

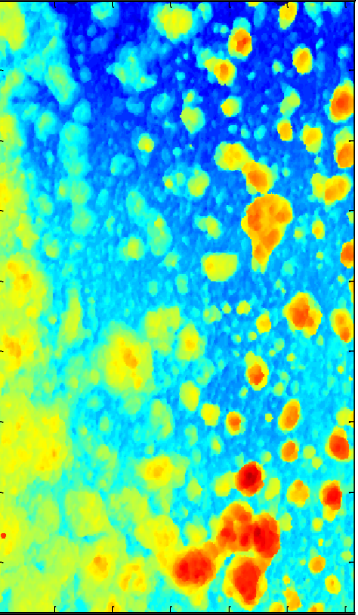
Internal inspection of caissons

Caissons are critical structural elements and their integrity is essential to effective operation of offshore assets. Furthermore, failure of caissons can have severe consequences for other items such as pipelines and risers. Inspection, aimed at providing a good understanding of the condition of caissons, therefore plays an important role in assuring their integrity. Inspections can be carried out by tools deployed from the inside or the outside of caissons. Sonomatic provides a comprehensive caisson 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 caisson tools was developed with this objective in mind and it provides effective deployment of Sonomatic's industry leading ultrasonic inspection techniques.

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Sonomatic has offices in strategic global locations so we can respond quickly to customers' requirements wherever they may be situated. Our high quality products are matched only by our customer service. In addition to our field services, we offer training and consultancy at our sites in the UK or at clients' premises anywhere in the world. Sonomatic is committed to improving asset performance through applied and innovative technology; to delivering these benefits to our customers in the products and services that we provide; and to working with our customers, as value-added partners, to realise the maximum benefits of inspection technology.



Data Capture and Analysis

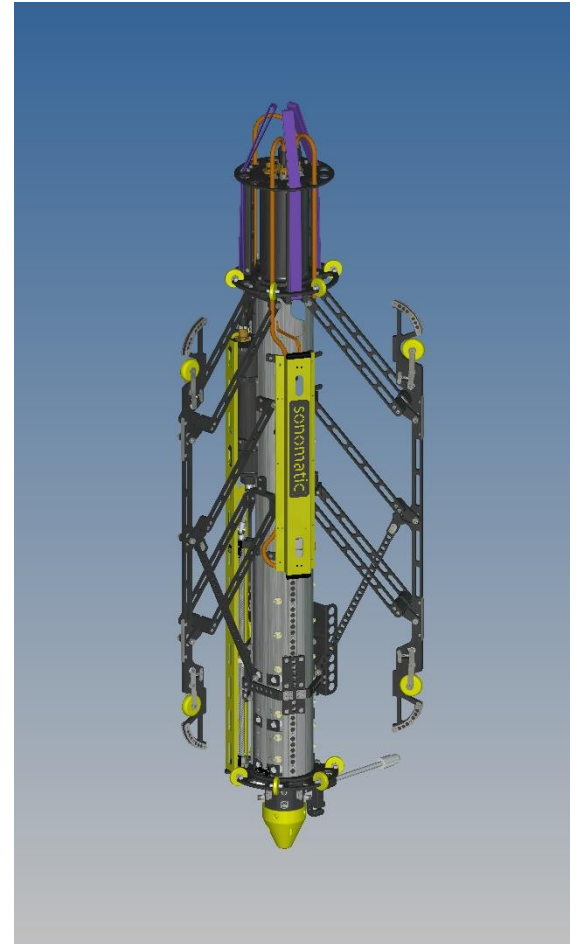
Caissons often have internal corrosion, this means the inspection is from the corroded side which represents a challenge for corrosion mapping. Sonomatic has optimised its approach to the inspection set up and has developed algorithms specifically to enhance the accuracy and reliability of measurements made from the corroded surfaces. Our approach means we can provide accurate measurements, e.g. to support fitness for service or remaining life assessments, in situations where the measurements made by competing systems have considerable uncertainty. Our results provide the basis for sound integrity decisions, proving significant cost benefits to clients.

Types of Degradation for Inspection

- Internal corrosion
- External corrosion
- Erosion and mechanical damage
- Localised corrosion
- General corrosion
- Fatigue cracking

Inspection techniques deployed

- 0 degree corrosion mapping
- Dynamic response spectroscopy
- Time of flight diffraction
- Automated pulse echo
- Geometry profiling



Key Features

- *Inspection Technique:* Water gap corrosion mapping. Water column technique used for inspection of dry section
- *Diameter Range:* 16" – 36"
- *Wall Thickness Measurement:* up 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 kg in water
- *Body Dimensions:* 1950 mm length, 260 mm diameter
- *Failsafe:* Design features ensure assembly will collapse in the event of power failure and probe arms will give way if snagged

QA and HS&E

It is Sonomatic's ongoing commitment to supply services and products, through the application of technical and engineering excellence, which complement both the customer's and our own QA and HS&E requirements.

Sonomatic's commitment to quality is maintained through continuous assessment and review of our Quality Management Systems to BS EN ISO 9001:2008. Sonomatic actively promotes the development, implementation and improvement of our QMS as a part of our ongoing drive to enhance customer satisfaction by meeting or exceeding customer requirements. In 2009 Sonomatic achieved UKAS accreditation as an Inspection Body to BS EN ISO/IEC 17020 (UKAS IB4276).