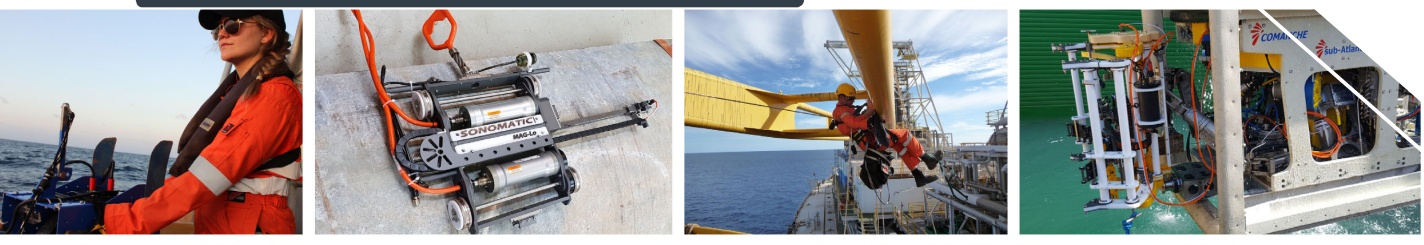
DATA SHEET

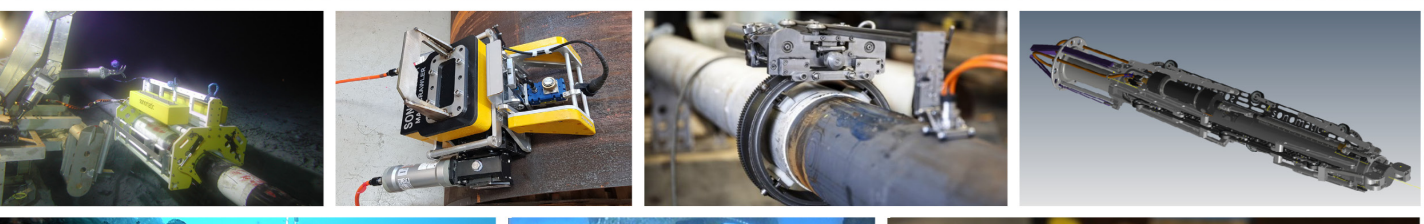
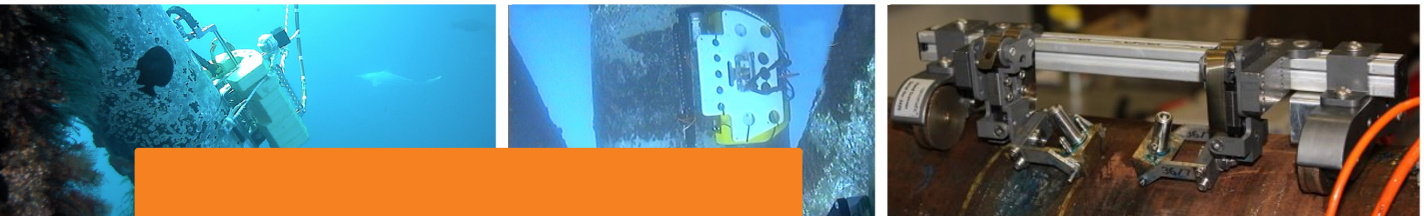
SH-EMAT INSPECTION

SONOMATIC

THE PURPOSE

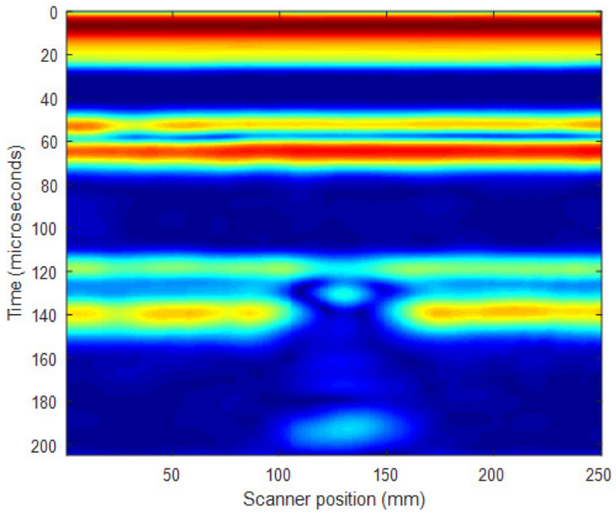
This document is composed to assist our clients and the supply chain with a high-level understanding of the benefits and services associated with SH-EMAT Inspection.

SH-EMAT INSPECTION

Sonomatic's topside SH-EMAT inspection technique allows rapid screening of pipework and pipelines. The system is compact, battery powered and does not require couplant, making it extremely portable. Due to its design, the system can easily be deployed using rope access. The technique has been validated through blind trials and has proven its capability on-site at various locations around the world. Inspection under pipe supports is a major application for this technique, as it allows the condition of the material to be reliably assessed without the need for lifting the pipe from the support.



The Sonomatic topside EMAT system uses a pitch-catch setup with one probe acting as a transmitter and another as a receiver. The probes produce shear horizontal (SH) guided waves and provide information on the condition of the sample between the transmitter and receiver. The probes can be separated by over one metre and are sensitive to both internal and external degradation. This system is suitable for material with a thickness range between 3 mm and 15 mm.

Unlike piezo-electric probes, EMATs do not require couplant and they do not need to be in direct contact with the sample. Once setup, the system can be used to collect encoded data on the condition of the sample between the probes. The system can be setup to scan axially along the length of a pipe or to scan circumferentially around a pipe.

When scanning axially, the probes are placed at approximately the 1 o'clock and 11 o'clock positions at the same axial location. The guided waves produced by the system then provide information on the condition of the entire circumference of the pipe. Encoded scans are then collected as the scanner is moved over the area of interest, the location of a pipe support for example. This setup can be applied to pipe diameters between 4" and 28".

If the full circumference of a pipe is obstructed, in the vicinity of bracket pipe supports for example, the probes can be located either side of the obstruction and moved circumferentially. In this case, the probes are placed at the same circumferential position but separated axially. The guided waves produced by the system then provide information on the condition of the sample between the probes. Encoded scans are then collected as the scanner is moved around the circumference of the pipe; this approach is suitable for the inspection of bracket pipe supports which cover the full circumference of a pipe. This setup can be applied to pipe diameters between 8" and 36".

Any areas of degradation between the probes will affect the amplitude and arrival times of the received signals. Areas where evidence of degradation has been recorded can be ranked according to the severity of the signal disruption. This is a screening method allowing the condition of locations to be determined rapidly. The system has been used on-site in the UK, USA, Australia, and South Africa.

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

Matthew Fleming
Principal Integrity Engineer
T: +44 (0) 1925 414 000
E: Matthew.Fleming@sonomatic.com

AMERICAS

Esteban Cesan
General Manager Americas
T: +1 832 977 0303
E: Esteban.Cesan@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.my

Alex Cesan
Australia & South East Asia General Manager
T: +61 498 442 666
E: Alex.Cesan@sonomatic.com.au

MIDDLE EAST

Gordon Reid
Regional Manager
T: +971 26 580 708
E: Gordon.Reid@sonomatic.com

SONOMATIC
www.sonomatic.com

CWL GROUP
www.cwl.group