

ANSTI Breathing Laboratory



JFD has recently installed the latest generation ANSTI Life Support System Test Facility (LSTF) to enhance its Breathing Laboratory at its National Hyperbaric Centre in Aberdeen.

The system offers customers advanced performance assurance testing of defence, commercial and recreational life support equipment, to the limits of their design requirements, under diverse and extreme operating conditions.

The ANSTI Life Support System Test Facility (LSTF) is, a fully integrated laboratory system operated by highly experienced technicians and life support equipment design engineers. The system can conduct tests to verify whether equipment meets or exceeds dynamic breathing performance requirements, at depth, immersed in temperature controlled water or at the surface.

The large, vertical, 1000mm internal diameter, wet or dry test vessel enables testing on both the vertical and horizontal axis with minimal setup and transition time. Rapid, repeat in-water test cycles can be performed with no need to drain between steps.

Twin-cylinder, diving masks, helmets, bandmasks or other SCUBA equipment can readily be accommodated as well as CO₂ scrubbers and rebreathers.



TEST CAPABILITY

- Breathing lab depth capability down to 500msw
- Variable breathing rates and tidal volumes
- Breathing air heated & humidified
- Cold water chiller and heater
- Work of breathing
- Valve cracking effort
- Exhaust resistance
- Hydrostatic imbalance
- Simulated respiration with O₂ uptake and CO₂ injection
- Breath-by-breath real time gas analysis
- EN250:2014 demand regulators
- EN14143:2013 rebreathers
- EN15333-1:2008 helmets
- Tests He reclaim helmets
- Apply US Navy unmanned testing procedures
- Acoustic measurement
- Buoyancy control device tests

THE RESULTS

Clients and Notified Body third party approval agencies can witness the performance of breathing apparatus under test in person, or remotely.

Internet streaming can be provided to enable remote viewing of the video camera feeds from within the test vessel and around the breathing laboratory as well as real time data acquisition and dynamic plots of the work of breathing and gas analysis.

With decades of accumulated subject matter expertise in-house, consultation services can be provided in order to assist clients on any issues which may emerge during the course of tests.

