

White Paper

# Mobrey™ Ultrasonic Gap Sensors for Oil and Water Detection



# Mobrey™ Ultrasonic Gap Sensors

## For Oil and Water Detection

### Introduction

The Mobrey brand name has a long history of association with the marine market, traditionally with Mobrey float-operated level switches being used for liquid level alarm detection. However, Delta Mobrey also has a range of Mobrey Ultrasonic Sensors used within this market for oil-in-water detection and oil/water interface detection.

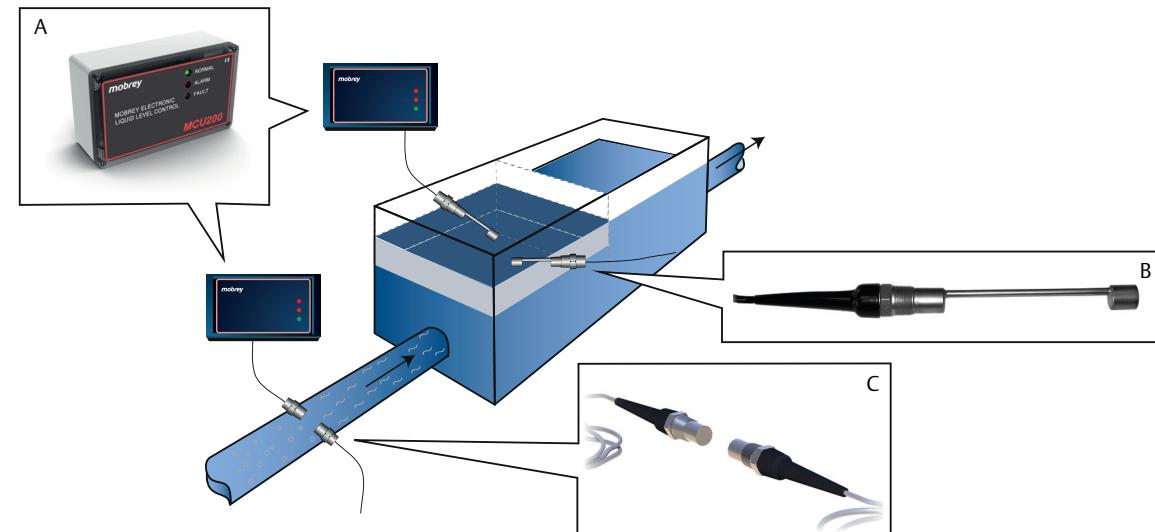
### Oil-in-water detection

These ultrasonic sensors are an electronic system for protecting marine boilers, by ensuring the boiler feed-water is not contaminated with oil. This type of contamination frequently occurs as condensing steam runs through the ship's systems before being returned to the boiler. Any leaks may cause oil to enter the circulating condensate, and can result in serious boiler damage by the overheating that can occur due to reduced water flow and heat transfer.

Mobrey 442SD sensors are installed across the feed-water pipelines, while Mobrey 402SD sensors are designed for installation within vessels (tanks) connected to the feed-water pipework (Figure 1).

The sensors detect the presence of the oil and signal an alarm via the Mobrey MCU200 Controller. A ship's crew is then aware of the problem, can investigate the source of oil entry, and take corrective action to remove the oil contamination.

**Figure 1. Typical Application with Mobrey 442SD and 402SD Ultrasonic Gap Sensors**



A. Mobrey MCU200 Controller

B. Mobrey 402SD Sensor

C. Mobrey 442SD Sensor

## Oil/Water interface level detection

Oil tankers require effective oil/water interface detectors for accurate determination of the oil/water interface, in tanks where separation of oil and water is carried out prior to discharging directly into the sea.

When at sea, the ship's dirty ballast water or oil contaminated water may be discharged by gravity below the water line, on the provision that enough time has elapsed to allow proper oil/water separation. Interface detectors are used to examine the ballast water before the discharge, to ensure the height of the interface is safe enough to avoid oil being discharged during this process.

The Mobrey 402SD sensors are used in these applications with a Mobrey MCU200 Controller to detect this interface.

## Ordering information

Ordering information for both systems is shown in the product data sheet.

Further product detail and pricing is available from your local Delta Mobrey sales office or Delta Mobrey sales channels.

Standard Terms and Conditions of Sale can be found on the [Terms and Conditions of Sale page](#).

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