



INSPECTION OF OFFSHORE RISERS, CAISSONS AND STRUCTURES USING OUR SPIRO TOOL

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 SPIRO tool.



OFFSHORE RISERS, CAISSONS AND STRUCTURES

Offshore risers and caissons form a family of critical tubular structural and pressure elements to the fabric of the production asset, their integrity is essential to the effective operation of the offshore assets. The failure of a caisson can have severe consequences for other items such as pipelines subsea equipment and structures. Inspection aimed at providing a good understanding of the condition of these items is an essential part of assuring their integrity. Inspections can be carried out by tools deployed from the inside or the outside of the tubular being inspected. Sonomatic provides a comprehensive inspection and integrity service, offering both internally and externally deployed approaches.

The focus of Sonomatic's inspection service is on providing accurate and reliable data upon which to base integrity management decisions. Our internal inspection tool was developed with this objective in mind and it provides effective deployment of Sonomatic's industry leading ultrasonic inspection techniques.

DATA AND CAPTURE ANALYSIS: SPIRO (SPiral-ROtation)

Conducting an ultrasonic inspection from any corroded surface poses considerable challenges. At Sonomatic we have approached this challenge and are able to provide a made-to-fit inspection survey specifically tailored to the integrity requirements of the client and available budget and alleviated some of the obstacles of inspecting at the corroded surface. Using Sonomatics advanced ultrasonic data analysis allows us to interrogate the signals as if from a non-corroded surface, thus removing uncertainty from the measurements and supporting the requirements of integrity management decisions.

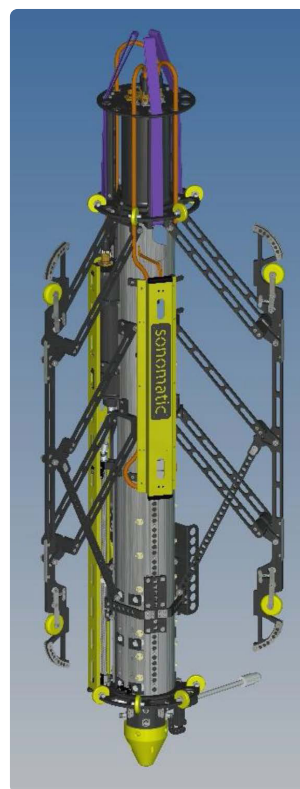
SPIRO TOOL KEY FEATURES:

- Inspection Technique: Water gap corrosion mapping. Water column technique used for inspection of dry section.
- Diameter Range: 16" - 44" with potential for 48" where required
- Wall Thickness Measurement: 12.5 mm to 30 mm
- Scan Length: 600 mm (including +/- 50 mm overlap)
- Scan Speed: 10 mins per 600 mm length
- Working Environment: Air and water (100 m max depth)
- Scan Technique: Continuous rotation spiral
- Weight: 55 kg in air, 35 in water
- Body Dimensions: 1950 mm length, 260 mm diameter

INSPECTION TECHNIQUES DEPLOYED TYPES OF DEGRADATION FOR INSPECTION

- 0 degree corrosion mapping
- Dynamic Response Spectroscopy (DRS)
- Time of Flight Diffraction (TOFD)
- Automated Pulse Echo (AUT)

- Internal corrosion
- External corrosion
- Localised corrosion
- General corrosion
- Fatigue cracking



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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