



M/V Pacific Vanguard

- ▶ **Bollard Pull** 110-126 tonnes
- ▶ **Brake Horsepower** 8807 BHP
- ▶ **Clear Deck Space** 365-416 m²
- ▶ **Winch Line Pull** 255 tonnes

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Clear Deck Space	365-416 m2	Winch Line Pull	255 tonnes

General Information

Built:	Labroy shipyard, Batam, March 2008
Flag:	Singapore
Call Sign:	9V6792
IMO No.:	9361665
Classification:	DNV-GL +1A Fire fighter(I) Offshore service vessel(Towing) DYNPOS(AUTR) E0

Dimensions

Length, overall:	66.0 metres
Length, BP:	57.0 metres
Breadth, moulded:	16.0 metres
Depth, main deck:	7.3 metres
Maximum draft midship:	6.2 metres
GT:	2147
NT:	644

Capacities

Deadweight (maximum):	2499 tonnes
Clear Deck Area:	416 m2 (32.5 x 12.8 m)
Deck Strength:	5t/m2
Deck Cargo:	870 tonnes
Fuel:	807 m3 (dedicated) 1595 m3 (including the combined use Mud/Brine tanks and the combined use Rig Chain locker)
Potable Water:	455 m3
Ballast Water:	931 m3
Brine / DMA / Glycol / Liquid Mud:	128 m3 (in 2 dedicated tanks) 592 m3 (including the combined use Mud tanks - s.g. of 2.5)
Liquid Mud:	465 m3 (in 6 dedicated tanks) 592 m3 (including the combined use Brine tanks - s.g. of 2.5)
Dry Bulk:	185 m3 (approximately 6,600 cubic feet) total capacity in 4 tanks
Ship's Stores:	Freezer (-25 degrees Celsius) - approximately 12 m3 Cooler (+4 degrees Celsius) - approximately 12 m3 Dry Stores - approximately 26 m3

Machinery

Main Engines:	2 x 3285 kW = 6570 kW (8807 BHP)
Propulsion:	2 x MAN B&W Alpha CPP Propellers in MAN AHT Kort nozzles
Bow Thrusters:	2 x 600 kW = 1200 kW (1608 BHP) Brunvoll Tunnel Thrusters, approximately 9.0 tonnes thrust each
Stern Thrusters:	2 x 600 kW (804 BHP) Brunvoll Tunnel Thrusters, approximately 9.0 tonnes thrust
Shaft Generators:	2 x Leroy Somer shaft generators, 1300 kW, 1600 kVA each, 440 V, 60 Hz

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Auxiliary Generators:	1 x Caterpillar 3406 Diesel Generator, 270 kW, 440 V, 60 Hz
Emergency Generators:	1 x air cooled Caterpillar 3406 Diesel Generator, 270 kW, 440 V, 60 Hz

Towing and Anchor Handling

Bollard Pull:	122.31 MT @ 100% MCR
Main Winch:	1 x Hydrakraft 250 tonne variable pressure waterfall winch
Load Capacity:	Towing and Anchor Handling Drums: Pulling Force - 1st layer - 255 tonnes, mid layer - 165 tonnes, outer layer - 122 tonnes (low speed) Pulling Speed - 1st layer - 11.4 m/min, mid layer - 17.6 m/min, outer layer - 23.8 m/min (low speed) Pulling force - 1st layer - 127 tonnes, mid layer - 82 tonnes, outer layer - 61 tonnes (high speed) Pulling speed - 1st layer - 22.8 m/min, mid layer - 35.2 m/min, outer layer - 47.6 m/min (high speed) The Anchor Handling Drum and Towing Drum are capable of 250 tonnes pull on 1st layer simultaneously
Brake Capacity:	Brake Force: 1st layer - 330 tonnes mid layer - 207 tonnes outer layer - 153 tonnes
Tow Drum Wire Capacity:	1500 m x 71 mm diameter
Work Drum Capacity:	1500 m x 71 mm diameter
Chain Gypsy Cable Lifter:	1 x 76 mm, 1 x 84 mm mounted on each side of anchor handling drum
Rig Chain Locker:	195.5 m ³ chain capacity
Stern Roller:	Rolls Royce, SWL 350 tonnes, 5.5 m x 2.0 m diameter
Tow Pins / Guide Pins:	1 pair of retractable Karmoy guide pins with horizontal locking tops
Wire Chain Stopper:	2 x retractable Karm forks, SWL 300 tonnes for wire/chain up to 102 mm
Spare Reel Capacity:	1 x Hydrakraft variable pressure, 20 tonnes pull on 1st layer, 1400 m x 71 mm diameter
Pennant Storage Reels:	2 x Hydrakraft variable pressure, 20 tonnes pull on 1st layer, 1000 m x 76 mm diameter

Deck Machinery

Tuggers:	2 x 10 tonnes Hydrakraft
Capstans:	2 x 16 tonne (warping head) / 10 tonne (wire drum) Hydrakraft
Windlass:	1 x 10 tonne Hydrakraft, 2100 kg anchors with 440 m x 36 mm chain each side, plus 1 spare anchor
Bow Mooring:	2 x mooring drums, capacity of 200 m x 56 mm rope each
Smit Towing Bracket:	1 x 200 tonnes SWL located on the Forecastle
Crane Capacity:	TTS, 5 tonnes at 13 m radius

Electronics

Main Radar:	1 x Furuno FAR-2117 X Band ARPA Radar with 21" LCD display
Auxiliary Radar:	1 x Furuno FAR-2137S S Band ARPA Radar with 21" LCD display

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Auto Pilot:	1 x Tokimec PR 6000 Series
Gyro Compass:	1 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, 1500 m water depth
DGPS :	1 x Furuno GPS Navigator GP-150 2 x Veripos LD5 DGPS + VQC Monitoring
Anemometer :	3 x Gill Wind Observer II
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 1 x Furuno FS-2570 (250 W) MH/HF Radio 1 x Furuno FM-8800S (25 W) VHF DSC 1 x Furuno FM-8800D (25 W) VHF DSC 1 x Furuno FELCOM-15 Inmarsat-C 1 x Furuno FELCOM-15 Inmarsat-C/SSAS 1 x Furuno NX-700B Navtex Receiver 3 x McMurdo Portable GMDSS VHF Radios 1 x Kannad EPIRB 2 x McMurdo SART
Navtex Receiver:	1 x Furuno NX-700B
Weather Fax:	1 x Furuno FAX-207
Satellite Communication:	FBB: Sailor 500
AIS:	1 x Furuno FA-170
VHF:	1 x Furuno FM-8800S (25W) VHF DSC 1 x Furuno FM-8800D (25W) VHF DSC
BNWAS:	1 x Martek Marine

Discharge Pumps

Fuel Oil:	1 x 100 m ³ /hr - 7.0 bar
Potable Water:	1 x 150 m ³ /hr - 7.0 bar
Drill Water:	1 x 150 m ³ /hr - 7.0 bar
Liquid Mud:	1 x 75 m ³ /hr - 18.0 bar
Brine / Mud:	1 x 75 m ³ /hr - 18.0 bar
Dry Bulk:	80 m ³ /hr - 5.6 bar (2 compressors)
Cargo Flow Meters :	Fuel Oil and Potable Water
Hose Connections :	Fuel - 4" Camlock Potable Water - 4" Camlock Drill Water - 4" Camlock Mud - 5" Camlock Brine - 5" Camlock Dry Bulk - 5" Camlock Adapters 5" to 4" reducer, 4" to 3" reducer

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Performance

Speed / Fuel Consumption:	100% MCR = 38 m ³ / day
	80% MCR = 26 - 28 m ³ / day
	60% MCR = 16 - 18 m ³ / day
	Idle at sea = 8 - 9 m ³ / day
	Idle at port = 0.8 - 1 m ³ / day

Dynamic Positioning

Type:	GE Energy C-Series DPS-21 Duplex DP + IJS
Reference Systems:	1 x Cyscan laser complete with 1 reflector 2 x Veripos LD5 DGPS + VQC Monitoring
Control Modes:	Joystick Manual Mode (JSMH), Joystick Auto Heading (JSAH), Dynamic Positioning (Auto Position), Ship Follow, Auto Track, Mode Control
Joystick:	GE Energy - IJS Independent Joystick

External Fire Fighting

Capacity:	2 x 1500 m ³ /hr = 3000 m ³ /hr
Monitors:	2 x 1200 m ³ /hr, Kvaerner, each fitted on wheelhouse top and remotely controlled from within the wheelhouse
Throw Length:	120 m
Throw Height:	50 m
Drenching System:	Yes

Standby Rescue Equipment

1. 1 x Maritime Partner MP660 Springer, 10 persons, SOLAS approved FRB with inboard diesel waterjet propulsion.
Speed with 2 people approx. 33 to 35 knots.
2. Rescue Zones on both Port and Starboard side of main deck, with scramble nets and personnel transfer swing ropes

Anti-Pollution

Dispersant Tank:	9.64 m ³
Spray Nozzles:	2 x spray nozzles for both diluted and neat operation fitted on each side

Accommodation

Berths:	8 x single cabins
	4 x 2 man cabins (including hospital)
	4 x 4 man cabins
	1 x Library
	1 x Messroom
	1 x Lounge

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Environmental Features

1. Mud tank of free flowing design with external stiffening, sloped floors and dedicated recirculation.
2. Low residue design bulk tanks.
3. 1 x oily water separator with 15 ppm monitor. Compliant with IMO - Resolution MEPC 107(49).
4. 1 x sewage treatment plant.
5. Galley macerator.
6. Cargo load/discharge station with save all to inboard tank.

Miscellaneous

1. 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".
2. All cargo systems are controlled by a Terasaki cargo control system with remote valve operation and tank soundings.
3. Fitted with 2 x Halogen searchlights, each 2000W, fitted on the wheelhouse top and remotely controlled from inside the wheelhouse.
4. Fitted with 6 x 1000W high pressure sodium lights for the aft deck cargo area and 2 x 1000W high pressure sodium lights in the crash rails to illuminate Anchor Handling area.
5. Removable section of crash rail, 6 m long, on Port and Starboard side forward to allow for fitting of ROV spread, etc.
6. Wood sheathed main deck except for the aft area, which is steel plated for Anchor Handling.
7. Welding and cutting equipment and lathe in workshop.
8. Fresh water ultra violet sterilizer.
9. Flume passive roll damping system.
10. Fire detection system fitted to the accommodation, all store rooms and machinery spaces throughout the vessel.
11. CO2 fixed fire extinguishing system for Machinery Space, Emergency Generator Room, Paint Locker, Hydraulic Pump Room & Galley.
12. Local water spray Fire Fighting system according to SOLAS regulations.
13. Statutory liferafts, life-jackets and pyrotechnics.
14. Deck power supplies for ROV equipment / Charterer's equipment:
 - 2 x 500A, 440V, 3ph
 - 1 x 63A, 440V, 3ph
 - 1 x 32A, 440V, 3ph
15. Deck power supplies for Refrigerated containers:
 - 6 x 440V, 63A, 3ph