

## A Lightweight, and Extremely Robust, Built In Breathing System for Hyperbaric Chambers

The Delta BIBS (Built In Breathing System) offers advanced breathing performance with minimum work of breathing for therapeutic and emergency breathing use. It has been ergonomically designed as a lightweight unit with a unique quick-release oral nasal to facilitate ease of change for hygienic use. The design has been tried and tested over many years to withstand a lifetime of harsh handling in hyperbaric chambers.

### Features

- Rapid-release, hygienic oral nasal face seal
- Easy cleaning and maintenance
- Low work of breathing (to NORSOK U101)
- Weighs only 1010 grams
- Tested to 450 msw
- Cleaned and safe for Oxygen use



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**Robustness and Practical Design**

Users are now demanding equipment that can withstand the bumps, bangs and physical abuse from day to day operations, yet still deliver first rate performance. The advanced polymer used for the main body is extremely robust and provides longevity in service. The oral nasal is easy to remove and replace. This permits divers to have their own oral nasal, or otherwise permit easy biological decontamination.

**Testing**

The Delta was tested by an independent and recognised facility to 450 MSW. \*\*At a ventilation rate of 62.5 litres/minute. The work of breathing, CO<sub>2</sub> levels and respiratory pressures were all within the "preferred limit".

*\*\*As no harmonised worldwide Standard exists for BIBS, the Norwegian guidelines "NORSOK U101" were utilised to provide a test protocol.*

**Use with 100% Oxygen**

All component parts are cleaned, and the equipment is assembled, in our own clean workshop. Oxygen Cleaning - Procedures are used to ensure the masks are free from contamination. Care must be taken to ensure only oxygen compatible lubricants are used. Users should be aware of the hazards of oxygen systems which could lead to a fire within the chamber, or gas system, with fatal consequences. If in doubt contact C-Tecnic or your local Safety Authority.

**Operating Requirements**

The inlet pressure should be set at 8.5-9.5 bar above ambient pressure. The outlet hose should receive no more than 3 Bar (45psi) suction. Therefore beyond 20m/66ft external chamber pressure the Delta BIBS should be protected by a Back Pressure Regulator (BPR). C-Tecnic is developing its own BPR - please ask for details.

**Maintenance**

The BIBS mask should be included within a Planned Maintenance System (PMS). IMCA reference BIBS systems within section 5.2 of the D018 DESIGN/DASS document, and this is a useful starting point and guidance for good practice within the industry. The mask is easy to maintain and instructions including Chemical and Biological maintenance procedures required are contained within the Manual.

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