# Ocean Works Asia

OWA Group

owa.com.sg

**200SAT-3**

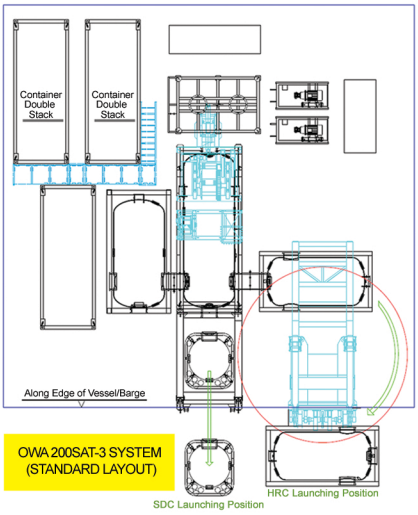
# OWA 200SAT-3

## Saturation Diving System

200SAT-3 is a twelve men portable saturation diving system with a modular and compact footprint for efficient mobilisation on variety of DP 2 vessels and anchored barges. The system is 200msw rated and the three men bell allows two divers to be working safely in the water. The system is Classed by Nippon Kaiji Kyokai (Class NK) and is IMCA D024 compliant. 200SAT-3 was commissioned in 2013 and has been utilised almost annually and maintained continuously by OWA's in-house diving technical team.

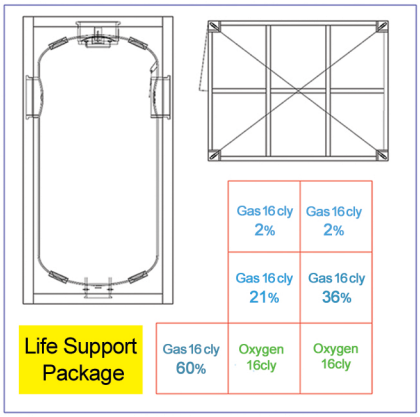
Bell Launching from side of DLB

Bell Launching from Moonpool of DSV



Demonstration of HRC Launching

Life Support Package




**Providing Cost Effective Solutions**

IMCA Member

## Main Particulars

| | |
|---|---|
| Owner | Ocean Works Asia Inc. |
| System Commissioned | 2013 |
| Builder | Ocean Works Asia Inc. |
| Class Society | Nippon Kaiji Kyokai (Class NK) |
| Certification/Testing Sandard | IMCA D 018 & D024 |

## Living Chambers (LC-1: DDC-6)

| | |
|---|---|
| Chamber Volume | ML: 15.5m$^3$, EL: 7.5m$^3$ |
| Living Capacity | ML: 6 men living, EL: N/A |
| Pressure Rated | 20kg/cm$^2$ |

## Living Chambers (LC-2: HTRC-5)

| | |
|---|---|
| Chamber Volume | 15.9m$^3$ |
| Living Capacity | 4men living |
| Pressure Rated | 20kg/cm$^2$ |

## Living Chambers (LC-3: DDC-8/Come Out Chamber)

| | |
|---|---|
| Chamber Volume | 15.9m$^3$ |
| Living Capacity | 4men living |
| Pressure Rated | 20kg/cm$^2$ |

## Control Van

| | |
|---|---|
| Diver/Bell Control Panel | Chamber Control/Monitoring Panel |
| Diver Video Recording System | Uninterrupted Power Supply System |

## Reclaim System

| | |
|---|---|
| Type | Gas Service Gasmizer |
| Dive Control System | 2 Diver Reclaim, Bell Scrubbing |
| Gas Transfer Pumps | 6 x HASKEL Gas Booster Pumps |

## Diver Hot Water System

| | |
|---|---|
| Driven | Electric Heater |
| Supply | 2 Divers and Heating SDC |

## System Required

| | |
|---|---|
| Electric Power - System | 440V - AC, 60Hz/400A |
| Emergency Generator | 440V - AC, 60Hz/350KVA |
| Compressed Air | 7kg/cm$^2$/350cfm |
| Seawater (Cooling) | 200L/min |
| Fresh Water | 100L/man/day |

## Diving Bell (SDC-7)

| | |
|---|---|
| Chamber Volume | 4.5m$^3$ |
| Diver Lockout Capacity | 2 Divers |
| Hat Mounted Camera System | 2 |
| Diving Helmet | SL17C Jewel Reclaim Hat |
| Mating to DDC | Side Mating |
| Pressure Rated | 20kg/cm$^2$ |

## Launching and Recovery System

| | |
|---|---|
| A-Frame | SWL 10.6 Ton |
| Main Winch (Wire Length: 300M) | SWL 9.0 Ton |
| Guide Weight Winch (Wire Length: 450M) | SWL 1.75 Ton (Double Sheave) |
| Valve Stand | For Launching Control |
| Hydraulic Power Pack x 2 | Primary and Secondary |
| Hydraulic Power Sheave | Recover Main Umbilical |

## Umbilicals Length

| | |
|---|---|
| Bell Main Umbilical | 300M |
| Bell Spare Umbilical | 300M |
| Lockout Diver - 1 | 50M (Option 80M) |
| Lockout Diver - 2 | 50M (Option 80M) |
| Bell Man | 55M (Option 85M) |

## Life Support Machinery

| | |
|---|---|
| Hot Water Pot Unit | Electrical Driven |
| ECU Unit | 4 x Control Master Unit |
| Scrubbers | Build in Chamber |

## Hyperbaric Evacuation System

| HRC System (LC-2: HTRC-5) | | HRC Launching System (HLS-2) | |
|---|---|---|---|
| Type | Float Away Chamber | Outreach | 3.5M |
| Capacity | 12 men Emergency | SWL | 13.8 Ton |
| Survival Equipment (Battery Operated) | 72 hours | Remote Release System | Manual Operation |
| Weight in Air (Incl 12 Divers) | 13.5 Ton | Launching Speed | 3M / Min |
| Towing Speed | 4knot | Motor Spec | 22KW |

## Life Support Package

| 10 Feet Container (Life Support Control) | | Gas Package (*80M Working Depth) | |
|---|---|---|---|
| 1 x Chamber Control Panel | 1 x Secondary Cooler unit | He-O$^2$ Quad (98%-2%) | 2 x 16 Cylinders Rack |
| 1 x Primary ECU Unit (Hot/Cold) | 1 x Secondary Heater unit | He-O$^2$ Quad (79%-21%) | 1 x 16 Cylinders Rack |
| Required Source | | He-O$^2$ Quad (64%-36%) | 1 x 16 Cylinders Rack |
| Electric Power - 440V/50A | Sea Water - 50L/min | He-O$^2$ Quad (40% - 60%) | 1 x 16 Cylinders Rack |
| Generator - 440V/45KVA (Optional) | Fresh Water - 100L/man/day | Diving Oxygen | 2 x 16 Cylinders Rack |

## System Dimensions

| Description | Dimension (L x W x H) | Weight (Ton) | Description | Dimension (L x W x H) | Weight (Ton) |
|---|---|---|---|---|---|
| LC-1 (DDC-6) | 7000 x 2850 x 3180 | 20.0 | HRC launching System (HLS-2) | 8200 x 3400 x 6500 | 32.0 |
| LC-2 (HTRC-5) | 5950 x 2600 x 2700 | 13.5 | Control Van (CV) | 6500 x 2500 x 2700 | 9.0 |
| LC-3 (DDC-8) | 5300 x 2800 x 3500 | 14.0 | Maintenance Van | 6100 x 2500 x 2700 | 9.0 |
| Diving Bell (SDC-7) | 2500 x 2200 x 2700 | 9.0 | Life Support Van | 6000 x 2500 x 2900 | 9.0 |
| LARS (A-Frame) | 4000 x 2850 x 5430 | 13.0 | Reclaim/Hot Water Van | 6500 x 2500 x 2700 | 9.0 |
| Main Winch | 2500 x 2850 x 1800 | 9.0 | Power Station | 6500 x 2500 x 2700 | 9.0 |
| Guide Weight Winch /Valve Stand | 2850 x 2000 x 2700 | 4.0 | Back up Generator | TBA | TBA |
| Umbilical Power Sheave | 2150 x 1200 x 2600 | 2.0 | Divng Gases | TBA | TBA |
| Main Umbilical Basket | 4100 x 2500 x 1900 | 4.0 | | | |
| Emergency Umbilical Basket | 4100 x 2500 x 1900 | 4.0 | Life Support Package | | |
| Hydraulic Power Pack - 1 | 2350 x 1200 x 2000 | 3.0 | 10 Feet Container | 3100 x 2500 x 3200 | 6.0 |
| Hydraulic Power Pack - 2 | 2350 x 1200 x 2000 | 3.0 | Diving Gases | TBA | TBA |
| Base Skid for LC-1 | 11100 x 2850 x 300 | 3.0 | Generator (Optional) | TBA | TBA |