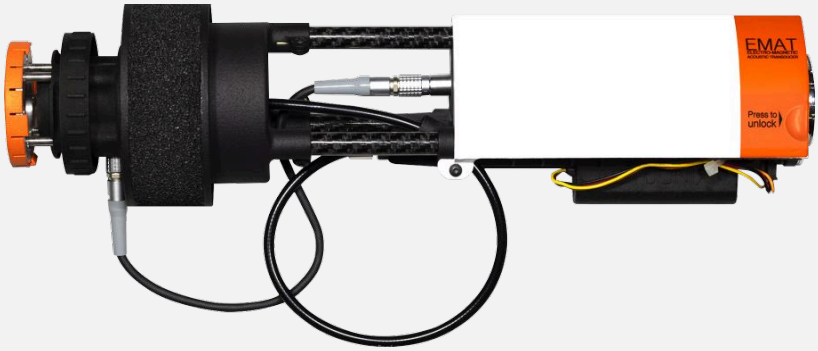
VOLIRO

Voliro T - Payloads
Technical specifications



Electromagnetic Acoustic Transducer (EMAT) Thickness Gauge

For wall thickness measurements

Specifications	
Manufacturer	Voliro AG
Payload length	33 cm / 13 in
Payload weight	0.67 kg / 1.48 lbs
Compliant with	ASTM E1816-18
Test mode	Peak to peak, single peak
Data visualization	Live A-Scan displayed in the Voliro App
Detection mode	Peak

Default transducer	
Operating frequency	3.5 - 4 MHz
Operating temperature	-20 – 60 °C / -4 – 140 °F
Measurement mode	Radially polarized shear waves
Resolution	0.06 mm / 0.002 in
Thickness range	2 – 150 mm / 0.08 – 5.9 in
Probe diameter	30 mm / 1.18 in
Max. lift-off	4 mm / 0.16 in
Min. surface diameter	5 mm / 0.2 in
Couplant	None

Ultrasonic Transducer (UT) Thickness Gauge

For wall thickness measurements

Specifications	
Manufacturer	Voliro AG
Payload length	32 cm / 12.6 in
Payload weight	0.62 kg / 1.37 lbs
Compliant with	EN 12668-1 and ISO 16831:2012
Test mode	Peak to peak, single peak
Channels	Single
Data visualization	Live A-Scan displayed in the Voliro App
Detection mode	Flank, peak, max cohort

Default transducer	
Operating frequency	4 MHz
Operating temperature	0 – 60 °C / 32 – 140 °F
Measurement mode	Compression wave
Diameter	10 mm / 0.4 in
Elements	Dual-element
Thickness range	2 – 150 mm / 0.08 – 5.9 in
Couplant	Water-based gel
Resolution	0.06 mm / 0.002 in

Transducer can be swapped to a transducer with a different frequency

Ultrasonic Transducer (UT) High Temperature Thickness Gauge

For wall thickness measurements

Specifications	
Manufacturer	Voliro AG
Payload length	32 cm / 12.6 in
Payload weight	0.62 kg / 1.37 lbs
Compliant with	EN 12668-1 and ISO 16831:2012
Test mode	Peak to peak, single peak
Channels	Single
Data visualization	Live A-Scan displayed in the Voliro App
Detection mode	Flank, peak, max cohort

Default transducer	
Operating frequency	5 MHz
Operating temperature	0 – 260 °C / 32 – 500 °F
Measurement mode	Compression wave
Diameter	8 mm / 0.3 in
Elements	Dual-element
Thickness range (in steel)	2 – 150 mm / 0.08 – 5.9 in
Echo to echo range (in steel)	2.5 – 50 mm / 0.1 – 2 in
Natural focus depth	10 mm / 0.394 in
Couplant	Extended temperature ultrasonic couplant
Resolution	0.06 mm / 0.002 in

Transducer can be swapped to a transducer with a different frequency

Dry Film Thickness (DFT) Gauge

For coating thickness measurements

Specifications	
Manufacturer	Voliro AG
Payload length	32 cm / 12.6 in
Payload weight	0.27 kg / 0.6 lbs
Compliant with	EN ISO 1461, 2064, 2178, 2360, 2808, 3882, ASTM B 244, B 499, D 7091, E 376
Measurement method	F: Magnetic induction for coating thickness on ferrous metals N: Eddy current for coating thickness on non-ferrous metal
Measurement range	F: 0 – 1.5 mm / 0 – 60 mils N: 0 – 0.7 mm / 0 – 30 mils

Pulse Eddy Current (PEC) Gauge

For measuring relative volumetric material loss beneath insulation

PEC is a screening tool

Readings are representative of the average wall thickness within the PEC probe measuring area and do not represent the absolute lowest wall thickness within that area. It will undersize the depth of small defects and is not suitable to detect pitting types of defects. It cannot discriminate between near-side and far-side defects. Noise can affect measurements, and measurements are influenced by nearby metallic structures and edge effects. The permeability and conductivity of the measured material is assumed to be constant.

Specifications

Manufacturer	Sixpec
Payload length	32 cm / 13 in
Payload weight	0.49 kg / 1.08 lbs
Method	Pulsed Eddy Current, based on magnetic diffusing fields
Measurement capabilities	Ferromagnetic steel through non-ferrous materials such as, not limited to: Coatings, corrosion product (scabs), insulation (rock-wool, blankets, fireproofing), aluminum sheeting up 1 mm, water / seawater, marine growth, fiber reinforced overlay
Measurement mode	Relative volumetric measurement
Data visualization	Live A-scan, Percentage/Traffic light

Default probe	
Wall thickness	3 – 20 mm / 0.12 – 0.79 in depending on steel grade
Liftoff	0 – 100 mm / 0 – 3.95 in
Jacket surface temperature	-40 °C to +100 °C / -40°F to +212°F
Footprint diameter (area with 50% probe response)	~50 mm + 0.7 x Liftoff / ~ 2 in + 0.7 × Liftoff
Minimum measurable remaining wall thickness	15% from nominal
Minimal clearance to ferromagnetic structures / edges	15 cm / 5.91 in any direction
Smallest detectable defect volume	~15% of footprint volume

(numbers preliminary and subject to change)

Smallest detectable defect diameter depending on liftoff and defect depth:

	Percentage value = Defect depth					
Liftoff	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**
0 mm / 0.0 in	61 mm / 2.4 in	43 mm / 1.7 in	35 mm / 1.4 in	31 mm / 1.2 in	27 mm / 1.1 in	25 mm / 1.0 in
13 mm / 0.5 in	72 mm / 2.8 in	51 mm / 2.0 in	42 mm / 1.6 in	36 mm / 1.4 in	32 mm / 1.3 in	29 mm / 1.2 in
25 mm / 1.0 in	83 mm / 3.3 in	59 mm / 2.3 in	48 mm / 1.9 in	42 mm / 1.6 in	37 mm / 1.5 in	34 mm / 1.3 in
38 mm / 1.5 in	94 mm / 3.7 in	66 mm / 2.6 in	54 mm / 2.1 in	47 mm / 1.8 in	42 mm / 1.7 in	38 mm / 1.5 in
51 mm / 2.0 in	105 mm / 4.1 in	74 mm / 2.9 in	61 mm / 2.4 in	52 mm / 2.1 in	47 mm / 1.8 in	43 mm / 1.7 in
64 mm / 2.5 in	116 mm / 4.6 in	82 mm / 3.2 in	67 mm / 2.6 in	58 mm / 2.3 in	52 mm / 2.0 in	47 mm / 1.9 in
76 mm / 3.0 in	127 mm / 5.0 in	89 mm / 3.5 in	73 mm / 2.9 in	63 mm / 2.5 in	57 mm / 2.2 in	52 mm / 2.0 in
89 mm / 3.5 in	137 mm / 5.4 in	97 mm / 3.8 in	79 mm / 3.1 in	69 mm / 2.7 in	61 mm / 2.4 in	56 mm / 2.2 in
102 mm / 4.0 in	148 mm / 5.8 in	105 mm / 4.1 in	86 mm / 3.4 in	74 mm / 2.9 in	66 mm / 2.5 in	61 mm / 2.4 in

Screenshot of the Voliro control app showing Live A-scan

Needle probe payload

Cable management system

Ohmmeter

Wind Turbine LPS Tester

For full circuit resistance measurements

Specifications	
Manufacturer	Voliro AG
Payload length	32 cm / 12.6 in
Payload weight	0.10 kg / 0.22 lbs
Tether cable weight	0.66 kg / 1.46 lbs
Tether cable length	300 m
Grounding cable length	40 m

Ohmmeter specifications	
Device type	Micro-Ohmmeter VG-BAT-150 special
Manufacturer	Mostec
Compliant with	IEC/EN 61400-24 standards
Measurement method	4-wire measurement
Measurement current	0.30 A (for resistances <20 Ω)
Measurement range	0.001-1000 Ω
Resolution	0.01 mΩ
Max. voltage	24 V
Max. inspection height	250 m / 820 ft AGL
Turbine rotor orientation	Any, single stop inspection possible

Voliro AG
Förrlibuckstrasse 150
CH-8005 Zurich
contact@voliro.com
www.voliro.com

Version 2025
All specifications are subject to change without notice