

28 to 60 kHz-A (Broadband)

Transformed to 100 ohms minimum (B2)
Ceramics wired in parallel

Power Rating:

- 3 kW @ 1% duty cycle
- CW⁽⁴⁾: 60W in R509
40W in CM599, R599

24 x 35.1 mm (1.4 in) PZT

Active Area: 229.9 cm² (35.63 in²)

Radiating Surface: Epoxy

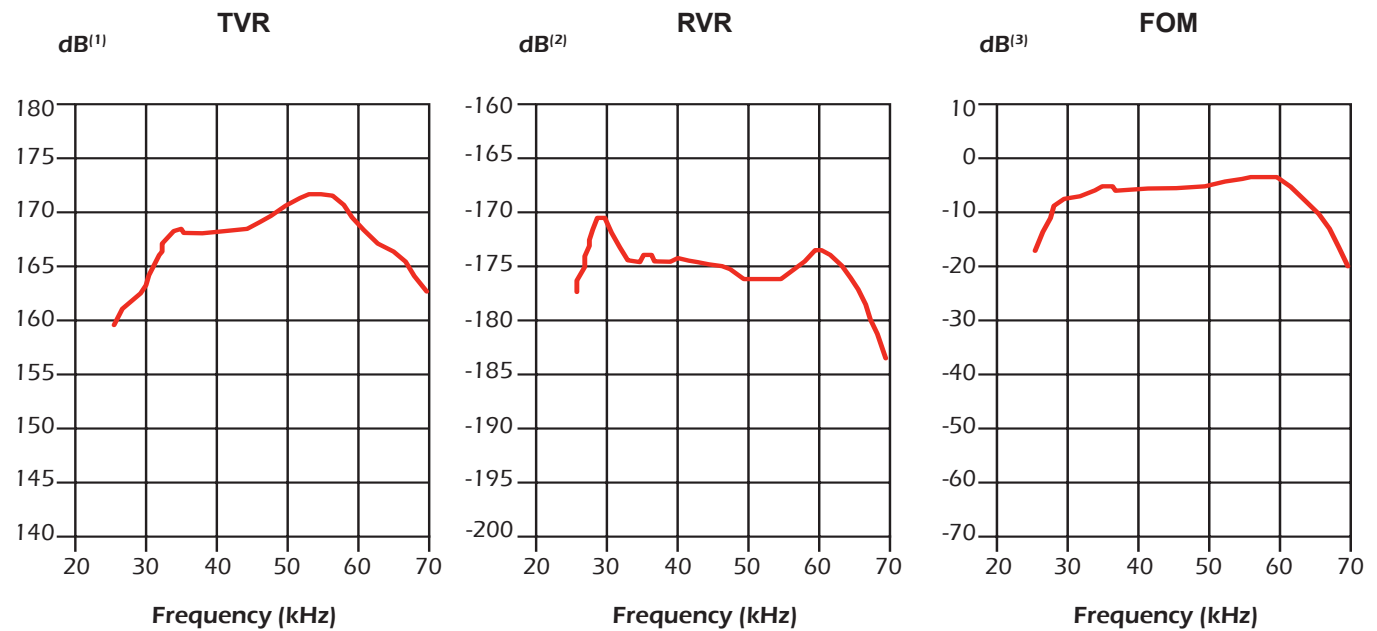
Q ≈ 2

Cable Type: C44

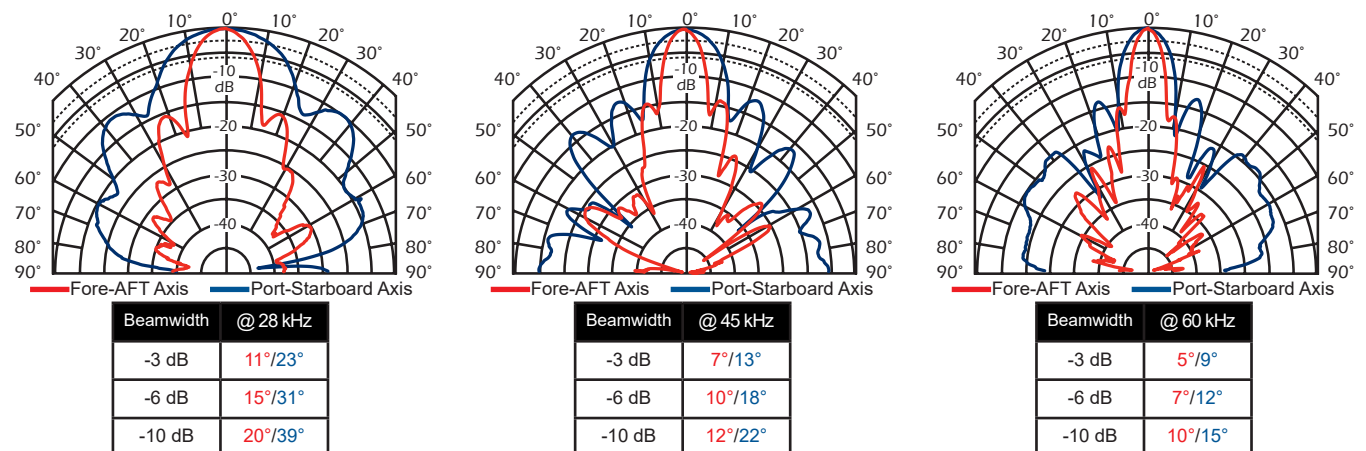
Cable Length: 15 m (50 ft)

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



Technical Data Catalog

28 to 60 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 ($^{\circ}$)	Series Resistance (Ω)	Series Reactance (Ω)	Parallel Conductance (mS)	Parallel Susceptance (mS)	Parallel Resistance (Ω)	Parallel Capacitance (pF)
28.00	308.55	41.79	230.06	205.61	2.42	-2.16	413.81	-12276.03
29.00	318.78	20.93	297.74	113.90	2.93	-1.12	341.31	-6150.87
30.00	241.28	0.87	241.25	3.68	4.14	-0.06	241.31	-335.76
31.00	193.73	-7.41	192.12	-24.97	5.12	0.67	195.36	3416.12
32.00	145.29	-8.06	143.85	-20.37	6.82	0.96	146.74	4798.72
33.00	128.57	-0.01	128.57	-0.01	7.78	0.00	128.57	3.43
34.00	120.78	8.12	119.58	17.05	8.20	-1.17	122.01	-5471.06
35.00	135.55	12.11	132.54	28.44	7.21	-1.55	138.64	-7037.17
36.00	133.81	6.89	132.85	16.04	7.42	-0.90	134.78	-3960.88
37.00	133.31	7.74	132.09	17.95	7.43	-1.01	134.53	-4345.42
38.00	134.75	7.40	133.63	17.35	7.36	-0.96	135.88	-4001.46
39.00	142.01	9.12	140.22	22.52	6.95	-1.12	143.84	-4557.01
40.00	150.97	3.48	150.69	9.16	6.61	-0.40	151.25	-1599.99
41.00	149.39	2.52	149.25	6.58	6.69	-0.29	149.54	-1143.87
42.00	150.47	-1.08	150.45	-2.85	6.64	0.13	150.50	476.71
43.00	148.40	-2.06	148.31	-5.34	6.73	0.24	148.50	897.42
44.00	150.01	-6.28	149.11	-16.40	6.63	0.73	150.92	2636.57
45.00	144.71	-8.59	143.08	-21.61	6.83	1.03	146.35	3650.59
46.00	144.44	-11.83	141.37	-29.62	6.78	1.42	147.57	4912.27
47.00	142.31	-14.82	137.58	-36.40	6.79	1.80	147.21	6085.48
48.00	132.05	-18.07	125.54	-40.97	7.20	2.35	138.91	7789.92
49.00	119.22	-17.44	113.74	-35.74	8.00	2.51	124.97	8165.83
50.00	112.06	-15.52	107.98	-29.99	8.60	2.39	116.31	7601.44
51.00	109.67	-11.32	107.53	-21.53	8.94	1.79	111.84	5586.70
52.00	108.55	-9.99	106.90	-18.82	9.07	1.60	110.22	4889.39
53.00	109.23	-7.10	108.39	-13.50	9.08	1.13	110.07	3397.43
54.00	108.61	-3.96	108.35	-7.50	9.19	0.64	108.87	1872.96
55.00	113.56	2.37	113.46	4.69	8.80	-0.36	113.66	-1053.14
56.00	125.63	6.09	124.92	13.33	7.92	-0.84	126.34	-2399.70
57.00	136.85	9.33	135.04	22.18	7.21	-1.18	138.68	-3306.52
58.00	162.06	10.90	159.14	30.65	6.06	-1.17	165.04	-3202.70
59.00	190.57	7.57	188.91	25.09	5.20	-0.69	192.24	-1863.70
60.00	220.91	1.96	220.79	7.54	4.52	-0.15	221.04	-409.63

130 to 210 kHz-B (Broadband)

Transformed to 60 ohms minimum (B3)

Power Rating:

- 1 kW @ 1% duty cycle
- CW⁽⁴⁾: 12W in M563

88 mm (3.46 in) PZT

Active Area: 61 cm² (9.4 in²)

Radiating Surface:

Cast Resin/Urethane

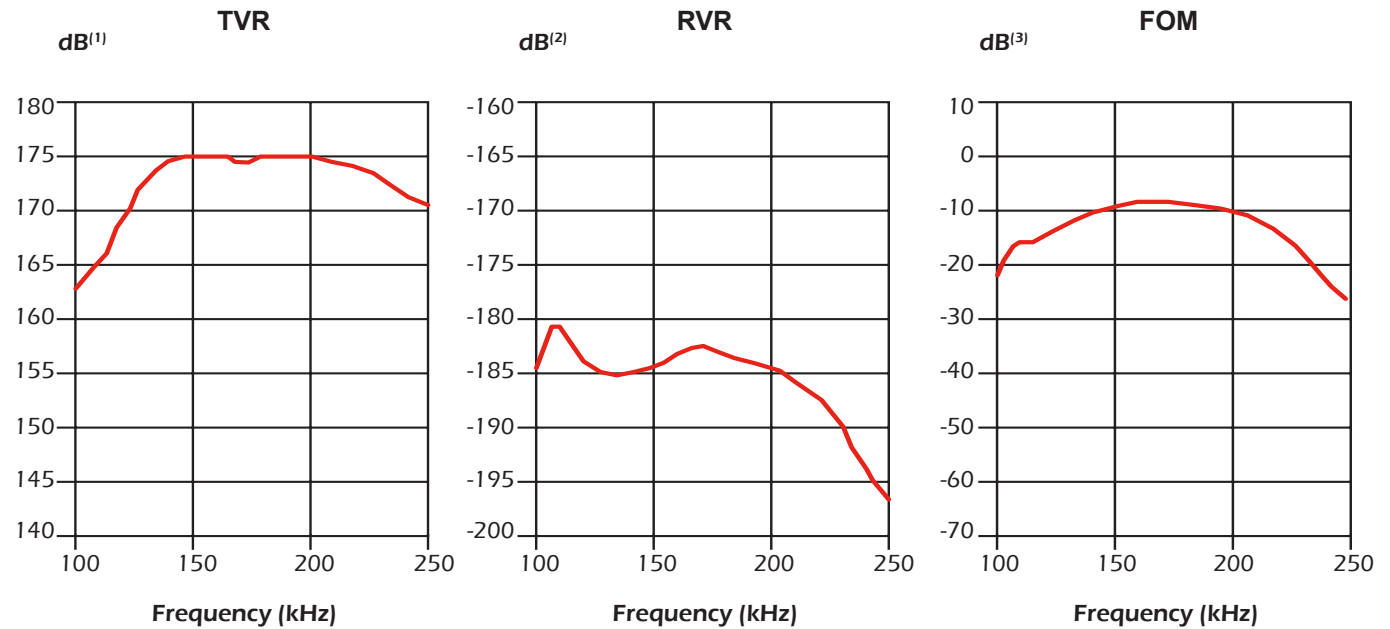
Q ≈ 2

Cable Type: C44-02

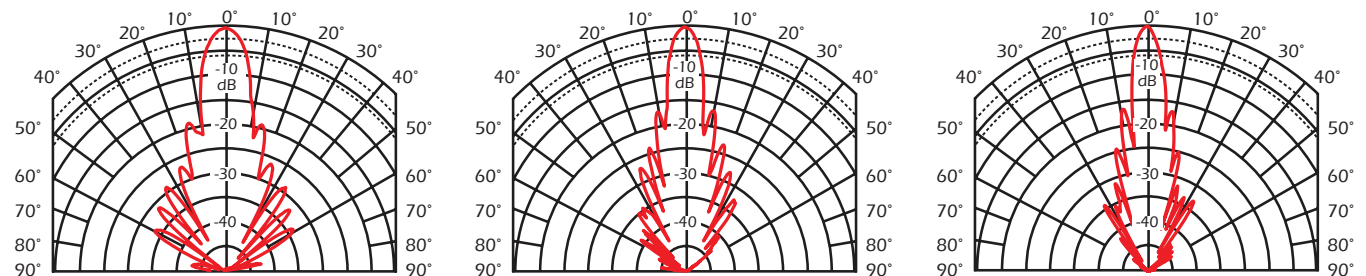
Cable Length: 10 m (33 ft)

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



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)
100.00	220.47	53.26	131.89	176.67	2.71	-3.63	368.55	-5784.85
104.00	281.46	32.21	238.15	150.01	3.01	-1.89	332.64	-2897.86
108.00	269.04	2.00	268.88	9.40	3.71	-0.13	269.21	-191.34
112.00	205.58	-15.71	197.90	-55.68	4.68	1.32	213.57	1871.96
116.00	158.45	-25.23	143.33	-67.55	5.71	2.69	175.17	3691.53
120.00	124.84	-28.56	109.65	-59.69	7.04	3.83	142.14	5079.26
124.00	105.15	-28.78	92.16	-50.62	8.34	4.58	119.96	5876.99
125.00	101.53	-28.85	88.93	-48.98	8.63	4.75	115.91	6050.44
129.00	87.41	-29.03	76.43	-42.42	10.00	5.55	99.97	6849.70
130.00	84.11	-28.68	73.79	-40.36	10.43	5.70	95.87	6984.37
134.00	72.78	-26.05	65.39	-31.96	12.34	6.03	81.01	7166.26
138.00	65.13	-20.82	60.88	-23.15	14.35	5.46	69.68	6293.52
142.00	61.40	-13.57	59.69	-14.40	15.83	3.82	63.16	4281.84
146.00	61.79	-6.64	61.37	-7.14	16.08	1.87	62.21	2040.09
150.00	65.20	-1.05	65.19	-1.20	15.34	0.28	65.21	298.40
154.00	72.93	1.80	72.89	2.29	13.71	-0.43	72.96	-444.21
158.00	80.79	-0.64	80.79	-0.90	12.38	0.14	80.80	138.50
162.00	82.93	-4.26	82.70	-6.15	12.03	0.89	83.16	879.13
166.00	84.39	-6.46	83.86	-9.50	11.77	1.33	84.93	1278.85
170.00	84.51	-9.62	83.32	-14.13	11.67	1.98	85.72	1852.18
174.00	80.51	-10.18	79.25	-14.23	12.22	2.20	81.80	2007.81
178.00	81.72	-7.19	81.08	-10.22	12.14	1.53	82.36	1368.63
182.00	86.70	-6.73	86.10	-10.16	11.45	1.35	87.30	1181.50
186.00	92.43	-6.38	91.86	-10.27	10.75	1.20	93.01	1028.71
190.00	103.88	-8.52	102.74	-15.40	9.52	1.43	105.04	1194.99
194.00	112.01	-14.97	108.20	-28.94	8.63	2.31	115.94	1892.20
198.00	114.96	-19.80	108.16	-38.94	8.18	2.95	122.18	2368.63
202.00	120.70	-25.52	108.92	-52.00	7.48	3.57	133.75	2812.27
206.00	122.04	-33.29	102.02	-66.99	6.85	4.50	146.00	3474.63
210.00	120.11	-39.54	92.63	-76.46	6.42	5.30	155.75	4016.89
214.00	119.09	-46.43	82.08	-86.29	5.79	6.08	172.80	4524.73
218.00	114.08	-54.55	66.17	-92.93	5.08	7.14	196.70	5213.17
222.00	104.38	-61.42	49.94	-91.66	4.58	8.41	218.20	6031.16
226.00	94.34	-66.66	37.37	-86.62	4.20	9.73	238.14	6853.89
230.00	84.93	-70.63	28.17	-80.13	3.90	11.11	256.11	7686.08