35 YEARS OF
INDUSTRY
EXPERIENCE
THERAPY CHAMBERS

Submarine Manufacturing & Products Limited
Manufacturer of Commercial Diving, Medical Hyperbaric Applications and Military Subsea & Emergency Rescue Solutions.
Introduction

In many of the larger capacity hyperbaric chambers, the patients and treatment staff inside the hyperbaric chamber will normally breathe 100% pure oxygen through either a face oxygen mask or an oxygen hood. Some oxygen masks are designed to take the exhaust gas that the patients breathe out outside the chamber. The oxygen masks are normally attached to an exhaust gas manifold inside the chamber that allows the exhaust gas to be extracted outside of the hyperbaric chamber.

Throughout the hyperbaric treatment, patients inside the hyperbaric chamber breathe 100% pure oxygen in order to maximise the effectiveness of the hyperbaric treatment. They do have regular "air breaks" so as to minimise the risk of oxygen toxicity. Breathing pure oxygen for prolonged periods at elevated partial pressure can be poisonous to the human body and result in cell damage and death, with effects most often seen in the central nervous system, lungs and eyes.

The exhaled gas must be removed from the chamber to prevent the build up of oxygen which can prevent a serious fire risk. Treatment staff inside the chamber will also breathe pure oxygen to reduce their risk of decompression sickness. The hyperbaric chamber pressure is increased by opening valves allowing high pressure air to enter from storage cylinders, which are filled by an air compressor.

Our Hyperbaric Chambers

SMP Ltd have a long and established history of designing & manufacturing Hyperbaric Chambers for use in the Commercial Diving Industry. The expertise and knowledge gained from the Diving Industry has been transferred into a range of HBOT Chambers that are comfortable, simple to use and affordable. Our talented and experienced team has developed a range of modern, state-of-the-art hyperbaric chambers are capable of all medical Hyperbaric Oxygen Treatments (HBOT) and provide maximum comfort to patients and operators. Designed and manufactured at our premises in the UK, our hyperbaric oxygen chambers offer the latest technology and a sleek modern look that would fit into any hospital, medical centre or clinic worldwide.

Our standard therapy chambers can be adapted to suit the number of patients and site configuration. Alternatively chambers can be manufactured to customer specifications and bespoke packages designed to provide multiple treatment configurations or particular aesthetic desires. SMP work hard to listen to our clients’ requirements, devising an appropriate solution before delivering the finished article on time and within agreed budgetary guidelines. Our related products can provide a comprehensive range of medical assistance including oxygen therapy as well as treatment for sporting injuries, burns, open wounds and more.
The Oxygen Therapy Centre required the complete system to be able to be housed within their facility based in Jersey. The customer asked that SMP plan the layout of the systems within the facility with technical drawings, providing SMP with a blueprint of the facility.

They also needed their staff and maintenance team to be given extensive training and demonstrations into how the system operates, whilst also providing them with manuals. A 24 months service contract was also specified as part of the project.

SMP recently manufactured and installed an important new facility to a children’s special needs school in Manchester. The bespoke, fully automatic, 6 seat Hyperbaric Oxygen Therapy Chamber (HBOT) has been welcomed by the school and the wider community to deliver much needed Oxygen Therapy treatments. This service had been difficult to access due to the distance that was required to travel to A Breath for Life Centre in Morecambe, run by the very supportive David Holehouse and his team, so one dedicated mother has teamed up with SMP to help realise the dream of opening a centre on their doorstep.

Submarine Manufacturing and Products Ltd designed an 12-man hyperbaric chamber with a control panel connected onto the side of the unit. On the floor below the chamber, two rooms were designated as the O2 Plant Room, which housed the O2 receivers and the PSA plant oxygen generator, and the LP air room, which consisted of the LP air storage cylinders and the LP compressor.

The SMP TC-12-2-2 chamber is pressurised with LP Air to a maximum pressure of 1.0 Bar/10 mtrs and provided with an oxygen breathing system allowing the patients to breathe comfortably with a low inhalation and exhalation resistance within the pressurised environment. The oxygen is supplied to patients by means of a built-in breathing system (BIBS). The connections of the BIBS oxygen system, entertainment and patient monitoring systems are installed within the overhead panels.

Designed and manufactured according to EN13445.2015 (PVHO), the chamber is state of the art with large interior design and enhanced safety features. All of the Hyperbaric Chambers manufactured by SMP are built to BS EN 14931 where applicable. The chamber is CE Marked according to EU Directive Pressure Equipment and The Code of Construction and Working Practice for Low Pressure Barochambers. Additionally the equipment has been built under the SMP Quality System to ISO 9001 and BS EN ISO 13485.

The chamber has been specifically designed to be as ‘child friendly’ as possible but has significant engineering detail to ensure that it is at the forefront of modern design.

SMP have been integral throughout the whole process from initial proposal, building layout & design, engineering, all whilst organising and ensuring that the site preparation had also been progressing with the delivery of the modular building system. The modular building was placed over the chamber creating a beautiful new space for the installation and commissioning of the supporting machinery that included an Oxygen Generation System (known as PSA) to enable them to be fully self-sufficient.

SMP are very proud to have been selected to deliver this project.
SMP has provided expert services to clients worldwide for over 35 years. We are fully accredited, and our team has also gained numerous awards in the manufacture and export of specialist goods. Manufactured to high quality our hyperbaric oxygen chambers (HBO) provide maximum comfort to operators and patients.

Designed in compliance with the requirements of PD5500 Cat 1, BS EN 13445 and ASME PVHO. Design approvals and constructed under survey by Lloyds Register. Supported by essential safety requirements of PED 2014/68/EU and CE certified to the Medical Device Directive 93/42/EEC. As well as recognised international standards chambers can be designed and manufactured to customer specifications and individual requirements.

No matter how difficult the challenge or how long the process, we work very closely with the client to enable them to achieve their goals.

SMP offer customers a quality service and products. For this we are indebted to the skills and dedication of our workforce. Without them we would not be in the position we are today.

We deliver our results through continued innovation and communication.

Our experience and resources cover a variety of industries that we operate in today.

We would like to emphasise that we offer a complete service that we feel is special within our marketplace.

Due to industry and client demands, SMP has developed its operations to suit the marketplace offering mechanical, hydraulic and electrical designs and manufacture.

As an international Company we understand the requirement for interpretation.

Control Panel and Gas Systems

Our chambers are partnered with a state of the art control panel for monitoring and maintaining a stable environment within the chamber. The control panel can be attached onto the side of the chamber or can be manufactured as a freestanding unit.

We can manufacture a range of systems to work alongside the chamber including compressors, gas cylinders, PSA plant, and more.

We work closely with our clients to manufacture a system that will meet their requirements.

SMP TC-2 Range
2 Bar Single Lock Hyperbaric Oxygen Therapy Chambers
SMP TC6-2 Therapy Chamber (6 Person Chamber)
SMP TC8-2 Therapy Chamber (8 Person Chamber)
SMP TC10-2 Therapy Chamber (10 Person Chamber)
SMP TC12-2 Therapy Chamber (12 Person Chamber)
SMP TC14-2 Therapy Chamber (14 Person Chamber)
SMP TC16-2 Therapy Chamber (16 Person Chamber)
SMP TC18-2 Therapy Chamber (18 Person Chamber)

SMP TC-5 Range
5 Bar Twin Lock Hyperbaric Oxygen Therapy Chambers
SMP TC6-5 Therapy Chamber (6 Person Chamber)
SMP TC8-5 Therapy Chamber (8 Person Chamber)
SMP TC10-5 Therapy Chamber (10 Person Chamber)
SMP TC12-5 Therapy Chamber (12 Person Chamber)
SMP TC14-5 Therapy Chamber (14 Person Chamber)
SMP TC16-5 Therapy Chamber (16 Person Chamber)
SMP TC18-5 Therapy Chamber (18 Person Chamber)

Our chambers can be made to fit your requirements

Quality Assured
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Partner of Choice

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