

## Portable Crude and Refined Hydrocarbon Monitor

PetroChek™ enables in-situ, real-time, monitoring of crude and refined hydrocarbons within both fresh and marine water systems. The monitor detects fluorescent poly aromatic hydrocarbons (PAHs) that are inherent in crude oil and refined fuels and lubricants.

Accidental or deliberate spillage of crude or refined hydrocarbons can have catastrophic consequences to freshwater and marine environments. Impacts to fauna and flora can be devastating and in freshwater environments it can lead to significant damage and costs to drinking water treatment plants. In cases where there is historical contamination, PetroChek™ can be effectively used as a portable or online monitor to identify and quantify the problem or help control the remediation process. Typical treatment technologies include aeration and activated carbon and big savings can be made through effective monitoring and control.

The system can combine a sensor with a depth rating of 600m with either a wireless roamer/battery that can connect to a tablet/PDA or laptop connectivity. It provides a low cost high performance sensor for marine, freshwater or process applications. PetroChek™ can easily be adapted to operate inline/online with a specially designed flow cell and pumps requiring very little maintenance or calibration.

- Windows or Android interface
- Small in-situ portable monitor with real-time measurements
- Wireless connectivity - ideal for field use
- Fixed and flow through configurations for on-line reporting
- Real-time data displayed in PAH units
- Combines high sensitivity with wide dynamic range
- Robust stable performance
- Digital and analogue output options include RS232, RS422, SDI-12, 0.5 - 5V DC and 4-20mA



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 voltage	9 to 36Vdc
Data output	Digital RS232 and analogue 0.5 - 5V DC as standard (Optional alternatives include digital SDI-12 and RS422, and analogue 4-20 mA)
Power requirements	<1Watt @ 12 volt

## Applications

In-situ polyaromatic hydrocarbon detection

Crude and refined oil spill monitoring

Drinking water treatment plant protection

Airport apron pollution runoff

Pollution monitoring

Environmental impact assessment

Waste/recycled water quality monitoring

Effluent detection

Towed, moored or ROV deployments

## 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 fluorimeters 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 PetroChek™ detect?

Parameter	Polyaromatic Hydrocarbon
Excitation wavelength	255nm
Emission wavelength	365nm
Sensitivity	0.005 µg/L
Range (Factory set - can be extended)	0.005 to 200 µg/L Carbazole



**MODERNWATER**

tel: (UK) +44 (0)1483 696 030  
 tel: (US) +1 302 669 6900  
[www.modernwater.com](http://www.modernwater.com)  
[info@modernwater.co.uk](mailto:info@modernwater.co.uk)