



- **Bollard Pull** 53-66 tonnes
- Brake Horsepower 4826-5147 BHP
- Clear Deck Space 275-330 m2
- Winch Line Pull 150 tonnes

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Bollard Pull Clear Deck Space

### 53-66 tonnes 275-330 m2

Brake Horsepower Winch Line Pull 4826-5147 BHP 150 tonnes

#### **General Information**

Built:	Qingdao Qianjin Shipyard, China, June 2011
Flag:	Singapore
Call Sign:	9V7612
IMO No.:	9503419
Classification:	DNV-GL +1A Fire fighter(I) Offshore service vessel(Anchor handling, Towing) DPS(1)

#### Dimensions

Length, overall:	57.50 m
Length, BP:	50.50 m
Breadth, moulded:	14.00 m
Depth, main deck:	6.00 m
Design draft:	4.55 m
Maximum draft midship:	5.10 m
GT:	1329
NT:	484
Length between P.P.:	50.5 m

#### Capacities

Stern Thrusters:

Deadweight (maximum): Clear Deck Area: Deck Strength:	1550.51 t $30m \times 11m = 330 m2$ General deck - 5 t/m2 Aft AH deck - 10 mm steel plots
Deck Cargo:	Aft AH deck - 19 mm steel plate 500 t
Fuel:	566.286 m3 (dedicated)
Potable Water:	396.73 m3
Ballast Water:	371.866 m3
Ballast Water / Drill Water:	371.866 m3
Brine / DMA / Glycol / Liquid	
Mud:	147.264 m3 or 5200 ft3 (2 tanks dual-use Brine/Mud/DMA)
Liquid Mud:	184.432 m3 or 6513 ft3 (4 dedicated tanks)
	331.696 m3 or 11713 ft3 (including 2 dual-use tanks)
Dry Bulk:	135 m3 or 4750 ft3 in 2 x 2 tank independent systems.
	Cement density max 2.35 t/m3 and fineness 4,000 Blaine.
Machinery	
Main Engines:	2 x 1920 kW = 3840 kW (5147 BHP) Yanmar 6EY26
Propulsion:	2 x CPP Kamome Propeller
•	2 x Independent sliding ram steering gear
	2 x Electro-Hydraulic steering gear
	2 x Propeller Nozzle - Cederval Espana
Bow Thrusters:	1 x 500 kW (670 BHP) Nominal Trust = abt.77 kW (7900kgf)

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Shaft Generators:	2 x 1250Kva (for fuel economy), 440V, 60Hz
Auxiliary Generators:	1 x Caterpillar-Diesel Gen 3406 400Kva, 320kW, 440V, 60Hz
Emergency Generators:	1 x Caterpillar-Diesel Gen 3406 400Kva, 320kW, 440V, 60Hz

#### **Towing and Anchor Handling**

Bollard Pull:	64 MT @ 100% MCR
Main Winch:	1 x MacGregor Plimsoll (Model: PC-AHTW/WF-150/250)
Load Capacity:	Upper and lower drum: Drum Capacity: 1200m x dia.64mm SWR@ 9 layers
	Rated Pull (1st layer): 150T x 07.2m/min (1st speed)
	(2nd layer): 100T x 010.8m/min
	(3rd layer): 50T x 0-22.0m/min
	GYPSY: 76mm U3, 45T x 0~23m/min
	BRAKE HOLDING: 250T (Static, 1st layer)
Brake Capacity:	250 tonnes (static) on towing drum 1st layer
	250 tonnes (static) on AH drum 1st layer
Tow Drum Dimension:	(D)900mm x (H)2250mm x (L)1950mm
Tow Drum Wire Capacity:	1200m x 64mm (2.5 inch) diameter
AH Drum Dimension:	(D)900mm x (H)2250mm x (L)1950mm
AH Drum Wire Capacity:	1200mm x 64mm Diameter
Work Drum Dimension:	(D)900mm x (H)2250mm x (L)1950mm
Work Drum Capacity:	1200m x 64mm (2.5 inch) diameter
Chain Gypsy Cable Lifter:	1 x 76mm (3 inch) diameter chain
Stern Roller:	1 x 2m diameter x 4m width, SWL 250t
Tow Pins / Guide Pins:	1 x set hydraulic Karmoy, remotely controlled
Wire Chain Stopper:	1 x retractable Karmoy, SWL 250t, controlled from wheelhouse (32 - 76mm chain)
Popup Pins:	1 set - Tow Pins/Guide Pins - 1 x Hydraulic Karmoy x 160t SWL
Spare Reel Capacity:	1 x MacGregor Plimsoll (Model: PC-HSW SD/12) (D)914.4mm x (H)2450mm x (L)1500mm
	Drum Capacity: 1200m x Dia64mm SWR @ 11 layers, Rated Pull: 12T x
	15m/min (1st layer)
Deck Machinery	
Tuggers:	2 x Model PC-HUW-10DL-0
	Drum Rated Pull: 10T x 15 m/min

Drum Capacity: 200m x Dia20mm SWR @ 5 layers

Drum Capacity: 40m x Dia20mm SWR @ 6 layers

2 x Model PC-HVC-08/400

Drum Rated Pull: 10T x 10 m/min

Capstans:

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Bollard Pull	
Clear Deck S	pace

53-66 tonnes 275-330 m2

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Windlass:	1 x MacGregor Plimsoll (Model PC-HAMW COG-3003-10/015) (D)457mm x (H)900mm x (L)590mm Chain size: 30mm Dia.U3 chain Duty Pull: 10T x 10 m/min Overload Pull: 15T Brake Holding: 33.7T (static) Winch Drum Capacity: 220m x 38mm Dia Synthetic Rope Storage @ 8 layers + Working @ 3 layers Rate Pull: 10T x 14 m/min (1st layer) Slack Speed: 30 m/min (1st layer) Brake Holding: 15T (static, 1st layer)
Bow Mooring:	1 x MacGregor Plimsoll (Model PC-HAMW COG-3003-10/015) (D)457mm x (H)900mm x (L)590mm 2 x Gypsy head (both side) capacity 10T
Smit Towing Bracket:	1 x 102t SWL located on fo'c'sle
Crane Capacity:	SWL 1500 kg @ 8m radius, make: Helia, model: HM25-8F
Electronics	
Main Radar:	1 x Furuno X-band, 21 inch colour LCD, ARPA
Auxiliary Radar:	1 x Furuno S-band, 21 inch colour LCD, ARPA
Auto Pilot:	1 x Tokyo Keiki PR-6000-e
Gyro Compass:	1 x Tokimec TG-8000 with 4 repeaters
Magnetic Compass:	1 x Tokimec SH165A1
Echo Sounder:	1 x Furuno FE-700
DGPS :	1 x Furuno DG-150
Anemometer :	2 x Gill Ultrasonic Wind Observer II with Young Marine Wind Tracker, Model:06206
Speed Log:	Furuno Doppler Speed Log (Model DS-80)
Communications:	G.M.D.S.S. (Global Maritime Distress & Safety System)
	Area A3
	2 x VHF
	2 x Inmarsat C
	3 x VHF (portable) 1 x McMurdo E5
	1 x Navtex
Watch System:	1 x BNWAS, Martec Marine, Navguard Ver 1.00
Weather Fax:	Furuno FAX 408
Satellite Communication:	FBB: Sailor 500 VSAT: Sailor 900
AIS:	Furuno FA 150
VHF:	1 x Aft Furuno FM 8800S Semi Duplex Marine VHF
VRU:	1 x Forward Furuno FM 8800D Full Duplex Marine VHF 1 x Teledyne TSS DMS-RP30
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#### **Discharge Pumps**

Fuel Oil: Base Oil: Dirty Oil: Potable Water: Drill Water: Liquid Mud: Brine / Mud: NLS (Brine / Liquid Mud / Base Oil): Dry Bulk: Hose Connections : 1 x 100 m3/hr - 7.0 bar 2 x 75 m3/hr - 5.6 bar 1 x 10 m3/hr - 2.0 bar 1 x 150 m3/hr - 7.0 bar 1 x 150 m3/hr - 7.0 bar 1 x 75 m3/hr - 18 bar 1 x 75 m3/hr - 18 bar 2 x 75 m3/hr - 5.6 bar 2 x 78 m3/hr - 5.6 bar 2 x 78 m3/hr - 5.6 bar, 80 psi Fuel - 4" Camlock Potable Water - 4" Camlock Drill Water - 4" Camlock Liquid Mud - 5" Camlock Dry Bulk - 4" Camlock

#### Performance

Speed / Fuel Consumption:	Maximum speed 13.5 knots free running at 100% MCR - approximate fuel consumption 19 m3 per day
	Economical speed 10 knots - approximate fuel consumption 10.5 m3 per day Idle at sea - approximate fuel consumption 2.3 m3 per day
	Idle in port - approximate fuel consumption 0.8 m3 per day
Consumption Under Towing:	21 m3/day

#### **Dynamic Positioning**

Type: Reference Systems: Control Modes:

Joystick:

DP 1 C - series version 6.12 Fanbeam, DGPS, Veripos LD5 GE Joystick Manual/Auto Heading, Auto Track, Minimum Power, Simulation, Dynamic Positioning. 1 x GE DPS11 - Simplex DP + IJS 1 x Converteam (AFT Control Console) System Version: 6.12 build 1 Configuration Files: 1.01

#### **External Fire Fighting**

Capacity:	2 x 1200 m3/hr = 2400 m3/hr
Monitors:	2 x 1200 m3/hr mounted on wheelhouse top, remotely controlled from wheelhouse
Throw Length:	120m
Throw Height:	50m at 70m distance
Drenching System:	Yes



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#### Standby Rescue Equipment

- 1. 1 x Vanguard VG 6.0 FRW, 15 persons, SOLAS approved FRB with inboard diesel waterjet.
  - 1 x Maritime Partner MP111 TWJ, 10 persons, SOLAS approved FRDC with 2 x inboard diesel waterjet.
- 2. Rescue Zones on both Port and Starboard side, main deck, with scrambling net and personnel transfer swing ropes

#### Anti-Pollution

Dispersant Tank:	9.19 m3
Spray Nozzles:	4 x spray nozzles (2 at each side), outreach: 12m

#### Accommodation

Berths:

- 4 x 1 berths 5 x 2 berths 2 x 4 berths
- 22 berths in Total

1 x combined messroom/recreation room

1 x galley

All living space fully air-conditioned, design 45 deg C / 70% RH outside, 25 deg C / 50% RH inside

#### **Environmental Features**

- 1. Real time main engine fuel consumption monitoring, ensuring maximum fuel efficiency and emissions reduction
- 2. Coffin 5 ppm oily water separator, effluent quality exceeds the 15 ppm current legislation requirements
- 3. 1 x Omnipure sewage plant, complies with latest 2010 IMO Resolution MEPC 159(55)
- 4. Cargo load / discharge stations with saveall to inboard tank
- 5. Low residue design bulk tanks
- 6. Mud tanks with dedicated recirculation pumps
- 7. Macerator fitted in galley. Provision for recycling of waste

#### Miscellaneous

- 1. Design complies to latest rules and regulations from SOLAS 1974, and IMO 469 (XII) "Guidelines for the design and construction of offshore supply vessel"
- 2. Bulk systems remotely controlled from wheelhouse
- 3. Fitted with 3 halogen searchlights (1 fwd, 2 aft), each 2000 W, on wheelhouse top and electrically operated from inside wheelhouse, 8 x 1000 W floodlights for cargo deck



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- 4. Deck power supplies:
  - 4 x 250A, 440V, 3phase
  - 1 x 63A, 440V, 3phase
  - 1 x 32A, 220V, single phase
- 5. Wood sheathed main deck for aft area, which is steel plated for anchor handling. Supplied with anchor grapnel
- 6. Welding / cutting equipment and lathe in workshop
- 7. Fresh water ultra violet steriliser
- 8. CO2 fire extinguishing system fitted in the engine room / paint locker / hydraulic pump room / emergency generator room. Independent CO2 system for Galley.
- 9. Fire detection system fitted to the accommodation, engine room and throughout the vessel
- 10. Statutory liferafts, life-jackets, pyrotechnics
- 11. Removable crash rail sections on main deck (PS & SB) to facilitate R.O.V. operation