



M/V Pacific Patriot

- ▶ **Bollard Pull** 53-76 tonnes
- ▶ **Brake Horsepower** 4826-5147 BHP
- ▶ **Clear Deck Space** 324-330 m²
- ▶ **Winch Line Pull** 150 tonnes

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Clear Deck Space	324-330 m2	Winch Line Pull	150 tonnes

General Information

Built:	Labroy Shipbuilding and Engineering Pte Ltd, August 2004
Flag:	Singapore
Call Sign:	9VCT8
IMO No.:	9314480
Classification:	DNV-GL +1A1 Fire fighter(I) Tug DYNPOS(AUT) SF

Dimensions

Length, overall:	56.0 metres
Length, BP:	48.8 metres
Breadth, moulded:	13.5 metres
Depth, main deck:	6.0 metres
Design draft:	5.1 metres
GT:	1184
NT:	403
Length between P.P.:	48.8 metres
Breadth:	13.5 metres

Capacities

Deadweight (maximum):	1356 tonnes
Clear Deck Area:	324.5 m2 (29.5 x 11 m)
Deck Strength:	General deck - 5 tonnes / m2 Aft A/H deck - 10 tonnes / m2
Deck Cargo:	500 tonnes
Fuel:	528 m3 (dedicated) 850 m3 (including multiuse tanks)
Potable Water:	415 m3
Ballast Water:	131 m3 (dedicated) 453 m3 (including multiuse tanks)
Brine / DMA / Glycol / Liquid Mud:	107 m3 (s.g. 2.5) (2 tanks - separate from mud tanks)
Liquid Mud:	214 m3 (s.g. 2.5) (4 tanks)
Dry Bulk:	135 m3 (4750 cubic feet) in 4 tanks
Ship's Stores:	Chiller storage - 10 m3 Freezer storage - 6.5 m3 Dry Provisions storage - 10 m3

Machinery

Main Engines:	2 x 1800 kW = 3600 kW (4826 BHP) Bergen C25: 33L6P
Propulsion:	2 x CPP propellers in Kort nozzles 2 x Ulstein high lift independent rudders 2 x Electro-hydraulic steering gear
Bow Thrusters:	1 x 500 kW (670 BHP) producing 7 tonnes thrust
Stern Thrusters:	1 x 500 kW (670 BHP) producing 7 tonnes thrust

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Shaft Generators:	2 x 1250 kVA x 440 V, 60 Hz
Auxiliary Generators:	2 x 270 kW Caterpillar 3406 DITA

Towing and Anchor Handling

Bollard Pull:	61.86 MT, continuous
Main Winch:	1 x Brattvaag SL 150W-B2T double drum low pressure winch
Load Capacity:	Towing / A/H drums 1st layer
	150 tonnes at 7.2 m/min
	90 tonnes at 10.9 m/min
	35 tonnes at 21.9 m/min
Brake Capacity:	250 tonnes on towing drum 1st layer
	250 tonnes on A/H drum 1st layer
Tow Drum Wire Capacity:	1200 m x 64 mm diameter
Work Drum Capacity:	1200 m x 64 mm diameter
Chain Gypsy Cable Lifter:	1 x 3 inch chain gypsy
Stern Roller:	1 x 2 m diameter x 4 m width, SWL 250 tonnes
Tow Pins / Guide Pins:	1 x set hydraulic Karmoy, remotely controlled
Wire Chain Stopper:	1 x retractable Karmoy, SWL 250 tonnes, controlled from wheelhouse
Spare Reel Capacity:	1 x 1200 m x 64 mm diameter

Deck Machinery

Tuggers:	1 x 10 tonnes Brattvaag
Capstans:	2 x 6 tonnes Brattvaags
Windlass:	7.2 tonne pull Brattvaag
Bow Mooring:	1 x mooring drum capacity 150 m x 38 mm synthetic rope
Crane Capacity:	3.5 tonnes at 7 m radius. Make: Plimsoll

Electronics

Main Radar:	1 x Furuno 21" colour X-band, ARPA
Auxiliary Radar:	1 x Furuno X-band, 15"
Auto Pilot:	1 x Robertson AP9 MK3
Gyro Compass:	Tokimec TG6000, with repeater
Magnetic Compass:	1 x Cassen & Plath
Echo Sounder:	FURUNO FE-700
DGPS :	Veripos
	GPS Receiver: FURUNO GPS Navigator GP-170
Anemometer :	Young

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Communications:	G.M.D.S.S. (Global Maritime Distress & Safety System) Sea Area A1, A2, A3 1x MF/HF Radio: FURUNO FS-2575C with DSC, SSB 2 x VHF: FURUNO FM-8500& FM-8800S with DSC Receiver 2 x Inmarsat C: FURUNO FELCOM 15& 18 with EGC Receiver 3 x Portable VHF GMDSS Radio NAVICO AXIS 30 2 x SART: JOTRON TRON SART 1 x EPIRB: MC MURDO Smartfind E5 LRIT: Skywave DMR-800LRIT
Navtex Receiver:	1 x Furuno NX-500
Weather Fax:	Furuno, Fax-207, 8 inch
Satellite Communication:	FBB: Sailor 500 VSAT: Sailor 900
AIS:	Furuno FA-100
VHF:	Furuno DSC-60 55 channel, DSC & multiwatch
BNWAS:	NAVGARD (MARTEK MARINE)

Discharge Pumps

Fuel Oil:	1 x 100 m3/hr - 7.0 bar
Dirty Oil:	1 x 2.0 m3/hr - 2.0 bar
Potable Water:	1 x 100 m3/hr - 7.0 bar
Drill Water:	1 x 100 m3/hr - 7.0 bar
Liquid Mud:	1 x 75 m3/hr - 15.0 bar
Brine / Mud:	1 x 75 m3/hr - 15.0 bar
Dry Bulk:	80 m3/hr - 5.6 bar, 80 psi, 2 compressors
Cargo Flow Meters :	Fuel Oil and Fresh Water
Hose Connections :	Fuel - 3" Camlock Potable Water - 3" Camlock Drill Water - 4" Camlock Liquid Mud - 4" Camlock Dry Bulk - 5" Camlock Adapters 4"-5", 5"-4", 4"-3" & 3"-4"

Performance

Speed / Fuel Consumption:	Maximum speed 13.5 knots free running @ 100% MCR - approximate fuel consumption 14.3 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
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Dynamic Positioning

Type:	DP1 Simplex GE C-Series
Reference Systems:	FanBeam MDL, Verifos

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Joystick: Poscon - Rolls Royce electronic control system joystick, integrated to main propellers, main engines, rudders, side-thrusters and interfaced to gyro compass

External Fire Fighting

Capacity:	2 x 1200 m ³ /hr = 2400 m ³ /hr
Monitors:	2 x 1200 m ³ /hr mounted on mast table, remotely controlled from wheelhouse
Throw Length:	120 m
Throw Height:	50 m
Drenching System:	Yes

Standby Rescue Equipment

1. 1 x Maritime Partner Weedo 17, 6 persons, SOLAS approved Rescue Boat with 2 x petrol outboards propulsion.
2. Rescue Zones on both Port and Starboard side, main deck, with scrambling net and personnel transfer swing ropes.

Anti-Pollution

Dispersant Tank:	10.6 m ³
Spray Booms:	2 x 6 m

Accommodation

Berths:	4 x 1 (single) berths
	5 x 2 (double) berths
	2 x 4 (four) berths
	22 berths Total
	1 x messroom
	1 x galley
	1 x recreation room
	All living space fully air-conditioned, design 45 deg C outside, 25 deg C inside

Environmental Features

1. Cylindrical mud tank free flowing design with external stiffening, sloped floors and dedicated recirculation pumps.
2. Cargo load/discharge stations with save all to inboard tank.
3. Low residue design bulk tanks.
4. 1 x 15 ppm oily water separator.
5. 1 x sewage plant, extended aeration type.
6. Macerator fitted in galley. Provision for recycling of waste.

Miscellaneous

1. Design complies to latest rules and regulations from SOLAS 2000, and IMO 469 (XII) "Guidelines for the design and construction of offshore supply vessel".

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2. Bulk systems remotely controlled from wheelhouse.
3. Fitted with water lubricated rubber pusher bow.
4. Fitted with 4 halogen searchlights, each 2000W, wheelhouse top and manually operated from inside wheelhouse, 6 x 1000W flood-lights, for cargo deck.
5. Deck power supplies:
 - 1 x 1000A x 440V x 3ph
 - 1 x 63A x 440V x 3ph
 - 1 x 32A x 220V x 1ph
6. Wood sheathed main deck except for aft area, which is steel plated for anchor-handling. Supplied with Anchor Grapnel.
7. Welding and cutting equipment and lathe in workshop.
8. Fresh water ultra violet sterilizer.
9. Fire detection system fitted to the accommodation, engine room and all other spaces.
10. CO2 fire extinguishing system fitted in the engine room/paint locker/hydraulic pump room.
11. Statutory life-rafts, life-jackets, pyrotechnics.
12. Removable crash rail section on main deck to facilitate R.O.V. operations.
13. Sludge tank of 6 m3.
14. 1080kg HHP stockless Anchor (each side).