



# MS1900 | OIL IN WATER ANALYZER

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**The MS1900 is an industrial oil in water analyzer** designed to monitor the outflows from industrial facilities, water in industrial processes and to detect fuels and other VOCs in drains and waste water networks. The instrument works by sensing gases or volatiles to provide a non-contact measurement system with very low maintenance requirements.

## APPLICATIONS

- Monitoring of industrial outflows
- Monitoring of cooling water systems
- Monitoring of drain and storm water systems
- Detection of fuel pollution in surface water
- Protection of desalination plants
- Refineries and petrochemical

## FEATURES AND BENEFITS

- Accurate down to 0.1 ppm concentrations
- Contactless measurement
- Not affected by turbidity
- Detects fuel oils, PAH, VOCs and BTEX
- Continuous measurement

- ✓ Continuous monitoring
- ✓ Low operating and maintenance costs
- ✓ Monitors for oil leaks
- ✓ Low maintenance, no sensor cleaning
- ✓ Insensitive to turbidity
- ✓ Ideal for process water



## TECHNICAL SPECIFICATION

| PARAMETER                  | OPERATIONAL REQUIREMENTS                      |                | NOTES   |
|----------------------------|---|----------------|---|
|                            | MINIMUM                                       | MAXIMUM        |   |
| DETECTION RANGE            | 0.1 ppm                                       | 20 ppm         |   |
| OUTPUT RANGE (DEFAULT)     | 0 ppm   | 20 ppm         | Configurable on commissioning                     |
| REPEATABILITY              | -2%   | +2%            | See Note 1  |
| ACCURACY                   | -15%  | +15%           | See Note 1  |
| MEASUREMENT FREQUENCY      | Continuous                                    |                | 15, 20, 30, 60 minutes modes available on request |
| AMBIENT TEMPERATURE        | 0 °C / 32 °F                                  | 40 °C / 104 °F | See Note 2  |
| WATER TEMPERATURE          | 1 °C / 34 °F                                  | 40 °C / 104 °F | See Note 2  |
| ANALOG OUTPUT              | 4 mA  | 20 mA          | Scalable to range required, max load 900 Ω        |
| ANALOG OUTPUT ISOLATION    | 400 V DC                                      |                |   |
| RELAY VOLTAGE              |   | 50 V           | Alarm and Fault Relays with NO contacts           |
| RELAY CURRENT              |   | 5 A            |   |
| SERVICE INTERFACE          | USB-A to PC                                   |                | Using Multisensor Software provided               |
| DATA STORAGE               | µSD Card                                      |                | 6 months  |
| INSTRUMENT CASE            | IP65 / NEMA 4X                                |                |   |
| INSTRUMENT WEIGHT          | 5 kg / 11 lbs                                 |                |   |
| INSTRUMENT DIMENSIONS      | 300 x 200 x 132 mm<br>11.8 x 7.8 x 5.2 inches |                |   |
| SAMPLING CHAMBER MATERIAL  | Stainless Steel                               |                | Optional: PVC                                     |
| SAMPLING SYSTEM WEIGHT     | 12 kg / 26 lbs                                |                | Without water                                     |
| SAMPLING SYSTEM DIMENSIONS | 570 x 490 mm<br>22 x 19 inches                |                | Mounted on its own PVC backboards                 |
| SAMPLING SYSTEM CAPACITY   | 3 litres / 0.79 US Gallons                    |                |   |
| FLOW LIMIT SWITCH          | Contacts closed if flow below set point       |                | Option available on request                       |
| WATER FLOW RATE            | 2 l/min / 0.52 US gpm                         |                |   |
| SUPPLY VOLTAGE             |   |                | 50 Hz or 60 Hz                                    |
| AC VERSION                 | 90 V AC                                       | 240 V AC       |   |
| DC VERSION                 | 10 V DC                                       | 15 V DC        |   |
| POWER CONSUMPTION          | 9 W   |                | Typical 7 W during operation                      |

**NOTE 1:** Measured against a 10 ppm toluene solution at standard temperature and pressure; accuracy can be further improved at points of interest, using bespoke calibration. **NOTE 2:** Climate control might be needed depending on process and ambient conditions

### TYPICAL TARGET SUBSTANCES

Kerosene, Ethanol, Diesel, Toluene, Acetone, Xylene, Heptane, Benzene, Methanol, Mercaptan

### CONSUMABLES

6 Months: Air Filters, Restrictor  
As required: Air Pump, usually every 18-36 months

### SERVICE

Service is necessary every 6 months to keep the instrument operating in optimal conditions. Service should be carried out by a trained technician who has undergone the standard Multisensor Systems training course.



## PRINCIPLE OF OPERATION

The MS1900 utilizes a contactless measurement technique based on Henry's Law, sensing headspace gases or volatiles in the sampling tank provided, and provides a measurement system with very low maintenance requirements.

Thanks to the clever design and technology the sensor never touches the water. This results in reduced drift, virtually no fouling, no sensor cleaning and very low maintenance.

The MS1900 is accurate down to 0.1 ppm concentrations and its wide dynamic range allows it to be used in a wide variety of environments.

The concentration of **volatile organic compounds** (VOCs) and water vapor in the headspace increases until equilibrium is reached with the concentration in the water.

A sample of gas is then taken from the headspace and the response analyzed to provide a concentration in ppb of contaminants in the water.

## ORDERING INFORMATION

Every MS1900 is shipped with the instrument and the sampling system (this is bolted on to its own backboard), electronic manual and calibration certificate. Standard configuration of the instrument is 90 - 240 V AC.

### Base Analyzer

0-000025 MS1900 Oil in Water Analyzer, 90 - 240 VAC, 4-20 mA output and sampling system included

### Common Accessories

2-000016 MS1200/MS1900 Validation Kit

### Common Consumables

7-000794 Gasket Continuous Mode  
 7-000509 Fixed air flow restrictor  
 7-000504 In line filter 5µ  
 7-000327 Pump BLDC

For a detailed quote get in touch with Multisensor Systems Ltd or an [approved distributor](#).

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