bathyMetrec•X is the only instrument to combine all the key features of a bathymetric system: a low drift, high accuracy 0.01% Paroscientific Digiquartz® pressure sensor; a high accuracy time-of-flight sound velocity sensor for altimeter correction; and the ability to calculate salinity and density and to apply that calculation to true depth.

bathyMetrec•X offers another unique advantage over competitors: the instrument can be field-configured to suit the application at hand. In addition to the instrument’s internal 0.01% Paroscientific Digiquartz® pressure sensor, the user can connect up to four field-swappable Xchange™ sensor-heads. Available sensor-heads include conductivity, time-of-flight sound velocity, pressure, temperature, and turbidity. Piezo-resistive pressure sensor-heads are also available, if desired. Field-swappable sensor-heads can be shared with all other models of X•Series instrument. Changing Xchange™ sensor-heads is easy: simply unscrew one sensor-head and replace it with another.

bathyMetrec•X offers high-speed 25Hz sampling, ensuring excellent data resolution. External altimeters from a variety of manufacturers are available as an option. Sound velocity, as directly measured by AML’s time-of-flight sound velocity sensor, is used to compensate the altimeter in real-time.

bathyMetrec•X calculates salinity and density using UNESCO accepted equations. Software based look-up tables ensure density compensation for true depth.
**Key Benefits:**

- 0.01% Paroscientific Digiquartz® pressure sensor ensures accurate, precise depth measurement
- 0.025 m/s time-of-flight sound velocity sensor is 10 times more accurate than conductivity and temperature calculated sound velocity
- Instrument able to incorporate sound velocity, conductivity, or sound velocity and conductivity Xchange™ sensor-heads
- Field-swappable sensor-heads allow the user to configure the instrument to suit today’s application requirements
- Optional altimeter with real-time SV compensation

**Note:**
- The Digiquartz® sensor is not field-swappable and is permanently mounted in the instrument.
- All other sensors are field-swappable

**Xchange™ and X•Series:**

- Each Xchange™ sensor-head includes its own embedded calibration
- Sensors exchange easily without use of specialty tools
- Swap any sensor with another sensor of its own kind, regardless of range
- Exchange conductivity with sound velocity, regardless of range
- Exchange pressure with temperature, DO and turbidity regardless of range

**Electrical:**

- Gigabyte non-volatile memory for logging with simultaneous real-time output
- Sampling rates up to 25 Hz (25 scans per second)
- Auto detect RS232 (cable length up to 100m) or RS485 (cable length up to 3000m)
- Real time clock
- Additional channels (4 analog or 2 digital, optional)
- External power only
- 8 to 26 VDC, 0.3 A external (via power/data cable)
- 22 to 26 VDC, 2.2 A startup, 0.6 A operating when equipped with optional altimeter

**Mechanical:**

- Housing & End Cap: Hard-coat anodized Aluminium (6061-T6 for 5000m rating, 7075-T6 for 6000m rating)
- Size: 100 mm (4.0”) diameter x 480mm (19.0”) OAL
- Connector: Subconn MCBH-8FS
- Storage Temperature: -40°C to 60°C
- Operating Temperature: -20°C to 45°C

**Sampling Modes:**

- User configurable (by time, by pressure, by sound velocity)

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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
<th>Precision</th>
<th>Accuracy</th>
<th>Resolution</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digiquartz®</td>
<td>Up to 6000dBar</td>
<td>+/-0.01%FS</td>
<td>&lt;+/-0.01%FS</td>
<td>0.0001%FS</td>
<td>10 milliseconds</td>
</tr>
<tr>
<td><strong>Xchange™</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C•Xchange™</td>
<td>0 to 70 mS/cm</td>
<td>+/-0.003mS/cm</td>
<td>+/-0.01mS/cm</td>
<td>0.001mS/cm</td>
<td>25ms at 1m/s flow</td>
</tr>
<tr>
<td>SV•Xchange™</td>
<td>1375 to 1625 m/s</td>
<td>+/-0.006 m/s</td>
<td>+/-0.025 m/s</td>
<td>0.001 m/s</td>
<td>47 microseconds</td>
</tr>
<tr>
<td>P•Xchange™</td>
<td>Up to 6000 dBar</td>
<td>+/-0.03%FS</td>
<td>+/-0.05%FS</td>
<td>0.02%FS</td>
<td>10 milliseconds</td>
</tr>
<tr>
<td>T•Xchange™</td>
<td>-5 to 45°C</td>
<td>+/-0.003°C</td>
<td>+/-0.005°C</td>
<td>0.001°C</td>
<td>100 milliseconds</td>
</tr>
<tr>
<td>Turbidity-Xchange™</td>
<td>up to 3000 NTU</td>
<td>up to +/-3%NTU</td>
<td>up to +/-3%NTU</td>
<td>up to 0.5NTU</td>
<td>&lt;0.7s (3s to 95%)</td>
</tr>
<tr>
<td>*Salinity (Calculated)</td>
<td>0 to 42 psu</td>
<td>+/-0.06psu</td>
<td>+/-0.01psu</td>
<td>0.001psu</td>
<td></td>
</tr>
<tr>
<td>*Density (Calculated)</td>
<td>990 to 1230kg/m³</td>
<td>+/-0.027kg/m³</td>
<td>0.001kg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X•Series instruments do not come with sensor-heads; please order them separately.
*Calculated parameters are based on C•Xchange™, T•Xchange™ and installed pressure sensor.
Other ranges are available; please contact us. All specifications subject to change without notice.