



# SWiFT CTDplus Turbidity

# **Multi-parameter Profiler**

Designed from the outset with the intention of a seamless workflow, the SWiFT CTDplus Turbidity profiler provides survey-grade sensor technology coupled with the convenience of Bluetooth connectivity and rechargeable batteries. An integral GPS module, to geo-locate each profile, completes the package. Data can be easily and quickly downloaded and reviewed wirelessly, via Bluetooth, using Valeport's new Ocean software for Windows and Connect Pathway Edition for iOS and Android and instantly shared, in industry standard data formats through email and cloud services. A USB Cable and Bluetooth adapter are provided.

In addition to the directly measured Conductivity, Temperature and Depth measurements, Salinity, Density and Sound Velocity is calculated using the UNESCO international standard algorithm and Chen and Millero equation.

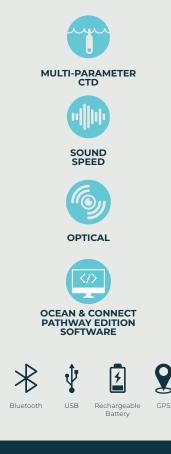
With an operational battery life of up to 5 days and the convenience of charging via USB, SWiFT CTDplus Turbidity is intended for offshore, coastal, harbour and inland environmental and hydrographic survey use to 500m and offers the highest quality CTD profiles in a compact, robust and portable package.

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.

Optionally, there is a deployment cage available to bolt onto the instrument to help get the SWiFT CTDplus Turbidity to depth in fast-flowing currents.

# DATA SHEET

# **Product Details**



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#### **Sensor Specifications**

The SWiFT CTDplus Turbidity is fitted with Valeport's conductivity sensor, temperature compensated piezo-resistive pressure transducer and a new fast response thermistor temperature sensor.

Turbidity		
Linear Range		0 to >1,000 NTU - linear response <sup>1</sup> 0 to >4,000 NTU - linear response <sup>18.2</sup> pended material non-linear monotonic response that allows r values using look-up tables\secondary
Linearity	0.99 R <sup>2</sup>	
Minimum Detection Level	0.03 NTU (Nephelometer)	

Cond	uc	tivi	ty

Range	0-80 mS/cm
Resolution	0.001 m/s
Accuracy	±0.01 m/s
Temperature	
Range	-5°C - +35°C
Resolution	0.001°C
Accuracy	±0.01°C

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

### **Calculated Parameters and Accuracy**

Calculations based on the UNESCO international standard algorithm and Chen and Millero equation

Sound Velocity	~0.25 m/s
Salinity	±0.01 PSU
Density	±0.01 kg/m <sup>3</sup>



## Datasheet Reference: SWiFT CTDplus Turbidity | May 2021

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Physical	
Materials	Housing - Titanium   Sensor Guard - Acetal   Temperature Sensor - Titanium   Pressure Sensor - Titanium   Conductivity Sensor - Polyurethane coated titanium with ceramic core
Depth Rating	500m
Dimensions	ø78mm x Length 350mm
Weight	2.7kg (in air) / 1.65kg (in water)

#### Communications (set up and data offload)

USB Serial

Bluetooth v4 - low energy

Electrical	
Battery	Internal rechargeable Li-ion battery pack
Battery life	5 days continuous operation
Charging	USB Typically, 1 hour fast charge will give 12 hours operation

#### 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 GPS, UTC.

Ordering	
0660049-50-TU	SWiFT CTDplus Turbidity Profiler Titanium housing rated to 500m
Supplied with	PC Bluetooth adapter USB interface and charging cable 1.5 A charger Valeport Ocean software Operating manual System transit case



