

DEVELOPED ESPECIALLY FOR EFFLUENT DISCHARGE MONITORING WHERE THE CHEMICAL OR BIOLOGICAL COMPONENTS CAN BE DETECTED WITH A 254NM ULTRA VIOLET ABSORPTION MEASUREMENT. DESIGNED FOR CONTINUOUS ONLINE OPERATION AND INCORPORATING AUTOMATIC CLEANING WITH THE OPTION OF BATCH SAMPLING USING A VACUUM SUCTION AUTOMATIC BACKWASH SYSTEM.

- **WASTE WATER MONITORING**
- **SURROGATE BOD/COD/TOC range 0.00 - 100.00 or 0.0 -1000.0 mg/l (equivalent)**
- **AUTOMATIC CLEANING**
- **FLOW THROUGH CELL**
- **SAMPLE FLOW DETECTION**

WaterWatch2950 uses the 254nm UV absorption method for detecting organic pollution. Using a multi wavelength system combined with a high quality strobed light source interference from turbidity is removed. The light source has a very long lifetime and exhibits a very stable output. In the measurement phase the sample stream passes through the instrument and a continuous reading of the surrogate BOD/COD or TOC value is made. The flow cell optics are cleaned at regular operator set intervals by the wiper system. The sample is not pre-filtered. Manual calibrations can also be carried out as required but the system demonstrates good longterm stability making calibration an infrequent requirement. Additional automatic chemical cleaning can also be fitted.

Automatic Cleaning

A unique automatic dual cleaning system dramatically reduces maintenance. The powerful wiper is controlled by a second microcontroller. Output signals are latched during the cleaning cycle. In effluents where surface contamination may be a problem, additional chemical cleaning may also be installed. This is an optional feature.

Restriction Free Flow Cell

The sample flow is not restricted as it passes through the cell. The wide bore sample lines reduces fouling and offers a quick response time. No pre-filtration is carried out, turbidity being corrected for by the dual path optical system.

Analyser

The microprocessor based analyser offers a clear display of the measured value, as well as providing alarms, that can be set by the user. There is a programmable, industry standard isolated 4-20 mA loop output. Calibration functions are accessed via a password protected software routine along with a wide range of service and commissioning routines. The transmitter is protected to IP65 and the system mounted on a backboard. An optional outdoor cabinet is available.

Simple Calibration

Calibration is not required frequently. De-ionised water can be used to validate zero, whilst a standard solution is used to validate and calibrate the span of the instrument and used to verify the operation of the analyser.



Organic Pollution Monitor including Datalogging



Available from:

Partech Instruments
Charlestown
St Austell
Cornwall PL25 3NN
United Kingdom

Tel: + 44 (0) 1726 879800

Fax: + 44 (0) 1726 879801

Email: info@partech.co.uk

Approved agents for:

EauxSys (UK) Ltd

Monitor Features

The **WaterWatch2950** analyser has been especially designed for the measurement of Organic Pollution. The system features dual processor technology to produce real time measurements from the absorption sensor. The two displays offer a large easy to read LED and a two line LCD for notification of alarms and other instrument functions.

Analogue Output

The instrument has an isolated 4-20mA analogue output capable of driving 750ohms. It can be configured across the measurement range of the instrument, and can be set by the operator using the keypad.

Alarm Relays

Two relays are provided for alarm indication. The alarms can be configured, through the keypad, as upward or downward going, with latching or non latching action. The alarms also feature a delay before activation.

Watchdog Protection

As part of the overall design for reliable operation, the system has an active watchdog function which controls power down and stop conditions. In the event of a power failure the system will restart with no loss of function.

Real Time Clock

The **WaterWatch2950** monitor has a real time clock which provides full leap year date and time functions. These functions are used for logging operations and controlling the timing of automatic cleaning and dosing functions.

Calibration Record

To keep track of the last calibration date, the information is recorded and stored during calibration. The ultra stable measuring system does not need continuous re-calibration.

Automatic Diagnostics

During calibration of the sensor, the microprocessor automatically measures and records the changes from ideal settings. This builds confidence in the continued good condition of the sensor and instrument.

Auto-clean Measuring Cell

The measurement is made in a unique auto-clean flow cell which allows the interval between cleaning operations to be selected. No pre-filtration is required for most applications on raw water intake monitoring and final water monitoring.

Loss of Sample Flow Detection

An optical sensor detects loss of sample flow and raises an alarm condition.

Application

This instrument can be best applied to effluents that have a component that responds well to measurement in the 254nm region. This tends to occur with organic compounds having a carbon-carbon double bond and so applies particularly to aromatic hydrocarbons and biological species.

In order to assess the suitability of an effluent for measurement with this instrument it may be necessary to carry out a program of trials either using a lab based UV spectrometer or using a **WaterWatch2950**. In many cases a useful data trend can be identified that provides advanced warning of process or treatment faults prior to this showing up on the standard laboratory tests.

An early reaction to an out of band signal can prevent a process discharge going outside consent, ensuring that the critical wet sample testing on a final discharge is kept within limits.

Instrument Specification

Sensor

Operating Principle	: 254nm Absorption
Pre-treatment	: Batch settlement (sludge only)
Receiver type	: Scanned dual wavelength
Light source	: Xenon strobe
Source life	: 30,000 hours typical
Supply current	: 50 mA nominal
Cleaning	: Mechanical wiper
Packaging	: IP68
Reagent use	: None
Sample capture	: Continuous or diverted flow

Transmitter/Controller

The transmitter/Controller is housed in an IP65 enclosure with membrane keypad. Connections are via a separate terminal enclosure. Measurement by 254nm absorption method

Range	: 0 - 100 or 0-1,000 mg/l
Resolution	: 1 mg/l
Accuracy	: +/- 10% reading best 5 mg/l
Calibration	: Two point standard solution
Diagnostics	: Calibration checks
Sample flow fail	: Digital input
Signal	: Amplified at sensor DC
Voltage	: 240/110VAC or 12/24VDC
Processor	: High speed 8 bit EPROM
Analogue I/P	: +/- 12 bit resolution
Analogue O/P	: 12 bit 4-20mA isolated
Alarm Relays	: 2 off relays 5 amps 12VDC
Data Logging	: Optional via serial port

User configurable wiper frequency. Autocal can be called from the keypad at any time.

Peristaltic pump sampling system for waste water applications.