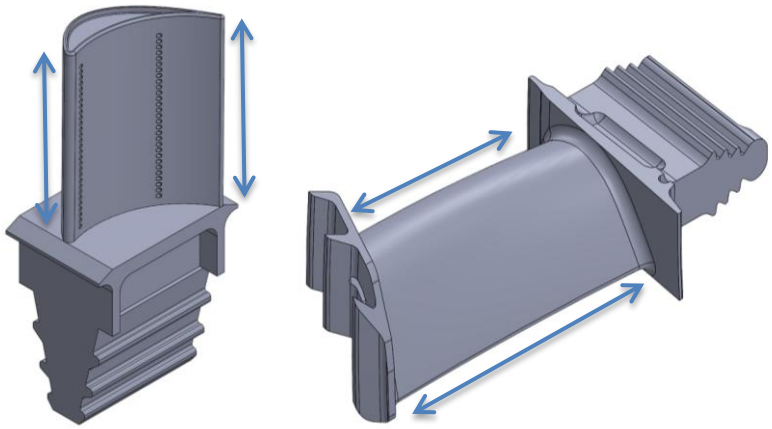
EThER NDE Application Note: AP008

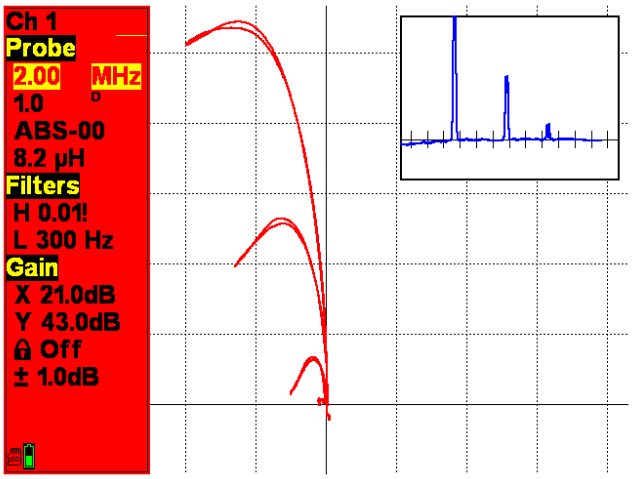
Leading and Trailing Edge Blade Inspection

Features: A variety of configurations for all applications, using small shielded and unshielded coils for the reliable detection of small cracks.

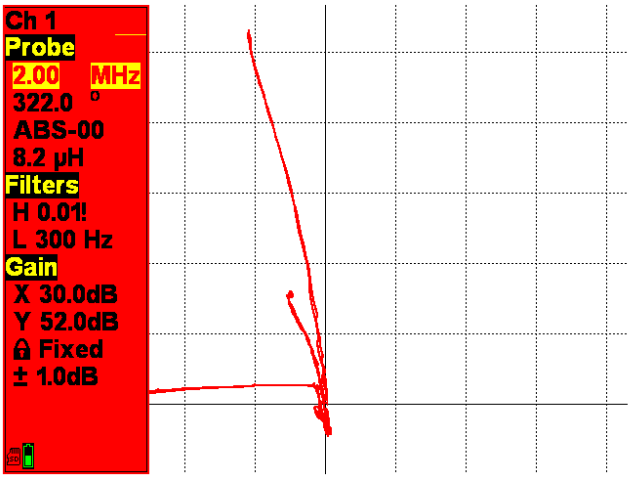
Application: Compressor and turbine, leading and trailing edge.



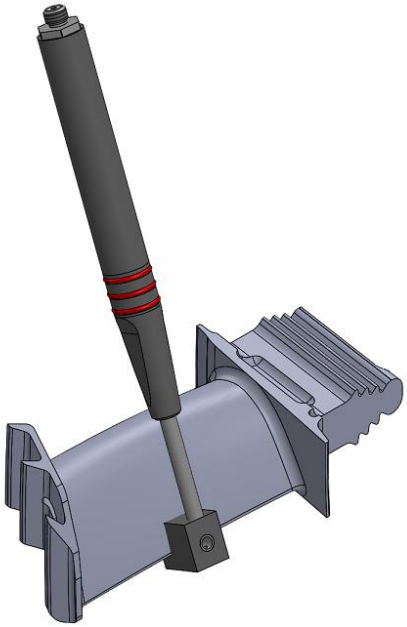
Typical eddy current response from a 2MHz shielded absolute coil on a 0.2, 0.5 and 1.0mm defect:



Typical eddy current response from a 2MHz unshielded absolute coil on a 0.2, 0.5 and 1.0mm defect:



The above coils can be fitted into various probe shapes to fit different geometry requirement, below is a simple examples where a guide is molded to the end of 90deg pencil probe designs:

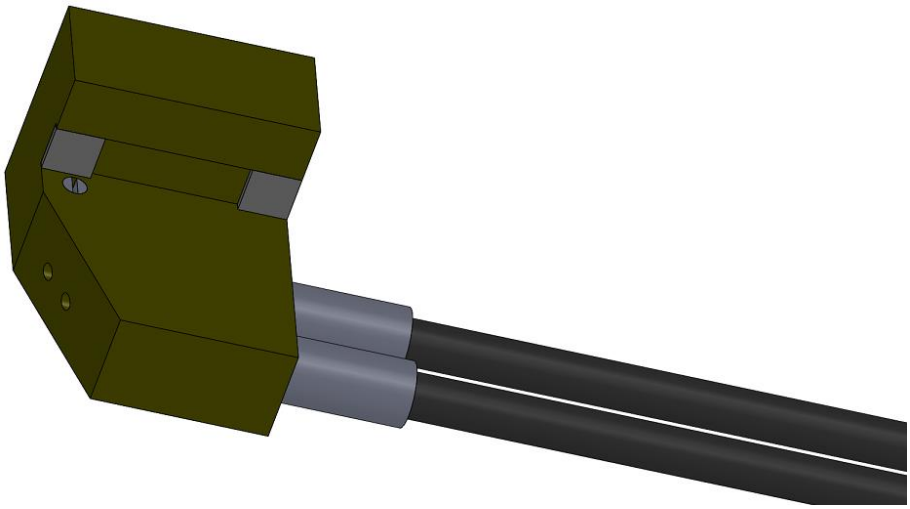


Other probe tips available on request

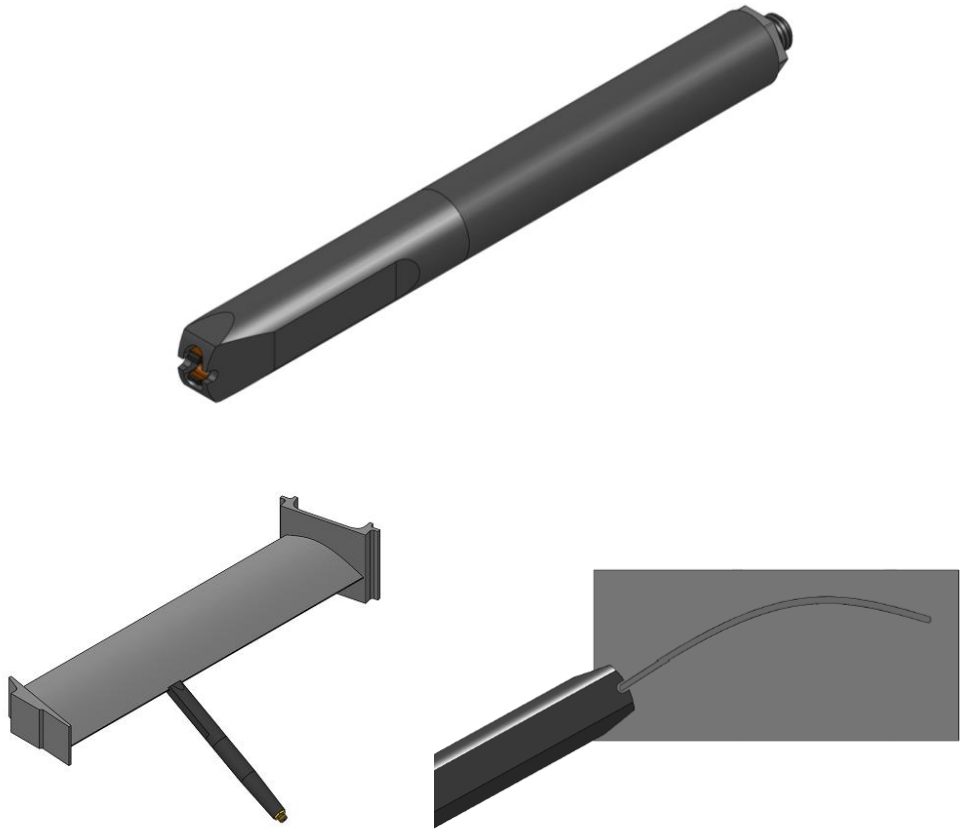
In areas where access is more difficult, usually through other rows of rotor or stators, the following type designs can be used, these can use fixed stainless steel shanks made to a specific shape or copper shanks allowing them to be adjusted on site.

Other special blade inspection probes:

PV011 - Probe, Special, Blade Inspection, uses a split differential coil giving a figure of eight signal.



PV007 - Probe, Special, Blade Inspection, 2MHz, Horse Shoe Coil, gives an absolute signal.



PV033L - Probe, Special, Surface, Shielded, Absolute, 200 kHz "Edge Inspection" with guide finger LEFT HAND" (As per A330 Nondestructive testing manual Part 6)

PV033R - Probe, Special, Surface, Shielded, Absolute, 200 kHz "Edge Inspection" with guide finger RIGHT HAND" (As per A330 Nondestructive testing manual Part 6)