



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



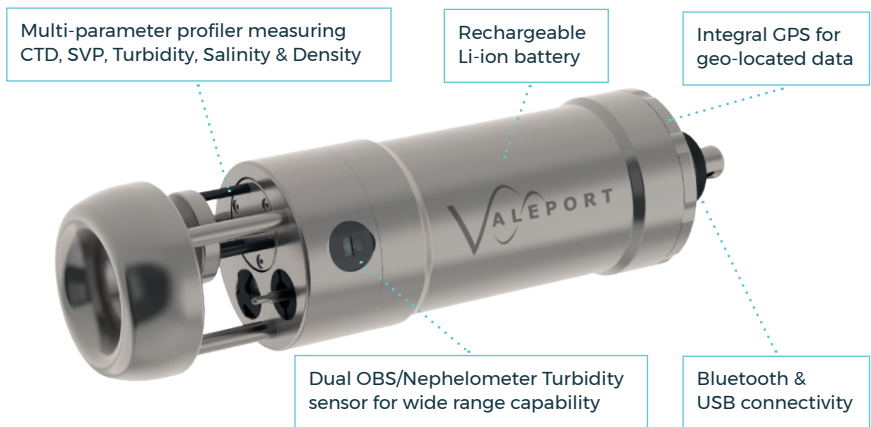
USB



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	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	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	
<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	
0660047-50-Tu	SWIFTplus profiler with Turbidity sensor - 500m 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 	

As part of our policy of continuing development, Valeport Ltd. reserve the right to alter at any time, without notice, all prices, specifications, designs and conditions of sale of all equipment.

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