

38 to 75 kHz-A (Broadband)
 Transformed to 100 ohms minimum (B1)

Power Rating:

- 2 kW @ 1% duty cycle
- CW⁽⁴⁾: 30W in CM199, PM111, R109
 25W in R111

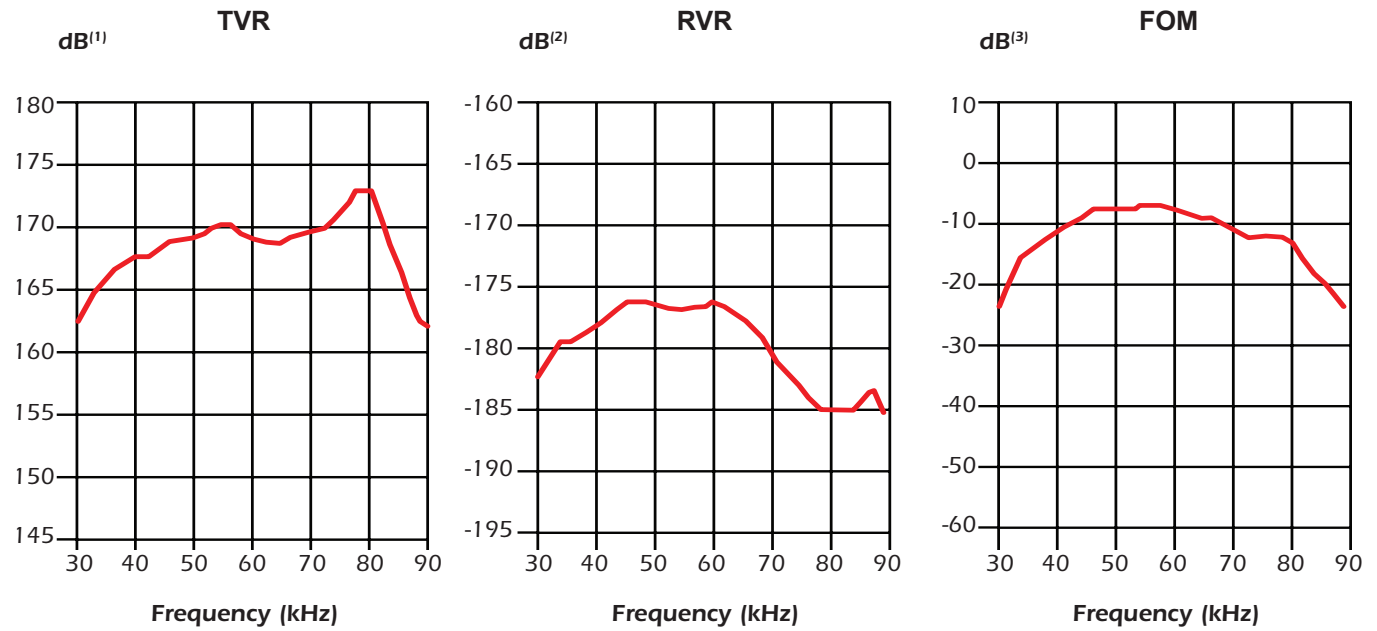
15 x 35 mm (1.38 in) PZT
 Active Area: 144.6 cm² (22.4 in²)
 Radiating Surface: Urethane

Q ≈ 2.5

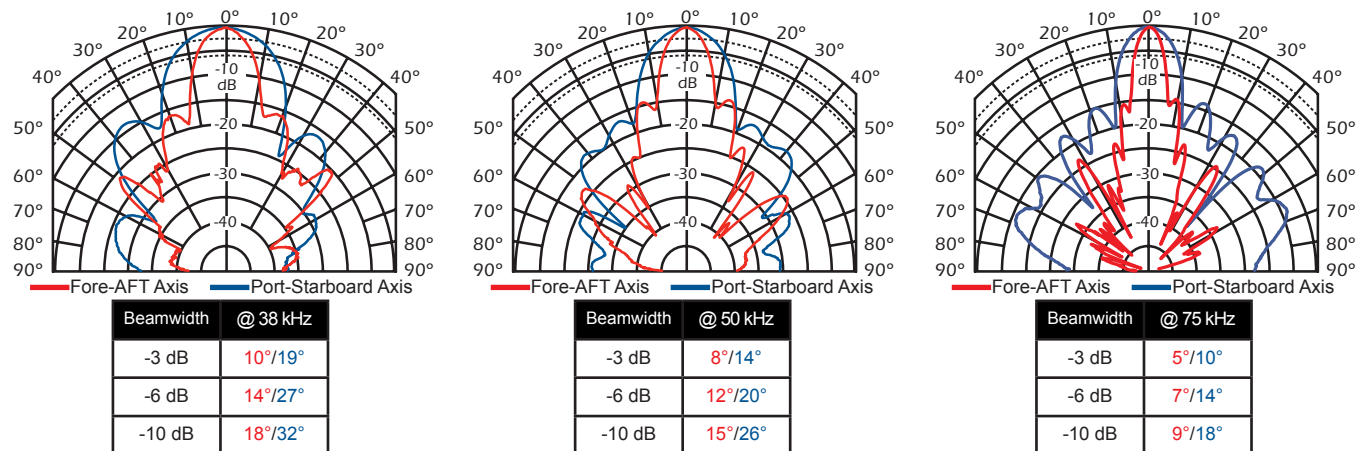
Cable Type: C44
 Cable Length: 10 m (33 ft)

Notes:

- (1) dB re 1 μPa per volt at 1 meter
- (2) dB re 1 volt per μPa
- (3) Sum of transmitting voltage response and receiving voltage response
- (4) CW Power ratings is for 20°C seawater temperature. Consult Airmar for different housing CW ratings.



Transmit Radiation Pattern



Sensing Technology

Technical Data Catalog

38 to 75 kHz-A (Broadband)

Note: Impedance data includes cable

Balanced Impedance Table (Nominal Value) in 20°C Water

Test Frequency (kHz)	Impedance Magnitude (Ω)	Phase Angle (°)	Series Resistance (Ω)	Series Reactance (Ω)	Parallel Conductance (mS)	Parallel Susceptance (mS)	Parallel Resistance (Ω)	Parallel Capacitance (pF)
30.00	73.63	79.09	13.94	72.30	2.57	-13.34	388.89	-70751.87
32.00	83.84	71.66	26.38	79.59	3.75	-11.32	266.51	-56308.40
33.00	86.52	66.26	34.83	79.20	4.65	-10.58	214.93	-51027.89
34.00	87.92	64.05	38.48	79.06	4.98	-10.23	200.91	-47870.63
35.00	87.72	60.49	43.21	76.34	5.62	-9.92	178.09	-45112.33
37.00	91.45	56.84	50.02	76.56	5.98	-9.15	167.20	-39379.39
38.00	93.70	56.32	51.96	77.97	5.92	-8.88	168.96	-37195.20
39.00	95.09	55.19	54.27	78.07	6.00	-8.64	166.59	-35239.96
40.00	100.06	55.99	55.97	82.95	5.59	-8.28	178.90	-32961.94
42.00	111.74	52.29	68.34	88.40	5.47	-7.08	182.69	-26829.75
43.00	115.80	48.05	77.41	86.13	5.77	-6.42	173.24	-23771.53
44.00	120.86	45.22	85.13	85.78	5.83	-5.87	171.57	-21244.19
45.00	121.59	40.54	92.40	79.04	6.25	-5.35	160.01	-18906.98
47.00	125.64	34.58	103.45	71.30	6.55	-4.52	152.59	-15295.70
48.00	127.75	32.83	107.34	69.26	6.58	-4.24	152.03	-14071.62
49.00	126.59	29.64	110.03	62.60	6.87	-3.91	145.65	-12689.05
50.00	129.39	27.71	114.55	60.18	6.84	-3.59	146.16	-11440.62
52.00	125.13	22.81	115.35	48.51	7.37	-3.10	135.75	-9481.56
53.00	121.69	20.84	113.74	43.29	7.68	-2.92	130.21	-8777.16
54.00	120.95	21.36	112.64	44.05	7.70	-3.01	129.87	-8875.86
55.00	119.93	21.17	111.84	43.30	7.78	-3.01	128.61	-8711.94
57.00	131.50	21.90	122.01	49.04	7.06	-2.84	141.72	-7919.07
58.00	140.42	20.79	131.28	49.84	6.66	-2.53	150.20	-6935.86
59.00	147.88	17.71	140.87	44.98	6.44	-2.06	155.23	-5548.44
60.00	156.98	14.36	152.07	38.94	6.17	-1.58	162.04	-4191.94
62.00	168.17	4.78	167.59	14.03	5.93	-0.50	168.76	-1273.03
63.00	168.00	-1.26	167.96	-3.69	5.95	0.13	168.04	330.64
64.00	166.64	-6.26	165.65	-18.18	5.97	0.65	167.64	1627.73
65.00	163.04	-11.77	159.61	-33.26	6.00	1.25	166.55	3063.86
67.00	153.01	-21.93	141.93	-57.16	6.06	2.44	164.95	5799.39
68.00	145.19	-26.24	130.23	-64.21	6.18	3.05	161.88	7128.34
69.00	135.53	-30.73	116.50	-69.25	6.34	3.77	157.66	8696.56
70.00	125.37	-34.40	103.44	-70.83	6.58	4.51	151.95	10246.24
72.00	104.21	-39.11	80.87	-65.73	7.45	6.05	134.30	13379.47
73.00	94.65	-40.41	72.07	-61.36	8.04	6.85	124.32	14932.33
74.00	85.81	-40.46	65.29	-55.68	8.87	7.56	112.77	16263.93
75.00	77.42	-39.96	59.34	-49.72	9.90	8.30	101.00	17602.69
77.00	62.05	-35.05	50.80	-35.64	13.19	9.26	75.80	19130.99
78.00	56.05	-29.11	48.97	-27.27	15.59	8.68	64.15	17709.11
79.00	52.08	-20.92	48.64	-18.59	17.94	6.86	55.75	13812.91
80.00	51.11	-10.83	50.20	-9.60	19.22	3.68	52.03	7312.83



Sensing Technology

150 to 250 kHz-A (Broadband)

Transformed to 100 ohms minimum (B1)

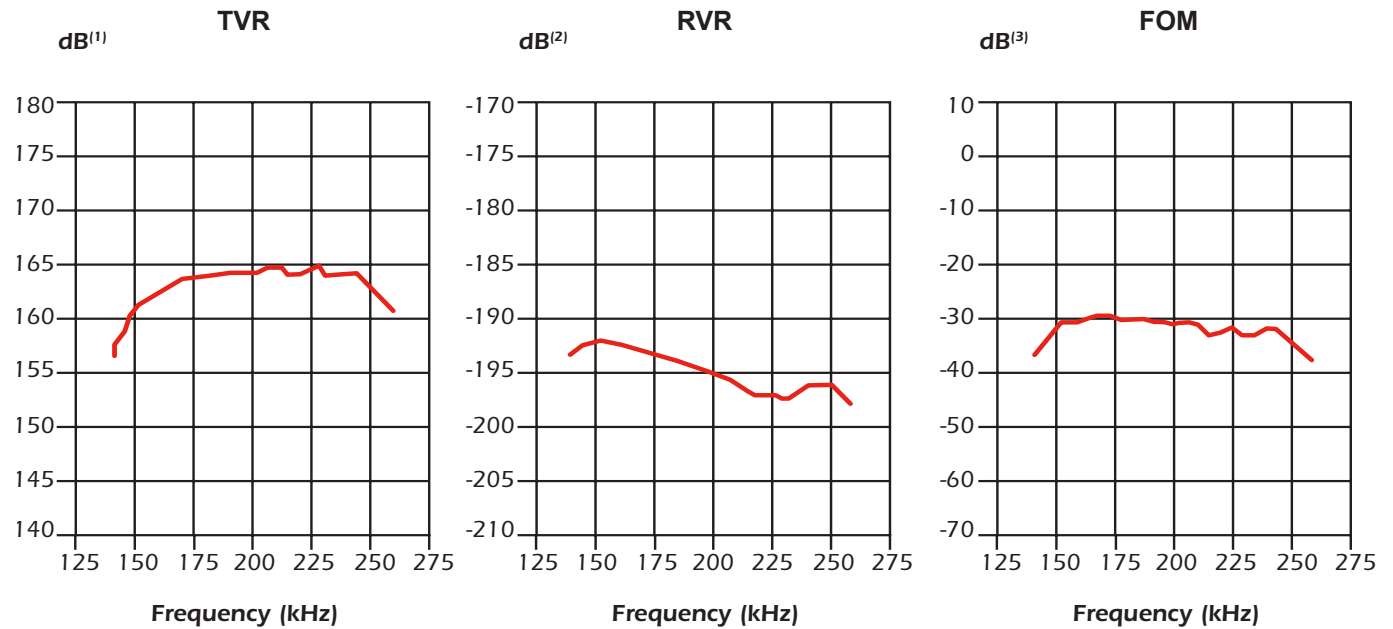
Power Rating:

- 1 kW @ 1% duty cycle
- CW⁽⁴⁾: 18 W in B175, B275, B285, CM599, PM111, PM275, R109, R509
12W in CM275, TM185, TM275

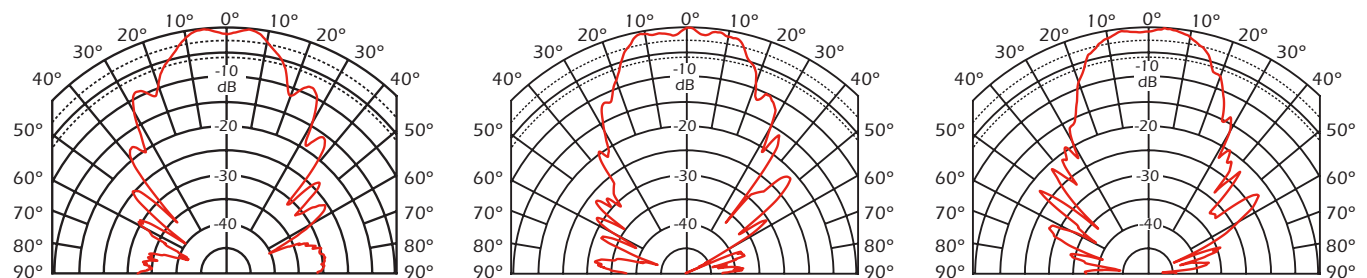
65 mm (2.56 in) PZT
 Active Area: 34.4 cm² (5.3 in²)
 Radiating Surface: HPC/Urethane
 Q ≈ 2.3
 Cable Type: C334
 Cable Length: 12 m (40 ft)

Notes:

- (1) dB re 1 μPa per volt at 1 meter
- (2) dB re 1 volt per μPa
- (3) Sum of transmitting voltage response and receiving voltage response
- (4) CW Power ratings is for 20°C seawater temperature. Consult Airmar for different housing CW ratings.



Transmit Radiation Pattern



Beamwidth	@ 160 kHz
-3 dB	24°
-6 dB	32°
-10 dB	39°

Beamwidth	@ 200 kHz
-3 dB	30°
-6 dB	38°
-10 dB	44°

Beamwidth	@ 235 kHz
-3 dB	26°
-6 dB	33°
-10 dB	43°



Sensing Technology

Technical Data Catalog

150 to 250 kHz-A (Broadband)

Note: Impedance data includes cable

Balanced Impedance Table (Nominal Value) in 20°C Water

Test Frequency (kHz)	Impedance Magnitude (Ω)	Phase Angle (°)	Series Resistance (Ω)	Series Reactance (Ω)	Parallel Conductance (mS)	Parallel Susceptance (mS)	Parallel Resistance (Ω)	Parallel Capacitance (pF)
140.00	213.73	23.07	196.63	83.76	4.30	-1.83	232.31	-2084.55
142.00	210.53	18.00	200.22	65.07	4.52	-1.47	221.36	-1645.47
146.00	193.34	9.57	190.65	32.13	5.10	-0.86	196.06	-937.09
148.00	182.66	6.91	181.33	21.98	5.43	-0.66	184.00	-708.56
152.00	168.28	4.38	167.78	12.85	5.93	-0.45	168.77	-475.15
154.00	162.84	3.22	162.58	9.15	6.13	-0.35	163.09	-356.77
158.00	154.21	1.38	154.16	3.71	6.48	-0.16	154.25	-156.98
160.00	150.70	0.74	150.69	1.94	6.64	-0.09	150.72	-85.05
164.00	146.19	-0.85	146.17	-2.16	6.84	0.10	146.20	98.16
166.00	142.90	-2.10	142.80	-5.24	6.99	0.26	142.99	246.27
170.00	134.45	-3.02	134.26	-7.08	7.43	0.39	134.64	366.64
172.00	131.48	-2.92	131.31	-6.70	7.60	0.39	131.65	358.37
176.00	128.39	-2.48	128.27	-5.55	7.78	0.34	128.51	304.44
178.00	127.87	-2.35	127.76	-5.25	7.81	0.32	127.98	287.00
182.00	129.72	-1.93	129.64	-4.38	7.70	0.26	129.79	227.58
184.00	131.65	-3.45	131.41	-7.92	7.58	0.46	131.89	395.40
188.00	126.92	-6.72	126.04	-14.85	7.83	0.92	127.80	780.66
190.00	123.22	-6.96	122.31	-14.94	8.06	0.98	124.14	824.33
194.00	119.44	-5.67	118.86	-11.80	8.33	0.83	120.03	678.49
196.00	120.32	-4.77	119.91	-10.00	8.28	0.69	120.74	560.88
200.00	124.52	-5.54	123.93	-12.02	7.99	0.78	125.10	617.12
202.00	125.98	-7.40	124.93	-16.24	7.87	1.02	127.04	805.97
206.00	119.49	-11.90	116.92	-24.64	8.19	1.73	122.11	1333.10
208.00	113.53	-11.49	111.25	-22.61	8.63	1.75	115.85	1342.41
212.00	110.69	-8.53	109.46	-16.42	8.93	1.34	111.92	1006.20
214.00	111.72	-7.92	110.66	-15.40	8.87	1.23	112.80	917.63
218.00	111.18	-8.27	110.02	-16.00	8.90	1.29	112.35	944.92
220.00	110.57	-8.17	109.44	-15.71	8.95	1.28	111.70	929.56
224.00	106.52	-8.15	105.44	-15.10	9.29	1.33	107.61	945.73
226.00	103.16	-6.65	102.47	-11.94	9.63	1.12	103.86	790.09
230.00	104.24	-0.17	104.24	-0.30	9.59	0.03	104.24	19.23
232.00	109.08	2.09	109.01	3.98	9.16	-0.33	109.16	-229.43
236.00	119.52	2.97	119.36	6.19	8.36	-0.43	119.68	-292.38
238.00	122.98	2.87	122.83	6.15	8.12	-0.41	123.14	-271.84
242.00	129.46	3.52	129.21	7.95	7.71	-0.47	129.70	-312.09
244.00	134.32	4.59	133.89	10.75	7.42	-0.60	134.75	-388.72
248.00	151.36	6.37	150.43	16.79	6.57	-0.73	152.30	-470.39
250.00	165.02	6.14	164.07	17.64	6.03	-0.65	165.97	-412.42
254.00	197.22	1.17	197.18	4.01	5.07	-0.10	197.26	-64.62
256.00	210.94	-3.31	210.59	-12.18	4.73	0.27	211.29	170.16
260.00	228.00	-13.43	221.77	-52.95	4.27	1.02	234.41	623.51



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