New product release

Closed Circuit Research is pleased to announce the launch of our range of Universal Rebreather Monitors

Universal Rebreather Monitor (URBM)
Single O2 cell and Dual HP package

Key features and benefits include:

- Real-time PO2 and decompression information displayed on VR wrist unit
- A hard wired Heads Up Display (HUD) which indicates PO2 and decompression status
- High pressure oxygen and diluent pressures displayed on the wrist unit with high usage rate warnings and low tank pressure warnings.
- P02 set point alarms for the HUD, on user selected set points.

Please note that due to the substantial reprogramming that is required for the VR wrist unit to be compatible with the monitor(s) some standard features of a stand alone VR3 must be removed, as follows:

XB & XO the option to monitor information from a standard Rebreather 4th cell display and O2 analyzer has been disabled.

The IR link has been removed, therefore the VR can only be downloaded by using our USB hardwire connector and the new **Prolink 2007** software.

HP the stand alone High Pressure link option has been disabled. HP content information and features are only available via the singe sensor, 2x HP Rebreather monitor.

Calendar function has been disabled

Please note: The Core Module is potted and sealed; there is nothing to be adjusted inside. In the event of a failure, the entire Monitor must be returned intact. Any attempt to gain access to the Core Module will void the manufacturers' warranty.

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Universal Rebreather Monitor (URBM)
Single O2 cell and HP package

Hardware connections

- Connect the white HP sensor and adapter to the HP port on your oxygen regulator
- Connect the yellow HP sensor and adapter to the HP port on your diluent regulator
- Fit both regulators to the cylinders turn on the gas supply slowly and check for leaks

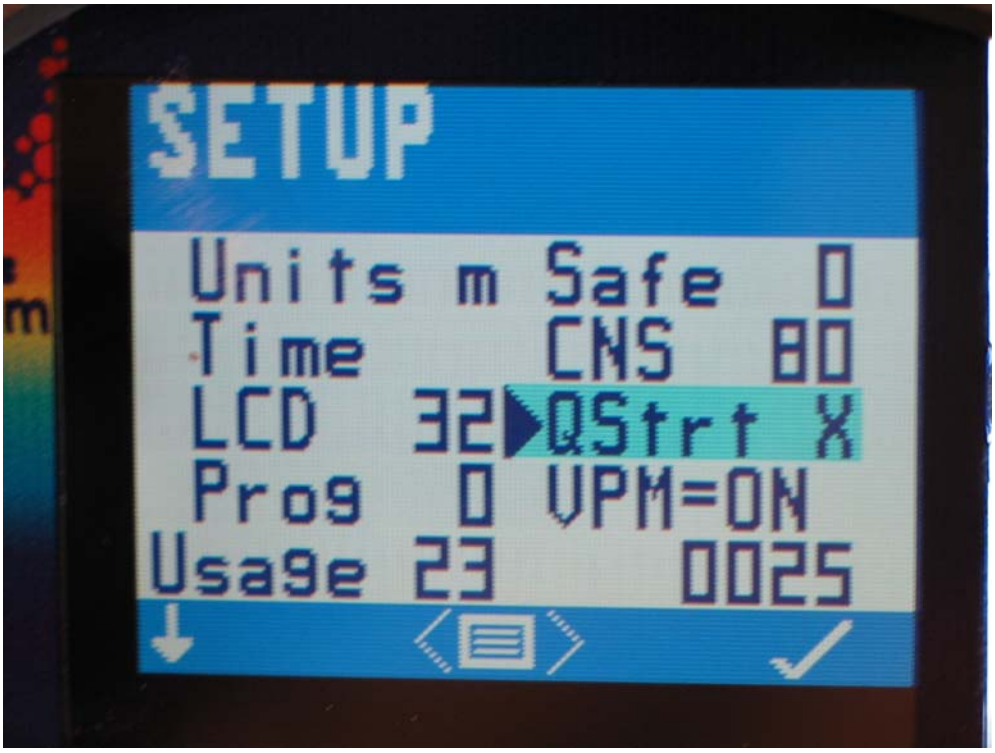
- Insert R17D sensor onto jack plug on the end of the oxygen cell cable (C10)..
- Ensure the small cell retaining ring is inserted into the Y-Shaped cell holder; this prevents the sensor from becoming dislodged from the jack plug.
- Lightly lubricate the cap o-rings with silicone grease and screw the cable end into the cell holder.

Setup screen Q start feature

- A new feature added to the setup menu on the Universal Re-breather monitor is **Q-Start.** This allows the user to choose between **X (expert)** and **N (normal) modes.**
- **N mode** has all the normal settings available on a standard VR3
- **X mode** gives the user a choice in the **DVo** screen to turn on Average depth display, and large PO2 screen saver, also the choice to use **Profile B** or diluent as a bailout gas when going from closed circuit to open circuit.
- Instructions on how to access and navigate the setup screen are covered on **page 19 and 25 in the VR3 manual.**

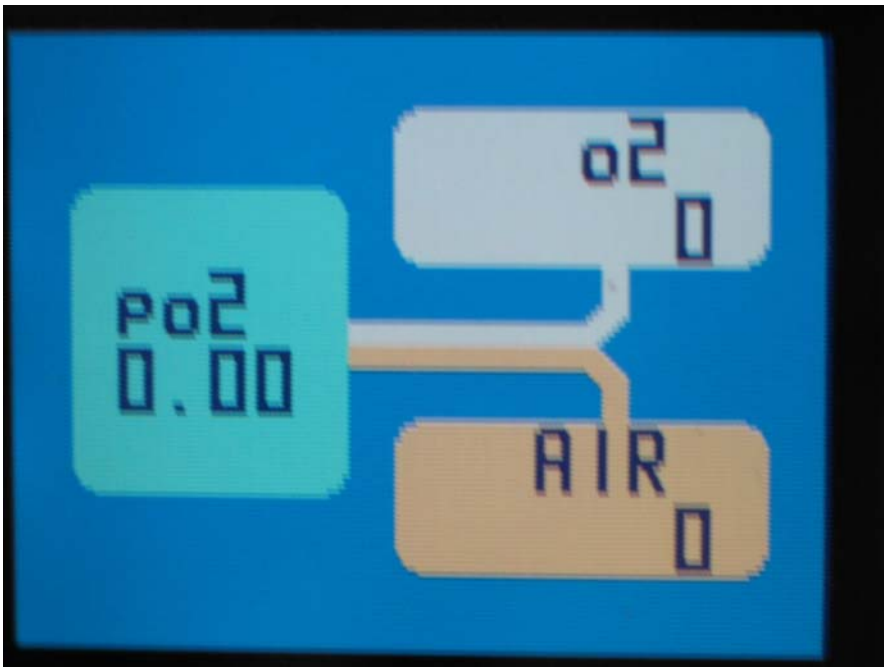
Normal mode and Expert mode

- The Rebreather monitor has two mode displays available **normal mode N** and **expert mode X**. These are user selectable via the setup screen before diving (you cannot change this setting during a dive).



- In the picture above **X mode** option is highlight and activated.

Dry screen savers



- When in **N** mode this is the screen saver display you will see, this displays a PO2 reading and O2 and diluent tank pressures. When viewed with the colour screen option the tank pressure colours correspond to the coloured tapes on the HP sensors, **white for oxygen, yellow for diluent.**

- **X** mode the dry screen saver is displayed with PO2 in large numbers in the bottom left of the screen, HP contents and PO2 on the bottom right and current battery voltage and temperature along the top line.

HP Sensor screen

- This is the HP screen, accessible by a long press of the left switch when the HP contents gauge symbol is displayed. It displays the current tank pressure of the O2 as **WHT** (white) and diluent as **YEL** (yellow). These correspond to the colour tape on the sensor cables. **It is important to connect these correctly.**

DVo Screen

- This is the DVo screen accessible by a long press of the left switch when the DVo icon is displayed in the home screen.
- A quick press of both switches moves the cursor between functions.
- **XDec On** activates real-time decompression calculations based on the external sensor readings
- **XDec Off** diverts decompression calculations to the VR fixed set points.
- **HUD** allows the user to adjust the brightness of the HUD from completely **off** to **9** which is the brightest setting.
- **ScrSv** Adjusts the time between home screen and screen saver. It can also give you the option to switch the screen saver off.
- **BG** Is the option for bigger graphics
- **Light** adjusts the backlight options
- **Stop D** allows the user to choose the final stop depths; 3m (10ft), 4.5m (15ft) and 6m (20ft).
- For further information on the **DVo** screen please refer to **page 16 to 18 of the VR3 manual.**

Calibration

- To calibrate the O2 sensor please follow the instructions on **page 57 of the VR3 manual.**

On Screen Warnings

- Any system warnings are shown in the top right hand display; the warning in this picture shows HP diluent and O2 pressures and no signal from the external oxygen cell.
- When using a colour screen the right-hand side of the display changes to red to draw the diver's attention to the fact that a warning is in force.

Screen saver in dive mode

Screensaver is the screen view that cuts in after a short delay when no switch has been pushed, (the delay period can be set in the Dvo screen see **Pg 7** of this guide.) When a switch is pushed the screen view returns to dive or surface mode, whichever is appropriate.

- Current PO2 is displayed in large letters.
- Current depth and time is displayed at the top of the screen.
- Any current system warnings are displayed in the top right corner.
- HP contents and PO2 are displayed on the bottom right corner.
- **DECO** is displayed in the top right when decompression is entered (unless it has been over written by a warning): further information on the decompression dive screen can be found on **page 45 of the VR3 manual**.

HUD Operations

- The Heads Up Display (HUD) is designed to fit on a mounting bracket and attach to the side of the mouthpiece of the rebreather, it contains 2 LEDs, one red and one green.

PO2 HUD parameters

- **SOLID GREEN LED**
  PO2 within 0.2 of VR set point (normally set at the PO2 of the rebreather's set point controller). Instructions on how to adjust the VR set point is on **page 39 of the VR3 manual.**

- **SLOW FLASHING GREEN LED**
  PO2 more than 0.2 below VR set point.

- **FAST FLASHING GREEN LED**
  PO2 more than 0.2 above VR set point

- **SOLID RED LED**
  Within +/- 1 metre (3 feet) of decompression stop depth.

- **SLOW FLASHING RED LED**
  In decompression and below the decompression ceiling,

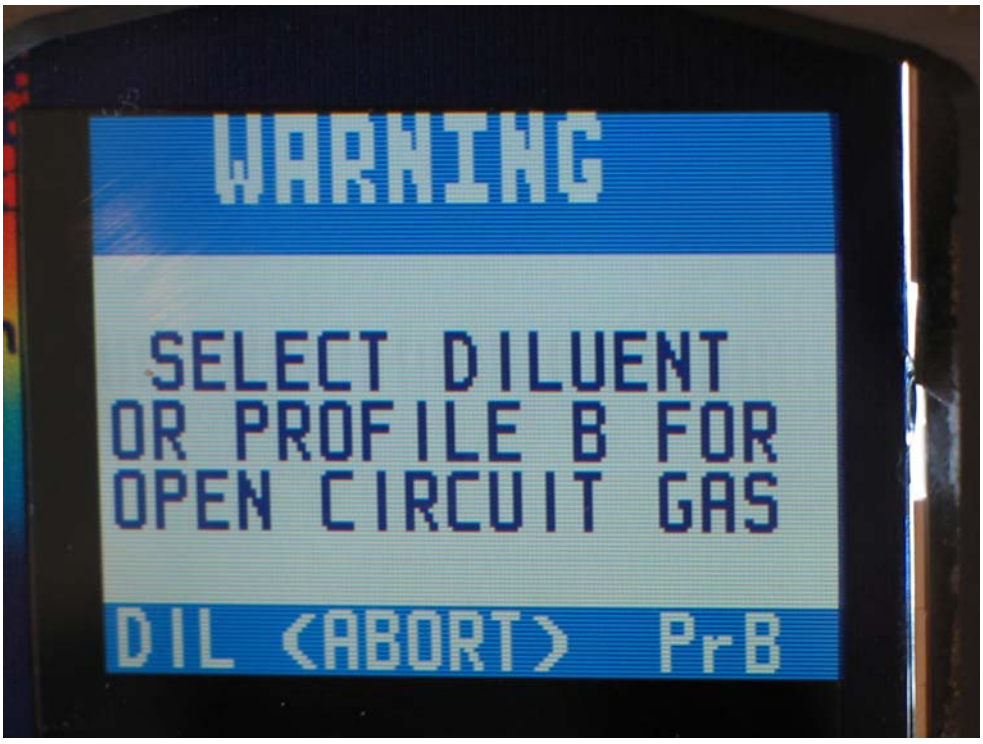
- **FAST FLASHING RED LED**
  Decompression ceiling violated (descend until RED LED turns SOLID)

- **FAST FLASHING RED LED**
  PO2 is > 1.6 or <0.3.

- **RED LED FLASH WHEN ON SURFACE BEFORE DIVE**
  Red LED will flash slowly on surface mode this is so the diver knows it is operational before a dive.

CCR Bailout Options

- When bailing out to open circuit follow the instructions on **page 40 of the VR3 manual.**



- When **X mode** is selected in **Q-Start** and you bailout to open circuit you get the option either to bailout to your diluent gas (**DIL**) or to one or more deco gases that you leave preset in profile B (**PrB**). To select this option make a quick switch on the corresponding symbol, check the details are correct on the select screen and tick it**. You are now on your bailout gas.** The instructions on how to add and save a profile are on **page 20 of the VR3 manual.**
- Once in open circuit mode the **XDec** information is automatically switched off, the
- Screen saver mode is also disabled. The red HUD decompression LED will still be active and can still be used as a guide when decompressing in open circuit mode.
- If Closed Circuit mode is activated again the **XDec** automatically switches on and calculates decompression based on the current PO2 reading from the external oxygen cell.
- If you enter the Bailout warning screen in error a long push on both switches (**ABORT**) will return you to the dive screen.