

DATA SHEET

FLEXIBLE RISER/PIPE INSPECTION MEC - HUG™ PIPECRAWLER

THE PURPOSE

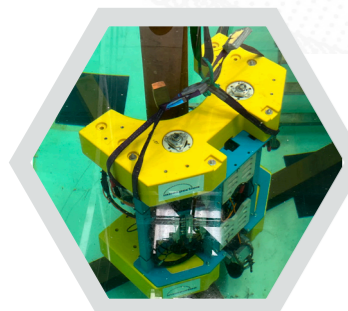
This document is composed to assist our clients and the supply chain with a high-level understanding of the benefits and services associated with our Flexible Riser/Pipe Inspection capabilities using the MEC-Hug™ PipeCrawler.



SONOMATIC



FLEXIBLE RISER/PIPE INSPECTION MEC-HUG™ PIPECRAWLER



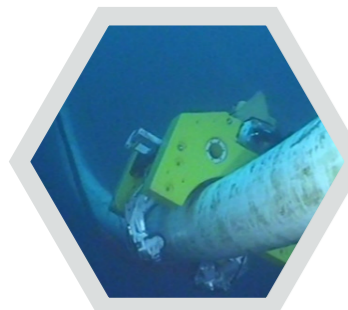
The MEC-Hug™ PipeCrawler is a sophisticated self-crawling inspection system able to scan in both axial and circumferential directions. It has been developed to provide a reliable and technically advanced inspection solution for flexible risers and flexible pipes at their working locations while accommodating the various degrees of wire angle structures.

The MEC-FIT™ flexible riser inspection technique combines direct current magnetic field and eddy current field to allow a deeper penetration into the various layers to detect single or multiple wire damages.

The MEC-FIT™ technique not only enables the selection of the flexible riser layers to be inspected but allows the optimisation of inspection for a specific layer from which a defect signal is received.

The capabilities of the MEC-FIT™ technique are:

- ✔ Fast external scanning with electromagnetic field penetrating into 3 wire layers.
- ✔ Detection of cracks, pitting corrosion and general corrosion in single wire and multiple wires.
- ✔ Detection of wire misalignment and wire gaps.
- ✔ Signal separation in layers, defects and wire gaps.
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- ✔ Scanning in axial direction for wire angle <37° and scanning in circumferential direction for wire angle >37°.
- ✔ No couplant or annulus flooding is required for the inspection which minimises the risk of damage to the inner layers of the flexible risers.



MEC-HUG™ PIPECRAWLER

Deployed vertically or horizontally by ROV, the MEC-Hug™ PipeCrawler embraces the flexible risers of flexible pipes and moves on its own through the splash zone, driven by its hydraulic powered motor, while performing the external inspection at a speed of up to 10m/min.

The MEC-Hug™ PipeCrawler enables the deployment via work-class or inspection-class ROV and is capable of scanning in both the axial and circumferential direction to accommodate the wire angle structure of the flexible risers or flexible pipes.

The signal data with encoded position details is transferred in real time via the umbilical to the inspection computer located at the ROV control unit on the support vessel or on the installation to provide instantaneous inspection results.

TECHNICAL SPECIFICATIONS

DEPLOYMENT	
External Deployment	Vertical or horizontal Deployable by work-class and inspection-class ROV
CAPABILITIES	
Wall Thickness Range	Up to 3 wire layers of the flexible riser Up to 26mm for general riser pipe
Coating Thickness Range	Up to 12mm
Diameter Range	4" to 20"
Depth Threshold for Detection	Corrosion defects from 10% wire thickness Wall loss cracks from 1mm depth
Accuracy	Dependent on configuration, typically 5%-10% of detected defect wall loss
Scanning Capability	< 37° wire angle structure - scanning in axial direction > 37° wire angle structure - scanning in circumferential direction
Defect Separation	Different layer defects will be defined by magnetic field variation
DIMENSIONS	
Depth Rating	1000 metre water depth (deeper rating on request)
Weight	215kg in air, approx. 7kg in water (depending on buoyancy)
Sizes (L x W x H)	1,200mm x 1,000mm x 510mm
Sensors	8 sensors in circumference with 180mm scan width Scanner head rotation to cover full circumference
Magnetisation Unit	Permanent magnet
Camera	2x
Umbilical	Umbilical length dependent on ROV
ACCESS REQUIREMENTS	
Required Clearance	Dependent on the scanner size; from 700mm to 1,000mm of external space is required to allow for axial scanning.
Coating	Coating is not required to be removed for the inspection
Marine Growth	Heavy marine growth is required to be cleaned off, offered by Sonomatic either with separate or integrated advanced cleaning system.
REPORTING	
Reporting Software	InnospectIT Software - Version 2.9 Recorded inspection data in high resolution d-base format is transferred by data logger.

QA AND HS&E

Sonomatic operate under an integrated QHSE management system and are committed to the highest quality and safety of service provision | ISO 9001: 2015: 00007140 | ISO 14001:2015:00037371 | ISO 45001:2018:00037372 | ISO 17020: 2012: 4276 | Achilles FPAL Verified: 076712 | SEQual 1988 | British Safety Council Member: S0388440 |



CONTACTS

EUROPE AND AFRICA

Graham Marshall

Subsea Project Manager

T: +44 (0) 1224 823 960

E: Graham.Marshall@sonomatic.com

James Druce

Senior Operations Manager

T: +44 (0) 7552 433 733

E: James.Druce@sonomatic.com

Mike Churchill

Technical Authority & Manager

T: +44 (0) 7515 067 900

E: Michael.Churchill@sonomatic.com

Stuart Ley

Topside Project Manager

T: +44 (0) 1224 823 960

E: Stuart.Ley@sonomatic.com

Danielle Gunns

Project Delivery Manager (Warrington)

T: +44 (0) 1925 414 000

E: Danielle.Gunns@sonomatic.com

Charles Loader

General Manager

T: +44 (0) 1925 414 000

E: Charles.Loader@sonomatic.com

MIDDLE EAST

Gordon Reid

Regional Manager

T: +971 26 580 708

E: Gordon.Reid@sonomatic.com

AUSTRALASIA

Jonathan Millen

Australia West Coast Project Manager

T: +61 415 850 346

E: Jon.Millen@sonomatic.com.au

Zach McCann

South East Asia Regional Manager

T: +61 404 797 670

E: Zach.McCann@sonomatic.com.my

Alex Cesan

Australia & South East Asia General Manager

T: +61 498 442 666

E: Alex.Cesan@sonomatic.com.au

AMERICAS

Esteban Cesan

General Manager Americas

T: +1 832 977 0303

E: Esteban.Cesan@sonomatic.com

Agata Surowiec

Operations/Project Management Americas

T: +1 832 977 0303

E: Agata.Surowiec@sonomatic.com

Alessandro Vagata

Subsea Robotics Project Manager Americas

T: +1 832 318 3314

E: Alessandro.Vagata@sonomatic.com

