# RIVERTRACE

Cleaner. Smarter.



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## Introduction to Rivertrace

Rivertrace is an ISO 9001:2015 quality assured market leader in oil in water quality monitoring established since 1983.



Rivertrace manufacture oil content monitors for the marine, offshore and industrial markets with up-to-date technological engineering solutions to meet strict regulatory requirements.

Our impressive client list includes leading European, American and Asian separator manufacturers. We also supply most of the major international shipping companies together with the leading offshore oil and gas operators as well as premier land based industrial organisations.

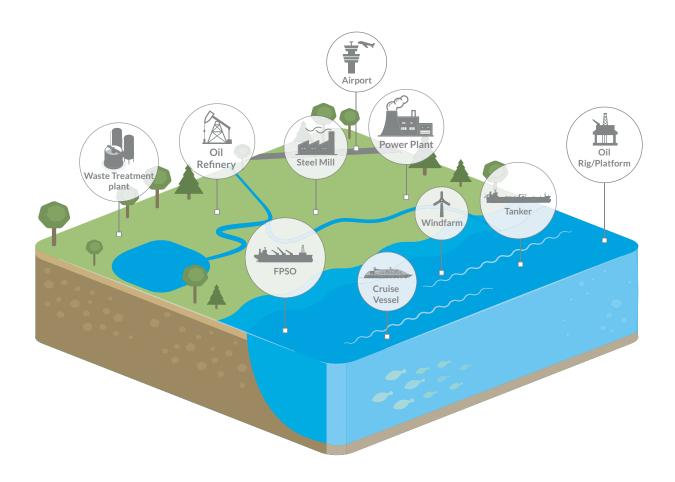
We are dedicated to producing high quality products and service to meet oil in water monitoring solutions.

Rivertrace are committed to driving sustainable change in our industry. We advocate using technology to minimise risk, increase security and keep our oceans clean.

Our company HQ is based in Redhill, UK where we design and manufacture. Stock is held worldwide in strategically placed distributors.







## **Markets and Applications**

Our extensive range of products covers applications for legislative discharge requirements, condition monitoring equipment and digital technology for enhanced efficiency and compliance.

Rivertrace pride ourselves on having an internal R&D team dedicated to continually developing our existing products, supporting our sales team on individual customer's requirements and addressing new legislative and industry problems.

Visit our website www.rivertrace.com for further information on each of the products and download the product datasheets.

Our wide range of applications include the following:

- Bilge Water Discharge (MEPC 107)
- Slop Water Discharge (MEPC 108)
- Exhaust Scrubber Wash Water Monitor
- Oil Condition Monitoring
- Fuel Viscosity Monitoring
- Produced Water Monitoring
- Deck Drains Discharge
- Cooling Water Monitoring
- Boiler Feed Protection Monitor
- Hydrocarbon Leak Detection
- Ground Water Discharge

## **SMART BILGE**

The SMART BILGE 15ppm Oil Content Monitor was developed in 2005 to meet and exceed the requirements for MEPC.107(49) regulations.

The SMART BILGE is made up of 2 key components, the SMART BILGE 'Module' and the SMART 'CELL' measuring cell. The SMART CELL utilises a unique Detector Array Technology, developed by Rivertrace, allowing the OCM to analyse all three oil types (HFO, Diesel and Emulsions) simultaneously without the need for re-calibration. This innovative design allows for simple routine maintenance of the OCM while maintaining optimal conditions.

Replacement calibrated measuring cells can be purchased for easy change over on board the vessel and calibration check kits enable the crew to demonstrate the monitor is within factory calibration to PSC Surveyors.



#### **Key Features**

- Easy Maintenance with Exchange Scheme and Fleet Deals.
- Digital Certification Certificates with online portal giving Automated reminders
- Onboard Calibration Check Kits
- Worldwide approved service centres for calibration
- Test button for demonstration of alarm points to port state control

#### **Flexible Solutions**

- 5PPM Alarm The Smart Cell Bilge Alarm is readily available as a 5ppm version if required.
- Autoclean our pneumatic autoclean solution has been designed to ensure the measuring cell glass tube is kept free from fouling. Cell fouling is recognised as a leading cause of monitor malfunction. Fitting the autoclean removed the need for the ship's crew to remember to clean the cell manually.
- Flowswitch The flowswitch option has been designed to ensure that bilge water is flowing through the measuring cell when in monitoring mode. An error is shown on the display if there is no flow. The flowswitch

monitors the flow of water through the cell. This ensures that the flow cannot be shut off accidentally or maliciously. In case of no flow, the Smart Bilge will close the overboard discharge valve.



- Hazardous Environments (Zone 1 & 2) The SMART BILGE can be offered in an explosion proof cabinet with
- RT CONNECTED MEPC.107(49) OWS Discharge data can be captured and shared digitally to the cloud which can then be integrated into electronic ORBs.

Basic Specification	
Oil range:	0 – 40 ppm
Accuracy oil + solids:	+/- 5ppm up to 30 ppm
Analogue output:	Active 4-20mA / 0 - 20mA
Switch inputs:	2 x switch inputs for separator and backflush status
Calibrate on data storage:	Stored in cell
IMO required data:	Stored in Control enclosure
IMO required data retrieval:	Via LCD display, RS 232 comms link or USB
Supply voltage:	115 or 230V or 24V AC, 50 - 60Hz
Protection class:	IP 65
Approvals:	MEPC 107(49)

### **SMARTSAFE ORB**

The SMARTSAFE ORB Bilge Overboard Security System was developed to prevent the vessel from illegal discharge "Magic Pipes" and minimise discrepancies in the oil record book.

In its simplest form the SMARTSAFE ORB will utilise the ship's GPS and records each 'event' of the bilge water discharge process. The control module will store these events for a period of three years exceeding MEPC requirements.

It is a complete interlocked system ensuring security of your discharges. This includes tamper proof electronic flow meters and secondary diverter valve with position feedback installed after the standard IMO diverter valve. The secondary diverter valve is controlled solely by the SMARTSAFE ORB and will immediately be closed should a malfunction or malicious act be detected.

Rivertrace's SMARTSAFE ORB can provide electronic recording of the discharges. When connected to the ship's LAN system the monitor will send automated emails at set intervals. All data including the email report can be accessed through the dashboard providing the user with a full auditable trail of the discharges.



#### **Key Features**

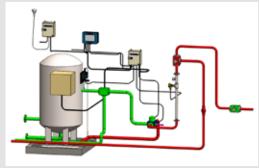
- Compatible with all OWS
- Increased Security against Magic Pipes and reduced Administration on the crew
- Data security —reduce risk of lawsuits and criminal charges
- Mitigate against detentions and port delays
- Compatible with Class and Flag approved Electronic

The SMARTSAFE ∑-ORB has been developed under a newly formed joint venture SENS  $\Sigma$ AS, in which Rivertrace are working exclusively with maritime technology and marine risk prevention firm, Prevention at Sea Ltd to develop sensor technology with maritime software to provide the industry with a smarter, simpler way to improve processes and recording data.

#### **Flexible Solutions**

- Our standard system is a modular solution which allows the equipment to be positioned throughout the vessel.
- Alternatively, the SMARTSAFE ORB can be provided in an enclosure with security tags to allow for simpler installation.
- We can also offer an optional GPS signal and interface unit to be included
- Through our partnership with Prevention at Sea the discharge data can be integrated and auto populated into an approved Electronic Oil Record Book.





## **SMART PFM**

The SMART PFM measures particulates in the sample stream on a continuous basis by passing the process fluid through a proprietary photo optical measuring cell developed by Rivertrace.

Using a combination of optical recognition algorithms and light intensity it is possible to differentiate between Oil particles, Gas/Air Bubbles and Solid particulates in the range 1-500 microns. Flow and particulate characteristics can be visualised live via the 7" display.

Oil concentration, pressure, temperature and oil alarm status are displayed on an HD touchscreen. Oil concentrations, alarms and fault log are stored within the system to comply with the reporting requirements of IMO resolution MEPC.107(49) and can be downloaded onto a pc via LAN or USB for further analysis.

The SMART PFM 107 offers a choice of auto cleaning methods to ensure the accuracy is maintained at all times. The cleaning is fully automatic and operates whenever it senses contamination of the optical windows.



- Oil type independent
- Solid discrimination to MEPC.107(49)
- Uses Microscopy to measure oil content
- Automatic cleaning of the optical cell
- Camera display to view contaminants within the sample.



- Hazardous Environments (Zone 1 & 2) The SMART PFM can be offered in an explosion proof cabinet
- Sample Conditioning the SMART PFM can be packaged as a system with sample conditioning equipment to suit the application
- Marine and Industrial versions of the SMART PFM can be offered. The industrial version allows for variable alarm points



Basic Specification	
Oil concentration range	0 - 40 ppm
Oil concentration accuracy	+/- 1 ppm
Output signal	4-20 mA
Network communication	Ethernet (RJ45) Wi-Fi optional with additional hardware
IMO Data transfer	USB 2 Memory stick
Supply voltage	100-240 VAC
Degree of ingress protection	IP65
Approvals	MED & MEPC.107 (49)

## **SMART ODME**



The Oil Discharge Monitoring Equipment (Smart ODME) has been designed to provide means of monitoring, recording and controlling the ballast discharge for crude oil, product and chemical tankers including ICE class vessels.

This system is modular in construction and does not require the usual pump/motor bulkhead penetration as used on older systems. The Smart ODME includes all components required to meet MEPC 108(49) and the latest MEPC 240(65) for Bio Fuels, effective 1 January 2016.

The Smart ODME incorporates a 'simulation mode' to aid system demonstration to PSC surveyors and is designed for ease of retrofitting, operation, installation and maintenance.

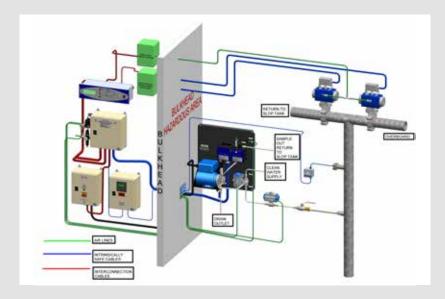
Discharge limits are set at 30 litres of Oil per nautical mile or 1 / 30,000 of the previous cargo for slop and wash water discharges.

#### **Key Features**

- The system has been designed for an easy installation at the yard with only one flow meter and one sample point
- Minimal bulkhead penetration with motor and pump in one location.
- Paddle wheel flow sensor making for simple installation and maintenance
- Onboard Calibration Check Kits available for functional
- Fleet Deals Frame Agreements & Exchange Schemes

#### **Flexible Solutions**

- The SMART ODME has been designed in modules to allow for integration into bespoke ship designs.
- Pneumatic or electric sample pump options
- Fleet Deals Frame Agreements & Exchange **Schemes**



Basic Specification	
Oil types:	As Per MEPC 108(49) + MEPC 240(65) requirements
Oil measurement range:	0 – 1000 ppm all types
Hazardous Area	VPC is Group II Zone 1G IIB T4
Supply voltage:	115 / 230V ac, 50 - 60Hz (Switchable)
Approvals:	MEPC.108(49) and MEPC.240(65)

### **SMART ESM**

The SMART ESM is designed to monitor the washwater from exhaust gas cleaning system (EGCS). The SMART ESM is suitable for both the inlet and outlet of the EGCS, measuring and recording the required parameters of PAH. Turbidity. Temperature and pH. The monitor can be installed on new build or retrofit systems and can accommodate open loop, closed loop and hybrid scrubber systems.

The innovative measuring cell design allows for unique Plug and Play maintenance design. Each measurement parameter is enclosed in a separate cassette slotted inside the measuring cell around the sample tube. This allows the calibrated parts to be swapped without the need of isolating the sample which flows through a glass tube in the centre of the cell.



#### **Key Features**

- Flexible configuration at each sample point for the relevant measurement parameters - PAH, pH, Temperature and Turbidity
- Plug and play design for each measurement parameter for easy maintenance
- Onboard Calibration Check Kits available
- On screen historical data graphs showing Instant/ Hourly/Daily/Weekly figures
- Automatic cleaning of optical path

#### **Flexible Solutions**

We offer 2 main design options with optional sample conditioning equipment

Option 1 - Frame Mounted. This option is based on a modular design all mounted onto a frame / backplate. Option 2 - Box Mounted. This option is based on a twin enclosure design.

Other optional components include:

- Sample Heat Exchanger
- Motor / Pump







Basic Specification	
PAH Range	0μg/L to 4500μg/L
PAH Accuracy	5% of measurement reading
Turbidity Range	0 – 500 NTU
Turbidity Accuracy	0.1NTU up to 100 NTU, 1NTU thereafter.
pH Range	0 – 14 pH
pH Accuracy	0.1 pH
Supply Voltage	230 VAC 50/60 Hz
Outputs	MODBUS 4-20mA
Storage	Internal SD Card Downloadable to External USB
Wetted Parts Material	uPVC, Nylon, Black acetal copolymer and peek
Approvals	MEPC.259(68)

## **SMART VISCO**

The SMART VISCO monitor is designed to measure the viscosity and temperature of fuel oil on board large ships prior to entering the main engines. The monitor will be installed in the fuel line prior to injection and will report temperature and viscosity data over analogue outputs, digital outputs and volt free relay contacts.

The SMART VISCO monitor can measure all HFO types online using ultrasonic guided wave technology. Due to the high frequency and speed of ultrasound, ambient vibration and flow speed have no impact on the measurements. The monitor has an optional LCD display that shows all parameters. The viscosity and temperature data can also be easily retrieved via RS485 or a USB stick.



#### **Key Features**

- Minimal Maintenance Required
- Low Operating Costs
- Use on Heavy fuel oils (HFO)
- Online real time measurements
- High accuracy
- Unaffected by vibration and HFO flowrate
- Plug and play easy installation

#### **Flexible Solutions**

• Integration with our RT Connected SMART HUB to collect and share data via API to Fleet / Vessel Management Systems

Basic Specification	
Viscosity range	0 to 999cSt
Viscosity accuracy	4% span
Temperature range	0 to 150°C
Outputs	2 x 4-20mA analogue outputs for temperature and viscosity; 3 x voltage free alarm relay contacts for temperature, viscosity and faults; Modbus RS485 for all parameters.
Comms	RS485 RTU/ASCII
Supply voltage	24V DC

## **SMART HUB**

The SMART HUB is part of the RT Connected initiative. It is a control monitor used to record and output data from multiple parameters. It is extremely flexible and can be used in a host of different applications to lift data from stand-alone devices into the cloud and / or connected control systems.

With a plug and play design the HUB can connect to any sensor or equipment onboard including OWS, Incinerators, Exhaust Monitors, Water Quality Sensors, Pressure and Flow devices.

The SMART HUB is internet of things (IoT) enabled and can offer remote Access 4.0 via LAN Ethernet reducing the need for manned stations and maintenance costs. Optional comms packages include MQTT, Profibus, Modbus ASCII, Modbus RTU, Modbus TCP and others.



#### **Key Features**

- Plug and Play inputs and outputs
- IoT enabled with MQTT Communications
- intuitive display and button control
- Remote Access Security
- Downloadable data log

#### **Flexible Solutions**

- Expansion Boxes available to allow up to 16 sensors under one controller.
- Optional comms packages
- Full package skid design
- Integration with 3rd party sensors
- Multiple PID Loops including controlled events, scheduled outputs and signals.

Basic Specification	
Inputs	Up to 4 configurable sensor inputs; 4-20mA, 4-20mA loop-powered, 0-2 VDC, +/- 1200 mV for pH, ORP, or ISEs, PT100, pulse and Modbus. Expandable to 16 inputs. Unused inputs can be used as outputs. Up to 8 digital inputs, expandable to 32
Outputs	Up to 4 configurable analogue outputs; 0-20mA, 4-20mA, 0-1 VDC, 0-10 VDC, 1-10 VDC. Up to 8 SPST electromechanical relays rated 10A at 175 VAC, 3A at 750 VAC, 5A at 30 VDC.
Communication (Optional)	MQTT Modbus ASCII/RTU (RS485) Profibus DP Modbus TCP (Ethernet) 2G/3G/4G Modem

## **SMART 50M**

The SMART 50M is a versatile and sophisticated monitor designed for high temperature and high pressure applications. The OCM uses a nephelometry based detection technique and sophisticated algorithms to detect oil content in the sample stream.

The monitor has 2 versions available to suit different oil ranges - Low and Medium. Combined with proprietary measuring cell autoclean capability and auto-zeroing functionality the monitor boasts minimal maintenance with accurate measurements.

An internal data recorder will log the following data - Oil concentration, sample pressure, sample temperature, fault status alarm and run status.



#### **Key Features**

- Wide range capability
- High Sample temp and pressure capability
- Bespoke systems for individual project requirements

#### Flexible Solutions

Rivertrace offers Bespoke systems to accommodate the specific parameters and requirements for the application. This could include:

- Sample Conditioning Equipment
- Enclosures
- Mounting solutions
- Hazardous Area Zone 1 and 2

Basic Specification		
Ranges:	Low range 0 – 10ppm Medium range 0 – 200ppm	
Accuracy:	Low range +/- 0.15% Medium range +/- 5 ppm	
Output signal:	4-20 mA	
Supply voltage:	115 - 230 VAC	
Degree of Protection:	IP56	
Approvals:	Tested to EN61010 EN61326 (CE), c UL us.	

## **OCD XTRA**

The OCD Xtra is a unique oil content monitor that combines multiple light wavelengths with multiple sensor technology, to measure oil accurately in the range 0-200 ppm.

Multiple oil types are automatically compensated for by sophisticated algorithms. The multi-parameter display shows the sample's oil content, pressure and a graphical average of the last 4 hours oil readings. Data history is stored in the internal ROM and accesses from the intuitive menu.

Oil and turbidity alarms can be set within the full range of measurement and with the fault condition, drive three corresponding alarm relay contacts available for user termination. Two additional control relays are also provided for pump and valve control if required.

It is also possible to adjust the calibration settings of the



#### **Key Features**

- Factory calibrated on 6 different oil types
- Onsite Calibration adjustment
- Bespoke systems for individual project requirements

OCD Xtra against laboratory analysis on site. This will increase accuracy and repeatability for field conditions. The OCD Xtra can also be supplied for hazardous area environments Zone 1 and 2 in a purged enclosure.

#### **Flexible Solutions**

Rivertrace offers Bespoke systems to accommodate the specific parameters and requirements for the application. This could include;

- Sample Conditioning Equipment
- Enclosures
- Mounting solutions
- Hazardous Area Zone 1 and 2



Basic Specification	
Oil range:	0 – 200 ppm
Accuracy oil range:	+/- 5ppm up to 50ppm thereafter 10% of reading
Solids discrimination:	100 ppm minimum (any calibrated solid type)
Analogue output:	isolated 0 – 20mA, 4-20mA, 0-5V dc
Remote input:	remote Start / Stop function available with latching switch
Protection class:	IP 65

### **SMART 40M**

The SMART 40M has been redeveloped as a versatile low-cost solution for simple oil in water monitoring applications. Originally designed for use onboard vessels under MARPOL regulation the monitor has been redeveloped for industrial use with user adjustable alarm points to suit the environmental requirement.

The monitor is designed with 2 key components, the control module and the calibrated measuring cell, allowing for easy recalibration and service of the device while retaining the data storage for historical data integrity.



The measuring cell comes as standard with a manual cleaning device for simple routine maintenance to ensure the optical cell is not fouling and maintains accuracy. Alternatively, this can be upgraded to a pneumatic autoclean which will ensure the cell is cleaned at regular intervals without need for manual cleaning.

#### **Key Features**

- Easy maintenance with measuring cell exchange
- Digital calibration portal with automated reminders
- Bespoke systems for individual project requirements

## **SMART WIO**

The SMART WIO (Water in Oil) sensor works on the principle that oil has the ability to hold a certain amount of dissolved water. This is called the humidity of the oil. The maximum amount of water that oil can hold is characterised by the saturation point (100% humidity) Above this point free water precipitates which can lead to corrosion inside an aggregate. The saturation point is influenced by temperature and other various factors such as the composition of the oil and the formula of the add additives. Moreover, it changes during a lifetime.

The system provides very precise measurement results



compensating temperature and ageing effects. Simply the SMART WIO will provide an alert function of a pre-alarm and main alarm indicating the humidity and condition of the oil.

Installed in a robust stainless-steel housing our SMART WIO sensor withstands the most demanding environmental conditions.

- Measures the absolute water content in oil.
- Early warning by using pre alarm and alarm
  - The PAV (Pre Alarm Value) is set to 50% humidity.
  - The MAV (Main Alarm Value) is set to 90%
- Takes the oil temperature into consideration in order to measure the saturation
- The sensor measures the saturation of the oil independent of the oil type and oil age
- No cleaning of the sensor is needed.

## **SMART TURBIDITY**

The SMART Turbidity monitor uses the "Smart Cell" Detector Array Technology, developed by Rivertrace. This monitor accurately analyses the quality of the sample stream and outputs the turbidity value in nephelometer turbidity units (NTU). Turbidity is the cloudiness or haziness of a fluid caused by large numbers of individual particles.

The monitor comes with a manual cell cleaning device as standard to easily enable routine maintenance and prevent optical cell fouling which is recognised as a leading



cause of monitor malfunction or incorrect reading. This can be upgraded to a pneumatic autoclean device which will automate the optical cell cleaning ensuring the measuring cell remains in optimum operating condition.

#### **Key Features**

- Easy maintenance with measuring cell exchange
- Digital calibration portal with automated reminders
- Bespoke systems for individual project requirements

### **OCD CW**

The OCD CW Oil Content Meter (OCM) has been developed as a versatile low-cost solution for simple oil in water monitoring applications.

The OCM was originally designed for use as a detector of hydrocarbons in sample streams, up to 99 ppm. The system is widely used in engine cooling water and freshwater systems but has been applied to many applications such as groundwater discharge.



- User adjustable alarm points
- Minimal maintenance
- Increased accuracy with oil sample

## **Smart Sensors**

Rivertrace can offer a range of water quality sensors to suit a range of applications. These can all be integrated without SMART HUB and RIVERTRACE CONNECTED platform for data recording and analysis.

### **SMART TOC**

The SMART TOC can be used as a surrogate measurement for TOC, BOD or COD or integrated with other sensors such as pH and turbidity.

The SMART TOC analyser provides real time monitoring of organics in water using ultra-violet absorbance and ultraviolet transmission analysis. The absorbance of 254nm wavelength UV light provides an indication of the amount of aromatic (or reactive) organic matter in water, making it an excellent choice as a surrogate measurement for total organic carbon (TOC) in monitoring organics removal from a process.



#### **Key Features**

- 254nm wavelength UV light source
- Surrogate for TOC, BOD or COD
- Suitable for all waters including seawater
- Turbidity compensation as standard

### **SMART SOLIDS**

The SMART Solid sensor determines the suspended solids concentration or the turbidity in water using a measurement of the backscattered light. The sensor uses lifetime based optical technology to provide an extremely stable, accurate, low-maintenance sensor, with no moving parts and no consumables.

By measuring back scattered light the sensor can be used to detect low and high concentrations of solids.

To keep the sensor clean, the SMART SOLID is fitted with a cleaning nozzle. This can be used to clean the optical windows with a jet of clean water. This cleaning procedure can be automated to carry out the cleaning at predefined intervals.



The SMART SOLID has various mounting options including direct into a tank, in a flow cell or inserted into a pipe.

#### **Key Features**

- Autoclean optical sensor minimal operator intervention
- Stable and reliable excellent process control
- Suitable for all potable, waste and process waters
- Up to 12 months between maintenance and calibration periods

### **SMART CONDUCTIVITY**

The SMART range of Conductivity meters from Rivertrace utilise a range of conductivity sensors for measuring the conductivity from 0 to 2,000,000µS/cm (range selectable). You can choose between a standard graphite sensor and a more sophisticated toroidal sensor, or stainless steel sensors for high temperature, high pressure applications.

The Smart conductivity sensors are available with our SMART HUB controller giving you great performance with communication, display and control options.



- Resists coating, corrosion and fouling
- Low purchase cost
- Low cost of ownership
- Easy installation
- Multiple mounting options
- TDS and salinity outputs (optional)
- Suitable for remote sites

### **SMART Dissolved Oxygen**

The SMART DO utilises the very latest optical technology to measure Dissolved Oxygen (DO). They are optical luminescent devices which are extremely resistant to abrasion, extremely stable, and have greatly reduced maintenance and whole life costs.

The sensing element (lumiphore) is activated, or excited when illuminated with a blue light. When activated, the lumiphore then emits red light with an intensity that is inversely proportional to the amount of oxygen dissolved in the water. There is also a time delay between the peak emission of blue light and peak response of fluoresced red light. The amount of delay is inversely proportional to the amount of oxygen present. This time delay can be expressed as a phase shift between the wave patterns of incident blue light and the fluoresced red light. This is in turn reported by the electronics as a ppm or mg/l reading of Dissolved Oxygen.

The sensor offers automatic in situ sensor verification as



an option which reduces maintenance by automatically checking its sensor operation at user defined time intervals. Calibration of the sensor is normally required only once per annum so with the automatic sensor verification option and the self clean option the sensor may not need to be inspected at all for years!

#### **Key Features**

- No chemicals or moving parts
- Optional self-cleaning sensor and self-verification
- Minimal Maintenance
- Range of process control PID options
- Data-logging and remote internet access with text alarms
- Autoclean and Auto Verification

### **SMART pH**

The SMART pH range of pH analysers from Rivertrace utilise the very latest and best pH sensors available in the world today for measuring the online pH of any aqueous solution. They are combination glass electrodes with integral reference and automatic temperature compensation, which use no reagents, are extremely stable, and have reduced maintenance and reduced whole life costs.

The principle of operation for the SMART pH range is a pH electrode. There are 5 options available depending on your application and user requirements.

The SMART pH sensors and flow cells are available with our SMART HUB controller giving you great performance with communication, display, and control options.



- Up to 3 years continuous operation
- Stable and reliable excellent process control
- Suitable for all potable and process waters
- Suitable for very low conductivity waters
- Integral temperature compensation
- Suitable for use in Autoflush
- Suitable for remote sites

## **RIVERTRACE**



Rivertrace Connected platform is an initiative by Rivertrace to provide calibration compliance and equipment performance data on all MARPOL monitoring devices commissioned and in use on vessels across the world.

#### **Calibration Compliance Calibration Portal**

- Free Online cloud-based calibration portal
- Automatic Vessel Lookup from IMO Number
- Electronic Certificates and Manuals downloaded upon
- Automatic reminders for Calibration renewal



#### **Equipment Performance**



#### **Electronic Log Book**

• An API Connection can also be used to share the data from any 3rd party equipment into Prevention at Sea's class approved electronic log book through our RT CONNECTED platform.

#### Fleet Management Systems

• We can also connect with vessel fleet management systems allowing all their performance data to be stored and controlled from one interface.



## **Bespoke Solutions**

## OUR SOLUTIONS. DELIVERING RESULTS.



Rivertrace has over 3 decades of experience working in 3 distinct markets covering a wide range of applications. This allows us to draw on cross industry knowledge to provide a tailored solution to your environmental requirements.

With a dynamic flexible approach to our business, we will work with you to develop a solution to your problem and support your company throughout the life of the project.

## **Rivertrace Partners**



## PARTNERSHIPS. DELIVERING RESULTS.

Since 1983 Rivertrace has been dedicated to developing technological engineering solutions and compliance for helping to reduce harmful impacts of shipping on the environment. To support this we are working with strategic partners who have similar ethos and innovation at the heart of their companies.

These partners support our commitment to driving sustainable change in our industry and advocate using technology to minimise risk, increase safety and keep our oceans clean.

Contact our team at sales@rivertrace.com to learn more about these partnerships or if you have a solution that would be aligned with Rivertrace's ethos.

## **Global Reach**

### **DELIVERING RESULTS. GLOBALLY**

To serve our international customer base Rivertrace are supported by a network of agents and distributor service centres worldwide covering over 45 countries, providing a local service and spares support wherever the vessel is sailing.

Rivertrace believes our strength comes from our strong network of agents and distributors and invests time and resources to ensure they are trained and hold the right stock of spares. This allows us to react to the fast paced, global demand of the shipping industry with same day dispatch on all stocked spares.



## **Accreditations & Approvals**

Our products are rigorously tested to meet international standards and supported by our ISO9001:2015 Quality accreditations.

























## **Contacts**



#### **Sales**

If you wish to purchase or make an enquiry about spares, please submit details to the email address below. A member of our dedicated sales team will respond with a list of spares, current costs and lead times.

sales@rivertrace.com



### **Technical Support**

Rivertrace is committed to providing exceptional customer service which includes aftersales care. Should you require technical support with any of our products, please contact us via the email address below.

remotesupport@rivertrace.com



### Service

If you wish to book service attendance on our equipment or want to arrange a calibration on your monitor please contact us on the email below. A member of our service team will respond with prices and availability.

service@rivertrace.com