

# Teledyne Marine Hydrophones



HYDROPHONES Product Line  
AG Geophysical  
Benthos  
Geophysical Instruments  
RESON

# Find Your Perfect Hydrophone

																														
<b>Environments</b>	AQ-2000	AQ-1	AQ-16	RAFOS-1	RAFOS-2	AQ-17	AQ-18	AQ-25	AQ-201	AQ-205	TC4013	TC4033	TC4034	TC4038	TC4040	TC4041	TC4032	TC4035	TC4037	TC4042	TC4059	AGH-7100-C	AGH-7100-T	AGH-7720-C	AGH-7500-C	AGH-7500-X	T-2BX	TAH-1	T-5B	T-6B
Shallow Water (0-400m)																														
Mid Depth (401-1499m)																														
Deep Water (1500m +)	•	•	•	•	•	•	•	•															•	•	•	•	•	•	•	

## TELEDYNE BENTHOS

Proven hydrophones that are invaluable in locating promising oil and gas reserves, and used by many research institutions for various other purposes.

HYDROPHONE ELEMENTS					
SPECIFICATIONS	AQ-2000	AQ-1	AQ-16	RAFOS-1	RAFOS-2
Suggested Applications	Seismic arrays, ocean bottom cables, general purpose	Seismic arrays, ocean bottom cables, general purpose	Seismic arrays, ocean bottom cables, general purpose	Bulkhead mount, instrument housings	Bulkhead mount, instrument housings
Sensitivity (dBv re 1 uPa @ 20 C)	-201	-201	-196	-201	-196
Sensitivity (V/Bar @ 20 C)	8.9	8.9	15.8	8.9	15.8
Capacitance (nF @ 20 C)	4.5	14.5	3.5	14.5	3.5
Frequency Response	1 Hz to 10 kHz	1 Hz to 10 kHz	1 Hz to 10 kHz	1 Hz to 10 kHz	1 Hz to 10 kHz
Operating Depth (meters)	2000	1732	1732	1732	1732
Dimensions (cm)	1.65 (ø) x 4.6 (l)	1.6 (ø) x 4.5 (l)	1.6 (ø) x 4.5 (l)	1.6 (ø) x 7.0 (l)	1.6 (ø) x 7.0 (l)
Weight (g)	14.0	17.3	17.3	25.0	25.0
Leads	Two AWG 28	Solder pins	Solder pins	Solder pins	Solder pins

MOLDED HYDROPHONES			
SPECIFICATIONS	AQ-17	AQ-18	AQ-25 Broadband
Suggested Application	General purpose preamplified hydrophone, scientific, noise monitoring	General purpose preamplified hydrophone, scientific, noise monitoring	General purpose preamplified hydrophone, scientific, noise monitoring
Sensitivity (dBv re 1 uPa @ 20 C)	-176	-172	-172
Sensitivity (V/Bar @ 20 C)	158	250	250
Capacitance (nF @ 20 C)	N/A	N/A	N/A
Frequency Response	5 Hz to 10 kHz	7 Hz to 10 kHz	2 Hz to 90 kHz
Operating Depth (meters)	1732	1732	1500
Dimensions (cm)	2.22 (ø) x 16.5 (l)	2.22 (ø) x 16.5 (l)	2.54 (ø) x 15.9 (l)
Weight (g)	N/A	N/A	N/A
Leads	Two conductor, shielded cable - 25ft	Two conductor, shielded cable - 25ft	Three conductor, shielded cable

PREAMPLIFIERS		
SPECIFICATIONS	AQ-201	AQ-205
Suggested Application	High impedance voltage preamplifier	Wide band hydrophone preamplifier
Gain (dB)	26	30
Input Impedance	15	40
Current (Quiescent) (mA @ 12 VDC)	0.3	<6.0
Input Referred Noise (nV rt Hz)	<100	<20
Band pass*	5 Hz to 12 kHz*	1.7 Hz to 90 kHz*
Operating Depth (m)	1732	1500
Dimensions (cm)	1.3 (ø) x 3.5 (l)	1.3 (ø) x 3.5 (l)
Weight (g)	17.1	17.1

## TELEDYNE RESON

Precision reference hydrophones, projectors and accessories for subsea acoustic measurements, signal detection and/or reference acoustic projection.

HYDROPHONES WITHOUT INTERNAL PREAMPLIFIERS						
SPECIFICATIONS	TC4013	TC4033	TC4034	TC4038	TC4040	TC4059
Useable Bandwidth	1 Hz to 170 kHz	1 Hz to 140 kHz	1 Hz to 470 kHz	50kHz to 800kHz (>1MHz)	1 Hz to 120 kHz	1 Hz to 480 kHz
Receive Sensitivity (dB re 1V/uPa)	-211	-203	-218	-228	-206	-213
Transmit Sensitivity at Resonance (dB re 1 uPa/V at 1m)	130dB +3dB re μPa/V at 1m at 100kHz	144dB	122dB	138dB	132dB	N/A
Operating Depth (m)	700	900	900	20	400	900
Dimensions (mm)	10 (ø) x 63 (l)	25 (ø) x 138 (l)	16 (ø) x 138 (l)	4 (ø) x 58 (l)	21 (ø) x 116 (l)	19 (ø) x 100 (l)

HYDROPHONES WITH INTERNAL PREAMPLIFIERS					
SPECIFICATIONS	TC4014	TC4032	TC4035	TC4037	TC4042
Useable Bandwidth	15 Hz to 480 kHz	5 Hz to 120 kHz	10 kHz to 800 kHz	1 Hz to 100 kHz	5 Hz to 85 kHz
Receive Sensitivity (dB re 1V/uPa)	-186 (-180 differential)	-170 (-164 differential)	-214	-193	-173 (-167 differential)
Transmit Sensitivity at Resonance (dB re 1 uPa/V)	N/A	N/A	N/A	N/A	N/A
Operating Depth (m)	900	600	300	>2000m	1000m
Dimensions (mm)	38 (ø) x 273 (l)	38 (ø) x 285 (l)	10 (ø) x 170 (l)	36 (ø) x 75 (l)	36 (ø) x 220 (l)

HYDROPHONE ACCESSORIES					
EC6081 MK2 Voltage Preamplifier with Band Pass Filters	EC6067 Condition Charge Amplifier				



<tbl\_r cells="2" ix="3" maxcspan="

# Teledyne Marine Hydrophones

Teledyne Marine manufactures a broad range of hydrophones. From oceanographic research to monitoring industrial processes, we have a range of hydrophones for reference measurement, reference projectors, passive arrays, positioning systems and tracking systems. And if you cannot find the right hydrophone from our extensive offering, we'll work with you to develop a solution that meets your specific needs.

## Applications



### NAVAL

- Acoustic signature analysis
- Ship, flow, turbulence noise measurements
- Low signal-level detection
- Acoustic tracking
- Range arrays



### SEISMIC SURVEYS

- Seismic exploration
- Ambient measurements
- Environmental measurements



### ACOUSTIC RESEARCH

- Acoustic telemetry
- Underwater acoustic measurements
- Marine biological research
- Whale audio recording
- Dolphin echo-location research
- Near and far field acoustic measurements



### UNDERWATER INSTRUMENTATION

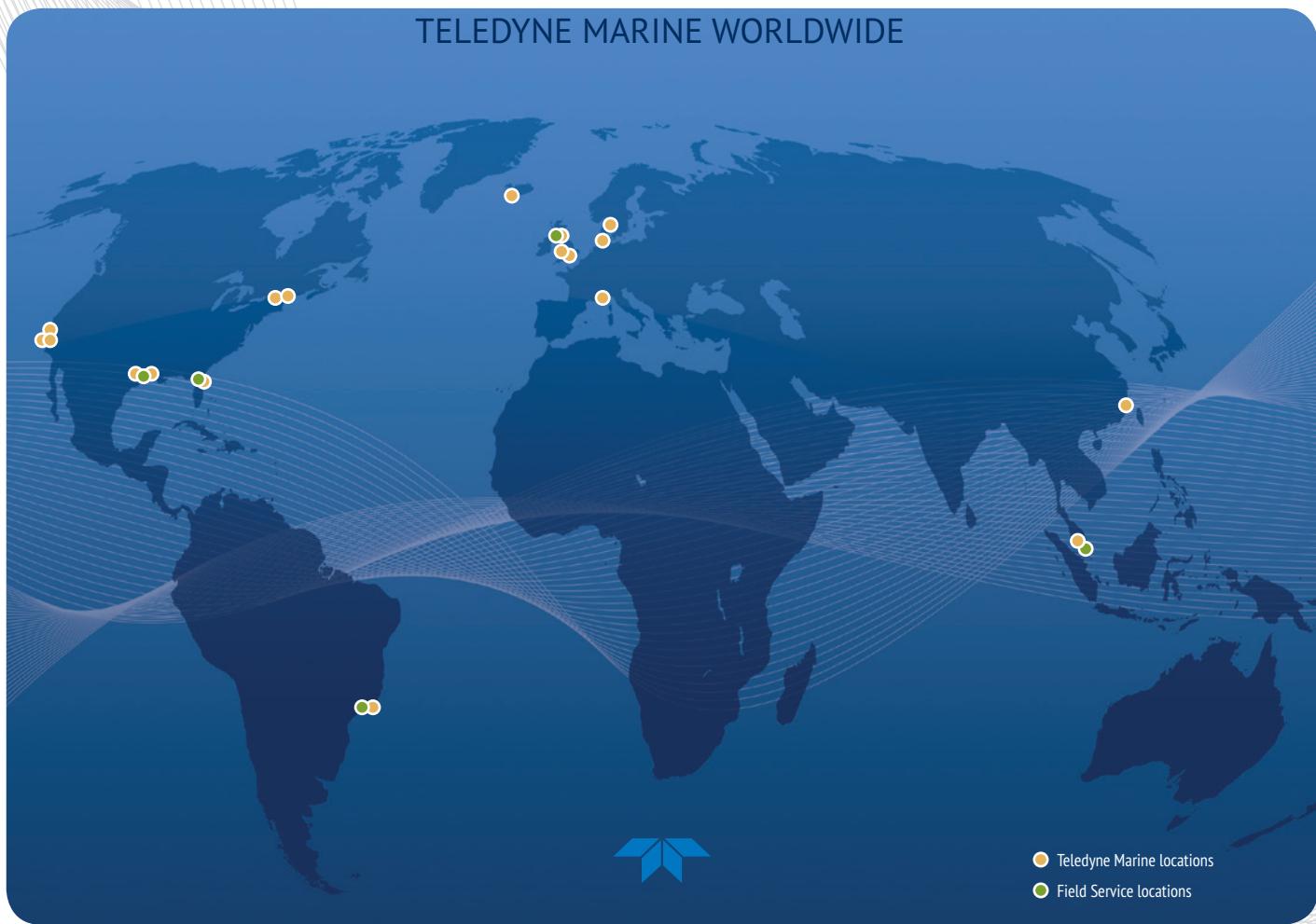
- Acoustic telemetry
- Offshore structure monitoring
- Underwater positioning / navigation

# A Sea of Solutions

## From the surface to the seafloor...

Teledyne Marine is a group of leading-edge undersea technology companies that have been assembled by Teledyne Technologies Incorporated. Through acquisitions and collaboration, over the past twelve years Teledyne Marine has evolved into an industry powerhouse, bringing the best of the best together under a single umbrella. Each Teledyne Marine company is a leader in its respective field, with a shared commitment to providing premium products backed by unparalleled service and support.

In keeping with Teledyne's philosophy, the member companies within the Teledyne Marine Group remain committed to their technical heritage; however, they are now able to leverage and combine their talents and technology to provide their customers with a new level of collaborative technology, innovation, and worldwide support via their OneTeam approach.



**TELEDYNE MARINE**  
Everywhereyoulook™

Specifications subject to change without notice.

© 2018 Teledyne Marine and Teledyne RESON A/S All rights reserved. TMHY/0618/V1

**Teledyne Marine**  
1026 North Williamson Blvd. Daytona Beach, FL 32114 USA

**Teledyne Benthos**  
49 Edgerton Drive, North Falmouth, MA 02556 USA

**Teledyne RESON A/S**  
Fabriksvangen 13, 3550 Slangerup, Denmark

**Teledyne AG Geophysical**  
14880 Skinner Road, Cypress, TX 77429 USA

**Teledyne Geophysical Instruments**  
5825 Chimney Rock Road, Houston, TX 77081 USA

[www.teledynemarine.com/hydrophones](http://www.teledynemarine.com/hydrophones) | [info@teledynemarine.com](mailto:info@teledynemarine.com)

A Sea of Solutions, One Supplier: IMAGING • INSTRUMENTS • INTERCONNECT • SEISMIC • VEHICLES