

Ultrasonic Long Seam Weld Inspection Solutions AxSEAM[™] Semiautomated Weld Scanner with ScanDeck[™] Module



Longitudinal Seam ERW Weld Inspection Made Easy

- Monitor data quality through LED indicators and start the acquisition in the OmniScan[™] flaw detector from the scanner
- > Redesigned adjustable, toolless probe holder
- > Quickly and easily set up on a wide range of pipe diameters:
 - > Longitudinal welds:152.4 mm (6 in.) OD up to flat
 - > Circumferential welds: as small as 254 mm (10 in.) OD with 4 probes and 114.3 mm (4.5 in.) OD with 2 probes

Critical Inspection of ERW Welds

The electric resistance welding (ERW) manufacturing process that is used today involves applying a highfrequency alternating current (AC) to forge a weld in a pipe. Initially the process used low-frequency AC, but welds forged from this older process are prone to seam corrosion and hook cracks. This susceptibility is due to both the welding process and the quality of steel. While the newer ERW process yields higher quality welds, older pipes are still in service and need periodic examination to reduce the risk of critical failure.

Designed with the Operator in Mind

Inspecting pipes in the longitudinal direction can be more challenging than circumferential scanning as a change in pipe diameter has a greater impact on how the scanner and probes fit on the surface. This has been addressed in the design of some scanners by adding several complex adjustments, at the expense of simplicity. We developed the AxSEAM[™] scanner with a focus on easing the setup by minimizing the adjustments required when changing pipe diameters, probe separation, or scan orientation. The AxSEAM scanner also includes new features that enable one operator to perform the scan without needing to manipulate or monitor the acquisition instrument.



AxSEAM Scanner Key Features

- > 4 probe holders accommodate both PA and TOFD probes to execute a multitechnology inspection including TFM
- > Patented dome-shaped wheels adapt to pipes without adjustment between changes in diameter
- > Magnetic wheels and brake system to maintain the scanner position on the pipe
- > Intuitive tool-free adjustment mechanisms and controls
- > Convenient cable management sleeve





Stay on Track with the Laser Guide

ERW welds can be difficult to see with the naked eye, and the location of the weld may need to be marked prior to inspection. The laser guide helps you keep aligned with the weld or markings during scanning to maintain the integrity of your acquisition data.



Redesigned Probe Holder

The scanner's probe holders are essential to maintaining the signal integrity through stable probe positioning and constant coupling. They are also a part of the scanner that the operator needs to manipulate on a regular basis. To help ensure high-quality signals and ease-of-use, our innovative probe design includes these features:

- > Toolless probe switching
- > Adjustable to different wedge sizes
- > Vertical latching system to ease probe and wedge changes and handling
- > Adjustable pressure

Control Data Integrity with the ScanDeck[™] Module

The AxSEAM scanner's ScanDeck[™] module provides important information to the operator directly on the scanner and enables remote operation of the instrument. It is easy to reach and in your line of sight while scanning.

- > Focus on scanning: The ScanDeck[™] module contains two buttons, one button can "zero" the encoder and start the acquisition on an OmniScan[™] instrument (any model) and the other button activates the laser quide.
- > Monitor your speed and coupling: One LED indicator is linked to the OmniScan X3 unit's phased array channels and alerts to loss of coupling, and another set of LEDs indicate when the scan speed has exceeded the maximum to prevent missed data. This feature is particularly useful for total focusing method (TFM) inspection, which can require a lower acquisition rate.



Versatile for a Fast ROI

The AxSEAM scanner can be used to perform longitudinal or circumferential scanning with only minor adjustments. It offers operators a complete scanning system, so they can accomplish more with less equipment for a faster return on investment (ROI).



The AxSEAM scanner on a circumferential weld with 2 probes on a 114 mm (4.5 in.) OD pipe



The AxSEAM scanner on a circumferential weld with 4 probes on a 324 mm (12.75 in.) OD pipe

Unleash the Power of TFM on ERW with the OmniScan[™] X3 Flaw Detector



The multitechnology functionality of the OmniScan X3 flaw detector enables fast PA/TOFD screening of long seam welds followed by more targeted inspection of regions of interest using the total focusing method (TFM) without switching the probes.

Using a multitechnology approach provides a more complete picture of pipe welds as well as a greater probability of detection (POD). In ERW welds, the most critical flaws to detect are vertically oriented, and pulse-echo acoustic beams do not always hit these flaws at an angle that reflects optimal energy back to the probe. TFM provides even focus in the region of interest, offering increased definition on difficult-to-detect indications so the characterization of vertical flaws and hook cracks is easier.

Ordering Information

Item Number	Part Number	Description
Q7400001	AxSEAM-2probes-5M	AxSEAM scanner package with two-probe capability and 5-meter cable
Q7400002	AxSEAM-2probes-10M	AxSEAM scanner package with two-probe capability and 10-meter cable
Q7400003	AxSEAM-4probes-5M	AxSEAM scanner package with four-probe capability and 5-meter cable
Q7400004	AxSEAM-4probes-10M	AxSEAM scanner package with four-probe capability and 10-meter cable

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