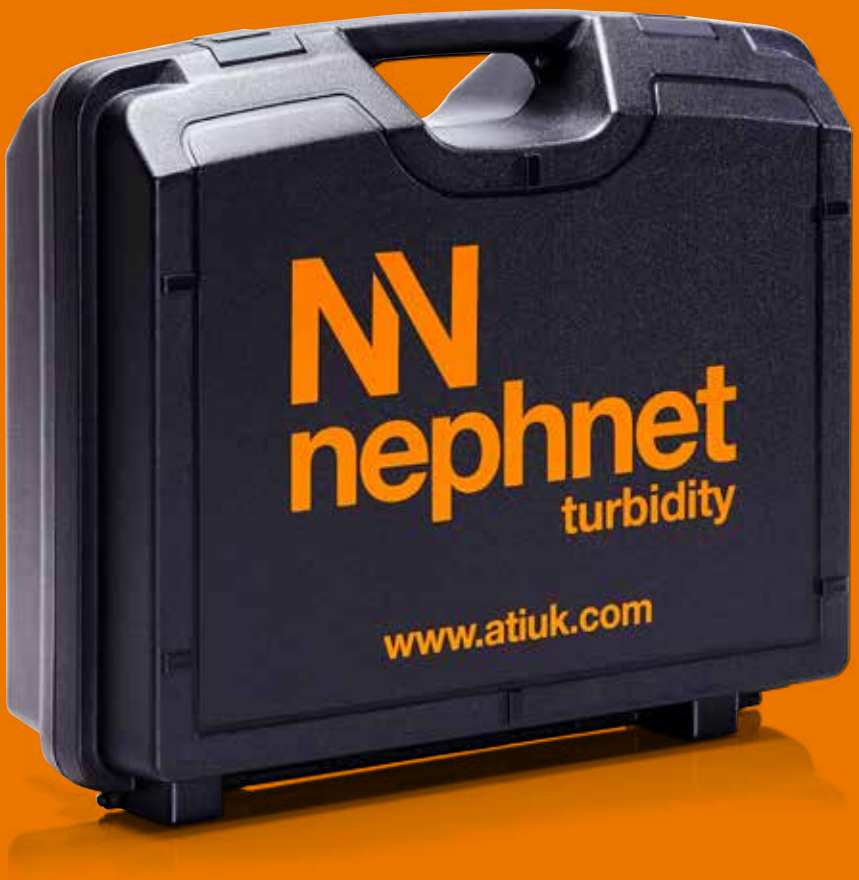
nephnet

Brochure



Continuous battery powered turbidity measurement for network monitoring

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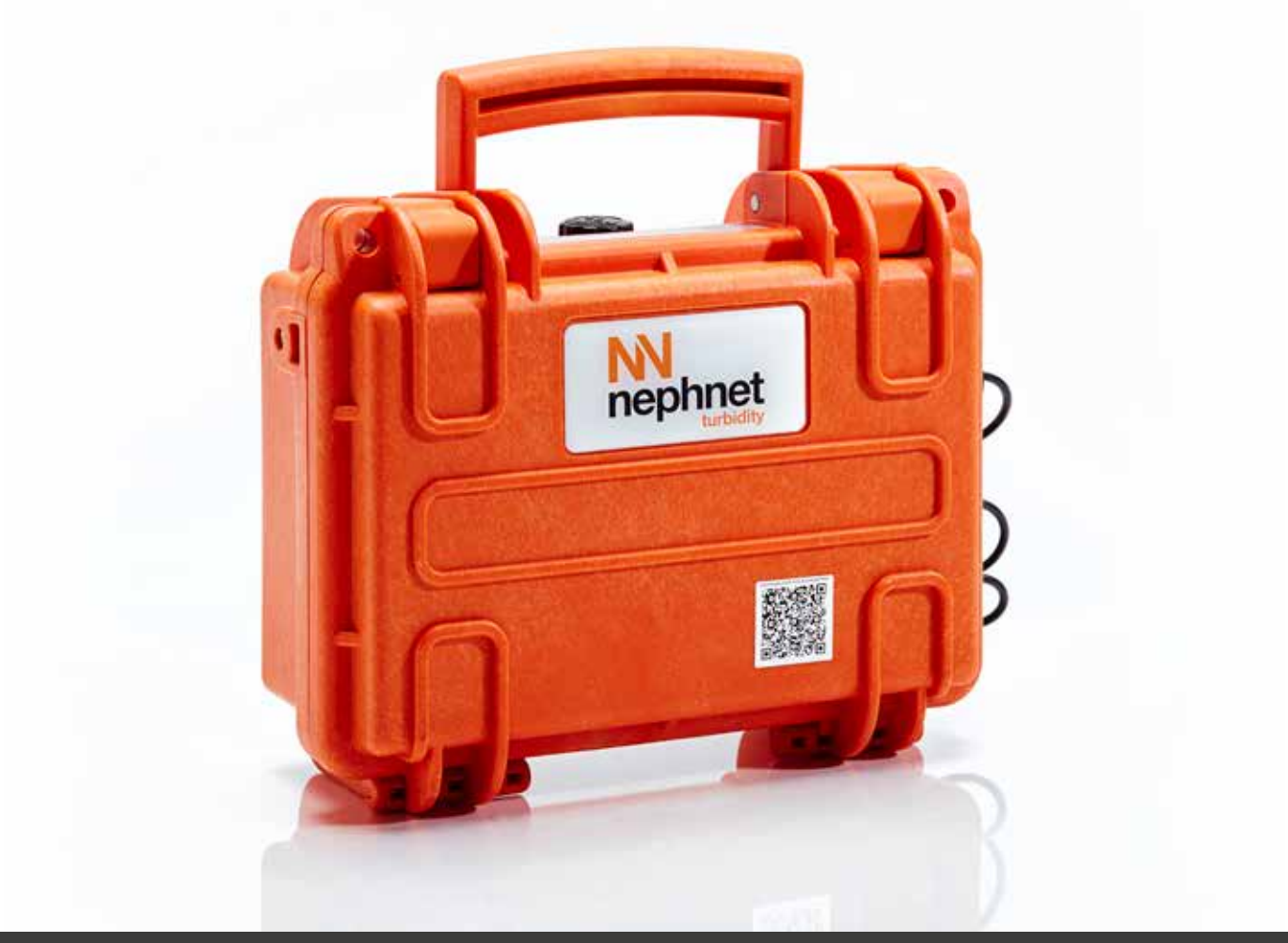
ABOUT NEPHNET

The ground-breaking NephNet is the first battery powered, portable turbidity monitor that offers continued remote monitoring of water discolouration and better accuracy at lower levels.

ATi's NephNet offers the same measurement performance as the more traditional fixed monitors, with no compromise in the measurement, allowing changes in turbidity to be continuously monitored. Water companies are alerted to any emerging problems by an alarm, helping to identify when and where to flush and how effective it was.

The NephNet was created by ATi working in conjunction with customers and the PODDS group (Sheffield University and the UK Water industry). This portable, battery operated turbidity monitor offers months of continuous, accurate readings at low levels. It has already helped to save the UK Water Industry £millions and is capable of the conditioning of mains, boundary box installations, network monitoring, flushing effectiveness and final effluent monitoring, amongst other things.



This new technology will assist water companies in reducing complaints, improve their position on the league table and result in proactive network management to safeguard

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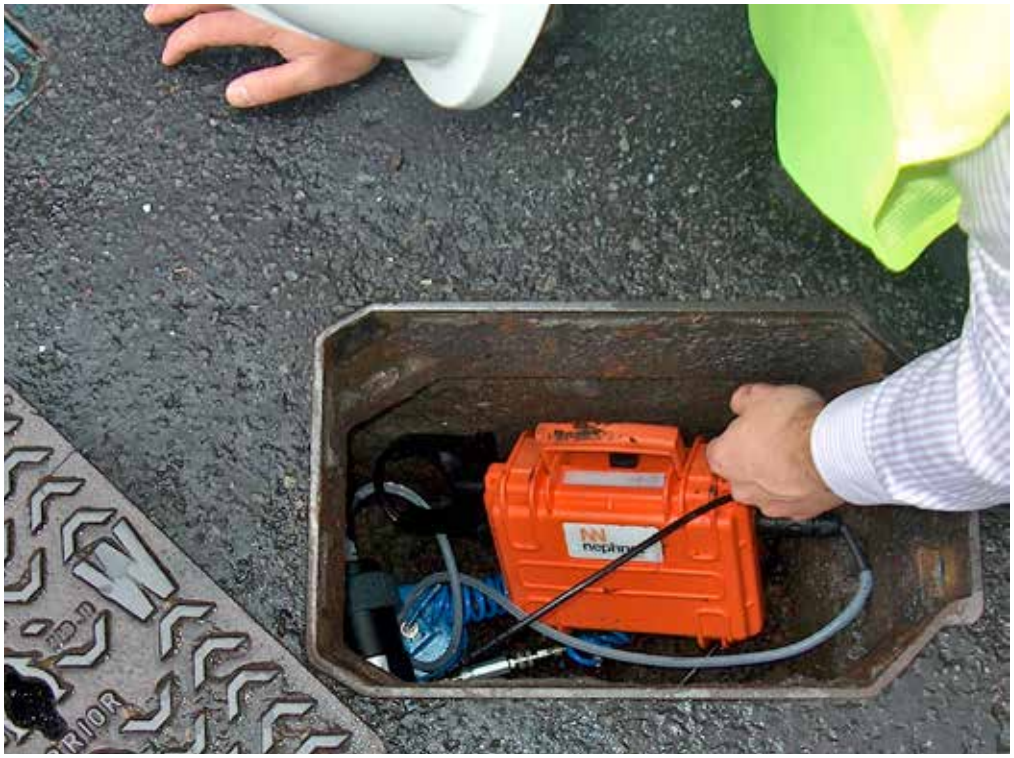
Continuous Measurement

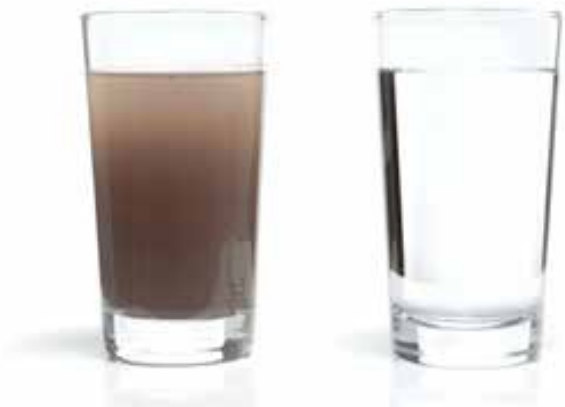
The quicker the user is notified of a high-level alarm, the quicker they can react to an incident. With continuous measurements, the user will be alerted to an event immediately.

With a constant stream of data, the flushing/ network team can monitor their networks every minute of the day, with the security of alarms when necessary. Previous non-continual sensing has led to missed opportunities to reduce complaints. However, with continuous data, the power is handed to the water provider to better control the logistics of their product.



Network teams can now scrutinise the data received from the NephNet to check how the quality of a particular 'leg' of a network fluctuates when demand changes.

This gives customers the ability to detect, respond to and resolve changes in turbidity without waiting for complaints from customers to inform them of a problem.



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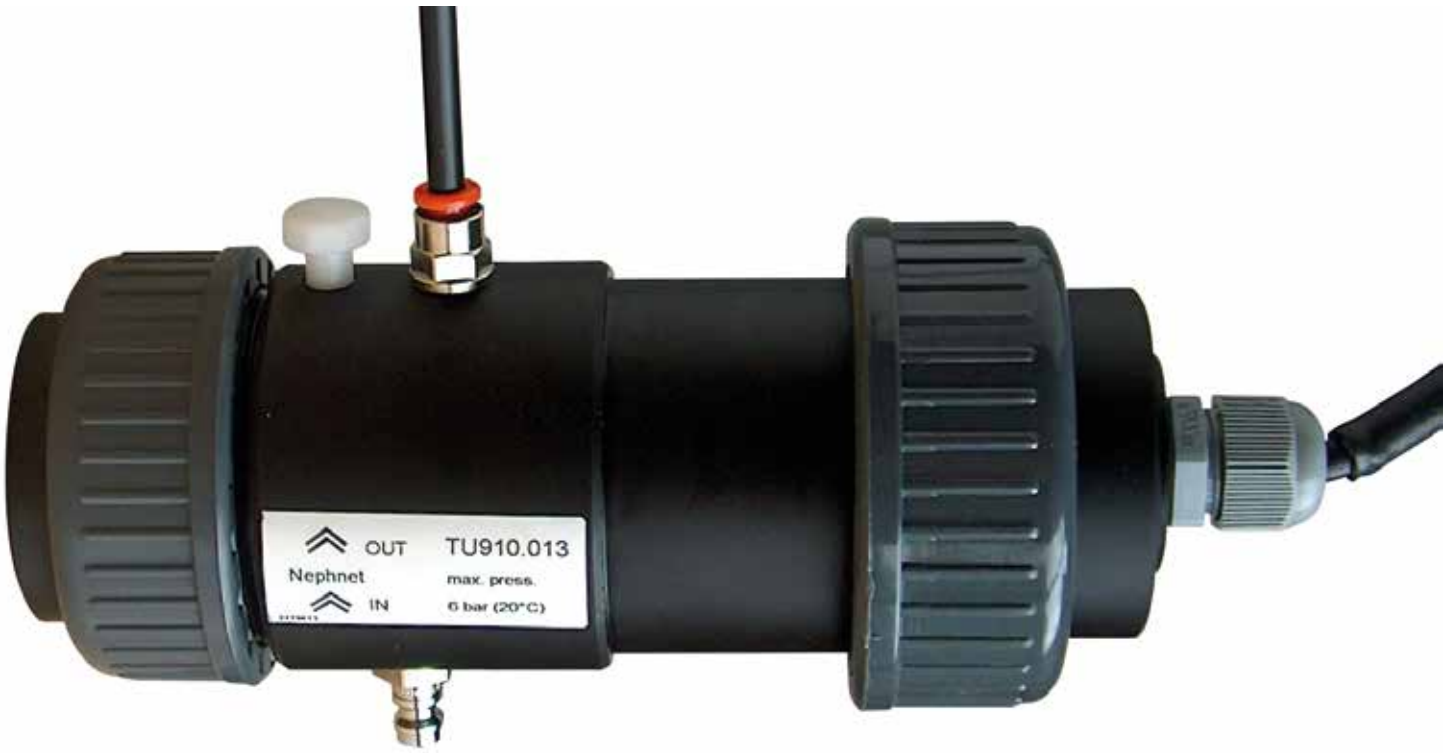
NephNet Sensor:
Better Accuracy at Lower Levels

The NephNet sensor has built in 'automatic zero' technology. This means that the sensor will deal with a level of contamination that may sit on the lens of the sensor over a period of time.

The auto zero adjust lens sits behind the main lens of the sensor and checks (every millisecond) the strength of its signal to check the overall sensitivity of the probe. When there is an obstruction, such as iron, the signal reduces and the offset is corrected. This allows for more accurate readings at lower levels. This improvement to resolution offers a greater understanding of what happens incrementally over a period of time.



Flow cell:

Air bubbles are a common problem in many turbidity systems. The NephNet sensor is designed to operate under pressure to eliminate the sample degassing that often causes air bubble errors. Sample pressure is not dropped until the sample exits the measuring chamber, resulting in more reliable measurements.

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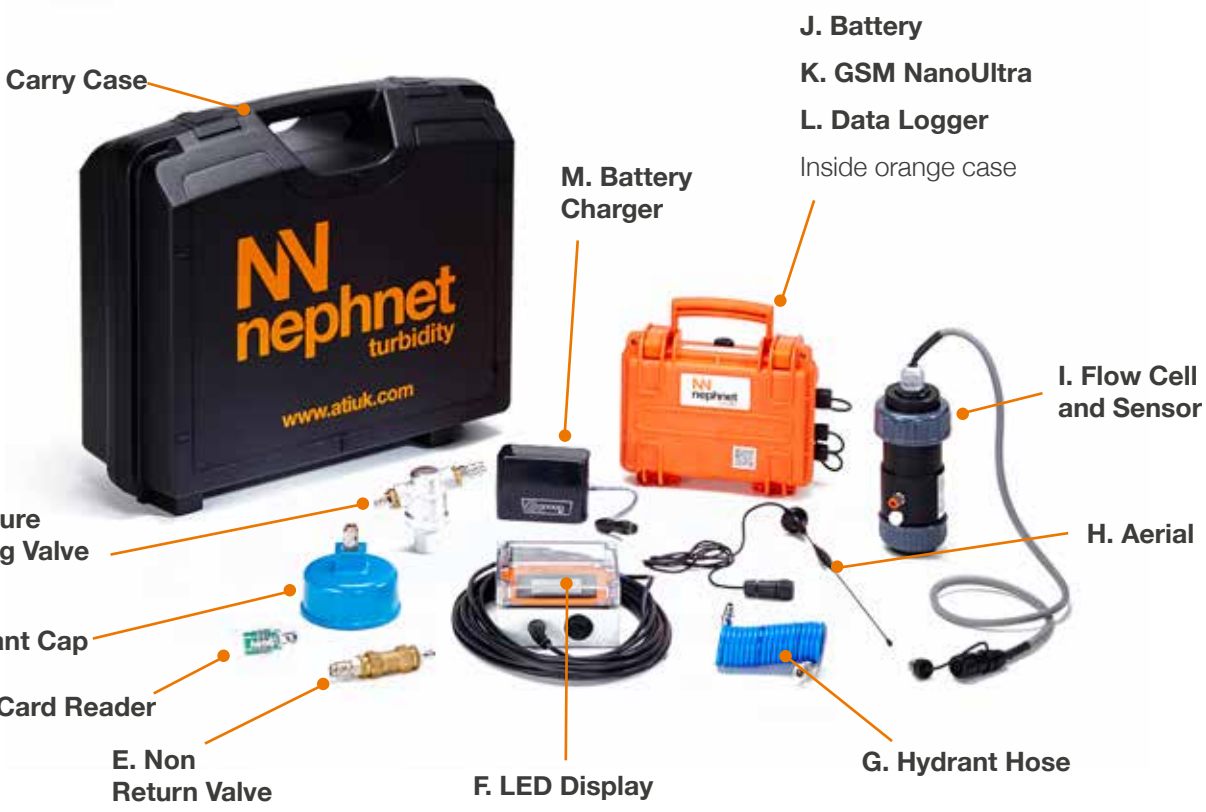
What's in the Box?



	Part Name	ATi Part Number
A	Black Carry Case	92-0194
B	Pressure Reducing Valve	92-0189
C	Hydrant Cap	92-0188
D	SD Card reader	Spares
E	Non-Return Valve	92-0201
F	LED Display	92-0187
G	Hydrant Hose	92-0186
H	Aerial	92-0194
I	Flow Cell and Sensor	92-0190
J	Battery	92-0200
K	GSM NanoUltra	92-0183
L	Data Logger	Spares
M	Battery Charger	92-0201

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Simple Maintenance

The NephNet needs very little maintenance. The auto zero adjust means that the sensor will work with a certain level of contamination.

If the sensor needs cleaning and the sensor needs checking, the NephNet is designed to be easily unscrewed so that the lens can be seen and easily wiped with a non-abrasive cloth. The flow cell can then be re assembled and checked with a level of around 30 ml of non formazene turbidity standard.

Back-Up Data (never lose information)

USB Data logging:

Data logging comes as standard with the NephNet. The data can be stored every 30 seconds and can be changed if needed by the user at their discretion. The USB logger is very easy to use, with free Lascor software and SD card reader, which comes with the NephNet. Where telemetry fails (due to roaming signal issues), the logger stores the data and then sends it once the signal is restored.

SD Card

The GSM (telemetry modem) has an SD card installed to minimise any risk to loss of data from signal or roaming issues. The SD card acts as the 'black box' recorder and will save data when needed. Once the signal has been recovered, the data then reloads to the website and is presented ready to be sent out as an attachment.
The NephNet comes with an SD card reader for quick recovery. With this added feature, the risk of missing data is reduced to a minimum.

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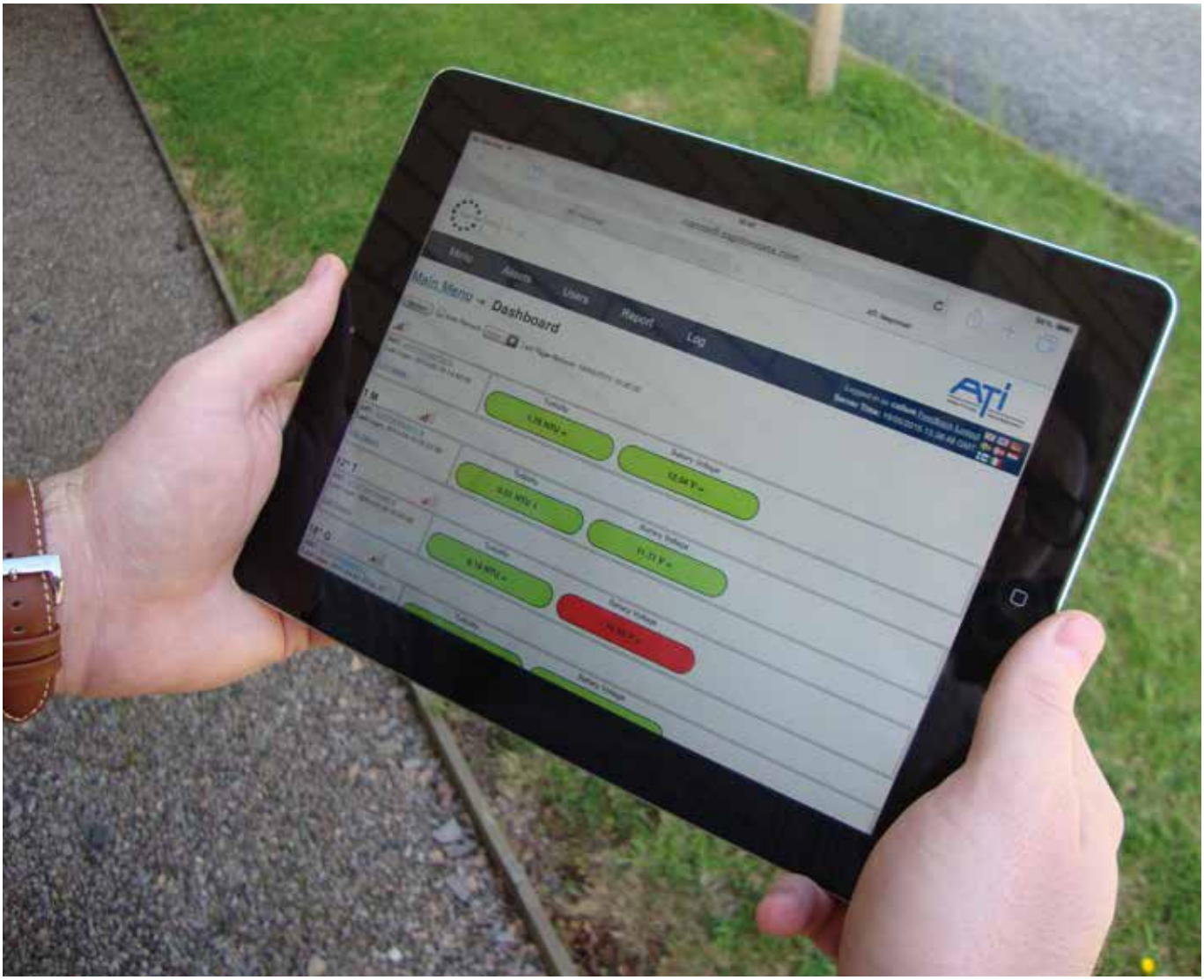
Tailor-made Telemetry

Alarms and the transfer of data are imperative to the user and can be sent immediately once retrieved. The NephNet has an optional telemetry unit that is secure and can be 'tailor-made' by the user to best suit their applications.

The options that are offered to the user allows for better control and exceptional value.
The main focus is secure data with websites assigned to the user. The telemetry is tailor-made to best suit the culture of the company using the NephNet. The user can select from multiple configurations to be assured of satisfaction. Websites, alarm levels, power consumption, text messaging and software variations can be selected. Consultations between the provider and the user must be undertaken primarily to maximise the overall value of data collection.



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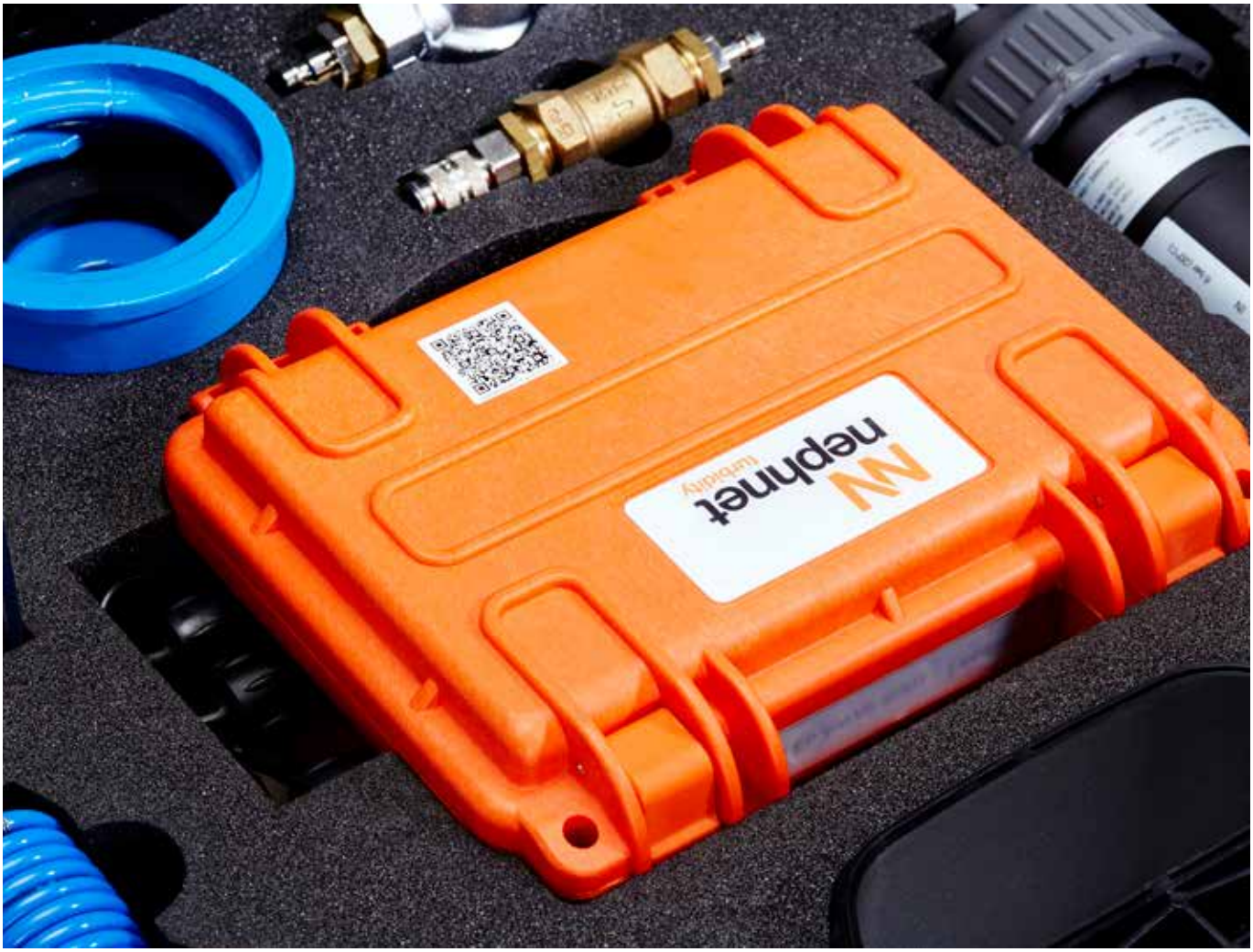
Features and Benefits

- Continuous remote monitoring of turbidity
- Better accuracy at lower levels
- Quick connection to water mains via hydrants
- Wireless communications and alarms
- Data accessed via secure website
- Battery life for NephNet is over one year
- Battery for NephNet with GSM comes with charger and digital voltage display
- Low water wastage
- Optional LCD to assist with hands on monitoring
- Requires only annual servicing
- Secure and safe black cases



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NephNet Specification

Range: 4/400 NTU (0-4.000, 0-40.00, 0-400.0) with factory default 0-20.00

Accuracy: ± 5% of reading or ± 0.02 NTU, whichever is greater

Linearity: 0.1% of F.S.

Operating Conditions: -20° to +55° C., 0-95% R.H. noncondensing.

Measurement angle: 90-degree scatter

Response Time: 95% in 10 seconds Sensor

Power: 7V-36V

Sensor Temp. Limit: 0 - 50° C.

Sensor Pressure Limit: 6 bar

Connections: 7-conductor sensor cable, 2 meters

Sensor Materials: Delrin body, Acrylic optical windows

Flowcell Materials: PVC

Flowcell Connections: 4 mm tube fittings (black tubing supplied)

Flowcell Pressure: 0-6 bar

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ANALYTICAL TECHNOLOGY

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