

Product Description

The MS1200-HT is an **Oil in Water, Hydrocarbon and VOC Analyser** for water supply protection, process control and waste water outflow monitoring offering a **wider operating temperature range** than the standard MS1200.

The MS1200-HT utilises a contactless measurement technique, sensing headspace gases to provide a measurement system requiring **no reagents or gases** and with very low maintenance requirements.

The MS1200-HT is accurate to low ppb concentrations and its wide dynamic range allows it to be used in a wide variety of environments. It is available with a standard display or touch screen interface.

Applications

- Process Water Monitoring
- Monitoring for **oil in water** contamination
- Detection of VOC contamination in **wastewater**
- Surface water systems for **fuel pollution**
- A monitoring solution for industrial applications
- Detection of VOC breakthrough in **carbon beds**
- **Reverse Osmosis membrane** protection
- Measurement of VOCs in **process water**

**“without the MS1200
it is far more likely
that we’ll be prosecuted
and make the national news”**



Key Benefits

- No sensor contact with water:
low maintenance, no sensor cleaning
- **No reagents:** low running costs
- Electronic Nose: **not affected by turbidity**
- **High sensitivity:** ideal for potable water
- Can be calibrated for specific substances:
used to monitor known spills
- **Detects VOC chemical spills**
- Interfaces to wide variety of communication interfaces

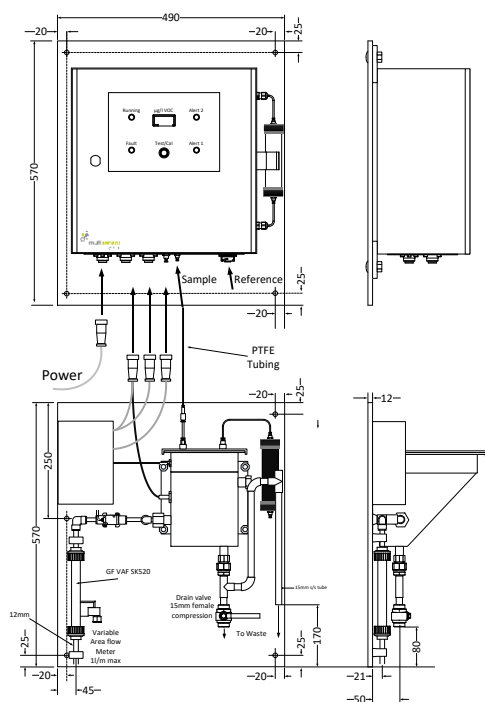
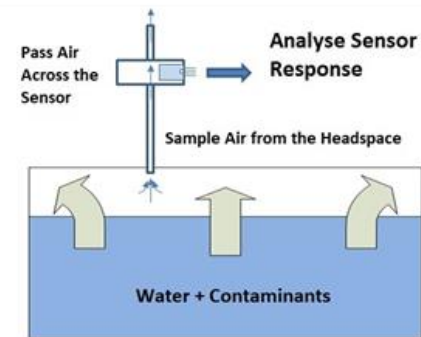
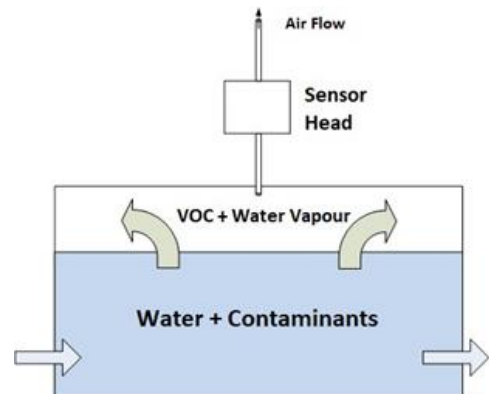
Principle of Operation

The principle of operation is the measurement of **headspace gases** from a sample tank containing the water to be measured. According to Henry's Law the concentration of gases in the headspace is proportional to the concentration of the substance in the water. Therefore, measurement of the gases provides a technique to measure the concentration of the substance in the sample water.

Calibration of the instrument is done by presenting a known concentration to the sensors and generating calibration data from the responses obtained.

The MS1200-HT works by passing water through a sample tank as shown below. The **volatile components** in the water will pass into the headspace above the water where they will be trapped. This will continue until equilibrium is reached.

A sample of the headspace gases are then passed across sensors in the MS1200-HT which respond to the Volatile Organic Compounds (VOCs) in the headspace. This response is then analysed by the instrument and a concentration value is generated based upon the relationship between the concentration present in the headspace and that in the water.



Validation

Validation of systems in the field is achieved using the Multisensor Validation Kit which presents a standard concentration to the instrument.

Installation

Installation is a very straightforward process: the instrument requires only connection to a power source, to a water source and to waste. It is supplied mounted on two panels and to be bolted to a wall or onto a frame.

Key Performance Parameters

Parameter	Operational Requirements		Notes
	Minimum	Maximum	
Supply Voltage	90 V AC	240 V AC	50 Hz or 60 Hz
Power Consumption: Standard Version Touch Screen Version		15 W 45 W	Typical 12 W during operation Typical 22 W during operation
Water Supply	0.5 l/min	1.0 l/min	
Water Pressure		4.0 bar	
Working Temp: Ambient	0 °C	50 °C	
Working Temp: Water	1 °C	70 °C	
Sampling Period	10 mins	120 mins	User selectable. High concentrations may limit the minimum time period allowed
Detection range	1 ppb	3000 ppb	Measured against Toluene standard. For calibration using other compounds contact Multisensor Systems
Repeatability	-2%	+2%	200 ppb sample measured using standard 1.5 l solution (Water plus Toluene dissolved in DMSO) in glass 2.5 l Winchester type bottle using magnetic stirrer at 25 °C
Accuracy	-10%	+10%	
Display range (Default)	0 ppb	1000 ppb	Configurable on commissioning
Analogue Output	4 mA	20 mA	Scalable to range required, max load 900 R
Analogue Output Isolation	400 V		Continuous. Opto-isolated.
Relay Voltage		50 V	3x, Alarm 1, Alarm 2 and Fault Relays with NO and NC contacts
Relay Current		5 A	
Flow Switch	Contacts closed if flow below set point		Option available on request
Instrument Case	IP65, Coated Mild Steel		
Sample Tank Material	316 Stainless Steel		Other materials and coatings available
Weight	25 kg		
Dimensions	1170 x 490 x 300 mm		Mounted on 2 separate PVC backboards

Validation Period

6 Months - using Validation Kit available from Multisensor Systems or Authorised Distributor

Consumables

Every 6 Months: Air Filter Contents (Active Carbon), Dust Filter Element
 Every 12 Months: Sample Tank Gasket

Multisensor Systems Limited reserves the right to revise any specifications and data contained within this document without notice.