



SONOMATIC

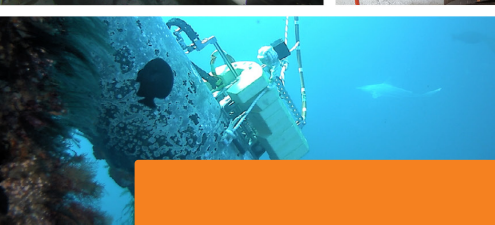
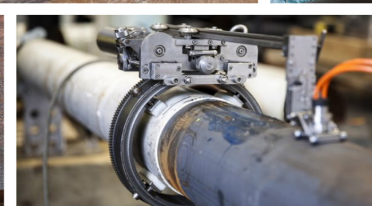
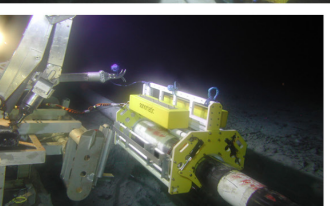
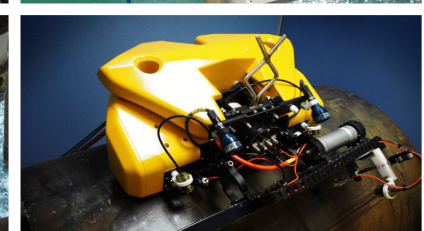
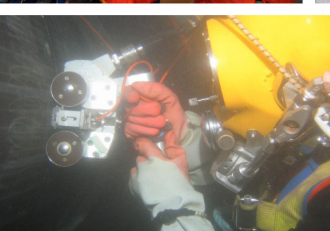
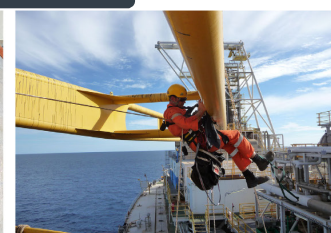
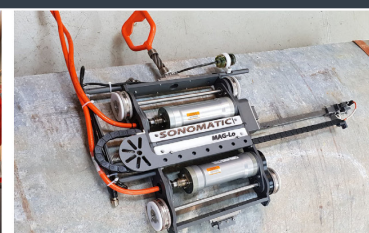
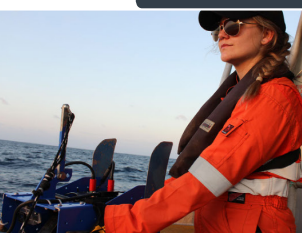
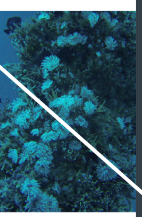
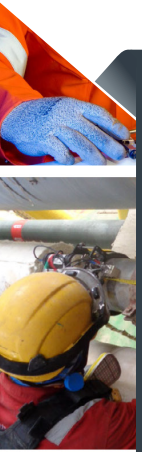
DATA SHEET

MAG - NAUTILUS

SUBSEA INSPECTION - ROV DEPLOYED
(AUTOMATED UT) NAUTILUS SYSTEM

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 MAG-Nautilus System.



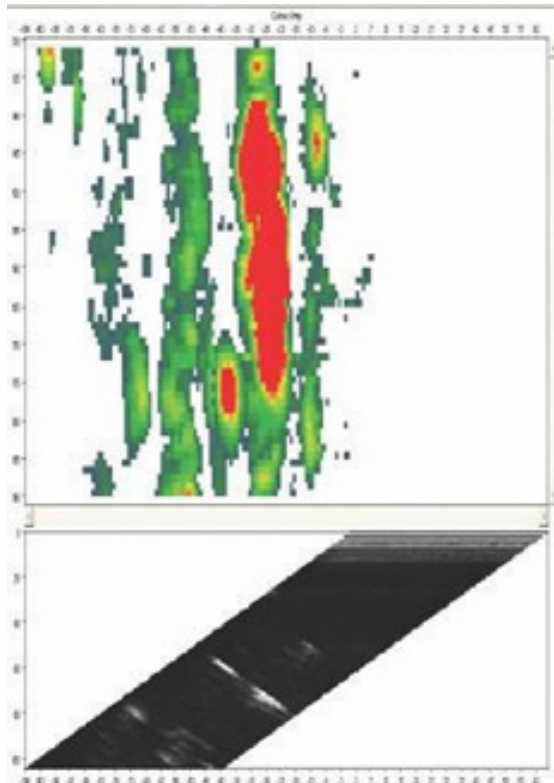
MAG-NAUTILUS

The Nautilus system is a dual or triple axis motorised inspection unit designed for the subsea inspection of pipework and tubulars at water depths down to 250 metres. The unit is ROV deployed, and harnesses its power supply and data communication feeds from the ROV, making it a very versatile system. It is controlled from the surface, where it is interfaced with a Sonomatic Microplus digital ultrasonic imaging system to display the data in various formats. A wide variety of ultrasonic inspections techniques can be deployed, including Corrosion Mapping, Pulse-Echo angle shear wave/Phased Array, Time-of-Flight Diffraction (TOFD) and ACFM.

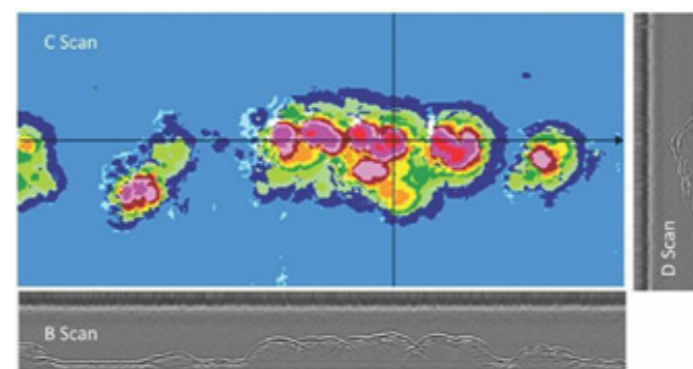
The unit is very adaptable and can be deployed in various formats to inspect a wide range of components for pipe wall corrosion mapping, pipe weld inspection, flange weld inspection, complex geometry welds (nozzle Hot Tap welds) and Merlin type connectors.



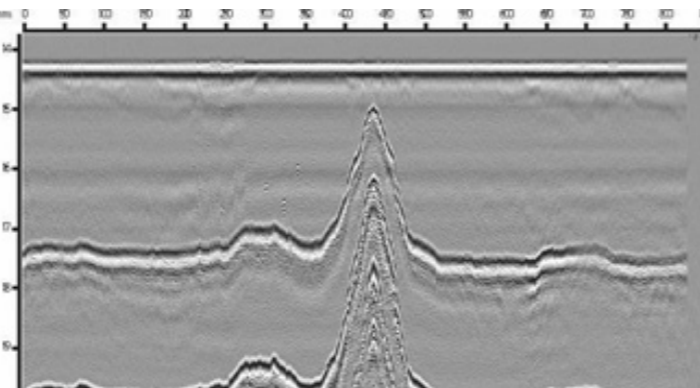
ANGLE SHEARWAVE



CORROSION MAPPING

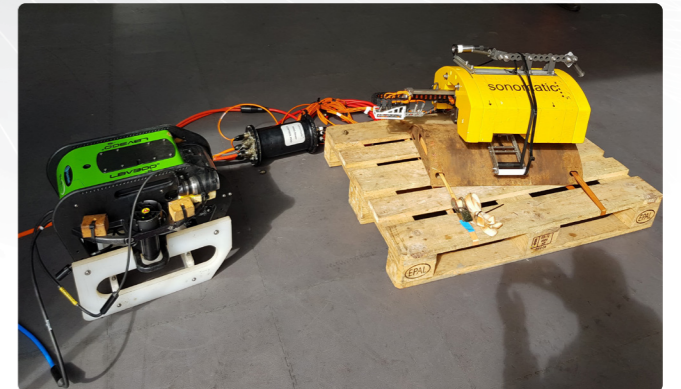


TOFD



The Nautilus system in air weighs 21KG (with buoyancy), and is neutrally buoyant in water, enabling manipulation of the unit with a very small observation class ROV such as an LBV 300, for manipulation in tight restricted locations.

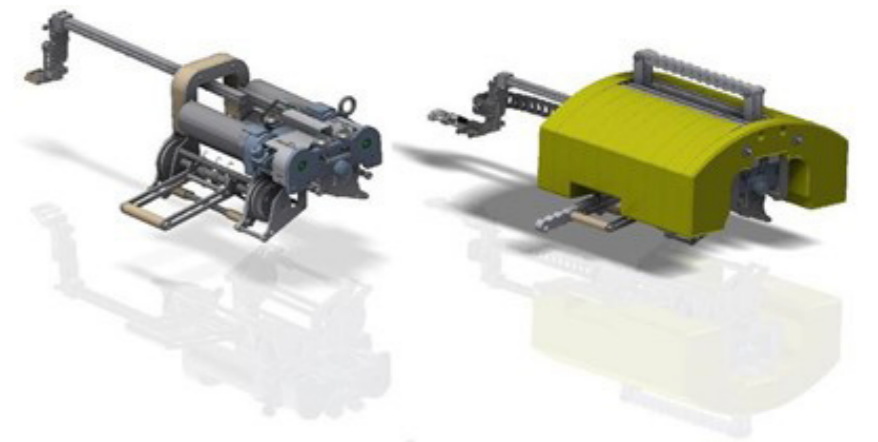
The unit adheres to the inspection surface via 4 x magnetic wheels, attraction Force $\approx 40\text{Kg}$. Once on the component, it can inspect 360 degrees (access restrictions dependent). The transducers can be moved in increments down to 1mm (or smaller) both circumferentially and axially around the component taking measurements at every location. The axial stroke is dependent on the application and access, but stroke lengths of 500 mm are typically applied.



The unit has an auto release mechanism when working with smaller ROV's to enable minimum effort for removal. The unit has an ultrasonic probe head garaging mechanism, for protection during deployment/recovery.

In its standard configuration, it can be applied from diameters 10" and above, including flat plate, and can cover a wide range of component geometries. The Nautilus system can deliver many inspection heads/techniques to perform various inspections including:

- ✦ Hot Tap nozzle weld inspections
- ✦ Pipeline IP Verification using corrosion mapping and TOFD
- ✦ Structural weld inspection
- ✦ Localised dent measurement



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

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

John Lilley

Senior Technical Consultant

T: +44 (0) 1925 414 000

E: John.Lilley@sonomatic.com

AUSTRALASIA

Jonathan Millen

Australia West Coast Project Manager

T: +61 415 850 346

E: Jon.Millen@sonomatic.com.au

Judd McCann

Australia East Coast Project Manager

T: +61 488 442 019

E: Judd.McCann@sonomatic.com.au

Zach McCann

South East Asia Regional Manager

T: +61 404 797 670

E: Zach.McCann@sonomatic.com.au

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

MIDDLE EAST

Gordon Reid

Regional Manager

T: +971 26 580 708

E: Gordon.Reid@sonomatic.com



www.sonomatic.com



www.cwl.group