

# Shadow



Shadow is a long endurance Tactical Diving Life Support System that offers unparalleled levels of mission flexibility and operational capability.

Latest developments include a systems approach to integrating life support with mission critical equipment: a rapid clip-on/clip-off interface with ballistic protection / equipment vest; the use of nitrox for diving below the safe depth of oxygen and a back mount option optimised for use with Tactical Diving Vehicles. Other operational enhancements include a mask mounted peripheral vision display providing navigation, depth and cylinder gas pressure.

## PRINCIPLES OF OPERATION

When configured for oxygen use; via a first stage pressure reducer; oxygen is supplied from the pressure vessel (cylinder) to a demand valve that automatically adds oxygen to the re-circulation sub-system. One-way check valves in the breathing hose mouthpiece assembly ensure exhaled breathing gas is re-circulated through a long endurance scrubber canister removing exhaled CO<sub>2</sub> prior to re-inhalation. A readily accessible submersible pressure gauge enables continual monitoring of oxygen pressure vessel.



NITROX KIT



BACK MOUNT KIT



## NITROX KIT

Prior to deployment, using the Nitrox kit, Shadow may be quickly up-graded to Excursion to provide an operational diving capability below the safe depth of oxygen. When configured, to switch to the nitrox gas supply stored in a separate pressure vessel (cylinder), the diver rotates a multi-turn gas switch-over valve that provides a constant mass flow of nitrox gas into the breathing circuit. Following a gas switch from oxygen to nitrox, the diver may descend to a recommended maximum depth of 24m using 60/40 nitrox or to 30m using 50/50 or 40/60 nitrox.

## BACK MOUNT KIT

The back mount kit enables the standard front mount Shadow to be back worn providing ready access to mission critical equipment located on the front of the diver. Suitable for a range of mission profiles, the reconfiguration to back mount is undertaken by the user prior to mission deployment.

## SPECIFICATION

Height	600mm
Width	400mm
Depth	160mm
Weight	9kg

## PERFORMANCE

Maximum depth (m)	15*
Canister duration (hrs)	4 - 6**
Air temperature operation	-20°C to +40°C
Sea temperature operation	-2°C to +35°C
Fresh water temperature operation	+1°C to +35°C
Pressure	300 bar cylinders

\* Dependent upon local oxygen exposure limitations

\*\* Dependent upon diver work-rate and water temperature

## FEATURES

- Oxygen or combined oxygen/nitrox configurations
- Optimised counter lung position
- Low work of breathing
- Operationally proven worldwide from arctic to tropical climates
- Automatic demand valve that serves as a manual bypass valve
- Harness options (stand-alone rebreather for training/operations; ballistic protection vest clip-on/off interface)
- User configurable to suit mission profiles
- MOLLE webbing system to facilitate the interface of ancillary equipment
- Reinforced double layer counter lung
- Low magnetic and acoustic signatures
- Low weight to performance ratio