

Teledyne RESON

# Hydrophone TC4040

## Reference Hydrophone



The TC4040 is an ideal standard reference hydrophone for calibration of transducers, hydrophones and underwater acoustic measurement systems.

The TC4040 offers flat frequency receiving response over a wide frequency range and the relatively high transmitting sensitivity makes it very useful within many areas of underwater acoustic research, tests and measurements.

The TC4040 utilises sensor element technology that ensures a high stability with time and excellent performance. The ceramic sensor element is encapsulated in Special formulated NBR. The metallic support made of titanium, allows for precise mounting in suspension hangers.

### TECHNICAL SPECIFICATIONS

<b>Usable Frequency range:</b>	1Hz to 120kHz +3 -10dB
<b>Linear Frequency range:</b>	1Hz to 80kHz $\pm$ 2.5dB
<b>Receiving voltage Sensitivity:</b>	-206dB re 1V/ $\mu$ Pa ( $\pm$ 3dB) 56 $\mu$ V/Pa (nominal)
<b>Charge Sensitivity:</b>	0.42pC/Pa (nominal)
<b>Transmitting sensitivity:</b>	132dB re 1 $\mu$ Pa/V at 1m (at 50kHz)
<b>Horizontal directivity:</b>	Omnidirectional $\pm$ 2dB at 100kHz (Typical)
<b>Vertical directivity:</b>	260° $\pm$ 2dB at 50kHz (Typical)
<b>Capacitance:</b>	8.3nF (nominal)
<b>Leakage resistance:</b>	>2Gohm
<b>Operating depth:</b>	400m
<b>Survival depth:</b>	500m
<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>	10m shielded twisted pair, DSS-2 MIL-C-915 Optional cable lengths available on request
<b>Encapsulating material:</b>	Special formulated NBR
<b>Metal body:</b>	Titanium

### PRODUCT BENEFITS

- Wide operating frequency range
- Flat response over a wide frequency range
- Titanium mounting support
- Individually calibrated
- Water blocked cable to Mil: C-915



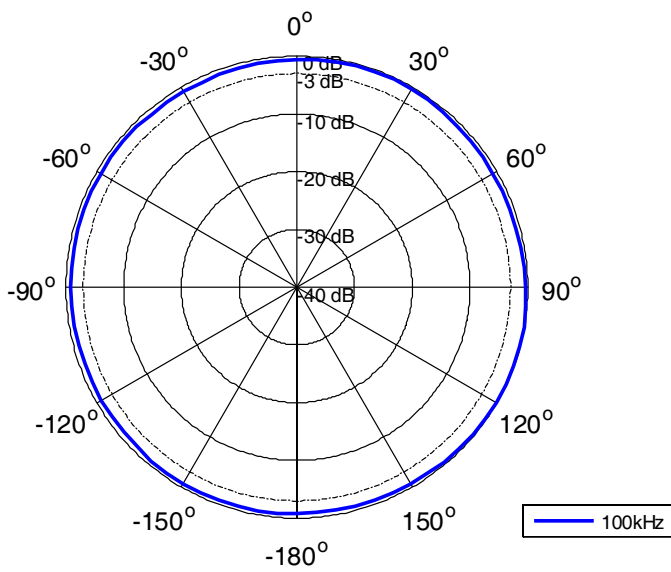
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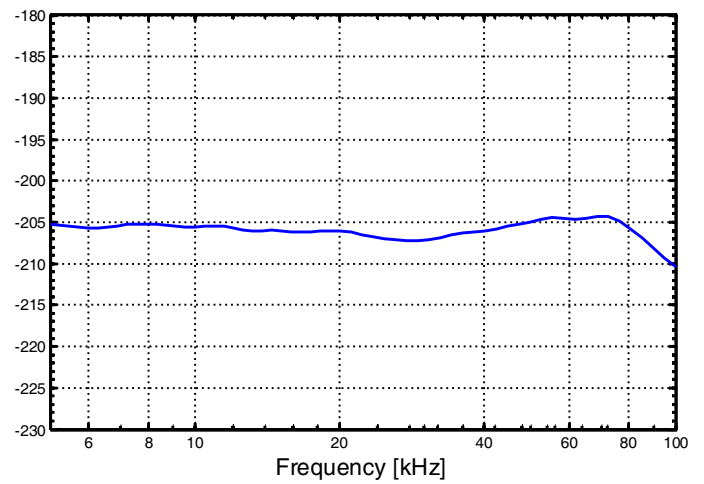
### NBR means Nitrile Rubber

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.

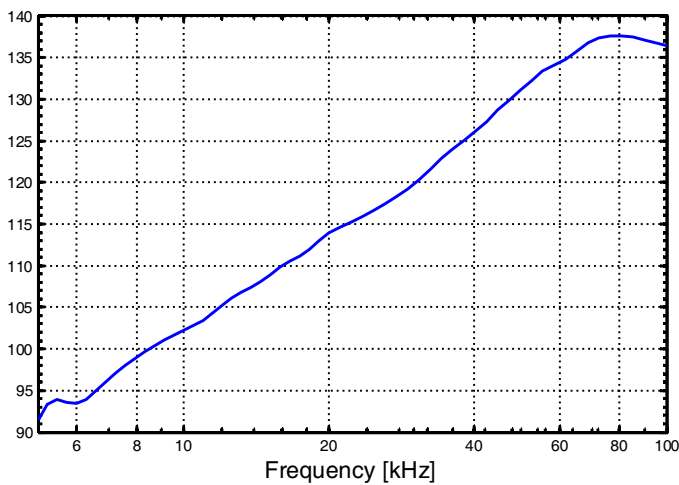
Horizontal Directivity Pattern



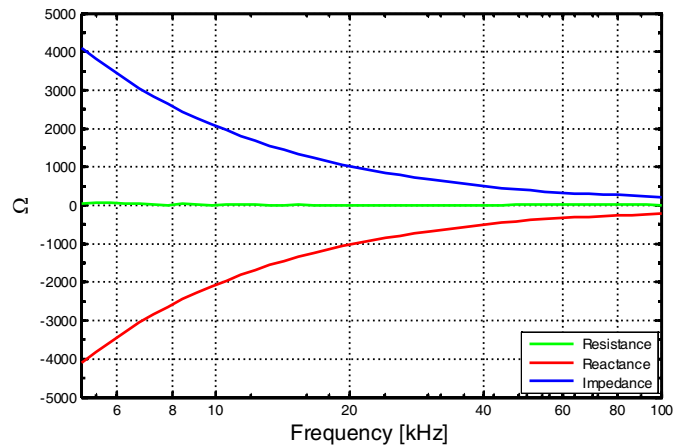
Receiving Sensitivity [dB re 1V/μPa @ 1m]



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



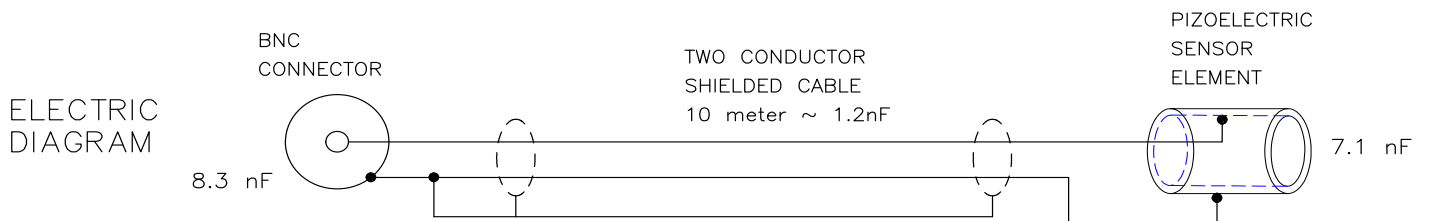
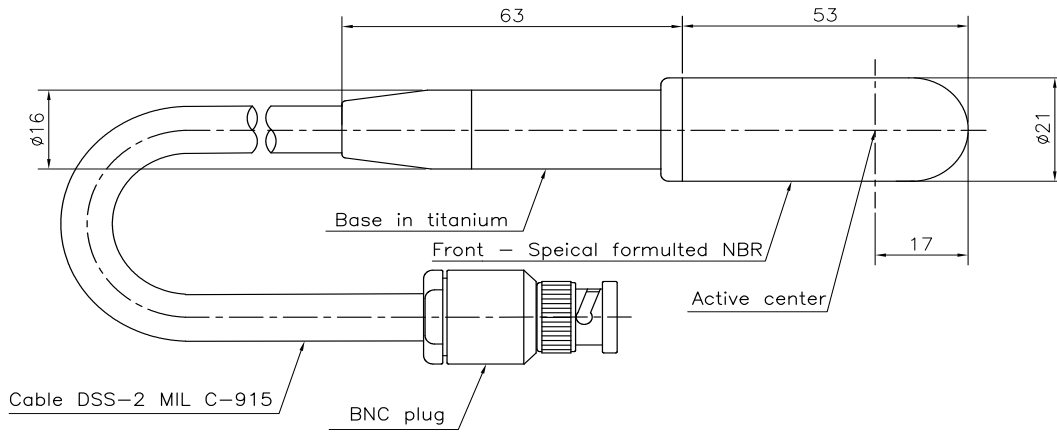
Impedance



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### Outline Dimensions



PLD17164-2

Specifications subject to change without notice.  
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