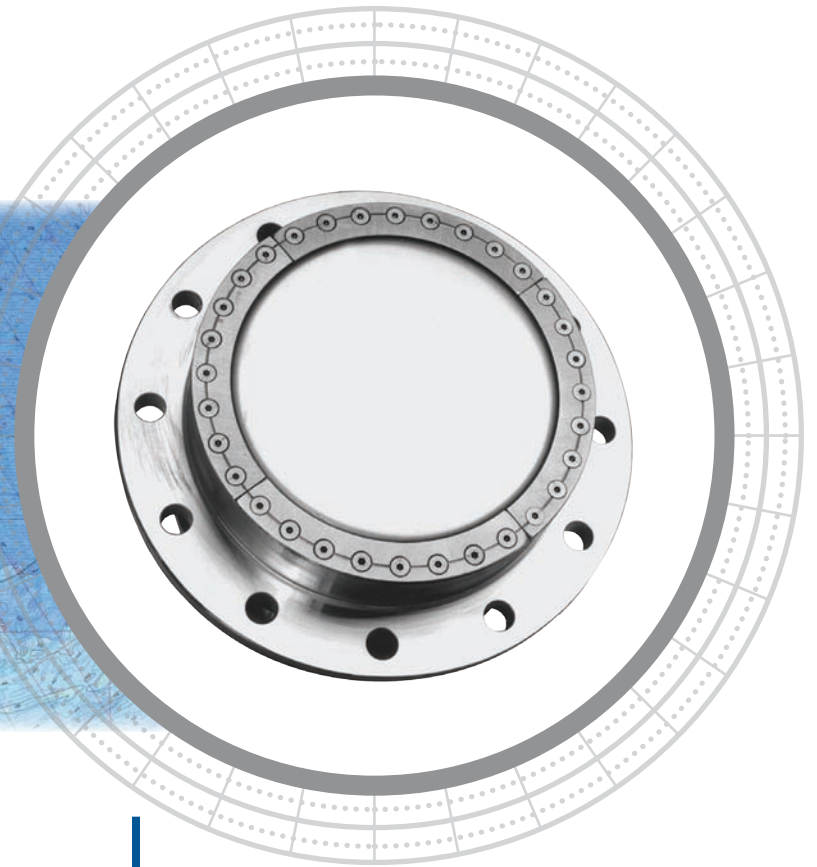


# CS229



## High-Strength for Harsh Environments

The high-strength, cast-steel CS229 stands up to harsh environments. It has been designed to facilitate service or repair. The transformer can be accessed from the top of the housing for a quick, field repair or impedance change. The transducer is removable from the outer, thru-hull housing and can be replaced while a vessel is underway.

## Options

- Impedance to customer's specifications using matching transformer
- Available as special-order unit with 12 kHz, 24 kHz, 28 kHz, 30 kHz, 33 kHz, 38 kHz, or 50 kHz array

## Thru-Hull

# 1.5 - 2.1 kW

## Applications

- Large, steel-hull vessels
- Harsh environments including ice filled water
- Navigation and survey
- Steel hulls only

## Features

- Versatile housing accommodates variety of frequencies for most navigation and survey requirements
- Low-ringing arrays provide good bottom detail in deep-water
- Available with stainless steel or "acoustically transparent", urethane window, depending on the frequency
- Features inner, CS234 transducer and outer, CS229, thru-hull housing



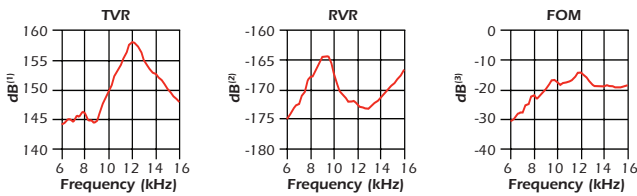
## Technical Information

Frequencies	Configuration	Beamwidth (@-3 dB)	RMS Power (kW)	FOM (dB)	Q	Series Impedance [R-jX]
12 kHz-B		42°	2.1 kW	-14	7	185-j0(Ω)
24 kHz - W		20°	1.5 kW	-14	3	60-j0(Ω)
28 kHz-R		18°	2 kW	-9	5	120-j0(Ω)
50 kHz-N		13°	2 kW	-8	9	60-j0(Ω)
200 kHz-AF		3°	3 kW	-3	18	60-j0(Ω)

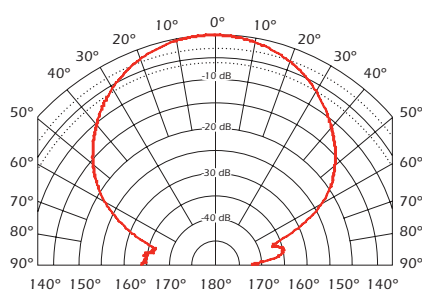
### Technical Data—12 kHz-B

TVR in dB re 1μPa/Volt at 1 m

RVR in dB re 1 Volt/μPa



### Directivity Pattern—12 kHz-B



### SPECIFICATIONS

**Weight:** Varies depending on configuration (Call for weight)

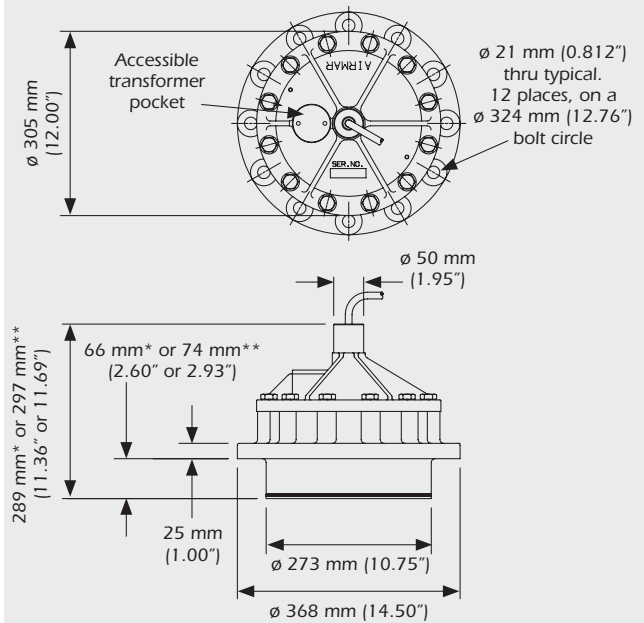
**Acoustic Window:**

Urethane—28 kHz to 200 kHz  
Stainless steel—12 kHz to 24 kHz

**Cable Type:** C-43

Shielded twisted pair (2-14 AWG) with braided shield, black neoprene jacket, 10 mm (13/32") diameter

### DIMENSIONS



### NOTES

- \* Stainless steel acoustic window
- \*\* Urethane acoustic window