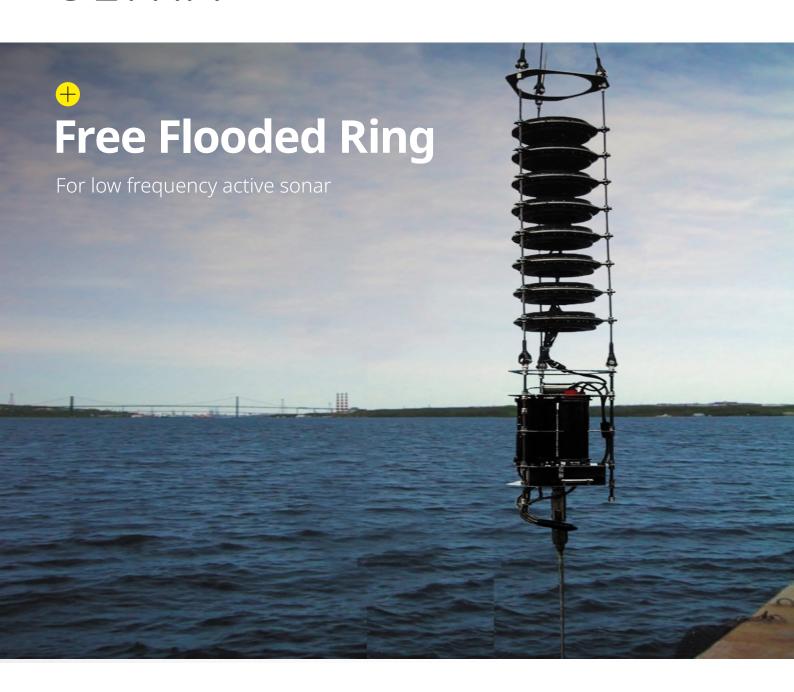
ULTRA



Key features

- Low frequency
- High power
- Broadband
- Essentially unlimited depth capability
- High efficiency
- High reliability
- Low maintenance
- Array operation

Overview

The Free Flooded Ring (FFR) consists of a ring of piezoelectric ceramic contained within a neoprene boot, and produces a toroidal beam pattern in the horizontal plane. It has exceptional properties for low frequency active sonar applications; very wide bandwidth (Q~1), high source level, high efficiency and an essentially unlimited depth capability.

The Ultra FFR product family has several decades of accumulated use by navies and naval research establishments in Canada, United Kingdom, Australia, United States, the Netherlands and the Republic of Korea. The simple, rugged design of the FFR underpins its ability to withstand underwater and deck shock and results in a robust and highly reliable device that is inherently low maintenance leading to a very long inservice life. Ultra's mature FFR manufacturing process and stable supply chain have been honed over several decades. Ultra has delivered scores of FFRs of various models to its customers.



Technical Specification

Ultra Maritime offers three different commercial off-the-shelf models that are of like design but scaled for operation at different frequencies. These models can be optionally equipped with a variety of features to meet specific customer requirements. Features can include: Custom performance specifications, array performance design, mounting or mooring arrangements, towed body supply, etc.

Specification for FFR Models		
Model Number		
Model 28 Fx1000	Operating Frequency Range Apparent Bandwidth (-6 dB) Maximum Design Drive Voltage Maximum Sound Pressure Level Electroacoustic Efficiency Directivity Radial Directivity Axial Weight (Dry / Wet)	
Model 18Fx1800	Operating Frequency Range Apparent Bandwidth (-6 dB) Drive Voltage Maximum Sound Pressure Level Electroacoustic Efficiency Directivity Radial Directivity Axial Weight (Dry / Wet)	1500 - 4000 Hz 1900 Hz Maximum Design 2500 Volts RMS 218 dB//1µPa @ 1 m @ 1550 Hz 75% @ 3 kHz omni -20 dB @ 1600 Hz 75 kg / 52 kg
Model 08Fx4000	Operating Frequency Range Apparent Bandwidth (-6 dB) Maximum Design Drive Voltage Maximum Sound Pressure Level Electroacoustic Efficiency Directivity Radial Directivity Axial Weight (Dry / Wet)	2500 Volts RMS



