

ET Saturn Probes

Saturn probes operate as Magnetic Bias (partial saturation) ET probes. They are used to detect defects in ferromagnetic tubes, such as fin-fan carbon steel tubes. Aluminum fins have negligible effect on ET Saturn probe signals. The Saturn probes may or may not detect the tube supports, depending on operating frequency, tube wall thickness and magnetic permeability.

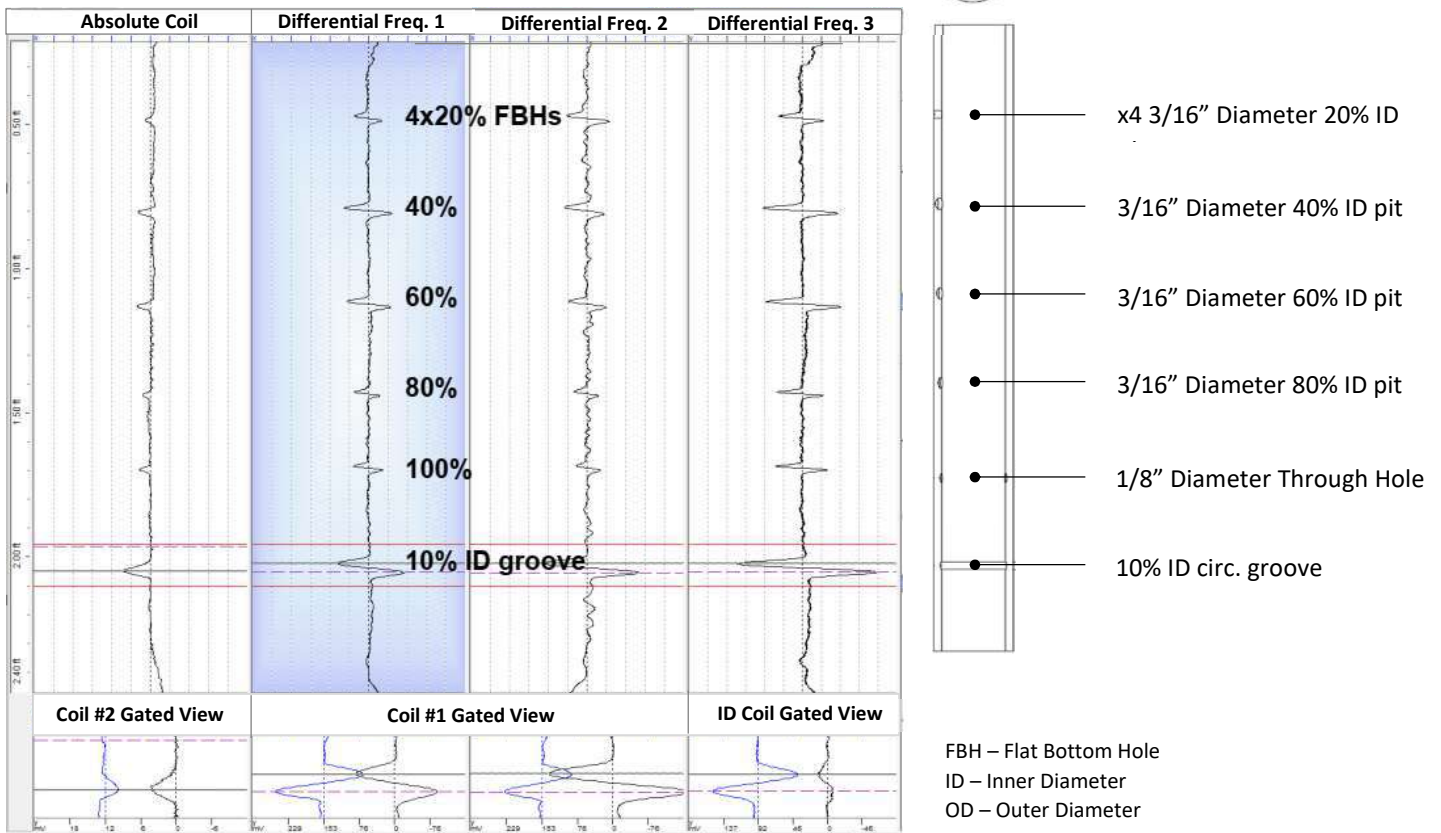
ET Saturn probes are used primarily for ID defect detection when applied to fin-fan tube inspections.



Rigid ET Saturn Probe (above)

Highlights:

- ✓ Ferromagnetic tubes
- ✓ Fin-fan Carbon Steel tubes
- ✓ 3D colour map



ET Saturn Data screenshot

Application: Ferromagnetic materials

Tube Size Range: 0.50" 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)

Standard Cable Lengths: 50 ft & 65 ft

Types of Defects

Detectable:

Internal pitting and erosion, cracking, deep external pits, etc.

Probe Options:

- Rigid Probe
- Multichannel detector array

Operating Frequency:

1 kHz to 1.5 MHz

Operating Temperature:

-22 to 149°F (-30 to 65°C)

We provides a range of standard probe sizes as well as custom probe sizes based on customer requirements.

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

Tube Wall Thickness		Tube Outside Diameter – 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)
BWG	In. (mm)												
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