

Megalodon Frequently Asked Questions

How many versions of the Megalodon are available?

Five as detailed below and soon to be six.

Original Version: Will Smithers electronics. Features a decompression computer with Z Plan algorithm. A number of these units still in circulation. (Will Smithers died in 2002). Only in imperial.

Apecs Version 1: Apecs stands for Advanced Personal Environmental Controller System. It has no decompression computer, but has many more advanced features than the original version, including breathing loop temperature monitor, water temperature monitor, multiple set point settings, millivolt indicator, adjustable oxygen algorithm, low battery indicators, metric and imperial settings and wet switches. It features a simple self intuitive 2 button menu and confirm system (just like a Nokia phone). A two point calibration system and backlit handsets.

Apecs Version 2: Again like the Apecs version 1 it has no decompression computer, depth gauge or timer. It features a breathing loop temperature monitor, water temperature monitor, multiple set point settings, millivolt indicator, adjustable oxygen algorithm, low battery indicators, metric and imperial settings but no wet switches. A simple self intuitive 2 button menu and confirm system (just like a Nokia phone). A two point calibration system and backlit handsets.

Shearwater: A system built by Bruce Partridge featuring a gradient factor decompression computer with 9 different pre set gradients. It has only 1 handset and a HUD (Head Up Display) as standard. A depth timer, oxygen sensor displays, Buhlmann algorithm with gradient factor conservatism, imperial and metric displays, 2 set points each of which can be adjusted from 0.4 to 1.4, a menu system that adapts to diving status, automatic shut-off after 30 minutes on the surface, set point controlled and sensors displayed during setup, depth sensor to 600 feet, any combination of oxygen and helium, open and closed circuit switchable during the dive, 9 gases can be changed and switched during the dive, CNS tracking and no lockout.

HUD features: low battery detection, PPO2 display, high and low PPO2 display and sensor calibration sensor display. This costs \$2000 more than APECS Has proved in field testing not to be as durable as the Apecs systems.

Apecs Version 2.01a: As Version 2 but also additionally has solenoid testing cycle, HUD (Head Up Display) diagnostics at startup, altitude zones and variable oxygen calibration between 70-99% which allows the user to use oxygen of limited purity.

Apecs Version 2.01j: As Version 2.01a but has a new solenoid & injection timing. This solenoid has a smaller oxygen injection port but injects for longer, which is useful in the unlikely event of a solenoid failing in the open position.

The above versions are no longer available, but of may be found in some second hand or rental units.

Apecs Version 2.01k: As Version 2.01j but has a longer default solenoid injection timing.

Apecs Version 3.0: Not yet available but will feature all of Apecs 2.01k and an adjustable gradient factor algorithm with possible bubble model, desktop dive planning software, wet system turn on contacts and dual independent depth gauges and dive timers. An upgrade feature will be available with either Nitrox or Nitrox and Trimix decompression computers in each handset. To be released within the next 6-9 months.

Does the Megalodon have a CE Mark?

InnerSpace Systems Corp is an ISO 9001:2000 registered company. The Megalodon is not currently have a CE certified. This is due to be completed late in 2006. Apecs 3.0 will be the first CE Version.

Were can I purchase batteries for the Megalodon in Europe?

Custom Divers are the European distributors for the Megalodon and can supply pre-made lithium battery packs for the Megalodon. You can contact them via there website at www.customdivers.com

Why not use rechargeable batteries in the Megalodon?

Rechargeable batteries, like lithium ion, nickel metal hydride (NIMH), and nickel cadmium, have short times on run time for the APECS 2 electronics. There is also a critical, load voltage you don't want to be very far under during a dive (5.0 volts) on the primary subsystem. NIMH batteries have a habit of not holding their high charge voltage for very long. Our experience in other equipment with NIMH is the voltage drops considerably a few days after charging to a full charge state thus may be unreliable for a long dive.

Why does the Megs loop run anticlockwise, does this mean o2 on the manual injection side goes unmetred and causes spikes?

Firstly the Mark 15-16 Series all manually inject O2 in the same direction as the Meg. This is the most documented unit ever produced as it was used by Military and Commercial and media divers not sport divers who speculate on internet lists. The Inspiration injects O2 the same way as the Meg does manually, automatically. The solenoid injects on the Inspiration straight across the cells and into your mouth. The software has been damped so the cells don't read the immediately injected O2 across them, otherwise there would be a spike every time the solenoid fires. When you inject manually on the Meg the gas goes into the inhalation counter lung around a baffle enters the mixed gas area, goes to your mouth, and goes back round and under the scrubber and back to the cells. When the solenoid injects, down the side of the scrubber canister, through the scrubber and up to the cells. Whichever way you inject, the meg does not spike it is a very well behaved unit and is confidence inspiring not intimidating, unless you hold your hand on the O2 button for a long time. In a situation of a hypoxic diver the way the Meg manual injects will bring them out of hypoxia quicker than any other. Hit the button hard will give O2 straight away.

Can this loop direction be changed?

If you really don't like the idea of the o2 being injected manual this way (Note: Tom Mount runs his unit manually all the time and does so regardless of depth) you simply extend the O2 hose to inject into the exhalation counterlung, now the O2 goes scrubber cells mouth in that order. Beware you will no longer be right side rich mix so be careful! Two different philosophies each has its plus's and minus's.

How much does the Meg weight?

30kg or 66lbs with 3L or 20 cuft steel cylinders, for travel shipped with no cylinders 25kg or 55lbs in a crocodile box, for US people it will fit in an overhead bag.

What other options for the Meg are to be available in the future?

7.5 lb, Radical Radial scrubber, non water tolerant: This scrubber is used for cold, deep, and higher work rates in CCR systems. Pending testing.

Mega Meg Radical Radial Scrubber: For the insanely long dives. System will be designed for 10 hour plus dive times. Pending testing.

Cis Lunar water tolerant scrubber: ISC has licensed the Cis canister from the MK-5 Cis Lunar that Bill Stone designed. This will be available after CE testing.

Single counter lung and loop system: This system allows the diver to have two separate Megs and breathing loops mounted as stages on the sides of the diver or back mounted. The diver may also have just one main counter lung mounted on the chest on one side freeing up the other side.