



# TAN CANG OFFSHORE SERVICES JSC.

## Vessel Specification



# TC VIGOUR

## Technical Specification

AHTS Vessel : 8,810 HP  
 Bollard Pull: 120-124 tonnes  
 Clear Desk Space: 425 m<sup>2</sup>  
 DP2

*“Our success is driven by the customers”*

### MAIN PARTICULARS

#### GENERAL

ABS \*A1, Towing Vessel, FFV1, Offshore Support Vessel, Circle E, \*AMS, \*ACCU, \*DPS-2

Built PT Nanindah Mutiara Shipyard, Batam, 2010

Call sign 9V7216

IMO no 9443530

Flag Singapore

GRT 2147

NRT 664

#### PRINCIPAL DIMENSIONS

Length Overall 66.0 m

Length, BP 57.0 m

Breadth Moulded 16.0 m

Depth Moulded 7.3 m

Draft (max) 6.2 (with skag; 7.05m) metres

#### CAPACITIES

Deadweight approx 2500 tonnes at 6.2m draft

Deck Area 425.0 m<sup>2</sup>

Deck Strength 5 T/m<sup>2</sup>

Deck Cargo Capacity 870 T

Fuel 827m<sup>3</sup> in dedicated tanks. 1615m<sup>3</sup> combined use Mud/Brine tanks and Rig Chain Locker

Fuel Oil 682.18 m<sup>3</sup>

Portable Water 468.0 m<sup>3</sup>

Brine / DMA / Glycol / Liquid Mud 28.0 m<sup>3</sup> in 2 dedicated tanks

SWB/Drill Water 911m<sup>3</sup>

Liquid Mud 468m<sup>3</sup> in 6 dedicated tanks

Dry Bulk 185m<sup>3</sup> total capacity in 4 tanks

#### DISCHARGED PUMPS

Fuel Oil 1 x 100m<sup>3</sup>/hr at 7 bar

Dirty Oil 1 x 10m<sup>3</sup>/hr at 2.0 bar

Potable Water: 1 x 150m<sup>3</sup>/hr at 7 bar

Drill Water 1 x 150m<sup>3</sup>/hr at 7 bar

Mud 1 x 75m<sup>3</sup>/hr at 18 bar

Brine / Mud: 1 x 75m<sup>3</sup>/hr at 18 bar

Dry Bulk 80 cbm/hr - 5.6 bar (2 compressors)

Cargo Flow Meters Fuel Oil and Potable Water

Hose Connections Fuel: 4" Camlock OR Drybreak  
 Potable Water: 4" Camlock Drill  
 Water: 4" Camlock  
 Mud: 5" Camlock  
 Brine: 5" Camlock  
 Bulk: 5" Camlock  
 Adapters: 5" to 4" reducer, 4" to 3" reducer

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## MACHINERIES

### MACHINERY

|                       |   |
|-----------------------|---|
| Main Engines          | 2 x 4,405 BHP, 3,285kW (8,810 BHP, 6,570kW)<br>MAN B&W 9L27/38  |
| Propulsion            | 2 x MAN B&W Alpha CPP Propellers in MAN AHT Kort nozzles<br>Steering: 2 x Rolls Royce High Lift Independent Rudders, 2 x Rolls Royce Tenfjord Electro-Hydraulic Steering Gear |
| Bow Thrusters         | 2 x 600 kW (805 BHP) Brunvoll Tunnel Thrusters, approximately 9.0 tonnes thrust each  |
| Stern Thrusters       | 2 x 600 kW (805 BHP) Brunvoll Tunnel Thrusters, approximately 9.0 tonnes thrust each  |
| Shaft Generators      | 2 x Leroy Somer shaft generators, 1,300kW, 1,600kVA each, 440V, 60Hz  |
| Auxiliary Generators  | 1 x Caterpillar 3406 Diesel Generator, 270kW, 440V, 60Hz  |
| Emergency Generators: | 1 x Air Cooled Caterpillar 3406 Diesel Generator, 270kW, 440V, 60Hz   |

### DECK MACHINERY

|                     |  |
|---------------------|--|
| Tuggers: Capstans   | 2 x 10 tonnes Hydrakraft (ODIM)  |
| Windlass            | 2 x 16 tonne (warping head) / 10 tonne (wire drum) Hydrakraft (ODIM)   |
| Bow Mooring         | 1 x 10 tonne Hydrakraft (ODIM) 2,100kg anchors with 440m x 36mm chain each side, plus 1 spare anchor (not onboard) |
| Smit Towing Bracket | 2 x mooring drums, capacity of 200m x 56mm rope each   |
| Crane Capacity      | 1 x 200 tonnes SWL located on the Forecastle TTS, 5 tonnes at 13m radius   |

### TOWING AND ANCHOR HANDLING EQUIPMENT

|                          |  |
|--------------------------|--|
| Bollard Pull             | Minimum 120 MT   |
| Main Winch               | 1 x Hydrakraft (ODIM) 250 tonnes variable pressure Waterfall Winch     |
| Load Capacity            | 250 tonnes pull on 1st layer simultaneously                            |
| Brake Capacity           | 320 tonnes 1st layer<br>207 tonnes mid layer<br>153 tonnes outer layer |
| Tow Drum Wire Capacity   | 1500m x 71mm diameter  |
| AH Drum Wire Capacity    | 1500m x 71mm diameter  |
| Chain Gypsy Cable Lifter | 1 x 76mm, 1 x 84mm mounted on each side                                |
| Rig Chain Locker         | 195m <sup>3</sup> chain capacity                                       |
| Stern Roller             | Rolls Royce, SWL 350 tonnes, 5.5m x 2.0m diameter                      |
| Tow Pins / Guide Pins    | 1 pair of retractable Karmoy guide pins                                |

|                       |  |
|-----------------------|--|
| Wire Chain Stopper    | 2 x retractable Karm Forks, SWL 300 tonnes for wire/chain up to 102mm  |
| Spare Reel Capacity   | 1 x Hydrakraft (ODIM) variable pressure, 20 tonnes pull on 1st layer, 1400m x 71mm diameter  |
| Pennant Storage Reels | 2 x Hydrakraft (ODIM) variable pressure, 20 tonnes pull on 1st layer, 1000m x 76mm diameter  |
| Wire Storage Reel:    | Tow Wire: 71mm x 1,400m.<br>Spare Tow Wire: 71mm x 1,400m.<br>Towing Pennant: 71mm x 25m.<br>Work Wire: 71mm x 300m<br>Chaser Pennant: 71mm x 300m.<br>Salvage Wire: 64mm x 30m. |

### ELECTRONICS

|                  |  |
|------------------|--|
| Main Radar       | 1 x Furuno FAR-2117 X Band ARPA with 21" LCD display   |
| Auxiliary Radar  | 1 x Furuno FAR-2137 X Band ARPA with 21" LCD display   |
| Auto Pilot       | 1 x Tokimec PR 6000 Series   |
| Gyro Compass     | 3 x Tokimec TG8000 with repeaters in wheelhouse and steering gear room   |
| Magnetic Compass | 1 x Cassen & Plath REFLECTA 1  |
| Echo Sounder     | 1 x Skipper GDS102, Dual Frequency, 1500m water depth  |
| DGPS             | 1 x Furuno GP-180<br>2 X Veripos LD-3 DGPS with Verify QC control system for DP System   |
| Anemometer:      | 3 X Gill Instruments with Young Marine wind tracker Model 06206 display  |
| Speed Log        | 1 x Furuno DS-80 Doppler Speed Log   |
| Communications   | 1 x Furuno G.M.D.S.S. (Global Maritime Distress & Safety System) Area A3 set<br>1 x Furuno FS-2570 (250 W) MH/HF Radio<br>1 x Furuno FM-8800S (25 W) VHF DSC<br>1 x Furuno FM-8800D (25 W) VHF DSC<br>1 x Furuno FELCOM-15 Inmarsat-C<br>1 x Furuno FELCOM-15 Inmarsat-C/SSAS<br>1 x Furuno NX-700B Navtex Receiver<br>3 x McMurdo Portable GMDSS VHF Radios<br>1 x McMurdo EPIRB<br>2 x McMurdo SART<br>Deck Communication System: Loudspeaker System<br>PA System: Steenhans SPA - M1H & M4H |
| Weather Fax      | Furuno FAX 408   |
| AIS              | 1 x Furuno FA-150  |
| VH               | @ Fore & Aft Consol: Furuno FM- 8800S / 8800D (25W) VHF DSC  |
| VRU              | 1 X TSS DMS-10<br>1 X TSS RP-30  |
| BNWAS            | MARTEK BNWAS   |

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## MACHINERIES

### PERFORMANCE

|                          |  |
|--------------------------|--|
| Speed / Fuel Consumption | At 100% MCR: 34m <sup>3</sup> /day (approx)                  |
|                          | Economical Speed 10-12 knots: 12m <sup>3</sup> /day (approx) |
|                          | Idle at Sea: 4m <sup>3</sup> /day (approx)                   |
|                          | Idle at Port: 0.8m <sup>3</sup> /day (approx)                |

### DYNAMIC POSITIONING

|                   |   |
|-------------------|---|
| Type              | GE DPS21- Duplex DP + IJS   |
| Reference Systems | 1 x Fanbeam Mk 5 complete with reflectors, 2 x Veripos LID35 DGPS with Verify QC  |
| Control Modes     | Joystick manual heading, Joystick auto heading, Dynamic Positioning, Model Control (dead reckoning), DP minimum power, Ship follow, Auto track, Auto Pilot, Auto Sail, ROV follow, Simulation (for training purposes) |
| Joystick          | Independent Joystick  |

### ACCOMODATION

|       |  |
|-------|--|
| Berth | Single Cabins: 8 x                     |
|       | 2 Man Cabins: 4 x (including Hospital) |
|       | 4 Man Cabins: 4 x                      |
|       | 1 x Library                            |
|       | 1 x Mess Room                          |
|       | 1 x Lounge                             |
|       | *Total of 32 people                    |

### ANTI-POLLUTION

|                 |   |
|-----------------|---|
| Dispersant Tank | 1 x 9.4m <sup>3</sup>   |
| Spray Booms     | No booms onboard. Only dispersant nozzles, each with a 1 1/4" nozzle and a 3/4" nozzle. |

### STANDBY RESCUE EQUIPMENT

|  |   |
|--|---|
| Rescue Boat  | MP Springer 660 self righting with inboard 250 hp Yanmar diesel engine and Hamilton Water Jet propulsion. 10 person capacity. 33 to 35 knot top speed with 2 persons onboard. |
| Life Saving Equipment                                |   |
| Inflatable Liferrafts c/w Hammer Hydrostatic Release | 6 x 16 person (3 x port side / 3 x starboard side)  |
| Lifebuoys  | 2 x man overboard c/w light & smoke / 4 c/w light / 2 c/w buoyant line.   |
| Lifejackets  | 42 x COSALT Premier c/w light & whistle   |

### EXTERNAL FIRE FIGHTING

|              |   |
|--------------|---|
| Capacity     | 1,500m <sup>3</sup> /hr each<br>Pumps: 2 x Jason Eureka |
| Monitors     | 2 x Kvaerner, capacity of 1,200m <sup>3</sup> /hr each  |
| Throw Length | 120m  |
| Throw Height | 50m   |

### ENVIRONMENTAL FEATURES

|   |   |
|---|---|
| Mud tank of free flowing design with external stiffening, sloped floors and dedicated recirculation |   |
| Low residue design bulk tanks   |   |
| Oily water separator  | 01 x oily water separator with 15 ppm monitor. Compliant with IMO - Resolution MEPC 107(49) |
| Sewage treatment plan   | 01  |
| Galley macerator  |   |
| Cargo load/discharge station with save all to inboard tank  |   |

### MISCELLANEOUS

- Design complies to latest rules and regulations from SOLAS 74, with amendments in force and IMO 469 (XII) "Guidelines for the design and construction of offshore supply vessel"
- Fitted with 2 x Halogen searchlights, each 2000 W, fitted on the wheelhouse top and remotely controlled from inside the wheelhouse
- Fitted with 6 x 1000 W high pressure sodium lights for the aft deck cargo area and 2 x 1000 W high pressure sodium lights in the crash rails to illuminate Anchor Handling area
- Removable section of crash rail, 6 m long, on Port and Starboard side forward to allow for fitting of ROV spread, etc
- Wood sheathed main deck except for the aft area, which is steel plated for Anchor Handling
- Welding and cutting equipment and lathe in workshop
- Fresh water ultra violet steriliser
- Flume passive roll damping system
- Fire detection system fitted to the accommodation, all store rooms and machinery spaces throughout the vessel
- CO2 fixed fire extinguishing system for Machinery Space, Emergency Generator Room, Paint Locker and Hydraulic Pump Room
- Local water spray Fire Fighting system according to SOLAS regulations
- Statutory liferafts, life-jackets and pyrotechnics
- DRAGER PAS Colt Airline and Escape Trolley Unit for tank rescue
- Electrical Sockets
- Deck Power Supply for RoV equipment / Charterer's equipment: 2 x 500A 440V 3ph; 1 x 63A 440V 3ph; 1 x 32A 440V 3ph  
Deck Power Supply for Refrigerated Containers: 6 x 440V 63A, 3ph
- Bulk tank cleaning air mask (not operational as requires filter/regulator. Presently on order).

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