

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

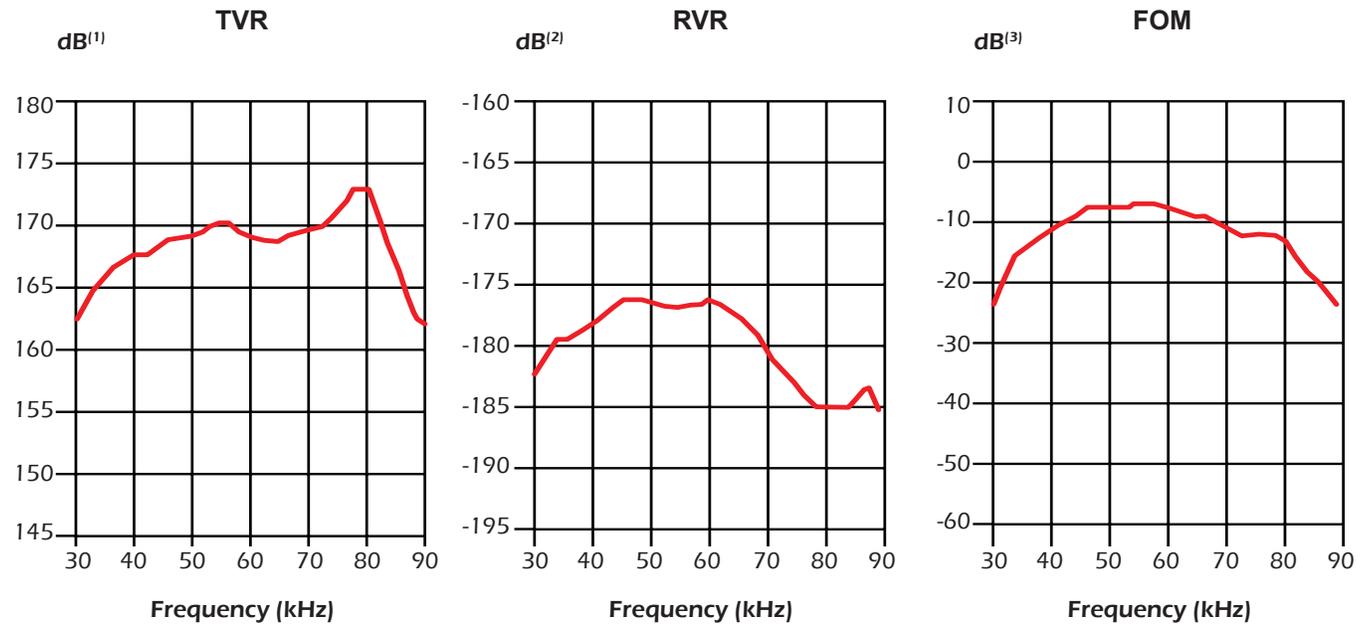
15 x 35 mm (1.38 in) PZT
Active Area: 144.6 cm² (22.4 in²)
Radiating Surface: Urethane

Q ≈ 2.5

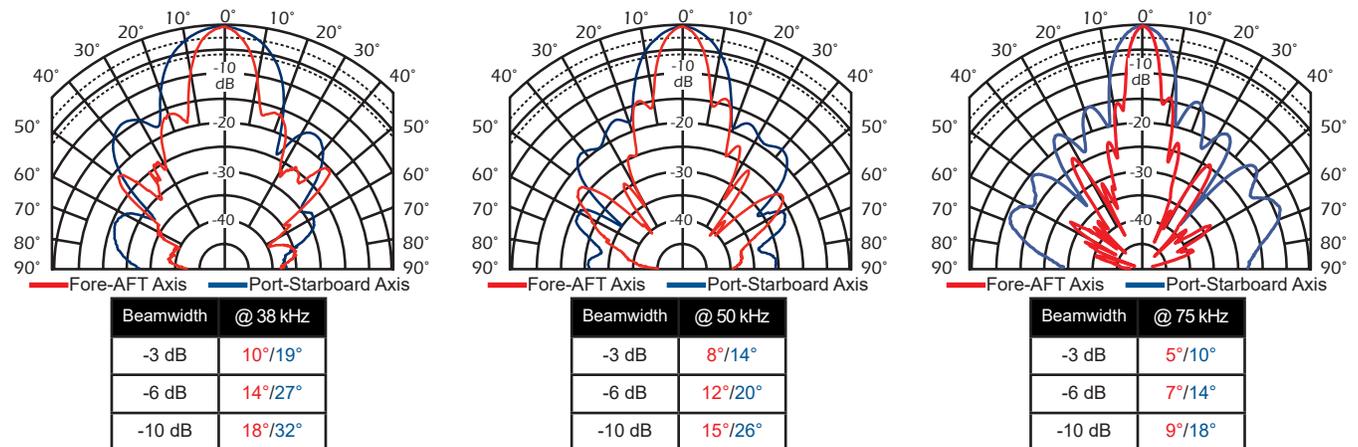
Cable Type: C44
Cable Length: 10 m (33 ft)

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



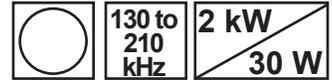
Technical Data Catalog

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



130 to 210 kHz-B (Broadband)

Transformed to 100 ohms minimum (B1)

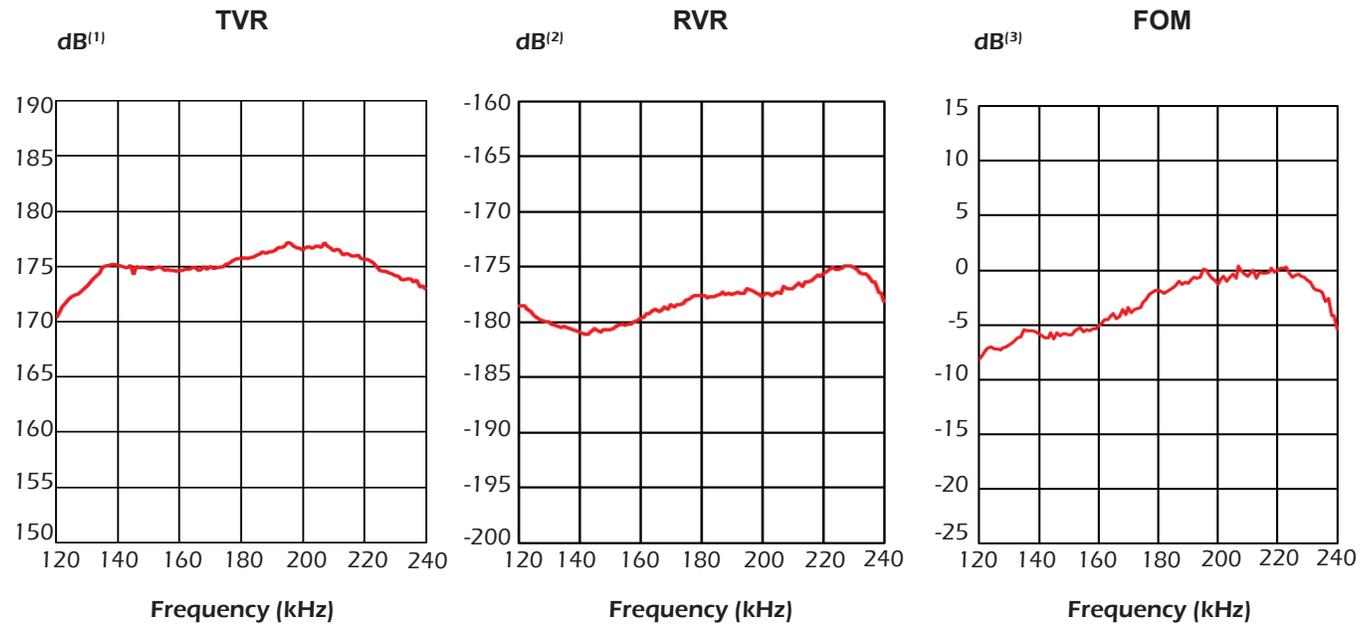
Power Rating:

- 2 kW @ 1% duty cycle
- CW⁽⁴⁾: 30W in R509, R609
25W in CM199, CM599,
PM111, R109,
R111, R599

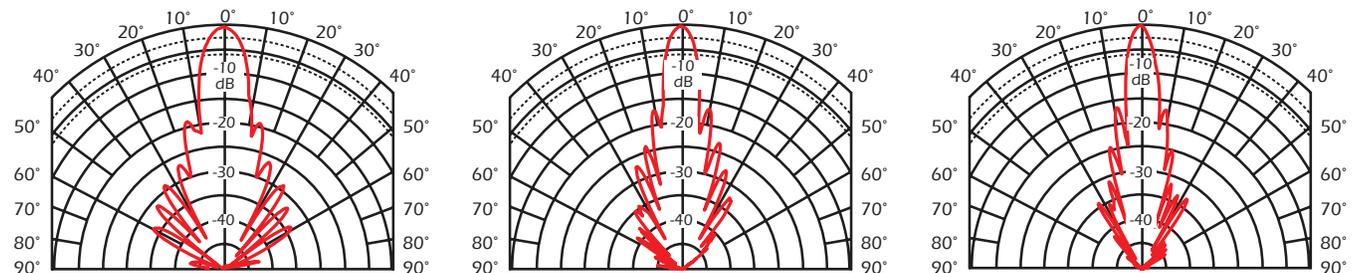
88 mm (3.46 in) PZT
Active Area: 61 cm² (9.4 in²)
Radiating Surface:
Cast Resin/Urethane
Q ≈ 1.9
Cable Type: C425
Cable Length: 15 m (50 ft)

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	@ 130 kHz
-3 dB	8°
-6 dB	11°
-10 dB	13°

Beamwidth	@ 170 kHz
-3 dB	5°
-6 dB	7°
-10 dB	10°

Beamwidth	@ 210 kHz
-3 dB	4°
-6 dB	6°
-10 dB	8°

Technical Data Catalog

130 to 210 kHz-B (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)
120	221.34	10.24	217.82	39.35	4.45	-0.80	224.93	-1065.23
122	199.79	5.63	198.83	19.59	4.98	-0.49	200.76	-640.12
125	167.60	3.82	167.22	11.16	5.95	-0.40	167.97	-505.68
129	149.86	4.32	149.44	11.28	6.65	-0.50	150.29	-619.52
130	144.47	3.83	144.14	9.65	6.91	-0.46	144.79	-565.84
132	132.38	4.29	132.01	9.90	7.53	-0.56	132.76	-680.87
139	112.96	16.06	108.55	31.26	8.51	-2.45	117.55	-2804.79
140	113.07	17.95	107.57	34.85	8.41	-2.73	118.86	-3098.53
142	114.94	21.16	107.19	41.48	8.11	-3.14	123.25	-3519.33
145	119.01	24.45	108.34	49.26	7.65	-3.48	130.73	-3817.35
149	126.76	27.68	112.25	58.89	6.99	-3.67	143.15	-3914.92
150	129.05	28.20	113.74	60.98	6.83	-3.66	146.43	-3884.72
152	133.61	28.99	116.87	64.76	6.55	-3.63	152.75	-3797.98
155	140.98	29.83	122.30	70.14	6.15	-3.53	162.52	-3623.27
156	143.66	30.03	124.37	71.90	6.03	-3.48	165.94	-3554.56
159	153.34	30.19	132.54	77.11	5.64	-3.28	177.40	-3282.84
160	157.12	29.98	136.10	78.51	5.51	-3.18	181.39	-3163.62
162	164.53	28.93	144.00	79.59	5.32	-2.94	187.99	-2888.36
164	170.54	27.36	151.47	78.36	5.21	-2.69	192.01	-2614.89
165	172.96	26.59	154.67	77.41	5.17	-2.59	193.41	-2496.06
166	175.11	25.86	157.58	76.38	5.14	-2.49	194.60	-2387.97
169	181.31	23.99	165.65	73.71	5.04	-2.24	198.45	-2111.59
170	183.61	23.34	168.58	72.75	5.00	-2.16	199.98	-2020.25
172	188.76	21.91	175.13	70.43	4.92	-1.98	203.45	-1829.09
175	195.50	18.93	184.93	63.41	4.84	-1.66	206.68	-1508.89
180	197.97	13.89	192.18	47.51	4.90	-1.21	203.93	-1071.99
185	197.52	11.13	193.81	38.14	4.97	-0.98	201.31	-840.99
190	198.16	8.06	196.20	27.78	5.00	-0.71	200.14	-592.67
192	196.16	7.42	194.52	25.32	5.06	-0.66	197.81	-545.39
195	195.90	7.48	194.24	25.49	5.06	-0.66	197.58	-542.15
199	199.95	7.22	198.36	25.14	4.96	-0.63	201.55	-502.88
200	200.74	7.11	199.19	24.85	4.94	-0.62	202.29	-490.83
202	202.39	7.09	200.84	24.97	4.90	-0.61	203.95	-480.29
205	206.73	7.90	204.77	28.41	4.79	-0.66	208.71	-516.06
210	229.20	9.60	225.99	38.23	4.30	-0.73	232.46	-551.59
212	242.97	8.82	240.09	37.26	4.07	-0.63	245.88	-473.88
215	263.22	6.94	261.30	31.78	3.77	-0.46	265.16	-339.57
218	286.86	4.63	285.92	23.16	3.47	-0.28	287.80	-205.47
219	296.05	3.68	295.44	19.03	3.37	-0.22	296.67	-157.76
220	306.34	2.52	306.04	13.45	3.26	-0.14	306.63	-103.72