PORTALEVEL®
MAX MARINE PLUS

World's Most Accurate Ultrasonic Liquid Level
Indicator with GAS/LIQUID display

Made in the UK.

INTRODUCING THE PORTALEVEL® MAX MARINE PLUS

Portalevel® MAX MARINE PLUS is a highly capable, handheld liquid level indicator with ABS Type Approval for marine applications in level monitoring. **Portalevel® MAX MARINE PLUS** is fast, accurate, and reliable; with a survivable construction and cutting-edge ultrasonic capabilities, it allows an operator to non-invasively monitor the liquid level of almost any CO_2, Halon, or Clean Agent fire suppression system at sea.

Type: Portable Ultrasonic Liquid Level Indicator

Function: Non-invasive liquid level detection of various marine fire suppression agents, such as; CO_2, FM200™, NOVEC™ 1230, old Halon agents, FE-13™, FE-25™, NAF S III™ and all core Clean Agent systems.

Part Number: 2290334-COMXPSM

Approvals: UL Listed, RINA Accepted, ABS Type Approval.

IMPA P/N: 652776

Standards: UKCA, CE, Coltraco is ISO 9001 and ISO 14001 approved

APPLICATIONS

The adaptable **Portalevel® MAX PLUS** can be used in many industries such as:

Shipping

Oil & Gas Platforms

Naval

HIGHLIGHTED FEATURES

Portable
Portable hand-held device designed to be used by 1 person

Minimise risk
Eliminates heavy lifting or accidental discharges when weighing

Regulation Compliant
UL Listed, RINA Accepted, ABS Type Approved

Three Calibration Modes
For accuracy on a wide range of agents and cylinders of varying size/type and condition

Intuitive Display/Operation
Display for use with minimal training

Faster Measurement
5-25 seconds compared to 15 minutes by weighing

Reliable
Accurate to +/-1.5mm of the true liquid level

Improve asset safety
Keep cylinders in-situ and fire suppression system on

PORTALEVEL® MAX PLUS

COLTRACO LTD   V3.02
LIQUID
9739   9709
BAT OK   CAL   1 SPA

COLTRACO
Ultrasonics | since 1987

SPA   ON

CAL   OFF

UL LISTED

PLEASE READ OPERATING INSTRUCTIONS
CAREFULLY BEFORE USE

ACCURATE INSTRUMENTATION › COMPLIES WITH REGULATION › ENSURES SAFE INSPECTION
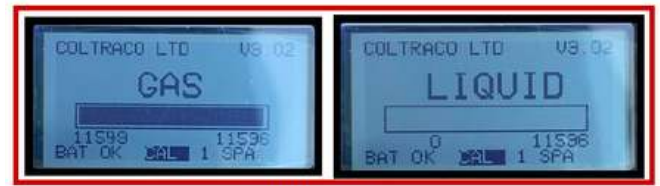
DELIVERING SAFESHIP®

Fire is the second greatest cause of loss of life and property at sea, after sinking. As a result, we have developed our mission of **Safeship®** to minimise maritime loss by applying innovative solutions to industry problems.

As part of this mission, **Portalevel® MAX MARINE PLUS** aims to improve the safety and efficacy of marine fire suppression systems and minimise losses due to fire. The combined accuracy, versatility and operational simplicity of **Portalevel® MAX MARINE PLUS** makes it a solution which can be easily applied with minimal operational impact to facilitate a higher level of operational safety.

FEATURES OF THE PORTALEVEL® MAX MARINE PLUS

GAS/LIQUID Screen Indication

- Intuitive user interface indicates **GAS** or **LIQUID** depending on where the sensor is placed on the cylinder**.**

Intuitive Display

Three Calibration Modes

- Carefully configured to cater for the different fire suppression cylinders / agents you measure.
- Ensures greater control and success rate when testing, especially on old, damaged or challenging cylinders.

Four Power Settings Increase Gain

- 4 settings ensure the returned ultrasound signal is sufficiently amplified to be easily detected by the transducer.
- Ensures the most accurate measurement possible.
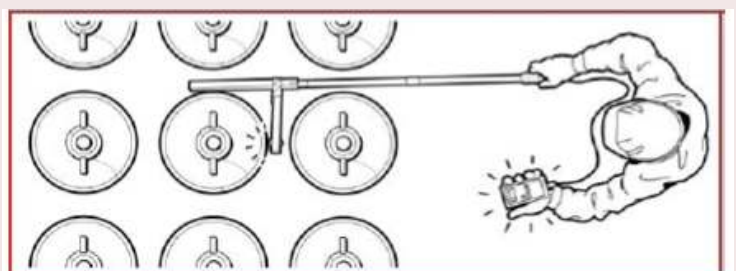
Tactile Buttons

- Improved ergonomics give users greater feel and confidence when operating the **Portalevel® MAX MARINE PLUS**.

HOW TO TEST IN 30 SECONDS: 4 SIMPLE STEPS

1. **Wipe** cylinder clean with a wet cloth & apply a strip of ultrasonic couplant to the cylinder
2. **Place** sensor at the top of the cylinder
3. **Observe** the bar graph, and move sensor in steps of 5cm / 2 inches down the cylinder. Calibrate at high readings.
4. **Read** the screen and observe the point that LIQUID changes to GAS.

The slimline extension rod, just 12mm wide, allows you to easily check between the cylinder banks without having to remove any tanks from the manifold. See diagram on the right.

STAY COMPLIANT WITH REGULATIONS

IMO SOLAS & FSS Code Chapter 2.1.1.3

"Means shall be provided for the crew to safely check the quantity of the fire extinguishing medium in the containers."

The crew are not qualified to dismantle the fire system to weigh the cylinders. So having a quick and easy to use ABS Type Approved ultrasonic liquid level indicator is the only accurate and efficient way of delivering better fire safety onboard, and protecting the crew.

CASE STUDY

Using a **Portalevel® MAX MARINE PLUS saves 60% of the time required** to manually dismantle and weigh a cylinder. A standard rate for weighing 200 cylinders would be USD2170. With the use of ultrasonic instrumentation, quotes are approximately USD 1085. **This saves USD900 per test**. In just 4 uses of the Portalevel®, the unit pays for itself and begins making you profit and cutting your cost. 5 inspections a month saves USD5425 a month or USD65100 a year.

SAVES COST

$5425 a month/
$65100 a year

SAVES TIME

60% of time required

CASE STUDY 2: VIKING DESTINY (CAR CARRIER)

The test on the 45KG CO2 cylinder was witnessed by the Master and Chief Engineer (in picture)

The equipment used was Coltraco's **Portalevel® MAX MARINE PLUS** and **Portasteele® CALCULATOR**

Overall test took **less than 5 minutes to complete** (including explanation on working principles). Actual testing took less than half of this time

Results were **very accurate**, predicting 45.75KG for a cylinder containing 45 KG (1.6% deviation)

CASE STUDY 3: EDDYSTONE AND RED EAGLE

The IMO FSS Code, chapter 5.2.1.1.3 requires that crew should be **checking quantities of fire extinguishing medium**. Given the numbers of bottles involved, methods such as **weighing of cylinders are highly impractical**.

There are now commonly available simple methods such as **ultrasonic liquid level gauges which facilitate easy in situ level testing** which operators should consider in order that their crews can readily and safely check the levels of CO2 thus **enabling early detection of a potential problem**. The UK would consider this appropriate as per the IMO FSS Code Chapter 5.2.1.1.3 and this could be built into the planned maintenance system.

The MCA would remind operators of the benefit of marking the cylinders and **checking CO2 levels at least annually.**

CASE STUDY 4: ANECDOTAL EVIDENCE

Anecdotal evidence gathered from visit to Ship Management Company A, Singapore

THEIR ISSUE:

- Bulk carrier vessel was sailing **104 CO2 cylinders** onboard, spot check revealed that **28 cylinders were empty**
- Vessel was taken to a port which offer refilling services
- Found **a further 33 cylinders** were empty
- **More than 50%** of the cylinders were found to be empty which meant that if a fire had broken out, it would not have been extinguished
- It was learned that the vessel left the fire servicing entirely to the minimum IMO recommended maintenance, once every 2 years

OUR SOLUTION:

- Coltraco was contacted by the Ship Management Company A, July 2023 to place **an urgent order of CO2 liquid level indicators** for 52 vessels
- Coltraco offered a competitive quote and also the only company globally to provide traceability of liquid level through agent weight (using our level to weight conversion software)
- Purchase was completed and units are currently in use onboard their vessel
- **Vessel implemented 100% cylinder checks every 6 months**

WHATS IN THE BOX?

- Portalevel® MAX MARINE PLUS
- Portalevel® MAX MARINE PLUS Handheld Sensor
- Extension Rod With Sensor
- Ultrasonic Couplant
- Infrared Thermometer
- User Manual
- Calibration Certificate
- Robust Carrying Case

BENEFIT FROM WARRANTY AND SUPPORT

- Main Unit: 3 years
- Sensors: 1 year
- Lifetime customer support

CHOOSE FROM OUR LEVEL RANGE

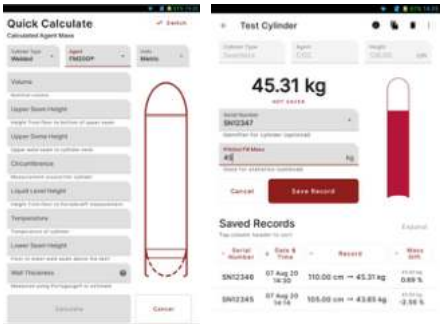| FEATURES	Portalevel® ORIGINAL+ Rod	Portamarine®	Portalevel® MAX Marine
RINA Approved	✔	✔	✔
Multi-Bank Extension Rod	✔	✔	✔
Identify the liquid level easily within 60 seconds	✔	✔	✔
For water and liquid CO2	✔	✔	✔
Find the level within 30 seconds	✖	✔	✔
For a wide range of agents (FM-200, Novec 1230, FE-13, FE25, halons and many more)	✖	✔	✔
Accurate to +/- 1.5mm	✖	✔	✔
For thicker cylinder types	✖	✖	✔
UL Listed, ABS Type Approved	✖	✖	✔
Price	£	££	£££

TECHNICAL DATA

Dimensions	167x82x30 mm (L x W x D)
Unit Weight	300g (with batteries)
Accuracy	±1.5 mm (±1/16 inch)
Sensor Type	14mm diameter magnetically mounted
Sensor Frequency	1 MHz
Sensor Connectivity	1 m BNC coaxial cable.
Power Supply	1 x PP3 9V battery
Battery Life	10 hours continuous use
Display	55 x 28 mm backlit LCD
Operating Temperatures	-10 °C to +65 °C (14 °F to 149 °F)
IP Rating	IP65 Rating (Enclosure)
Classifications & Approvals	UL Listed, RINA Classification Society Approval, ABS Type Approved
Registrations	CE, UKAS, Coltraco is ISO 9001 and ISO 14001 registered
Warranty	Main Unit: 3-Year Warranty Sensor: 1-Year Warranty Technical Support: Lifetime of the unit

PERFECT PARTNER TO PORTASTEELE® CALCULATOR

1. **Input** your cylinder details and liquid level (as found by Portalevel® MAX MARINE PLUS),
2. **Calculate** in under 30 seconds
3. **Save** your results in a spreadsheet and export to the manager/customer thereby enhancing service reports.

OUR THROUGH-LIFE COMMITMENT TO YOU

We look after our customers throughout the lifetime of your equipment.

Every main unit is supplied with **3 years warranty** and **1 year warranty on its sensors and accessories.**

We are proud to offer free lifetime technical support and online training is available on request with a range of solutions designed to meet your calibration requirements:

Onshore Calibration
This can be done in our UK laboratory or in one of our 11 ODA Service Centres present globally
We also support 1-1 exchanges with a pre-calibrated unit to reduce processing time
We also offer a unit collection service for customers who are not used to sending equipment out of their respective countries.

Remote Calibration
This can be done remotely onboard the vessel by a competent crew member to reduce the hassle of offloading the instrument while the vessel is at sea

ABOUT COLTRACO ULTRASONICS

Coltraco is ISO 9001:2015 and ISO 14001 approved

Our organisation comprises:
- Our **Company**
- Our **Laboratory**, co-located with the Centre for Advanced Instrumentation at Durham University
- Our **Research Organisations**, the Durham Institute of Research, Development & Invention (DIRDI)
- Our **Centre for Underwater Acoustic Analysis** (CUAA)

"To see the sounds that others cannot hear"

"To measure the hitherto unmeasurable"

Engaged in Research, Design, Development, Manufacture, Integration & Sustainment of high-exporting advanced technology systems, products and services.
We monitor and measure an array of specialised environments to deliver the Safesite™ on land and the Safeship™ at sea.

BY BEING SCIENCE-LED:

We identify and nurture brilliant minds, creating a unique research environment at Durham University, which is a globally outstanding centre of teaching and research excellence.

In our research at DIRDI, we undertake fundamental research into the physical laws of the universe, alongside applied research in Physics, Mathematics, Engineering and Computer Science in acoustics, electromagnetism and information engineering.

It is this research and manufacturing excellence, and our enduring commitment to the sustainment of our technologies in the field, that makes Coltraco Ultrasonics the partner of choice for customers and distributors in 120 countries.

We deliver genuine value for our customers through our scientific and institutional values, and the global quality of our commercial and technical services.

Safeship™
Today our instruments are aboard 17% of the world's 60,000 ships, preventing ships' catastrophic failure, by monitoring watertight integrity on the one hand, and the safe contents of fire extinguishing gases such as CO_2, on the other. These are the basic principles by which we became a Safeship™ company in the maritime sector.

Safesite™
Our instruments serve over 20 market sectors, to ensure that safety critical systems, such as gaseous fire suppression systems, sprinkler systems and process control equipment, in high value assets always work effectively, and in the Built Environment, the ability to concurrently identify airtightness and energy loss. This is how we are a Safesite™ company, on land.

Contact and support