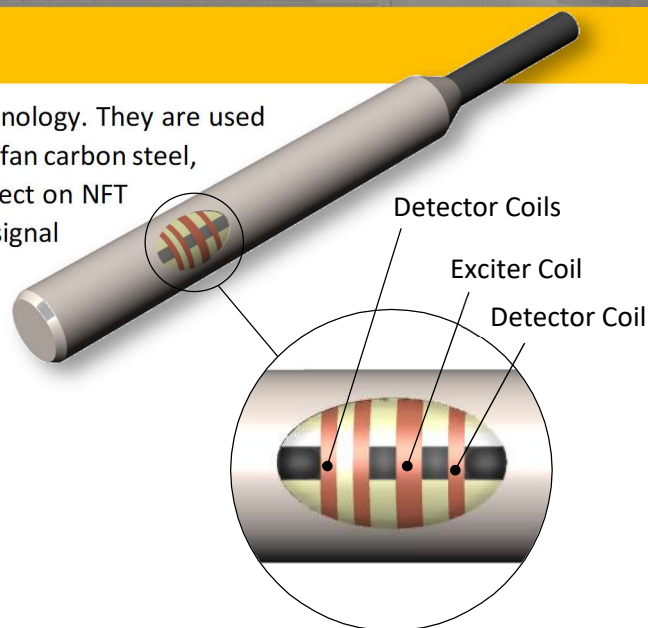


NFT Probes

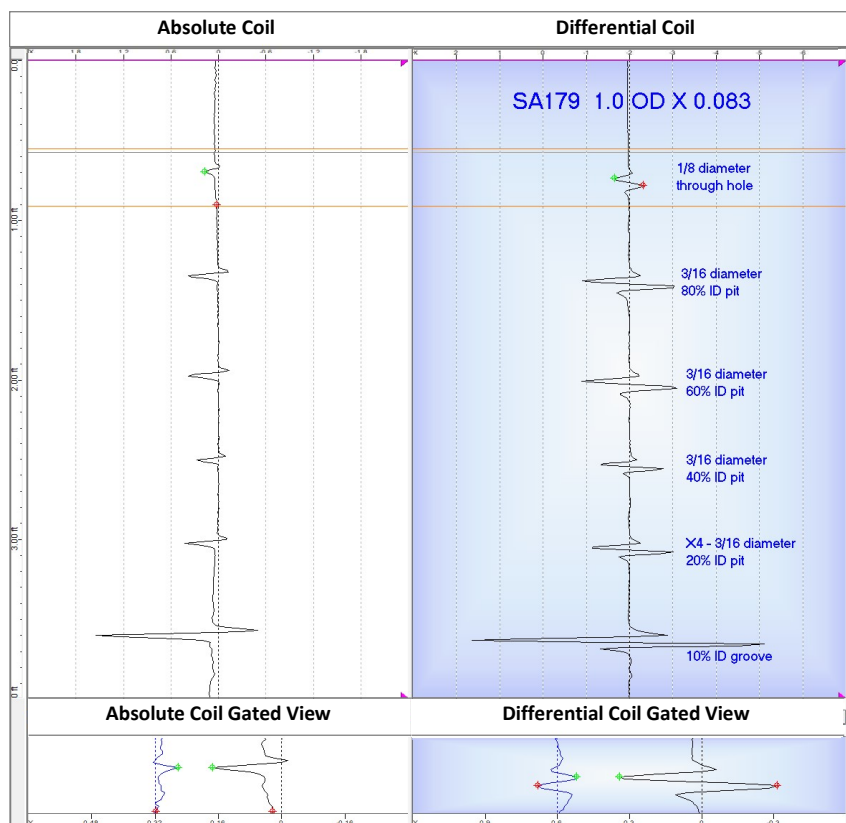
NFT probes operate on the principle of Near-Field Testing (NFT) technology. They are used primarily to detect internal defects in ferromagnetic tubes, such as fin-fan carbon steel, monel, and nickel. Aluminum or carbon steel fins have negligible effect on NFT probe signals. Defect depth sizing is derived from the voltage of the signal (magnitude) in conjunction with signal phase if applicable. IRIS can be used as a backup to verify defect depth if necessary.

Highlights:

- ✓ Used for Ferromagnetic tubes
- ✓ Specially selected for fin-fan tube inspections
- ✓ Array coil options
- ✓ Flexible probes for U-bend navigation



Rigid Multichannel Detector Array NFT Probe (above)



- 1/8" Diameter Through Hole
- 3/16" Diameter 80% ID pit
- 3/16" Diameter 60% ID pit
- 3/16" Diameter 40% ID pit
- x4 3/16" Diameter 20% ID pit
- 10% ID circ. groove

ID – Inner Diameter
OD – Outer Diameter

NFT Probe Data screenshot



Application: Ferromagnetic materials, Fin Fan tubes

Tube Size Range: 0.375" to 3.00" (9.53 mm to 76.20 mm)

Tube Wall Thickness Range: 0.022" to 0.165" (0.56 mm to 4.19 mm)

Probe Options: Rigid, Flexible, Multichannel detector array

Types of Defects Detectable: Internal pitting and general wall loss*
Major cracking, tube splitting

Operating Frequency: 100 Hz to 40 kHz

Operating Temperature: -22 to 149°F (-30 to 65°C)

Standard Cable Lengths: 50 ft & 65 ft

* External defects exceeding threshold of detection (ToD) can be detected when instrument settings are optimized

Russell NDE Systems Inc. provides a range of standard probe sizes as well as custom probe sizes based on customer requirements.

NFT – Standard Probe Selection Chart. Probes are generally made to 87% fill factor

Tube Wall Thickness			Tube Outside Diameter – in. (mm)											
BWG	In. (mm)		0.5 (12.7)	0.625 (15.87)	0.75 (19.05)	1 (25.4)	1.25 (31.75)	1.5 (38.1)	1.75 (44.45)	2 (50.8)	2.25 (57.15)	2.5 (63.5)	2.75 (69.85)	3 (76.2)
24	0.022	(0.56)	0.425	0.550	0.650	0.900	1.125	1.350	1.600	1.825	2.050	2.300	2.525	2.750
23	0.025	(0.65)	0.425	0.525	0.650	0.875	1.125	1.350	1.575	1.825	2.050	2.275	2.525	2.750
22	0.028	(0.71)	0.425	0.525	0.650	0.875	1.125	1.350	1.575	1.825	2.050	2.275	2.525	2.750
21	0.032	(0.81)	0.400	0.525	0.650	0.875	1.100	1.350	1.575	1.800	2.050	2.275	2.500	2.750
20	0.035	(0.89)	0.400	0.525	0.625	0.875	1.100	1.325	1.575	1.800	2.025	2.275	2.500	2.725
19	0.042	(1.07)	0.400	0.500	0.625	0.850	1.100	1.325	1.550	1.775	2.025	2.250	2.475	2.725
18	0.049	(1.24)	0.375	0.500	0.600	0.850	1.075	1.300	1.550	1.775	2.000	2.250	2.475	2.700
17	0.058	(1.47)	0.350	0.475	0.600	0.825	1.050	1.300	1.525	1.750	2.000	2.225	2.450	2.700
16	0.065	(1.65)	0.350	0.450	0.575	0.800	1.050	1.275	1.500	1.750	1.975	2.200	2.450	2.675
15	0.072	(1.83)	0.325	0.450	0.575	0.800	1.025	1.275	1.500	1.725	1.975	2.200	2.425	2.675
14	0.083	(2.11)	0.300	0.425	0.550	0.775	1.000	1.250	1.475	1.700	1.950	2.175	2.400	2.650
13	0.095	(2.41)	0.300	0.400	0.525	0.750	1.000	1.225	1.450	1.700	1.925	2.150	2.400	2.625
12	0.109	(2.77)	0.275	0.375	0.500	0.725	0.975	1.200	1.425	1.650	1.900	2.125	2.350	2.600
11	0.120	(3.05)	0.250	0.350	0.475	0.700	0.950	1.175	1.400	1.650	1.875	2.100	2.350	2.575
10	0.134	(3.40)	0.225	0.325	0.450	0.675	0.925	1.150	1.375	1.625	1.850	2.075	2.325	2.550
9	0.148	(3.76)	0.200	0.300	0.425	0.650	0.900	1.125	1.350	1.600	1.825	2.050	2.300	2.525
8	0.165	(4.19)	0.150	0.275	0.400	0.625	0.850	1.100	1.325	1.550	1.800	2.025	2.250	2.500

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Russell NDE Systems is the industrial World Leader in NDT services and equipment, with over 40 years of professional industry experience in non-destructive testing and evaluation.