

Athena Industrial Services Inc.

ECHO-3D

ECHO-3D's INSPECTION PLATFORM



CREATE PROJECTS CONNECT TECHS & EQUIPMENT ACQUIRE DATA REAL TIME 3D



COMPUTERIZED ANALYSIS

INSTANT REPORTING

DATA FOR PREDICTIVE MAINTENANCE

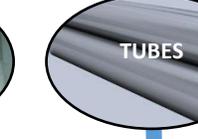
STRESS CRACK CORROSION



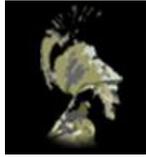
SURFACE CORROSION

DETECTION ✓ MAPPING ✓ MEASUREMENT ✓

THROUGH COATINGS!

MULTIPLE APPLICATIONS



GENERAL

SPECIFICATIONS

Overall Dimensions (W x H x D)	65 mm x 85 mm x 80 mm (2.6 in x 3.4 in x 3.2 in)
Weight	306 g [11 oz] sensor only 343 g [12 oz] with removable odometer
Power Requirements	USB 2.0, 2.5 W
Power Supply	From tablet
USB Connector	Quick disconnect, 5-pin
Encoder Connector	Quick disconnect, 6-pin
Encoder Support	Supports one X-axis and one Y-axis
Operating Temperature	-20°C to +50°C [-4°F to 122°F]
Storage Temperature	-20°C to +60°C [-4°F to 140°F]

OPERATING

Detection Area	>30 mm [1.18"] diameter
Frequency Range	100 Hz to 14 kHz
Sample Rate	500 samples/second at 1 mm [0.040"] spacing
Lift-off Range	See POD chart below, based on 95% POD
Crack Detection	Surface breaking Up to 15 mm [0.59"] lift-off (see chart below)
Crack Depth	0 to 4.0 mm ±0.4 mm or 10% [0 to 0.16" ±0.016"], whichever is greater 4.1 mm to 5.5 mm ±0.5 mm or 10% [0.16" to 0.22" ±0.020"], Cracks 19 mm [0.75"] or longer
Encoder	Detachable on X-axis
Operating Humidity	0% to 95%, noncondensing
Water Resistance	Splash proof
Sensor Diagnostics	Continuous
Calibration	One-step Balance
Lift-off Bias	Manual, geometry dependant

PROBABILITY OF DETECTION

Defect Depth [mm]		0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Coating Thickness	2	✓	✓	✓	✓	✓	✓	✓	✓
	5	✗	✓	✓	✓	✓	✓	✓	✓
	10	✗	✗	✓	✓	✓	✓	✓	✓
	15	✗	✗	✗	✗	✗	✗	✓	✓

Notes: Surface conditions, i.e.: corrosion or pitting with cracks, may result in out of tolerance depth readings.
Cracks under 19 mm [0.75"] in length may require additional verification.
High density stress crack colonies may require additional verification.
Depth accuracy should be verified for all crack depths greater than 5.5 mm [0.21"].

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