

HotSense™ high-temperature ultrasonic thickness gauging transducers

Reduce inspection time with no duty cycling and robust calibration

Dual element ultrasonic transducer for high-temperature, in-service thickness, corrosion and erosion surveys for use in applications across **refining, oil & gas, energy, nuclear, aerospace** and **process sectors**.

Keywords: corrosion, erosion, in-service inspection, extreme environments, ultrasonic testing, high-temperature

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ADVANCED
TECHNOLOGIES



HOTSENSE

- **Built on the award winning HotSense™ ultrasonic platform** powered by the proprietary Ionix HPZ piezoceramic.
- **Dual element thickness gauging transducers** for use across the widest temperature range **-55 to +550 °C** [-67 to 1,022 °F] for in-service assets.
- **Reduce inspection time** with **no duty cycling or cooling** up to 350 °C [662 °F] maximising productivity and minimising down-time or outages with in-service inspection.

APPLICATION

- **Measure remaining wall thickness** from 1 to 500 mm with compatible thickness gauges (2 to 50 mm echo-to-echo) on hot components, in-service without shutdown or isolation.
- **Better data** from easier and more accurate calibration at temperature.
- **2X increased wear resistance** for the most extreme environments and applications including scanning and corrosion mapping.
- **Range of accessories available**, including port inspection wand, safety guards and AUT probe holders for the most extreme temperatures.
- **Compatible with industry standard** ultrasonic gauges and flaw detectors.
- **Compliant to ISO 22232-2 and ASTM E/1065** to meet existing asset integrity UT procedures.

SOLUTIONS

- Maximise productivity with reduced down-time and outages with on-stream inspection.
- Perform real-time, high-temperature inspection to optimise shutdowns.
- Reduce premature probe failures with increased temperature resilience and increased wear resistance to maximise probe lifetime.
- Compatible with auto-functions of most gauges eg. Olympus 38DL+.

hotsensei® | Powered by **ionix**

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HS582i



TRANSDUCER RANGE SPECIFICATION

| PARAMETER | VALUE | UNIT |
|---|---|-------------|
| Surface temperature range* | -55 to +550 / [-67 to +1,022] | °C / [°F] |
| Storage temperature | -55 to +80 / [-67 to 176] Store dry and in clean condition | °C / [°F] |
| Connector type | Dual UNF 10/32 Microdot | - |
| Wear allowance | 1.5 / [0.06] | mm / [inch] |
| Ruggedisation | Weatherproof Stainless steel construction | |
| Acoustic characteristics certificate of conformity to ISO 22232-2 supplied with each unit | | |
| Centre frequency | 5.0 | MHz |
| Active element diameter | 8.0 / [0.315"] / 2 (dual) | mm / [inch] |

Compatible with UT gauges, flaw detectors and scanners

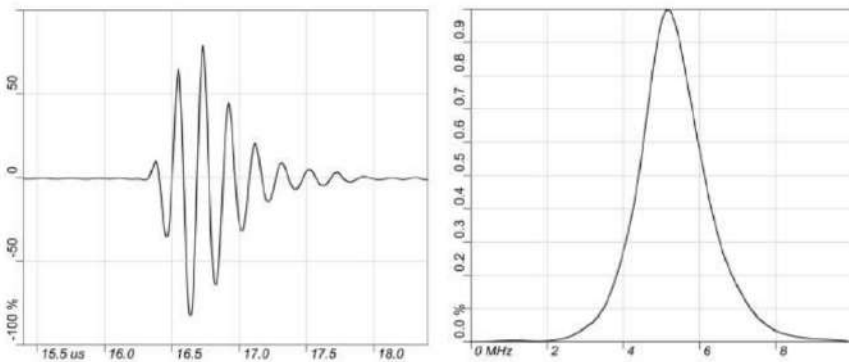
*See "temperature cycle chart"

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

TRANSDUCER RANGE SPECIFICATION

| PARAMETER | VALUE | NOTES |
|---------------------|-----------------------------|-----------------------|
| Range in steel | 1 to 500 mm / [0.04 to 20"] | with compatible gauge |
| Echo to echo range | 2.5 to 50 mm / [0.1 to 2"] | in steel |
| Natural focus depth | 10 mm / [0.394"] | in steel |

TYPICAL ULTRASONIC RESPONSE



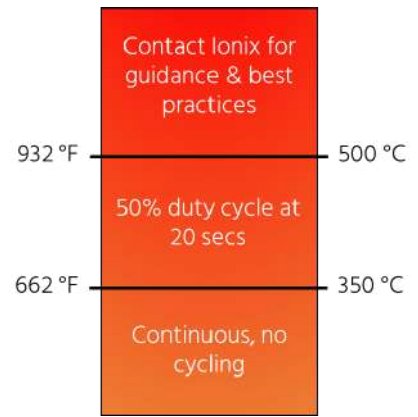
Backwall reflection in 25 mm carbon steel

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



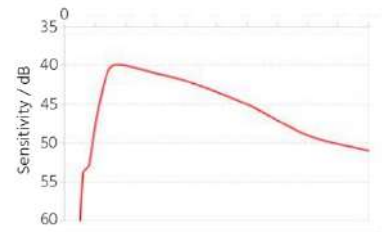
To see the HS582i in action or for hints & tips scan the QR code

TEMPERATURE CYCLE CHART



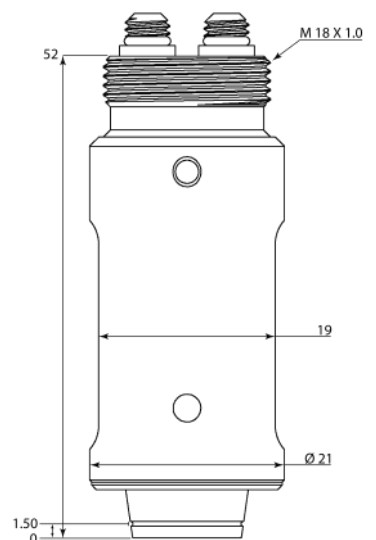
Due to the varied range of applications, this chart is provided as a guide only. Use outside of these parameters can reduce the lifetime of the transducer

DAC CURVE



CERTIFICATION

Meets the requirements of ISO 22232-2 and ASTM E/1065



Dimensions shown in mm



Want to discuss your demanding environment needs?

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