

# MIDAS BathyPack



The MIDAS BathyPack is one of Valeport's premier MIDAS products, using state of the art sensors to generate precision Sound Velocity and Density profiles for highly accurate depth and height data. The simple top-end PC software, BathyLog, also allows all profile data to be used to monitor and correct multiple miniIPS pressure sensors, giving you the complete picture with one integrated sensor suite.

## Specifications

|                          |                  |
|--------------------------|------------------|
| <b>Product</b>           | MIDAS BathyPack  |
| <b>Country of origin</b> | UK               |
| <b>Manufacturer</b>      | Valeport Limited |

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## Sensors

### Conductivity

Robust, accurate inductive cell. Digital sampling technique means no more field calibrations

|                   |                  |
|-------------------|------------------|
| <b>Range</b>      | 0 - 80 mS/cm     |
| <b>Accuracy</b>   | $\pm 0.01$ mS/cm |
| <b>Resolution</b> | 0.002 mS/cm      |

### Temperature

Fast response PRT with guard

|                   |                |
|-------------------|----------------|
| <b>Range</b>      | -5 to +35 °C   |
| <b>Accuracy</b>   | $\pm 0.005$ °C |
| <b>Resolution</b> | 0.002 °C       |

### Pressure

Revolutionary temperature compensated piezo-resistive sensor; all the performance of a resonant quartz sensor but with long term stability and better durability. No more oil!

|                   |                            |
|-------------------|----------------------------|
| <b>Range</b>      | 10, 30, 100, 300 or 600Bar |
| <b>Accuracy</b>   | $\pm 0.01\%$ range         |
| <b>Resolution</b> | 0.001% range               |

### Sound Velocity

Valeport's digital time of flight sensor - the most accurate SV sensor in the world.

|                   |                 |
|-------------------|-----------------|
| <b>Range</b>      | 1375 - 1900 m/s |
| <b>Accuracy</b>   | $\pm 0.02$ m/s  |
| <b>Resolution</b> | 0.001 m/s       |

## Calculations

|                 |  |
|-----------------|--|
| <b>Density</b>  | EOS-80 Equation of State of Seawater                                       |
| <b>Salinity</b> | PSS78 Practical Salinity Scale   |
| <b>Depth</b>    | UNESCO Pressure/Depth Relationship or Simplified "Mean Density" Correction |

## Altimeter

BathyPack accepts a variety of industry standard devices. Typical specification

|                   |                               |
|-------------------|-------------------------------|
| <b>Frequency</b>  | 500kHz                        |
| <b>Range</b>      | 0 - 50 m (6000m depth rating) |
| <b>Resolution</b> | 1mm                           |

## Data Acquisition

|                          |                                   |
|--------------------------|-----------------------------------|
| <b>Data Sampling</b>     | 2Hz                               |
| <b>Lookup Table</b>      | 6000 points (1m res. @ max depth) |
| <b>Sampling Sequence</b> | Synchronous                       |

## Communications

The instrument will operate by direct communications with PC before and after deployment. It also operates in real time, with a choice of communication protocols for a variety of cable lengths, all fitted as standard and selected by pin choice on the output connector:

|                  |   |
|------------------|---|
| <b>Standard</b>  |   |
| <b>RS232</b>     | Up to 200m cable, direct to serial port via USB adaptor |
| <b>RS485</b>     | Up to 1000m cable, addressable half duplex comms        |
| <b>Baud Rate</b> | 2400 - 115200   |
| <b>Protocol</b>  | 8 data bits, 1 stop bit, No parity, No flow control     |

## Electrical

|                       |                 |
|-----------------------|-----------------|
| <b>External power</b> | 12 - 30vDC      |
| <b>Power</b>          | Nominal 4W max  |
| <b>Connector</b>      | Subconn MCBH10F |

## Physical

|                        |   |
|------------------------|---|
| <b>Materials</b>       | Titanium housing, polyurethane, composite and polycarbonate sensor components |
| <b>Depth rating</b>    | 6000m (may be limited by pressure sensor)                                     |
| <b>Instrument size</b> | 88mmØ x 425mm long  |
| <b>Weight</b>          | 6kg   |
| <b>Shipping</b>        | 74 x 35 x 27cm, 13kg  |

## Software

System is supplied with BathyLog Windows based PC software, for instrument setup and data display. BathyLog is licence free.

|                             |   |
|-----------------------------|---|
| <b>Ordering<br/>0608002</b> | MIDAS BathyPack in titanium housing with BathyLog software, 0.5m altimeter input pigtail, 3m interface lead, manual and transit case. |
|-----------------------------|---|

## Specify

Required pressure range

Altimeter requirements

## Associated Products

0760001 minilPS Pressure Sensor