

Slide 1



Slide 2

The slide has a white background with a blue header. The title "Why rEvo?" is in a blue font. To the right of the text is a photograph of a person kneeling next to a large, white, cylindrical rebreather tank. The rEvo logo is in the top right corner.

### Why rEvo?

- Simplicity and Function
- Low Profile
- Fully redundant electronics
- Economical to run
- Options for every diver
- Testing and Approval
  - CE Approval (2009)
  - In-house testing (2008)

Slide 3

The slide has a white background with a blue header. The title "Who is rEvo?" is in a blue font. To the left of the text is a photograph of a diver underwater. The rEvo logo is in the top right corner.

### Who is rEvo?

- Division of Raytech
- Raytech started in 1988
- 2008 rEvo II introduced after 5 years of testing
  - 2009 rEvo III mCCR (80 M CE rating)
  - 2010 rEvo III eCCR (100 M CE rating)
- Renewed ISO 9001:2008 certification including rebreather production.
- Full ANSTI rebreather testing facility on site for constant testing (2008)

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**rEvo**  
REBREATHERS

### Options






- **Unit Size**
  - Standard rEvo III
  - Mini rEvo III
  - Micro rEvo II
- **Case Material Construction**
  - Stainless steel
  - Titanium
- **Style**
  - mCCR
  - Hybrid CCR
  - eCCR
- **Electronics**
  - rEvo Dreams
  - Shearwater Predator

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REBREATHERS

### Unit Size

	Standard	Mini	Micro
Dimensions (cm)	63 x 38 x 22.5	58 x 38 x 22.5	54 x 36 x 22.5
Dimensions (in)	25 x 15 x 9	23 x 15 x 9	21.3 x 14.3 x 9
Counter Lung Vol.	7.0 L	6.5 L	5.5 L
Empty Weight in kg (lbs.)			
Dive Weight (w/ steel tanks)			

Having a tough time finding micro values for III.

Should I use the same values as the rEvo II micro?


This is an animation. Test this to make sure it works on your computer.

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REBREATHERS

### Rebreather Model

- **Manual**
  - Constant Mass Flow O<sub>2</sub>
  - 80 M depth
- **Hybrid**
  - Constant Mass Flow O<sub>2</sub>
  - Solenoid O<sub>2</sub> Addition
  - Controlled by Shearwater Predator
- **Full eCCR**
  - Solenoid O<sub>2</sub> Addition



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### Case Construction

- **Stainless Steel**
  - Sturdy
  - Unit is Negatively Buoyant in the water
  - Weight evenly distributed across the whole frame for improved trim
- **Titanium**
  - Light weight
  - Optimal weight for travel



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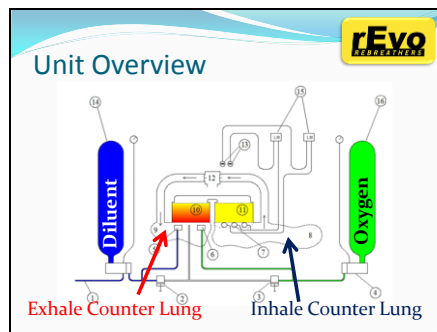
**rEvo**  
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### Electronics

- **Shearwater Predator**
  - Fischer Connector (mCCR)
  - Hardwired (all models)
- **rEvo Dream**
  - Digital gauge
  - 1 or 2 Dreams
  - 1 or 2 cell monitoring



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This is animated. Just click and the counter lung labels will show up.

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RESEARCH & DEVELOPMENT

## Components

- Tanks
- Scrubbers
- Loop
- Cells
- Gas Addition
- Harness and Wing
- Heads Up Display
- Electronics
- Upgrades




Video Credit: Curt Bowen and Peter Soto

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**rEvo**  
RESEARCH & DEVELOPMENT

## Tanks

- Steel or Aluminum
- 2 or 3 liter
- Quick mount and removal with simple brackets




Video Credit: Curt Bowen and Peter Soto

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RESEARCH & DEVELOPMENT

## Scrubber

- **Dual Axial Scrubbers**
  - 6 lbs. of sorb
  - 3 hours at 4°C
  - 4.5 hours at 15°C
  - Extended if properly cycled between dives
- **Dual Radial Scrubber**
  - 8.8 lbs. of sorb
  - 5 hours at 4°C
  - 7 hours at 15°C



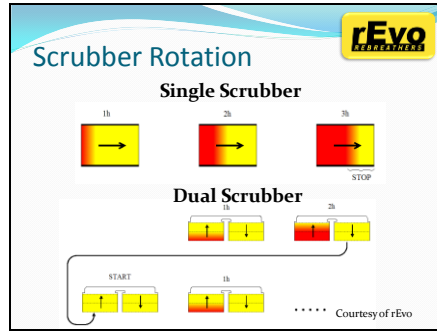
Video Credit: Paul Raymaekers

This will initially show the axial scrubbers which will animate out to the video.

The video will show how quickly the axial scrubbers can be converted.

Simply click on the video and it will begin playing.

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Slide 14



Slide 15

**Scrubber Use**

- Quickly interchangeable
- Simple rotation
- Economical sorb consumption

Video Credit: Curt Bowen and Peter Sotis

On a click the original image will slide out of the way revealing the video.

Please click on the video and it should start to play.

Please test this in slide show mode.

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## Loop

**Components**

- Threaded connectors
- Simple DSV
- Head Straps
- Hose weights

**Options**

- Cooper Hoses
- Hose covers




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REBREATHERS

## Cells

- 3-5 cell trays
- Standard connections with Molex connectors
- Improved moisture resistance due to mounting direction
- Easy maintenance and access



Video Credit: Curt Bowen and Peter Sotis

Click on the slide and the still image will slide out of the way. Click on the video and it will show a quick clip of cell replacement.

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REBREATHERS

## Harness and Wing



- Stock Harness and Wing
- Shoulder harness
  - Brings rebreather close to back
- Adjustable Lumbar Support
  - Positioning Improves WOB
- Extremely adjustable
- Compatible with many other harness systems.

These are animated arrows as you click through the arrows will pop up.

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RESEARCH

### Controller: Shearwater Predator

- **Integrated Decompression Software**
- **mCCR**
  - Fischer Connector
  - Hard-wired
- **Hybrid CCR**
  - Hard-wired
  - Functions as controller
    - Multiple set points
- **eCCR**
  - Hard-wired
  - Functions as controller
    - Multiple set points



Courtesy of Shearwater Research

The image shows a close-up of the Shearwater Predator CCR controller. It features a digital display with green and red text showing various parameters such as PO2, time, and depth. The display is mounted on a black, ruggedized housing with several screws.

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### Heads Up Display

- Simple 3 light display
  - Red (High PO<sub>2</sub>)
  - Green
  - Orange (low PO<sub>2</sub>)
- Clips to DSV
- Linked to rEvo dream

*Options*

- 1 or 2 displays
- left or right eye



The image shows two views of the Heads Up Display. The top view shows two circular gauges with colored lights (red, green, orange) mounted on a blue plastic base. The bottom view shows the same base with a black strap and buckle, indicating it clips onto a DSV.

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### rEvo Dreams

- Sealed unit
- Integrated O<sub>2</sub> gauge
- Simple Electronics
- Fully redundant from Shearwater controller
- Unit is diveable with 2 rEvodreams



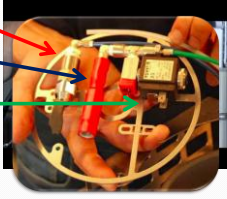
The image shows two views of the rEvo Dreams unit. The top view shows the unit mounted in a DSV, with two gauges visible. The bottom view shows a close-up of the unit, highlighting the integrated O<sub>2</sub> gauge and the simple electronics.

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RESEARCH

### Gas Addition

- Automatic Diluent Valve
- Constant Mass Flow
- Solenoid O<sub>2</sub> Addition
  - hCCR and eCCR only
- Manual addition
  - Recessed Buttons
  - Gas Block



Video Credit: Curt Bowen and Peter Setis

Animated arrows. Click through and arrows will pop up.

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### Manual Gas Addition



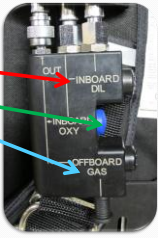
These images are animated.

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### Gas Block

- Inboard Gas Addition
  - Diluent
  - O<sub>2</sub>
- Off-board Addition
- Advantages
  - Large Buttons
  - Recessed O<sub>2</sub>
  - Easy Access
  - Increased range



Add arrows

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**rEvo**  
RECYCLING

### Pre-Dive Set up

- Scrubbers
- Gas Supply
- Loop
- Gas Additions and Calibration



I know this is a repeated image but I think it fits here.

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RECYCLING

### Scrubber Set-up



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### Loop Setup



One click will cause the still to disappear. One click on the middle of the video will start it going.

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RECREATIONAL

### Calibration

- Quick and accurate
- Simple
- No tools required



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RECREATIONAL

### Diving the rEvo



Photo Credit:  
Above: National Geographic  
Left: Ryan King

Need to find these images.

I have a video that was posted on you tube but do you think Curt or Paul have any images they would let you borrow with credits?

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**rEvo**  
RECREATIONAL

### Test Dives: Panorama Reef Dive

**Location:**

- Red Sea, Egypt

**When:**

- December 5, 2009

**Depth:**

- 211 meters

**Equipment:**

- Standard and Mini rEvo III



Do we have any other photos from this dive?

**rEvo**  
RESCUE ELECTRONICS

## Final Thoughts

- Simplicity and Function
- Low Profile
- Redundant electronics
- Economical to run
- Options for every diver
- Testing and Approval
  - CE Approval (2009)
  - In-house testing (2008)

