

Minesweeper Diving

One big potential problem faced by all naval mine clearance divers is, how to cope when injuries are sustained whilst diving, because this introduces an additional danger in to an already perilous situation. Although it is imperative the injured diver receives the necessary medical attention as soon as possible, there is also a need for safe re-compression, unfortunately this takes time in a situation where seconds are precious.

One solution was to have a Hyperbaric Chamber on each Minesweeper, with a medical attendant already pressurised to the diving depth. In an emergency, the patient could be brought to the surface quickly and placed inside the chamber where emergency treatment can be carried out during re-compression.

As each chamber is capable of holding 4 people carrying enough Helium to pressurise the chamber and maintain this pressure becomes problematic, in terms of storage space and cost. The answer was to design the system as a closed circuit breathing system, essentially a 4 man re-breather.

Scottish Anglo Environmental Protection Ltd, an Analox Group company, were given this opportunity, and designed an Atmosphere Control Breathing System which monitors the breathing gases throughout the full re-compression procedure, calculating the Oxygen, Carbon Dioxide and Helium gas mixes and pressures.

Owing to the criticality of this system each control package had to contain two sets of display equipment. This requirement was adopted in the early design stages and two independent software design teams producing the necessary software. This eliminated any possibility of a common software failure point being introduced

Although gas analysis under hyperbaric conditions forms a part of this system, and is what the Analox Group is renowned for, the skills needed to develop the specialist independent control software was the most critical barrier to the success of the project.



AC/BC Control System