Valeport’s SWiFTplus Multi-Parameter Profiler with a Turbidity sensor combines survey-grade sound speed, temperature and pressure sensor technology with Turbidity observations. The package is completed with the convenience of Bluetooth connectivity, rechargeable battery and an integral GPS module to geo-locate each profile.

- Multi-Parameter Profiler
  - CTD, Sound Speed, Salinity, Density
  - Dual Optical Backscatter (OBS) and Nephelometer Turbidity Sensor
  - Up to 32Hz sampling rate
- Bluetooth and USB connectivity
- Integral GPS receiver for geo-location of profile
- Rechargeable Lithium-ion Battery
- Dedicated PC software and iOS portable device App

SWiFTplus Turbidity

**Multi-parameter profiler**

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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.

**Sensor Specification**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Nephelometer: 0 to &gt;1,000 NTU - linear response</th>
<th>OBS: 0 to &gt;4,000 NTU - linear response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linear Range</strong></td>
<td>0 to 1,000 NTU</td>
<td>0 to &gt;4,000 NTU</td>
</tr>
<tr>
<td><strong>Linearity</strong></td>
<td>0.99 R²</td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Detection Level</strong></td>
<td>0.03 NTU</td>
<td></td>
</tr>
</tbody>
</table>

### Conductivity

- **Range**: 0 - 80 mS/cm
- **Resolution**: 0.001 mS/cm
- **Accuracy**: ±0.05 mS/cm

### Temperature

- **Range**: -5°C to +35°C
- **Resolution**: 0.001°C
- **Accuracy**: ±0.01°C

### Pressure

- **Range**: 10 Bar or 20 Bar
- **Resolution**: 0.001% FS
- **Accuracy**: ±0.05% FS

#### Sound Velocity

**Range**: 1375 – 1900 m/s
**Resolution**: 0.001 m/s
**Accuracy**: ±0.02 m/s

### Salinity

- **Range**: 0 - 42 PSU
- **Resolution**: 0.001 PSU
- **Accuracy**: ±0.05 PSU

### Density

- **Range**: 990 - 1035 kg/m³
- **Resolution**: 0.001 kg/m³
- **Accuracy**: ±0.05 kg/m³

### Materials

- Housing: Titanium
- Sinker weight: Stainless steel
- Optical window: Sapphire glass

### Depth rating

- 200m

### Dimensions

- Ø78mm x Length 307mm (with sinker weight)

### Weight

- 2.7kg (in air) / 1.7kg (in water) including optional sinker weight

### Communications (setup and data offload)

- Bluetooth v4 - low energy
- USB Serial

### Memory

- 2 GB Internal Flash Card Storage

### Electrical

- Battery
- Internal rechargeable Li-ion battery pack

### Charging

- USB - Supplied mains AC adapter

### Software

- Connect iOS for Bluetooth compatible mobile devices:
  - Instrument set-up, data offload and data display
- Connect PC for both USB and Bluetooth connectivity:
  - Instrument set-up, data offload and data display
- Both will export data in common file formats that are compatible with industry standard Hydrographic software packages
- Android App to follow

### Ordering

- **0660047-10-Tu**
  - SWiFTplus profiler with Turbidity sensor - 100m rated
- **0660047-20-Tu**
  - SWiFTplus profiler with Turbidity sensor - 200m rated

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