



# *Tubing Inspection Probe Catalog*

April 2017



## What We Do

Eddyfi is the newest and most dynamic company in the field of non-destructive testing (NDT) equipment.

Located in the advanced NDT cluster of Québec, Quebec, Canada, Eddyfi focuses on providing complete, high-end solutions for the inspection of critical components in several major industries including oil and gas, nuclear, and power generation. It was created following the reorganization of Zetec Canada, and today employs experts with backgrounds at Zetec, R/D Tech, and Tecrad. The company develops the industry's best performing and most reliable test instruments, scanners, surface and tube probes, and acquisition and analysis software.

Eddyfi's mission is to push the limits of electromagnetic testing to new heights. This is achieved in part by designing a new generation of standard and specialized probes.

### **Eddyfi's Promises:**

#### **1. Unparalleled Quality and Durability**

Eddyfi tubing probes are designed and manufactured using high-performance standards, including top-of-the-line polys, providing top quality signals throughout their extended lifespan.

#### **2. Rapid Deliveries and Stocks**

All probes are manufactured in our Québec facility. Many of our probes are stocked in our Quebec and European offices for quick delivery. Standard probe orders of five or less typically ship within three days.

#### **3. Custom Probes**

Eddyfi has the expertise, engineering, and manufacturing flexibility to supply custom-made solutions for the most challenging tube inspection applications.

#### **4. Specialized Probe Technology**

Eddyfi's experts use modeling software, advanced materials and proprietary techniques such as array multiplexing. Tubing probes such as the DefHi® tubing array push back the limits of tubing inspection.

For more information, write to [probes@eddyfi.com](mailto:probes@eddyfi.com).

**At Eddyfi, performance matters.**

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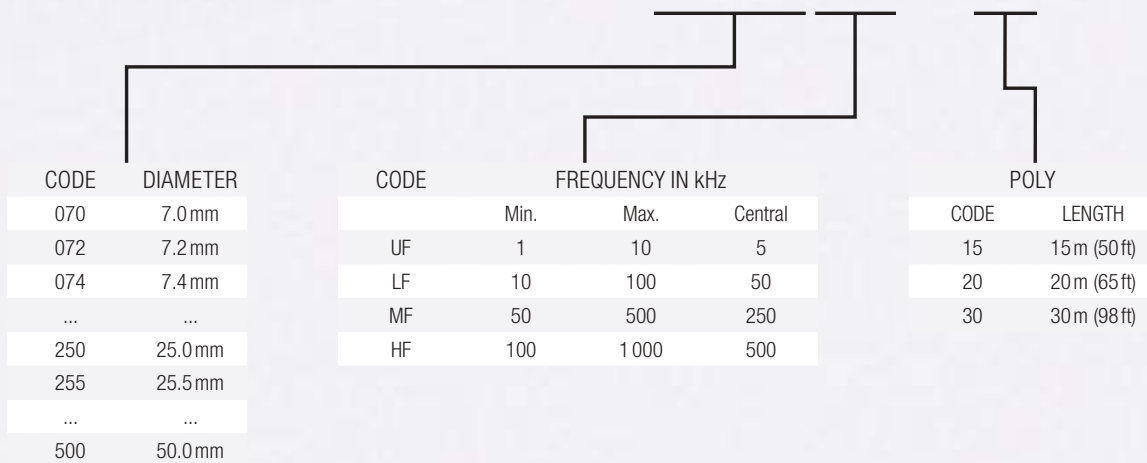
# Standard Bobbin Probe

## HIGHLIGHTS

- Easy to use
- Designed for non-ferromagnetic tubing
- Uncompromising durability
- Advanced lightweight polymer body
- Wear-resistant guides
- Highly kink-resistant cable
- 4-pin Amphenol connector

These probes set a new standard in durability. With their advanced lightweight polymer body and stainless steel wear-resistant guides, they are easier to use and longer lasting than most. They are specifically designed to inspect the non-ferromagnetic tubing in condensers, feedwater heaters, and heat exchangers.

## PRBT-ECT-BBST-*www*XX-Nzz



# SELECTION GUIDE

## ECT-BBST PROBE DIAMETERS AND FREQUENCIES

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
TUBE OD	9.53 mm	0.375 in	–	–	–	–	–	–	–	–	–	–	070	072	074	076	078
	12.70 mm	0.500 in	–	–	–	072	078	084	088	090	096	098	102	104	106	106	108
	15.87 mm	0.625 in	084	090	096	104	110	114	118	122	126	128	132	134	136	136	138
	19.05 mm	0.750 in	114	122	126	134	140	144	148	152	156	158	162	164	166	166	168
	22.22 mm	0.875 in	144	152	156	164	168	174	178	180	186	188	192	194	196	196	198
	25.40 mm	1.000 in	174	182	186	194	198	204	208	210	216	218	222	224	224	226	228
	31.75 mm	1.250 in	234	238	246	255	260	265	270	275	280	280	285	285	290	290	290
	38.10 mm	1.500 in	295	300	310	315	320	325	330	335	340	340	345	345	350	350	350
	50.80 mm	2.000 in	415	420	430	435	440	445	450	455	460	460	465	465	470	470	470

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
MATERIAL	Aluminum		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF
	Aluminum bronze		UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF
	Brass (admiralty)		UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF
	Brass (70/30)		UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF
	Brass (85/15)		UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF
	Brass (95/5)		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF
	Copper		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF
	Copper-nickel (70/30)		UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF
	Copper-nickel (90/10)		UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF
	Copper-nickel (95/5)		UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF
	INCONEL® 600		LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	HF	HF	HF
	Stainless steel 304/316		LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF	HF
	Titanium 99%		LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF
	Zirconium		LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF



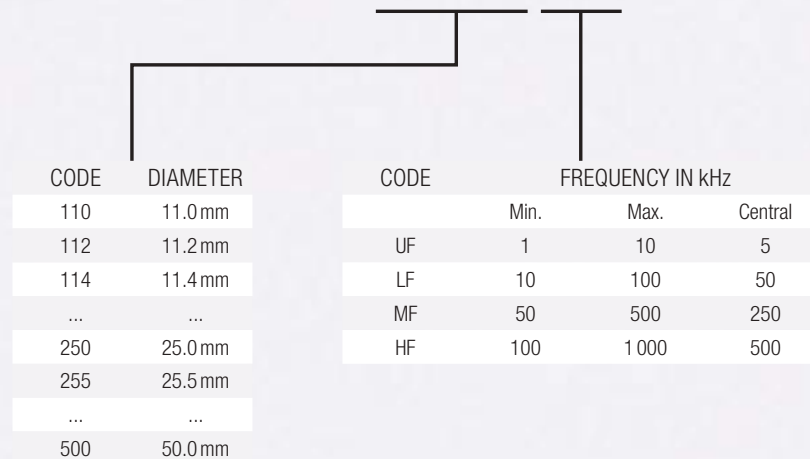
# Detachable Bobbin Probe

## HIGHLIGHTS

- Easy to use
- Designed for non-ferromagnetic tubing
- Uncompromising durability
- Advanced, lightweight polymer body
- Wear-resistant guides
- Detachable LEMO connector with fully protected pins

These probes set a new standard in durability and economy. With their advanced lightweight polymer body and stainless steel wear-resistant guides, they are easier to use and longer lasting than most. The detachable cable makes the probes cheaper to maintain if you already have compatible cables (see page 31). These probes are specifically designed to inspect the non-ferromagnetic tubing found in condensers, feedwater heaters, and heat exchangers.

# PRBT-ECT-BBST-wwwXX-D



# SELECTION GUIDE

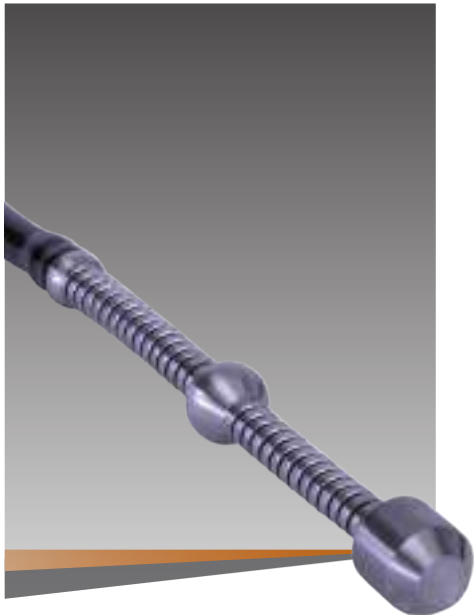
## ECT-BBST PROBE DIAMETERS AND FREQUENCIES

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
TUBE OD	15.87 mm	0.625 in	–	–	–	–	110	114	118	122	126	128	132	134	136	136	138
	19.05 mm	0.750 in	114	122	126	134	140	144	148	152	156	158	162	164	166	166	168
	22.22 mm	0.875 in	144	152	156	164	168	174	178	180	186	188	192	194	196	196	198
	25.40 mm	1.000 in	174	182	186	194	198	204	208	210	216	218	222	224	224	226	228
	31.75 mm	1.250 in	234	240	246	255	260	265	270	275	280	280	285	285	290	290	290
	38.10 mm	1.500 in	295	305	310	315	320	325	330	335	340	340	345	345	350	350	350
	50.80 mm	2.000 in	415	425	430	435	440	445	450	455	460	460	465	465	470	470	470

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
MATERIAL	Aluminum	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF
	Aluminum bronze	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF
	Brass (admiralty)	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF
	Brass (70/30)	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF
	Brass (85/15)	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF
	Brass (95/5)	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF
	Copper	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF
	Copper-nickel (70/30)	UF	LF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	HF
	Copper-nickel (90/10)	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF
	Copper-nickel (95/5)	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF
	INCONEL® 600	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF	HF
	Stainless steel 304/316	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF
	Titanium 99%	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF
	Zirconium	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF



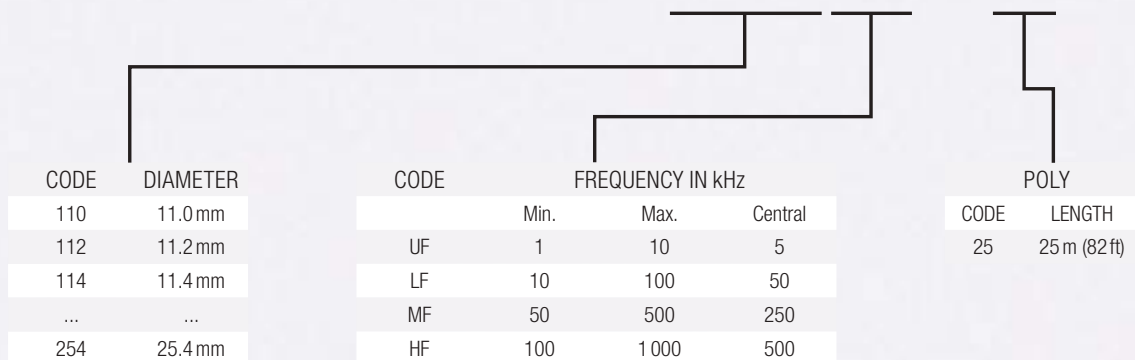
## Flexible Bobbin Probe

### HIGHLIGHTS

- Easy to use
- Designed for non-ferromagnetic tubing
- Uncompromising durability
- Titanium probe head and stainless steel flexible shaft
- Better signal definition with the added centering ball
- Highly kink-resistant cable
- 4-pin Amphenol connector
- Manage U-bend (180°) radiuses as small as 76.2 mm (3 in)

These probes are designed to inspect non-ferromagnetic U-bend tubing—in a single pass—in condensers, feedwater heaters, and heat exchangers. With their welded titanium heads and centering balls, the probes offer better signal quality even in U-bends. It also makes the probes more durable and easy to use.

## PRBT-ECT-BBFL-*www*XX-N*zz*





# SELECTION GUIDE

## ECT-BBFL PROBE DIAMETERS AND FREQUENCIES

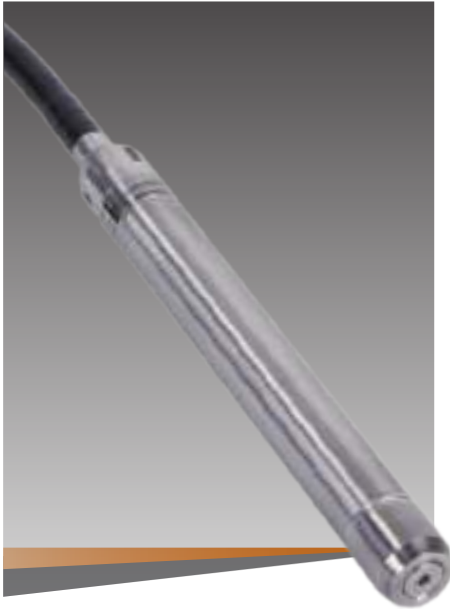
### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
TUBE OD	15.87 mm	0.625 in	–	–	–	–	110	114	118	122	126	128	132	134	136	136	138
	19.05 mm	0.750 in	114	118	126	134	140	144	148	152	156	158	162	164	166	166	168
	22.22 mm	0.875 in	144	148	156	164	168	174	178	180	186	188	192	194	196	196	198
	25.40 mm	1.000 in	174	178	186	194	198	204	208	210	216	218	222	224	224	226	228

**Note:** The above are the recommended optimal values for clean tubes not suffering from ovalization in the U-bend. Dirty, ovalized tubes may require smaller probes—your probe can always be 0.2 mm (0.008 in) smaller than the optimal value.

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)																
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56	
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022	
MATERIAL	Aluminum		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	
	Aluminum bronze		UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	
	Brass (admiralty)		UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	
	Brass (70/30)		UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	
	Brass (85/15)		UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	
	Brass (95/5)		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	
	Copper		UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	LF	LF	LF	
	Copper-nickel (70/30)		UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF
	Copper-nickel (90/10)		UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	
	Copper-nickel (95/5)		UF	UF	UF	UF	UF	LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	
	INCONEL® 600		LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF	HF
	Stainless steel 304/316		LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF
	Titanium 99%		LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF
	Zirconium		LF	LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	HF



# Magnetic Saturation Bobbin Probe

## HIGHLIGHTS

- Designed for tube inspection of ferritic stainless, duplex, and nickel-based alloys
- Uncompromising durability
- Replaceable, hardened-steel wear guide
- Highly kink-resistant cable
- 4-pin Amphenol connector
- Optimal saturation level

These probes are designed to inspect ferritic stainless, duplex, and nickel-based alloy tubes used in condensers and feedwater heaters. Strong rare-earth magnets provide full tube wall magnetic saturation, enabling test frequencies common for non-magnetic materials with similar wall thicknesses and conductivity. Can detect and size ID pitting, OD wear, pitting, and MIC attacks.

## PRBT-ECT-BBFS-*www*XX-Nzz



# SELECTION GUIDE

## ECT-BBFS PROBE DIAMETERS

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)								
		BWG	10	12	14	16	18	20	22	24
		mm	3.40	2.77	2.11	1.65	1.24	0.89	0.71	0.56
		in	0.135	0.109	0.083	0.065	0.049	0.035	0.028	0.022
TUBE OD	12.70 mm	0.500 in	–	–	–	–	092*	–	–	–
	15.87 mm	0.625 in	–	–	–	116*	124*	–	–	–
	19.05 mm	0.750 in	–	124*	138	148	156	162	166	170
	22.22 mm	0.875 in	–	156	170	180	188	194	200	200
	25.40 mm	1.000 in	–	188	200	210	218	224	228	230
	31.75 mm	1.250 in	230	244	256	265	278	284	288	292
	38.10 mm	1.500 in	300	310	320	330	340	–	–	–
	50.80 mm	2.000 in	420	430	440	450	460	–	–	–

\* These probes offer less sensitivity to external defects, because the core sections of the probes are significantly smaller than the tube section. Sensitivity to internal defects remains very high.

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)								
		BWG	10	12	14	16	18	20	22	24
		mm	3.40	2.77	2.11	1.65	1.24	0.89	0.71	0.56
		in	0.135	0.109	0.083	0.065	0.049	0.035	0.028	0.022
MATERIAL	MONEL®		LF	LF	LF	LF	MF	MF	MF	MF
	Nickel 200		–	–	–	LF	LF	LF	LF	MF
	Stainless steel grade 439		–	–	–	LF	MF	MF	MF	–
	Stainless steel duplex (2205), 3RE60		–	LF	LF	MF	MF	MF	MF	–



## DefHi® ECA Probe

### HIGHLIGHTS

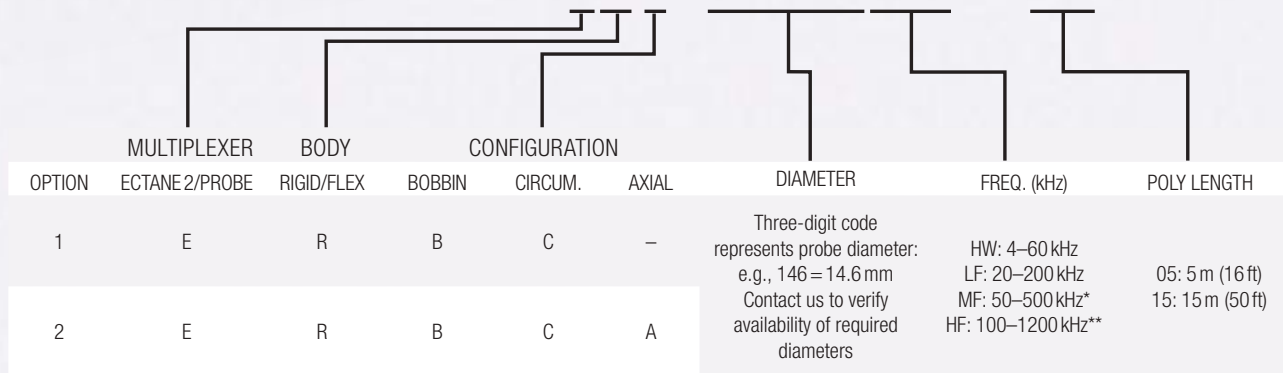
- High-definition, multiplexed, ECA probe
- Designed for non-ferromagnetic tubing
- One-pass combination bobbin and array probe
- Sizing of circumferential and axial cracks<sup>1</sup>
- Optimum resolution and uniform sensitivity with oval coil technology<sup>2</sup>
- Highly kink-resistant cable, replaceable centering devices
- Wider frequency range (HW to HF)
- Analysis with strip charts for bobbin and C-scans for array imaging

<sup>1</sup>Advanced option only  
<sup>2</sup>Patented — Eddyfi NDT Inc.

These probes are designed to inspect the non-ferromagnetic tubing found in condensers, feedwater heaters, and heat exchangers. They are especially good at detecting circumferential cracks at tube support plates and tubesheets (a major limitation of bobbin probes). They can also detect and size usual defects such as wear, corrosion, pitting, micro-pitting, and stress-corrosion cracking.

Note that HF DefHi probes do not have titanium sleeves, as they affect signal quality. Instead, their sleeve is made of highly resistant plastic.

## DEFHI-TuV-wwwXX-Nzz



\* Maximum MF is reduced to 400kHz with 15 m cable.  
 \*\* Maximum HF is reduced to 1 MHz with 15 m cable.

# SELECTION GUIDE

## DefHi PROBE DIAMETERS AND FREQUENCIES

### Diameters

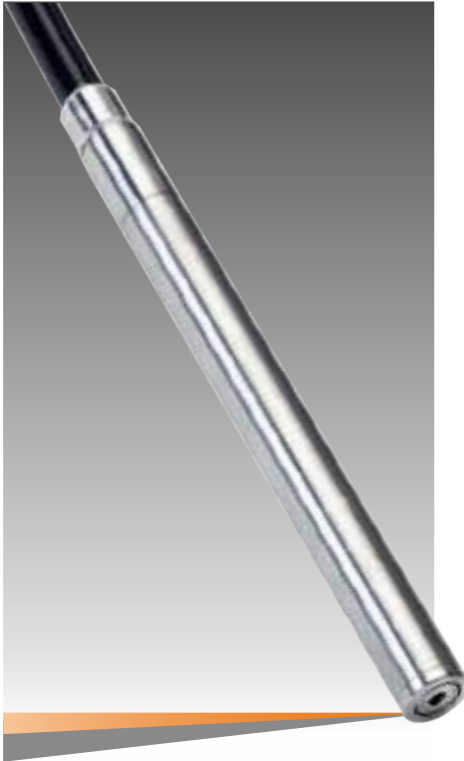
		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022
TUBE OD	12.70 mm	0.500 in	–	–	–	–	–	–	–	–	096	096	102	102	106	106	106
	15.87 mm	0.625 in	–	–	096	102	106	114	118	118	126	126	132	132	136	136	136
	19.05 mm	0.750 in	114	118	126	136	140	148	148	148	156	156	162	162	166	166	170
	22.22 mm	0.875 in	148	148	156	166	170	178	178	186	186	192	192	196	196	196	200
	25.40 mm	1.000 in	178	186	186	196	200	208	208	216	220	220	226	226	226	230	230

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)																
		BWG	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
		mm	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	1.07	0.89	0.81	0.71	0.65	0.56	
		in	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	0.042	0.035	0.032	0.028	0.025	0.022	
MATERIAL	Brass (admiralty)	–	–	–	–	–	HW	HW	HW	HW	HW	HW	LF	LF	LF	LF	LF	
	Brass (70/30)	–	–	–	–	–	HW	HW	HW	HW	HW	HW	LF	LF	LF	LF	LF	
	Brass (85/15)	–	–	–	–	–	–	HW	HW	HW	HW	HW	HW	LF	LF	LF	LF	
	Brass (95/5)	–	–	–	–	–	–	–	–	HW	HW	HW	HW	HW	HW	LF	LF	
	Copper	–	–	–	–	–	–	–	–	–	–	–	HW	HW	HW	HW	HW	
	Copper-nickel (70/30)	HW	HW	HW	HW	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF
	Copper-nickel (90/10)	–	HW	HW	HW	HW	HW	HW	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF
	Copper-nickel (95/5)	–	–	–	HW	HW	HW	HW	HW	LF	LF	LF	LF	LF	LF	MF	MF	
	INCONEL® 600	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF	HF
	Stainless steel 304/316	HW	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	HF	HF	HF	HF	HF
	Titanium 99%	HW	HW	HW	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	HF	HF	HF
	Zirconium	HW	HW	HW	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	HF	HF

### Total Number of Array Channels (Frequency, Configuration)

PROBE DIAM.	FREQ.	HW		LF		MF		PROBE DIAM.	FREQ.	HF	
	CONFIG.	BC	BCA	BC	BCA	BC	BCA		CONFIG.	BC	BCA
	096–106	–	–	12	36	18	54		096–106	–	–
	114–140	12	36	18	54	18	54		132–136	18	54
	148–178	12	36	24	72	24	72		162–170	24	72
	186–196	18	54	24	72	24	72		196–200	30	90
	200–230	18	54	30	90	30	90		226–230	36	108



# Single-Driver RFT Probe

## HIGHLIGHTS

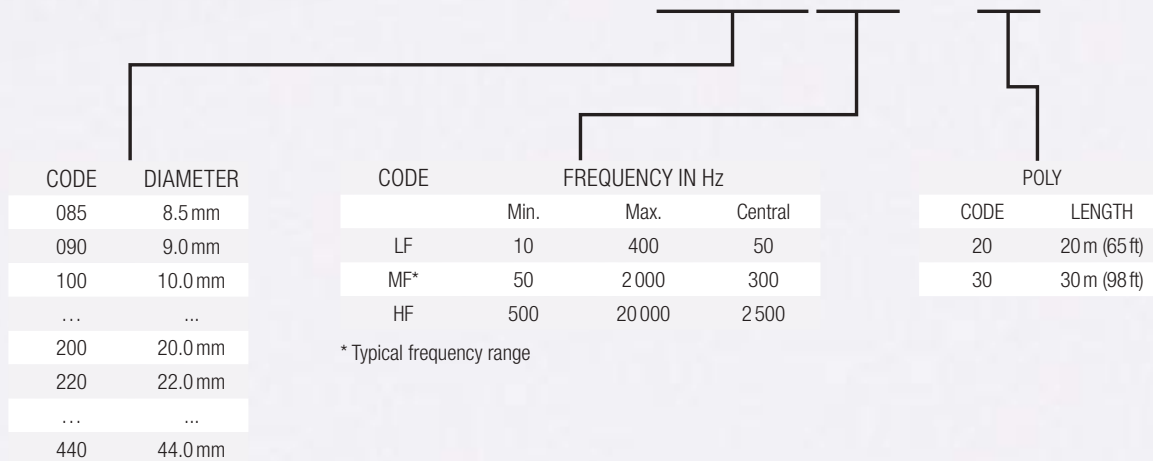
- Preamplifier in the probe head (30 dB)
- Optimized for absolute signal analysis
- Uncompromising durability
- Highly kink-resistant, very flexible cable
- Low friction noise
- 19-pin Amphenol connector

These probes set a new standard in durability. Because they produce a similar response from their driver and receiver coils, they are also optimized for absolute signal analysis.

At 20 mm (0.787 in) and above, the probe's body is made of advanced, lightweight polymer. Below this diameter, the probes are sleeved with stainless steel.

The probes are particularly well suited to detecting most common defects (corrosion, erosion, wear, pitting) and to the ferromagnetic tubing in feedwater heaters, heat exchangers, and piping.

## PRBT-RFT-SDST-wwwXX-Nzz



# SELECTION GUIDE

## RFT — SDST PROBE DIAMETERS AND FREQUENCIES

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		mm	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24
		in	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049
TUBE OD	12.70 mm	0.500 in	–	–	–	–	–	–	–	–	–	–	–	–	–	085	090
	15.87 mm	0.625 in	–	–	–	–	–	–	–	085	090	100	100	110	110	110	120
	19.05 mm	0.750 in	–	–	–	090	090	100	110	110	120	120	130	130	140	140	140
	22.22 mm	0.875 in	090	100	100	110	120	130	130	140	140	150	160	160	160	170	170
	25.40 mm	1.000 in	120	120	130	140	150	150	160	170	170	180	180	190	190	190	200
	31.75 mm	1.250 in	180	180	180	200	200	200	220	220	220	240	240	240	240	240	260
	38.10 mm	1.500 in	220	240	240	260	260	260	280	280	300	300	300	300	300	300	300
	50.80 mm	2.000 in	340	360	360	380	380	380	400	400	400	420	420	420	420	420	440

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		mm	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24
		in	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049
MATERIAL	Carbon steel A178, A179, A192, A214		LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
	Cast iron (gray)		MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	HF	HF	HF	HF
	Ductile iron		LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
	Nickel 200		MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	HF	HF
	Stainless steel 439, A268, TP439		MF	MF	MF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF
	Stainless steel duplex (2205), 3RE60, A789		HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF



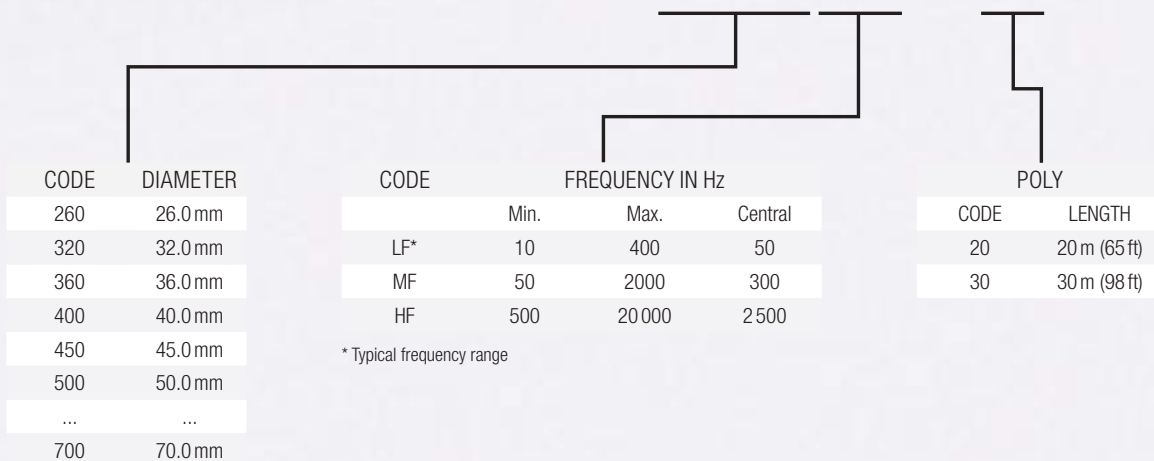
# Single Driver RFT Probe for Boilers

## HIGHLIGHTS

- Preamplifier in the probe head (30 dB)
- Spring-loaded centering devices
- Highly flexible design
- Uncompromising durability
- Highly kink-resistant cable
- Waterproof
- 19-pin Amphenol connector

These probes have spring-loaded centering devices. They are waterproof and extremely flexible to allow for easy, controlled travel along tight bends. The probes are offered in diameters corresponding to the most common boiler tubes, but custom probe diameters are also available on demand. These probes are particularly well suited to detecting most common defects (corrosion, erosion, wear, pitting) and use in ferromagnetic tubing of boilers and pipings.

## PRBT-RFT-SDBL-*wwwXX-Nzz*





# SELECTION GUIDE

## RFT — SDBL PROBE DIAMETERS AND FREQUENCIES

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)														
		BWG	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		mm	7.62	7.21	6.58	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11
		in	0.300	0.284	0.259	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083
TUBE OD	38.10 mm	1.500 in	–	–	–	–	–	–	–	260	260	260	260	260	260	260
	50.80 mm	2.000 in	260	320	320	320	320	320	360	360	360	360	360	360	360	400
	63.50 mm	2.500 in	400	400	400	400	450	450	450	450	450	450	450	500	500	500
	76.20 mm	3.000 in	500	500	500	550	550	550	550	550	550	550	600	600	600	600
	88.90 mm	3.500 in	600	600	600	650	650	650	650	650	650	700	700	700	700	700

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)														
		BWG	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		mm	7.62	7.21	6.58	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11
		in	0.300	0.284	0.259	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083
MATERIAL	Carbon steel A178, A179, A192, A214		LF	LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF
	Cast iron (gray)		LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
	Ductile iron		LF	LF	LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF
	Nickel 200		LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
	Stainless steel 439, A268, TP439		MF	MF	MF	MF	MF	MF	HF	HF	HF	HF	HF	HF	HF	HF
	Stainless steel duplex (2205), 3RE60, A789		MF	MF	MF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF



## Dual-Driver RFT Probe

### HIGHLIGHTS

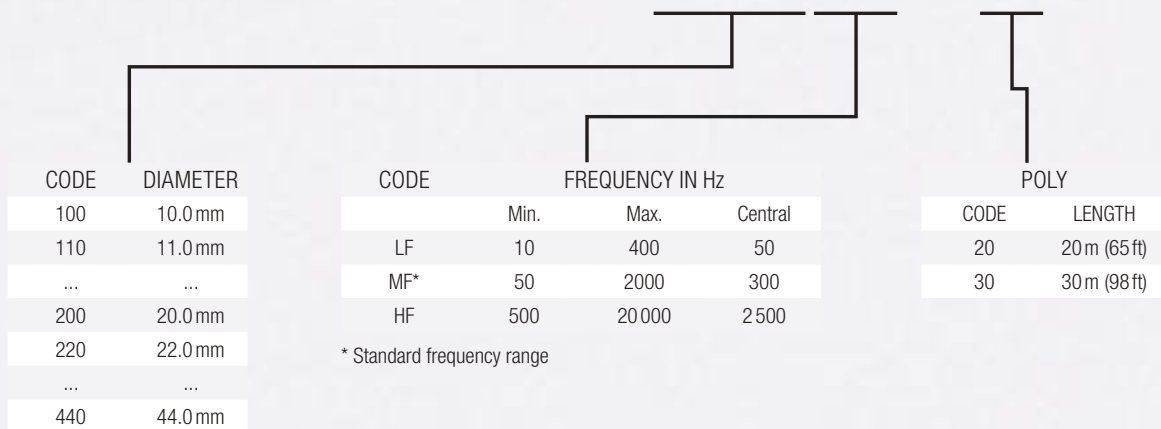
- Preamplifier in the probe head (30 dB)
- Optimized for differential signal analysis
- Uncompromising durability
- Highly kink-resistant, very flexible cable
- Optimized for differential signal analysis
- Low friction noise
- 19-pin Amphenol connector

These probes set a new standard in durability. They are optimized for differential signal analysis and to detect defects close to tube support plates.

At 20.0 mm (0.787 in) and above, the probe's body is made of advanced, lightweight polymer. Below this diameter, the probes are sleeved with stainless steel.

These probes are particularly well suited to detecting most common defects (corrosion, erosion, wear, pitting) and in the ferromagnetic tubing of feedwater heaters, heat exchangers, and piping.

## PRBT-RFT-DDST-wwwXX-Nzz



# SELECTION GUIDE

## RFT — DDST PROBE DIAMETERS AND FREQUENCIES

### Diameters

		TUBE WALL THICKNESS (BWG, mm, in)															
		BWG	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		mm	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24
		in	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049
TUBE OD	15.87 mm	0.625 in	–	–	–	–	–	–	–	–	–	100	100	110	110	110	120
	19.05 mm	0.750 in	–	–	–	–	–	100	110	110	120	120	130	130	140	140	140
	22.22 mm	0.875 in	–	100	100	110	120	130	130	140	140	150	160	160	160	170	170
	25.40 mm	1.000 in	120	120	130	140	150	150	160	170	170	180	180	190	190	190	200
	31.75 mm	1.250 in	180	180	180	200	200	200	220	220	220	240	240	240	240	240	260
	38.10 mm	1.500 in	220	240	240	260	260	260	280	280	280	280	300	300	300	300	300
	50.80 mm	2.000 in	340	360	360	380	380	380	400	400	400	420	420	420	420	420	440

### Frequencies

		TUBE WALL THICKNESS (BWG, mm, in)																
		BWG	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		mm	6.05	5.59	5.16	4.57	4.19	3.76	3.40	3.05	2.77	2.41	2.11	1.83	1.65	1.47	1.24	
		in	0.238	0.220	0.206	0.180	0.165	0.148	0.135	0.120	0.109	0.095	0.083	0.072	0.065	0.058	0.049	
MATERIAL	Carbon steel A178, A179, A192, A214		LF	LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	
	Cast iron (gray)		MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	HF	HF	HF	
	Ductile iron		LF	LF	LF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	
	Nickel 200		MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	HF	HF
	Stainless steel 439, A268, TP439		MF	MF	MF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	
	Stainless steel duplex (2205), 3RE60, A789		HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	HF	



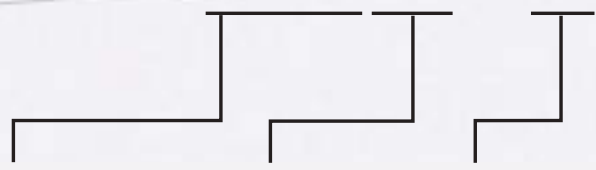
## NFT Probe

### HIGHLIGHTS

- Optimized for internal defect detection
- Designed to inspect aluminum-finned carbon steel tubes in fin-fan coolers
- Uncompromising durability
- Stainless steel body
- Highly kink-resistant, very flexible cable
- Superior absolute baseline signal
- 19-pin Amphenol connector

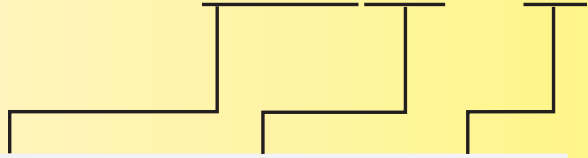
These probes are designed to inspect aluminum-finned carbon steel tubes in fin-fan coolers. The coil configuration allows reliably detecting internal defects such as corrosion, erosion, pitting, and axial cracking. The probes are sleeved with stainless steel.

## PRBT-NFT-BBAD-wwwXX-Nzz



TUBE OD		TUBE WT			DIAMETER		FREQUENCY		POLY		LENGTH	PROBE PART NUMBER		
mm	in	BWG	mm	in	CODE	mm	in	CODE	RANGE	CODE				
19.05	0.750	10	3.40	0.134	110	11	0.433					PRBT-NFT-BBAD-110MF-Nzz		
		11	3.05	0.120	120	12	0.472					PRBT-NFT-BBAD-120MF-Nzz		
		12	2.77	0.109										
		13	2.41	0.095	130	13	0.512	MF	50-2000Hz	20	20m (65ft)	PRBT-NFT-BBAD-130MF-Nzz		
		14	2.11	0.083										
				15	1.83	0.072	140	14	0.551					PRBT-NFT-BBAD-140MF-Nzz
				16	1.65	0.065								
				17	1.47	0.058	150	15	0.591					
		18	1.24	0.049										

# PRBT-NFT-BBAD-wwwXX-Nzz



TUBE OD		TUBE WT			DIAMETER			FREQUENCY		POLY		PROBE PART NUMBER
mm	in	BWG	mm	in	CODE	mm	in	CODE	RANGE	CODE	LENGTH	
25.40	1.000	9	3.76	0.148	160	16	0.630					PRBT-NFT-BBAD-160MF-Nzz
		10	3.40	0.134	170	17	0.669					PRBT-NFT-BBAD-170MF-Nzz
		11	3.05	0.120								
		12	2.77	0.109	180	18	0.709					PRBT-NFT-BBAD-180MF-Nzz
		13	2.41	0.095								
		14	2.11	0.083	190	19	0.748					PRBT-NFT-BBAD-190MF-Nzz
		15	1.83	0.072								
		16	1.65	0.065	200	20	0.787					PRBT-NFT-BBAD-200MF-Nzz
		17	1.47	0.058								
18	1.24	0.049	210	21	0.827					PRBT-NFT-BBAD-210MF-Nzz		
31.75	1.250	8	4.19	0.165	210	21	0.827					PRBT-NFT-BBAD-210MF-Nzz
		9	3.76	0.148	220	22	0.866					PRBT-NFT-BBAD-220MF-Nzz
		10	3.40	0.134								
		11	3.05	0.120	230	23	0.906					PRBT-NFT-BBAD-230MF-Nzz
		12	2.77	0.109								
		13	2.41	0.095	240	24	0.945					PRBT-NFT-BBAD-240MF-Nzz
		14	2.11	0.083								
		15	1.83	0.072	250	25	0.984					PRBT-NFT-BBAD-250MF-Nzz
		16	1.65	0.065								
17	1.47	0.058	260	26	1.024	MF	50-2000Hz	20	20 m (65 ft)		PRBT-NFT-BBAD-260MF-Nzz	
18	1.24	0.049							30	30 m (98 ft)		
38.10	1.500	8	4.19	0.165	270	27	1.063					PRBT-NFT-BBAD-270MF-Nzz
		9	3.76	0.148	280	28	1.102					PRBT-NFT-BBAD-280MF-Nzz
		10	3.40	0.134								
		11	3.05	0.120	290	29	1.142					PRBT-NFT-BBAD-290MF-Nzz
		12	2.77	0.109								
		13	2.41	0.095	300	30	1.181					PRBT-NFT-BBAD-300MF-Nzz
		14	2.11	0.083								
		15	1.83	0.072	310	31	1.220					PRBT-NFT-BBAD-310MF-Nzz
50.80	2.000	6	5.16	0.203	380	38	1.496					PRBT-NFT-BBAD-380MF-Nzz
		7	4.57	0.180								
		8	4.19	0.165	400	40	1.575					PRBT-NFT-BBAD-400MF-Nzz
		9	3.76	0.148								
		10	3.40	0.134	420	42	1.654					PRBT-NFT-BBAD-420MF-Nzz
		11	3.05	0.120								
		12	2.77	0.109								
		13	2.41	0.095								
14	2.11	0.083										



## NFA Probe

### HIGHLIGHTS

- High-resolution array scans (C-scans) of fin-fan air cooler tubes at NFT speeds
- Designed to inspect aluminum-finned carbon steel tubes of fin-fan coolers and ferromagnetic heat exchangers
- Defect detection and sizing in a single pass
- Axial and circumferential crack detection
- Rugged and easy to use — No magnets
- Hardened-steel, replaceable wear guides
- Wide variety of probe diameters

These probes are designed to inspect aluminum-finned carbon steel tubes of fin-fan coolers and ferromagnetic heat exchangers. The coil configuration allows reliably detecting and sizing internal defects such as ID pitting, internal cracking at the tubesheets, internal erosion, and wall loss.

## PRBT-NFA-BBAA-wwwXX-Nzz

TUBE OD		TUBE WT			DIAMETER		FREQ.		POLY		PROBE PART NUMBER	
mm	in	BWG	mm	in	CODE	mm	in	CODE	RANGE	CODE		LENGTH
19.05	0.750	12	2.77	0.109	124	12.4	0.488	MF	1-40kHz	20	20m (65ft)	PRBT-NFA-BBAA-124MF-Nzz
		13	2.41	0.095	130	13.0	0.512					PRBT-NFA-BBAA-130MF-Nzz
		14	2.11	0.083	138	13.8	0.543					PRBT-NFA-BBAA-138MF-Nzz
		15	1.83	0.072	142	14.2	0.559					PRBT-NFA-BBAA-142MF-Nzz
25.40	1.000	10	3.40	0.134	170	17.0	0.669			PRBT-NFA-BBAA-170MF-Nzz		
		11	3.05	0.120	180	18.0	0.709			PRBT-NFA-BBAA-180MF-Nzz		
		12	2.77	0.109	184	18.4	0.724			PRBT-NFA-BBAA-184MF-Nzz		
		13	2.41	0.095	188	18.8	0.740			PRBT-NFA-BBAA-188MF-Nzz		
		14	2.11	0.083	194	19.4	0.764			PRBT-NFA-BBAA-194MF-Nzz		
31.75	1.250	15	1.83	0.072	200	20.0	0.787			30	30m (98ft)	PRBT-NFA-BBAA-200MF-Nzz
		10	3.40	0.134	230	23.0	0.906			PRBT-NFA-BBAA-230MF-Nzz		
		11	3.05	0.120	236	23.6	0.929			PRBT-NFA-BBAA-236MF-Nzz		
		12	2.77	0.109	244	24.4	0.961	PRBT-NFA-BBAA-244MF-Nzz				
38.10	1.500	13	2.41	0.095	250	25.0	0.984	PRBT-NFA-BBAA-250MF-Nzz				
		10	3.40	0.134	290	29.0	1.142	PRBT-NFA-BBAA-290MF-Nzz				
		11	3.05	0.120	296	29.6	1.165	PRBT-NFA-BBAA-296MF-Nzz				
		12	2.77	0.109	302	30.2	1.189	PRBT-NFA-BBAA-302MF-Nzz				
		13	2.41	0.095	308	30.8	1.212	PRBT-NFA-BBAA-308MF-Nzz				



# MFL Probe

## HIGHLIGHTS

- Designed to inspect aluminum-finned carbon steel tubes in fin-fan coolers
- Optimized for internal and external defect detection
- Capable of detecting circumferential cracks
- No ABS drift adapter box necessary
- Replaceable, hardened-steel wear guides
- Uncompromising durability
- Optimal saturation level
- Highly kink-resistant cable
- 19-pin Amphenol connector

Designed to inspect the aluminum-finned carbon steel tubes of fin-fan coolers. The coil configuration of the probes enables reliably detecting internal and external defects such as corrosion, erosion, pitting, and circumferential cracking.

# PRBT-MFL-ADT-XXX-Nzz

TUBE OD		TUBE WT			DIAMETER			POLY		PROBE PART NUMBER	NOTES				
mm	in	BWG	mm	in	CODE	mm	in	CODE	LENGTH						
19.05	0.750	12	2.77	0.109	124	12.4	0.488		20	20 m (65 ft)	PRBT-MFL-ADT-124-Nzz	These probes offer less sensitivity to external defects, because the core sections of the probes are significantly smaller than the tube section. Sensitivity to internal defects remains very high.			
		13	2.41	0.095							138		13.8	0.543	PRBT-MFL-ADT-138-Nzz
		14	2.11	0.083	148	14.8	0.583								PRBT-MFL-ADT-148-Nzz
		15	1.83	0.072											PRBT-MFL-ADT-162-Nzz
		16	1.65	0.065	148	14.8	0.583				PRBT-MFL-ADT-170-Nzz				
25.40	1.000	9	3.76	0.148	162	16.2	0.638				PRBT-MFL-ADT-180-Nzz				
		10	3.40	0.134	170	17.0	0.669				PRBT-MFL-ADT-188-Nzz				
		11	3.05	0.120	180	18.0	0.709				PRBT-MFL-ADT-194-Nzz				
		12	2.77	0.109	188	18.8	0.740				PRBT-MFL-ADT-200-Nzz				
		13	2.41	0.095	194	19.4	0.764				PRBT-MFL-ADT-200-Nzz				
		14	2.11	0.083	200	20.0	0.787	30	30 m (98 ft)						
		15	1.83	0.072	230	23.0	0.906	PRBT-MFL-ADT-230-Nzz							
		16	1.65	0.065	244	24.4	0.961	PRBT-MFL-ADT-244-Nzz							
31.75	1.250	17	1.47	0.058	256	25.6	1.008	PRBT-MFL-ADT-256-Nzz							
		10	3.40	0.134	290	29.0	1.142	PRBT-MFL-ADT-290-Nzz							
		11	3.05	0.120	302	30.2	1.189	PRBT-MFL-ADT-302-Nzz							
		12	2.77	0.109	315	31.5	1.24	PRBT-MFL-ADT-315-Nzz							
38.10	1.500	13	2.41	0.095											
		14	2.11	0.083											
		15	1.83	0.072											





# Internal Rotary Inspection Systems (IRIS)

PART NO.	DESCRIPTION
IRIS-KIT-FUL	IRIS kit including (pump and filter unit sold separately [page 28]):
	<ul style="list-style-type: none"> <li>• 2 turbines</li> <li>• 4 centering devices</li> <li>• 3 transducers</li> <li>• 4 cables (20 m)</li> <li>• 1 flood tube adaptor</li> <li>• 1 repair kit</li> </ul>

PART NO.	DESCRIPTION
IRIS-KIT-FUL-w/MICRO	IRIS kit including (pump and filter unit sold separately [page 28]):
	<ul style="list-style-type: none"> <li>• 3 turbines</li> <li>• 4 centering devices</li> <li>• 4 transducers</li> <li>• 4 cables (20 m)</li> <li>• 1 flood tube adaptor</li> <li>• 1 repair kit</li> </ul>

PART NO.	DESCRIPTION
IRIS-KIT-MICRO	IRIS kit including (pump and filter unit sold separately [page 28]):
	<ul style="list-style-type: none"> <li>• 1 turbine</li> <li>• 1 centering device</li> <li>• 1 transducer</li> <li>• 1 cable (20 m)</li> </ul>



# Transducers and Turbines

## Transducers



PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
IRIS-TD-10M-254	10 MHz, 25.4 mm focal length	IRIS-TD-15M-254	15 MHz, 25.4 mm focal length
IRIS-TD-10M-318	10 MHz, 31.8 mm focal length	IRIS-TD-15M-318	15 MHz, 31.8 mm focal length
IRIS-TD-10M-381	10 MHz, 38.1 mm focal length	IRIS-TD-15M-381	15 MHz, 38.1 mm focal length
IRIS-TD-10M-445	10 MHz, 44.5 mm focal length	IRIS-TD-15M-445	15 MHz, 44.5 mm focal length
IRIS-TD-10M-508	10 MHz, 50.8 mm focal length	IRIS-TD-15M-508	15 MHz, 50.8 mm focal length
IRIS-TD-10M-635	10 MHz, 63.5 mm focal length	IRIS-TD-15M-635	15 MHz, 63.5 mm focal length
IRIS-TD-10M-762	10 MHz, 76.2 mm focal length	IRIS-TD-15M-762	15 MHz, 76.2 mm focal length
IRIS-TD-10M-889	10 MHz, 88.9 mm focal length	IRIS-TD-15M-889	15 MHz, 88.9 mm focal length
IRIS-TD-20M-254	20 MHz, 25.4 mm focal length	IRIS-MTD-20M-191	20 MHz, 19.1 mm focal length
IRIS-TD-20M-318	20 MHz, 31.8 mm focal length		
IRIS-TD-20M-381	20 MHz, 38.1 mm focal length		

## Turbines



### HIGHLIGHTS

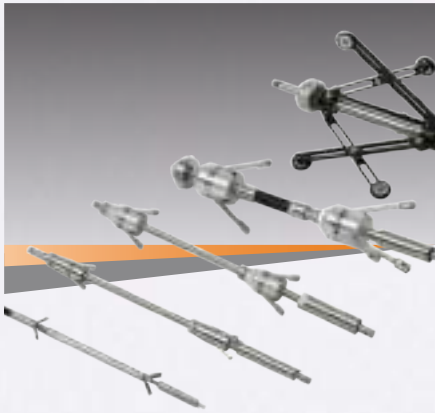
- Unequalled rotation speed
- No trapped air bubbles
- Easy maintenance

Eddyfi's IRIS turbines are engineered to leverage the **Ectane® 2**'s impressive acquisition rate and deliver optimal results for a wide range of rotation speeds, up to 120 revolutions per seconds. The unique mechanical design significantly reduces the formation of bubbles and allows smooth operation for successful ultrasonic examinations. Turbines are available in three sizes: 8.5 mm (0.335 in), 12 mm (0.472 in), and 17 mm (0.669 in).

PART NUMBER	DESCRIPTION
IRIS-TB-085	Diameter 8.5 mm (0.335 in)
IRIS-TB-120	Diameter 12 mm (0.472 in)
IRIS-TB-170	Diameter 17 mm (0.669 in)

# Centering Devices and Cables

## Centering Devices



### HIGHLIGHTS

- Linked arms for better centering
- Self-contained
- Fast and simple assembly
- Easy maintenance

These centering devices have two sets of three spring-loaded arms linked in two directions to ensure perfect centering. All our centering devices are made to be self-contained and removable from the shaft (except the extra-small model) without loss of components or arm pressure. They are available in five sizes — extra-small, small, medium, large, and extra-large — covering tube ODs 12.7–167.6 mm (0.50–6.60 in).

PART NUMBER	DESCRIPTION
IRIS-CDXS-SLA	Extra-small centering device with spring-loaded arms (9.4–18.5 mm)
IRIS-CDXS	Extra-small centering device (11.4–18.0 mm)
IRIS-CDSM-SLA	Small centering device with spring-loaded arms (18.0–25.4 mm)
IRIS-CDMD	Medium centering device with spring-loaded arms (23.0–42.0 mm)
IRIS-CDLG	Large centering device with spring-loaded arms (38.1–76.2 mm)
IRIS-CDXL	Extra-large IRIS centering device (72–169 mm) mounted on a rigid rod

## Cables

PART NUMBER	DESCRIPTION
IRIS-CBL-CDXS-SLA-N15	Nylon cable, diameter 7.9 mm (0.313 in), 15 m (49 ft) for the extra-small centering device with spring-loaded arms
IRIS-CBL-N15	Nylon cable, diameter 7.9 mm (0.313 in), 15 m (49 ft)
IRIS-CBL-CDXS-SLA-N20	Nylon cable, diameter 7.9 mm (0.313 in), 20 m (66 ft) for the extra-small centering device with spring-loaded arms
IRIS-CBL-N20	Nylon cable, diameter 7.9 mm (0.313 in), 20 m (66 ft)
IRIS-CBL-CDXS-SLA-N30	Nylon cable, diameter 7.9 mm (0.313 in), 30 m (98 ft) for the extra-small centering device with spring-loaded arms
IRIS-CBL-N30	Nylon cable, diameter 7.9 mm (0.313 in), 30 m (98 ft)
IRIS-CBL-BNC	BNC cable, 3 m (10 ft)

# IRIS Accessories



## Flood Tube Adaptor

PART NUMBER	DESCRIPTION
IRIS-FLOOD-MICRO	Flood tube adaptor for the extra-small centering device with spring-loaded arms
IRIS-FLOOD	Flood tube adaptor (2 sizes)



## Pumps and Filter Units

PART NUMBER	DESCRIPTION
IRIS-WPFT-120	Submersible water pump and filter unit (120V)
IRIS-WPFT-220	Submersible water pump and filter unit (220V)



## Encoder

Eddyfi's encoder allows accurately reporting defect positions along tubes by monitoring the movement of the probe. The reliable and simple-to-use encoder mechanism offers superior precision compared to traditional landmarks.

PART NUMBER	DESCRIPTION
PRBT-ENC-STD-1-18P-N04	Cable encoder for tubing probe, including fixtures for the flood tube adapter and 4 m (13.1 ft) cable

# Selection Table — IRIS for Tubing

		TUBE WALL THICKNESSES									
		BWG	4	6	8	10	12	14	16	18	20
		mm	6.05	5.16	4.19	3.40	2.77	2.11	1.65	1.24	0.89
mm	in	0.238	0.206	0.165	0.135	0.109	0.083	0.065	0.049	0.035	
12.70	0.500	–	–	–	–	–	–	–	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-085 MTD-20M-191	–
15.87	0.625	–	–	–	–	–	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-120 TD-20M-254	CDXS TB-120 TD-20M-254	CDXS TB-120 TD-20M-254
19.05	0.750	–	–	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-120 TD-15M-254	CDXS-SLA TB-120 TD-15M-254	CDXS-SLA TB-120 TD-20M-254	CDXS-SLA TB-120 TD-20M-254	CDXS-SLA TB-120 TD-20M-254	CDXS-SLA TB-120 TD-20M-254
22.22	0.875	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-085 MTD-20M-191	CDXS-SLA TB-120 TD-10M-254	CDXS-SLA TB-120 TD-15M-254	CDXS-SLA TB-120 TD-15M-254	CDXS-SLA TB-120 TD-15M-254	CDXS-SLA TB-120 TD-20M-254	CDXS-SLA TB-120 TD-20M-254	CDXS-SLA TB-120 TD-20M-254	–
25.40	1.000	CDXS-SLA TB-120 TD-10M-254	CDXS-SLA TB-120 TD-10M-254	CDXS-SLA TB-120 TD-10M-254	CDXS-SLA TB-120 TD-15M-254	CDSM-SLA TB-170 TD-15M-318	CDSM-SLA TB-170 TD-15M-318	CDSM-SLA TB-170 TD-20M-318	CDSM-SLA TB-170 TD-20M-318	CDSM-SLA TB-170 TD-20M-318	–
31.75	1.250	CDSM-SLA TB-170 TD-10M-318	CDSM-SLA TB-170 TD-10M-318	CDSM-SLA TB-170 TD-10M-318	CDMD TB-170 TD-15M-318	CDMD TB-170 TD-15M-318	CDMD TB-170 TD-15M-318	CDMD TB-170 TD-15M-318	CDMD TB-170 TD-15M-318	–	–
38.10	1.500	CDMD TB-170 TD-10M-318	CDMD TB-170 TD-10M-318	CDMD TB-170 TD-10M-381	CDMD TB-170 TD-15M-381	CDMD TB-170 TD-15M-381	CDMD TB-170 TD-15M-381	CDMD TB-170 TD-15M-381	CDMD TB-170 TD-15M-381	–	–
50.80	2.000	CDMD TB-170 TD-10M-381	CDMD TB-170 TD-10M-381	CDLG TB-170 TD-10M-445	CDLG TB-170 TD-15M-445	CDLG TB-170 TD-15M-445	CDLG TB-170 TD-15M-445	CDLG TB-170 TD-15M-445	CDLG TB-170 TD-15M-445	–	–
63.50	2.500	CDLG TB-170 TD-10M-445	CDLG TB-170 TD-10M-508	CDLG TB-170 TD-10M-508	CDLG TB-170 TD-15M-508	CDLG TB-170 TD-15M-508	CDLG TB-170 TD-15M-508	–	–	–	–
76.20	3.000	CDLG TB-170 TD-10M-508	CDLG TB-170 TD-10M-508	CDLG TB-170 TD-10M-508	CDLG TB-170 TD-15M-508	CDLG TB-170 TD-15M-508	CDLG TB-170 TD-15M-508	–	–	–	–

OUTER DIAMETERS

Example: CDSM-SLA: Centering device, small  
 TB-170: Turbine, 17.0 mm  
 TD-15M-254: Transducer, 15 MHz, 25.4 mm focal length

## Selection Table — IRIS for Piping

NPS	Dimensions					UT Transducers						Recommended Speeds			Typical Minimum Defect Detection			
	Outer Diameters		Wall Thicknesses			10MHz			15MHz			Rotation	Pull		mm	in		
	mm	in	SCH	mm	in	63.5 mm 2.5 in	76.2 mm 3.0 in	88.9 mm 3.5 in	63.5 mm 2.5 in	76.2 mm 3.0 in	88.9 mm 3.5 in	RPS	mm/s	in/s				
3.0 in	88.9	3.500	SCH 10	3.05	0.120				●				83	50.8	2.0	4.3	0.169	
			SCH 40	5.49	0.216	●								55	50.8	2.0	4.0	0.157
			SCH 80	7.62	0.300	●								57	53.3	2.1	3.8	0.150
3.5 in	101.6	4.000	SCH 10	3.05	0.120				●				48	45.7	1.8	5.0	0.197	
			SCH 40	5.74	0.226	●								50	45.7	1.8	4.7	0.185
			SCH 80	8.08	0.318	●								51	48.3	1.9	4.4	0.173
4.0 in	114.3	4.500	SCH 10	3.05	0.120					●			44	40.6	1.6	5.6	0.220	
			SCH 40	6.02	0.237		●							45	43.2	1.7	5.3	0.209
			SCH 80	8.56	0.337		●							47	43.2	1.7	5.0	0.197
5.0 in	140.6	5.563	SCH 10	3.40	0.134						●		37	33.0	1.3	7.0	0.276	
			SCH 40	6.55	0.258			●						38	35.6	1.4	6.6	0.260
			SCH 80	9.53	0.375			●						39	35.6	1.4	6.3	0.248
6.0 in	168.3	6.625	SCH 40	7.11	0.280			●					33	30.5	1.2	8.0	0.315	
			SCH 80	10.97	0.432			●						34	30.5	1.2	7.6	0.299

# Cables and Adapters

## Detachable Probe Cables



PART NUMBER	DESCRIPTION
PRBT-ECT-CBL-095-N15	Premium ECT nylon cable, diameter 9.5 mm (0.375 in), 15 m (49 ft)
PRBT-ECT-CBL-095-N20	Premium ECT nylon cable, diameter 9.5 mm (0.375 in), 20 m (66 ft)
PRBT-ECT-CBL-095-N30	Premium ECT nylon cable, diameter 9.5 mm (0.375 in), 30 m (98 ft)

## Adapters

PART NUMBER	DESCRIPTION
PRBT-ADAPT-41x4	41-pin male Amphenol to 4-pin female Amphenol ECT bobbin probe adapter
PRBT-ADAPT-41x4&4	41-pin male Amphenol to 2× female 4-pin Amphenol dual ECT bobbin probe adapter
PRBT-ADAPT-41xAC	41-pin male Amphenol to 2× female 4-pin Amphenol air-conditioning probe adapter
PRBT-ADAPT-41x36	41-pin male Amphenol to 36-pin female Amphenol probe adapter
PRBT-ADAPT-41x6	41-pin male Amphenol to 6-pin male Jaeger (switchable) ECT bobbin probe adapter
PRBT-ADAPT-19x3&6	19-pin male Amphenol to 3-pin and 6-pin female Amphenol RFT probe adapter
PRBT-ADAPT-19x5&6	19-pin male Amphenol to 5-pin ITT Cannon and 6-pin female Amphenol RFT probe adapter
PRBT-ADAPT-19x3&5&6	19-pin male Amphenol to 5-pin ITT Cannon, 3-pin and 6-pin female Amphenol with 15 dB preamplifier universal RFT probe adapter
PRBT-ADAPT-19x8	19-pin male Amphenol to 8-pin female Amphenol MFL probe adapter
PRBT-ADAPT-8x19	8-pin male Amphenol to 19-pin female Amphenol MFL probe adapter

# Ectane<sup>®</sup> 2

## Surface Array and Tube Inspection System

### A Proven Success. Made Better.

With several hundred units in the field, the **Ectane<sup>®</sup>** has become the most popular multi-technology test instrument on the market. It's time for the next generation — **Ectane 2**.

#### Portability and autonomy

The **Ectane 2** test instrument is approximately 10 L (688 in<sup>3</sup>) in volume and weighs in at 6.8 kg (15 lb), making it about three times more compact than other legacy test instruments. The **Ectane 2** is therefore easy to carry beyond being rugged. The instrument is also battery powered — 8 hours of autonomy eliminates the need for an external power source.

#### Built-in technological versatility

Non-destructive testing of tubing and surfaces relies on a number of techniques, which often depend on the application and the materials involved. Use the **Ectane 2**'s built-in capabilities with almost any combination of the following testing technologies, according to your needs:

- Eddy current testing (ECT)
- Eddy current array (ECA)
- Tangential eddy current array (TECA™)
- Remote-field testing (RFT)
- Near-field testing (NFT)
- Near-field array (NFA)
- Magnetic flux leakage (MFL)
- Internal rotating inspection system (IRIS) ultrasonic testing

Whatever the technology, the **Ectane 2** can drive it without external boxes or clumsy connections.

The **Ectane 2** can also drive partial saturation ECT probes and magnetic bias ECT probes with its onboard current source, and RPC probes with its motor drive.

#### Superior connectivity

BootP has always proven to be extremely cryptic and notoriously difficult to use. The **Ectane 2** is designed to be plugged into your network and simply work. There's no longer any need for BootP, which means you can be up and running in next to no time.





# Magnifi<sup>®</sup>

Eddy Current Data Acquisition and Analysis Software

## The Most Advanced Eddy Current Data Acquisition and Analysis Software.

In today's NDT world, **Magnifi** is simply the most comprehensive, stable, and reliable multi-technology software for surface and tube inspections.

### Versatility

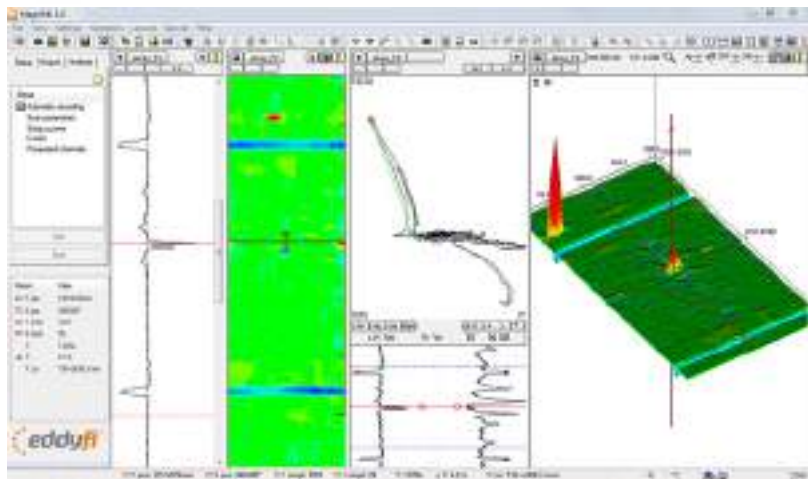
**Magnifi** is compatible with the most inspection technologies, the most instruments, and the most file formats. With such a tool at your fingertips, there is almost no need to switch back and forth between several software anymore.

### Guided setup

The **Magnifi** setup wizard removes the need for high-level NDT knowledge for a thorough setup. The setup wizard pilots you through all the necessary steps to achieve the best setup in the least amount of time.

### Seeing is believing

C-scan imaging allows personnel without extensive ECT data analysis experience to view data from the probe and be confident about the inspection results.



## TubePro

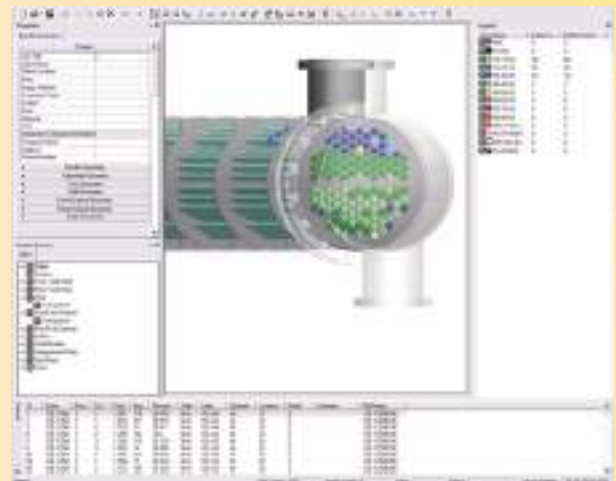
**TubePro** is the state-of-the-art fruit of ISS' over 30 years of experience in developing thermal, mechanical and inspection software applications for the petrochemical and power generation industries.

### Ease of use

**TubePro** was developed with a focus on ease of use. It is easy to learn the tube mapping edition tools featured in the software. You can easily add, delete, and edit tubes, as well as conventional functions such as undo offer a familiar feel to **TubePro**.

### Advanced reporting

Reports can be output as spreadsheets compatible with any popular spreadsheet software. Cells can be updated in real time and easily linked to calculate and specify data to **TubePro**.



# Notes

# Notes



[www.eddyfi.com](http://www.eddyfi.com)

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Printed in Canada. 2017-04-28



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