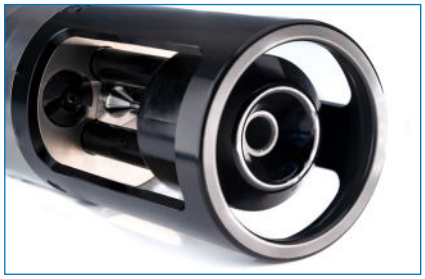

SWiFT CTDplus
Chlorophyll a

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®** wireless technology 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 Teledyne 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 are 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, the SWiFT CTDplus Chlorophyll a is intended for offshore, coastal, harbour and inland environmental and hydrographic survey use to 500 m and offers the highest quality CTD profiles in a compact, robust and portable package.

Teledyne 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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Sensor Specifications

The SWiFT CTDplus Chlorophyll a is fitted with Teledyne 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 mS/cm
Accuracy	±0.01 mS/cm

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 Temperature Sensor - Titanium Pressure Sensor - Titanium Conductivity Sensor - Polyurethane coated titanium with ceramic core
Depth Rating	500 m
Dimensions	ø78 mm x Length 350 mm
Weight	2.7 kg (in air) / 1.65 kg (in water)

Communications (set up and data offload)

USB Serial	
Bluetooth v4	Low energy

Electrical

Battery	Internal rechargeable Li-ion battery pack
Battery life	SWiFT Battery endurance depends on the sampling scenario used – contact Teledyne Valeport for more information. 95 days endurance 2 profiles per day to 100 m* 33 days - 3 profiles a day to 500 m* 1.7 days continuous running (normal power mode) (*Utilising Bluetooth Sleep mode)
Charging	USB Typically, 1 hour fast charge will give 12 hours operation

Software

iOS and Android Teledyne Valeport Ocean for Bluetooth compatible mobile devices – instrument set up, data offload, display and translation to common data formats. Teledyne 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 500 m
Supplied with	PC Bluetooth adapter USB interface and charging cable 1.5 A charger Teledyne Valeport Ocean software Operating manual System transit case

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Datasheet Reference: SWiFT CTDplus Chlorophyll a | December 2024

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