



**2011 | 75 m | BP: 201 T | FIFI 2 | DP2 | AHTS**

**Vessel Specifications**

## VESSEL MAIN PARTICULARS

|                                    |  |
|------------------------------------|--|
| Type                               | AHTS   |
| Class definition                   | 1A1 Tug Fire Fighter I+ and II SF E0<br>DYNPOS-AUTR NAUT-OSV(A) CLEAN<br>DESIGN DK(+) HL(2.8) TMON |
| Vessel built                       | 2011   |
| Yard                               | TBD  |
| Yard no                            | TBD  |
| Port of registry                   | TBD  |
| Flag state                         | TBD  |
| Safe Manning                       | 11   |
| Next dry docking                   | TBD  |
| <b><u>PRINCIPAL DIMENSIONS</u></b> |  |
| LOA                                | 75.0 m   |
| LPP                                | 68.0   |
| Breadth mld                        | 17.4 m   |
| Depth mld to main deck             | 8.5 m  |
| Min Draft                          | 5,3 m  |
| Summer draft                       | 7,9 m  |
| Airdraft                           | 35,7 m (from keel to mast)   |
| Deadweight                         | 3195 t   |
| Lightship                          | 3287,85 t  |
| Gross tonnage                      | 3181 t   |
| Net tonnage                        | 1129 t   |

## PERFORMANCE

|                         |             |
|-------------------------|-------------|
| Max speed               | 15,72 knots |
| BHP                     | 12000 (KW)  |
| Bollard Pull Continuous | 201 t       |

## PROPULSION / MAIN ENGINES

|                                  |                                      |
|----------------------------------|--------------------------------------|
| Main engines (make)              | 2 x Rolls-Royce B32:40 V12 - 6000 KW |
| Number of main engines           | 2                                    |
| Total output main engines (kW)   | 16.320 BHP / 12 000kW                |
| Main propellers                  | 2 x SCANA VOLDA 4 blade propeller    |
| Propellers diameter              | Ø 4000mm                             |
| Drive type shaft/diesel-electric | Hybrid                               |
| Fuel type MGO/HFO                | MGO                                  |

## THRUSTERS / PROPELLERS

|                 |                                   |
|-----------------|-----------------------------------|
| Bow thruster    | 2 x Brunvoll FU80LTC2000 - 880 KW |
| Stern thrusters | 2 x Brunvoll FU80LTC2000 - 880 KW |

## GENERATORS / AUX GENERATORS

|                            |                  |
|----------------------------|------------------|
| Shaft generators make:     | AEM              |
| Shaft generators capacity: | 2x 2400 kW       |
| Aux generators Make:       | Scania DI 16 55M |
| Aux generators capacity:   | 2x 370 kW        |
| EM generator make:         | John Deere       |
| EM generator capacity:     | 99 kW            |

## CARGO DECK

|                              |                       |
|------------------------------|-----------------------|
| Deck space                   | 550 m <sup>2</sup>    |
| Deck length                  | 41.1 m                |
| Deck breadth                 | 14.4 m                |
| Deck strength                | 10 t/m <sup>2</sup>   |
| Deck cargo capacity (tonnes) | 1 000 t               |
| Height of cargo rail         | 2.6 m stb, 3.0 m port |

## CARGO CAPACITY SUMMARY

|                         |   |
|-------------------------|---|
| Fuel oil                | 1700 m <sup>3</sup>   |
| Base oil                | 230 m <sup>3</sup>  |
| Fresh water             | 650 m <sup>3</sup>  |
| Drill water             | 2019 m <sup>3</sup>   |
| Liquid Mud              | 460 m <sup>3</sup>  |
| Brine                   | 460 m <sup>3</sup>  |
| Bulk Cement             | 264 m <sup>3</sup>  |
| Bulk Barite             | 264 m <sup>3</sup>  |
| Bulk Bentonite          | 264 m <sup>3</sup>  |
| Rig chain lockers       | 307 m <sup>3</sup>  |
| Slop                    | 54 m <sup>3</sup>   |
| Combination tank system | (Mud, Brine & FO system), (Barite, Cement & Bentonite system) & (FO & BO system). |

## DRILL WATER

|                             |                                 |
|-----------------------------|---------------------------------|
| Tank capacity               | 2019 m <sup>3</sup>             |
| Number of tanks             | 8                               |
| Pump capacities             | Main pump 200 m <sup>3</sup> /h |
| Pump type screw/centrifugal | Centrifugal                     |
| Number of pumps             | 1                               |

## FW

|                             |                       |
|-----------------------------|-----------------------|
| Tank capacity               | 650 m <sup>3</sup>    |
| Number of tanks             | 8                     |
| Pump capacity               | 200 m <sup>3</sup> /h |
| Pump type screw/centrifugal | Centrifugal           |
| Number of pumps             | 2                     |

## FUEL OIL

|                             |                       |
|-----------------------------|-----------------------|
| Tank capacity               | 1700 m <sup>3</sup>   |
| Number of tanks             | 18                    |
| Pump capacity               | 200 m <sup>3</sup> /h |
| Pump type screw/centrifugal | Centrifugal           |
| Number of pumps             | 1                     |
| Flowmeter                   | yes                   |

## LIQUID MUD

|                             |                      |
|-----------------------------|----------------------|
| Tank capacity               | 464 m <sup>3</sup>   |
| Number of tanks             | 6                    |
| Pump capacity               | 75 m <sup>3</sup> /h |
| Pump type screw/centrifugal | Screw pump           |
| Number of pumps             | 2                    |
| Fixed tank cleaning system  | No                   |
| Tank washing pipe system    | No                   |
| Agitator or circulation     | Agitator             |

|   |                                  |
|---|----------------------------------|
| Possible to handle two types of mud simultaneously      | Yes                              |
| Max SG  | 2,8                              |
| <b><u>DRY BULK</u></b>                                  |                                  |
| Tank capacity   | 264 m <sup>3</sup>               |
| Number of tanks   | 4                                |
| Compressor capacity                                     | 25.9 m <sup>3</sup> /min/5.6 bar |
| Segregated system                                       | yes, two systems                 |
| Air dryer   | 2                                |
| <b><u>BASE OIL</u></b>                                  |                                  |
| Tank capacity   | 235 m <sup>3</sup>               |
| Number of tanks   | 2                                |
| Pump capacity   | 150 m <sup>3</sup> /h            |
| Pump type screw/centrifugal                             | Screw pump                       |
| Number of pumps   | 1                                |
| Possible to handle two types of base oil simultaneously | No                               |
| <b><u>BRINE</u></b>                                     |                                  |
| Tank capacity   | 464 m <sup>3</sup>               |
| Number of tanks   | 6                                |
| Pump capacity   | 75 m <sup>3</sup> /h             |
| Pump type screw/centrifugal                             | Screw pump                       |
| Number of pumps   | 2                                |
| Fixed tank cleaning system                              | No                               |
| Possible to handle two types of brine simultaneously    | No                               |
| <b><u>SLOP TANKS</u></b>                                |                                  |
| Tank capacity   | 54.4 m <sup>3</sup>              |

|                 |  |
|-----------------|--|
| Number of tanks | 6 (Bilgewater 13,6m <sup>3</sup> , Sludge 13.6m <sup>3</sup> , Dirty oil 8.5m <sup>3</sup> , F.O. drain 8.5m <sup>3</sup> , Clean oil 5,1m <sup>3</sup> , Water drain 5.1 m <sup>3</sup> ) |
| Pump capacity   | 5 m <sup>3</sup> /h @ 2bar   |

### **CARGO LOADING / DISCHARGING CONNECTIONS**

|             |   |
|-------------|---|
| Fuel oil    | 4" Dry Break & 4" Camlock & 5" Hammer Lug FIG 50          |
| Fresh water | 4" Hammer Lug FIG 200 & 4" Camlock & 5" Hammer Lug FIG 50 |
| Liquid mud  | 4" Dry Break & 4" Camlock & 5" Hammer Lug FIG 50          |
| Brine       | 4" Hammer Lug FIG 200 & 4" Camlock & 5" Hammer Lug FIG 50 |
| Drill water | 4" Hammer Lug FIG 200 & 4" Camlock & 5" Hammer Lug FIG 50 |
| Drybulk     | 4" Hammer Lug FIG 200 & 4" Camlock & 5" Hammer Lug FIG 50 |
| Base oil    | 4" Hammer Lug FIG 200 & 4" Camlock & 5" Hammer Lug FIG 50 |

### **POWER SUPPLY DECK**

|                        |                                |
|------------------------|--------------------------------|
| Air outlets            | 1 x Deck Workshop              |
| Air outlet capacity    | 130 m <sup>3</sup> /h @ 7 bar  |
| Reefer outlets         | 4 x 440V 30 amp reefer outlets |
| Reefer outlet capacity | 230V - 16A, 440V - 32A         |

### **ROLL REDUCTION SYSTEM**

|                                |         |
|--------------------------------|---------|
| Number of roll reduction tanks | 2       |
| Roll reduction system type     | Passive |

### **EVAPORATOR / OSMOSIS**

|                          |                        |
|--------------------------|------------------------|
| Reverse osmosis type     | Hansun HSRO-10         |
| Reverse osmosis capacity | 10 m <sup>3</sup> /day |

## DECK CRANES

Starboard crane

1 x Triplex, 15 m / 3.2 t, 10 m / 5 t

Aft crane

1 x Triplex Knuckle Boom, 12 m / 3 t on cargo rail port side

## ANCHOR HANDLING WINCH

Type

R/R Brattvaag waterfall type  
SL350W/BSL350W

Length of drum

3.45 m + 0.9 m (compartment)

Inner drum diameter

1.05 m

Diameter of flanges

2.85 m

Low gear: Drive hoist first layer

350 t at 0 - 10.5 m/min

Low gear: Drive hoist top layer

144 t at 0 - 25 m/min

Low gear: Lowering first layer

0 - 34 m/min

Low gear: Lowering top layer

0 - 84 m/min

Low gear: Dynamic braking first layer

64 - 480 t at 0 -51 m/min

Low gear: Dynamic braking top layer

26 - 196 t at 0 - 126 m/min

High gear: Drive hoist first layer

90 t at 0 - 34 m/min

High gear: Drive hoist top layer

37 t at 0 - 84 m/min

High gear: Lowering first layer

0 - 34 m/min

High gear: Lowering top layer

0 - 84 m/min

High gear: Dynamic braking first layer

64 - 480 t at 0 -51 m/min

High gear: Dynamic braking top layer

26 - 196 t at 0 - 126 m/min

Brake holding first layer

450 t

## TOW / WORK WINCH

Type

R/R Brattvaag waterfall type  
SL350W/BSL350W

Length of drum

3.45m + 0,9m(compartment)

Inner drum diameter

1.05 m

Diameter of flanges

2.85 m



|  |                             |
|--|-----------------------------|
| Low gear: Drive hoist first layer      | 350 t at 0 - 10.5 m/min     |
| Low gear: Drive hoist top layer        | 144 t at 0 - 25 m/min       |
| Low gear: Lowering first layer         | 0 - 34 m/min                |
| Low gear: Lowering top layer           | 0 - 84 m/min                |
| Low gear: Dynamic braking first layer  | 64 - 480 t at 0 -51 m/min   |
| Low gear: Dynamic braking top layer    | 26 - 196 t at 0 - 126 m/min |
| High gear: Drive hoist first layer     | 90 t at 0 - 34 m/min        |
| High gear: Drive hoist top layer       | 37 t at 0 - 84 m/min        |
| High gear: Lowering first layer        | 0 - 34 m/min                |
| High gear: Lowering top layer          | 0 - 84 m/min                |
| High gear: Dynamic braking first layer | 64 - 480 t at 0 -51 m/min   |
| High gear: Dynamic braking top layer   | 26 - 196 t at 0 - 126 m/min |
| Brake holding first layer              | 450 t                       |

## **SECONDARY WINCHES**

|                         |   |
|-------------------------|---|
| Type                    | R/R Brattvaag ALM63130                  |
| Length of drum          | 2 x 2.3 m + 2 x 0,75 m (compartment)    |
| Inner drum diameter     | 1.5 m                                   |
| Diameter of flanges     | 4.5 m                                   |
| Drive hoist first layer | 130 t at 0 -18 m/min, 160 t at 65 m/min |
| Drive hoist top layer   | 53 t at 0 - 45 m/min, 65 t at 174 m/min |
| Capacity wire           | 2 x 800 m - 203 mm / 8"                 |

## **ANCHOR HANDLING EQUIPMENT**

|                         |   |
|-------------------------|---|
| Smith bracket MBL       | Design load : 3900 kN / 397 t   |
| Shark jaws              | 2 x Karm 650 t  |
| Spare shark jaw inserts | 1 x 95 - 125 mm, 2 x 85- 102 mm, 2 x 75 - 90 mm, 2 x 60 - 80 mm, 1 x 50 - 65 mm |
| Towing pins             | 4 x Karm 330 t  |
| Steering pins           | 2 x Karm 95 t   |
| Stern roller dim        | 3.5 m   |

|                                |  |
|--------------------------------|--|
| Water monitors                 | 2 x Monitor FJM-100 DIN P16/JIS 100/10 ( FOG/JET ), man operated |
| J-hook                         | BEL 101 'J' Chain Chaser SWL 110 t                               |
| Grapnel                        | BEL 109 SWL 110 t  |
| Swivel numbers of.             | 2  |
| Swivel SWL                     | 160 t  |
| 85 T shackles                  | 6  |
| 120 T shackles                 | 2  |
| <b><u>WIRE STATUS</u></b>      |  |
| AH drum                        | 2255m 77mm   |
| Tow drum                       | 1320m - 83mm   |
| Sec drum Starboard             | 150 m - 76 mm  |
| Sec drum port                  | 150 m - 76 mm  |
| Storage drum                   | 1000 m - 83 mm   |
| <b><u>GYPSYS INSTALLED</u></b> |  |
| Gypsy starboard side           | 84 mm  |
| Gypsy port side                | 76 mm  |
| Spare Gypsy`s                  | 84mm   |
| Spare Gypsy`s                  | 76mm   |
| <b><u>DECK MACHINERY</u></b>   |  |
| Tugger wich type               | R/R Brattvaag LAKM132024   |
| Tugger wich capacity           | 600m - 76 mm - 24 tonn   |
| Tugger wich hoisting speed     | 22 m/min - 70 m/min  |
| Capstan type                   | R/R Brattvaag LAKMX22012   |
| Capstan capacity               | 70 m - 20 mm + 50 m - 63 mm synthetic rope -12 tonn              |
| Capstan hoisting speed         | 0 - 17 m/min   |

## WINDLASS

|                                  |  |
|----------------------------------|--|
| Type                             | R/R Brattvaag Two declutchable cable lifters with band brakes LBF6X 63044 MA5  |
| Cable lifter hoisting speed/pull | Nominal 9,8 tonnes pull at 0 - 13 m/min. at 32 bar,                            |
| Cable lifter Lowering speed      | Lowering: 0 - 46 m/min.  |
| Anchor type                      | Stockless bow anchor M Type Spek   |
| Chain length                     | 44 mm dia./247.5 m, 9 lengths each of 27.5 m, K3                               |
| Mooring drum capacity/pull       | Two declutchable drums with band brakes, Wire / rope cap.: 230 m of dia. 60 mm |

## STORAGE WINCH

|                |                            |
|----------------|----------------------------|
| Type           | R/R Brattvaag ALMX41011    |
| Capacity       | 1200 m of 76 mm wire rope  |
| Hoisting power | 8,4 t pull at 0 - 94 m/min |

## RIG CHAIN LOCKERS

|  |                        |
|--|------------------------|
| Chain lockers numbers & m <sup>3</sup> | 2 x 153 m <sup>3</sup> |
| Capacity 76 mm chain                   | 2 x 1250 m             |
| Capacity 84 mm chain                   | 2 x 1030 m             |
| Capacity 110 mm chain                  | 2 x 600 m              |

## NAVIGATION EQUIPMENT

|                         |   |
|-------------------------|---|
| X-band Radar            | 1 x Sperry Marine VISIONMASTER RADAR X-BAND 65608/A               |
| S band Radar            | 1 x Sperry Marine VISIONMASTER RADAR S-BAND                       |
| Electronic chart system | 2 x Sperry Marine VisionMaster FT ECDIS with C-Map Professional + |
| Autopilot               | Sperry Marine Navipilot 4000                                      |
| GPS                     | 2 x Sperry Marine DGPS R4   |
| Echosounder             | 1 x Sperry Marine LAZ 5100  |
| Magnetic Compass        |   |
| Gyro compass            | 3 x Plath Navigat X MK1   |

|  |  |
|--|--|
| Wind gauge                               | 2 x Kongsberg OMC 1390 - PK - 006        |
| Speed Log                                | Sperry Marine Naviknot 350 E             |
| AIS                                      | Sperry Marine / SAAB R4 - J4             |
| <b><u>COMMUNICATION EQUIPMENT</u></b>    |  |
| MF/HF                                    | Sailor CU 5100                           |
| MF/HF DSC                                | Sailor CU 5100 / Sailor TU 5150          |
| VHF                                      | 2 (Sailor RT 2048 & Sailor RT 6210)      |
| VHF DSC                                  | 2 x Sailor RT 5022                       |
| EPIRB                                    | 2 (Sailor SE 406-II & Sailor SGE 406-II) |
| SART                                     | 2 x Sailor SART II 9GHz SAR              |
| Inmarsat C                               | 2 x Sailor TT 3026C                      |
| Portable VHF                             | 3 x Sailor SP 3520                       |
| Portable UHF                             | 4 x Motorola GM-339                      |
| Weather fax                              | Furuno FAX - 30                          |
| Mobilephone                              | n/a                                      |
| Inmarsat FleetBroadband                  | Sailor Fleet-77 TT 3622B                 |
| <b><u>DYNAMIC POSITIONING SYSTEM</u></b> |  |
| Class definition                         | DYNPOS - AUTR, (IMO DP2)                 |
| Type                                     | Kongsberg K-Pos 21                       |
| DGPS no1                                 | 1 x Seatex DPS 116                       |
| DGPS no2                                 | 1 x Kongsberg DPS232                     |
| Diff correction                          | IALA, Inmarsat, Spotbeam                 |
| Fanbeam                                  | MDL Fanbeam 5.0                          |
| Radius                                   | Kongsberg Radius 1000                    |
| ERN number                               | 99,99,99                                 |
| <b><u>JOYSTICK</u></b>                   |  |
| Type                                     | Kongsberg c-Joy OT & c-Joy WT (c-Wing)   |
| Connections points                       | 3 (Bridge Aft Console, Port & Stb wing)  |

## **ACCOMMODATION**

|                       |    |
|-----------------------|----|
| Total number of bunks | 27 |
| Officers Cabins       | 7  |
| Crew double Cabins    | 10 |
| Messroom/Rec rooms    | 2  |
| Lounges               | 2  |
| Gymnasium             | 1  |
| Hospital              | 1  |
| Offices               | 2  |

## **GALLEY**

|                                |                                      |
|--------------------------------|--------------------------------------|
| Freezer space(m <sup>3</sup> ) | 6.3 m3 (fish) + 6.3 m3 (meat), -25 C |
| Cooler space (m <sup>3</sup> ) | 11.6 m3, +4 C                        |

## **LIFE SAVING EQUIPMENT**

|                        |   |
|------------------------|---|
| MOB boat               | Norsafe 7.5 m Magnum Rescue Boat for 6 persons            |
| Liferafts              | 6 x Viking, 3 x 16 persons each side. In total for 96 POB |
| Lifejackets            | 33 x Rigid Lifejackets Viking > 40kg                      |
| Survival suits         | 39 x Viking Immersion Suits                               |
| Working/MOB-boat suits | n/a   |

## **FIFI / DISPERSANT SYSTEM**

|                       |  |
|-----------------------|--|
| Type                  | FM400HD-01   |
| Fire Fighting class   | Fire Fighter I + II                                |
| Throw height / length | 110m above sea lvl at 70m distance / 180m from bow |
| Monitor count         | 2 x Jason FiFi Monitor System - single flow path   |
| Monitors capacity     | 2 x Water 3600 m3/h, 13-15 bar                     |

## **INCINERATOR**

|                  |          |
|------------------|----------|
| Incinerator type | HSINC-18 |
|------------------|----------|

