

# SATURATION SYSTEM II COMPONENTS

SAT II is a 6-man saturation diving system designed with a two man top mate – side launch bell. The system is certified to 850 fsw and is equipped with a 10-man Self-Launch Hyperbaric Rescue Chamber (HRC) for offshore applications, Bell Launch and Recovery System (LARS) with redundant recovery capabilities for safety, and gas reclaim system for efficient operation. System is of a modular design providing for multiple footprints to suite the required placement of components.

## Primary Living Chamber (4 Man/Double Lock)

### Main Lock

- Bunk beds w/ fire retardant mattresses
- Medical lock w/ pressure interlock
- Scott BIBs w/ overboard dumps (x 5)
- HCU with two carbon dioxide scrubbers
- Auxiliary carbon dioxide scrubbers (x 2)
- Lung powered scrubbers (x 5)

### Transfer Lock

- Overhead hatch for transfer into the bell
- Medical lock w/ pressure interlock
- Shower, toilet, washbasin
- Scott BIBs w/ overboard dumps (x 2)
- HCU with two carbon dioxide scrubbers
- Auxiliary carbon dioxide scrubbers (x 2)
- Wired communications
- Sound powered phone

## Chamber #2 (4 Man/Single Lock)

### Features

- Similar configuration as Primary Living Chamber

## Hyperbaric Rescue Chamber (10 Man Rescue/Single Lock)

### Features

- Gantry launch system using stored energy
- 72 hours autonomous support for 10 men
- HeO<sub>2</sub> & O<sub>2</sub> reserve cylinders
- Sound powered communications
- AODC emergency signage
- Battery power reserves
- EPIRB, strobe, radar reflector
- Tow bridle and lifting slings

### Living Compartment

- Medical lock w/ pressure interlock
- Bunk beds w/ fire retardant mattresses
- Jump seats & harnesses (x 10)

## Hyperbaric Rescue Chamber con't.

- O<sub>2</sub> make-up injector system
- Scott BIBs w/ overboard dumps (x 11)
- HCU with two carbon dioxide scrubbers
- Auxiliary carbon dioxide scrubbers (x 2)
- Lung powered scrubbers (x 11)
- Wired communications

### Bathroom Facilities

- Shower, toilet, washbasin
- HCU with carbon dioxide scrubber
- Auxiliary carbon dioxide scrubber
- Wired communications

## Dive Bell System (2 Man)

### Launch System

- Primary bell hydraulic winch
- Bell clump weight hydraulic winch
- Hydraulic powered umbilical sheave
- Fibron bell umbilical (1200ft) w/ basket
- Primary HPU (60hp / 35gpm)
- Reserve HPU (30hp / 20gpm)
- Selectable air winch recovery

### Bell

- 12 hours autonomous support
- Transponder & re-location device
- Primary diver umbilical (165ft)
- Stand-by diver umbilical (175ft)
- Gas & O<sub>2</sub> reserve cylinders
- Divex gas reclaim
- Bell gas control panel
- O<sub>2</sub> make-up injector system
- Scott BIBs (x 2)
- Carbon dioxide scrubber
- Lung powered scrubbers (x 2)
- Thru-water communications
- Wired communications
- Battery power reserves
- Sound powered phone
- Bell heater



## Dive/Saturation Control Van

### Dive Control Station

- Bell gas control panel
- Divex reclaim booster panel
- O<sub>2</sub> analyzers (x 2) & CO<sub>2</sub> analyzer
- Diver communication panel
- Clear Comm communications
- Diver depth monitoring panels (x 2)
- 24 volt bell power systems (x 2)
- Video monitor systems (x 2)
- DVD & DVR video recording
- VHF & UHF Radios
- Loud hailer (150 watt)
- DP Light system

### Saturation Control Station

- Gas distribution panel
- Chamber control panels (x 4)
- Treatment gas panel
- Analyzation panel
- O<sub>2</sub> analyzers (x 3) & CO<sub>2</sub> analyzers (x 3)
- Chamber communication systems (x 2)
- Chamber video monitoring system
- Electrical control switching panel
- 24 volt chamber power systems (x 2)

## Divers Reclaim Van

- Divex Electric Gasmizer System
- Haskell Booster Pumps (x 2)

## Environmental Control Van

- External environmental control units (x 2)
- Potable hot / cold water systems
- SAT tech workshop
- Spares locker

## Supporting Equipment

- Dive Locker
- Spares Van
- Electric immersion hot water unit (90kva)
- Deck leads for electrical and gas

## Power Distribution Van

### Essential Power

- Primary: 200kw, 480v, 3 phase
- Back-up: 200kw, 480v, 3 phase
- Supports:  
Dive/SAT Van, ECU Van  
Main & back-up power for LARS

### Nonessential Power

- 100kw, 480v, 3 phase
- Supports:  
Tooling, welding, deck lighting

## System Requirements

- Electric Power: 250kw, 480v, 60Hz
- Auxiliary Generator: 200kw
- Compressed Air: 400cfm, 90 psi
- Seawater: 25gpm
- Freshwater: 3gpm

## SATURATION SYSTEM II DIMENSIONS

| Component                   | Length      | Width     | Height    | Weight     |
|-----------------------------|-------------|-----------|-----------|------------|
| Primary Living Chamber      | 9 ft 3 in   | 8 ft 4 in | 8 ft 9 in | 32,250 lbs |
| Chamber #2                  | 12 ft 10 in | 8 ft 6 in | 8 ft 6 in | 24,000 lbs |
| Hyperbaric Rescue Chamber   | 18 ft       | 10 ft     | 9 ft 5 in | 35,000 lbs |
| Dive Bell                   | 6 ft 6 in   | 6 ft 6 in | 6 ft 6 in | 10,000 lbs |
| LARS Winch & Platform       | 15 ft       | 8 ft      | 12 ft     | 22,000 lbs |
| Dive/Saturation Control Van | 20 ft       | 8 ft      | 8 ft      | 13,150 lbs |
| Environmental Control Unit  | 20 ft       | 8 ft      | 8 ft      | 13,600 lbs |
| Reclaim Van                 | 10 ft       | 8 ft      | 8 ft      | 10,000 lbs |
| Power Distribution Van      | 10 ft       | 8 ft      | 8 ft      | 9,500 lbs  |
| HRC Intervention Van        | 10 ft       | 8 ft      | 8 ft      | 10,000 lbs |
| Tool Van                    | 20 ft       | 8 ft      | 8 ft      | 18,600 lbs |
| Welding Van                 | 20 ft       | 8 ft      | 8 ft      | 6,500 lbs  |

*\* These dimensions are guidelines for the key components of this system only.*

# SATURATION SYSTEM III COMPONENTS

SAT III is a 6-man saturation diving system designed with either a two man side mate – end launch bell or a three man top mate – side launch bell. The system is certified to 1,000 fsw and is equipped with an 8-man Hyperbaric Rescue Chamber (HRC), with redundant recovery capabilities for safety, and gas reclaim system for efficient operation. The system is of a modular design providing for multiple bell launch / recovery and footprints to suite the required placement of components.

## Primary Living Chamber (6 Man/Single Lock)

- Bunk beds w/ fire retardant mattresses
- Medical lock w/ pressure interlock
- Equipment lock w/ pressure interlock
- Scott BIBs w/ overboard dumps (x 7)
- HCU with two carbon dioxide scrubbers (x 2)
- Auxiliary carbon dioxide scrubbers (x 4)
- Lung powered scrubbers (x 7)
- Wired communications
- Sound powered phone

## Transfer Lock

- Side or overhead hatch for transfer into bell
- Shower, toilet, washbasin
- Scott BIBs w/ overboard dumps (x 2)
- HCU with two carbon dioxide scrubbers
- Auxiliary carbon dioxide scrubbers (x 2)
- Wired communications
- Sound powered phone

## Hyperbaric Rescue Chamber (8 Man Rescue)

### Features

- 72 hours autonomous support for 8 men
- HeO<sub>2</sub> & O<sub>2</sub> reserve cylinders
- Sound powered communications
- AODC emergency signage
- Battery power reserves
- Tow hitch and lifting slings

### Living Compartment

- Medical lock w/ pressure interlock
- Bunk beds w/ fire retardant mattresses
- Jump seats & harnesses (x 8)
- O<sub>2</sub> make-up injector system
- Scott BIBs w/ overboard dumps (x 9)
- HCU with two carbon dioxide scrubbers
- Auxiliary carbon dioxide scrubber
- Lung powered scrubbers (x 9)
- Wired communication

## Hyperbaric Rescue Chamber con't.

### Bathroom Facilities/Entrance Lock

- Shower, toilet, washbasin
- HCU with carbon dioxide scrubber
- Auxiliary carbon dioxide scrubber
- Wired communications

## Dive Bell System (2 Man)

### Launch Componets

- Primary bell hydraulic winch
- Bell clump weight hydraulic winch
- Hydraulic powered umbilical sheave
- Bell umbilical (1,000ft) w/ basket
- Dual HPU (50hp each)

### Bell

- 12 hours autonomous support
- Primary diver umbilical (165ft)
- Stand-by diver umbilical (175ft)
- Gas & O<sub>2</sub> reserve cylinders
- Divex gas reclaim system
- Bell gas control panel
- O<sub>2</sub> make-up injector system
- Scott BIBs (x 2)
- Carbon dioxide scrubbers (x 2)
- Lung powered scrubbers (x 2)
- Thru-water communications
- Wired communications
- Sound powered phone
- Battery power reserves
- Bell heater

## Divers Reclaim Van

- Divex electric gasmizer system
- Haskell booster pumps (x 2)



## Dive/Saturation Control Van

### Dive Control Station

- Bell gas control panel
- Divex reclaim booster panel
- O<sub>2</sub> analyzers (x 2) & CO<sub>2</sub> analyzer
- Diver communication panel
- Diver depth monitoring panel
- 24 volt bell power systems (x 2)
- Video monitor systems (x 2)
- DVD & DVR video recording
- VHF & UHF Radios
- Loud hailer (150 watt)

### Saturation Control Station

- Gas distribution panel
- Chamber control panels (x 4)
- Treatment gas panel
- Analyzation panel
- O<sub>2</sub> analyzers (x 3) & CO<sub>2</sub> analyzers (x 3)
- Chamber communication systems (x 2)
- Chamber video monitoring system
- Electrical control switching panel
- 24 volt chamber power systems (x 2)

## System Gas Reclaim

Scrubs and reprocess system gas to usable chamber gas for medlocks, equipment lock, bell trunk, etc.

## Supporting Equipment

- Dive Locker
- Spares Van
- Electric immersion hot water unit (90kva)
- Deck leads for electrical and gas

## Power Distribution Van

### Essential Power

- Primary: 200kw, 480v, 3 phase
- Supports:  
Dive/SAT Van, ECU Van  
LARS HPU  
5120 dive compressor, CAT pump  
Raw water system

### Nonessential Power

- 100kw, 480v, 3 phase
- Supports:  
Tooling, welding, deck lighting

## System Requirements

- Electric Power: 350kw, 480v, 60Hz
- Compressed Air: 120cfm, 110psi
- Seawater: 75gpm
- Freshwater: 3gpm
- Back-up: 200kw, 480v, 3 phase

# SATURATION SYSTEM III DIMENSIONS

| Component                     | Length    | Width      | Height     | Weight     |
|-------------------------------|-----------|------------|------------|------------|
| Primary Living Chamber        | 25 ft     | 9 ft 10 in | 9 ft 10 in | 56,000 lbs |
| Transfer Lock                 | 7 ft 5 in | 8 ft 6 in  | 9 ft 1 in  | 14,000 lbs |
| Hyperbaric Rescue Chamber     | 15 ft     | 9 ft 8 in  | 9 ft       | 17,000 lbs |
| Dive Bell                     | 9 ft      | 8 ft       | 11 ft 6 in | 14,000 lbs |
| LARS Winch & Platform         | 11 ft     | 7 ft 6 in  | 7 ft       | 20,000 lbs |
| Dive/Saturation Control Van   | 20 ft     | 8 ft       | 8 ft       | 13,000 lbs |
| Environmental Control Unit    | 20 ft     | 8 ft       | 8 ft       | 13,600 lbs |
| Diver Reclaim Van             | 10 ft     | 8 ft       | 8 ft       | 6,500 lbs  |
| Power Distribution Van        | 10 ft     | 8 ft       | 8 ft       | 7,000 lbs  |
| System Reclaim Van            | 10 ft     | 8 ft       | 8 ft       | 9,000 lbs  |
| Tool Van                      | 20 ft     | 8 ft       | 8 ft       | 16,500 lbs |
| Gas Transfer Van              | 10 ft     | 8 ft       | 8 ft       | 9,500 lbs  |
| Electric Diver Hot Water Unit | 5 ft 5 in | 4 ft 6 in  | 6 ft 3 in  | 2,000 lbs  |

\* These dimensions are guidelines for the key components of this system only.

