



SEA 02 saturation diving system

General technical data

SEA 02 is a Lloyds classed 200 meter 12-man saturation system conforming to the Code of Federal Regulations (CFR) and the International Marine Contractors Association (IMCA).

The saturation complex is capable of being utilized in split saturation mode.

SEA 02 comprises of the following main components:

- Six-man twin lock decompression chamber – DDC #1 and TUP
- Three-man single lock decompression chamber – DDC #2
- Three-man single lock decompression chamber – DDC #3
- Three-man diving bell and handling systems
- 12-man hyperbaric rescue chamber
- Life support machinery enclosure
- Dive control enclosure
- Diver gas reclaim enclosure

DDC #1 enclosure

Comprises a twin lock chamber – six-man living and TUP. The living chamber has bunks and essential equipment for each occupant. The living chamber has a medical lock, communication system, environmental control, electrical distribution, gas management and fire fighting / detection system. The TUP joins the chamber and provides ablation services as well as secured transfer to the SDC.

DDC #2 / #3 enclosure

Comprises a three-man living chamber and a three-man come-out chamber. Life support services typical within the living chambers. The TUP joins the living chamber and provides sanitary services. The come-out chamber has a wet area with ablation facilities.

Three-man diving bell (SDC) and handling system

The SDC is of three-man capability with an internal volume of (5m³). Internally, the SDC is fitted with gas, electrical, communications and environmental systems. The SDC has eight view ports, a protective bumper ring and on-board gas and electrical storage for emergency circumstances of a 24 hour duration.

Hyperbaric Rescue Chamber (HRC)

Hyperbaric rescue is an IMCA-compliant rescue chamber with a dedicated launch and recovery system and hydraulic support. The HRC is capable of supporting 13 men and has appropriate gas, communications and an environmental management system to support the occupants for a minimum of 72 hours. The HRC connects to the complex via a spool / clamp and interlock.

SDC LARS

The LARS is an A-frame type with a catcher system to stabilize the SDC during launch and recovery. The main winch is 12,000 kg SWL with 250m of 34mm wire rope. The guide weight winch is 8,000kg SWL (two-parted) to provide 16,000kg capacity holding 500m of 26mm wire rope. The guide weight system is capable of recovering the SDC to the A-Frame latching system and is the emergency recovery system. The hydraulic winches are driven by independent hydraulic motors with redundant electrical services to provide back up contingencies.

The umbilical winch has gas, fluid and electrical slip rings, is fitted with a mechanical spooling device and driven by independent hydraulic motors.



Life support machinery container

Machinery container contains the following life support equipment:

Bell handling system hydraulic power pack and auxiliary power pack

2 x Portable hot water units

5 x ECU units each providing 50,000 BTU of cooling and heating

2 x Divers' hot water units

Primary electrical switchboard

Saturation system dive control enclosure

The enclosure is split into three compartments: (a) for LSS functions (b) for the dive supervisor functions and (c) an interface compartment / cal gas storage.

LSS compartment – Contains the incoming gas distribution panel supplying the gas management panels for each of the chamber compartments and interconnecting spools. Local electrical distribution boxes and back-up 24 volt supplies. Fire detection / alarm panel with the deluge activation panel. Touchscreen chamber monitoring system and the DDC communication. This compartment has normal and emergency lighting systems.

Dive supervisor – Contains the gas management system for the SDC and three divers as well as the SDC spool management system. SDC power management system complete with back-up 24 volt supply. Diver gas reclaim panel and analysis. CCTV distribution system including vessel interface. DP alarms and dedicated vessel communications / alarms. Bell handling control panel.

Interface compartment – Incoming 440 volt distribution panels and transformers. Communication interface boxes and DDC modules interface. Vessel communication interface box. Analysis gas rack and HP cylinder for the BA sets. Dedicated self-contained breathing apparatus are provided for the life support technician and diving supervisor.

Reclaim container

Divers gas reclaim / reprocessing unit and volume cylinders

1 x HP air compressor

2 x Gas transfer pumps

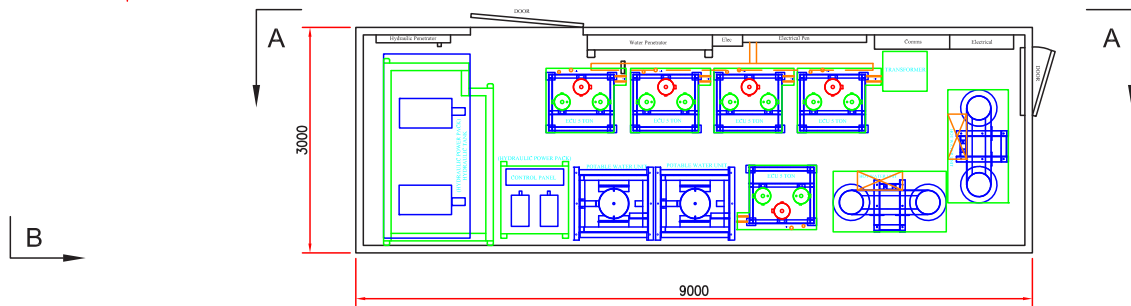
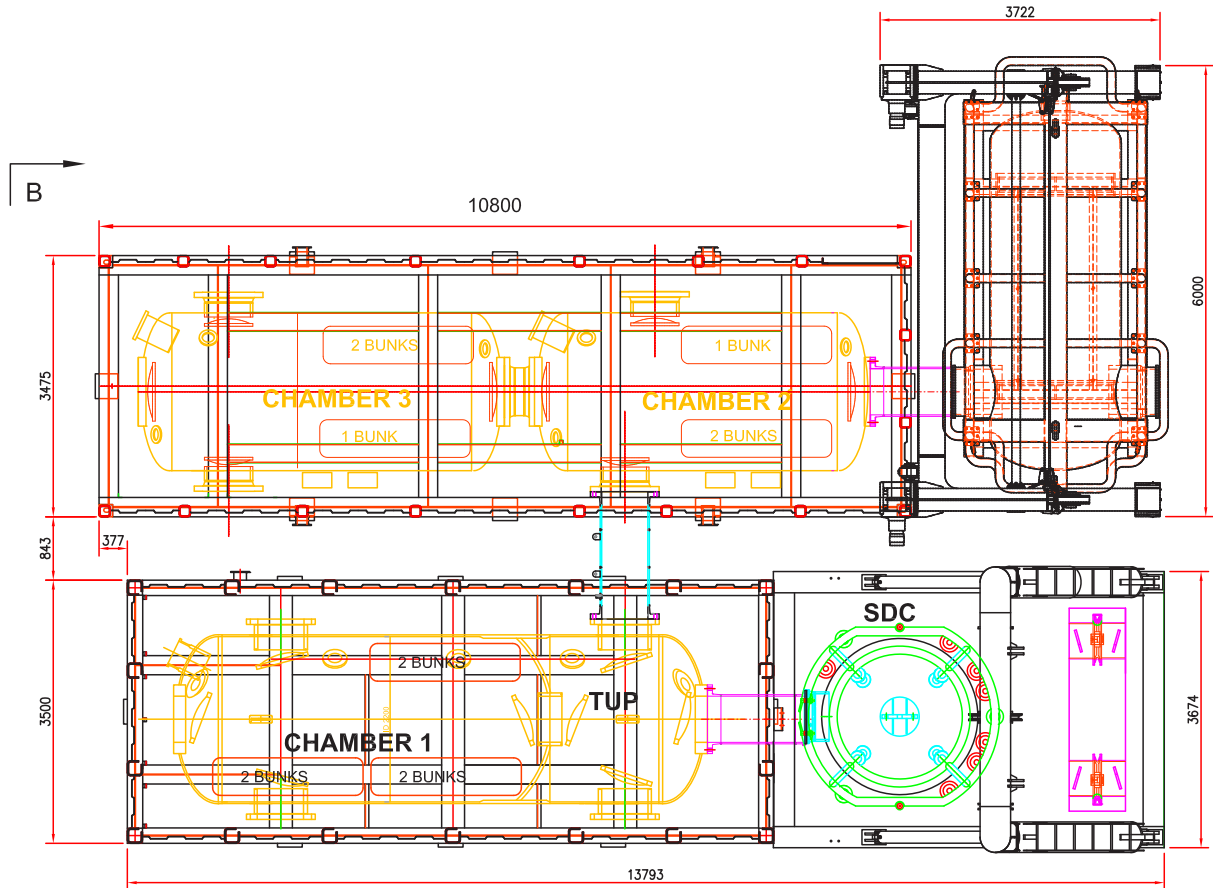
1 x Secondary power distribution panel

Supplies / interfaces

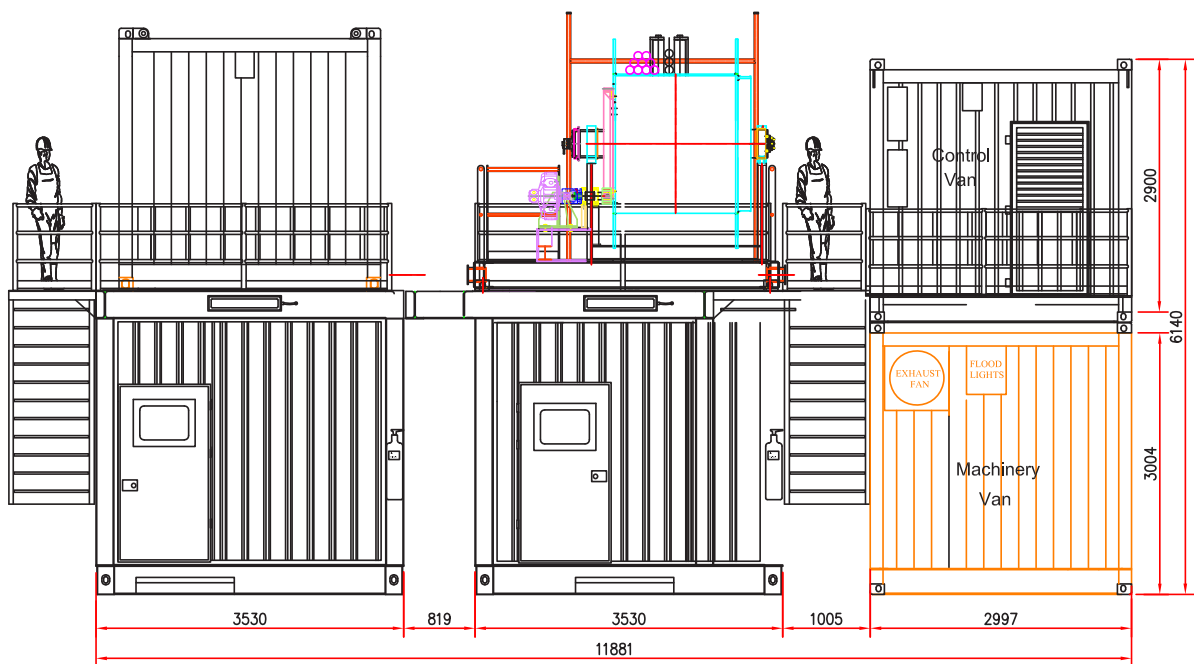
Main power	400 KVA	440 V – 50 / 60 Hz
Emergency power	250 KVA	440 V – 50 / 60 Hz
Salt water - diver	6m ³ / hr	5 Bar delivery pressure
Salt water - cooling	20m ³ / hr	5 Bar delivery pressure
Potable water	2m ³ / hr	4 Bar delivery pressure
Gas supplies	O2 and HEO2	Per IMCA
Comms	UHF VHF Hard wire	Crane, deck, vessel Marine traffic Bridge / DP room
CCTV	Coax cable	Vessel, ROV, deck
Alarms	Hard wire	Vessel, general, DP

Component weights and dimensions

Item	Weight (kg)	Dimensions (m) (L x W x H)
DDC 1 enclosure	24,000	14 x 3.5 x 3.5
DDC 2 / 3 enclosure	24,000	11 x 3.5 x 3.5
Bell handling winch frame	23,000	8.6 x 3.5 x 2.6
HRC skid	17,000	3.4 x 6 x 5
Diver gas reclaim van	2,000	3 x 3 x 3.5
Dive control enclosure	18,000	9 x 3 x 3.5
Machinery enclosure	22,000	10 x 3 x 3.5
Total	130,000	



SYSTEM CHAMBER DECK PLAN VIEW



SYSTEM END VIEW
VIEW B - B