

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, temperature, dissolved oxygen, 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.

The 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.



C•Xchange™



SV•Xchange™



P•Xchange™



T•Xchange™



DO•Xchange™



Turbidity  
•Xchange™

## 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)

Parameter	Range	Precision	Accuracy	Resolution	Response
<b>Internal</b>					
Digiquartz®	Up to 6000dBar		+/-0.01%FS	0.0001%FS	10 milliseconds
<b>Xchange™</b>					
C•Xchange™	0 to 70 mS/cm	+/-0.003mS/cm	+/-0.01mS/cm	0.001mS/cm	25ms at 1m/s flow
SV•Xchange™	1375 to 1625 m/s	+/-0.006 m/s	+/-0.025 m/s	0.001 m/s	47 microseconds
P•Xchange™	Up to 6000 dBar	+/-0.03%FS	+/-0.05%FS	0.02%FS	10 milliseconds
T•Xchange™	-5 to 45°C	+/-0.003°C	+/-0.005°C	0.001°C	100 milliseconds
**DO-Xchange™	0 to 50 mg/L		<5%mg/L	0.1mg/L	1s
**Turbidity-Xchange™	up to 3000 NTU	up to +/- 3%NTU	up to +/- 3%NTU	up to 0.5NTU	<0.7s (3s to 95%)
*Salinity (Calculated)	0 to 42 psu	+/-0.06psu	+/-0.01psu	0.001psu	
*Density (Calculated)	990 to 1230kg/m³		+/- 0.027kg/m³	0.001kg/m³	

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.

\*\*Pre-release specifications - final specifications to be determined.

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