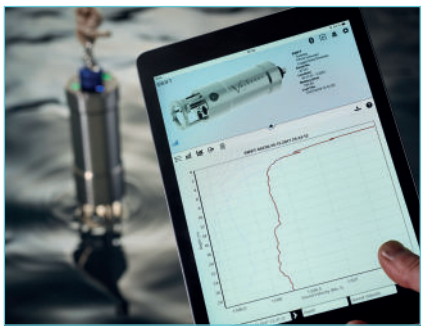

SWiFT SVPplus
Turbidity

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®** wireless technology, 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

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VALEPORT

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/m^3
Resolution	0.001 kg/m^3
Accuracy	±0.05 kg/m^3

#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	500 m
Dimensions	Ø78 mm x Length 307 mm (with sinker weight)
Weight	2.7kg (in air) / 1.7kg (in water) including optional sinker weight

Communications (set-up and data offload)

USB Serial	
Bluetooth v4	Low energy

Electrical

Battery	SWiFT Battery endurance depends on the sampling scenario used – contact Valeport for more information. 100 days endurance 2 profiles per day to 100 m* 42 days - 3 profiles a day to 500 m* 2 days continuous running (normal power mode) (*Utilising Bluetooth Sleep mode)
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 500 m rated
Supplied with	PC Bluetooth adapter USB interface and charging cable 1.5 A charger Valeport Ocean software Operating manual System transit case

Datasheet Reference: SWiFT SVPplus Turbidity | April 2024