inspecting assets.

PEC Probes

Built-in Controls: The PEC probes for **Lyft** are designed with control buttons to be easily able to operate inspections without having to manipulate the instrument itself.

Encoder: The high-precision 20.53 counts/mm encoder enables exactly positioning defects for targeted mitigation.

LEDs: The green and red LEDs notify the user of various conditions, for example: when the scan is being performed too quickly, the readiness of **Lyft**, whether you are outside the scan zone, the SmartPULSE PEC autoset status, and so forth.



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12-pin I/O connector

Rugged, easy-to-use keypads

27-pin PEC connector

Portable, rugged casing designed for IP65

Specifications

Instrument

Dimensions (W×H×D)		355×288×127 mm (14.0×11.3×5.0 in)
Weight	With batteries	6.6 kg (14.5 lb)
	Without batteries	5.7 kg (12.5 lb)
Volume		13 L (791 in³)
Power requirements		100–240 VAC, 50–60 Hz
Power supply		Direct VAC or onboard batteries
Batteries	Type	Li-ion, rechargeable, DOT compliant
	Typical life	6–8 hours
Display		<ul style="list-style-type: none"> • 26.4 cm (10.4 in) • Non-reflective (AR coating) • Anti-fingerprint (oleophobic coating) • 3 mm (1/8 in), chemically strengthened glass cover • Optically bonded LCD and touchscreen • Passive backlight enhancement
Video output		HDMI
Storage		SSD, 100 GB
Cooling		Sealed and fanless
Encoders		2 axes, quadrature
Connectivity		Gigabit Ethernet, Wi-Fi, Bluetooth®, USB 2.0 (×3)
Probe recognition and setup		Automatic

Environmental

IP rating	Designed for IP65
Operating temperature	0–40 °C (32–104 °F)
Operating humidity	95 %, non-condensing
Compliance	ASME, EN 61010-1, CE, WEEE, FCC Part 15B, ICES-003, AS/NZS CISPR 22, RoHS

Probes

Models	<ul style="list-style-type: none"> • Liftoffs: 0–152 mm (0–6 in), 0–89 mm (0–3.5 in), 0–25 mm (0–1 in) • Built-in encoder • Remote control keypad • Lyft 27-pin Fischer connector • Heavy-duty 5 m (16.4 ft) cable
Testing temperatures	<ul style="list-style-type: none"> • Carbon steel structures: –150 °C to 500 °C (–238 °F to 932 °F) • Weather jackets: maximum 70 °C (158 °F)
Accessories	<ul style="list-style-type: none"> • Extension cable, 15 m (50 ft) long • Telescopic extension pole with embedded remote control keypad, up to 4.6 m (15 ft) long

Performance

Nominal wall thickness	Up to 38 mm (1.5 in) [plans to reach 63.5 mm (2.5 in)]
Insulation (liftoff)	0–152 mm (0–6 in) [plans to reach 203.2 mm (8 in)]
Data acquisition	Up to 15 points/s
Dynamic scan speed	Up to 75 mm/s (3 in/s)
Grid-mapping scan speed	Instant, less than 1 second (typical)
Typical sizing accuracy	10 % (defects larger than probe footprint)
Pipe diameter	Down to 102 mm (4 in)
Weather jackets	<ul style="list-style-type: none"> • Stainless steel up to 1.5 mm (0.06 in) • Aluminum up to 1 mm (0.04 in) • Galvanized steel up to 0.5 mm (0.02 in)
SmartPULSE	<ul style="list-style-type: none"> • Automatic configuration of PEC pulser-receiver parameters • Full thickness sensitivity (OD and ID flaw detection) • Reliable measurements even with lift-off variations, weather jackets overlaps, straps, and corrosion scabs • Repeatability optimization • One-point calibration (on nominal wall or known thickness value) and auto-normalization

Probe Selection Table

			INSULATION / COATING THICKNESSES												
			0.00 mm	6.35 mm	12.70 mm	19.05 mm	25.40 mm	38.10 mm	50.80 mm	63.50 mm	76.20 mm	88.90 mm	101.60 mm	127.00 mm	152.40 mm
			0.00 in	0.25 in	0.50 in	0.75 in	1.00 in	1.50 in	2.00 in	2.50 in	3.00 in	3.50 in	4.00 in	5.00 in	6.00 in
WALL THICKNESSES	3.18 mm	0.125 in	PEC-025	PEC-025	PEC-025	PEC-025	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152
	6.35 mm	0.250 in	PEC-025	PEC-025	PEC-025	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152
	9.53 mm	0.375 in	PEC-025	PEC-025	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152
	12.70 mm	0.500 in	PEC-025	PEC-025	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152
	15.88 mm	0.625 in	PEC-025	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	N/A
	19.05 mm	0.750 in	PEC-025	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	N/A
	25.40 mm	1.000 in	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	N/A
	31.75 mm	1.250 in	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	N/A
	38.10 mm	1.500 in	PEC-089	PEC-089	PEC-089	PEC-089	PEC-089	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	PEC-152	N/A

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