VALEPORT

SWiFTplus Turbidity

Multi-parameter profiler

Valeport's SWiFTplus Multi-Parameter Profiler with a Turbidity sensor combines survey-grade sound speed, temperature and pressure sensor technology with Turbidity observations. The package is completed with the convenience of Bluetooth connectivity, rechargeable battery and an integral GPS module to geo-locate each profile.

- Multi-Parameter Profiler
  - CTD, Sound Speed, Salinity, Density
  - Dual Optical Backscatter (OBS) and Nephelometer Turbidity Sensor
  - Up to 32Hz sampling rate
- Bluetooth and USB connectivity
- Integral GPS receiver for geo-location of profile
- Rechargeable Lithium-ion Battery
- Dedicated PC software and iOS portable device App

Product Details

MULTI-PARAMETER CTD

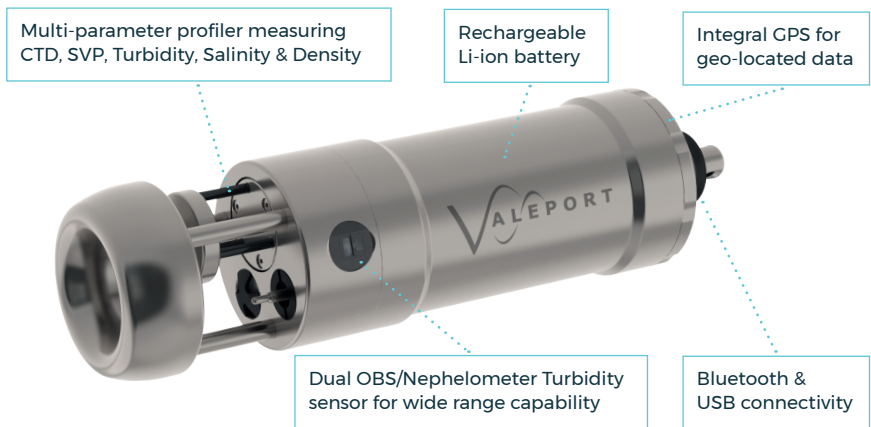**SOUND SPEED**

OPTICAL

CONNECT SOFTWARE

Bluetooth   USB   Rechargeable Battery   GPS

VALEPORT

Multi-parameter profiler measuring CTD, SVP, Turbidity, Salinity & Density

Rechargeable Li-ion battery

Integral GPS for geo-located data

Dual OBS/Nephelometer Turbidity sensor for wide range capability

Bluetooth & USB connectivity

Valeport's Turbidity technology is essentially two sensors in one. The first is a "classic" nephelometer, using a 90° beam angle for turbidity levels between 0 and 2,000 NTU. The second sensor uses Optical Backscatter (OBS) for turbidity levels up to 10,000 NTU. The sensors output data separately and simultaneously at a programmable rate. This means that there is no need to switch ranges as conditions vary. Intelligent sampling and the use of a 24 bit ADC eliminates the need to switch gain.

Sensor Specification

Turbidity

Linear Range	Nephelometer: 0 to >1 ,000 NTU - linear response[1] OBS: 0 to >4,000 NTU - linear response [1 & 2] [1] depending on suspended material [2] >4,000 NTU has a non-linear monotonic response that allows derivation of higher values using look-up tables\secondary calibration
Linearity	0.99 R^2
Minimum Detection Level	0.03 NTU (Nephelometer)

Conductivity#

Range	0 - 80 mS/cm
Resolution	0.001 mS/cm
Accuracy	±0.05 mS/cm

Temperature   (Platinum Resistance Thermometer)

Range	-5°C to +35°C
Resolution	0.001°C
Accuracy	±0.01°C

Pressure   (Temperature compensated piezo-resistive pressure transducer)

Range	50 Bar
Resolution	0.001% FS
Accuracy	±0.01% FS

Sound Velocity   (Digital time of flight sensor)

Range	1375 – 1900 m/s
Resolution	0.001 m/s
Accuracy	±0.02 m/s

Salinity#

Range	0 - 42 PSU
Resolution	0.001 PSU
Accuracy	±0.05 PSU

Density#

Range	990 - 1035 kg/m³
Resolution	0.001 kg/m³
Accuracy	±0.05 kg/m³

#Calculated Accuracies. Calculations based on Valeport's proprietary DASH formula.

Physical dimensions

Materials	Housing: Titanium
	Sinker weight: Stainless steel
	Optical window: Sapphire glass
Depth rating	500m
Dimensions	Ø78mm x Length 307mm (with sinker weight)
Weight	2.7kg (in air) / 1.7kg (in water) including optional sinker weight

Communications (set-up and data offload)

Bluetooth v4 - low energy

USB Serial

Memory

2 GB Internal Flash Card Storage

Electrical

Battery	Internal rechargeable Li-ion battery pack
Charging	USB - Supplied mains AC adapter

Software

- Connect iOS for Bluetooth compatible mobile devices:
  - instrument set-up, data offload and data display
- Connect PC for both USB and Bluetooth connectivity:
  - instrument set-up, data offload and data display
- Both will export data in common file formats that are compatible with industry standard Hydrographic software packages
- Android App to follow

Ordering

0660047-50-Tu	SWiFTplus profiler with Turbidity sensor - 500m rated
	Supplied with: • Deployment weight • PC Bluetooth adapter • USB interface and charging cable and charger • Valeport Connect PC software \ iOS App • Transit Case