



DATA SHEET

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



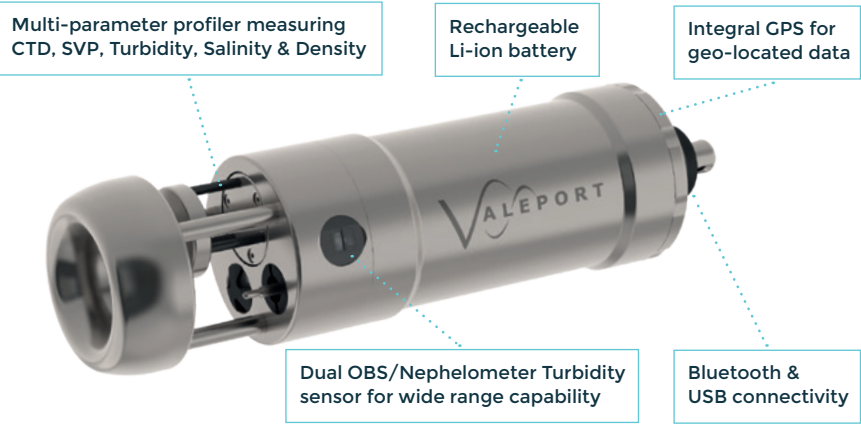
USB



Rechargeable Battery



GPS



Valeport'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	10 Bar or 20 Bar
Resolution	0.001% FS
Accuracy	±0.05% 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	200m
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	
<ul style="list-style-type: none"> • Connect iOS for Bluetooth compatible mobile devices: <ul style="list-style-type: none"> - instrument set-up, data offload and data display • Connect PC for both USB and Bluetooth connectivity: <ul style="list-style-type: none"> - 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	
0660047-10-Tu	SWIFTplus profiler with Turbidity sensor - 100m rated
0660047-20-Tu	SWIFTplus profiler with Turbidity sensor - 200m rated
Supplied with: <ul style="list-style-type: none"> • Deployment weight • PC Bluetooth adapter • USB interface and charging cable and charger • Valeport Connect PC software \ iOS App • Transit Case 	

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