

**40 to 60 kHz-A (Broadband)**  
 Transformed to 100 ohms minimum (B2)

Power Rating:

- 1 kW @ 1% duty cycle
- CW<sup>(4)</sup>: 15W in B175

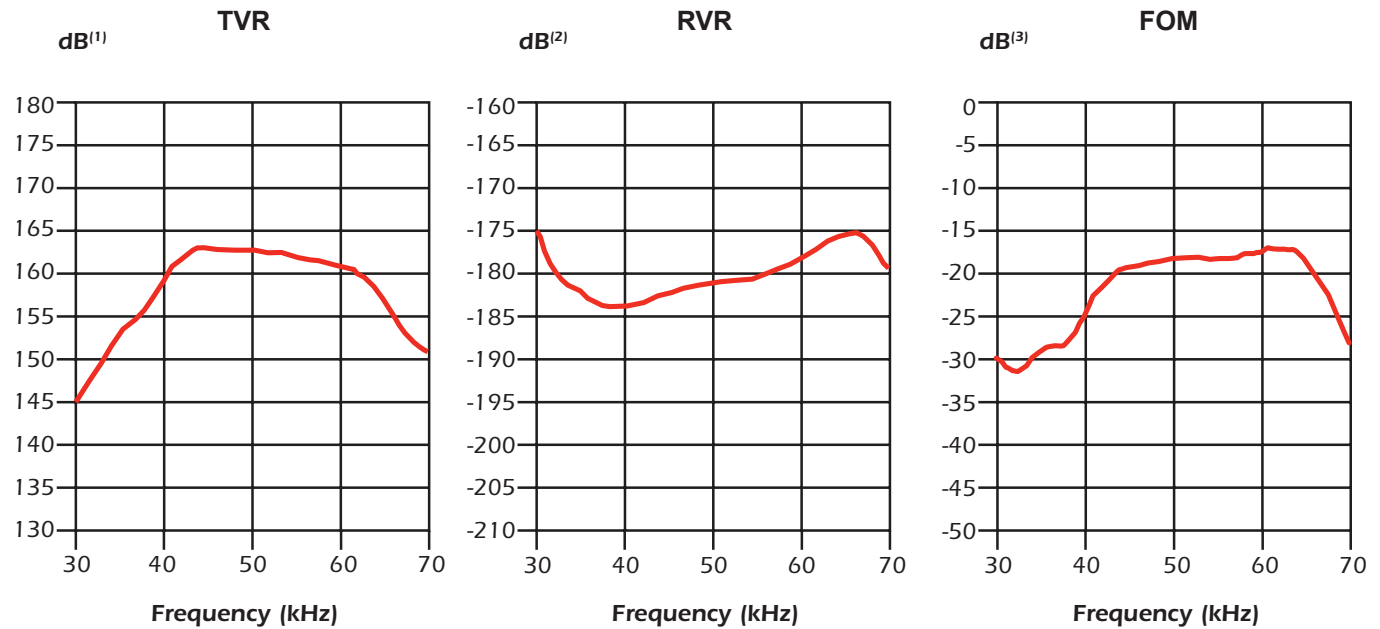
7 x 20.3 mm (0.80") PZT4  
 Active Area: 23 cm<sup>2</sup> (3.5 in<sup>2</sup>)  
 Radiating Surface: Urethane

Q ≈ 2.5

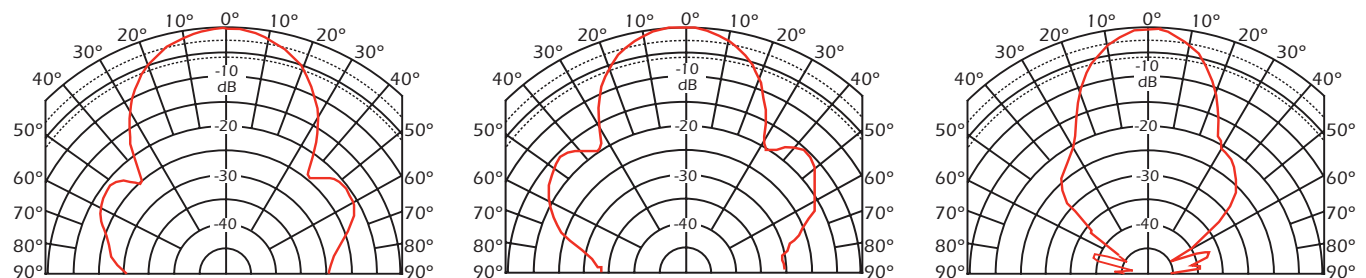
Cable Type: C335  
 Cable Length: 10 m (33')

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	@ 40 kHz
-3 dB	31°
-6 dB	43°
-10 dB	51°

Beamwidth	@ 50 kHz
-3 dB	27°
-6 dB	38°
-10 dB	47°

Beamwidth	@ 60 kHz
-3 dB	21°
-6 dB	30°
-10 dB	39°



*Sensing Technology*

# Technical Data Catalog

## 40 to 60 kHz-A (Broadband)

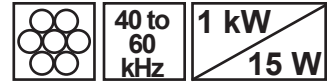
Note: Impedance data includes cable

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

Test Frequency (kHz)	Impedance Magnitude (Ω)	Phase Angle (°)	Series Resistance (Ω)	Series Reactance (Ω)	Parallel Conductance (mS)	Parallel Susceptance (mS)	Parallel Resistance (Ω)	Parallel Capacitance (pF)
30.00	1566.74	-52.71	949.12	-1246.54	0.39	0.51	2586.28	2694.08
32.00	659.12	-67.32	254.12	-608.16	0.58	1.40	1709.58	6962.49
33.00	493.15	-68.47	180.98	-458.74	0.74	1.89	1343.79	9097.42
34.00	386.75	-67.72	146.65	-357.86	0.98	2.39	1019.94	11199.70
35.00	313.94	-66.40	125.69	-287.68	1.28	2.92	784.12	13272.91
36.00	264.23	-63.55	117.70	-236.57	1.69	3.39	593.18	14979.78
37.00	225.64	-61.22	108.64	-197.76	2.13	3.88	468.64	16708.54
38.00	191.83	-58.14	101.25	-162.93	2.75	4.43	363.44	18544.10
39.00	163.59	-53.89	96.42	-132.15	3.60	4.94	277.55	20152.19
40.00	141.47	-47.14	96.24	-103.70	4.81	5.18	207.98	20615.15
41.00	127.09	-38.97	98.81	-79.93	6.12	4.95	163.47	19209.71
42.00	117.05	-29.39	101.99	-57.45	7.44	4.19	134.35	15888.54
43.00	114.17	-19.82	107.41	-38.71	8.24	2.97	121.36	10991.74
44.00	116.41	-10.49	114.47	-21.19	8.45	1.56	118.39	5655.50
45.00	124.14	-3.65	123.89	-7.91	8.04	0.51	124.39	1815.47
46.00	132.21	1.87	132.14	4.32	7.56	-0.25	132.28	-856.05
47.00	142.79	4.84	142.28	12.05	6.98	-0.59	143.30	-2001.25
48.00	148.70	7.28	147.50	18.83	6.67	-0.85	149.90	-2823.74
49.00	155.74	9.70	153.52	26.23	6.33	-1.08	158.00	-3513.14
50.00	162.24	12.43	158.43	34.93	6.02	-1.33	166.13	-4224.56
51.00	169.58	14.95	163.84	43.76	5.70	-1.52	175.53	-4748.29
52.00	174.96	17.38	166.97	52.25	5.45	-1.71	183.32	-5224.76
53.00	182.36	19.88	171.49	62.03	5.16	-1.87	193.93	-5600.86
54.00	193.16	24.54	175.70	80.24	4.71	-2.15	212.35	-6338.45
55.00	212.47	27.32	188.77	97.52	4.18	-2.16	239.14	-6250.85
56.00	229.11	28.58	201.19	109.62	3.83	-2.09	260.91	-5934.84
57.00	248.37	30.03	215.02	124.31	3.49	-2.02	286.88	-5626.80
58.00	267.37	32.03	226.67	141.80	3.17	-1.98	315.38	-5442.88
59.00	295.20	33.89	245.06	164.59	2.81	-1.89	355.60	-5094.99
60.00	330.19	35.77	267.91	193.01	2.46	-1.77	406.96	-4695.73
61.00	375.74	37.29	298.91	227.66	2.12	-1.61	472.31	-4207.37
62.00	435.78	38.13	342.81	269.05	1.81	-1.42	553.97	-3636.77
63.00	527.40	37.50	418.43	321.05	1.50	-1.15	664.76	-2915.87
64.00	637.87	34.62	524.95	362.37	1.29	-0.89	775.10	-2214.76
65.00	800.21	28.90	700.55	386.72	1.09	-0.60	914.03	-1478.77
66.00	1001.17	18.83	947.61	323.09	0.95	-0.32	1057.76	-777.28
67.00	1212.72	3.05	1211.00	64.58	0.82	-0.04	1214.44	-104.30
68.00	1295.75	-15.77	1246.99	-352.10	0.74	0.21	1346.41	490.84
70.00	1088.53	-48.17	725.98	-811.08	0.61	0.68	1632.14	1556.34



*Sensing Technology*



**40 to 60 kHz-A (Broadband)**  
Transformed to 200 ohms minimum

Power Rating:

- 1 kW @ 1% duty cycle
- CW<sup>(4)</sup>: 15W in B175

7 x 20.3 mm (0.80") PZT4

Active Area: 23 cm<sup>2</sup> (3.5 in<sup>2</sup>)

Radiating Surface: Urethane

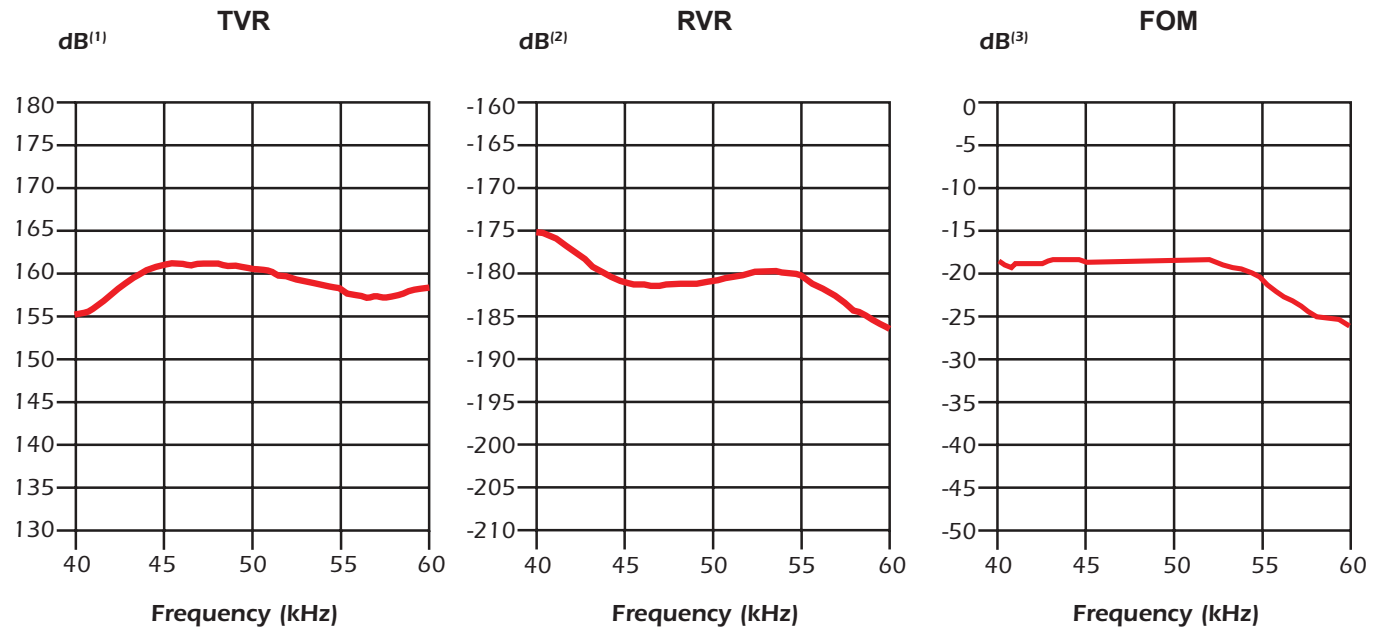
Q ≈ 2.5

Cable Type: C335

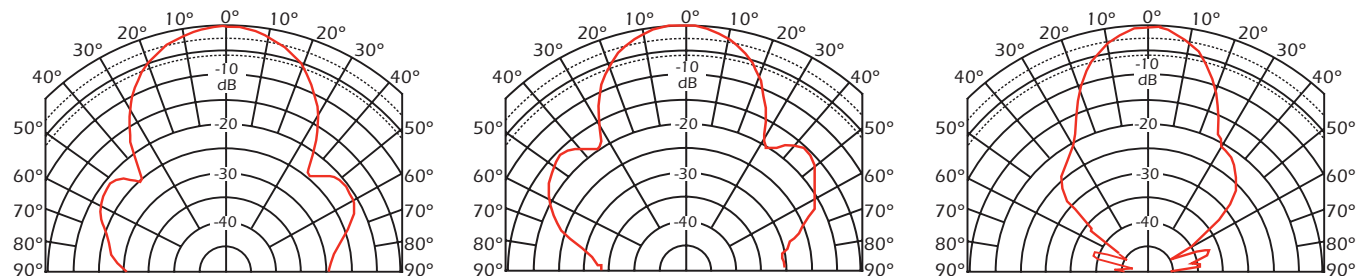
Cable Length: 10 m (33')

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	@ 40 kHz
-3 dB	31°
-6 dB	43°
-10 dB	51°

Beamwidth	@ 50 kHz
-3 dB	27°
-6 dB	38°
-10 dB	47°

Beamwidth	@ 60 kHz
-3 dB	21°
-6 dB	30°
-10 dB	39°



*Sensing Technology*

# Technical Data Catalog

## 40 to 60 kHz-A (Broadband)

Transformed to 200 ohms

Note: Impedance data includes cable

**Unbalanced 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)
40.00	418.98	-34.21	346.49	-235.56	1.9738	1.3419	506.63	5339.18
41.00	339.61	-34.34	280.41	-191.59	2.4312	1.6611	411.31	6448.24
42.00	287.92	-31.89	244.46	-152.12	2.9488	1.8350	339.12	6953.62
43.00	242.44	-27.10	215.82	-110.45	3.6718	1.8791	272.35	6954.97
44.00	217.38	-21.04	202.89	-78.03	4.2937	1.6512	232.90	5972.68
45.00	205.36	-14.98	198.39	-53.07	4.7041	1.2583	212.58	4450.40
46.00	199.17	-8.79	196.83	-30.43	4.9619	0.7670	201.53	2653.90
47.00	201.44	-4.78	200.74	-16.79	4.9469	0.4138	202.15	1401.15
48.00	200.73	-1.22	200.69	-4.28	4.9806	0.1062	200.78	352.12
49.00	198.34	2.41	198.17	8.33	5.0373	-0.2118	198.52	-687.80
50.00	201.95	8.64	199.66	30.35	4.8954	-0.7442	204.27	-2368.94
51.00	207.39	12.71	202.31	45.63	4.7037	-1.0609	212.60	-3310.78
52.00	221.17	17.41	211.04	66.18	4.3142	-1.3530	231.79	-4141.13
53.00	240.15	21.20	223.90	86.83	3.8824	-1.5056	257.57	-4521.31
54.00	271.57	22.83	250.29	105.38	3.3937	-1.4289	294.67	-4211.38
55.00	306.70	25.43	276.99	131.69	2.9446	-1.4000	339.60	-4051.16
56.00	351.87	24.75	319.56	147.29	2.5810	-1.1897	387.45	-3381.07
57.00	406.37	21.82	377.26	151.04	2.2845	-0.9147	437.73	-2553.90
58.00	456.66	19.17	431.34	149.96	2.0684	-0.7191	483.47	-1973.26
59.00	515.06	10.82	505.90	96.68	1.9070	-0.3644	524.38	-983.09
60.00	559.21	4.13	557.76	40.28	1.7836	-0.1288	560.67	-341.62



*Sensing Technology*