AQUASCAT 1000L

Year of Purchase: 2019
Cost: 16.82 Lac

The AQUA*scat* 1000L represents a new generation of high frequency acoustic instrumentation. It has applications in sediment transport studies, including measurement of suspended sediment profiles, precision altimetry, dredge plumes and turbulence.

The AQUA*scat* transmits pulses of high frequency sound on up to four transducers, each of which may operate at a different frequency. It measures the sound scattered by sediment or other suspended materials at discrete spatial intervals programmable from 2½ millimeters to 4 centimeters.

Applications

- Flume tanks
- Laboratory based transport studies

Key features

- The AQUA*scat* 1000L can observe profiles of up to 10 m.
- With the AQUA*scat* 1000L, you can choose between 7 frequencies (300 kHz, 500 kHz, 1 MHz, 2 MHz, 2.5 MHz, 4 MHz and 5 MHz) and benefit from having the most appropriate frequencies for your research. The instrument can use up to 4 frequencies at a time.
- With a plastic weatherproof case, the AQUA*scat* 1000L is designed to enable effective sediment research in the laboratory.

- The AQUA*scat* 1000L is supplied with up to 4 cabled transducers (that measure 4 m in length) to give greater flexibility in your research.
- Aquatec offer an optional turbidity sensor that can be integrated with the AQUA*scat* 1000L. This provides a separate single point measurement of turbidity, giving optical measurements as well as acoustic.
- Also available are cabled temperature and pressure sensors.

The AQUA*scat* 1000 range

Effective profiling of SSC

- AQUA*scat* 1000 technologies can observe profiles of suspended sediment concentration over a series of depths within a water column to give you valuable knowledge on the sediment processes taking place.
- Profiles can be observed at a single location to produce a time series, or transects taken to observe spatial variability.
- Profiling can be done horizontally or vertically depending on your choice of deployment.
- Profiles of SSC can provide information on sediment processes, including motion under wave, tides and currents. Applications include research, coastal zone management and flood risk management. Profiles can provide more information on dredge plumes to assist operational decisions, habitat protection and regulatory compliance.

Multiple frequencies

- Using multiple frequencies, the AQUA*scat* 1000 range allows you to determine the mean grain size and concentration of suspended materials.
- The instrument is most suitable for particle sizes between 20 µm and 500 µm radius and concentrations of 0.01 g/l to 20 g/l over 1 m, or more over a shorter range.

Use in all water environments

- The AQUA*scat* 1000 can monitor sediment in both freshwater and marine water environments, including:
- Estuaries
- Coastal areas
- Rivers
- Lakes
- Oceans
- Polar regions
- Laboratory studies

Concerned about biofouling?

- Acoustic instruments have greater resistance to biofouling than optical instruments, therefore AQUA*scat* 1000 technologies are ideal for unattended deployments.

Effective data analysis with the AQUA*scat* Toolkit

- The acoustic backscatter data is post-processed and viewed using the AQUA*scat* Toolkit, which is supplied with every AQUA*scat* 1000 instrument.
- View the Acoustic BackScatter (ABS) data in different formats and apply bottom-detection and threshold algorithms to the data before it is processed to obtain suspended sediment concentration (SSC) profiles.