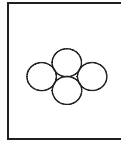


## 50/200 kHz – Blq (50 kHz)

Array:



### Ceramics wired in parallel

Power rating: 1 kW<sub>rms</sub> @ 2% duty cycle  
 4x44mm (1.75") PZT/L  
 Active Area: 62 cm<sup>2</sup>  
 Epoxy/Urethane Window

### Beamwidth:

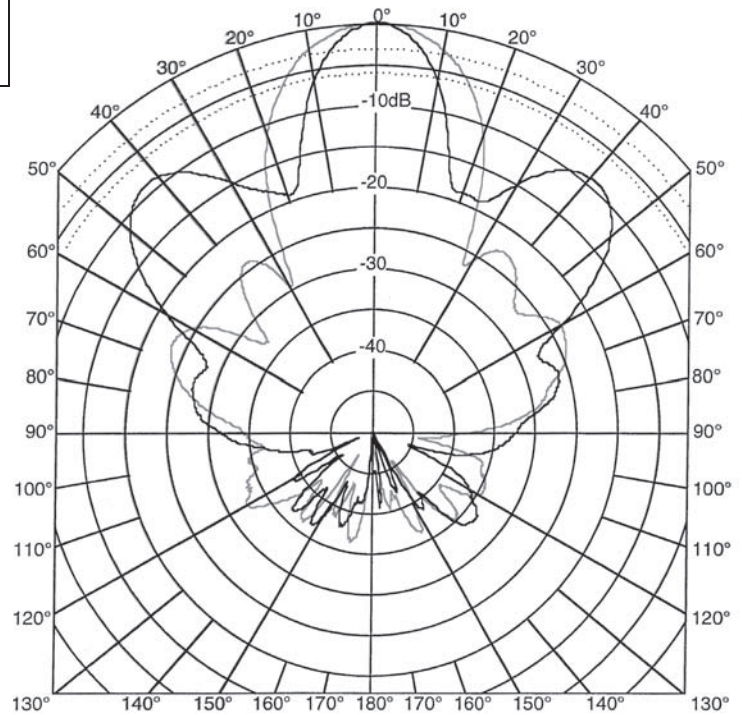
-3dB: 15° x 21°  
 -6dB: 21° x 30°  
 -10dB: 26° x 38°

Directivity Index: 20.2  
 Frequency Tolerance: ±2kHz  
 Peak TVR<sup>(1)</sup>, nominal: 161dB  
 Peak TVR<sup>(1)</sup>, minimum: 158dB  
 Q (transmit): 8  
 Peak Source Level<sup>(4)</sup>: 214dB  
 Peak RVR<sup>(2)</sup>, nominal: -174dB  
 Peak Figure of Merit<sup>(3)</sup>: -18dB

### Notes:

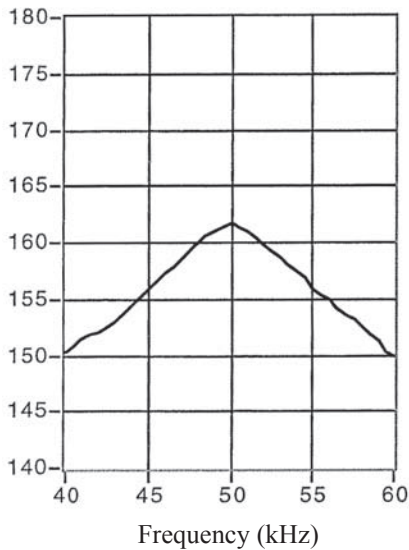
- (1) dB re 1 μPa per volt at 1 meter
- (2) dB re 1 volt per μPa
- (3) sum of transmitting voltage response and receiving voltage response
- (4) Nominal peak TVR, rated power, and no cavitation

### Transmit Radiation Pattern



— FORE-AFT AXIS  
 — PORT-STARBOARD AXIS

dB<sup>(1)</sup> TVR dB<sup>(2)</sup>



RVR dB<sup>(3)</sup>

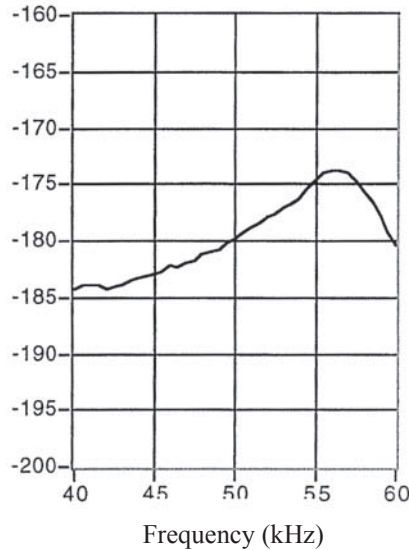
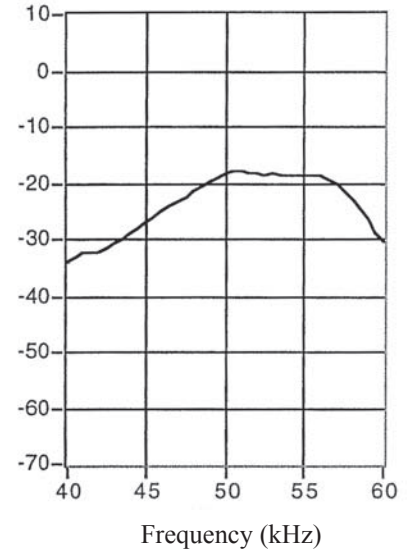


Figure of Merit



# Technical Data Catalog

## 50/200 kHz – Blq (50 kHz)

4x44mm (1.75") PZT

Cable Type: C32

Cable Length: 10.1 m (33.0')

Impedance Data		
	Balanced	Unbalanced
Parallel: Rp.	225 ohms-20%,+40%	225ohms-20%,+40%
Parallel: Cp. (nominal)	5350pF	5350pF
Series [R – jX] (nominal)	210 – j25ohms	210 – j25ohms
1 kHz Capacitance	7370±20%	7340±20%

Unbalanced Impedance Table (For balanced data, contact Airmar)

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	374.29	-83.22	44.22	-371.67	0.3156	2.6530	3168.30	10556.07
40.50	362.89	-81.95	50.82	-359.32	0.3859	2.7285	2591.09	10722.19
41.00	351.40	-81.97	49.10	-347.96	0.3976	2.8178	2514.83	10938.22
41.50	338.85	-80.76	54.43	-334.45	0.4740	2.9128	2109.70	11170.79
42.00	325.68	-80.14	55.78	-320.87	0.5259	3.0251	1901.47	11463.31
42.50	315.85	-78.35	63.80	-309.34	0.6396	3.1008	1563.60	11611.88
43.00	311.47	-76.55	72.43	-302.93	0.7466	3.1226	1339.46	11557.55
43.50	295.86	-76.28	70.15	-287.43	0.8014	3.2836	1247.79	12013.66
44.00	283.30	-74.50	75.71	-273.00	0.9433	3.4015	1060.14	12303.66
44.50	273.05	-72.35	82.80	-260.19	1.1106	3.4899	900.39	12481.72
45.00	260.90	-71.41	83.17	-247.29	1.2219	3.6329	818.38	12848.74
45.50	248.38	-69.91	85.34	-233.26	1.3832	3.7810	722.94	13225.64
46.00	243.59	-64.84	103.57	-220.48	1.7455	3.7156	572.90	12855.58
46.50	226.58	-62.53	104.53	-201.03	2.0361	3.9157	491.13	13402.08
47.00	224.21	-59.25	114.63	-192.69	2.2803	3.8331	438.54	12979.80
47.50	214.30	-54.34	124.92	-174.12	2.7203	3.7915	367.61	12703.95
48.00	207.08	-49.38	134.80	-157.19	3.1436	3.6657	318.10	12154.54
48.50	202.70	-44.14	145.47	-141.16	3.5404	3.4356	282.45	11274.15
49.00	201.82	-36.75	161.72	-120.75	3.9701	2.9645	251.88	9628.77
49.50	204.52	-29.50	178.01	-100.71	4.2556	2.4076	234.99	7740.91
50.00	212.24	-20.92	198.25	-75.77	4.4012	1.6820	227.21	5354.02
50.50	238.88	-14.03	231.75	-57.91	4.0614	1.0148	246.22	3198.25
51.00	259.27	-7.79	256.88	-35.13	3.8214	0.5226	261.68	1630.93
51.50	292.59	-3.42	292.07	-17.47	3.4117	0.2040	293.11	630.54
52.00	337.97	-1.48	337.86	-8.75	2.9579	0.0766	338.08	234.49
52.50	373.51	0.89	373.46	5.80	2.6770	-0.0416	373.55	-126.04
53.00	426.68	2.02	426.41	15.07	2.3422	-0.0828	426.95	-248.51
53.50	478.35	3.62	477.39	30.19	2.0864	-0.1320	479.30	-392.54
54.00	556.84	5.62	554.16	54.51	1.7872	-0.1758	559.52	-518.15
54.50	667.11	4.25	665.27	49.43	1.4949	-0.1111	668.95	-324.35
55.00	819.73	0.30	819.72	4.28	1.2199	-0.0064	819.74	-18.42
55.50	951.90	-7.58	943.58	-125.62	1.0413	0.1386	960.30	397.55
56.00	1035.93	-16.08	995.42	-286.87	0.9276	0.2673	1078.09	759.72
56.50	1128.77	-24.62	1026.18	-470.18	0.8054	0.3690	1241.61	1039.50
57.00	1172.16	-32.76	985.72	-634.28	0.7174	0.4616	1393.86	1289.00
57.50	1157.94	-42.17	858.27	-777.30	0.6401	0.5797	1562.24	1604.61
58.00	1134.47	-50.17	726.59	-871.26	0.5645	0.6770	1771.33	1857.61
58.50	1098.58	-54.82	632.96	-897.91	0.5245	0.7440	1906.72	2024.11
59.00	1047.22	-60.99	507.86	-915.83	0.4631	0.8351	2159.38	2252.72
59.50	987.59	-65.11	415.61	-895.88	0.4261	0.9185	2346.77	2456.96
60.00	909.03	-69.08	324.57	-849.11	0.3928	1.0276	2545.93	2725.69

## 50/200 kHz – Blq (200 kHz)

### Ceramics wired in parallel

Power rating: 1 kW<sub>rms</sub> @ 2% duty cycle

4x44mm (1.75") PZT/L

Active Area: 62cm<sup>2</sup>

Epoxy/Urethane Window

Beamwidth:

-3dB: 3° x 5°

-6dB: 5° x 7°

-10dB: 7° x 10°

Directivity Index: 31.7

Frequency Tolerance: ±4kHz

Peak TVR<sup>(1)</sup>, nominal: 173dB

Peak TVR<sup>(1)</sup>, minimum: 170dB

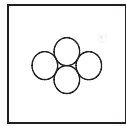
Q (transmit): 15

Peak Source Level<sup>(4)</sup>: 223dB

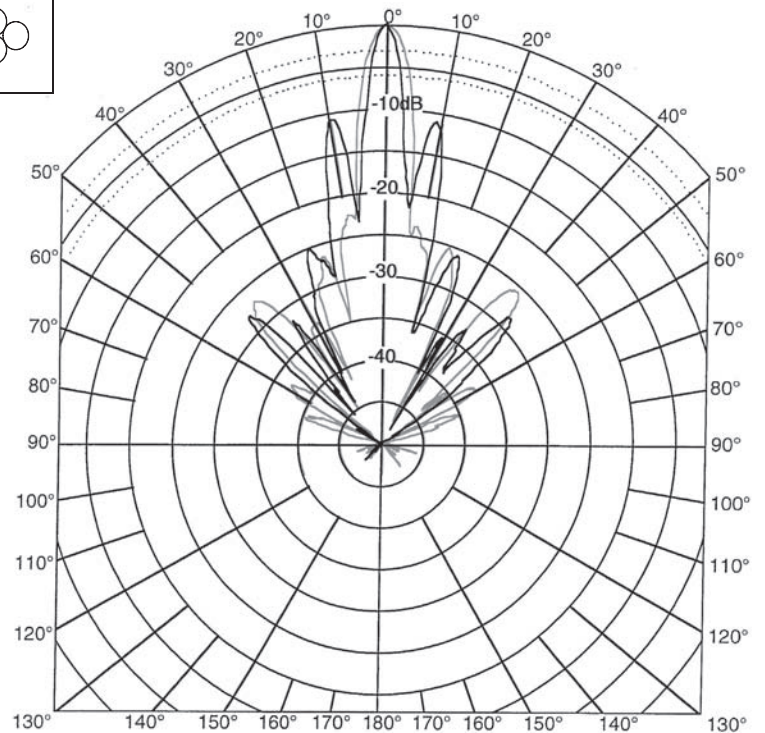
Peak RVR<sup>(2)</sup>, nominal: -182dB

Peak Figure of Merit<sup>(3)</sup>: -9dB

Array:



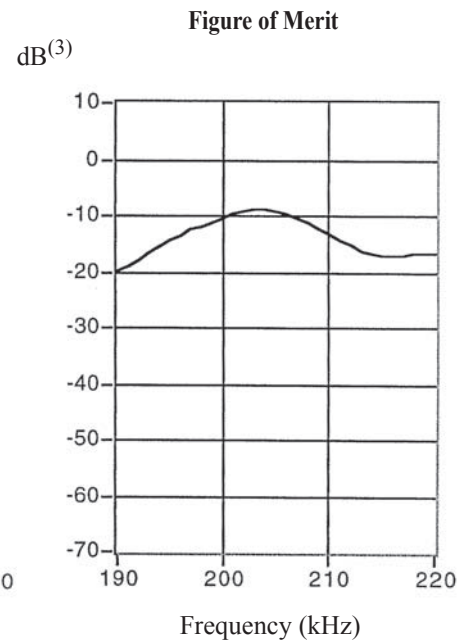
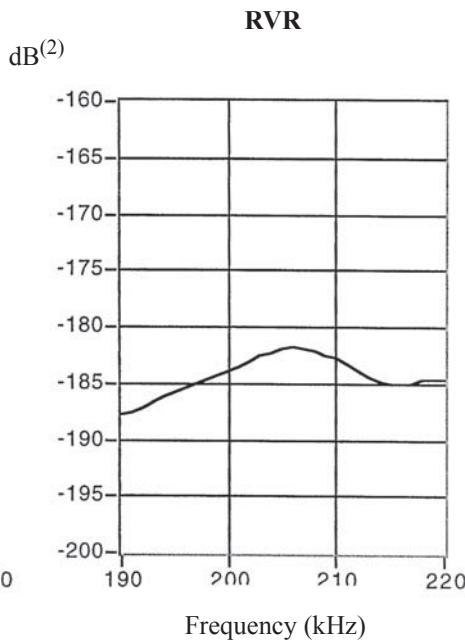
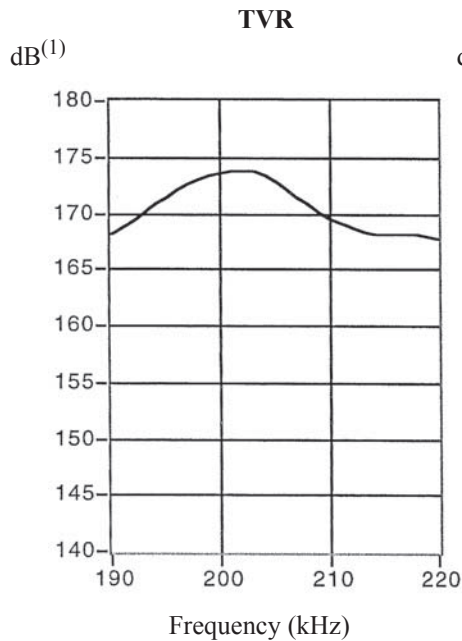
### Transmit Radiation Pattern



— FORE-AFT AXIS  
- - - PORT-STARBOARD AXIS

### 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) Nominal peak TVR, rated power, and no cavitation



# Technical Data Catalog

## 50/200 kHz – Blq (200 kHz)

4x44mm (1.75") PZT

Cable Type: C32

Cable Length: 10.1m (33.0')

Impedance Data		
	Balanced	Unbalanced
Parallel: Rp.	200ohms-20%,+40%	200 ohms-20%,+40%
Parallel: Cp. (nominal)	3750pF	3750pF
Series [R – jX] (nominal)	140 – j42 ohms	140 – j42 ohms
1 kHz Capacitance	8070pF±20%	8040 pF±20%

### Unbalanced Impedance Table

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)
190.00	150.76	-67.84	56.87	-139.62	2.5023	6.1430	399.63	5145.76
191.00	146.44	-67.38	56.33	-135.17	2.6269	6.3034	380.68	5252.47
192.00	142.06	-66.52	56.60	-130.30	2.8046	6.4566	356.56	5352.05
193.00	138.08	-65.15	58.02	-125.29	3.0434	6.5719	328.58	5419.43
194.00	134.79	-63.42	60.30	-120.55	3.3190	6.6350	301.29	5443.26
195.00	131.95	-61.32	63.34	-115.76	3.6375	6.6484	274.91	5426.29
196.00	129.94	-58.81	67.30	-111.15	3.9861	6.5833	250.87	5345.71
197.00	128.96	-56.14	71.86	-107.08	4.3211	6.4391	231.42	5202.13
198.00	128.86	-53.28	77.04	-103.29	4.6399	6.2207	215.52	5000.27
199.00	129.67	-50.01	83.33	-99.35	4.9558	5.9085	201.78	4725.46
200.00	132.25	-46.59	90.88	-96.07	5.1965	5.4932	192.44	4371.34
201.00	136.83	-42.96	100.14	-93.25	5.3485	4.9802	186.97	3943.38
202.00	144.18	-39.73	110.89	-92.15	5.3343	4.4330	187.47	3492.74
203.00	154.38	-37.27	122.86	-93.48	5.1550	3.9223	193.99	3075.11
204.00	167.17	-35.18	136.63	-96.32	4.8893	3.4467	204.53	2689.00
205.00	184.37	-34.44	152.04	-104.28	4.4730	3.0678	223.56	2381.76
206.00	202.61	-35.84	164.25	-118.63	4.0011	2.8897	249.93	2232.61
207.00	219.87	-38.09	173.04	-135.64	3.5795	2.8058	279.37	2157.30
208.00	235.66	-41.78	175.73	-157.01	3.1644	2.8273	316.01	2163.33
209.00	244.97	-45.73	171.00	-175.41	2.8496	2.9230	350.93	2225.90
210.00	251.49	-49.80	162.31	-192.09	2.5664	3.0373	389.65	2301.89
211.00	251.35	-53.84	148.32	-202.92	2.3477	3.2120	425.94	2422.75
212.00	247.61	-56.58	136.39	-206.66	2.2246	3.3706	449.52	2530.45
213.00	243.69	-58.39	127.71	-207.55	2.1505	3.4949	465.01	2611.39
214.00	240.54	-59.78	121.07	-207.85	2.0925	3.5924	477.89	2671.69
215.00	237.61	-60.53	116.90	-206.86	2.0706	3.6640	482.96	2712.30
216.00	237.28	-60.75	115.95	-207.02	2.0596	3.6769	485.54	2709.28
217.00	240.47	-61.06	116.35	-210.45	2.0120	3.6394	497.01	2669.27
218.00	245.83	-61.92	115.71	-216.89	1.9147	3.5891	522.28	2620.27
219.00	253.49	-63.24	114.13	-226.35	1.7762	3.5224	563.01	2559.84
220.00	259.22	-65.95	105.66	-236.71	1.5724	3.5227	635.97	2548.45