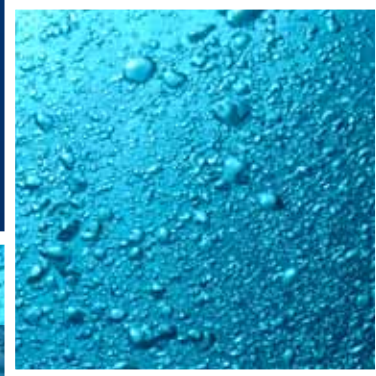


# COMPLETE HYPERBARIC SYSTEMS



**MIMIR  
MARINE  
LTD**



WE ARE **MIMIR MARINE LTD.**

WE SPECIALISE IN THE  
**DESIGN, MANUFACTURE  
AND REFURBISHMENT OF  
SATURATION DIVING  
SYSTEMS...**

INCLUDING  
**HYPERBARIC CHAMBERS  
CONTROL PANELS  
ELECTRICAL SYSTEMS  
LARS  
SPOOLS AND TRANSITION PIECES  
DIVING BELLS  
HYPERBARIC EVACUATION SYSTEMS**

OUR EXTENSIVE KNOWLEDGE AND EXPERIENCE  
OF HYPERBARIC RECEPTION FACILITY (HRF)  
DESIGN AND BUILD HAS BECOME A KEY AREA  
WITHIN OUR COMPANY.

# HYPERBARIC RECEPTION FACILITY

We design, build, commission and provide the training of personnel in the use of offshore, military and clinical hyperbaric (diving) systems. Using appropriate class society codes and Pressure Vessel for Human Occupancy (PVHO) guidelines.

We manufacture a variety of hyperbaric chambers ranging from shallow 4 bar 4 person to 30 bar 16 man twin lock saturation living chambers.

Our experience includes saturation diving systems and all associated life support engineering including; hydraulics and bell launch and recovery (LARS) systems along with gas reclaim and full SOLAS IMO and IACS complaint Hyperbaric Evacuation Systems.



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**MIMIR MARINE DESIGN,  
DEVELOP AND MANUFACTURE  
HYPERBARIC RECEPTION  
FACILITIES AND SUPPORT  
MECHANISMS.**

ALL OUR HRFs COMPLY TO APPROPRIATE  
PRESSURE VESSEL FOR HUMAN OCCUPANCY  
(PVHO), LR, ABS AND DNV GUIDELINES.



# SPECIFICATIONS



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AVAILABLE FOR:  
**OUTRIGHT SALE**  
**LEASE PURCHASE**  
**SINGLE PROJECT HIRE**

- 300 metre salt water - 12 bed, 15 man and 14 bed, 18 man systems.
- Lloyds Register class; and IMCA D024 compliant.
- No spools or interconnecting chamber pressure testing required during mobilisation.
- HRF chamber can bottom mate multiple lifeboats, end mate a HRC, or end mate a lifeboat that has a side trunk door.
- An important feature that makes the Mimir Marine HRF so flexible is the control van's ability to accept power from ship, barge, platform or shore supply: 3 phase 400volts 50 hertz OR 3 phase 440volts 60 hertz; with the neutral isolated from earth.
- Active (infrared flame) fire detection and high pressure water fogging fire suppression system.
- A key additional and novel feature is a large battery pack, capacity of forty (40) hours for emergency scrubbers.
- As well as bespoke umbilicals for gas and life support heating cooling and power, the HRF comes complete with a 60 metre emergency connection umbilical, with the fittings as described in NORSOK U-100, page 46 'emergency connection for hyperbaric rescue units':
  - Communications (4 pin M Subcon)
  - Cooling-heating (SVHC 12-12 F)
  - Gas (SVHC 8-8F)



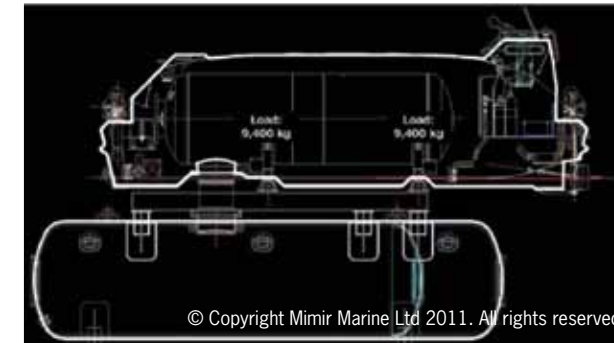
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**OUR UNIQUE AND INNOVATIVE (LLOYDS REGISTER APPROVED) DESIGN, OF 3 CHAMBER TOP-LOAD SADDLES, ALLOWS SUPPORT OF ANY HULL CHINE AND WEIGHT OF HYPERBARIC LIFEBOAT BUILT TO DATE.**



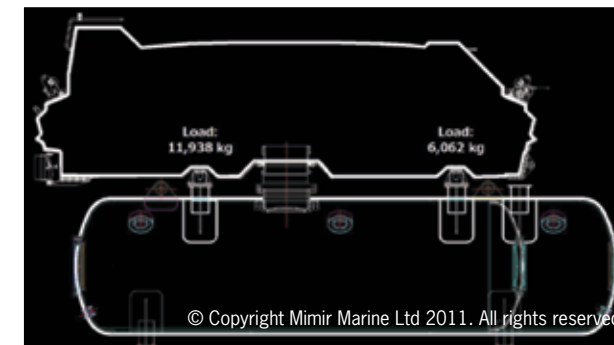
We design pressure vessels to PED 2006, ASME V111, Div 1&2 (PVHO) as well as Design by Analysis (finite element) using Finglow, and ANSY programs.

For the validation and stress testing of marine lifting appliance - Launch and Recovery Systems (LARS) and man riding winches we have extensive experience in 'STAAD' and 'Mathcad'.



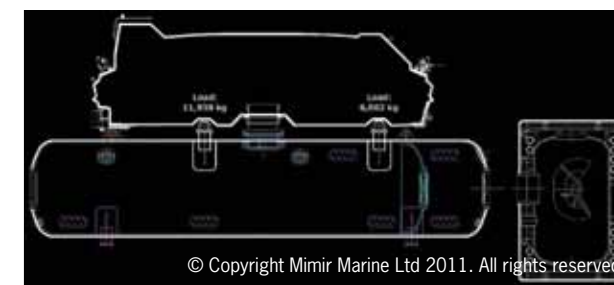
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**12 bed/15 man HRF**



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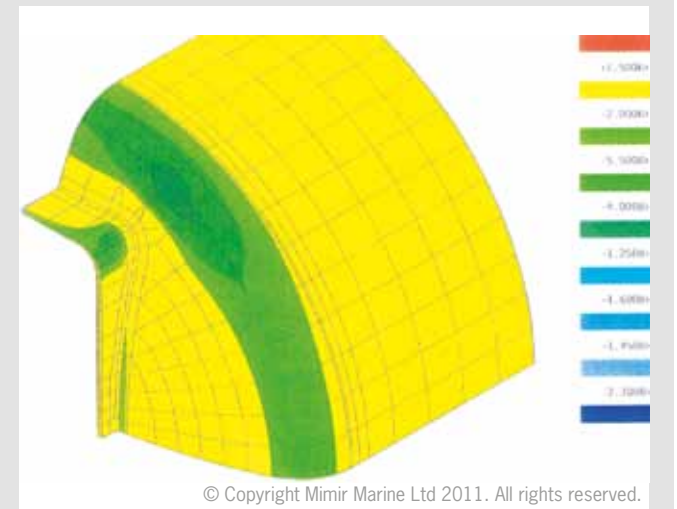
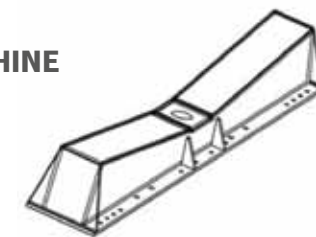
**12 bed/15 man HRF**



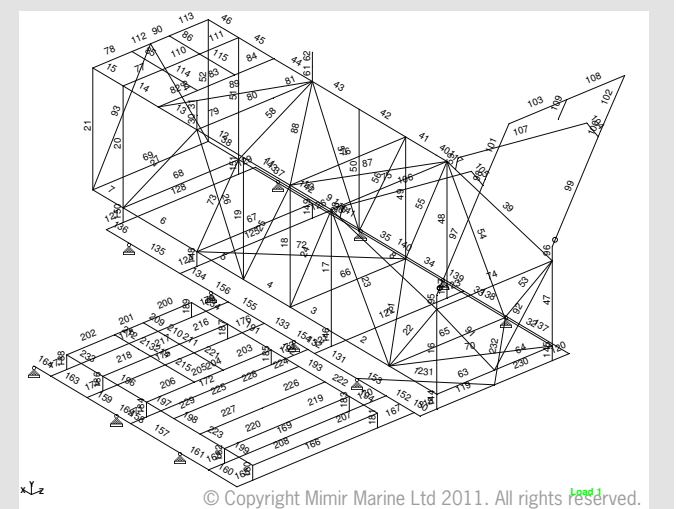
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**15 bed/18 man HRF**

**INDIVIDUAL HULL CHINE LIFEBOAT SUPPORT**



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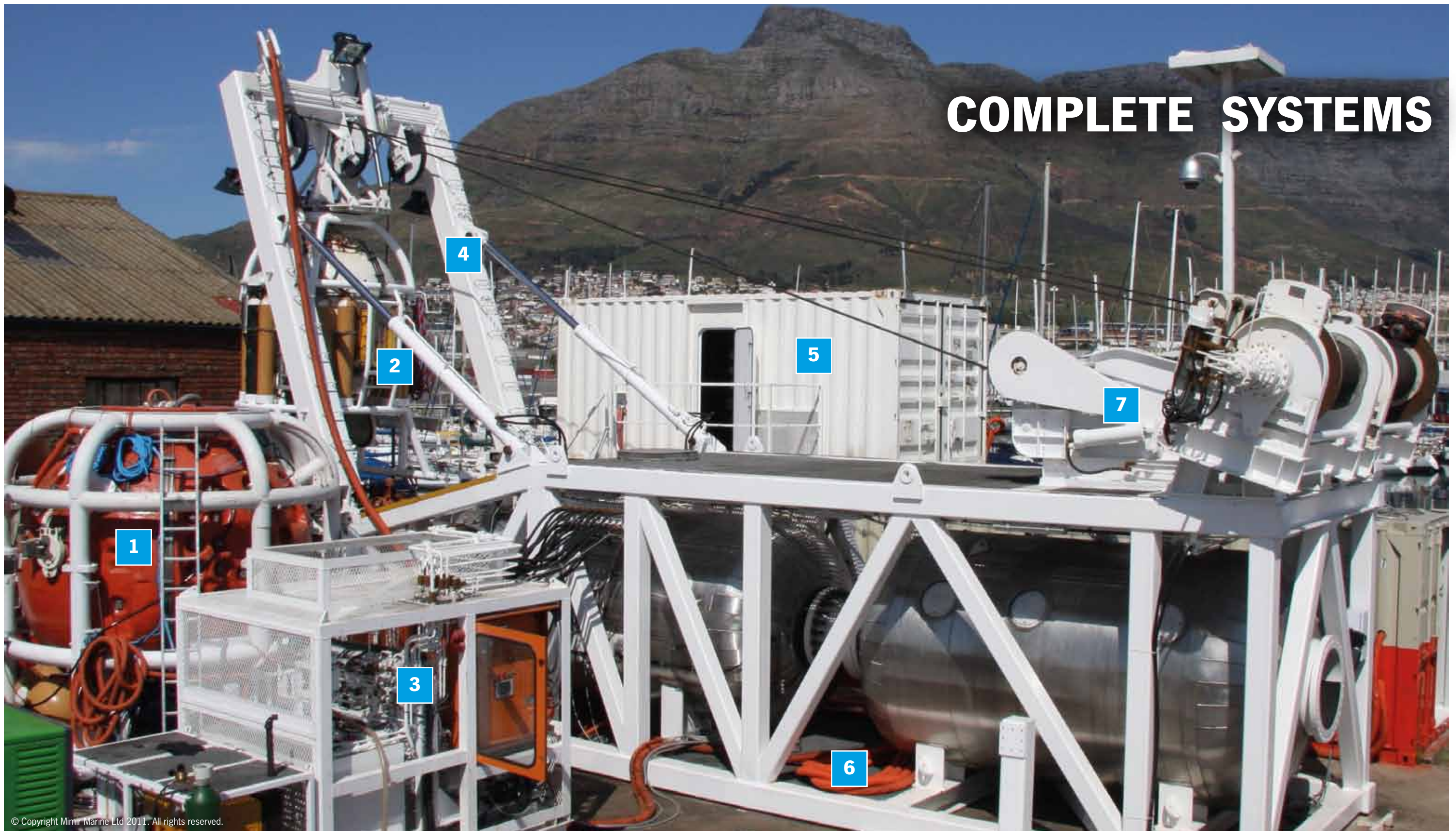


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**WE HAVE BUILT, CHAMBER, BELL, LIFEBOAT AND HRC 'CLAMPS AND SPOOLS'. WE HOLD A SELECTION OF DESIGNS AND FORGED RINGS ON STOCK TO ALLOW A RAPID RESPONSE TO YOUR NEEDS.**



# COMPLETE SYSTEMS



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OUR TEAM OF DESIGNERS, ENGINEERS AND PROJECT MANAGERS DESIGN AND MANUFACTURE ALL ANCILLARY EQUIPMENT FOR THE OPERATION OF OUR HRFs... **WINCHES, SKIDS, CONTAINER UNITS, CONTROL SYSTEMS AND UMBILICALS.**

1. HRC
2. DIVING BELL
3. POWER SUPPLY
4. LAUNCH AND RECOVERY SYSTEM SKIDS
5. SPECIALLY ADAPTED ISO CONTAINER
6. BESPOKE UMBILICALS
7. WINCHES



# LIFE SUPPORT ENGINEERING



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## CONTAINERS

ISO and DNV 2-7.1 containers are commonly used for housing all manner of diving equipment and diving system life support machinery, including dive and saturation control vans.

We design, modify and importantly re-certify ISO CSC plated containers. Some modifications may require the container to undergo mechanical proof testing on a specialist mechanical test rig.

Mimir Marine Ltd has the working experience to accommodate our client's needs including concept through design of ISO and DNV 2-7.1 'special container' used for housing offshore plant and equipment including machinery 'skids' required to meet the IACS society design rules as required.



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## CONTROL PANELS

'Control Engineering' and 'Ergonomic Man' are specific design code titles for control panel design. Safe, practical and efficient use of the environmental space available is key to the design of a hyperbaric system control panel.



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Dive system data logging in accordance with Norsok Standard U-100, 2009 is becoming a key feature in system design.

Mimir Marine Ltd have designed and built a variety of control panels incorporating gas distribution, chamber atmosphere, communications and visual monitoring.

Ease of understanding and operation, along with a good aesthetic allows comfortable and efficient operational use of the dive system controls and compliments its operational procedures.





## ELECTRICAL SYSTEMS

**Our in-house electrical expertise is capable of Bell, Chamber and Habitat electrical system design and manufacture, to ABS, Lloyds and DNV class society rules.**

We have experience in building Bell and HRC battery packs as well as the installation of oxygen, carbon dioxide and other analysis instrumentation, including communication units as 'hard wire' or as 'through water communication units', along with their modification, service and repair.

For mobile, integral saturation systems or small containerised air spreads our design team source and install all electrical switch gear and wiring in accordance with marine class society rules.

Examples of projects to date include the design, build and commissioning of several 15 man Hyperbaric Reception Facility, HRF; refurbishment of a 9 man saturation diving system, with a 3 man bell and self launching (HRC). Mimir Marine Ltd designed and built the bell launch and recovery systems (LARS) in accordance with the Norwegian Offshore Standard for Diving Systems (DNV-OS-E402), and DNV Rules for the certification of lifting appliances.



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## LAUNCH & RECOVERY SYSTEMS (LARS) - SKIDS



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## CLINICAL USE

**Our bespoke engineering experience includes the construction, installation and commissioning of four multi-place 'rectangular door' clinical hyperbaric chambers.**

Past work includes the design, build, installation and commissioning of several twin lock rectangular door hospital based clinical chambers.

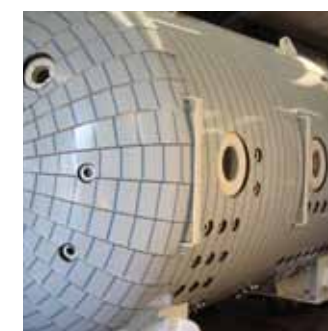
The scope of work included not only the chamber design, build and fit-out but also sourcing and installation of all associated environment life support equipment including air compressors, air and gas storage cylinders, carbon-dioxide scrubbers and medical equipment for in-chamber use, for example, hospital ventilators, syringe drivers and critical monitors.

If required in the design, 'push button' controls allow for significant space saving on installation, and safety of sequencing for valve operations.



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## REFURBISHMENT



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**Shot blast to bare metal, material tensile strength analysis, full NDT survey, stress and fatigue cyclic calculations, third party (classification society) appraisal are just the starting point of a refurbishment program.**

Refurbishment of a diving system is a complex engineering process that require dedicated project management at all stages, from initial survey to class society accepted trials.

Key to success is a focused and effective graduate engineering team, planning and delivering, environmental, financial and mechanical engineering risk based solutions to a well defined engineering work-scope.







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