OPERATIONAL CAPABILITY

Avon Underwater Systems Mine Counter Measures (MCM100) rebreather is a multi-capability underwater life support system (LSS) which acts as a flexible platform to meet many Underwater Breathing Apparatus (UBA) usage requirements. The MCM100 rebreather is suitable for a large range of diving disciplines:

- Very Shallow Water Mine Countermeasure Explosive Ordnance Disposal
- Shallow (nitrox) Mine Countermeasures Explosive Ordnance Disposal
- Deep (HELIOX/TRIMIX) Mine Countermeasure Explosive Ordnance Disposal
- Mine Investigation and Exploitation (MIE)
- Special Operations Forces (SOF)

SYSTEM FEATURES

- Fully closed circuit mixed gas electronically controlled constant oxygen partial pressure
- CO₂ cartridge options (User packed and Factory packed)
- Automatic activation
- Semi-automated pre-dive
- Software updates
- Extremely low breathing resistance
- Long life rechargeable internal batteries
- Sealed electronics unit
- Water tolerant breathing circuit and water dump systems
- Oxygen sensors and circuitry protected from moisture and water ingress
- Composite cylinders as standard
- A discreet head up display (HUD) indicating equipment status
- Back-light LCD display with command based alarm systems
- Automatic diluent gas addition valve
- Manual gas addition valves
- High pressure DIN fittings
- 3 independent digital oxygen sensors
- Advanced digital oxygen sensor voting logic and automated ‘bad sensor’ removal
- Data acquisition ‘black box’ facility with Bluetooth capability
- On-board decompression algorithm
- Digital carbon dioxide sensor
- Digital HP gas monitoring
- Composite cylinders as standard
- A discreet head up display (HUD) indicating equipment status
- Back-light LCD display with command based alarm systems
- Automatic diluent gas addition valve
- Manual gas addition valves
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- 3 independent digital oxygen sensors
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- Data acquisition ‘black box’ facility with Bluetooth capability
- On-board decompression algorithm
- Digital carbon dioxide sensor
- Digital HP gas monitoring
Harness options
Buoyancy compensation device with weight pockets
Bite mouthpiece (half/full mask)
Open circuit bailout options for bite mouthpiece and full-face mask
LP gas links to external gas supplies or additional breathing systems
Counterlung configuration options
Alternative decompression algorithms

When employed across the range of capabilities mentioned the Avon MCM100 rebreather offers the following Through Life Cost (TLC) savings:
- Reduced (common) spares stocks
- Common support infrastructure
- Common technical documentation and training

PERFORMANCE
- 100m (326ft) using HELIOX or TRIMIX as a diluent gas
- 40m (131ft) using air as a diluent gas
- 4-6 hour duration at extreme work rates and depths
- Tested in accordance with EN14143
- Air temperature operation -20°C to +55°C (-4°F to +131°F)
- Sea temperature operation -1°C to +35°C (+30°F to +95°F)
- Low magnetic, tested to NATO AEODP-7
- Low noise emittance, tested to NATO STANAG 1158/AMP15
- Shock and vibration tested
- Environmentally tested
- Avon Protection has been accredited to ISO 9001:2015

CONFIGURATION OPTIONS
- Harness options
- Buoyancy compensation device with weight pockets
- Bite mouthpiece (half/full mask)
- Open circuit bailout options for bite mouthpiece and full-face mask
- LP gas links to external gas supplies or additional breathing systems
- Counterlung configuration options
- Alternative decompression algorithms

COST EFFECTIVENESS

Photo: © Norwegian Navy
### MCM100 Technical Data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebreather type</td>
<td>Closed circuit electronic</td>
</tr>
<tr>
<td>Maximum operating depth range</td>
<td>100m (326ft)</td>
</tr>
<tr>
<td>Maximum duration</td>
<td>4hrs @ 40m in 4°C (4hrs @ 131ft in 39°F) (extreme work rate 1.6l/min)</td>
</tr>
<tr>
<td>Weight</td>
<td>27kg (60lb) without Bailout System</td>
</tr>
<tr>
<td>Height</td>
<td>500mm (19.69in)</td>
</tr>
<tr>
<td>Width</td>
<td>480mm (18.90in)</td>
</tr>
<tr>
<td>O₂ Sensors</td>
<td>Digital</td>
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<tr>
<td>CO₂ Sensor</td>
<td>Digital</td>
</tr>
<tr>
<td>Cartridge Compatibility</td>
<td>User and pre-packed granules</td>
</tr>
<tr>
<td>Stand-off (from divers body)</td>
<td>260mm (10.24in)</td>
</tr>
<tr>
<td>AEODP-7 tested</td>
<td>Yes</td>
</tr>
<tr>
<td>AMP-15 tested</td>
<td>Yes</td>
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