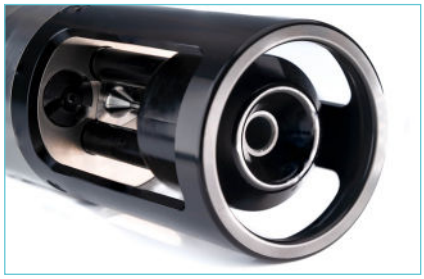

SWiFT CTDplus
Chlorophyll a

DATA SHEET

Designed from the outset with the intention of a seamless workflow, the SWiFT CTDplus Chlorophyll a profiler provides survey-grade sensor technology coupled with the convenience of **Bluetooth®** connectivity and rechargeable batteries. An integral GNSS module, to geo-locate each profile, completes the package. Data can be easily and quickly downloaded and reviewed wirelessly via Bluetooth connectivity using Valeport's Ocean software for Windows, iOS or Android. Data can be 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 a large internal Lithium-ion rechargeable battery and the convenience of charging via USB, SWiFT CTDplus Chlorophyll a 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 Hyperion Fluorometer, when combined with the SWiFT CTD, delivers high performance measurements of Chlorophyll a. Optionally, there is a deployment cage available to bolt onto the instrument to help get the SWiFT CTDplus Chlorophyll a to depth in fast-flowing currents.

Product Details

- MULTI-PARAMETER CTD
- SOUND SPEED
- OPTICAL
- OCEAN SOFTWARE

Bluetooth · USB · Rechargeable Battery · GNSS

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VALEPORT

Sensor Specifications

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

Chlorophyll a*

Excitation	470 nm
Detection	696 nm
Dynamic Range	0-800 µg/l
Minimum Detection (3x SD in RO water)	0.025 µg/l
Linearity	0.99 R^2
Response Time	0.03 - 2 sec
Linearity	0.99 R^2
Minimum Detection Level	0.03 NTU (Nephelometer)

* Calibrated against Chlorophyll a in acetone solution

Conductivity

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/m³

Physical

Materials	Housing - Titanium Sensor Guard - Acetal Optical window: Sapphire glass Sinker weight: Stainless steel 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 Up to 30 days sample scenario dependant
Charging	USB Typically, 1 hour fast charge will give 12 hours operation

Software

iOS and Android Valeport Ocean 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

0660049-FC-XX	SWiFT CTDplus Chlorophyll a 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

Datasheet Reference: SWiFT CTDplus Chlorophyll a | February 2023