

Aligning your probe for accurate measurements

Properly aligning your dual element transducer will help to get the best signal for accurate measurements

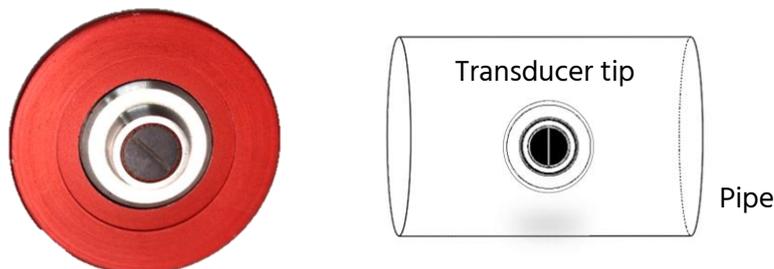
Why alignment matters

When measuring at high temperatures, the increased attenuation of the test piece, accelerated degradation of couplant and rough surfaces can mean that every decibel of signal is important to get the most accurate measurement. But with any transducer at any temperature measurements on small diameter pipes have additional considerations, with the curvature reducing the contact area of your transducer, and making it harder to align your probe perpendicular to the test piece surface, which can be detrimental to getting the best measurement.

Maximising your signal with HS582i

For the best results, ultrasonic transducers should be in contact with the test piece such that:

- The test piece surface is free of loose corrosion, paint or other coatings that can obstruct the sound path, and that the surface has been prepared to a standard that is acceptable for UT measurements.
- A thin layer of couplant is between the transducer face and the test piece. The couplant should be appropriate to the temperature and type of test piece being inspected.
- The transducer should be perpendicular to the test piece to make sure the reflected sound is directed back in the shortest path and with the highest amplitude.
- Position your transducer so that the internal insulation barrier between the two elements is perpendicular to the axis of the pipe.



If using the Ionix Couplant Dispenser (ACC-CD-000) accessory with the HS582i, there is an indication groove running vertically that lines up with the insulation barrier, providing a clear reference that can be used during measurement.

- Firm, even pressure should be applied avoiding scraping or dragging the transducer across the surface to reduce degradation of the transducer surface. Damage to the front face, through either dragging along an unprepared surface or pressing too hard during measurements can lead to a poor signal return.

Remember, a lack of ultrasonic signals may indicate a thickness that is outside of the range of the UT setup being used or could indicate a heavily corroded or degraded wall which may require further investigation.

For further guidance, see

ISO 16809 Non-destructive testing – Ultrasonic thickness measurement