SWiFT SVPplus
Turbidity

Multi-parameter profiler

Valeport's SWiFT SVPplus 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 GNSS module to geo-locate each profile.

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

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.

DATA SHEET

Product Details

MULTI-PARAMETER CTD

SOUND SPEED

OPTICAL

OCEAN & CONNECT PATHWAY EDITION SOFTWARE

Bluetooth® USB Rechargeable Battery GNSS

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 – +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

Electrical

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

Software

iOS and Android Valeport Connect Pathway Edition for Bluetooth compatible mobile devices – instrument set up, data offload, display and translation to common data formats. Valeport's Ocean PC software, with both USB cable and Bluetooth connectivity, for instrument setup, data extraction, display and translation to common data formats.

Instrument and data time is synchronised to GNSS, UTC.

Ordering

0660047-50-TU	SWiFT SVPplus profiler with Turbidity sensor 500m rated
Supplied with	PC Bluetooth adapter USB interface and charging cable 1.5 A charger Valeport Ocean software Operating manual System transit case

Turbidity sensor

Rechargeable Li-ion battery

Integral GNSS for geo-located data

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

Bluetooth & USB connectivity

VALEPORT