

MODERNWATER

# Multisensor1200

## On-line VOC and Oil in Water Concentration Monitor

The Multisensor1200 is a fully quantitative VOC or Oil in Water monitor system designed for clean and waste water monitoring applications. It utilises a non-contact and reagentless measurement technique, sensing headspace gases or volatiles in a sample tank, and provides a measurement system with very low maintenance.

The Multisensor1200 is accurate to low parts per billion ppb ( $\mu\text{g/l}$ ) concentrations and its wide dynamic range allows it to be used in a wide variety of applications. It has been designed as a fully quantitative, low-level VOC and oil in water monitor, with output in  $\mu\text{g/l}$  total VOC.

The Multisensor1200 includes the measurement instrument which is housed in a robust steel enclosure, powered from either 90 - 240V AC or 24V DC sources. Also included is a stainless steel sample tank and associated pipework and control valves. The whole system is mounted on two 12mm thick PVC boards.

Alarms can be generated to either signal that preset levels have been exceeded or to close/open valves for in line control. Communications options such as 4 - 20mA, Profibus and Modbus are all available. The Multisensor1200 is ideal for monitoring performance of activated carbon beds.

All that is required is the water supply, drain and power:

- No reagents
- Low maintenance
- Low ppb ( $\mu\text{g/l}$ ) detection limits
- Output in ppb ( $\mu\text{g/l}$ )
- Fully quantitative concentration monitoring
- Accurate environmental and process monitoring
- Real time, online



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SPECIFICATIONS	
Conforms to	UL 61010-1 / EN 61010-1:2010 EN61326-1:2006
Dimensions	Height 1460 mm x width 500 mm x depth 280 mm
Dynamic Range	1 ppb – 1000 ppb ( $\mu\text{g l}^{-1}$ ) in water
Result Output	ppb ( $\mu\text{g l}^{-1}$ ) Total VOC
Absolute Accuracy	For measurement of 200 ppb Total VOCs in Water: $\pm 10\%$
Repeatability	Repeated measurement of 200 ppb Total VOCs in Water: $\pm 2\%$
Analysis Time	240s, minimum cycle time 20 mins
Operating Temperature	0 - 40°C ambient air (0-30°C ambient water)
Calibration Period	Six months using a calibration kit available from Modern Water
Consumables	Every 6 months: Active carbon air filter contents/ Dust filter Every 24 months: Air pump
Communications	USB, Analog 2-40 mA, Pofibus, Relays (GSM modem optional)
Data Storage	SD card
Water Connections	Inlet 1/2" BSP 1.0 – 0.5 l/min Outlet: 1/2" BSP 1.0 – 0.5 l/min Waste: 15 mm, connected to tank through drain valve which prevents overfilling tank

## Applications

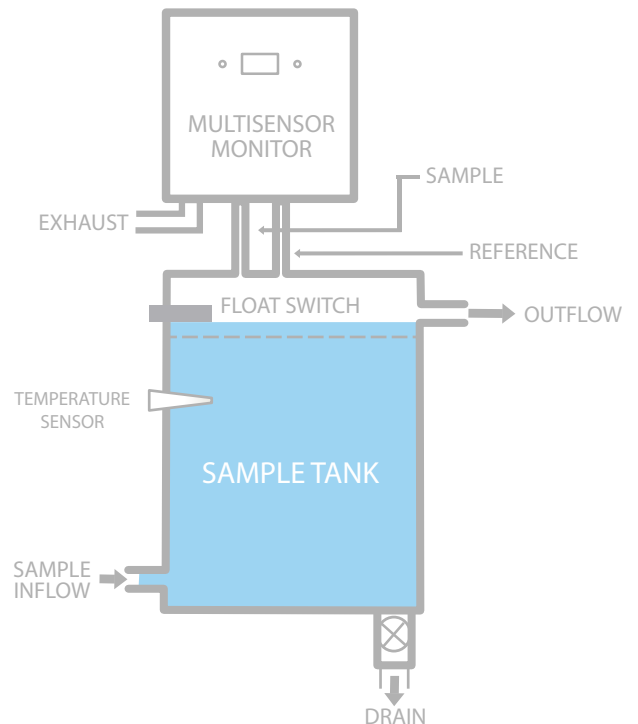
Protection of boreholes  
 Water treatment process monitoring  
 GAC filter monitoring  
 Monitoring of raw water intakes  
 Detection of oil and fuel discharges  
 Land and waterway remediation

## Process explained

The Multisensor monitors work on the principles of headspace gas equilibrium (Henry's Gas Law). Water flows through the sample tank. Equilibrium is reached in the sample tank and the gas in the headspace is sampled by an "e-nose".

The "e-nose" is an array of four proprietary sensors. Each sensor has a specific non-conductive polymer coating that selectively reacts to compounds dependent upon molecular weight, polarity and molecular diameter.

Results of VOC in the water are calculated compensating for different ambient environmental conditions.



tel: +44 (0)1483 696 030  
[www.modernwater.com](http://www.modernwater.com)  
[info@modernwater.co.uk](mailto:info@modernwater.co.uk)



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