

12 MAN MODULAR SATURATION DIVING SYSTEM

This system comprises of 2 x 6 man saturation diving chambers both with TUPs and 1 x single lock 4 man chamber. The system also includes a gantry bell launch and recovery system (LARS) and 3 man SDC saturation diving bell. The system also includes SDC mating clamp and some chamber interconnecting spools.

The following report is laid out into different sections of the system which provides details of its condition, items of equipment installed, items missing and a brief history into its refurbishment and certification status.

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DDC1 TWINLOCK DDC SATURATION DIVING CHAMBER



GENERAL BACKGROUND

Manufacturer: Seaforth Ocean Engineering

Year built: 1981

- Outfitted for 6 men.
- Configured for saturation diving including TUP Lock for connection to DDC2, DDC3 and SDC (Bell).
- The equipment underwent a full Lloyds Survey for corrosion and wall thickness tests. The chamber was hydrostatically tested to its full working pressure, fully shotblasted, repainted, new viewports fitted, some internal and external valves and electrics fitted with new insulation and stainless steel overcladding.
- Since overhaul in 2008 the chamber has been in storage.

CERTIFICATION STATUS

Original Build Certificate on file. Some historic documentation and certification from the previous owner are available. The last Hydrotest Certificate and Gas Test Certificate, Viewport Certificate (2007-8) and other relevant documentation are on file

CURRENT STATUS

There are some external fittings and pipework missing, mainly at the gas penetrator plates.

MAIN LOCK

Equipment Missing - Internal

1. 2 x hyperbaric fire extinguishers
2. 8 x overboard dump BIBs
3. 2 x bunk lights
4. 6 x bunk mattresses

Equipment Installed - Internal

1. 2 x scrubbers
2. 2 x heater



3. 3 x main lights



4. 4 x bunk lights



6. 1 x large HCU kinergetics



8. 4 x call button at bunks



5. 6 x bunk



7. 1 x TV camera



8. 4 x call button at bunks (cont)



9. 1 x sound powered phone



10. 1 x comms speaker



11. Deck plates



12. Exhaust BIBs and manifold and pipework and BPR



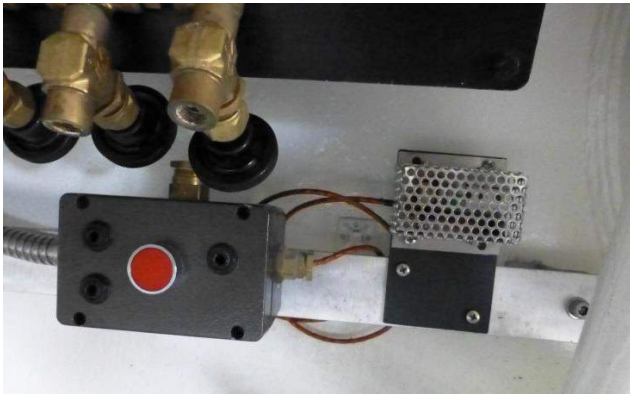
13. All depth, analysers, hot and cold water supply, pressurisation and exhaust pipework



14. Internal temp and humidity sensor



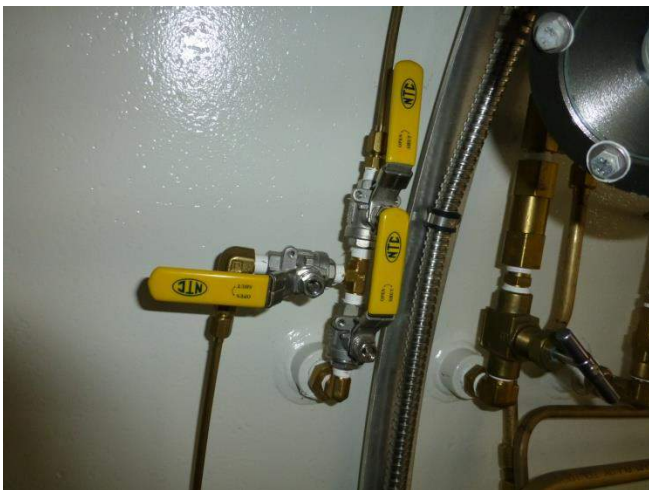
15. BIBs quick connects and 1st stages



16. O2 Injection Pipework and Valves



17. 4 x electrical multiway penetrators fitted 3 M/L, 1 E/L



ENTRY LOCK

Equipment Missing - Internal

1. BIBs (4)
2. 2 x Fire extinguishers
3. Fold up seat
4. Pipework and hoses to TUP upper internal door for hydraulic rams



5. 1 electrical multiway penetrator

Equipment Installed - Internal

1. 2 x heaters Kinergetics (Divex)



2. CO2 Scrubber



3. 1 x s/s sink & hot and cold water supply & shower



5. 1 x normal comms



7. 1 x 8 way mixed gas BIBs manifold

4. 1 x sound powered phone



6. 1 x 8 way O₂ BIBs manifold



8. 1 x hyperbaric toilet



9. 1 x light



10. 1 x call button



11. 6 x junction boxes and wiring



12. Deck plates



13. O₂ injection pipework and valves





DDC2 TWINLOCK DDC SATURATION DIVING CHAMBER



GENERAL BACKGROUND

Manufacturer: A/S Mollerodden Verksted

Year built: 1977

- Outfitted for 6 men.
- Configured for saturation diving including TUP Lock for connection to DDC1.
- The equipment underwent a full Lloyds Survey for corrosion and wall thickness tests. The chamber was extended from its original format (4 man capacity) to 6 man. This was done by extending the main lock by 1.3m. These modifications were carried out under the full approval, submissions and witness of Lloyds Register of Shipping. The chamber was hydrostatically tested to fits full working pressure, fully shotblasted, repainted, new viewports fitted, some internal and external valves and electrics fitted with new insulation and stainless steel overcladding.
- Since overhaul in 2008 the chamber has been in storage.

CERTIFICATION STATUS

Original Build Certificate on file. Some historic documentation and certification from the previous owner is available. All documentation, calculations, drawings and approvals were submitted to Lloyds Register of Shipping and are available.

Last Hydrotest Certificate and Gas Test Certificate, Viewport Certificate (2007-8) and other relevant documentation on file

CURRENT STATUS

There are some external fittings and pipework missing mainly at the gas penetrator plates and medical lock interlock externally.

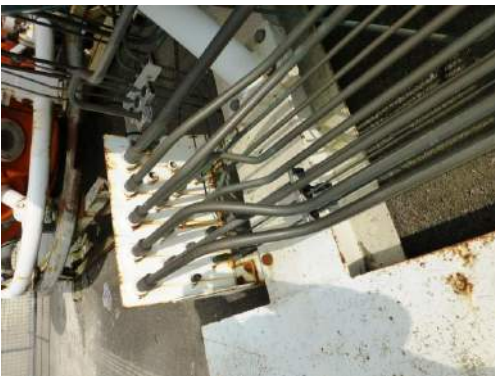
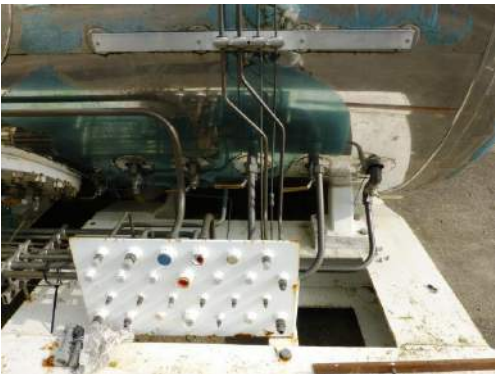
MAIN LOCK

Equipment Missing - External

1. Medical lock interlock



2. Some fittings and pipework



3. Electrical penetrators



Equipment Missing - Internal

1. HCU and pipework (may have S/H unit in stock)
2. 6 x mattresses



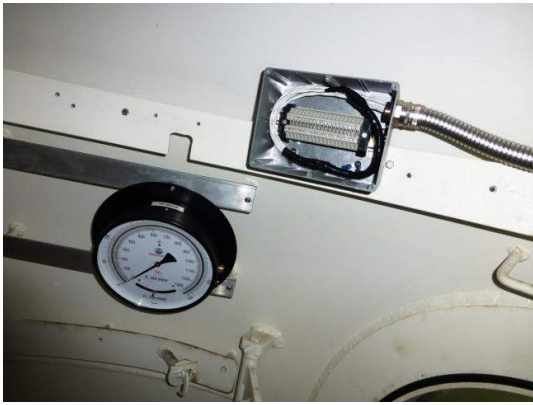
3. 8 x Scott BIBs inlet quick connectors



4. 2 x 4 way mixed gas BIBs manifolds (quick connectors only)



5. Internal main lights x 3
6. Internal bunk lights x 6
7. Internal bunk speaker x 6
8. Sound powered phone x 1
9. Temp and humidity sensor x 1
10. Wiring and connector from heater and scrubber to junction boxes



11. EO's to electrical junction boxes



12. Table for eating

13. 2 x Fire Extinguishers

Equipment Installed - Internal

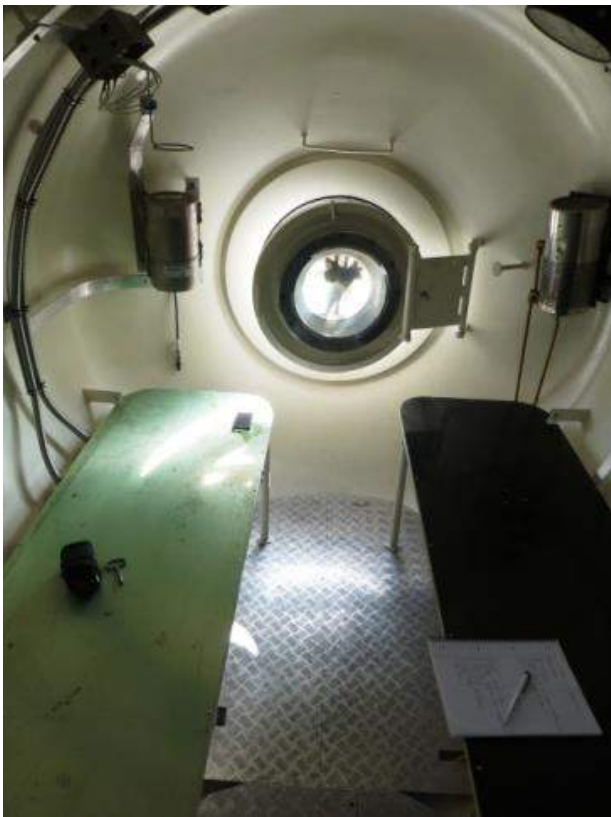
1. 2 x heaters



2. 2 x scrubbers



3. 6 x bunks



4. 2 x BIBs exhaust manifold



5. 2 x incomplete oxygen BIB manifolds



6. 4 x electrical junction boxes with wiring to electrical penetrators



7. Pipework, valves for depth, analysers, pressurisation and exhaust pipework



8. 6 x junction boxes and wiring



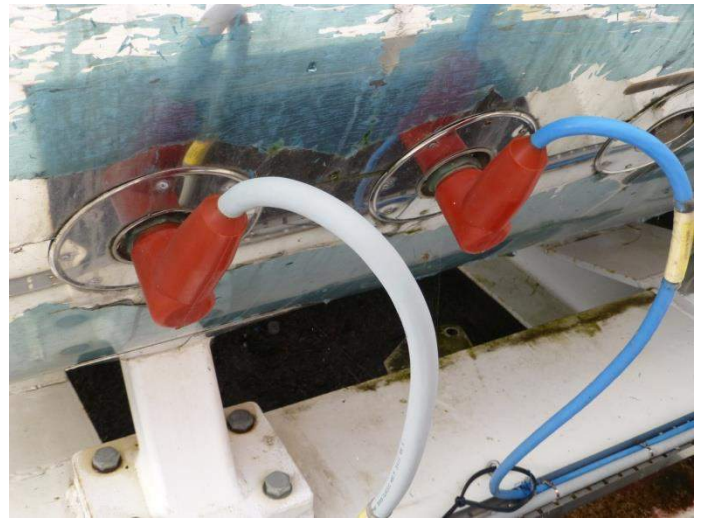
9. Deck plates



10. O2 injection pipework and valves



11. 5 x electrical multiway penetrators fitted 4 M/L, 1 E/L



ENTRY LOCK

Equipment Missing - Internal

1. 1 x multiway electrical penetrator
2. 1 x comms speaker
3. 1 x sound powered phone
4. 2 x light
5. 1 x fire extinguisher
6. 4 x BIBs
7. TV camera
8. Hydraulic ram for top inner door
9. Caisson Gauge

Equipment Installed - Internal

1. Sink and hot and cold Valves



2. 1 x scrubber



3. Hyperbaric Toilet



4. 1 x heater



5. BIBS manifold oxygen x 4



6. BIBS manifold mixed gas x 4



7. All pressurisation, exhaust pipework, depth and analysers



8. Oxygen injection lines pipework and valves



9. Deck Plates



DDC3 SATURATION DIVING CHAMBER



GENERAL BACKGROUND

Year built: 2008

- Outfitted for 3-4 men.
- Configured as single lock saturation diving chamber ideal for a come out chamber for 3 men plus a medical bunk. This chamber has internal bulk head with shower and toilet facility. It could easily be converted to a floataway hyperbaric chamber (HRC).
- This equipment was built new in 2008 and underwent full Lloyds approvals and surveys and has been unused since 2008. The chamber was outfitted externally and internally with new valves, pipework, penetrators, insulation and stainless steel overcladding

CERTIFICATION STATUS

All original Build Certificate, drawings, Lloyds Certificates, approvals and datapack is on file had its first hydrotest in 2008 and all relevant documentation is on file

The chamber

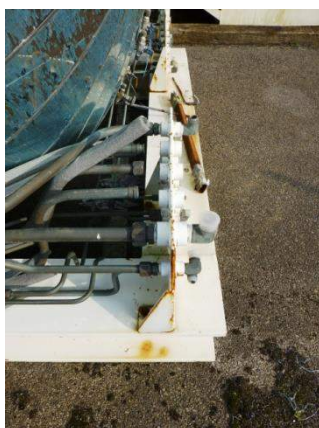
CURRENT STATUS

There are some external fittings and pipework missing mainly at the gas penetrator plates.

MAIN LOCK

Equipment Missing - External

1. Some Parker fittings



Equipment Missing – Internal

1. 4 x BIBs
2. 9 x BIBs inlet quick connects only
3. 1 x TV camera
4. 2 x bunk lights
5. 3 x main lights
6. 4 x call button boxes
7. 1 x sound powered phone
8. 4 x mattresses
9. 1 x heater

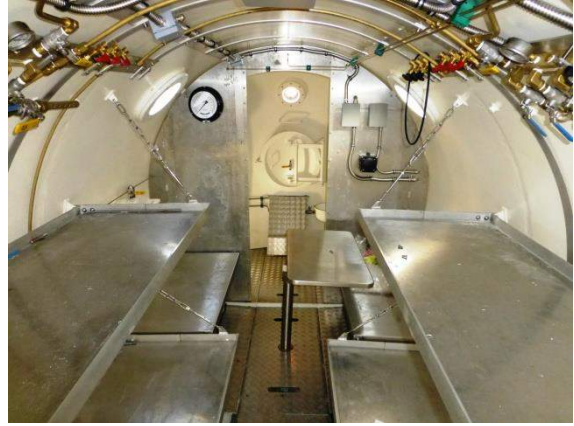
- 10. 1 x temp and humidity sensor
- 11. 2 x fire extinguisher
- 12. 1 x HCU (may have S/H unit in stock)

Equipment Installed – Internal

1. 4 x bunks



2. 2 x bench seats and table



3. 1 x Caisson gauge



4. 2 x scrubbers



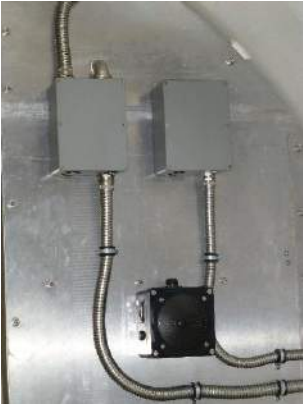
5. 1 x heater



6. All internal wiring



7. 11 x junction boxes



11 x junction boxes (cont)

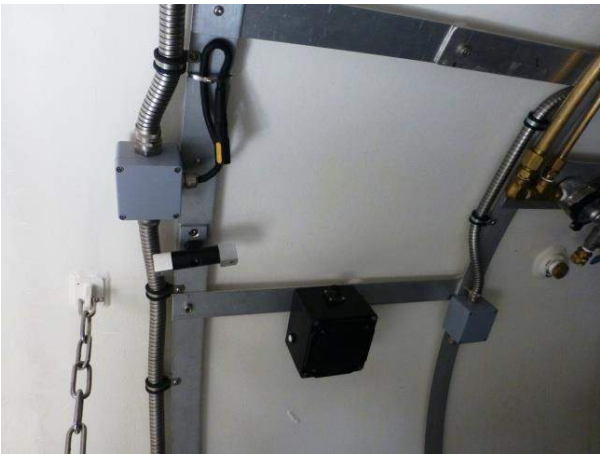


8. Comms



9. 4 x bunk speakers

10. 1 x general comms speaker



11. 1 x shower



12. 1 x sink with hot and cold water supply



13. 1 x toilet



14. 1 x set of deck plates and entry steps



15. All depth analysis, hot and cold water pipework, pressurisation and exhaust pipework



15(cont) All depth analysis, hot and cold water pipework, pressurisation and exhaust pipework



17. 1 x 3 way mixed gas BIBs manifold

16. 2 x 3 way oxygen BIBs manifold (no quick connect)



18. O2 injection pipework and valves



19. 4 x electrical multiway penetrators



4 x electrical multiway penetrators (cont)



4 x electrical multiway penetrators (cont)



4 x electrical multiway penetrators (cont)



BELL (SDC)



GENERAL BACKGROUND

Manufacturer: Offshore Marine Engineering Limited (OME)

Year built: 1984

- This Bell can be configured for a side or bottom mate with an internal volume of 4.7m³.
- In its current configuration it is configured as a bottom mate bell for mating to DDC1. We also have the bell mating clamp in stock and available with the SDC.
- The equipment has undertaken a full Lloyds corrosion and fitness test.
- The SDC was hydrostatically tested to its full working pressure, fully shotblasted and repainted with new viewports. Some internal and external valves and electricals have been fitted and a new gel coat to the outside thermal insulation and buoyancy of the bell.
- Since overhaul in 2008/9 the SDC has been in storage.

CERTIFICATION STATUS

Original Build Certificate on file. Some historic documentation and certification from the previous owner available. Last Hydrotest Certificate and Gas Test Certificate, Viewport Certificate (2008-9) and other relevant documentation on file

CURRENT STATUS

There are some external fittings and pipework missing.

There are some internal fittings and pipework missing and some items are not installed but are in stock
Equipment Missing – External

1. External bell lights x 2 or 3
2. Tescom BPR for HE/O2 and O2 x 2
3. Reclaim SEACO valve and water trap

Equipment Installed - External

1. Drop weight and stand off



2. HE/O2 onboard gas cylinder x 8
3. Oxygen on board gas cylinder x 2



4. HE/O2 Injection Cylinder x 1



5. Emergency umbilical connection panel x 1



7. Battery pack x 1



8. Submersible transformer and compensator x 1

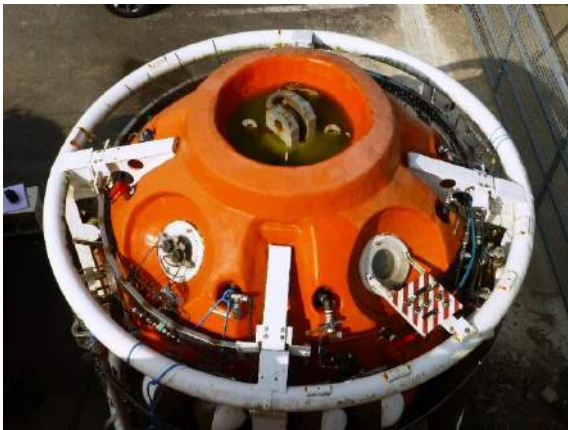


9. Through Water comms unit



10. Oil filled junction box (on site not found)

11. 90% of existing pipework for one board gas cylinders

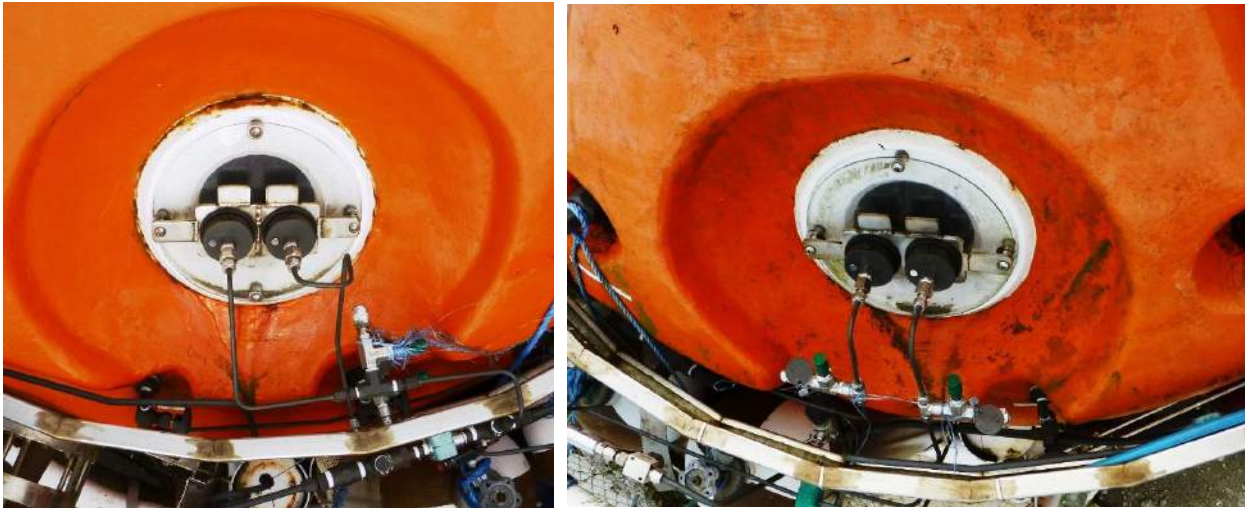


12. Clump weight guide wires attachments

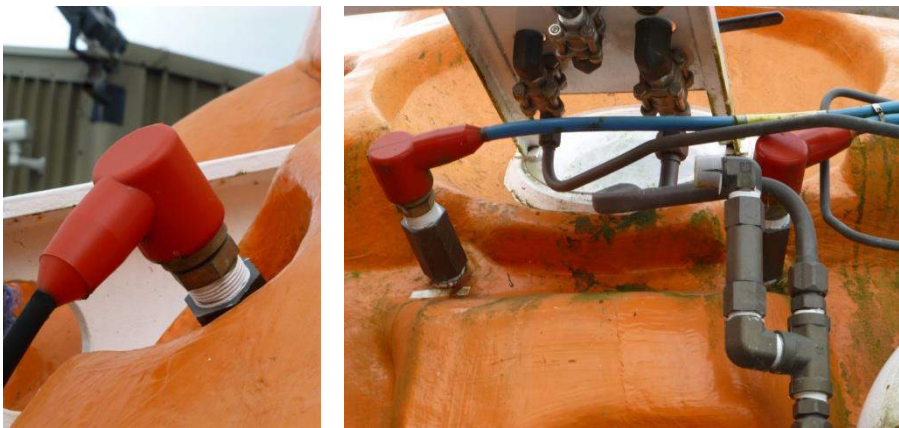
13. Diver 3 external umbilical rack



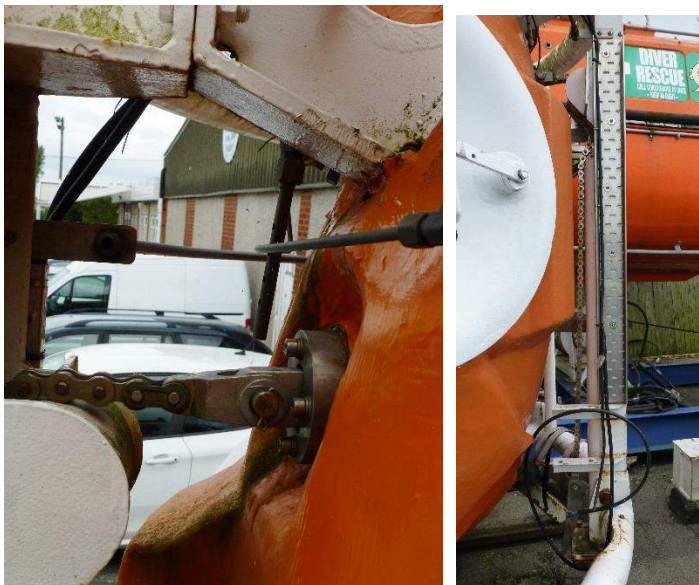
14. External pressure gauges for OBG



15. 3 x external multiway electrical penetrators



16. Drop weight mechanism



17. Anodes



18. Relief Valve



Equipment Missing – Internal

1. BIBs manifold
2. 2 x umbilical hangers
3. 1 x seat
4. 1 x hydraulic internal door ram and handpump
5. Internal camera
6. Internal lights

Equipment Installed - Internal

1. Divers hot water panel



2. Gas reclaim internal panel and water traps
3. Bell heater KI x 1



4. Sound powered phone



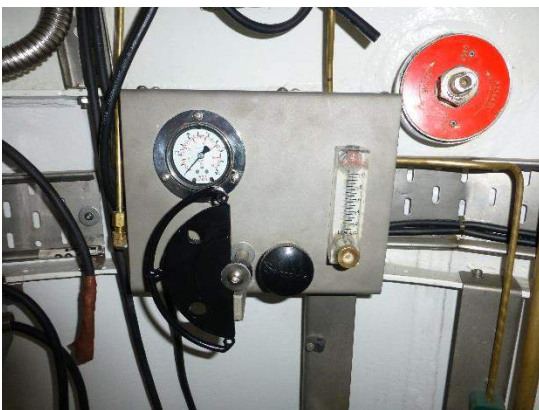
5. Emergency battery pack control panel



6. 3 x diver internal bell panel



7. O2 injection panel



8. Bell scrubber x 1



9. 2 x diver seat



10. 2 x electrical junction boxes



11. Bell pressurisation valves

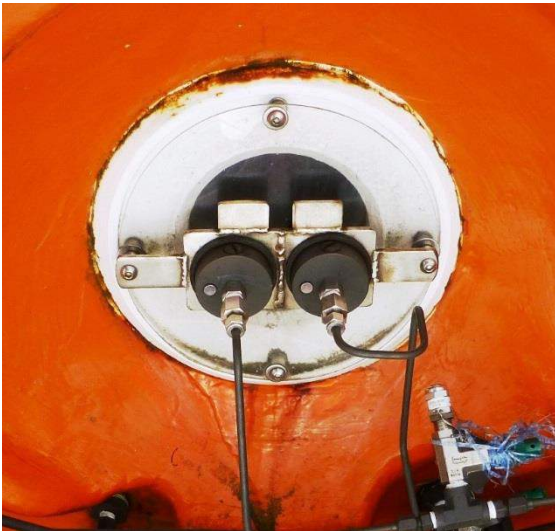


12. Bell exhaust



13. Hot water supply pipework

14. Diver supply depth, OBG, analyser pipework



15. Seat safety harness x 3



16. Internal depth gauges



17. Electrical Penetrators



18. Comms panel

19. Through water comms unit



TRUNKS, SPOOLS AND BELL MATING CLAMP



GENERAL BACKGROUND

Manufacturer: Aqualogistic

Year built: 1981

- This is a 600mm diameter 24 and 30 bar equipment lock.
- The equipment underwent a full Lloyds survey, was hydrostatically tested, shotblasted and repainted.
- Since overhaul in 2008 the equipment has been in storage.

CERTIFICATION STATUS

Original Build Certificate on file. Some historic documentation and certification from the previous owner available. Last Hydrostatic test 2009 and other relevant documentation on file

CURRENT STATUS

There are some external valves and pipework missing.

Equipment Missing - External

1. Mechanical interlock system



INTERCONNECTING CHAMBER SPOOL



GENERAL BACKGROUND

Manufacturer: Aqualogistic

Year built: 1978

- Originally built and designed to 30 Bar
- Configuration of saturation diving chamber spool between DDC1 and DDC2.

- The equipment underwent a full Lloyds survey, corrosion and wall thickness test. The spool was hydrostatically tested (2009), shotblasted and repainted.
- Since overhaul in 2009 the spool has been in storage.

CERTIFICATION STATUS

Original Build Certificate on file. Some historic documentation and certification from the previous owner available. Last Hydrostatic test Certificate on file

CURRENT STATUS

Complete

BELL MATING CLAMP AND SPOOL



GENERAL BACKGROUND

Year built: 2008

- Originally built and designed to 30 Bar and to fit on the top manway of the Entry Lock on DDC1.
- Configured for saturation diving and TUP operations between SDC and DDC1.
- The equipment was built new 2007-8 under full design approval and witness testing of Lloyds Register of Shipping. Shotblasted and painted to full working pressure.
- It has been in storage since built.

CERTIFICATION STATUS

All original Build Certificate, drawings, Lloyds approvals and datapack on file

First Hydro test 2009 and relevant documentation on file

CURRENT STATUS

Complete.



GAS DISTRIBUTION



GENERAL BACKGROUND

Manufacturer: Submarine Manufacturing & Products Ltd

Year built: 2008

- Modular section gas distribution and decant panels.
- Configured for saturation diving system for distribution and control of all high pressure gasses to the diving system and HP diving supplies. Additionally there is a shore side decant panel manufactured in a stainless steel case.
- Includes analysis.
- It has been in storage since built.

CERTIFICATION STATUS

All original Build Certificate, drawings, Lloyds approvals on file

. This equipment was last witness tested by Lloyds Register 2009.

CURRENT STATUS

Complete.



BELL HANDLING SYSTEM



GENERAL BACKGROUND

Manufacturer: Caley Ocean Systems

Year built: 2009

- This system is a gantry type handling system for use over a moonpool or over the side of a DSV/construction barge.
- Configured as a single lift to be positioned on top of DDC1 structure.
- The gantry outboard deployment frame can be lowered for manoeuvring into a port.
- The equipment was built new 2008-9 and underwent full Lloyds approval and survey.
- It has been in storage since built.

CERTIFICATION STATUS

All original Build Certificate, drawings, Lloyds approvals on file
documentation is on file

Last load tested 2009 and relevant

CURRENT STATUS

Complete.

FURTHER DOCUMENTATION FOR THE BELL HANDING SYSTEM



