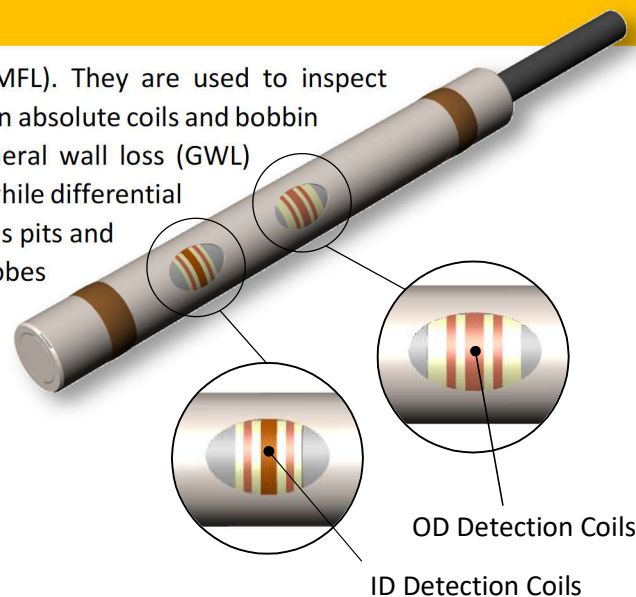


MFL Probes

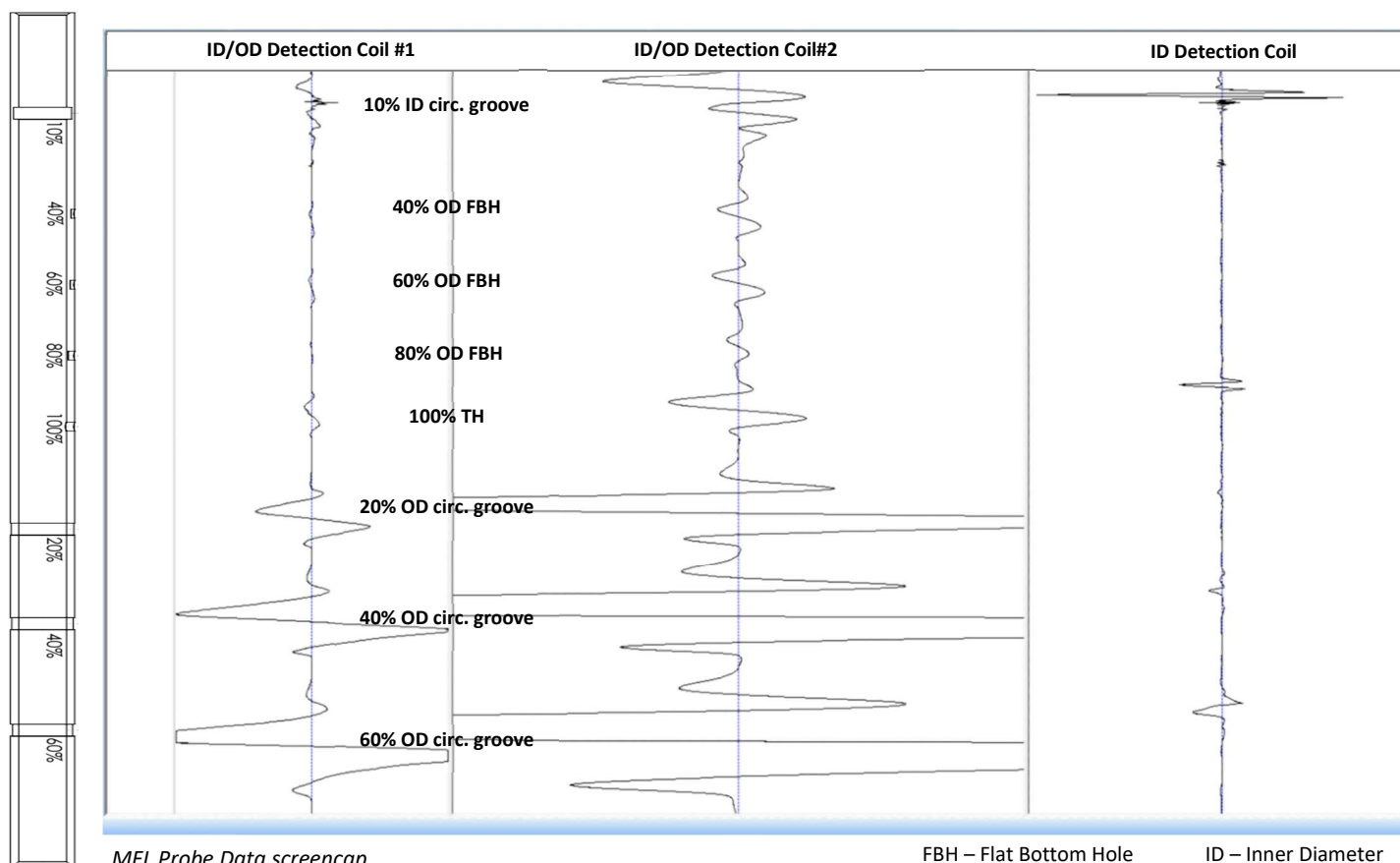
MFL probes operate on the principle of Magnetic Flux Leakage (MFL). They are used to inspect aluminum-finned carbon steel tubes. The probes consist of both bobbin absolute coils and bobbin differential coils used to detect both local wall loss (LWL) and general wall loss (GWL) simultaneously. Absolute bobbin coils can detect both LWL and GWL while differential coils are incorporated in the probe to detect small volume LWL such as pits and circumferential cracks. ID/OD discriminator is also included in the probes to distinguish ID and OD defects.

Highlights:

- ✓ Ferromagnetic tubes
- ✓ Standard or array detector options
- ✓ 3D colour map



MFL Standard Probe (above)



MFL Probe Data screenshot

FBH – Flat Bottom Hole
TH – Through Hole

ID – Inner Diameter
OD – Outer Diameter

Application: Ferromagnetic materials

Tube Size Range: 0.625" to 3.00" (15.87 mm to 76.20 mm)

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

Probe Options: Rigid Probe

Types of Defects Detectable: Internal pitting, External pitting, LWL & GWL
Higher sensitivity to internal defects

Operating Frequency: N/A

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

Standard Cable Lengths: 50 ft & 65 ft

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

MFL – 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.