

PORTALEVEL® MAX

The 8th Generation Ultrasonic Liquid Level Indicator from Coltraco Limited, UK

- NSN: 6680-99-192-2735; NCAGE: KD983; P/N: 2290334-COMX
- Designed to inspect the content of Fire Suppression System Cylinders of CO₂, FM-200™, Novec 1230, FE-13, FE-25, NAF S III, CEA410, Halons and a range of other extinguishing agents.
- Including unparalleled new display and operation methods Portalevel® MAX will help to make your business more efficient and enhance the Safety Practices of your company and customers
- It is an ideal tool to replace Weighing and Radioactive devices as a typical method of testing
- Providing a quick, accurate and efficient method of inspecting cylinder content

Portalevel® MAX builds on Coltraco Limited's 20 Years Experience in designing, manufacturing and supporting Ultrasonic Liquid Level Equipment, in 105 Countries and numerous market sectors and environments. The development program was born out of the desire to further improve on our existing 8 designs and taking on board feedback and opinions of our customers.

Following an extensive Research & Development program to achieve these goals, we have introduced a wide range of new technologies, features and processes. Whilst the Portalevel® MAX would be familiar in how it works to our existing customers, they would also appreciate the developments.

We are aware many users of the Portalevel equipment operate in Safety Critical Environments and often under significant time constraints; To enhance our previous model therefore, we created this new generation model on **THREE CORE PRINCIPLES**:

1. SIMPLICITY

To create a unit which was simple enough to allow any Operator to be quickly trained on the Portalevel® MAX, and then reliably and accurately carry out testing.

2. DEFINITIVE RESULTS

A unit that provided completely definitive results, in a "Go/No-Go" format, and ensure the results were delivered to the user in as quick AS method as possible.

3. SPEED OF OPERATION

An efficient operating procedure allows THE USER TO test large numbers OF cylinders, faster than any similar device on today's market.



MARKET SECTORS

Applications

FIRE PROTECTION

The Portalevel has been leading in the fire safety & protection sector since we first invented it in 1987 and with the 8th generation model Portalevel MAX, we are pleased to offer an enhanced means to testing and certifying fire suppression systems. Ultrasonic Liquid Level Indication uses safe and clean technology. **Portalevel® MAX** aims to reduce time, cost; it is a must-have tool for fire system protection, and we have the technical know-how and credentials to verify this.

MARINE

Coltraco's history is steeped in the Marine sector and today Ship Owners, Managers and Operators, Port Authorities, P&I Clubs, Towage & Salvage Operators, Shipyards and Service Stations and Marine Surveyors are among our key customers around the world. We have developed products and diversified our range to serve our customers' needs and **Portalevel® MAX** is our latest upgrade.

POWER GENERATION

Power plants, transmission sub-stations and distribution networks need to minimise the risks of fire must be reduced at all costs. For safety critical areas such as nuclear power generation, and the conventional fossil fuel power generation, **Portalevel® MAX** provides a further means to improving the safety management and preventative maintenance procedures of the fire suppression systems.

OIL & GAS

We have units in operation on rigs, platforms and offshore support vessels around the globe, notably on approximately 160 of the North Sea rigs over time, as well as with onshore drilling, exploration and production operations. **Portalevel® MAX** provides drilling operators, contractors and owners, down to the OIMs and barge managers with the assurance and confidence that their fire suppression systems are operating under an enhanced safety management plan.

DEFENCE

With our roots in the Royal Navy, we also have equipment onboard other leading navies of the world such as the US, French and Italian, as well as with the Air Forces. Our equipment was designed primarily for the Defence forces and we are familiar and well equipped to deal with the complex nature of Project-based work.

THE TWO PRINCIPLES:

If you are an End User...

to provide an additional means to check your systems more frequently, outside the regulatory certification checks and enhance your safety management.

If you are a Servicing Company...

to conduct certified testing in compliance with regulations, the Portalevel is approved and certified: proven accurate to +/-1.5mm and to save 75% of the time to complete testing when compared to weighing cylinders.



PORTALEVEL® MAX UNBOXED

Learn more about the specific features

SEALING: red sealing ring for watertight integrity and enhanced aesthetics

SPA: the SPA capability enables an increased output to achieve better readings for poor condition cylinders, more challenging applications and large volume uses

CAL: the CAL button is the standard procedure feature enabling self-calibration prior to testing on each individual cylinder, to ensure accurate and reliable readings



GROMIT: the gromit at the top of the unit is the ultra secure simple fastening for the Sensor

DISPLAY: 'Go-No-Go' readings for quick and easy use

ON: simple power ON button – powered by 1 x 9V battery providing approximately 8 hours life

OFF: simple power OFF button – keep turned off to save battery life

BATTERY COMPARTMENT: the battery compartment is on the bottom of the unit and has a double gate way to be waterproof * must be opened by flat head tool, e.g. a screwdriver to change the battery

SPA: to check the SPA feature is working

CAL: to check the CAL feature is working

BAT OK: to check the level of Battery life



V0.10: version 0.1

DIGITAL DISPLAY: numerical readings for an experienced user to gauge a better interpretation of the ultrasound's behaviour

BAR GRAPH DISPLAY: easy to interpret visual reading

IN THE BOX

Portalevel® MAX comes in a ready-to-go package complete with all items required for liquid level indication:

Equipment: main electronic unit, dry sensor, cable and applicator, gel, Calibration Certificate valid for a year at a time and Operating Instructions, all well fitted in a durable carrying case.

Warranty: our manufactured instrumentation has a 3 year warranty; sensors have a 1 year warranty, guaranteeing against any manufacturing failures to ensure any issues with the equipment are quickly resolved and a new unit provided in the event of equipment failure.

Support: together with the training programme DVD and access to the online interactive site, we provide After Sales telephone "Teach-ins" to help users understand how to operate the equipment. We are available around the clock to assist and also offer the Portacare® Programme which can provide up to 8 years "total care".

OPERATION IN DETAIL

How the Portalevel® MAX works

SO HOW DOES IT WORK ?

The Portalevel® MAX has been **specifically** designed to be as easy, simple and **definitive** for a user to operate as possible. Simple touch buttons now operate the controls and a new digital screen provides clear and **definitive** results to the user. We also provide a Training DVD, also available as an Online Interactive Training Programme, which shows in greater detail how users can use the equipment. Further technical support is available to all users for the Lifetime of the equipment with access to our Post Sales Technical Support.

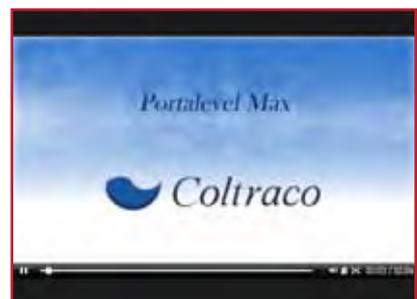
TYPICAL APPLICATION EXAMPLE:

To briefly summarize how a user would carry out testing on a 45KG CO2 cylinder however, the basic steps are as follows:

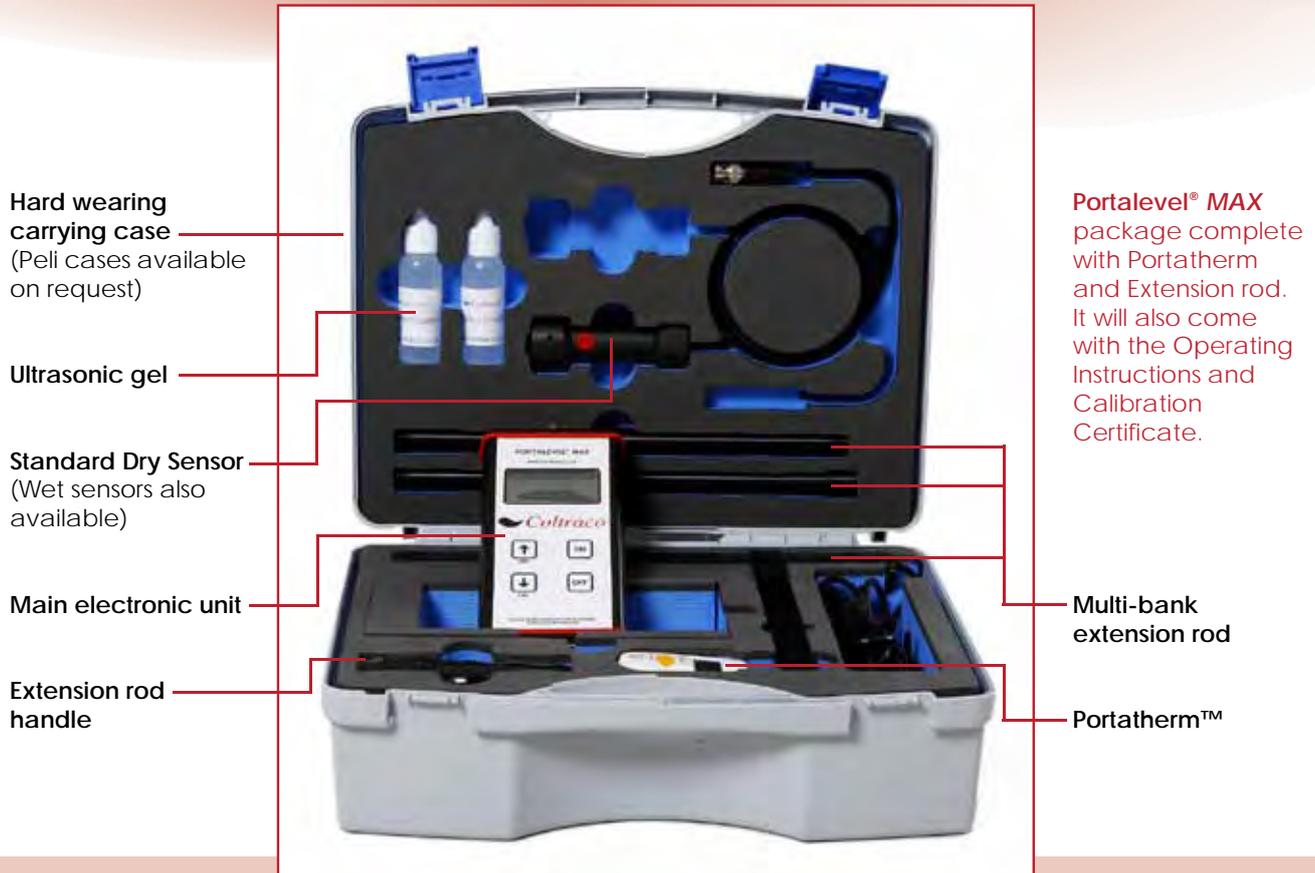
1. Attach the sensor to the main Portalevel® MAX, switch the unit on and ensure the "Battery Low" Indication is not showing.
2. Depending on the condition of the cylinder, some couplant may need to be applied to the side of the cylinder, this could be in the form of Water spray, Ultrasonic Gel or an Oil&Water mix depending on what is easily accessible. This is not always essential and they all accomplish the required results.
3. Place the sensor towards the top of the cylinder and engage the "CAL" feature. This will set the unit to that particular cylinder, catering for the material thickness, paint or surface covering, cylinder dimensions and all other variables involved.
4. When engaging the "CAL" feature, the Bar Graph on the screen will extend all the way to the right and the numbers will read high values.
5. The user should then move the sensor down the cylinder in small steps, making sure not to drag the sensor down the cylinder face.
6. When the sensor passes the level mark, the numbers will drop dramatically and the Bar graph will reduce all the way to the left. It is this change in display readings which identifies the difference between Air (above Level) and Liquid (below Level) in a cylinder.
7. Through moving the sensor up in smaller steps, one can accurately pinpoint the exact liquid level location.

INTERACTIVE TRAINING PROGRAMME

To aid new users learn how to use the Portalevel® MAX and to provide the best methods for existing users to make the most of the equipment we have developed a training programme available both on DVD and online.



PORTALEVEL® MAX Technical Specification



TECHNICAL SPECIFICATIONS:

Manufacturer:
Coltraco Ltd, 46 Mount Street,
London, W1K 2SA, United Kingdom

Function: Portable Ultrasonic Liquid
Level Indicator

Type: PORTALEVEL® MAX

Verifiable Liquids/Gases:
CO₂, FM200, NOVEC, Halon
and other Halon replacements
amongst a range of others

Unit Dimensions: 160 x 82 x 30 mm

Weight: 300 g

Power Supply: 1 x PP3 9V battery
battery life 10 hours

Sensor: TX/RX sensor 14 mm
diameter head, contained within
a magnetized sensor applicator;
connected by BNC connectors to
1 m length co-ax cable

Display: Membrane control
operated, LCD back-lit Display
measuring 55 x 28 mm

Operating temperature: -20C to +70C
Storage temperature: -10C to 50C

Storage without batteries is
recommended in extreme
temperatures.

**All the specifications are subject
to alteration at the manufacturer's
discretion.**

APPROVALS:
Environmental metal enclosure
rated to IP65

Assembled under IPC-A-610
American national standards,
institute protocols and Full ESD
electrostatic discharge protocols;
Finished with lead-free Rohs
compliant Tin/Copper SN100C
patented solder

RINA Classification Society Approved
NATO Stock No 6680-99-192-2735
UK Government CAGE Code KD983
P/N: 2290334-COMX

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To briefly summarize how a user would carry out testing on a 45KG CO2 cylinder however, the basic steps are as follows:

1. Attach the sensor to the main **Portalevel® MAX**, switch the unit on and ensure the "Battery Low" Indication is not showing.
2. Depending on the condition of the cylinder, some couplant may need to be applied to the side of the cylinder, this could be in the form of Water spray, Ultrasonic Gel or an Oil&Water mix depending on what is easily accessible. This is not always essential and they all accomplish the required results.
3. Place the sensor towards the top of the cylinder and engage the "CAL" feature. This will set the unit to that particular cylinder, catering for the material thickness, paint or surface covering, cylinder dimensions and all other variables involved.
4. When engaging the "CAL" feature, the Bar Graph on the screen will extend all the way to the right and the numbers will read high values.
5. The user should then move the sensor down the cylinder in small steps, making sure not to drag the sensor down the cylinder face.
6. When the sensor passes the level mark, the numbers will drop dramatically and the Bar graph will reduce all the way to the left. It is this change in display readings which identifies the difference between Air (above Level) and Liquid (below Level) in a cylinder.
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PORTALEVEL® MAX Marine Package

MAX MARINE PACKAGE

The **Portalevel® MAX** is also available as a Marine Package. As well as the standard set the unit comes with the Multi-Bank Extension Rod which enables the Operator to monitor back to the 2nd, 3rd or 4th rows deep of cylinders in an installation. This is ideal for use onboard rigs, platforms, vessels, warships as a cost effective, time saving and regulation compliant tool for enhancing the fire safety management procedures onboard.



COMMERCIAL SHIPPING APPLICATIONS

Servicing Companies

- Marine Servicing Companies and Contractors, who carry out the inspections of the CO₂ suppression systems, have always been a significant proportion of our customer base.
- In developing this new unit, we took significant feedback and inspiration from these companies and created the **Portalevel® MAX** to further meet these needs.
- A Ship's CO₂ system often contains several hundred cylinders or more and there are often significant time and cost-saving pressures.
- This unit is faster to use, easier for operators to be trained on and the results are delivered to the user instantly; this allows incredibly large systems to be inspected efficiently and effectively.
- The re-designed Multi-Bank Extension Rod allows for inspecting cylinders stored in 2, 3 or 4 rows deep and can fit through even the smallest gaps between cylinders.

Ship Owners, Managers, Operators

- For over 20 years, we have worked closely with Vessel owners, operators and managers to assist in enhancing the Safety Management and Preventative Maintenance procedures onboard.
- If any accidental discharge or slow seepage of CO₂ takes place and goes undetected, the effectiveness of the overall fire system could be critically reduced in the event of a fire, thus increasing the risk onboard.
- A number of leading fleets globally use this equipment as part of their existing safety management procedures, to monitor the suppression systems on a more frequent basis and to protect against the danger of accidental discharge.
- This helps to protect the vessel, crew and cargo from damage and enhance safety onboard.

Compliant with IMO SOLAS Regulations

Extract from IMO & FSS Codes:

International Maritime Organisation (IMO) Safety of Life at Sea (SOLAS)
International Fire Safety Systems (FSS) Code

Chapter 5 - Fixed gas fire-extinguishing systems

1. Application

This chapter details the specifications for fixed gas fire-extinguishing systems as required by chapter II-2 of the Convention.

2. Engineering Specifications

2.1 General

2.1.1 Fire-Extinguishing Medium

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

Useful Link:

<http://www.imo.org/ourwork/safety/fireprotection/pages/history-of-fire-protection-requirements.aspx>



ANCILLARY PARTS

Additional items for carrying out testing

SENSOR

The Sensor is the component which transmits and receives the Ultrasonic signal from the main unit. It achieves this using the piezoelectric effect, which involves the electrical stimulation of one crystal which emits an ultrasonic pulse of a fixed frequency. This signal is then transmitted through the walls and into the container that is being tested until the signal hits the opposite wall creating an echo.

This echo then returns back to the sensor, which stimulates the second crystal and creates an electrical reading which is then interpreted by the main unit itself. The crystal components are protected within a Metal applicator unit, which also provides an easy means to apply the sensor when carrying out testing and ensure the crystals are aligned correctly.



MULTI-BANK EXTENSION ROD

The Multi-Bank Extension Rod operates with exactly the same principles of the Sensor and has simply been adapted to provide an easy method for testing the 2nd, 3rd or 4th row of cylinders in a Banked Fire Suppression System. The extension rod comprises 3 major components: the "L" shaped applicator, extension sections and handle.

When assembled it will allow an operator to reach through the gaps between cylinders and identify the cylinder content. The metal material provides the rigidity and strength to apply the pressure required onto the cylinder face, without the risk of causing any damage to the assembly and ensuring the operator does not need to dismantle the system to access the rear cylinders.



PORTATHERM®

We are able to supply small portable infrared non-contact thermometers which are simple, accurate and reliable for testing in climates when the liquid gaseous' critical temperature might be reached.



GAS MONITORS

We also supply various types of handheld monitors, for example Oxygen Detectors, to minimize risk when testing in environments where gas has potentially leaked.

PERMALEVEL®

We also invented the **Permalevel®** for monitoring systems on a continuous 24/7 basis. you can find further details on this at www.permalevel.co.uk.

PORTACARE®

Our After Sales "Total Care" Programme which can be extended to 3, 5 or 8 years. Tailored to each customer's particular requirements, **Portacare®** provides a capped cost maintenance agreement for complete confidence in the equipment and service support for years.

