

# Hydrophone TC4034

## Ultra Broadband Spherical Hydrophone



The TC4034 broadband spherical hydrophone provides uniform omnidirectional characteristics over a wide frequency range of 1Hz to 480kHz.

The overall receiving characteristics makes the TC4034 an ideal transducer for making absolute underwater sound measurements up to 480kHz. The wide frequency range also makes the TC4034 perfect for calibration purposes, particularly in higher frequencies.

### NBR means Nitrile Rubber

The NBR rubber is first of all resistant to sea and fresh water but also resistant to oil. It is limited resistant to petrol, limited resistant to most acids and will be destroyed by base, strong acids, halogenated hydrocarbons (carbon tetrachloride, trichloroethylene), nitro hydrocarbons (nitrobenzene, aniline), phosphate ester hydraulic fluids, Ketones (MEK, acetone), Ozone and automotive brake fluid.

## TECHNICAL SPECIFICATIONS

<b>Usable frequency range:</b>	1Hz to 470kHz (+3, -10dB)
<b>Linear frequency range:</b>	1Hz to 250kHz (+2, -4dB)
<b>Receiving sensitivity:</b>	(re 1V/ $\mu$ Pa) -218dB $\pm$ 3dB (at 250Hz)
<b>Horizontal directivity:</b>	Omnidirectional $\pm$ 2dB (at 100 kHz)
<b>Transmitting sensitivity:</b>	122dB $\pm$ 3dB (typical) re 1 $\mu$ Pa/V at 1m at 100kHz
<b>Vertical directivity:</b>	>270° $\pm$ 3dB (at 300kHz)
<b>Nominal capacitance:</b>	3nF
<b>Operating depth:</b>	900m
<b>Survival depth:</b>	1000m
<b>Operating temperature range:</b>	-2°C to +80°C
<b>Storage temperature range:</b>	-40°C to +80°C
<b>Weight, incl. cable (in air):</b>	1.6kg
<b>Cable (length and type):</b>	Standard 10m shielded pair DSS-2MIL-C915. Optional cable length available on request
<b>Encapsulating material:</b>	Special formulated NBR
<b>Metal body:</b>	Aluminum bronze - AlCu10Ni5Fe4
<b>Connector type:</b>	BNC

## PRODUCT BENEFITS

- Omnidirectional in the full frequency range
- Long-term stability
- Extreme wide frequency range
- Durable construction
- Individually calibrated



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### Documentation:

Vertical directivity:  
At 100, 200, 300kHz

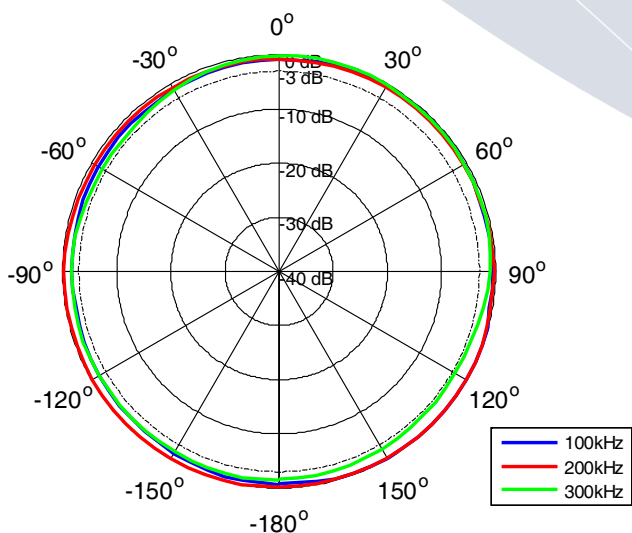
Receiving sensitivity:  
5kHz to 500kHz

Transmitting sensitivity:  
5kHz to 500kHz

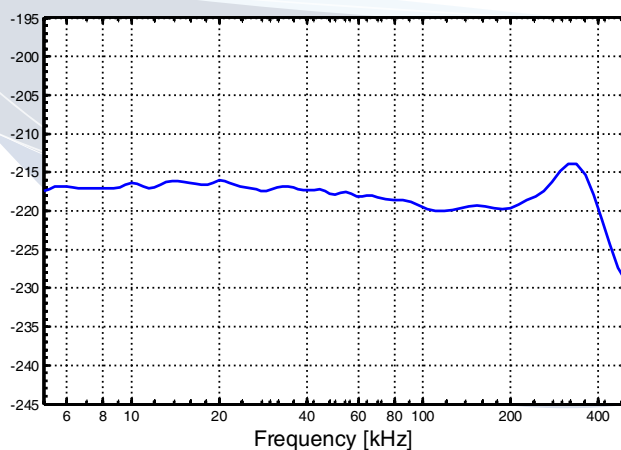
Horizontal directivity:  
At 100, 200, 300kHz

Impedance:  
5kHz to 500kHz

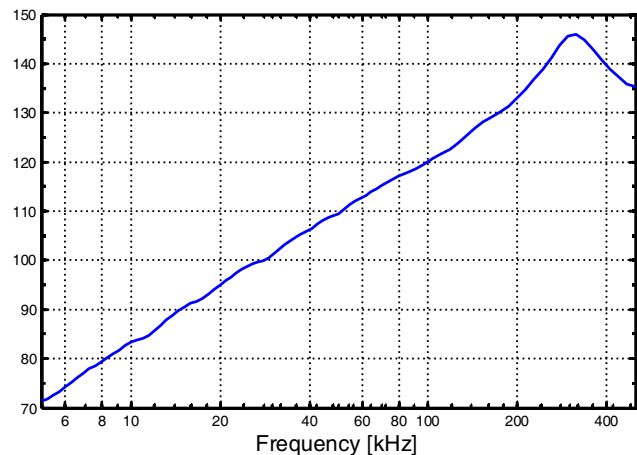
Horizontal directivity pattern



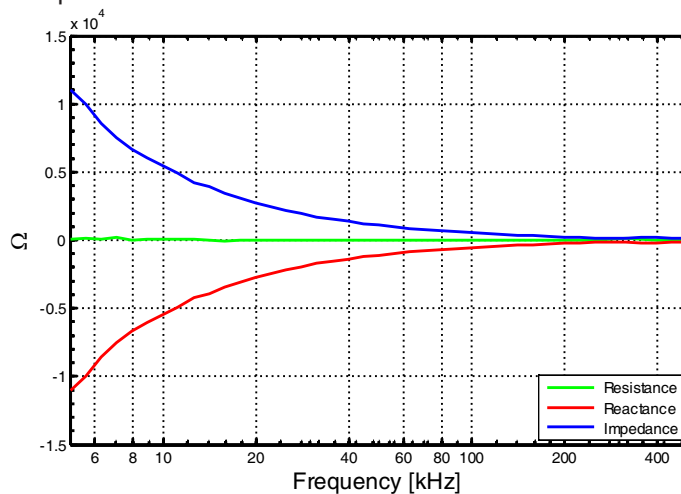
Receiving Sensitivity [dB re 1V/μPa @ 1m]



Transmitting Sensitivity [dB re 1μPa/V @ 1m]



Impedance



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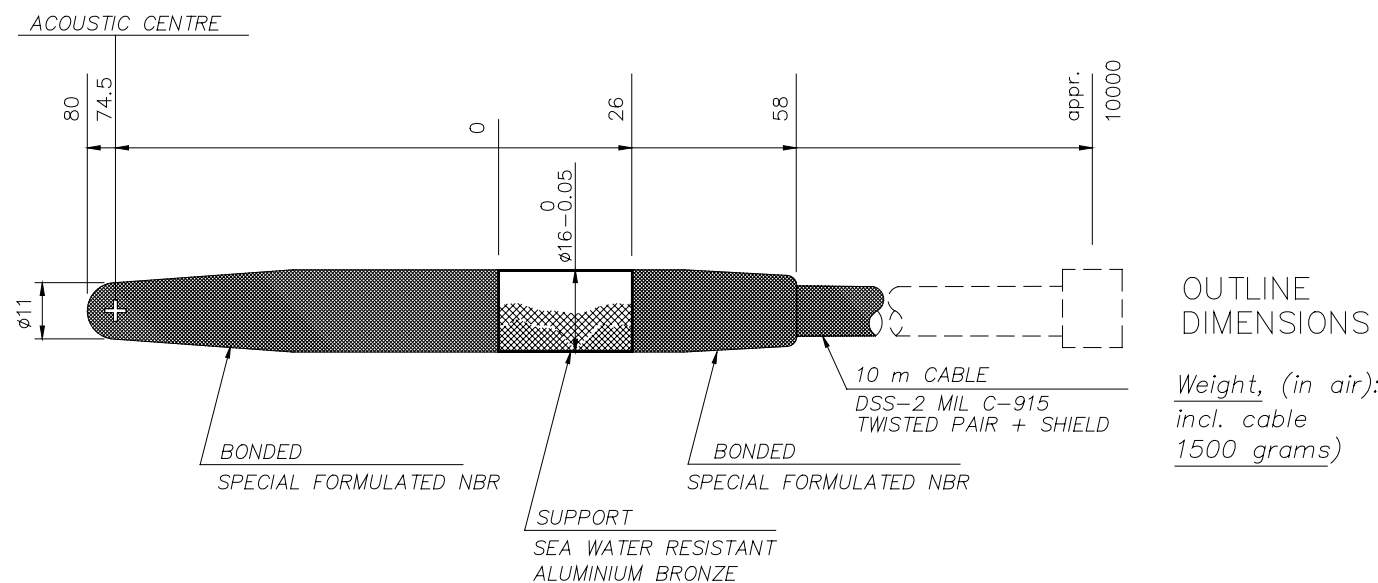
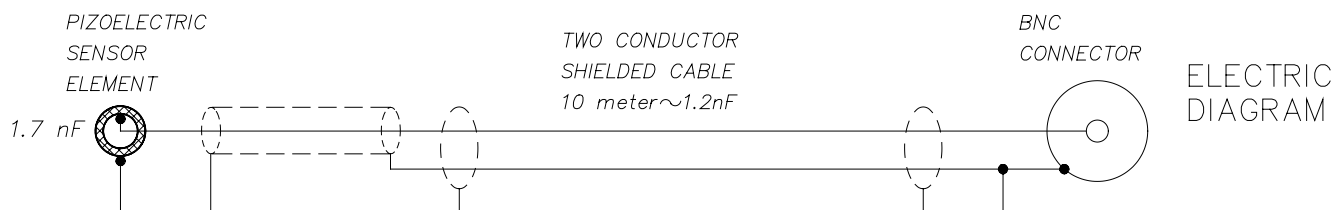


### Documentation:

The hydrophone is permanently encapsulated in special formulated NBR to provide long-term reliability. The rubber has been specially compounded to ensure an acoustic impedance close to that of water.

The TC4034 is supplied with an integral water blocked two-conductor shielded cable, type DSS-2, which complies with Mil C915.

### Electrical Diagram and Outline Dimensions



For information on export control regulations on this product, please refer to [www.teledynemarine.com/reson](http://www.teledynemarine.com/reson)



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