OLYMPUS®

Your Vision, Our Future

PHASED ARRAY CORROSION MAPPING SOLUTION

HydroFORM

Manual and Semi-Automated Corrosion Mapping

The HydroFORM scanner is designed to offer the best inspection solution for detecting wall thickness reductions due to corrosion, abrasion and erosion. In addition, HydroFORM detects mid-wall damage such as hydrogen induced blistering or manufacturing induced laminations and easily differentiates these anomalies from loss of wall thickness.

Using phased array ultrasound technology, the HydroFORM offers high resolution and fast coverage. The HydroFORM has a 60 mm wide effective beam and can scan at a speed up to 100 mm/s.

In the current market place, motorized scanners, combined with small conventional UT probes, need to reach ever-higher raster speeds to be productive.
As a consequence of high speed raster scanning, mechanical failures and poor ultrasonic data quality can occur. In addition, high raster scan speed creates a potentially unsafe environment for operators.

Increased production rate combined with affordable equipment and compatibility with existing Omniscan MXU acquisition unit makes the HydroFORM a cost effective choice.

Hydroform uses an ingenious local immersion concept allowing excellent surface conformance and optimized coupling conditions for easy synchronization on front-wall echo for OD and ID corrosion monitoring. No wedges are used with the HydroFORM.

The phased array technology also brings the ability to detect and characterize various anomalies using ultrasonic compression wave and angle beam inspection techniques.

The HydroFORM can be used:

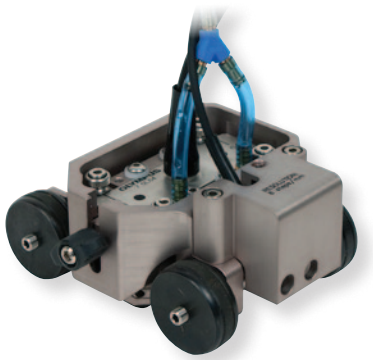
Manually: with supplied application-specific Mini-Wheel encoder

Semi-automatically: used in conjunction with the field-proven CHAIN Scanner.

The combination of OmniScan, HydroFORM and CHAIN Scanner creates a battery-operated phased array corrosion mapping system that is completely portable.

Features

- First commercially available semi-automated phased array product for corrosion mapping applications.
  - Covers a 60 mm (2.36 in.) wide strip at a speed up to 100 mm/s (4 in./s), with a 1 mm x 1 mm resolution
  - Reduced probe raster movement increases safety for operators and improves mechanical reliability
- Scanner concept creates a local immersion technique that enables conforming to rough and uneven surfaces.
  - Easy synchronization on front wall for OD and ID corrosion monitoring
  - Wedge reflection is eliminated
  - Coupling is optimized
  - Low water requirements
- Patent-pending quick radius adjustment allows inspection of different curvatures. No wedges needed.
  - Convex surface: 4 in. OD, up to flat
  - Concave surface: 10 in. ID, up to flat
- HydroFORM can be attached to automated or semi-automated scanners and used independently as a manual scanner.
- Cost effective
- Minimal tools required for normal operation



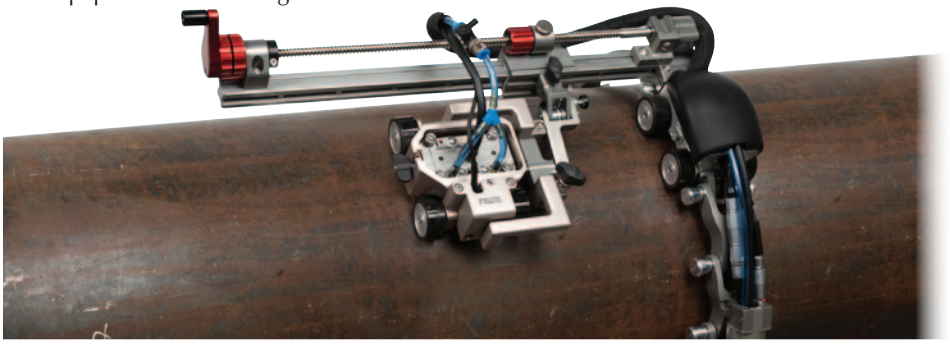
Patent-pending quick radius adjustment allows inspection of different curvatures without the need of wedges. HydroFORM also has an integrated encoder necessary for manual inspections.

New Solution Using Instruments You Already OWN!

The HydroFORM corrosion mapping solution is based on multifunction equipment and software tools that you may already use to perform weld inspection:

- OmniScan PA flaw detector
- CHAIN Scanner
- TomoView software

Reduce the idle time of these instruments; increase your ROI, and broaden your service portfolio. The HydroFORM scanner is the perfect complement to your existing Olympus equipment. In addition to weld inspection, you can now do corrosion mapping with minimal equipment and training investment.



Ordering Information

Part Number	Item Number	Description	HYDROFORM-K-ADPCHAIN (U8750058)
HYDROFORM-K-MANUAL	U8775182	HydroFORM corrosion mapping scanner including probe holder with water delay line, carriage with 4 magnetic wheels, one phased array probe (7.5L64-I4-P-7.5-OM), 100 foam gaskets, and application-specific Mini-Wheel encoder.	✔
HYDROFORM-A-ADPCHAIN	U8775183	Accessory kit to adapt HydroFORM to CHAIN Scanner.	✔
CHAINSCAN-XY38	U8750041	CHAIN Scanner with 2 encoded axis for pipe OD up to 38 in.	
CFU03	U8780008	Electric water pump and tubing, works on 120 V and 220 V	
WTR-SPRAYER-8L	U8775001	8 L manual water pump with irrigation tubes and fittings **Note: for optimal results, the use of the CFU03 is recommended**	
HYDROFORM-SP-FOAM	U8775184	100 foam gaskets spare part kit	

Phased Array Probe

Part Number	Item Number	Frequency (MHz)	Number of Elements	Pitch (mm)	Elevation (mm)	Cable Length (m)	Connector Type
7.5L64-I4-P-7.5-OM	U8330955	7.5	64	1.0	7	7.5	OmniScan

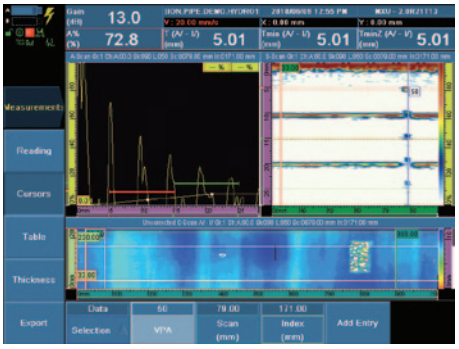
OmniScan MXU software

OmniScan MXU software offers specific functions to support corrosion mapping applications:

- Live measurement of minimum thickness and its position from the beginning of the scan
- Minimum thickness measurement in a selected zone

TomoView

- For more thorough analysis on PC-based software
- Fast sizing of indications (minimum thickness and area)
- Easy data export to Excel (or other format)



OmniScan MXU software displaying C-scan view of corrosion.

OLYMPUS NDT INC. is ISO 9001 certified.

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