

## HYPERBARIC OXYGEN THERAPY CHAMBER

Diving + Life Support



With decades of specialist experience, Unique Group offers a new proposition in hyperbaric treatment through the design, manufacture and supply of bespoke, multi-place hyperbaric oxygen treatment chambers, with you, and your patients in mind.



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### SERVING THE HEALTHCARE MARKET

We work with you to provide the best hyperbaric treatment system suited to your needs. We don't simply provide hyperbaric chambers of the highest quality – we become your treatment facility partner:

- We listen to your needs, understand your priorities, and work with you to develop a custom-built solution.
- We apply our experience to offer professional advice on the optimum system for your facility.
- We provide expert support to integrate your hyperbaric oxygen treatment chamber into your medical infrastructure, working alongside your architects, doctors and project managers.
- We deliver 24/7 technical support to ensure you're getting the most from your investment.

### HALLMARKS OF OUR HYPERBARIC SYSTEMS

Our HBOT chamber design enables us to be equipped and ready to customise to larger specifications, adjust seat numbers and increase the working pressure – all in line with your specific requirements. Our key features include:..

- Designed to the highest specifications, our systems comply with the stringent design codes for medical devices (as per EC93-42)
- Our chamber approval is in accordance with ASME VIII DIV.1 PVHO-1. If requested, our pressure vessels can be built in compliance with EC 97-23 certification
- A fully digital chamber control system, ergonomically designed for easy operation, analysis and communication with manual override / back-up system.
- Machinery room systems fully aligned with your bespoke chamber design and in line with medical regulations.



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### TECHNICAL HIGHLIGHTS

Hyperbaric medicine, also known as hyperbaric oxygen therapy (HBOT), is the medical use of oxygen at a level higher than atmospheric pressure to treat varying medical conditions.

### HBOT DESIGN CODE

Our chamber approval is in accordance with EC 97-23 CE standards. Our pressure vessels are built and certified in compliance with EN13445. The HBO systems is fully certified as a medical device and complies to EN14931.

### ELECTRONIC CHAMBER MONITORING SYSTEM

All key systems and treatment profile data received from within the treatment chamber is constantly monitored using the electronic chamber monitoring system.

This data, collected and recorded via a dedicated systems PC, is made readily available via SQL database which allows for client specific parameters to be reported during and post-treatment cycle.

### CHAMBER LIGHTING

The Hyperbaric Oxygen Therapy Chamber is fitted with adjustable lighting, complemented by an independently adjustable intensity and colour mood lighting which provides patients with a stress-free ambient environment – contributing to a comfortable and relaxing treatment experience.

### BUILT-IN BREATHING SYSTEM

CE Compliant BIBS system, specifically designed to ensure ultra-low resistance breathing through automatic inhalation and exhalation regulators, ensuring ultra comfortable, low resistance treatment.

The BIBS system automatically alternates between breathing air and oxygen (or other treatment defined therapeutic treatment gases), pending the treatment profile cycle and the internal dynamics of the chamber.



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### INTERNAL SEATING

Our range of internal seating ensures that the patient enjoys a comfortable and relaxed treatment regime. Our seats offer both head-rests and arm-rests with optional footrests with the highest fire-retardant ratings. The treatment lock offers individual seats which are easily removed.

In addition, the standard seats can be removed and replaced with ultra-luxurious reclining seats for the treatment of the discerning patient. All seats are orientated in a 90° angle to allow for the free and comfortable interaction between patient and doctor/ chamber attendant. Seating configurations are adaptable and can be quickly adjusted by the assisting staff pending client needs and treatment demands.



### INTERNAL SAFETY + FIREFIGHTING SYSTEMS

The system provides the very latest advances in fixed water deluge / sprinkler firefighting technology, ensuring immediate and decisive reaction to internal fire threats – ensuring safety of patients is paramount.

The system is activated by a double redundant manual activation, with control found both internally and externally of the treatment chamber. The associated control system ensures that the required safety processes are initiated automatically, ending the oxygen treatment process.

For additional safety, the treatment and entry compartments are fitted with hand-line firefighting hoses, enhancing the capacity to deal with the internal fire.



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### AUTONOMOUS TREATMENT PROFILES

Controlling the system is simple with our Digital Control System. It allows for the automatic and semi-automatic control of all life-critical parameters with automated logging and alarm indication via the main PLC and a monitoring supervisory PLC. We can help pre-set the digital control systems in accordance with client's required profile and provide complete training solutions.

The Uni-Heal system can be controlled either by manual, semi-autonomous or fully autonomous control. The profiles are governed by two fully independent and separate programmable logic controllers, with the primary PLC providing high industrial grade reliability, hardware, and software suites and the secondary supervisory PLC providing the monitoring system to the primary and immediate reporting of any alarm report or unexpected event.

### CLIMATE CONTROL SYSTEM

The climate control system is specifically designed for optimum flow of the air mass throughout the treatment facility, thereby ensuring that the internal environment remains optimal and comfortable throughout the treatment cycle.

Our design ensures that patients enjoy comfortable temperatures and maximum air flow with the help of specifically designed air routing systems.

Noise within the system is kept to a comfortable minimum using strategically fitted external and internal silencers which ensure noise levels of below 70dBs during the pressurisation cycle.



# Unique Group



## MIDDLE EAST

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UAE  
Sharjah  
Call +971 6 5130333  
[uaesales@uniquegroup.com](mailto:uaesales@uniquegroup.com)

Qatar  
Doha  
Call +974 44147079  
[qatarsales@uniquegroup.com](mailto:qatarsales@uniquegroup.com)

Saudi Arabia  
Riyadh + Al Khobar  
Call +966 59 701 2365  
[ksales@uniquegroup.com](mailto:ksales@uniquegroup.com)

## ASIA PACIFIC

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Singapore  
Call +65 6542 1800  
[fareastsales@uniquegroup.com](mailto:fareastsales@uniquegroup.com)

India  
Navi Mumbai + Vadodara + Vizag  
Call +91 22 27619939  
[indiasales@uniquegroup.com](mailto:indiasales@uniquegroup.com)

## AUSTRALIA

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Perth  
Call +61 418 205 212  
[aussales@uniquegroup.com](mailto:aussales@uniquegroup.com)

Queensland  
Call +61 418 205 212  
[aussales@uniquegroup.com](mailto:aussales@uniquegroup.com)

## UK + EUROPE

---

UK  
Cowes, Isle of Wight  
Call +44 1983 290 525  
[seaflexsales@uniquegroup.com](mailto:seaflexsales@uniquegroup.com)

UK  
Aberdeen, Scotland  
Call +44 1224 820022  
[abzquotes@uniquegroup.com](mailto:abzquotes@uniquegroup.com)

Netherlands  
Werkendam  
Call +31 850 513700  
[usbv@uniquegroup.com](mailto:usbv@uniquegroup.com)

## AFRICAS

---

South Africa  
Cape Town  
Call +27 21 835 7900  
[sasales@uniquegroup.com](mailto:sasales@uniquegroup.com)

Nigeria  
Port Harcourt  
Call +234 908 5659444  
[nigeriasales@uniquegroup.com](mailto:nigeriasales@uniquegroup.com)

## USA

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Central  
Houston Texas  
Call +1 713 937 6193  
[usasales@uniquegroup.com](mailto:usasales@uniquegroup.com)

East Coast  
Suwanee, Georgia  
Call +1 909 626 8316  
[buoyancyballast@uniquegroup.com](mailto:buoyancyballast@uniquegroup.com)

West Coast  
Montclair, California  
Call +1 909 626 8316  
[buoyancyballast@uniquegroup.com](mailto:buoyancyballast@uniquegroup.com)

