

HotSense™ ultrasonic Time-Of-Flight Diffraction (TOFD) transducers

Minimise operational risk and maximise productivity with on-stream asset intelligence

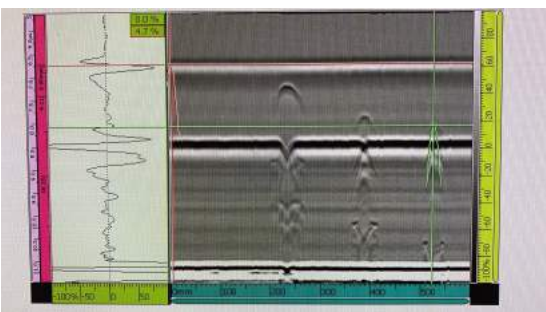
Time-of-flight diffraction transducers for on-stream weld root corrosion and crack/defect detection for use in applications across **refining, oil & gas, energy, nuclear, aerospace** and **process sectors**.

Keywords: TOFD, weld inspection, on-stream inspection, extreme environments, ultrasonic testing



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ADVANCED TECHNOLOGIES



HOTSENSE

- **Built on the award winning HotSense™ ultrasonic platform** powered by the proprietary Ionix HPZ piezoceramic
- **-55 to +350 °C** [-67 to +662 °F] continuous use temperature range
- **No cooling** required. Increase your productivity by reducing duty cycling
- **High sensitivity** with integrated wedges across the temperature range
- **Stable signal** for reliability and repeatability - no duty cycling means no drift from thermal gradients in the wedges
- **Short approach** to beam exit to get closer to weld caps
- **Enhanced wear resistance** for the most extreme environments and applications
- **Compatible** with commercial scanners and crawlers

APPLICATION

- Make weld inspections on hot assets, on-stream, without the need to shutdown or isolate
- Make effective weld root corrosion assessments rapidly at high-temperature
- Detect and size cracks or defects in welds or parent material on-stream
- Screen for HTHA in-service
- TOFD carries the highest POD for NDT methods

SOLUTIONS

- Maximise productivity with reduced down-time and outages with on-stream inspection
- Perform high-temperature pre-inspection to optimise shutdowns
- Standardise data collection using commercial UT flaw detectors and scanners
- Reduce operational costs and maximise production margins
- Compliant to ISO 22232-2 and ASTM E/1065 to meet your existing asset integrity UT procedures

hotsense  Powered by **ionix**

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HotSense™ TOFD



STANDARD TRANSDUCER SPECIFICATION

PARAMETER	VALUE	UNIT
Operating Temperature	-55 to +350 / [-67 to +667]	°C / [°F]
Refracted beam	50, 60 and 70, longitudinal at 200 °C / 392 °F *	degrees
Wedges	Engineering polymer in steel, integrated Profiled on request	-
Connector type	Lemo 00	m / [ft]
Pivot pins	5 mm pins as standard **	-
Couplant nozzles	to fit 4 - 4.5 mm tubes	-
Ruggedisation	Designed to meet IP 65 Stainless steel construction	-
Acoustic characteristics certificate of conformity to ISO 22232-2 supplied with each unit		
Transducer centre frequency	5.0 at 50 & 60 deg wedge angle 6.0 at 70 deg wedge angle	MHz
Active element diameter	6.0	mm
Beam exit distance from edge	1.5	mm

Compatible with UT flaw detectors and scanners

**Other variations available via special request

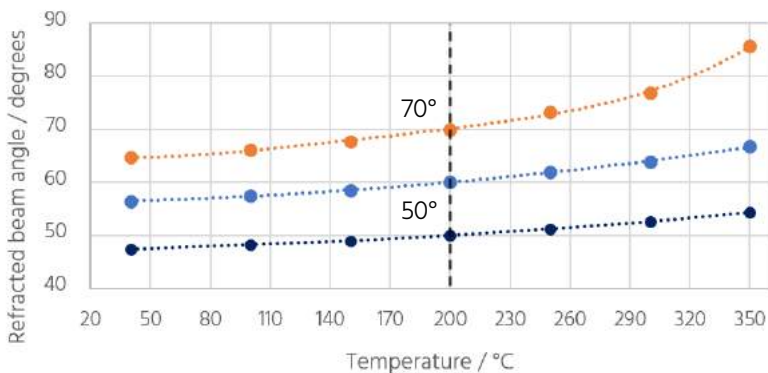
For couplant, cables accessories and other specifications please contact our sales team

MEASUREMENT RANGE

PARAMETER	VALUE	VARIABLES
Minimum wall thickness	6 mm	at 20 °C

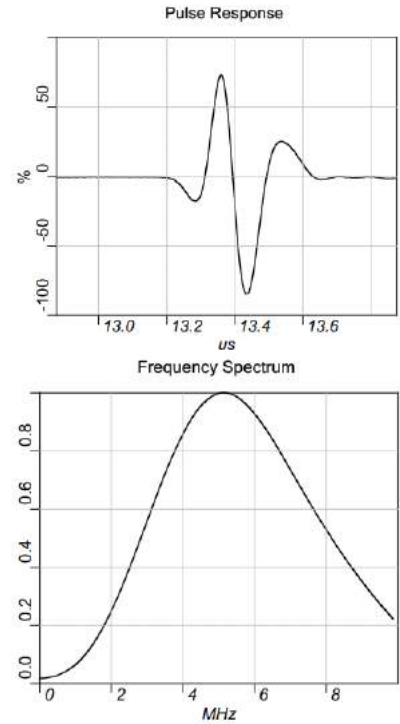
*Refracted angle temperature dependence on steel

Longitudinal beam angle with temperature



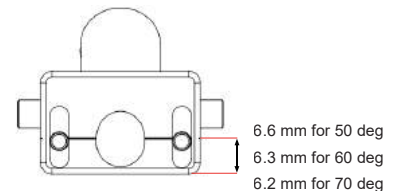
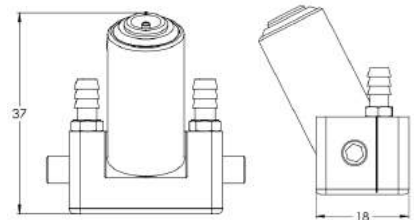
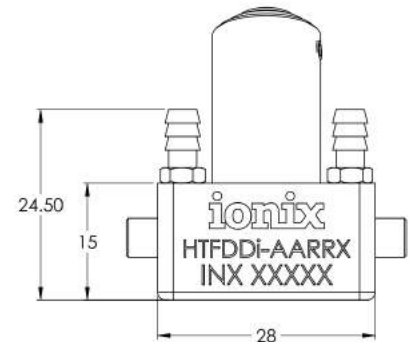
Contact Ionix to order, for further information or to find a solution for your application

TYPICAL ULTRASONIC RESPONSE



CERTIFICATION

Meets the requirements of ISO 16828



Want to discuss your demanding environment needs?

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