

Hydrophone Type 10CE

Product Data and Specifications

Features

- **Omnidirectional throughout its full-frequency range**
- **Long-term stability**
- **Extremely wide frequency range**
- **Durable construction**
- **Individually calibrated**

The G.R.A.S. Hydrophone Type 10CE (Fig. 1) is a broadband spherical hydrophone which offers uniform omnidirectional characteristics over a wide frequency range of 1 Hz to 480 kHz.

The overall receiving characteristics make the Type 10CE an ideal transducer for making absolute underwater sound measurements up to 480 kHz.

The wide frequency range also makes the Type 10CE perfect for calibration purposes, particularly at higher frequencies.

Fig. 2 shows the pin connections and a simplified circuit diagram.



Fig. 1 The Hydrophone Type 10CE

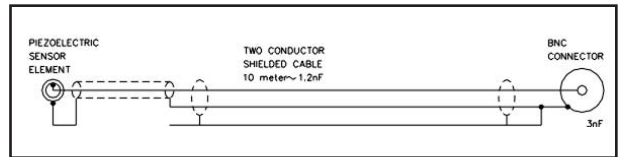


Fig. 2 Simplified circuit diagram of Type 10CE

Fig. 3 shows the overall physical dimensions.

Figs. 4 to 7 show the graphical data in detail.

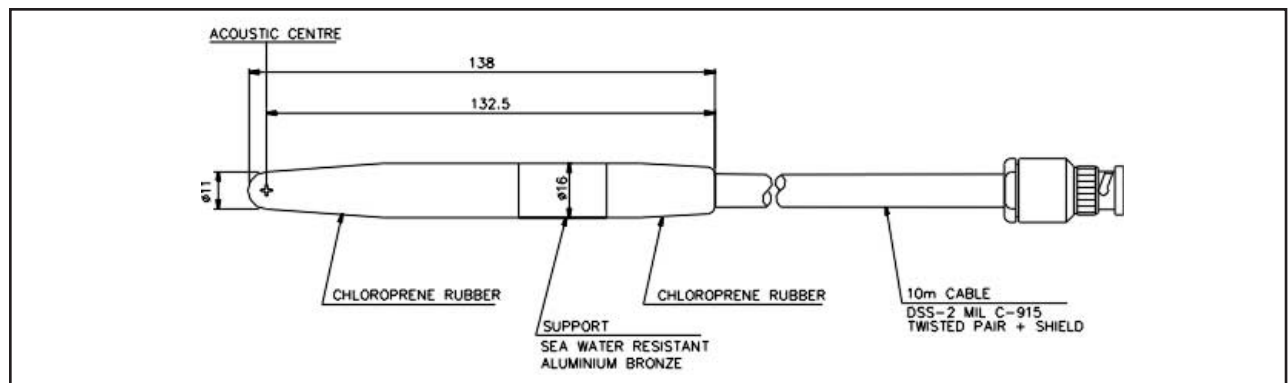


Fig. 3 The hydrophone is permanently encapsulated in poly-Chloroprene rubber which has been specially compounded to ensure an acoustic impedance very close to that of water and excellent low water permeability for long-term reliability

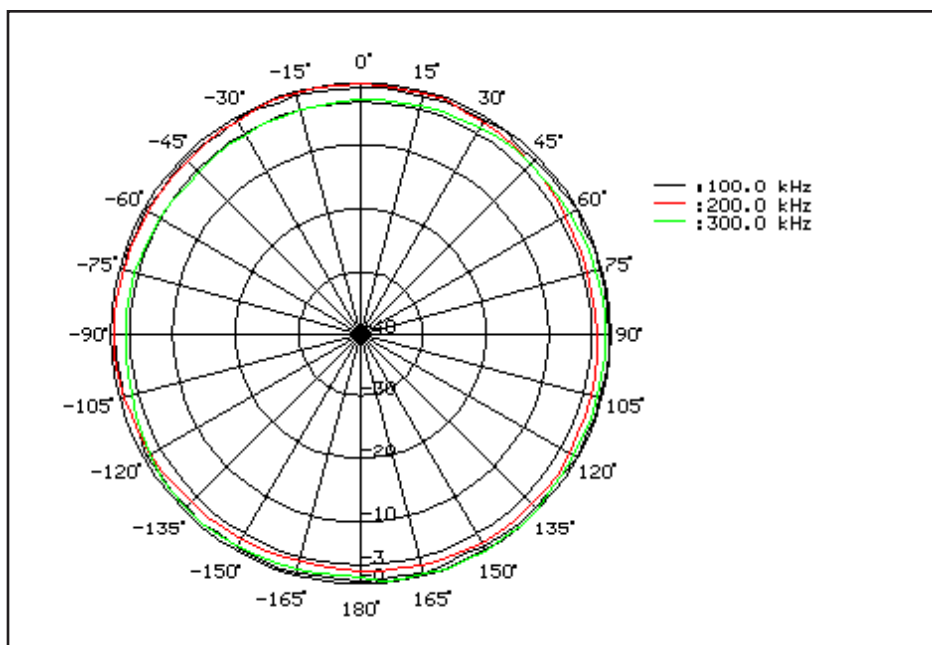


Fig. 4 Vertical directivity pattern at 100 kHz, 200 kHz and 300 kHz

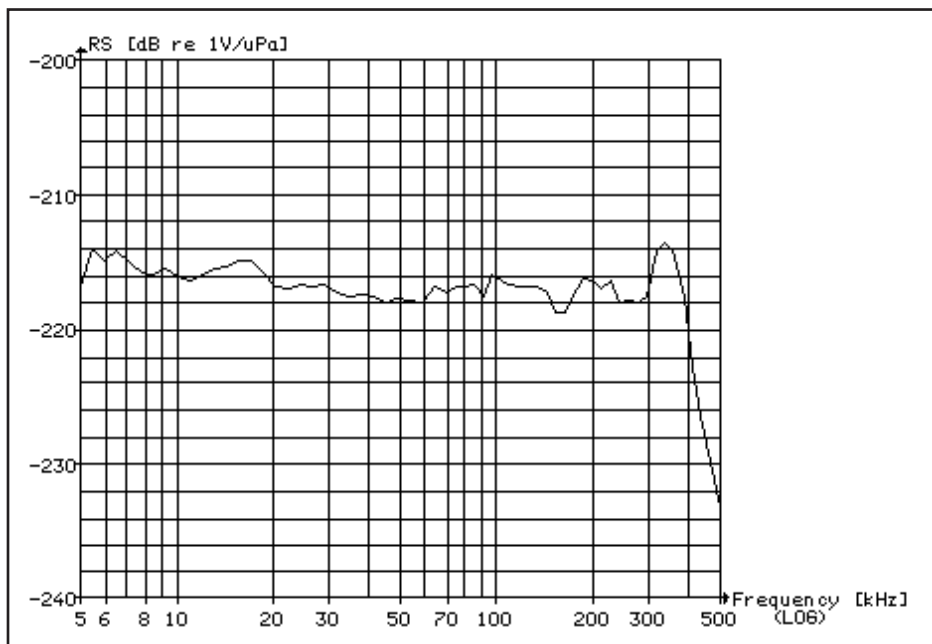


Fig. 5 Receiving sensitivity (decibels re. 1 V/μPa) from 5 kHz to 500 kHz

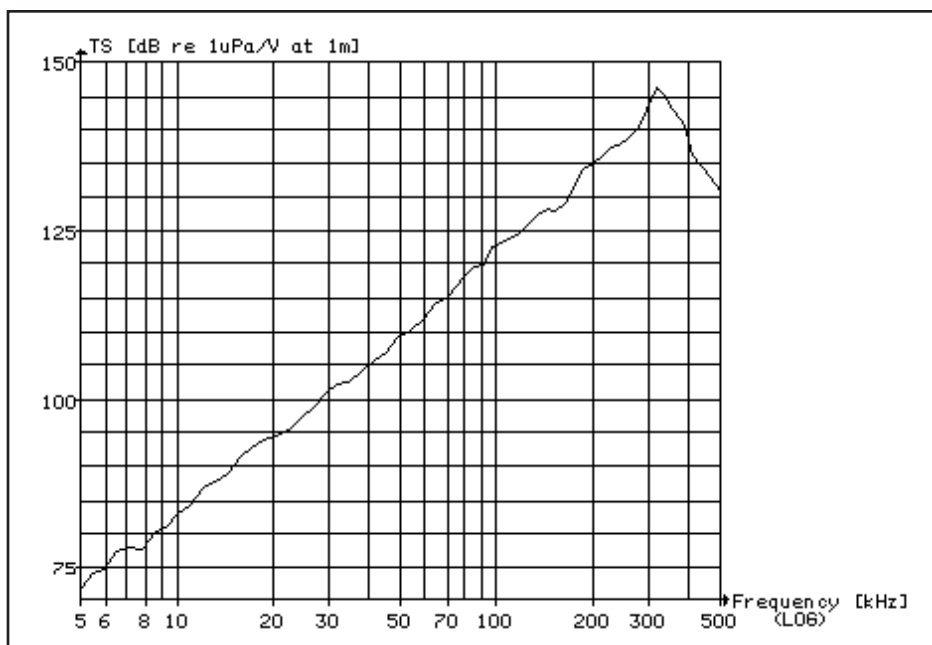


Fig. 6 Transmitting sensitivity (decibels re. 1 $\mu\text{Pa/V}$) from 5 kHz to 500 kHz

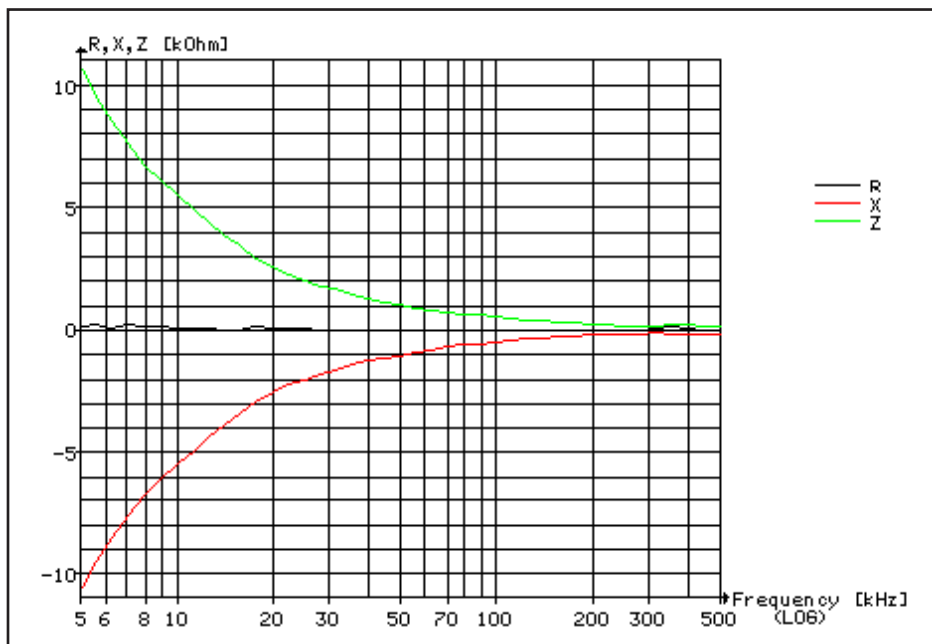


Fig. 7 Impedance components from 5 kHz to 500 kHz
 R = resistance, X = reactance and Z = resultant

Specifications

Usable frequency range: +3, -10 dB 1 Hz - 470 kHz	Survival depth: 1000 m
Linear frequency range: +1, -4 dB 1 Hz - 250 kHz	Operating temperature range: -2 °C to +80 °C
Receiving sensitivity: at 250 Hz -218 dB (re. 1 V/μPa) ± 3 dB	Storage temperature range: -40 °C to +80 °C
Transmitting sensitivity: at 100 Hz 122 dB (re. 1 μPa/V) ± 3 dB	Weight in air (including cable): 1.6 kg
Horizontal directional response: 360°: ± 2 dB at 100 kHz	Cable: Length: 10 m Type shielded pair DSS-2MIL-C915
Vertical directional response: >270°: ± 3 dB at 300 kHz	Connector: BNC
Nominal capacitance, cable included: 3 nF	Encapsulating material: Chloroprene
Operating depth: 900 m	Metal body: Aluminium bronze

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice

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