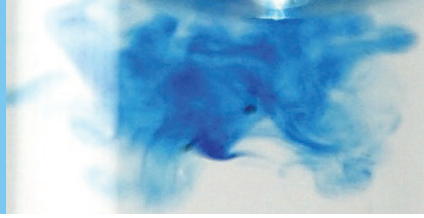

MODERNWATER | BODChek™

Portable BOD Detection to Provide Real Time Monitoring of Organic Pollution

BODChek enables in-situ, real-time, monitoring of Biological Oxygen Demand (BOD) within both natural water systems and water processing plants. The monitor detects fluorescent proteins that are inherent within sewage and slurry and provides an output in BOD equivalent units.

The principle behind the measurement is the excitation and fluorescence of tryptophan-like compounds in the UV wavelength band. Tryptophan is an essential amino acid in human and animal diets. It is associated with microbial activity i.e. sewage and faecal contamination of wastewaters and has been shown to correlate with both BOD and bacterial contamination.

An internal calibration factor is used to convert the Tryptophan-like fluorescence to the reported BOD equivalent value in units of mg/L. The use of fluorescence provides signal detection sensitivity far superior to optical absorption methods currently in use, while the real-time reporting of BOD equivalence enables the measurement to be used for process control, which is not possible with conventional 5 day BOD laboratory techniques. BODChek provides a cost effective solution to organic pollution monitoring.

The system can combine a sensor with a depth rating of 600m with either a wireless roamer and PDA or laptop connectivity. It provides a low cost, high performance sensor for marine, freshwater or process applications.

A Windows based interface is provided that allows the user to both plot and record time stamped data when operating the BODChek directly from a PC.

- Small in-situ portable monitor providing real-time measurements with wireless connectivity ideal for field use
- Fixed and flow-through configurations for on-line reporting
- Real-time data displayed in BOD units
- Combines high sensitivity with wide dynamic range
- Robust stable performance
- RS232, 4-20mA, analogue, 5V SD1-12 data output options

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SPECIFICATIONS	
Size	70mm dia x 149mm
Weight in air	800g
Weight in water	150g
Pressure housing	Acetal C
Depth rating	600 metres
Connector	MCBH6M
Operating temperature	-2°C to +40°C
Input volatage	9 to 36Vdc
Data output	Digital RS232 and analogue 0 to 5Vdc (RS422 and SDI-12 options)
Power requirements	<1Watt @ 12 volt

Applications

- Effluent contamination monitoring
- Biological Oxygen Demand (BOD) Indicator
- Combined Sewage Overflow (CSO)
- Fish Kill investigations
- Foul and surface sewer misconnection detection
- Water catchment surveys
- Coastal effluent monitoring

Process explained

Fluorescence is the emission of light by a substance that has absorbed light. In most cases, the emitted light has a longer wavelength, and therefore lower energy, than the absorbed light. Fluorometry is the measurement of this fluorescence. Different molecules absorb and emit light at specific wavelengths. In order to effectively use Fluorometry as a tool for environmental analysis the specific wavelengths of the absorbed and emitted light for the target molecules/compounds needs to be known. Modern Water fluorometers use LED light source to excite the molecules and then measure the emittance at the desired wavelength. The intensity of the emitted light provides the concentration of the target compound.

What does the BODChek detect?

Parameter	BOD
Excitation wavelength	280nm
Emission wavelength	360nm
Sensitivity	0.001 mg/L
Range (Factory set - can be extended)	0.001 to 35 mg/L

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