

# Hydrophone Type 10CI

## Product Data and Specifications

### Features

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

The G.R.A.S. Hydrophone Type 10CI (Fig. 1) is an ideal standard reference hydrophone for calibrating transducers, hydrophones and underwater acoustic measurement systems.

The Type 10CI has a flat, frequency receiving response over a wide frequency range and its relatively high transmitting sensitivity makes it very useful within many areas of underwater acoustic research, tests and measurements.

The Type 10CI utilises sensor-element technology, which ensures high stability with time and excellent acoustic performance.

The ceramic sensor element is encapsulated in “rho-c” chloroprene rubber. The metallic support, made of titanium, allows for precise mounting in suspension hangers.



Fig. 1 The Hydrophone Type 10CI

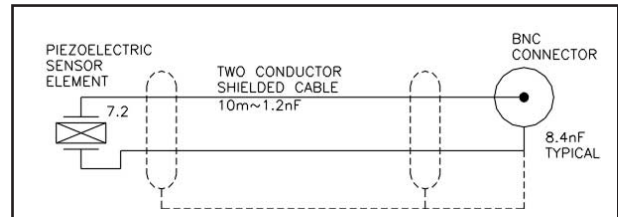


Fig. 2 Simplified circuit diagram of Type 10CI

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

Fig. 3 shows the overall physical dimensions.

Figs. 4 to 8 show the graphical data in detail.

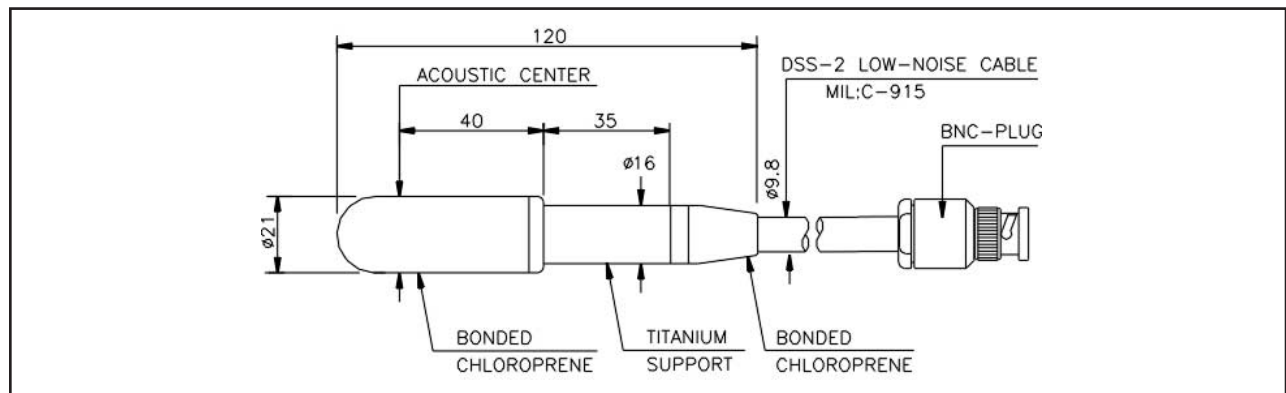


Fig. 3 Overall physical dimensions of the Hydrophone Type 10CI

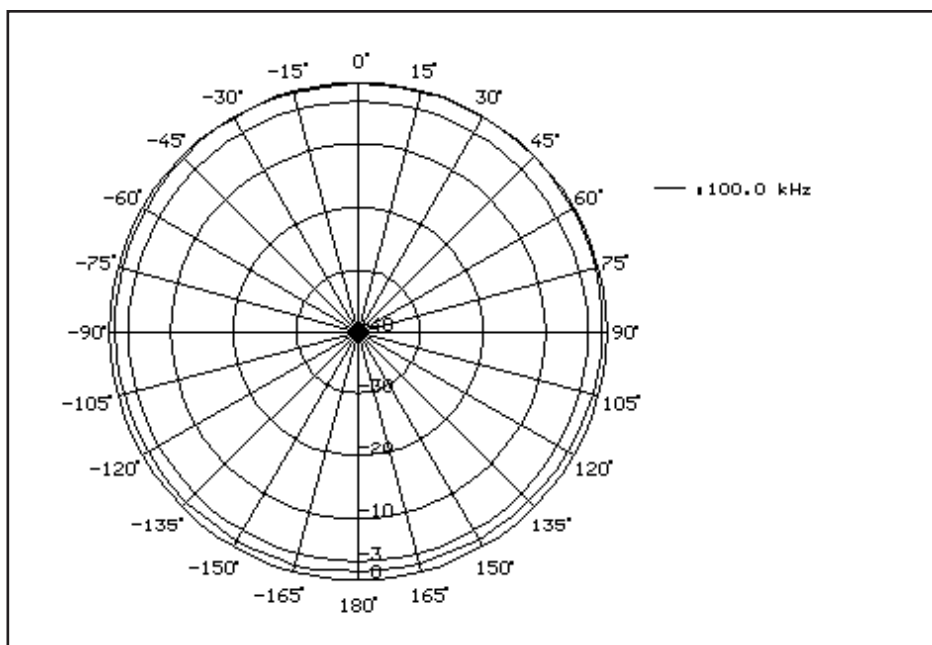


Fig. 4 Horizontal directivity pattern at 100 kHz

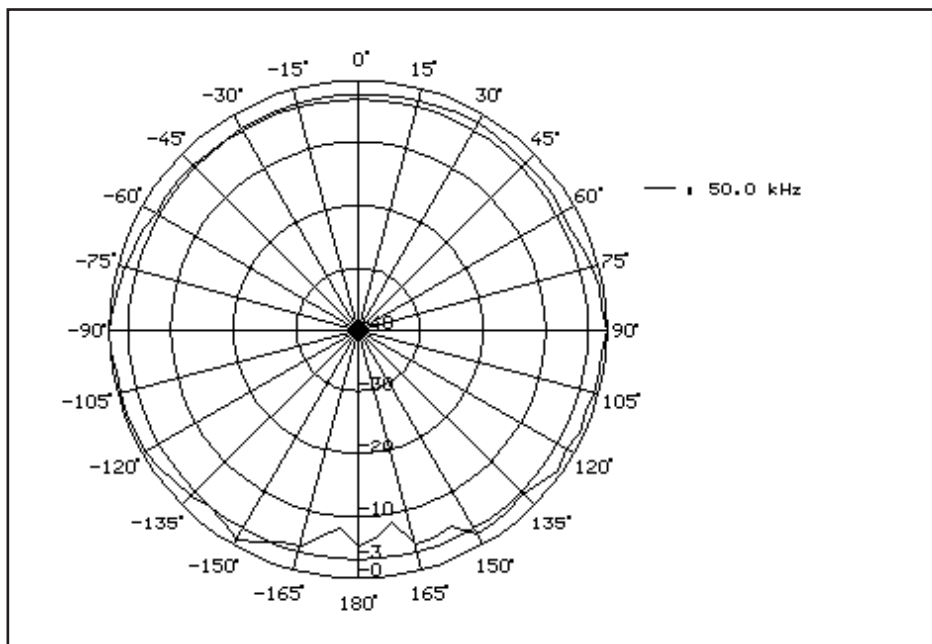


Fig. 5 Vertical directivity pattern at 50 kHz

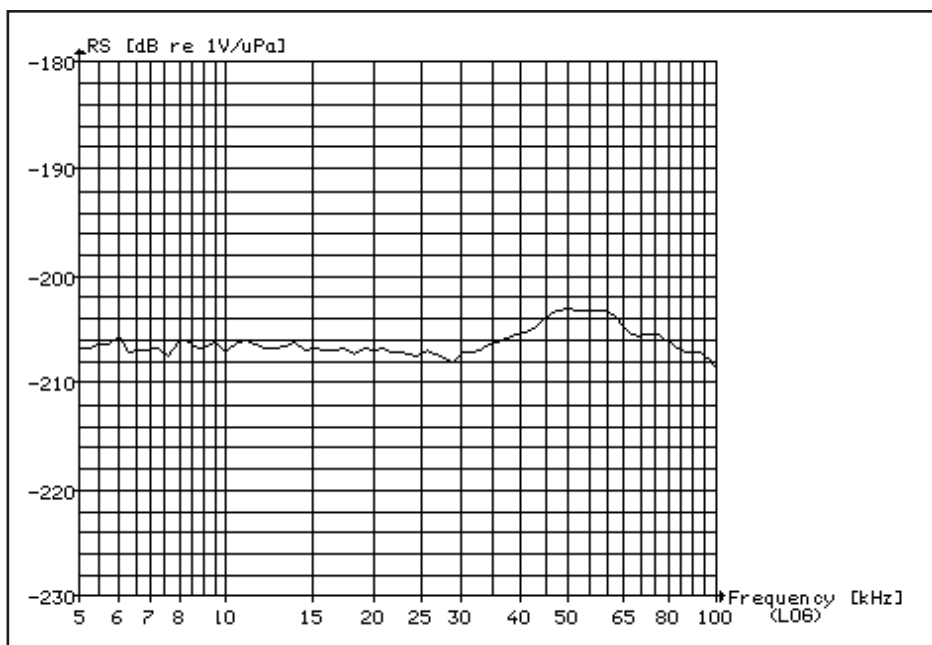


Fig. 6 Receiving sensitivity (decibels re. 1 V/μPa) from 5 kHz to 100 kHz

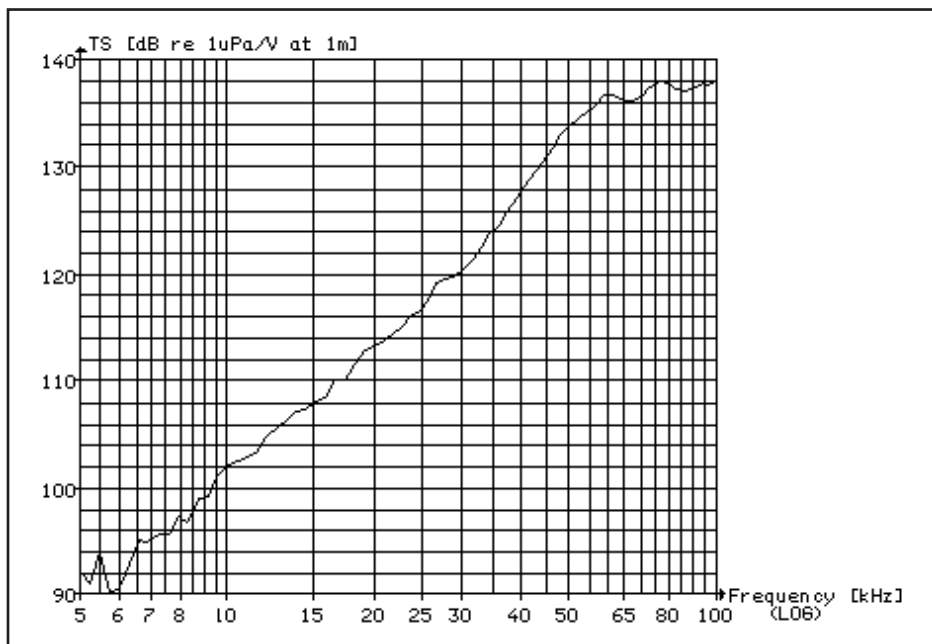


Fig. 7 Transmitting sensitivity (decibels re. 1 μPa/V) from 5 kHz to 100 kHz

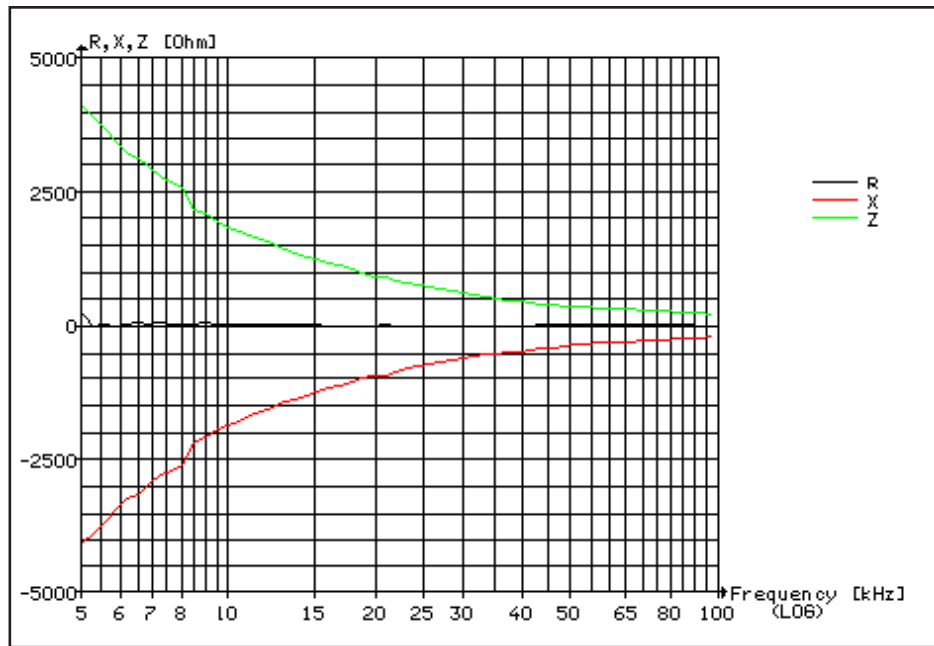


Fig. 8 Impedance components from 5 kHz to 100 kHz  
 R = resistance, X = reactance and Z = resultant  
 (top down: Z, R, X)

### Specifications

<b>Usable frequency range:</b> 1 Hz to 120 kHz ..... +2 - 10 dB	<b>Survival depth:</b> 500 m
<b>Linear frequency range:</b> 1 Hz to 80 kHz ..... ±2 dB	<b>Operating temperature range:</b> -2 °C to +80 °C
<b>Horizontal directivity at 100 kHz (typical):</b> 360° ..... ±2 dB	<b>Storage temperature range:</b> -40 °C to +80 °C
<b>Vertical directivity at 50 kHz (typical):</b> 270° ..... ±2 dB	<b>Leakage resistance:</b> >2 GΩ
<b>Receiving voltage sensitivity:</b> Nominal ..... -206 dB ±3 dB re. 1 V/μPa (same as 50 μV/Pa nominal)	<b>Encapsulating material:</b> Chloroprene rubber
<b>Charge sensitivity:</b> Nominal ..... 0.42 pC/Pa	<b>Cable:</b> Length: ..... 10 m Type ..... shielded twisted pair DSS-2 MIL-C915
<b>Capacitance:</b> Nominal ..... 8.3 nF	<b>Metal body:</b> Titanium
<b>Operating depth:</b> 400 m	<b>Weight in air including cable:</b> 1.6 kg

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