

# EDDYFI LYFT

Pulsed Eddy Current Probes



# WE ARE EDDYFI TECHNOLOGIES

Non-destructive testing (NDT) of critical components is a vital part of asset integrity management and safety in many industries such as the oil & gas and power generation industries.

Corrosion under insulation (CUI) is one of the chemical processing industry's worst problems, the cost associated to mitigating it astronomical.

To offer a truly powerful and modern solution to address the CUI challenge, Eddyfi Technologies has spared no effort to develop Eddyfi® Lyft®, which completely reinvents pulsed eddy current (PEC) technology. The patent-pending solution features a state-of-the-art portable instrument with real-time C-scan imaging, fast data acquisition, as well as grid-mapping and dynamic scanning modes. The solution is designed to scan metals as thick as 100 mm (4 in), non-conductive insulation up to 300 mm (12 in) thick through aluminum, stainless steel and galvanized steel weather jackets, and supports pulsed eddy current array (PECA™).

Lyft is packed with automation and advanced algorithms that remove operator-specific dependence. Thanks to the power of SmartPULSE™ technology, pulser and receiver parameters (gain, duration, time gates, filters, etc.) are automatically optimized. It also optimizes wall thickness measurements, which ensures optimal performance and repeatability.

Eddyfi Technologies is dedicated to PEC. This is why we want to offer the best selection of probes to match all your application needs.

Eddyfi Technologies is headquartered in beautiful Québec, Canada, at the heart of the city's advanced NDT cluster. We are the most dynamic company in the field of advanced NDT equipment—we've made it our mission to push the limits of electromagnetic testing to new heights, which we're proving again with Lyft and its line of probes.

If, for some reason, the probes herein do not fit your specific needs, we are equipped to develop custom solutions capable of tackling the most challenging applications.

For more, visit [eddyfi.com](http://eddyfi.com) or contact us at [probes@eddyfi.com](mailto:probes@eddyfi.com).

## PROBE NUMBERING

Probe numbers are located on the probe cable, near its Fischer connector.

### Technology

- **PEC:** Single-element pulsed eddy current
- **PECA:** Pulsed eddy current array

### Model Size

- **025:** PEC small
- **089:** PEC medium
- **152:** PEC large
- **SM:** PECA small
- **MED:** PECA medium

### Model (application specific)

- **HR:** High-resolution
- **GS:** Galvanized steel
- **SZ:** Splash zone
- **TF:** Tank floor
- **UW:** Underwater

### Channels

- **xCH:** Number of PECA elements

### Cable Type

- **H:** Heavy-duty poly
- **HT:** High-temperature poly
- **U:** Underwater cable

### Cable Length

- Indicates the length of the cable in metres.

### Cable Exit Position

- **S:** Side exit

<b>PEC</b>	-	<b>152</b>	-	<b>ENC</b>	-	<b>G2</b>	-	<b>H05S</b>
Technology		Model size		Encoder		Generation		Cable type Cable exit position

<b>PEC</b>	-	<b>SZ</b>	-	<b>089</b>	-	<b>G2</b>	-	<b>H20S</b>
Technology		Model		Model size		Generation		Cable type Cable exit position

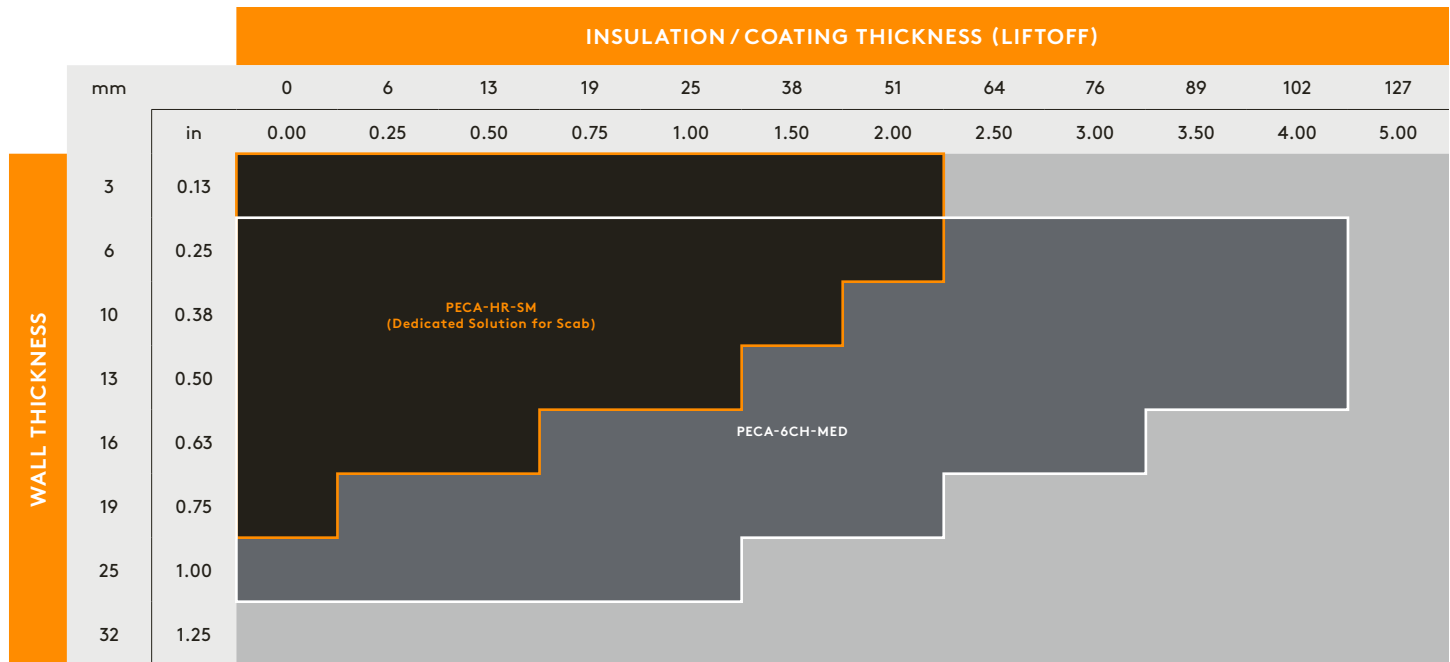
  

<b>PECA</b>	-	<b>6CH</b>	-	<b>MED</b>	-	<b>H05S</b>
Technology		Channels		Model size		Cable type Cable exit position

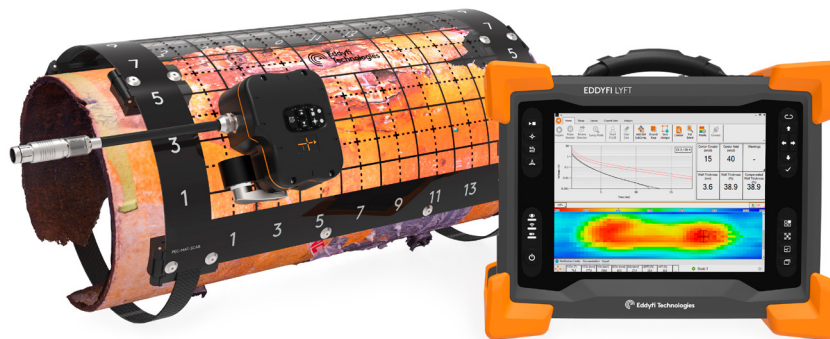
# PULSED EDDY CURRENT ARRAY (PECA) PROBES

The PECA probes are specifically engineered for high productivity inspections in grid, or high-resolution dynamic modes. The wide coverage not only makes inspections faster than ever, but also improves data quality and minimizes inspection preparation with Eddyfi Grid-As-U-Go.

## Selecting the Right PECA Probe (Lyft 2.2)

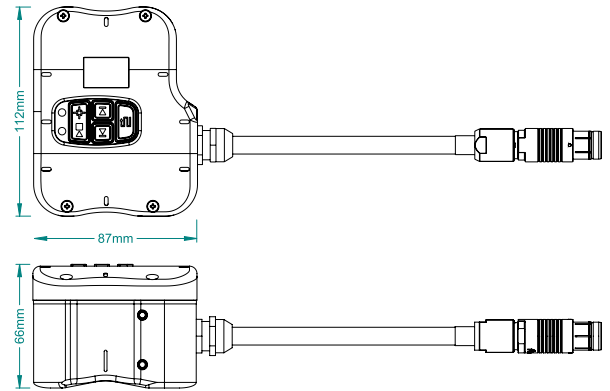


- Note 1: PECA-HR-SM is a dedicated probe used for scab inspections.  
 Note 2: Estimated scab height should be considered as liftoff when validating the application range for the PECA-HR-SM probe.  
 Note 3: Smallest configuration for PECA-6CH-MED probe: 102 mm (4 in) OD pipe, schedule 40, with 25 mm (1 in) insulation; total OD 152 mm (6 in).

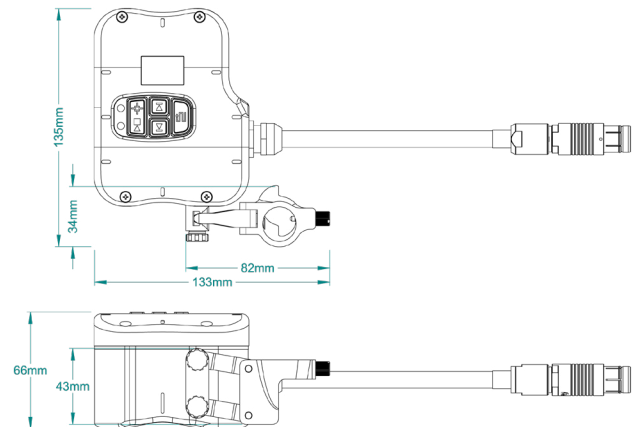
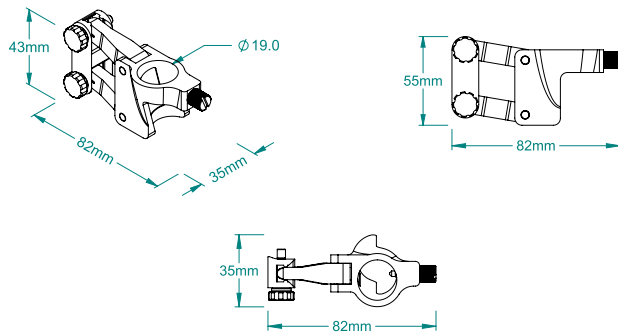


## PECA-HR-SM-H05S

Casing	Small
Total coverage	75 mm (3 in)
Wall thickness	3–19 mm (0.12–0.75 in)
Liftoff	0–50 mm (0–2 in)
Encoder	ENC-PEC-STD
Weather jacket	not supported

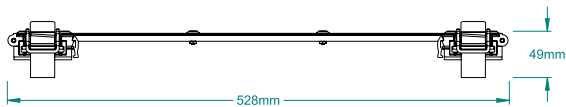
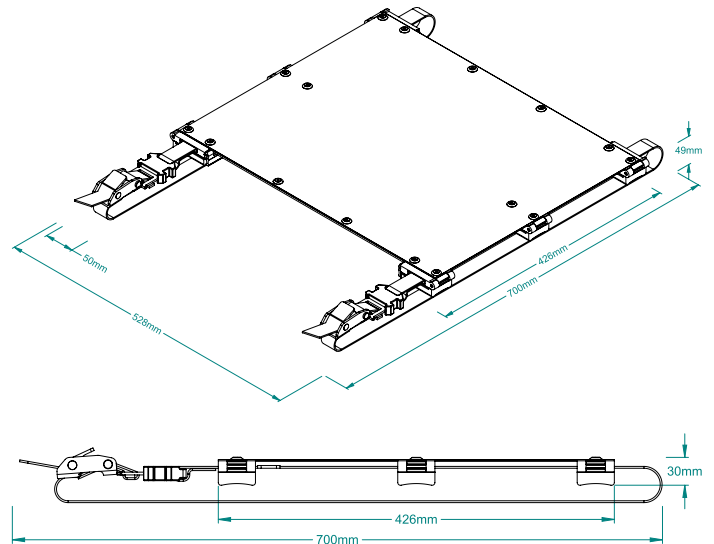


## Grid-As-You-Go™



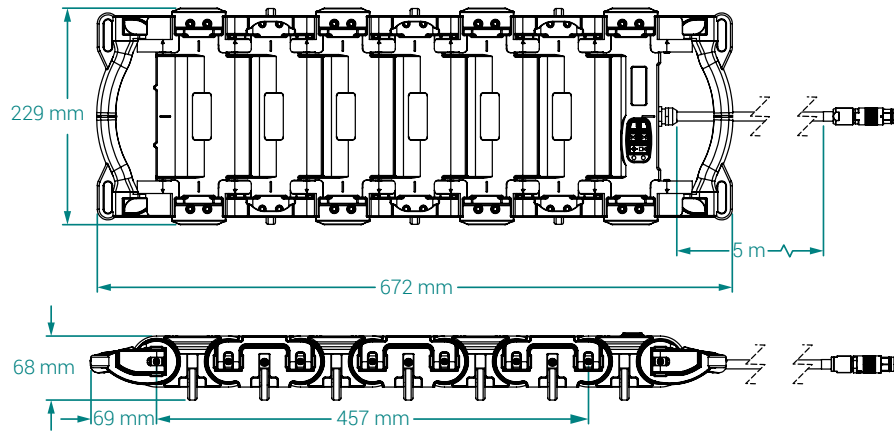
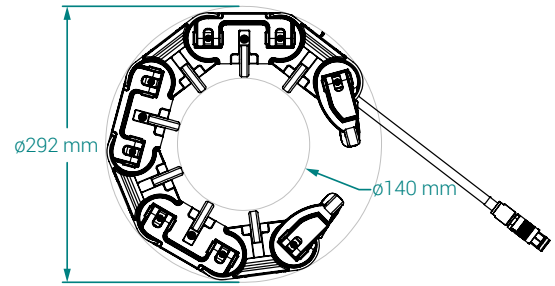
## PECA-HR-MAT

Liftoff	12.7 mm (0.5 in) 25.4 mm (1 in)
On mat	Ø 304.8 mm (12 in) Length 1371.6 mm (54 in)
Strap length	Optional removable Ø 609.6 mm (24 in) Length 1143 mm (45 in)

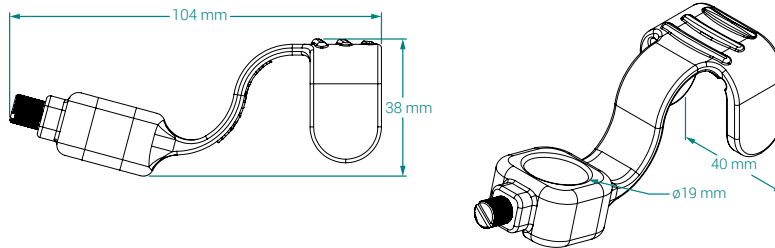


## PECA-6CH-MED-H05S

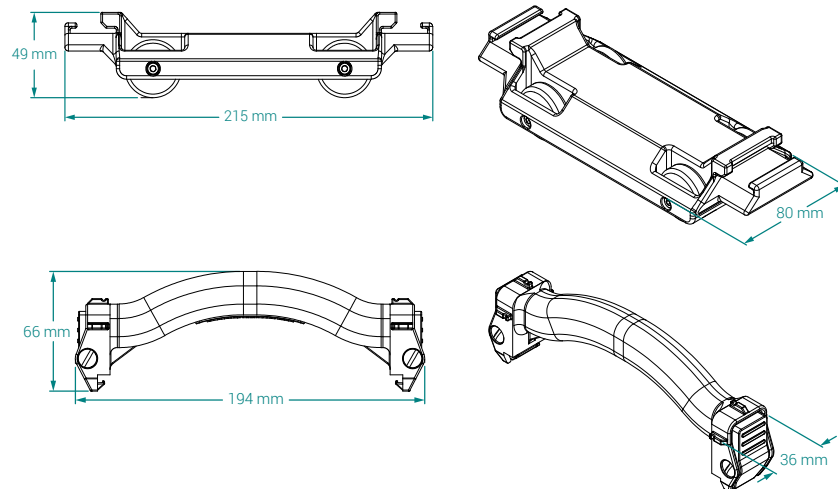
Body	Array
Casing	Medium
Number of channels	6
Total coverage	457 mm (18 in)
Wall thickness	6–25 mm (0.25–1.00 in)
Insulation/Coating thickness (lift-off)	0–102 mm (0–4 in)
Encoder	Removable



## Grid-As-You-Go



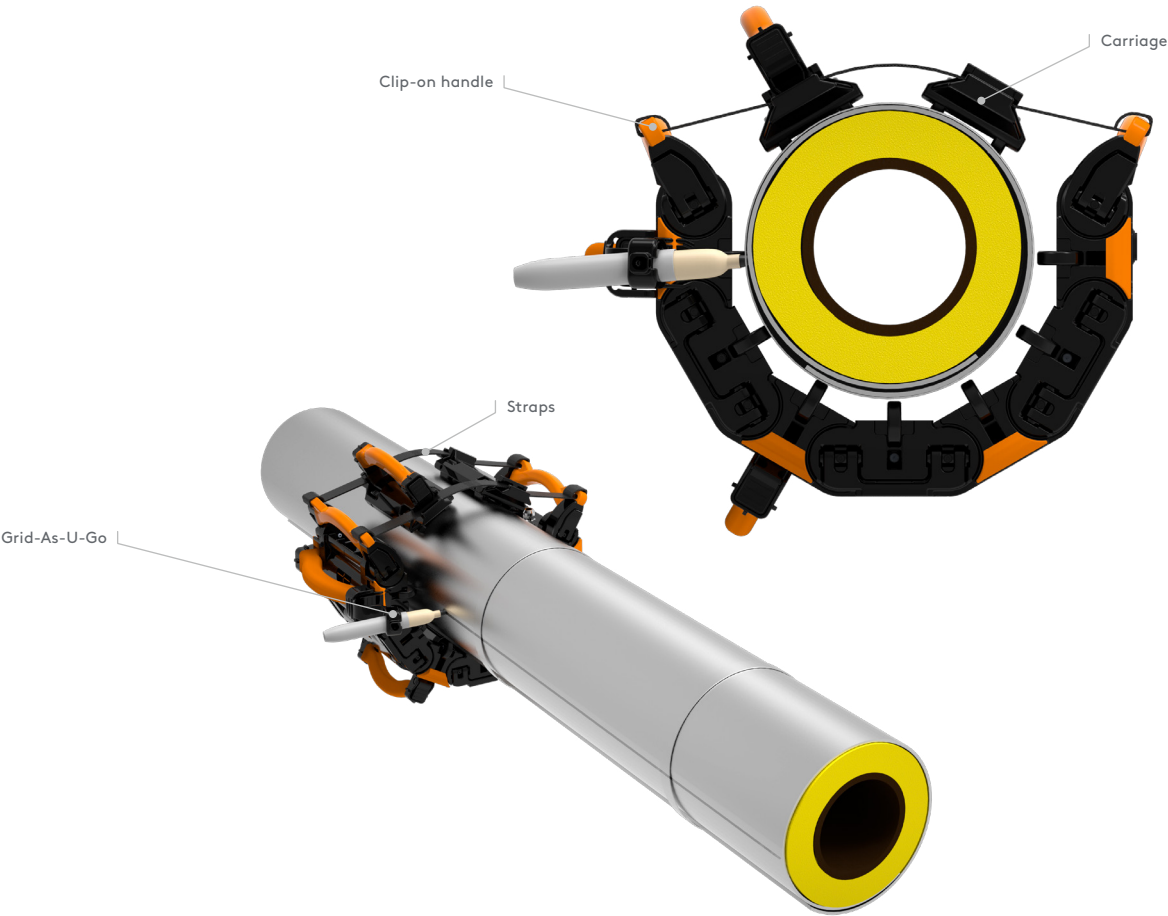
## Carriage, Clip-on Handles



Straps

MODEL	LENGTH
Short	720 mm (28 in)
Medium	1240 mm (49 in)
Long	1920 mm (76 in)

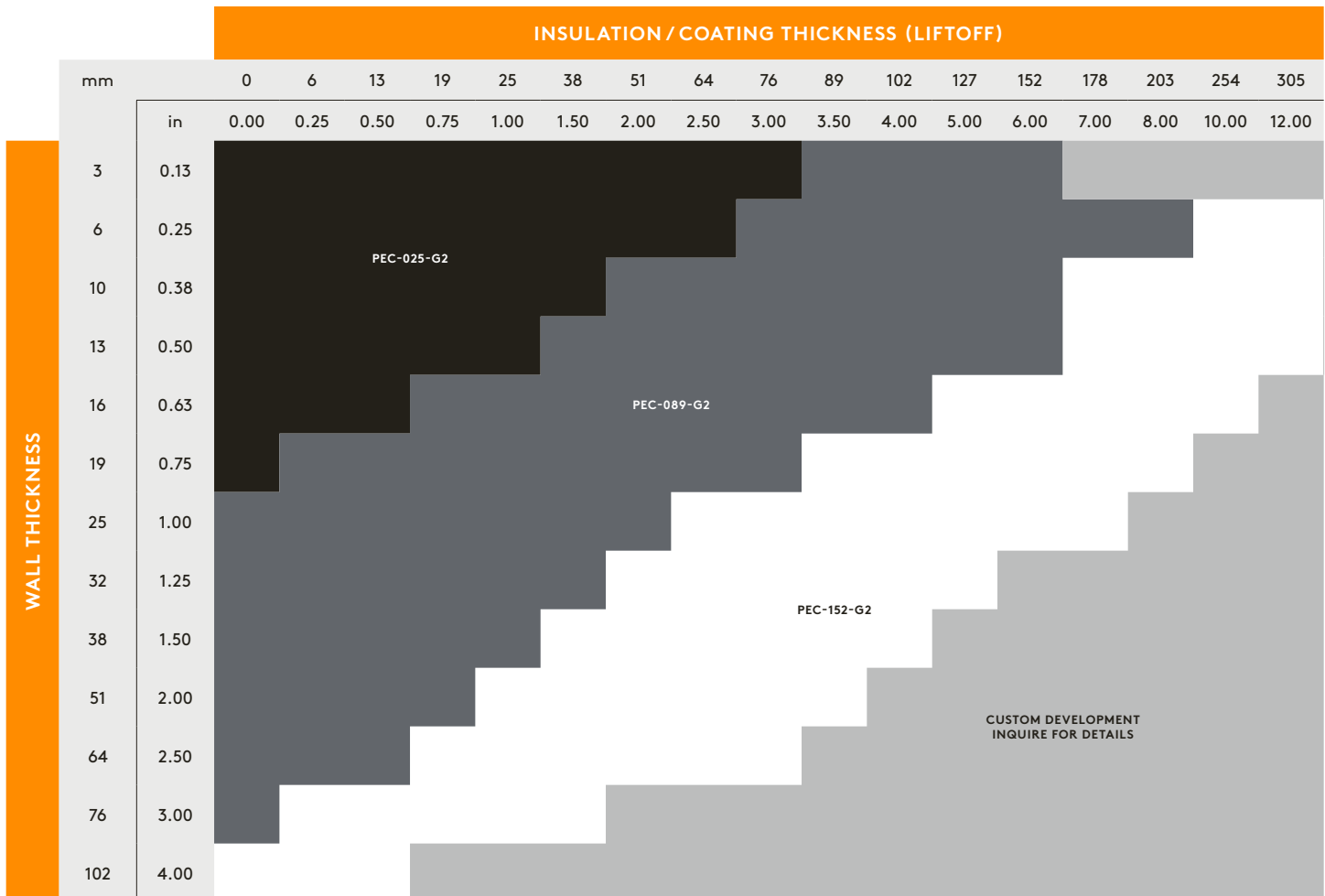
STRAP CONFIGURATION	MAXIMUM OD
Medium	483 mm (19 in)
Short + Medium	660 mm (26 in)
Medium + Long	1067 mm (42 in)
Short + Medium + Long	1245 mm (49 in)



## SINGLE-ELEMENT PEC PROBES

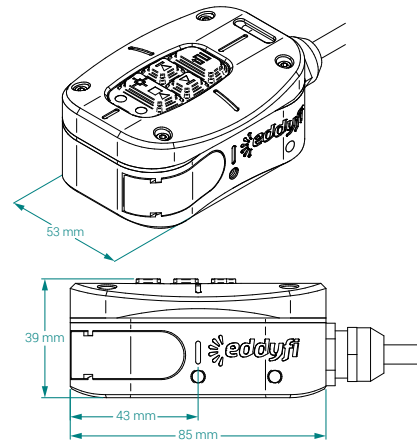
Single-element PEC probes are designed to detect CUI, CUF, and FAC in pipes, vessels, sphere legs, small pipes and in limited access areas. They are available in three different sizes for the right balance between wall thickness and liftoff. They offer enough flexibility to support metals as thick as 100 mm (4 in), insulation up to 300 mm (12 in) thick (fiber glass, plastic wrap, concrete, and any non-ferrous material), as well as stainless steel, aluminum, or galvanized steel weather jackets.

### Selecting the Right Single-element PEC Probes (Lyft 2.2)



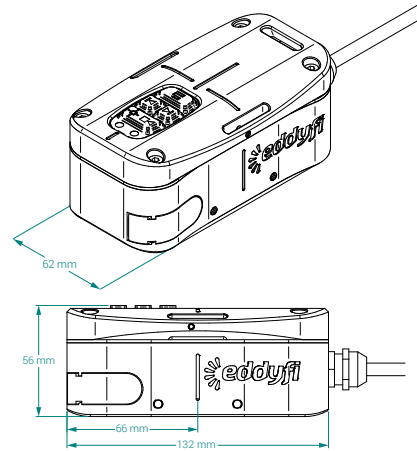
### PEC-025-G2-H05S

Casing	Small
Wall thickness	Up to 19 mm (0.75 in)
Insulation/Coating thickness (liftoff)	0–76 mm (0–3 in)
Footprint at zero liftoff	35 mm (1.38 in)
Encoder	Clip-on
Cable	5 m (16.4 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F) Direct contact with probe shoe: 120°C (248°F)



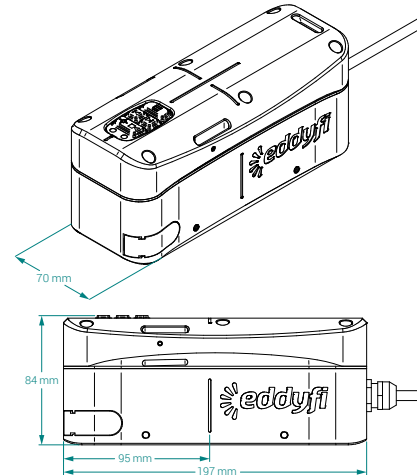
### PEC-089-G2-H05S

Casing	Medium
Wall thickness	Up to 76 mm (3 in)
Insulation/Coating thickness (liftoff)	0–203 mm (0–8 in)
Footprint at zero liftoff	62 mm (2.44 in)
Encoder	Clip-on
Cable	5 m (16.4 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F) Direct contact with probe shoe: 120°C (248°F)



### PEC-152-G2-H05S

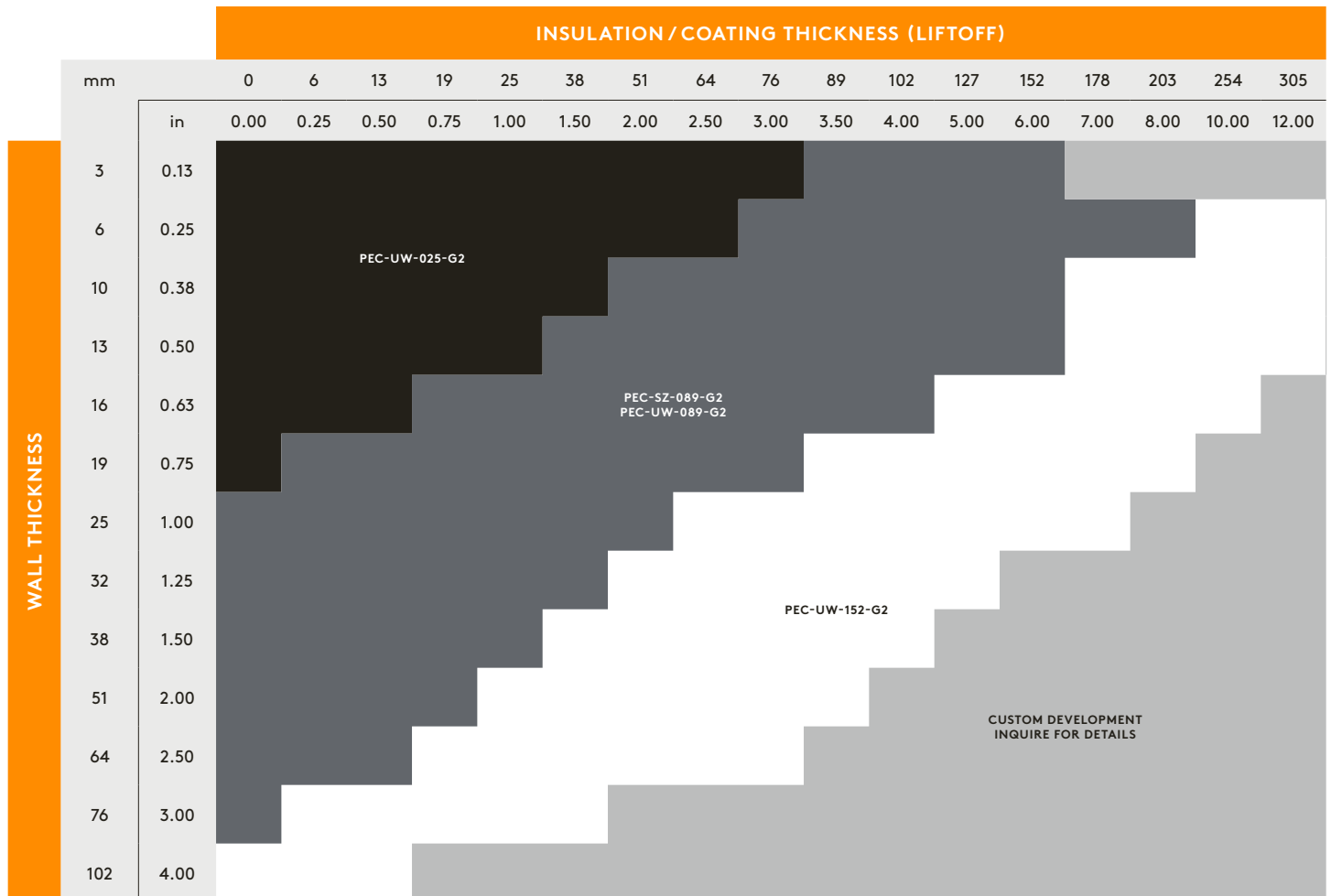
Casing	Large
Wall thickness	Up to 102 mm (4 in)
Insulation/Coating thickness (liftoff)	0–305 mm (0–12 in)
Footprint at zero liftoff	100 mm (3.94 in)
Encoder	Clip-on
Cable	5 m (16.4 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F) Direct contact with probe shoe: 120°C (248°F)



# UNDERWATER & SPLASH ZONE PEC PROBES

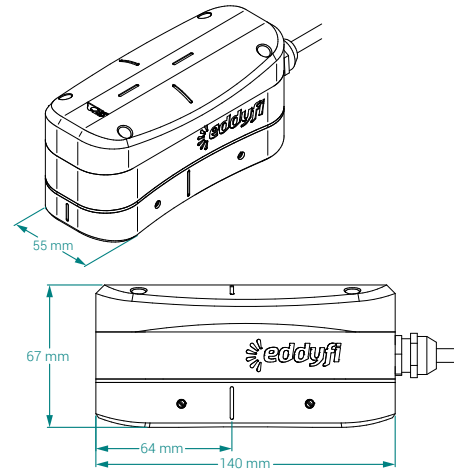
Underwater PEC probes are specifically designed to detect corrosion hidden under marine growth and/or coatings, without surface preparation, in offshore applications such as risers, jetty piles, caissons, underwater piping systems, and conductor inspections.

## Selecting the Right Underwater or Splash Zone PEC Probe (Lyft 2.2)



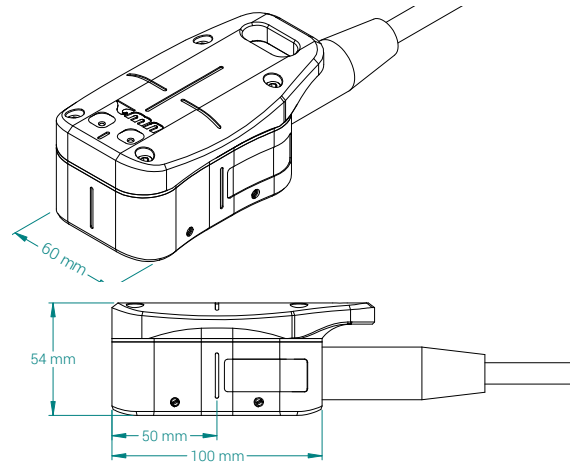
### PEC-SZ-089-G2-H25S

Body	Splash zone
Casing	Medium
Wall thickness	Up to 76 mm (3 in)
Insulation/Coating thickness (liftoff)	0–203 mm (0–8 in)
Footprint at zero liftoff	62 mm (2.44 in)
Encoder	None (add-on only)
Depth rating	15 m (49.2 ft)
Cable	25 m (82 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F)



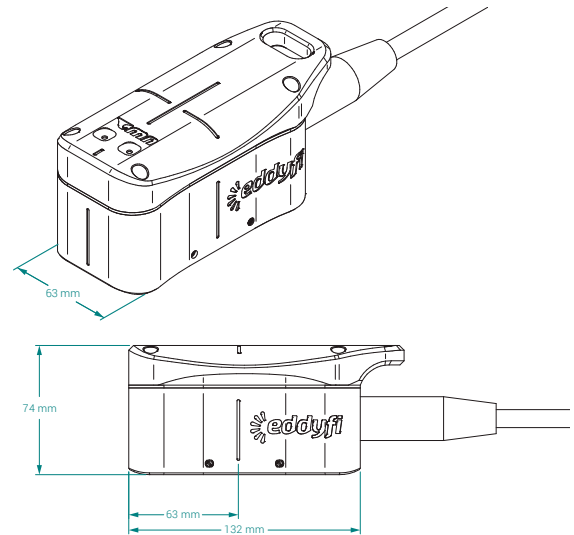
### PEC-UW-025-G2-U050S

Body	Underwater
Casing	Small
Wall thickness	Up to 19 mm (0.75 in)
Insulation/Coating thickness (liftoff)	0–76 mm (0–3 in)
Footprint at zero liftoff	35 mm (1.38 in)
Encoder	None (add-on only)
Watertightness	100 m (330 ft)
Cable	Available with: <ul style="list-style-type: none"> <li>• 50 m (165 ft)</li> <li>• 100 m (330 ft)</li> </ul>
Maximum surface temperature	Direct contact operation: 70°C (158°F)



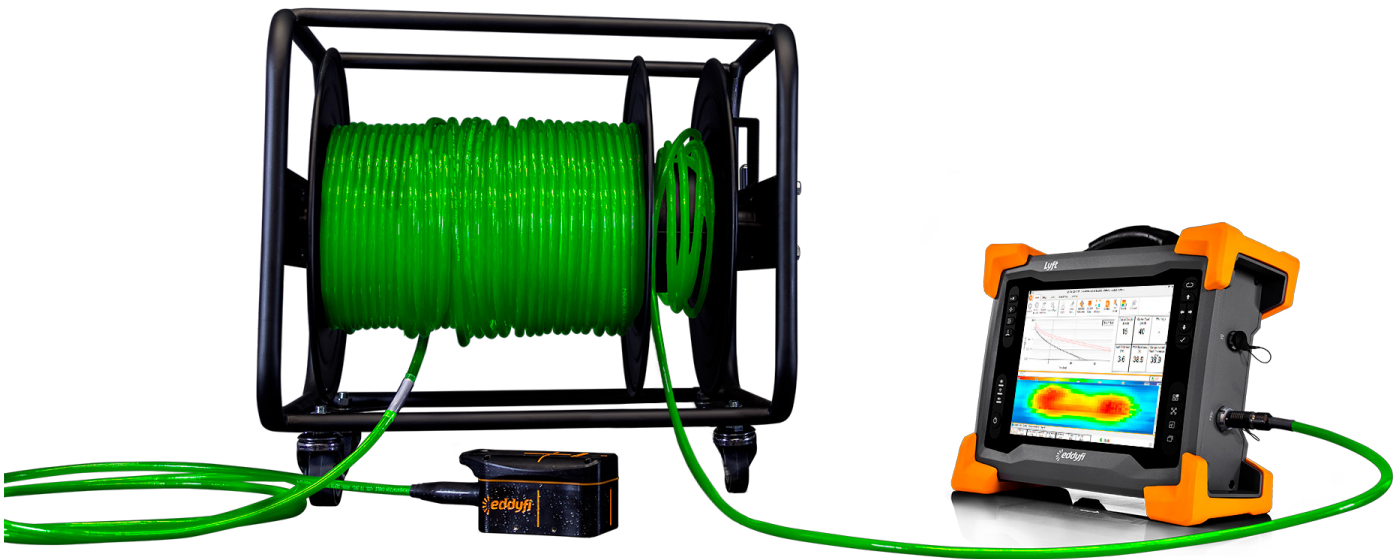
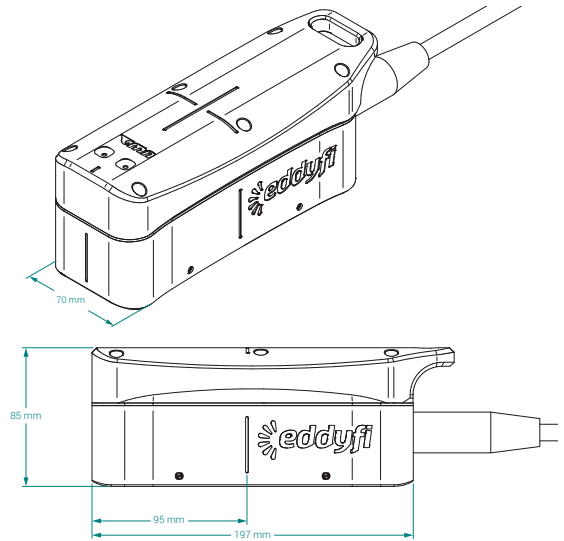
### PEC-UW-089-G2-U005S

Body	Underwater
Casing	Medium
Wall thickness	Up to 75 mm (3 in)
Insulation/Coating thickness (liftoff)	0–200 mm (0–8 in)
Footprint at zero liftoff	62 mm (2.4 in)
Encoder	None (add-on only)
Watertightness	100 m (330 ft)
Cable	5 m (16.4 ft) Available extension cables <ul style="list-style-type: none"> <li>• 50 m (165 ft)</li> <li>• 100 m (330 ft)</li> </ul>
Maximum surface temperature	Direct contact operation: 70°C (158°F)



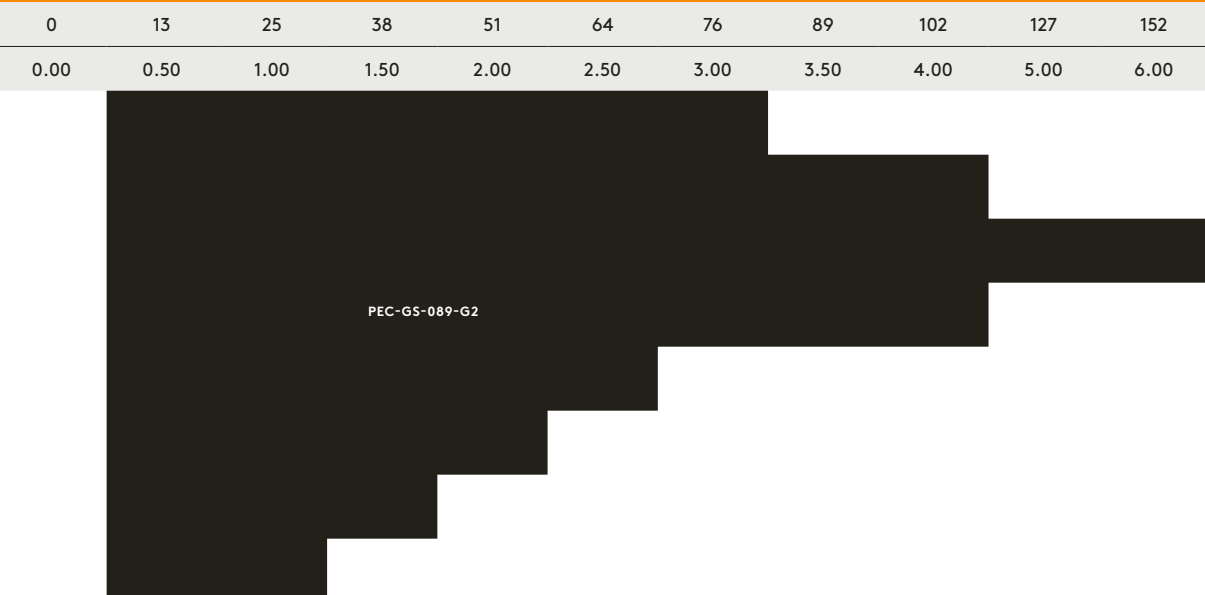
## PEC-UW-152-G2-U050S

Body	Underwater
Casing	Large
Wall thickness	Up to 100 mm (4 in)
Insulation/Coating thickness (liftoff)	0–300 mm (0–12 in)
Footprint at zero liftoff	100 mm (4 in)
Encoder	None (add-on only)
Watertightness	100 m (330 ft)
Cable	5 m (16.4 ft)
	Available extension cables
	<ul style="list-style-type: none"><li>• 50 m (165 ft)</li><li>• 100 m (330 ft)</li></ul>
Maximum surface temperature	Direct contact operation: 70°C (158°F)



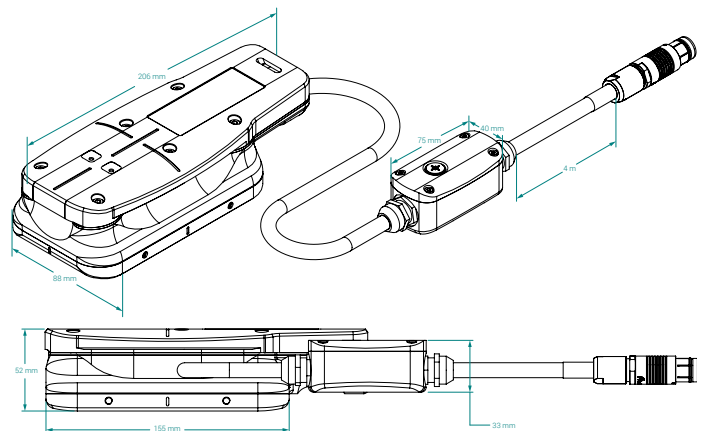
# PEC PROBE FOR GALVANIZED STEEL CLADDING

The patent-pending PEC-GS probe is dedicated to inspecting insulated structures protected by galvanized steel weather jackets. Being ferromagnetic, galvanized steel cladding is a challenge for PEC inspections. Designed to overcome the adverse effects of this material, the patent-pending probe ensures improved signal penetration, excellent detection capabilities and sizing accuracy, and enhanced signal-to-noise ratio (SNR).

		INSULATION / COATING THICKNESS (LIFTOFF)											
	mm	0	13	25	38	51	64	76	89	102	127	152	
	in	0.00	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
WALL THICKNESS	6	0.25	 <p>PEC-GS-089-G2</p>										
	10	0.38											
	13	0.50											
	16	0.63											
	19	0.75											
	25	1.00											
	32	1.25											
	38	1.50											

## PEC-GS-089-G2

Body	Galvanized steel
Wall thickness	Up to 38 mm (1.5 in)
Insulation/Coating thickness (lift-off)	13–152 mm (0.5–6 in)
Footprint at minimum lift-off	62 mm (2.44 in)
Encoder	None (grid scanning mode only)
Cable	5 m (16.4 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F)

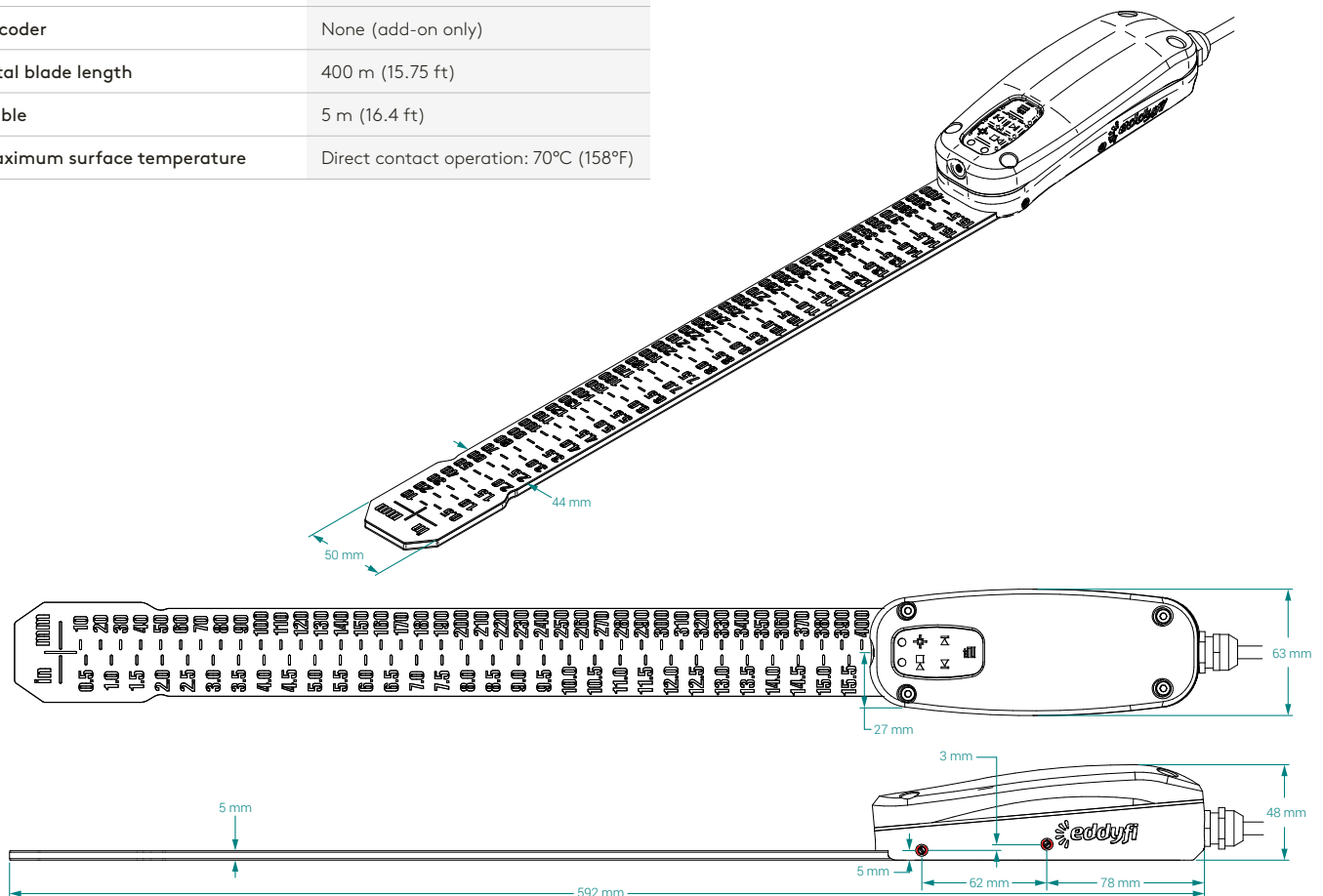


# TANK FLOOR PEC PROBE

The tank floor probe enables in-service inspection of storage tank annular rings. With its super thin 4.8 mm (0.2 in) titanium blade, the probe can slide up to 400 mm (16 in) under tank floor edges, assessing the remaining wall thickness of this critical region exposed to corrosion. The embedded remote controls and status LEDs are also perfect for one-person operation.

## PEC-TF-400-H05S

Body	Blade
Wall thickness	Up to 25 mm (1 in)
Insulation/Coating thickness (liftoff)	0–13 mm (0–0.05 in)
Footprint at zero liftoff	35 mm (1.38 in)
Encoder	None (add-on only)
Total blade length	400 m (15.75 ft)
Cable	5 m (16.4 ft)
Maximum surface temperature	Direct contact operation: 70°C (158°F)

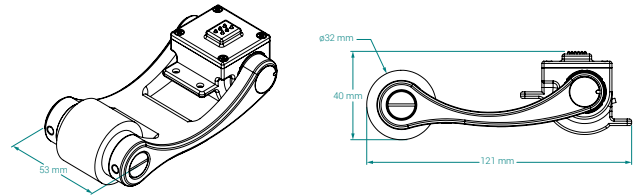


## ACCESSORY ENCODER

High-precision encoders designed for PECA and PEC probes.  
They connect directly to probes without the need for an external cable.

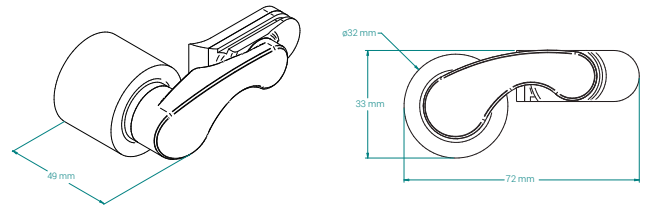
### PECA-MED-ENC

Resolution	16.04 counts/mm (407.44 counts/in)
Maximum surface temperature	70°C (158°F)
Compatibility	PECA probe



### ENC-PEC-STD

Resolution	16.04 counts/mm (407.44 counts/in)
Maximum surface temperature	70°C (158°F)
Compatibility	G2 single-element PEC probes

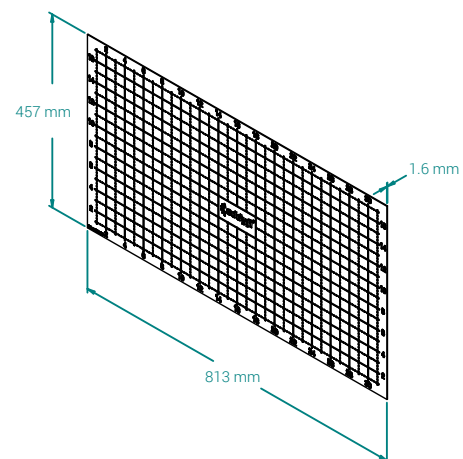


## ACCESSORY SCAN GRID MAT

The mat features a 25 mm (1 in) resolution grid and enables easier dynamic scans of irregular surfaces and component marking during the inspection setup.  
The mat is suitable for in-contact operation on surfaces as hot as 70°C (160°F).

### PEC-MAT

Dimensions (W × H × D)	813 × 457 × 1.6 mm (32 × 18 × 0.06 in)
Grid resolution	25 mm (1 in)
Maximum surface temperature	70°C (160°F)



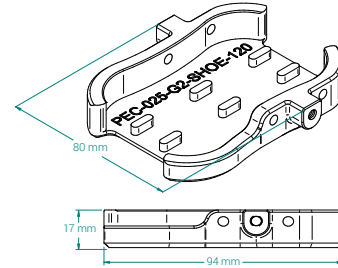
## ACCESSORY SINGLE-ELEMENT PROBE SHOES

These shoes are designed to enable direct-contact operation on surfaces as hot as 120°C (248°F) and to attenuate the vibration from galvanized steel weather jackets.

The shoes are completely compatible with the optional telescopic extension pole.

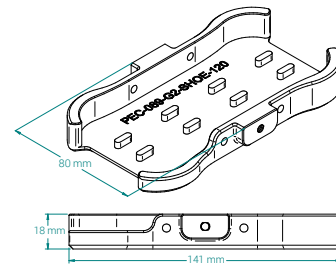
### PEC-025-G2-SHOE-120

Body	Standard probe shoe
Casing	Small
Maximum surface temperature	120°C (248°F)
Compatibility	PEC-025-G2-HT05S



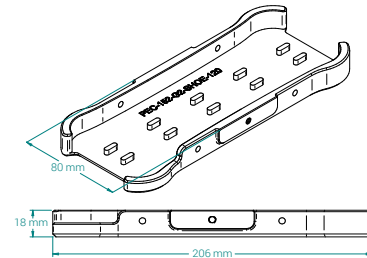
### PEC-089-G2-SHOE-120

Body	Standard probe shoe
Casing	Medium
Maximum surface temperature	120°C (248°F)
Compatibility	PEC-089-G2-HT05S



### PEC-152-G2-SHOE-120

Body	Standard probe shoe
Casing	Large
Maximum surface temperature	120°C (248°F)
Compatibility	PEC-152-G2-HT05S

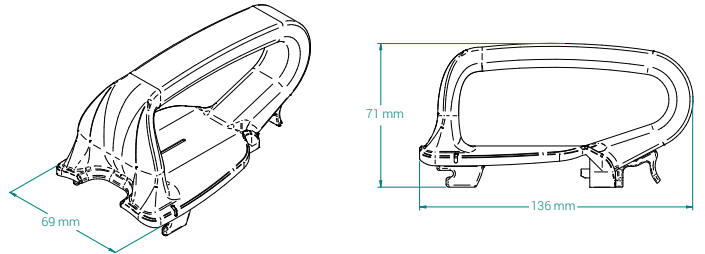


## ACCESSORY CLIP-ON HANDLES

These ergonomic handles are designed to make manipulating single-element PEC probes easier. The clip-on design makes installing and removing the handles extremely easy.

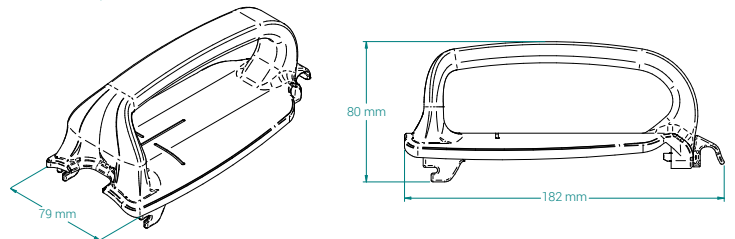
### PEC-089-HANDLE

Body	Standard probe handle
Casing	Medium
Compatibility	PEC-089-G2-HT05S



### PEC-152-HANDLE

Body	Standard probe handle
Casing	Large
Compatibility	PEC-152-G2-HT05S

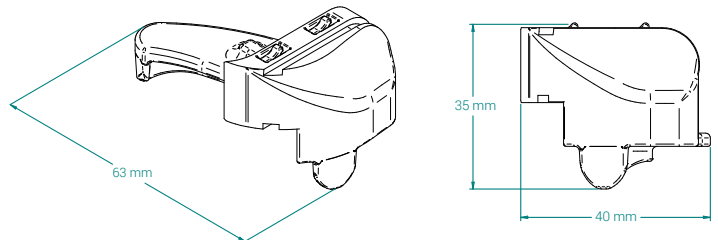


## ACCESSORY CLIP-ON STABILIZER

This accessory is compatible with second-generation single-element PEC probes. It is used to stabilize grid-mapping scans on very irregular surfaces.

### PEC-STAB

Body	Standard stabilizer
Compatibility	G2 single-element PEC probes

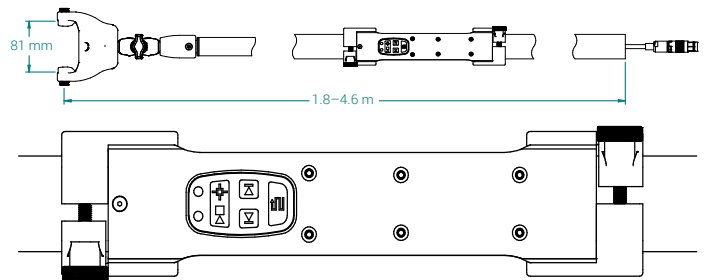


## ACCESSORY EXTENSION POLE

The pole comes with an adjustable remote control keypad and can extend up to 4.6 m (15 ft). Its adjustable fork enables performing inspections at any angle, on any surface.

### PEC-POLE-G2-XH05

Maximum length	4.6 m (15 ft)
Retracted length	1.8 m (6 ft)
Material (pole)	Fiberglass
Material (fork and remote)	Nylon 11
Compatibility	G2 single-element PEC probes
Total weight (with cable)	3.18 kg (7 lb)

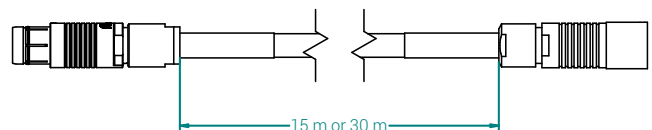


## ACCESSORY EXTENSION CABLES

Extension cables allow using PECA/single-element PEC probes at a greater distance from the Lyft instrument. Our extension cables are available in lengths of 15 m (50 ft) and 30 m (100 ft). The maximum length of cable between a probe and the Lyft instrument is 35 m (115 ft).

### PEC-CBL-XH15 AND PEC-CBL-XH30

Material	Heavy duty poly Option: <ul style="list-style-type: none"><li>High-temperature</li></ul>
Length	15 m (50 ft) or 30 m (100 ft)
Maximum temperature	H: 80°C (176°F) HT: 120°C (248°F)



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