

Stealth CDLSE

Closed Circuit Mixed Gas Underwater Breathing Apparatus



Introduction

Stealth Clearance Diver's Life Support Equipment (CDLSE) is part of the highly successful and operationally proven range of Stealth Closed Circuit Mixed Gas Underwater Breathing Apparatus (UBA).

Through the incorporation of modern materials, safety critical control systems and the very latest thinking in UBA design and material selection, Stealth CDLSE has again set new standards in military UBA performance. Today CDLSE represents the "state of the art" in Mine Countermeasures Explosive Ordnance Disposal (MCM EOD) underwater life support technology offering increased levels of diver safety, equipment reliability, maintainability, operational capability and mission versatility.

Proven Design

Earlier variants of Stealth CDLSE are in service with various countries worldwide and have a proven track record in a range of operational and environmental conditions. Following competitive evaluations by independent government defence evaluation agencies and end user organisations, Stealth CDLSE has now entered service with a number of prominent navies.

Non Magnetic and Low Acoustic Design

The requirement to meet NATO AEODP-7 Class A (STANAG 2897) without compromise is an operational necessity. Stealth CDLSE fully meets the requirements of AEODP-7 Class A (STANAG 2897) under both static and

dynamic test conditions in all attitudes and for all components that may come into contact with magnetically sensitive ordnance. Sea mines continue to increase in sophistication; in response Stealth CDLSE surpasses the low acoustic test requirements of NATO STANAG AMP15. CDLSE functions by analysing the breathing gas and through the automatic addition of 100% Oxygen, the Partial Pressure of Oxygen (PO_2) is accurately maintained at a pre set level dependent upon the depth. Using three independent Oxygen sensors (micro fuel cells), CDLSE control system rapidly and accurately responds to changes in life control system status. A Diluent gas (Air, Heliox or Trimix) provides gas volume within the closed circuit primary breathing system, whilst Carbon Dioxide (CO_2) from exhaled gas is absorbed by the long duration scrubber unit.

Operational Versatility

Stealth CDLSE is a multi-mission under water life support system that provides a common platform to meet a range of operational roles throughout the water column. As a result of this unique flexibility, Stealth UBA are employed in the following operational roles:

- Mine Counter Measures Explosive Ordnance Disposal to a depth of 60msw using an air diluent.
- Deep Mine Counter Measure Explosive Ordnance Disposal to a depth of 100msw using Heliox/Trimix.
- Submarine Rescue to a depth of 100msw using Heliox/Trimix.
- Very Shallow Water Mine Countermeasures Explosive Ordnance Disposal (VSW MCM EOD).
- Special Operations Forces (SOF).





Configuration Options

Stealth CDLSE is a modular underwater life support system that can be tailored to suit mission requirements by using a combination of the following accessories:

- Simple Harness
- Bite Mouthpiece and Half Mask
- Dual Mode Bite Mouthpiece Assembly
- Buoyancy Compensation Device with integral Weight Pockets
- Open Circuit Bailout options for both Bite Mouthpiece and Full Face Mask
- Full Face Dual Mode Mask, permitting breathing from closed and open circuit gas supplies
- 2lt or 3lt 300 bar Bailout Cylinders
- External Breathing System Bailout Option
- Surface Supply Bailout Option

Performance

- 100msw using Heliox or Trimix as a diluent gas, 60msw using Air, Heliox or Trimix as a diluent gas
- 18msw “no decompression depth” (using Air as the Diluent gas)
- 3-5 hr duration
- Breathing performance that surpasses international standards
- Operating temperature -20°C to +49°C
- Sea temperature operation -2°C to +38°C.
- Fresh water temperature operation +1°C to +38°C
- Non magnetic to NATO AEODP-7 Class A (STANAG 2897)
- Low noise to NATO STANAG 1158/AMP 15
- Shock and vibration tested to UK and German defence standards
- Environmentally tested to UK and German defence standards
- 300 bar Safe Working Pressure non magnetic Class A composite cylinders

Dual Mode Mask

The Dual Mode Mask (DMM) is based on the Divator full face mask and incorporates the Divex Changeover Valve and open circuit Demand Valve enabling the diver to alternate between closed circuit and open circuit gas supplies such as the autonomous “on-board” bailout system, eXternal Bailout System (XBS) or the Surface Supplied Gas System (SSGS). The mask is fitted with a bite mouthpiece, water dump valve and a pressure equaliser. Provision is made for the fitment of a communications system and the face port has also been modified to accept the Stealth status LED that is held in a receptacle on the diver’s left side.

