

# Mini Submersible Pump

**SBE 5M**  


The SBE 5M pump module consists of a centrifugal pump head and a long-life, DC ball bearing motor contained in a compact, titanium, pressure housing usable to 10,500 meters deep. The pump impeller and electric drive motor are coupled magnetically through the housing, providing high reliability by eliminating moving seals.

## APPLICATIONS

The SBE 5M is a primary component in Sea-Bird's SBE 19*plus* SEACAT Profiler CTD. It is also used as optional equipment on the SBE 16*plus* SEACAT C-T Recorder. The pump flushes water through the conductivity cell at a constant rate, independent of the CTD's motion, improving dynamic performance.

## CONFIGURATION

The SBE 5M is configured for profiling (continuous duty) or moored (pulsed duty) applications by selecting one of two instrument-determined motor operating voltages. Specify option 5M-1 for use with the SBE 19*plus*. Specify option 5M-2 for use with the SBE 16*plus*. Contact Sea-Bird for use in other applications.

## OPERATION

Motor speed and pumping rate remain constant over the entire input voltage range. The motor drive electronics is intrinsically protected against accidental reversed polarity.

## SPECIFICATIONS

### Option 5M-1: input voltage range 9 - 18 VDC

Flow rate (conductivity only)	25 ml/s	supply current 95 ma
Flow rate (conductivity & D.O.)	24 ml/s	supply current 93 ma
Flow rate (TC Duct)	18 ml/s	supply current 90 ma
Flow rate (TC Duct & D.O.)	18 ml/s	supply current 90 ma

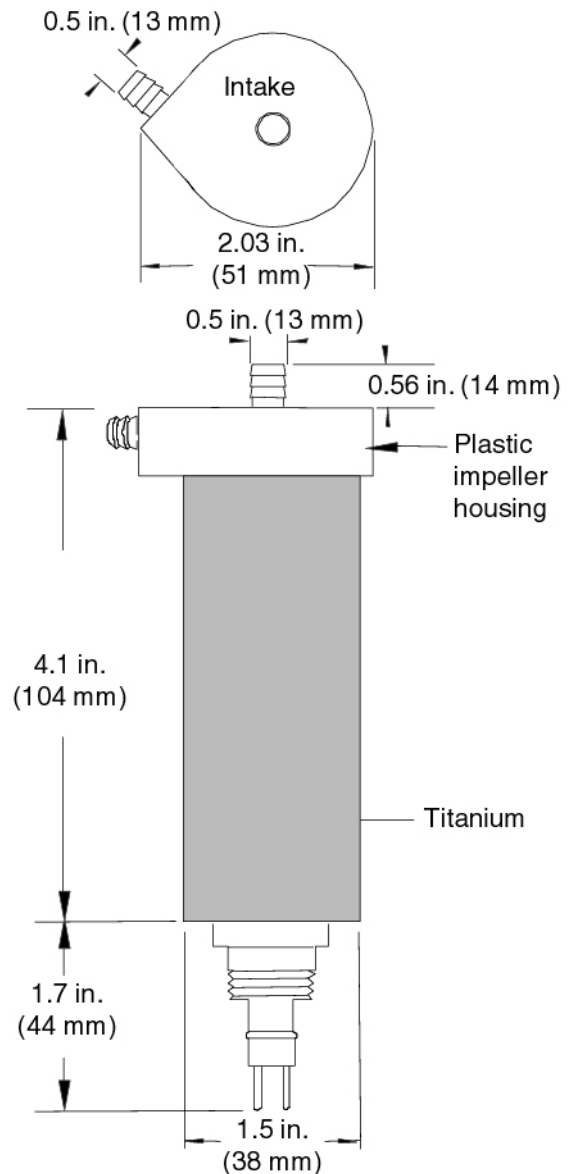
Note: supply current is independent of operating voltage.

### Option 5M-2: input voltage range 6 - 18 VDC (pulsed duty)

Pulse duration	Flow volume (conductivity only)	Electrical charge
0.5 seconds	15 ml	0.148 amp-seconds
1.0 seconds	21 ml	0.283 amp-seconds
1.5 seconds	31 ml	0.418 amp-seconds
2.0 seconds	40 ml	0.553 amp-seconds

Pulse duration	Flow volume (TC Duct)	Electrical charge
1.0 seconds	21 ml	0.283 amp-seconds
1.5 seconds	29 ml	0.418 amp-seconds
2.0 seconds	39 ml	0.553 amp-seconds

Weight in Air: 0.42 kilos (0.91 lbs.)  
 Weight in Water: 0.28 kilos (0.60 lbs.)



XSG-2BCL-HP-SS

