

# Hydrophone TC4037

## Spherical Reference Hydrophone



The TC4037 hydrophone sensor module provides a differential balanced output signal. It has been designed especially for operation with a differential preamplifier.

The use of differential sensor signals offers advantages such as limitation of DC offset and fluctuation. It further adds 6dB more sensor sensitivity, reduces noise distortion and makes the sensor less sensitive to vibration, temperature. The mounting support is equipped with sealing o-rings that allows for convenient waterproof mounting.

### 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.

Metal body: TC4037-2 aluminum alloy Al Mg1Si – If installed on a metal housing, it is important that the housing is made of a similar material.

## TECHNICAL SPECIFICATIONS

<b>Usable frequency range:</b>	1Hz to 100kHz
<b>Linear frequency range:</b>	1Hz to 50kHz ±3dB
<b>Receiving sensitivity nominal:</b>	-193dB re 1V/μPa at 250Hz (with differential pre-amp 0dB)
<b>Directivity, horizontal plane:</b>	Omnidirectional ±2dB at 40kHz
<b>Vertical plane:</b>	270° ±3dB at 40kHz
<b>Capacitance nominal:</b>	2 x 4.5 nF
<b>Leakage resistance:</b>	≥1G ohm
<b>Operating temperature range:</b>	-2°C to +55°C (with preamplifier)
<b>Storage temperature range:</b>	-40°C to +80°C
<b>Operating depth:</b>	1500m
<b>Survival depth:</b>	4037-2: 2000m, 4037-3: 3500m
<b>Terminating wires:</b>	3 x AWG 22, length 0.5m
<b>Weight in air:</b>	86g
<b>Encapsulating material:</b>	Special formulated NBR
<b>Metal body:</b>	TC4037-2: Aluminum alloy Al Mg1Si TC4037-3: Promet 12 CuSn 12 Tin bronze

### PRODUCT BENEFITS

- High receiving voltage sensitivity
- Differential signal output
- Wide useable frequency
- Long term stability
- Omnidirectional in all planes
- Resistant to high static pressure
- Individually calibrated

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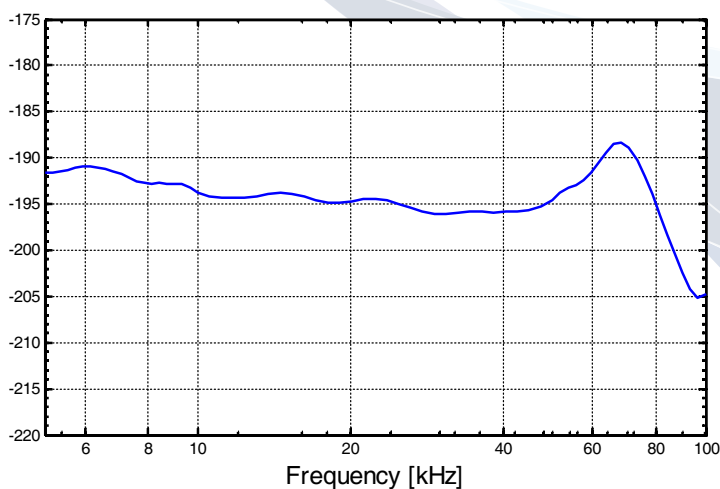
### Documentation:

Receiving sensitivity:  
5kHz to 100kHz

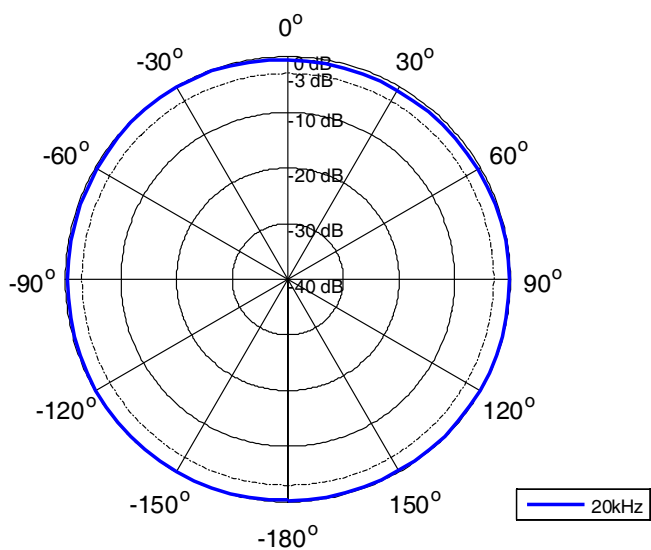
Horizontal directivity:  
20kHz

Vertical directivity:  
20kHz

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



Horizontal directivity pattern



Vertical directivity pattern

