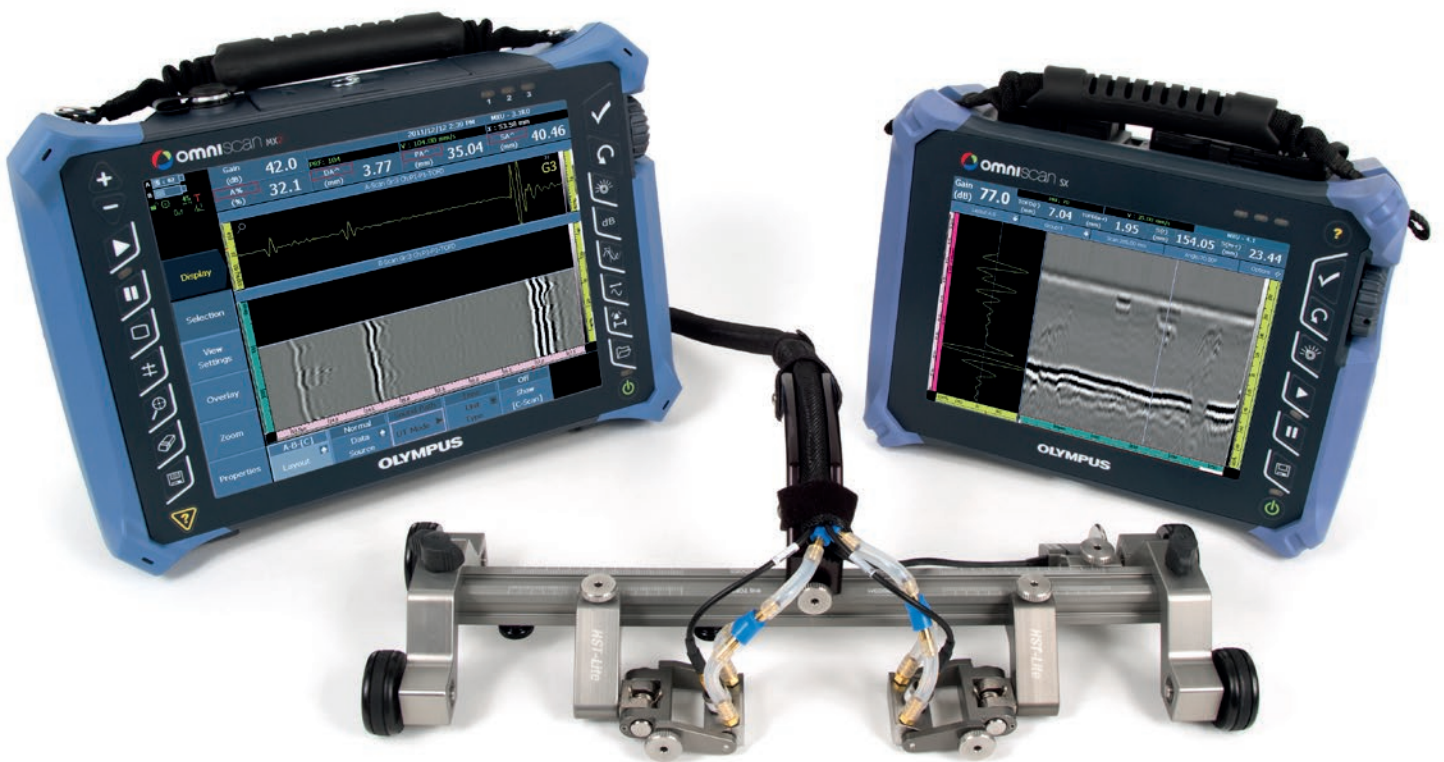


TOFD Weld Inspection



- Excellent signal-to-noise ratio
- More powerful pulsers
- Easy TOFD-specific setup wizard
- Crisper B-scan imaging
- Optimized lateral wave straightening
- PCS calibration

Next Generation OmniScan TOFD Performance

The Olympus OmniScan® MX2 with the UT2 module and the OmniScan® SX are powerful yet affordable solutions for TOFD inspection. Representing the latest developments in software and hardware, the OmniScan SX and the UT2 module for the OmniScan MX2 are designed to make weld inspection using the TOFD technique fast and easy. Numerous performance enhancements and a leading-class signal-to-noise ratio provide you with optimum data quality for TOFD inspection.



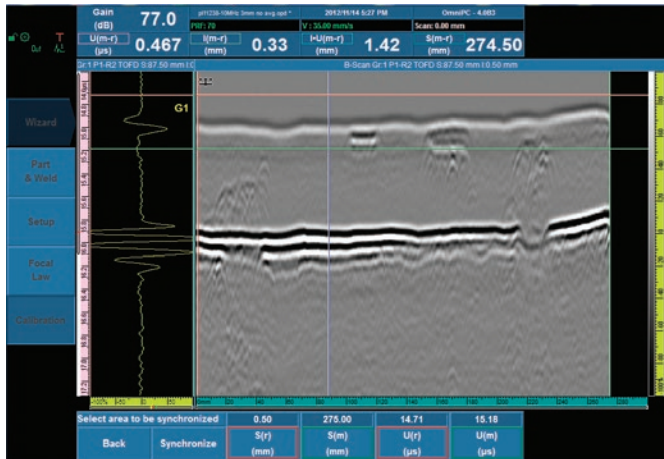
Key Improvements

- Specific setup wizard for TOFD inspection.
- New probe center separation (PCS) calibration tool.
- Crisper, more legible B-scan images.
- Multi-TOFD layouts (available on OmniScan MX2 only).
- Optimized lateral wave straightening.
- Higher pulse repetition frequency (PRF).
- Higher voltage (up to 340 V); eliminates the need for preamplifiers.

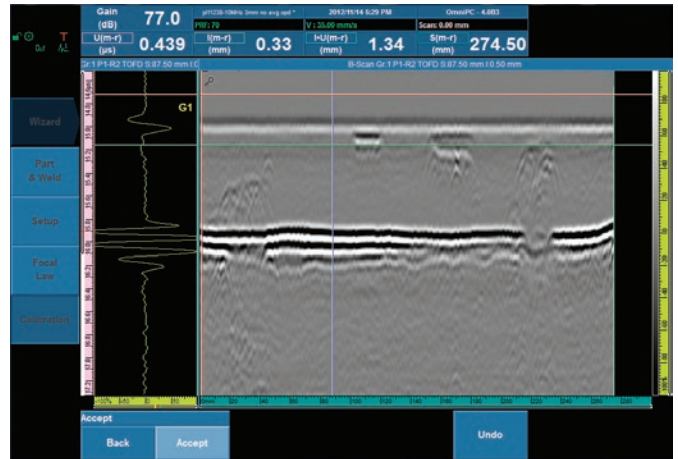
When combined, these features offer you a faster and simpler setup, easier results interpretation, and more accurate defect sizing for an overall increase in productivity.

Lateral Wave Straightening

The lateral wave straightening function has been optimized so that the readability of TOFD results is improved. A straighter lateral wave also enables more precise depth evaluation and flaw sizing.



Raw TOFD data



TOFD data after lateral wave straightening is applied.

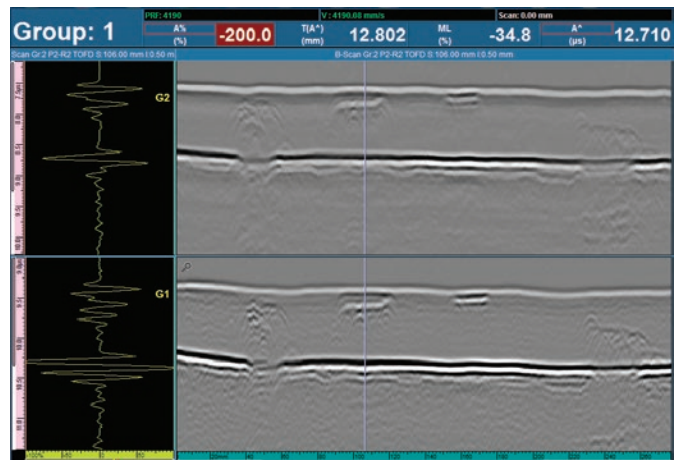
Multi-TOFD Layouts

(OmniScan MX2 only)

The new Multi-TOFD layout, offered in the latest OmniScan® MXU software, can display more than one group at a time. This enables you to easily position and size flaw indications by visual correlation between groups.

OmniPC Analysis Software

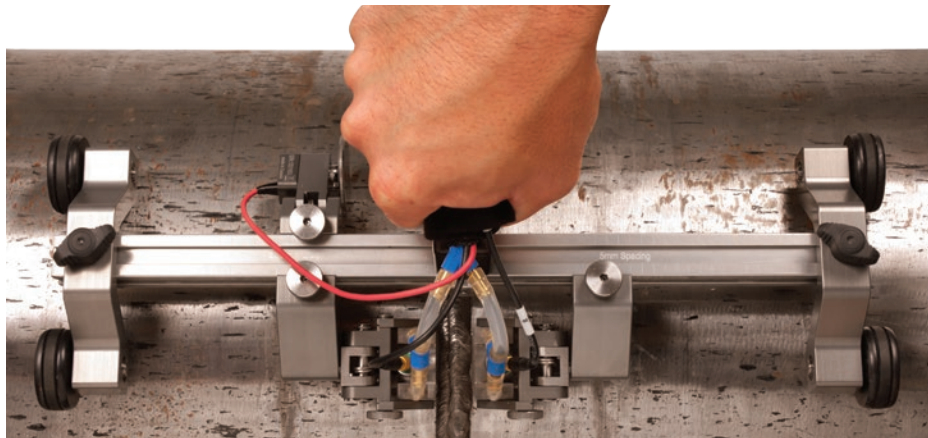
All of these improved software capabilities have also been incorporated into the OmniPC™ software. This gives you the flexibility to analyze data on a computer, while the OmniScan unit is redeployed to the next data acquisition job.



Dedicated Scanners and Accessories

HST-Lite TOFD Scanner

The HST-Lite scanner is an ideal tool for performing cost-effective, one-channel TOFD inspection with consistent and reliable data quality. The combination of magnetic wheels and spring-loaded probe holders offer the stability required to perform high-quality, one-line inspections. The scanner can be operated with one hand, and it maintains a firm hold on ferromagnetic surfaces even when held upside-down.

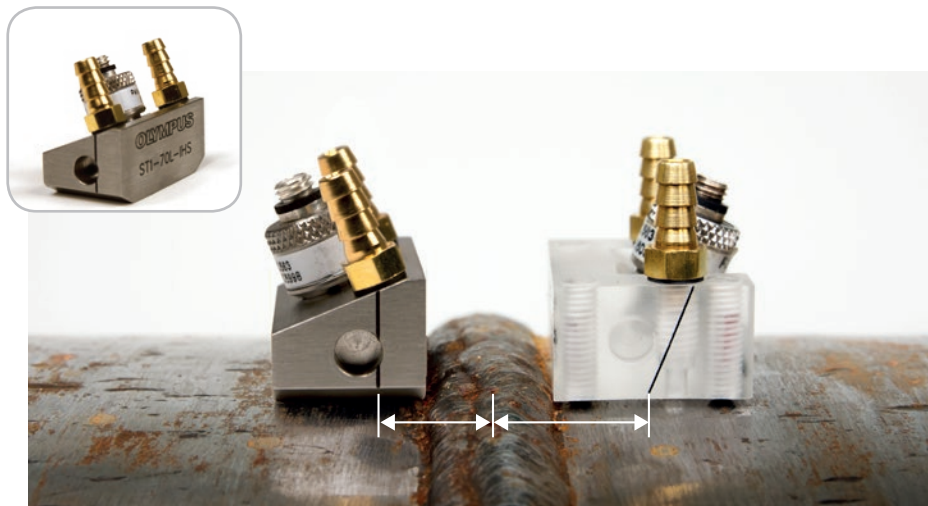


Stainless Steel TOFD Wedges

Olympus offers an HST-Lite scanner kit that comes standard with stainless steel TOFD wedges. For many applications, stainless steel wedges are a better option than common Rexolite wedges as they offer several advantages:

- Excellent wear resistance without the hassle of carbide wear pin adjustments.
- Better coupling as carbide wear pins can lift the wedge from the surface.
- 3 mm shorter approach (than Rexolite) for better coverage of the top of the weld.
- More rugged for longer life.

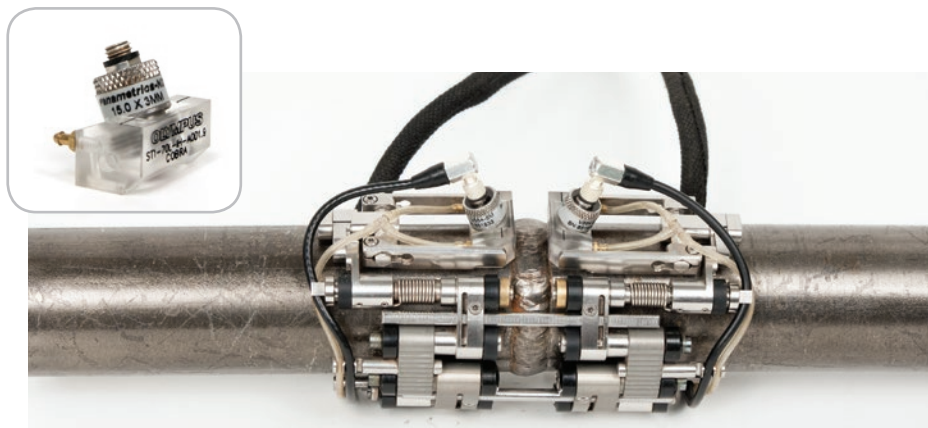
These wedges are compatible with the Olympus line of high-performance TOFD transducers (ST1 case type).



The approach of the stainless steel wedge (on the left) is 3 mm shorter than the Rexolite wedge for better weld coverage

TOFD Inspection of Small Pipes

Designed specifically for use with the COBRA® pipe scanner, an additional line of TOFD wedges is available for small-diameter-pipe weld inspections. These wedges can be fitted with 3 mm element-diameter transducers to inspect pipes measuring from 1 in. to 4.5 in. OD. Olympus ST1 wedges are available in various refracted longitudinal angles, and they can be ordered for specific diameters or in a kit covering the complete diameter range.



The COBRA small-diameter pipe scanner can perform TOFD inspections with the appropriate wedges, cables, and transducers.

Olympus Helps You Get the Job Done

In addition to its complete and field-proven solutions, Olympus offers invaluable comprehensive support, service, and training on a global scale. The Olympus Training Academy ensures that you have all the necessary know-how to fully benefit from your investment with optimum productivity.

Olympus is the logical choice for your nondestructive inspection needs.

Ordering Information and Specifications*

Ordering Information

INSTRUMENT		
Part Number	Item Number	Description
OMNI2-P2-UT-2C	U8100132	OmniScan MX2 and 2-channel UT2 module package
OMNISX-UT	U8779743	OmniScan SX and 1 UT channel
OMNISX-PA1664PR	U8779744	OmniScan SX phased array 16:64 with 1 UT channel
OMNIPC-A	U8775269	OmniPC software

SCANNER PACKAGES

1 in. to 4.5 in. OD — Single-group TOFD weld inspection with COBRA scanner

Part Number	Item Number	Description
COBRA	U8750053	Small pipe scanner kit with encoder
COBRA-A-ST1-70L	U8701348	70° L-wave wedge kit including 2 flat and 9 pairs of curved TOFD wedges for pipes of 1.05 in. to 4.5 in. OD
COBRA-A-ST1-80L	U8710172	80° L-wave wedge kit including 2 flat and 9 pairs of curved TOFD wedges for pipes of 1.05 in. to 4.5 in. OD
COBRA-SP-BASIC	U8775166	Basic spare parts kit
COBRA-SP-FULL	U8775188	Basic spare parts kit, plus links and encoder assembly
C563-SM	U8435028	Centrascan composite transducer, 10 MHz, 0.125 in. (3 mm) diameter with straight Microdot connector
V564-SM	U8474029	Videoscan transducer, 15 MHz, 0.125 in. (3 mm) element diameter with straight Microdot connector
C174-LM-UDOT90-3M	U8779694	Cable LEMO-00 male 180 to Microdot 90°, 3 m, coaxial RG174
WTR-SPRAYER-4L	U8775153	4 L manual water pump with irrigation tubes and fittings

4.5 in. OD up to flat — Single-group TOFD weld inspection with HST-Lite scanner

Part Number	Item Number	Description
HST-Lite-Kit01	U8750062	Manual TOFD scanner package. Includes: scanner with two spring-loaded probe holders for 31.75 mm wide TOFD wedges, four magnetic wheels and OmniScan-compatible encoder with 5 m long cable, irrigation tubing, and protective cable conduit. The scanner has a 345 mm long frame bar. The package also includes: two 5 m LEMO-00 to Microdot probe cables, two 10 MHz, 3 mm (C563-SM) and two 5 MHz, 6 mm (C543-SM) composite TOFD transducers with Microdot connector, 2 each of 45°, 60°, and 70° stainless steel TOFD wedges with irrigation and scanner holes (ST1-45L-IHS, ST1-60L-IHS, and ST1-70L-IHS), and one carrying case.
WTR-SPRAYER-8L	U8775001	8 L manual water pump with irrigation tubes and fittings.

4.5 in. OD up to flat — Multi-Group TOFD weld inspection with HSMT-Compact or HSMT-Flex scanner

Part Number	Item Number	Description
HSMT-COMPACT	U8750024	Manual scanner with four spring-loaded probe holders, four magnetic wheels, and OmniScan-compatible encoder with 5 m long cable and irrigation tubing. Includes frame bars of three different lengths (250 mm, 450 mm, and 650 mm).
60BA0131	U8775093	0.3 m of divisible cable conduit with 24.2 mm ID. Well-suited for 2 × PA, 4 × conventional UT, irrigation tube, and encoder cable. Unit: 0.3 m (1 ft) long.
C563-SM	U8435028	Centrascan composite transducer, 10 MHz, 0.125 in. (3 mm) element diameter with straight Microdot connector
C543-SM	U8435020	Centrascan composite transducer, 5 MHz, 0.25 in. (6 mm) element diameter with straight Microdot connector
C174-LM-UDOT-5M	U8800517	Cable LEMO-00 male 180° to Microdot 180°, 5 m long coaxial RG174

Specifications

PULSER	
Voltage	95 V, 175 V, and 340 V
Pulse Width	Adjustable from 30 ns to 1,000 ns; resolution of 2.5 ns
Pulse Shape	Negative square wave
Output Impedance	<30 Ω

RECEIVER	
Gain	0 dB to 120 dB maximum input signal 34.5 Vp-p (full-screen height)
Input Impedance	64 Ω in pulse-echo mode 51 Ω in pulse-receive mode
System Bandwidth	0.26 MHz to 27 MHz (-3 dB)

www.olympus-ims.com

OLYMPUS

For enquiries - contact
www.olympus-ims.com/contact-us

OLYMPUS SCIENTIFIC SOLUTIONS AMERICAS CORP.
48 Woerd Avenue, Waltham, MA 02453, USA, Tel.: (1) 781-419-9300
12569 Gulf Freeway, Houston, TX 77034, USA, Tel.: (1) 281-922-9300
OLYMPUS NDT CANADA INC.
505, boul. du Parc-Technologique, Québec (Québec) G1P 4S9, Tel.: (1) 418-872-1155
1109 78 Ave, Edmonton (Alberta) T6P 1L8

OLYMPUS SCIENTIFIC SOLUTIONS AMERICAS CORP.
is ISO 9001 and 14001 certified

*All specifications are subject to change without notice.
All brands are trademarks or registered trademarks of their respective owners and third party entities.
Copyright © 2015 by Olympus.

