

# Internal Pipe Shear Wave EMAT HWS3325-CF

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## Product Features

- ▶ No couplants required, works on rough surfaces
- ▶ Generates and detects at 3-5 MHz centre frequency
- ▶ Curved front face for internal pipe inspection - custom options available for different pipe diameters
- ▶ Compatible with all Sonemat's bulk wave electronics

The HWS3325-CF is a high-performance, broadband, radially polarised shear bulk wave Electromagnetic Acoustic Transducer (EMAT), ideal for pulse-echo inspections on internal pipe surfaces. Designed to work seamlessly with Sonemat's GS2020 EMAT adaptor box and the PR5000 or PR5020 pulser-receiver systems, it delivers reliable and precise measurements across a variety of applications.

Utilizing a Lorentz-driven working principle, it generates a centro-symmetric shear wave, providing broad frequency coverage with peak energy around 3-5MHz. Its robust construction, featuring a single permanent magnet, ensures a stable working field and exceptional performance.



## Applications



The HWS3325-CF is suitable for a range of industrial applications, in non-destructive testing (NDT) in sectors such as energy generation, petrochemical and oil & gas. Its broadband frequency response and adaptability make it perfect for material characterization, flaw detection, and thickness measurement.

- Thickness gauging ( $\pm 0.1\text{mm}$ )
- Corrosion monitoring
- Acoustic birefringence
- Crystallographic texture
- Boiler tube inspection
- Defect detection

Feature	Description
Probe Configuration	Pulse-Echo, can be used in pitch-catch with two probes
EMAT Working Principle	Lorentz force mechanism Magnetostrictive effect (if sample is magnetostrictive)
Weight	0.2kg
Dimensions	40mm (53mm with BNC) length x 31mm diameter
Operating Temp.	0 – 80 °C
Working Voltage	300 – 1000V pulse
Excitation Frequency	Broadband (spike) optimised for peak energy around 3-5 MHz
Wear Face	Curved alumina ceramic, can be made custom to fit different pipe diameters; please contact us for more information
Connections	BNC socket (50Ω)
Magnet Type	Neodymium Iron Boride (NIB); field normal to sample
Recommended Electronics (Driver and Amplifier)	Sonemat's GS2020, PR5000 or PR5020; pleases contact us for more information

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