



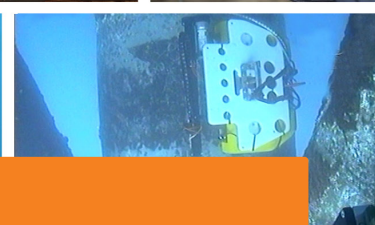
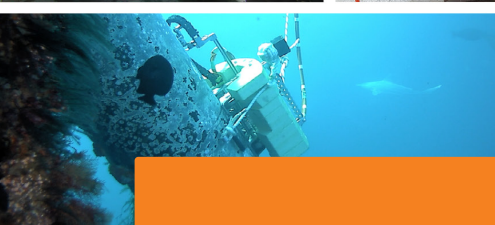
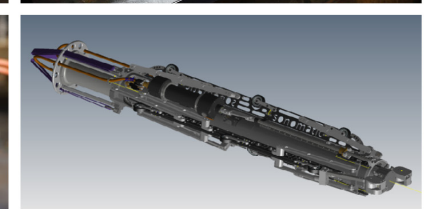
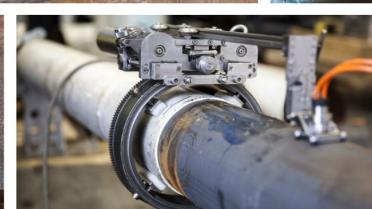
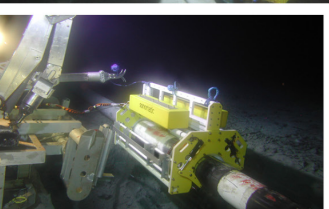
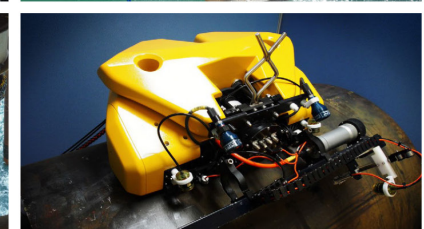
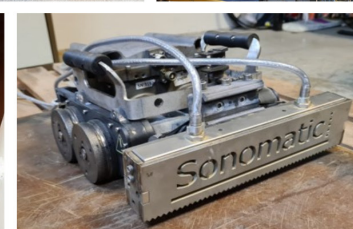
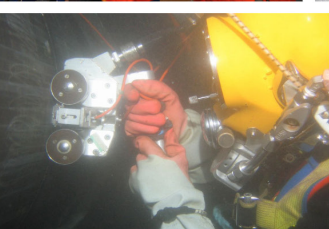
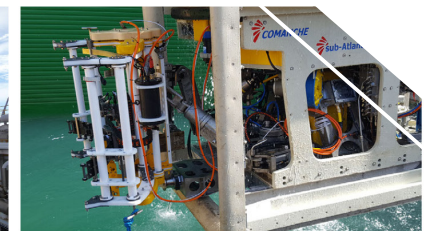
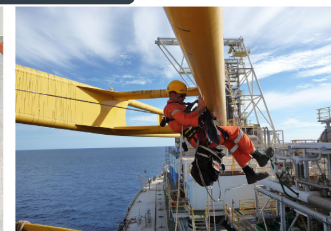
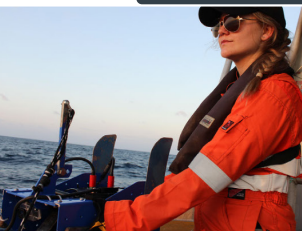
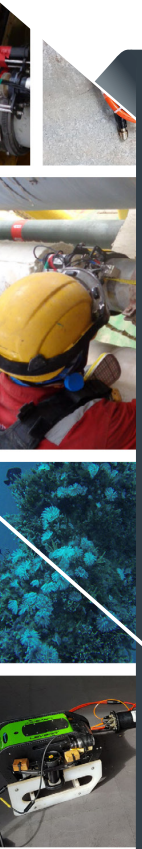
SONOMATIC

DATA SHEET

SUBSEA INSPECTION - DIVER DEPLOYED (AUTOMATED UT) NAUTILUS SYSTEM

THE PURPOSE

This document is composed to assist our clients and the supply chain to understand our group operating structure along with a high-level understanding of the benefits and services associated with our Diver deployed (automated UT) Nautilus system.



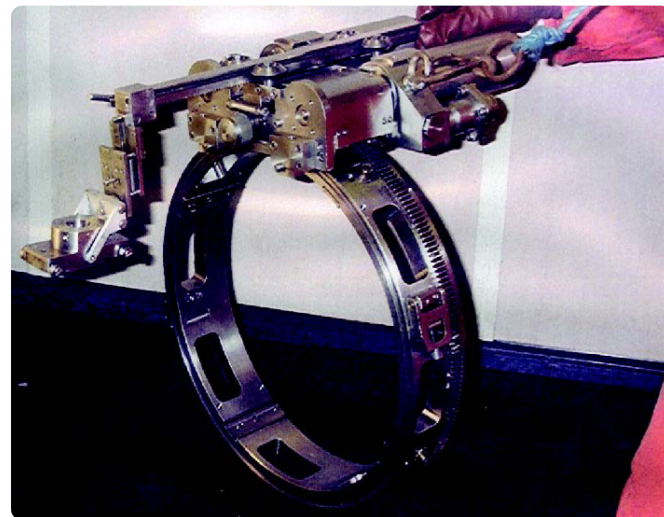
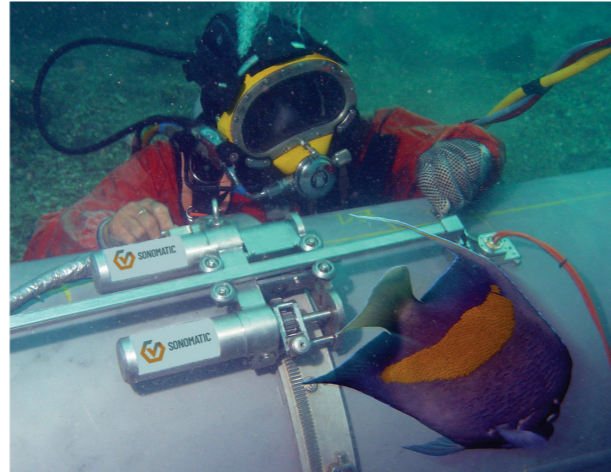
DIVER DEPLOYED NAUTILUS SYSTEM

The Nautilus system is a dual or triple axis motorised manipulator designed for the sub-sea inspection of pipework and tubulars at water depths down to 250 metres.

The manipulator is diver deployed, controlled from the surface, and 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 and Time-of-Flight Diffraction. Changes from one inspection method to another can be made with the manipulator insitu, negating the time-consuming recovery of the unit to the surface.

The manipulator is very adaptable and can be deployed in various formats to inspect a wide range of components for pipewall corrosion mapping, pipe weld inspection, flange weld inspection, complex geometry welds (nozzle HotTap welds) and pipe ovality inspections(including measurements of surface dents).



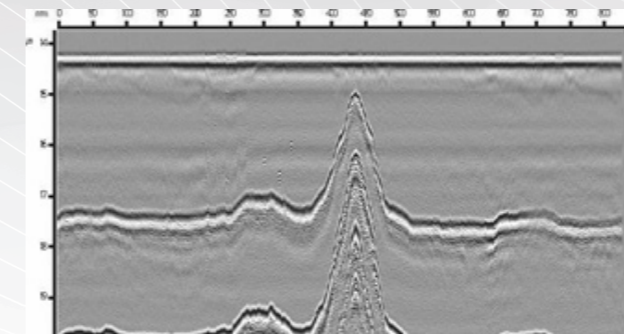
The Nautilus system facilitates very precise positioning and movement of the transducers via a rigid, hinged, collar attached to the component by saturation or air divers and is pressure rated to water depths of 250m. The collar provides a stable platform for the dual or triple axis, finely geared encoded scanner. 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 manipulator can be applied from diameters of 6" and above, including flat plate and cover a wide range of component geometries. The axial stroke is dependent on the application and access, but stroke lengths of 500mm are typically applied. The Nautilus has a low profile design which allows a minimum clearance of 120mm from the component surface.

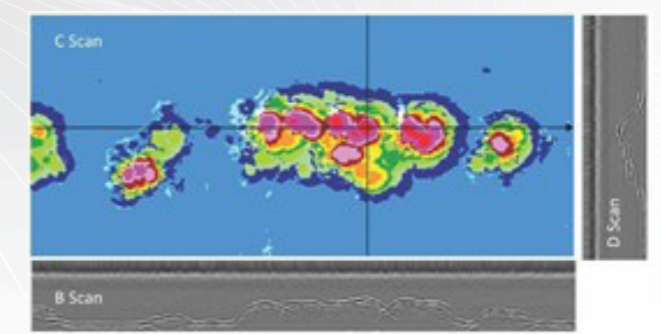
The Nautilus system can deliver many inspection heads/techniques to perform various inspections including:

- 🔧 Hyperbaric weld repairs.
- 🔧 HotTap nozzle weld inspections.
- 🔧 Pipeline IP Verification using corrosion mapping and TOFD.
- 🔧 Structural weld inspection.
- 🔧 Ovality inspections including localised dent measurement.

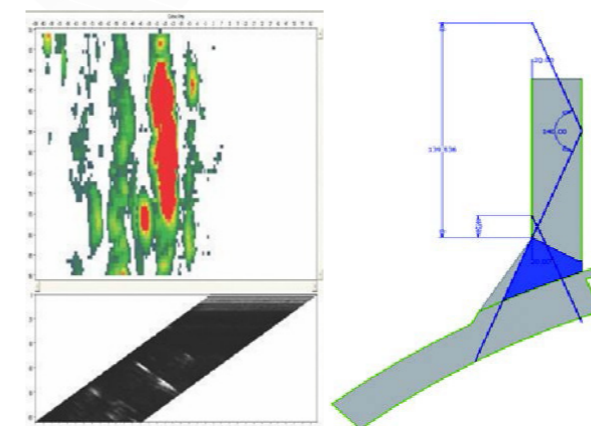
TOFD



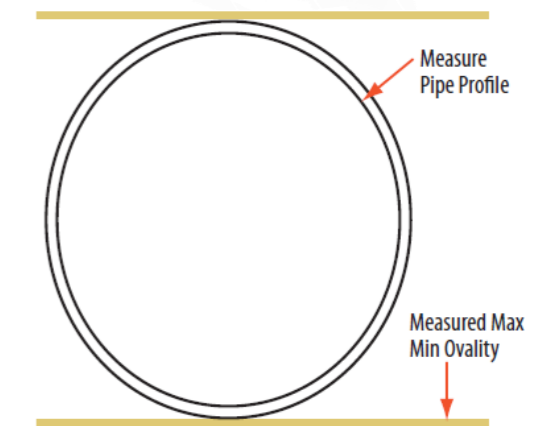
CORROSION MAPPING



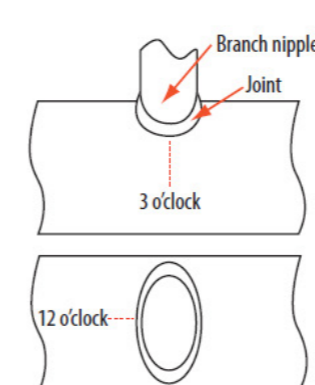
ANGLE SHEAR WAVE



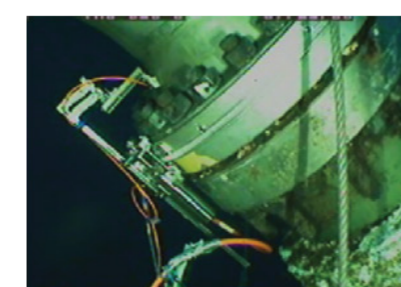
OVALITY



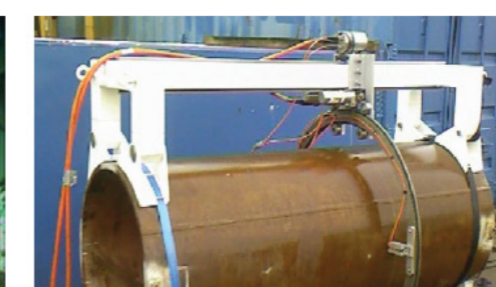
HOTTAP NOZZLE WELD INSPECTION



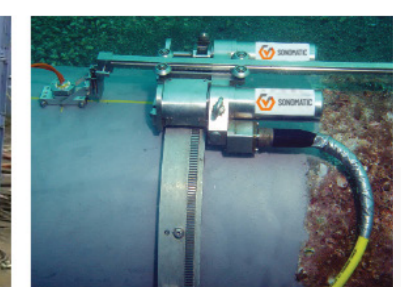
FLANGE WELD INSPECTION



PIPE OVALITY INSPECTION



CORROSION MAPPING



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 |



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