

Configurations

The **BACTI-Wader** comprises a UviLux Tryptophan fluorometer, a 5-metre cable (longer cables are available) and the Hawk handheld display and logging unit.

The **BACTI-Wader Pro** provides two UviLux fluorometers, configured for Tryptophan and CDOM, securely mounted in a frame for ease of deployment. Data streams from both fluorometers are combined and reported in real-time on the Hawk data logger.

The Hawk incorporates a **rechargeable battery pack**, charged via the USB cable supplied. If required, the rechargeable battery pack can be replaced with standard disposable cells. User programmable thresholds allow data to be presented in a Red, Amber, Green (RAG) format, so that the operator is clearly notified when levels become significant. A plotting feature is also provided so that trends in the data can be clearly identified.

Specification

UviLux Fluorometer

Size	Ø70 x 150 mm
Weight	800 g

UviLux Performance

	Tryptophan	CDOM
Sensitivity (QSU)	0.01	0.01
Calibrated range (QSU)	600	600
Example compound: sensitivity - range (ppb)	Tryptophan: 0.02 - 1200	PTSA:* 0.02 - 900

*PTSA is pyrene tetrasulphonic acid

Hawk handheld display and logging unit

Display	320 x 240 pixel qVGA backlit LCD
Display size	70 x 50 mm
Size	210 x 110 x 45 mm
Weight	500 g
Memory capacity	2 Gbyte
IP rating	IP67
Operating temperature	-2 °C to 40 °C
Storage temperature	-40 °C to 70 °C

BACTI-Wader

Battery duration	4 hours continuous use
------------------	------------------------

BACTI-Wader Pro

Battery duration	2 hours continuous use
Overall size mm	200 x 200 x 100 mm
Weight	2.5 kg

Clarity in Water

Contact us today to see how we can help you

In view of our continual improvement, the designs and specifications of our products may vary from those described.

2271-091-B 1/16

ctg Chelsea Technologies Group Ltd
 55 Central Avenue West Molesey Surrey, KT8 2QZ, United Kingdom
 Tel: +44 (0)20 8481 9000 Fax: +44 (0)20 8941 9319
 sales@chelsea.co.uk www.chelsea.co.uk



BACTI-Wader and BACTI-Wader Pro



www.chelsea.co.uk

BACTI-Wader systems provide real-time, highly sensitive measurements for *in situ* indication of bacteria levels.

Applications

- River pollution surveillance and investigative monitoring
- Point source pollution surveys
- Farm run-off detection and tracking
- Assessment of bathing & shellfish waters
- Groundwater quality monitoring
- Combined Sewage Overflow (CSO) event detection
- Faecal Indicator (FI) monitoring





What can the BACTI-Wader do for you?

How does it work?

Introduction

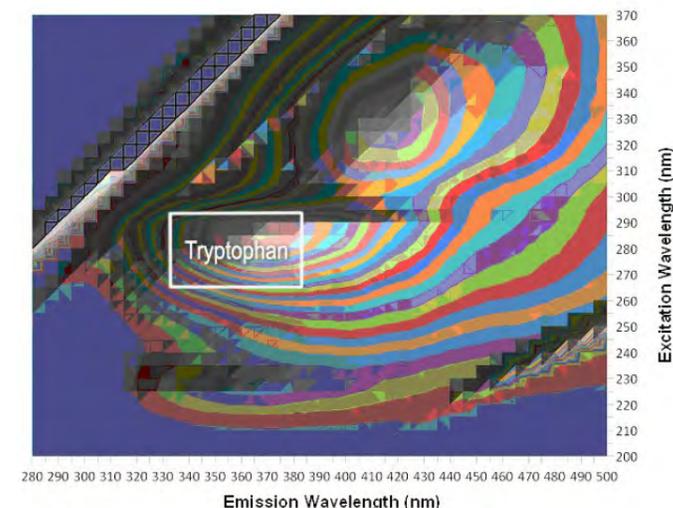
CTG's **BACTI-Wader** and **BACTI-Wader Pro** systems allow surveyors and regulators to assess real-time, *in situ* levels of bacteria in water systems. This is achieved by detecting UV Tryptophan fluorescence, which has been shown to correlate with bacterial levels.

The **BACTI-Wader** comprises a CTG UviLux fluorometer and a Hawk handheld display and logging unit. CTG's UviLux fluorometers detect UV fluorescence with industry-leading sensitivity and selectivity and have been optimised for minimal interference from water turbidity.

Data is displayed on the Hawk's **colour touchscreen** and logged internally. If required, the Hawk can be programmed to apply a user calibration to the reported values. The Hawk also incorporates a **GPS receiver** so that all logged data can be **position and time stamped**.

CTG's **BACTI-Wader** and **BACTI-Wader Pro** detect UV fluorescence from amino acids and organic matter associated with the presence of bacteria. These compounds absorb UV light and re-emit a fraction of this energy as fluorescence at longer wavelengths. Fluorescence intensity is directly proportional to concentration. The technique is **widely recognised** as one of the **most sensitive detection methods** available.

Tryptophan is an essential amino acid in the human diet and is the main component of protein fluorescence. Recent work has indicated that Tryptophan fluorescence can be used to assess bacterial levels, which in environmental waters will often arise from faecal/sewage contamination. Therefore, high levels of Tryptophan fluorescence will **alert to when sewage impacts on water quality**, for example when monitoring Bathing Waters.



Fluorescence map of an environmental water sample spiked with Tryptophan, indicating BACTI-Wader measurement window

Features

- Real-time display of Tryptophan concentration (in µg/l)
- User set Red, Amber, Green (RAG) data warning display
- Simple, single touch data logging (2Gbyte storage capacity)
- Position and time stamping of recorded data
- Uses rechargeable or disposable batteries
- High sensitivity

i BACTI-Wader and BACTI-Wader Pro

The **BACTI-Wader** comprises a single CTG UviLux Tryptophan fluorometer and a Hawk handheld display and logging unit. The **BACTI-Wader Pro** includes an additional UviLux sensor for discriminating Tryptophan fluorescence from Coloured Dissolved Organic Matter (CDOM). This is particularly useful when CDOM background levels are high or when correlating Tryptophan concentrations across a wide range of locations where background CDOM levels may be variable.



Provides instant measurements of water-borne bacteria avoiding lengthy, potentially costly, delays in obtaining laboratory results



Touch screen display



GPS position and time logged



2gb storage capacity