

Medical Equipment Altitude Testing

Client	LumiraDx
Completed	2022
Facility	JFD's National Hyperbaric Centre
Equipment	Hypobaric Chamber



KEY FEATURES

- DDC Main Lock Hyperbaric Chamber was converted into a Hypobaric Chamber at JFD's National Hyperbaric Centre (NHC) in Aberdeen
- The chamber replicated atmospheric conditions of up to 3000m
- Client was able to carry out altitude testing on their medical equipment in a safe and controlled environment



THE CHALLENGE

The customer required a facility that could simulate altitude conditions for the development of their prototype medical diagnostic equipment, to support with gaining CE accreditation. They needed a facility that their equipment and personnel could enter to perform tests, replicating atmospheric conditions of up to 3000 metres.



THE SOLUTION

The Dive Decompression Chamber (DDC) Main Lock Hyperbaric Chamber at JFD's National Hyperbaric Centre (NHC) in Aberdeen can be converted into a Hypobaric Chamber for altitude trials. The trial took place over two days and was run by a Life Support Supervisor (LSS), with assistance at key points such as ascent periods.

The chamber was readied by adding an external plate and then vacuumed to the required height, measured by the JFD Yokogawa datalogger with a millibar absolute transducer.

The client personnel were medically checked to ensure they were fit enough to go the required altitudes for the necessary duration. The personnel went through chamber familiarisation, a risk assessment, toolbox talk and PowerPoint briefing on the unlikely, but potential, outcome of altitude sickness.

Surface trials within the chamber were carried out before the personnel performed their required testing at 1500m above sea level and then 3000m above sea level. After the tests were completed, the personnel descended to the surface.



OUTCOME

Two medical diagnostic devices were tested up to 3000 metres for various samples. Internal requirements were set for the outcome of the testing in line with CE accreditation guidelines which were met. The outcome of this testing will be included in CE accreditation application for both medical diagnostic devices.



"JFD were very accommodating and helpful for this testing and previous testing we have completed at their facility. The staff are friendly and there was a great atmosphere."