

Diving and Hyperbaric Test Centre (DHTC)

The Diving and Hyperbaric Test Centre (DHTC) at Haslar operates a unique collection of specialist facilities and capabilities for the research, testing and evaluation of diving, submarine escape and other hyperbaric systems.

QinetiQ operates the centre in support of the Ministry of Defence and commercial organisations, providing assurance that diving equipment is safe and effective in use. These facilities are also used to support the development and testing of submarine escape and rescue systems, life support systems and decompression procedures.

Originally established in Alverstoke, these facilities have been moved to the newly refurbished Centre in Haslar. The DHTC includes some of the UK's leading hyperbaric testing chambers and tanks. QinetiQ staff working in the Centre use the facilities to help avoid human casualties, protecting people in extreme environments and testing leading edge diving equipment for military and commercial use. The DHTC is set up for rapid forensic investigations of diving and life support equipment following serious incident.



DHTC key facilities include:

- Life Support Systems Laboratory (LSSL) with 1000 m depth capability, dual breathing simulators and respiratory gas monitoring
- Experimental Diving Tank (EDT) with acoustic measurement capability
- The Hydrostatic and Extreme Temperature Tank (HETT) with temperature control for both fresh and salt water
- Submarine Escape Simulator (SES) with 1500 m depth capability and a control system for replicating pressurised escape profiles

Life Support Systems Laboratory is a single compartment hyperbaric chamber with 1000 m depth capability, optional water fill, temperature control, 600 m rated breathing simulators, and respiratory gas monitoring:

- Wet or dry pressure chamber; rated to 100 bar (1000 m)
- Fresh water temperature between 2° and 40 °C
- Single/Dual breathing simulators; gas humidification and heating to 32 °C (± 4 °C)

- Breathing performance and endurance evaluation to 60 bar (600 m)
- Full range of system and apparatus monitoring
- Carbon dioxide absorbent endurance and performance
- Simulated metabolic oxygen consumption

Experimental Diving Tank (EDT) is an open water tank that allows for temperature control and can be fitted with anechoic panels to allow acoustic measurements:

- Open top tank 3 m x 3 m x 3 m
- Fresh or salt water filled
- Temperature controlled in fresh water 2° to 45° C
- 2 m x 2 m x 2 m underwater anechoic chamber
- Diving helmet noise evaluation



Environmental Cabinet with access port for instrumentation and services, internal clear barriers with hand access ports:

- Extreme temperature range between -75° and 100° C
- Relative humidity between 45% and 98%
- Dedicated breathing simulator; gas humidification and heating to 32 °C (± 4 °C)
- Functional performance following apparatus storage at extreme temperatures



Submarine Escape Simulator (SES) is a versatile two compartment hyperbaric chamber that can be used for testing and evaluation of undersea and hyperbaric systems. The SES configuration specifically enables the assessment of submarine escape systems and components and supports the development of submarine escape standards:

- 3 m diameter and 2 m diameter spherical compartments
- Rated pressure to 150 bar (1500 m)
- Main access and interlock doors 0.75 m diameter



Hydrostatic and Extreme Temperature Tank (HETT) is an open top water tank with extreme temperature control that can be fitted with rotating mannequin and breathing simulator:

- Open tank of salt or fresh water at atmospheric pressure
- Salt water temperature range between -2° C and ambient
- Dedicated breathing simulator; gas humidification and heating to 32 °C (± 4 °C)
- Full range of system and apparatus monitoring
- Hydrostatic load in full range of diver orientations



QinetiQ

Cody Technology Park
Ively Road, Farnborough
Hampshire, GU14 0LX
United Kingdom
Tel: +44 (0)8700 100942
www.QinetiQ.com