

## SPYDA BIBS

### A robust oxygen mask for use in dry hyperbaric environments

The SPYDA BIBS (Built in Breathing System) is designed to supply pure oxygen during therapeutic treatment in a hyperbaric chamber. It can also be utilised to provide an emergency breathing gas source should the chamber environment become chemically contaminated or experience a fire.

It is an 'overboard dump' style BIBS; it has both supply and exhaust hoses. Exhaled gas is piped to the outside of the chamber thus preventing the potentially hazardous build up of oxygen which occurs when single hose units are installed. An increase in oxygen level above 21% equivalent at atmospheric pressure (0.21 bar ppO<sub>2</sub>) within a hyperbaric chamber can be a fire risk, and can also be detrimental to the health of the patient/diver if long exposure is experienced. The main use of BIBS masks is for therapeutic decompression commencing at 18m. The Spyda unit has been optimised to offer minimum breathing resistance at relatively low rates of breathing and shallow depths associated with this procedure.



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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 will undoubtedly provide 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 Spyda BIBS have been extensively tested and fully comply with ABS (American Bureau of shipping) standards under their latest rules for building and classing. The mask was tested to 300MSW/1000FSW in the presence of an ABS Surveyor and significantly exceeded the requirement as published in the 2010 version "Underwater vehicles, systems and hyperbaric facilities". Spyda BIBS masks offer excellent Work of Breathing at 15 and 22.5RMV, which is the typical

## Use with 100% Oxygen

All component parts are cleaned, and the equipment is assembled, in our own clean workshop. The National Hyperbaric Centre's Oxygen Cleaning Procedures are used to ensure the masks are free from contamination. Care must be taken to ensure sources, non-compatible lubricants etc., could lead to a fire within the chamber, or gas system, with fatal consequences. If in doubt contact Spyda Systems Ltd or your Safety and Diving technical authority.

## Operating Requirements

The inlet pressure should be set at 8.5 bar (125psi) above ambient pressure. The outlet hose should receive no more than 2 Bar (30psi) suction. Therefore beyond 20m/66ft external chamber pressure the Spyda BIBS should be protected by a Back Pressure regulator.

## 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.

