

Longitudinal Submerged Arc Weld (LSAW) Inspection System

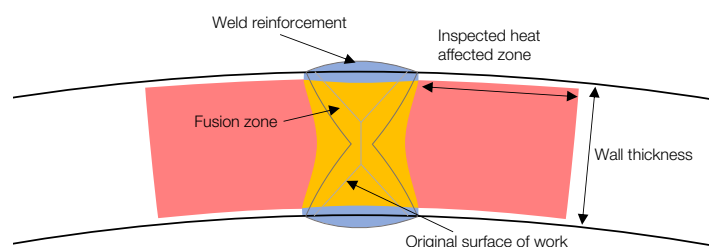


Longitudinal submerged arc welded (LSAW) tubes are manufactured by bending and molding steel plate and then joining the edges using a double-sided submerged arc weld. The LSAW process provides steel tubes with excellent ductility, uniformity, plasticity, weld toughness, and sealing. LSAW tubes are most commonly used in the oil and gas industry for efficient long-distance hydrocarbon transport pipelines.

Olympus' LSAW system is built to comply with international standards governing pipe manufacturing inspection requirements. Our LSAW system inspects 100% of the weld volume in addition to the heat affected zone (HAZ) of line pipes ranging from 304.8 mm to 2032 mm (12 in. to 80 in.). The defects detected include:

- Longitudinal and transverse cracks (up to 3 mm (0.12 in.) ID and OD for each side)
- Lack of fusion, lack of penetration, and penetrators according to the wall thickness (DEP standard*)
- Lamination defects in the HAZ (up to 75 mm (3 in.) for each side of the weld)

Olympus' LSAW system is a high-performance tube and weld inspection solution. The LSAW system uses ultrasonic phased array probes integrated into fully automated testing systems to meet even the most stringent requirements for weld-volume inspection. Designed for straightforward operation, the LSAW system helps manufacturers ensure the quality of longitudinal submerged arc welded tubes. This solution can be adapted to meet the varying needs of oil country tubular goods (OCTG) manufacturers.



LSAW Automated Turnkey Solution Features



Integrating the LSAW inspection system into the quality control process enables manufacturers to:

- Minimize dependency on operator skill, owing to the system's automatic calibration
- Detect defects at normal production speed with regular calibration checks
- Limit the overall dimensions of the inspection head by combining many inspection groups in the same PA probe
- Optimize detection with 2D scan visualization
- Reduce changeover time and probe setup time with automatic probe positioning and phased array beam steering

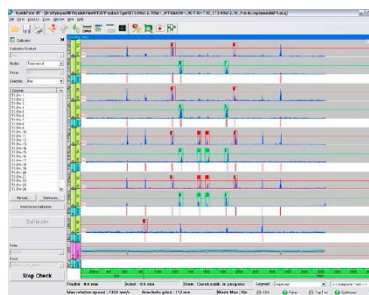
System Performance

Standard Product Range	Diameter	304.8 mm to 2032 mm OD (12 in. to 80 in. OD)
	Wall Thickness	10 mm to 50.8 mm (0.394 in. to 2 in.)
	Speed	200 mm/s to 800 mm/s
	Coverage	100% weld volume and 75 mm for each side of the weld
Data Presentation	Real-Time Inspection Results	C-scan, A-scan, B-scan, strip charts, and alarms
Inspection Modes	Typical Inspection Modes	Longitudinal, midwall defects, transverse, and lamination
Detection Capabilities for Typical Reference Defects	Repeatability	L, T notches and SFBH 3.2 mm: < 2.5 dB, TDH 3.2 mm and TDH 1.6 mm: < 3 dB, FBH 6.35 mm: < 4 dB
	Standards	ISO, API, DNV, DEP, Shell
Reporting and Data Storage	Report Types	Inspection, calibration, and calibration-check user-configurable reports
	Storage	Real-time database inspection data storage

This solution is powered by:



QuickScan™ Acquisition Units



QuickView™ Software



Olympus' Phased Array Probe

OLYMPUS SCIENTIFIC SOLUTIONS AMERICAS CORP.
is certified to **ISO 9001, ISO 14001, and OHSAS 18001.**

*All specifications are subject to change without notice.

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