



The SBE 19plus SEACAT Profiler is the next generation *Personal CTD*, bringing numerous improvements in accuracy, resolution (in fresh as well as salt water), reliability, and ease-of-use to the wide range of research, monitoring, and engineering applications pioneered by its legendary SEACAT predecessor. The 19plus samples faster (4 Hz vs 2), is more accurate (0.005 vs 0.01 in T, 0.0005 vs 0.001 in C, and 0.1% vs 0.25% — with *seven* times the resolution — in D), and has a larger memory (8 Mbyte vs 1). There is more power for auxiliary sensors (500 ma vs 50), and they are acquired at 14-bit resolution rather than 12. Cabling is simpler and more reliable because there are four differential auxiliary inputs on two separate connectors, and a dedicated connector for the pump. All exposed metal parts are titanium — instead of aluminum — for long life and minimum maintenance.

The 19plus can be operated without a computer from even the smallest boat, with field data recorded in non-volatile FLASH memory and processed later on your PC, or data can be transmitted in real time over 7000 meter, single-core, armored cables directly to your computer's serial port. The instrument's faster sampling and pump-controlled TC-ducted flow configuration significantly reduces salinity spiking caused by ship heave, and allows slower descent rates for improved resolution of water column features. Auxiliary sensors for dissolved oxygen, pH, turbidity, fluorescence, PAR, and ORP can also be added, and for moored deployments the 19plus can be set to *time-series* mode using software commands.

The 19plus uses the same temperature and conductivity sensors proven in 5000 SEACAT and MicroCAT instruments, and a superior new micro-machined silicon strain gauge pressure sensor developed by Druck, Inc. Improvements in design, materials, and signal acquisition techniques yield a low-cost instrument with superior performance that is also easy to use. Calibration coefficients, obtained in our computer-controlled high-accuracy calibration baths, are stored in EEPROM memory. They permit data output in ASCII engineering units (degrees C, Siemens/m, decibars, Salinity [PSU], sound velocity [m/sec], etc.). The 19plus can be factory-configured to emulate the .HEX output format and 2 Hz data rate of old SEACATs for compatibility with existing software or instrument fleets.

Accuracy, convenience, portability, software, and support; compelling reasons why the SBE 19plus is today's best low-cost CTD.

CONFIGURATION AND OPTIONS

A standard SBE 19plus is supplied with:

- Plastic housing for depths to 600 meters
- Strain-gauge pressure sensor
- 8 Mbyte FLASH RAM memory
- 9 D-size alkaline batteries
- XSG bulkhead connectors: 4-pin I/O; 2-pin pump; and two 6-pin (two differential auxiliary A/D inputs each)
- SBE 5M miniature pump and T-C Duct

Options include:

- Titanium housing for use to 7000 meters
- Sensors for oxygen, pH, fluorescence, light (PAR), light transmission, and turbidity
- SBE 5T pump for use with dissolved oxygen and/or other pumped sensors
- Stainless steel cage
- MCBH *Micro* connectors
- Ni-Cad batteries and charger

SOFTWARE

SEASOFT®-Win32, our complete Windows software package, is included at no extra charge. Its modular programs include:

- SEATERM® — communication and data retrieval
- SEASAVE® — real-time data acquisition and display
- SBE Data Processing® — filtering, aligning, averaging, and display of CTD and auxiliary sensor data and derived variables

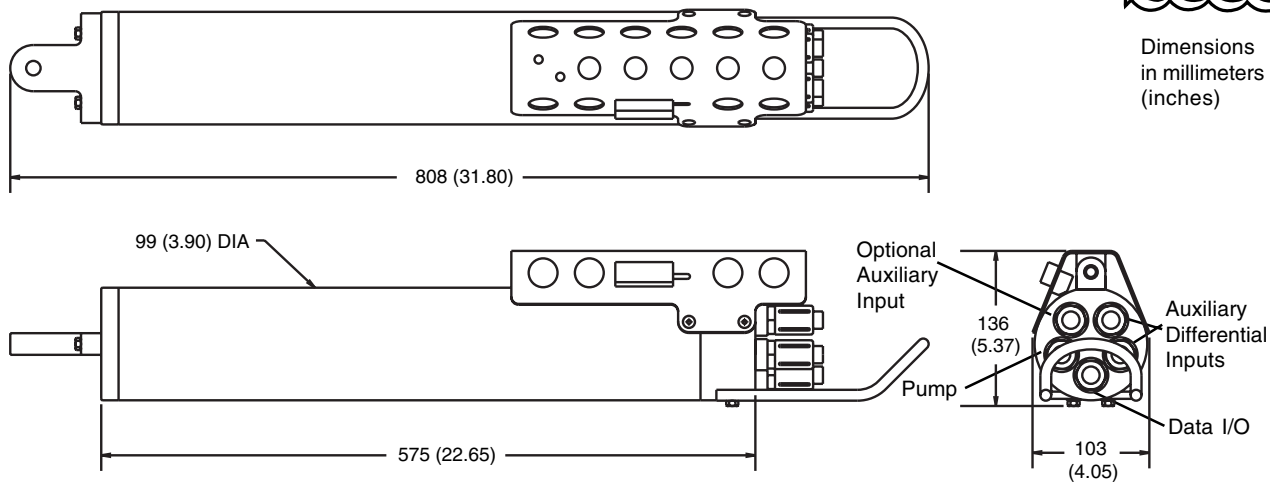


Shown with optional cage, SBE 5T pump, & SBE 43 DO sensor

SEACAT Profiler



Dimensions
in millimeters
(inches)



SPECIFICATIONS

Measurement Range

Temperature -5 to +35 °C
 Conductivity 0 to 9 S/m
 Pressure 0 to 20/100/350/1000/2000/3500/7000 meters

Initial Accuracy

Temperature 0.005 °C
 Conductivity 0.0005 S/m
 Pressure 0.1% of full scale range

Typical Stability (per month)

Temperature 0.0002 °C
 Conductivity 0.0003 S/m
 Pressure 0.004% of full scale range

Resolution

Temperature 0.0001 °C
 Conductivity 0.00005 S/m (most oceanic waters; resolves 0.4 ppm in salinity)
 0.00007 S/m (high salinity waters; resolves 0.4 ppm in salinity)
 0.00001 S/m (fresh waters; resolves 0.1 ppm in salinity)

Pressure 0.002% of full scale range

Memory

8 Mbyte non-volatile FLASH memory

Data Storage

Recorded Parameter	Bytes/Sample
T + C	6
pressure	5
each external voltage	2

Real-Time Clock

32,768 Hz TCXO accurate to ±1 minute/year

Internal Batteries

9 alkaline D-cells provide 60 hours continuous CTD operation;
 optional 9-cell rechargeable nickel-cadmium battery pack
 provides approximately 24 hours operation per charge

External Power Supply

9 - 28 VDC

Power Requirements

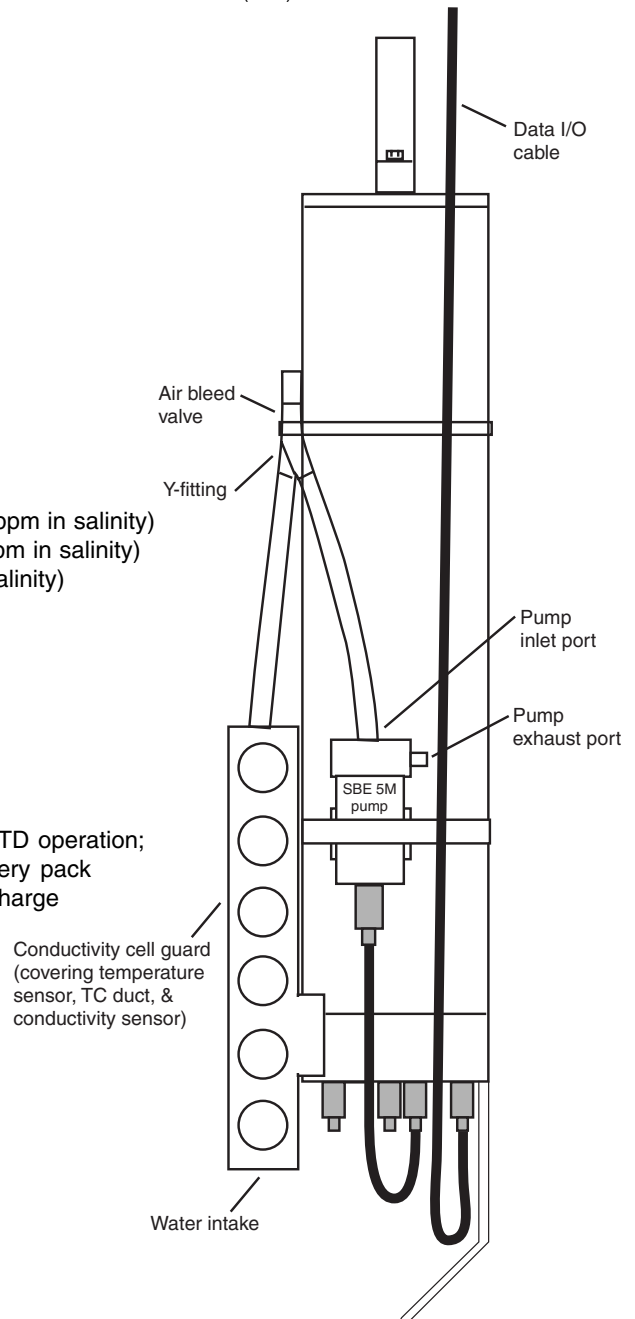
Sampling 65 mA
 SBE 5M pump 95 mA
 Quiescent 30 µA

Auxiliary Voltage Sensors

Auxiliary power out up to 500 mA at 10.5 - 11 VDC
 A/D resolution 14 bits
 Input range 0 - 5 VDC

Housing Materials/Depth Rating/Weight

Acetal Copolymer Plastic housing / 600 meter (1950 feet) / 7.3 kg (16 lbs)
 3AL-2.5V Titanium housing / 7000 meter (22,900 feet) / 13.7 kg (30 lbs)



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