



## M/V Pacific Liberty

- ▶ **Brake Horsepower** 10616 BHP
- ▶ **Clear Deck Space** 912 m<sup>2</sup>
- ▶ **Deadweight** 5000-5258 tonnes
- ▶ **Deck Cargo Capacity** 3350 tonnes

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### General Information

Built:	JMU Japan, Jan 2015
Flag:	Singapore
Call Sign:	9V7311
IMO No.:	9648398
Classification:	DNV-GL +1A1 Fire fighter(I) Offshore service vessel(Supply) Clean DYNPOS(AUTR) E0 SF SPS

### Dimensions

Length, overall:	97.29 metres
Length, BP:	86.55 metres
Breadth, moulded:	20.00 metres
Depth, main deck:	9.00 metres
Design draft:	6.40 metres @ 4,500 DWT
Maximum draft midship:	6.80 metres @ 5,258 DWT
GT:	5179
NT:	1554

### Capacities

Deadweight (maximum):	5000 tonnes
Clear Deck Area:	912 m2 (57m x 16m)
Deck Strength:	10 t/m2 Aft of frame 30, 5 t/m2 Fwd of frame 30
Deck Cargo:	3350 tonnes
Ship Fuel:	494 m3
Cargo Fuel:	855 m3
Potable Water:	732 m3
Ballast Water:	1143 m3
Drill Water:	401 m3
Brine / DMA / Glycol / Liquid Mud:	1799 m3, Sg 2.5 t/m3 flash point above 60°C.
Drilling Brine:	1062 m3
Dry Bulk:	340.8 m3, Sg 2.6 t/m3 - 5 tanks
Ship's Stores:	Freezer (-25°C.) - approximately 31 m3 Cold Room (+4°C.) - approximately 26 m3 Provisions store - approximately 52 m3 ~ 12°C

### Machinery

Main Engines:	4 x 1980 kW = 7920 kW (10616 BHP) @ 720 rpm, MAN Diesel & Turbo 6L27/38 TIER II compliant
Propulsion:	2 x 2500 kW (2 x 3351.21 BHP) Inovelis POD GE, Azimuth
Bow Thrusters:	3 x 965 kW (3 x 1294 BHP) electric motor driven tunnel type, CPP, frequency controlled
Emergency Generators:	1 x 340 kW @ 1800 rpm / 450V / 3ph / 60Hz (also harbour generator), TIER II compliant

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### Deck Machinery

Tuggers:	Rolls Royce Brattvaag 2 x 10 t @ 0 - 20 m/min, capacity 240 m of 20 mm dia. wire each , electric drive
Capstans:	Rolls Royce Brattvaag 2 x 10 t @ 0 - 15 m/min, vertical type warping head, electric drive
Windlass:	Rolls Royce Brattvaag 2 x combined mooring winch/anchor windlasses Cable lifter, mooring drum and warping end electric drive Duty on cable lifter nominal 11.9 t @ 0 - 12 m/min, max pull 17.8 t Mooring drum, declutchable rope drum with band brake, dia. 530 mm, flange dia. 1360 mm, drum length 600 mm, stowing capacity 270 m of 52mm dia. polypropylene 8 strand rope, duty on 1st layer 12 t @ 0 - 12 m/min, light line @ 0 - 40 m/min Fixed warping end on drum shaft, dia. 560 mm, length 500 mm, approximately 11 t pull
Bow Mooring:	See windlass. Roller type chain stopper with lashing arrangement for dia. 50 mm K3 chain cable.
Smit Towing Bracket:	1 x 200 t
Crane Capacity:	Heila 1 x 5t @ 15 metres radius, knuckle boom crane

### Electronics

Main Radar:	Furuno FAR-2837S-D ARPA Radar, S Band, 23.1"
Auxiliary Radar:	Furuno FAR-2817-D ARPA Radar, X Band, 23.1"
Auto Pilot:	Tokyo Keiki PR6344A-22
Gyro Compass:	3 x Tokyo Keiki TG-8000/8500 Type S
Magnetic Compass:	Tokyo Keiki SH - 165 A1 Reflector Type
Echo Sounder:	Furuno FE-700, dual frequency 50Hz and 200Hz
DGPS :	Furuno GP-150
Anemometer :	2 x Gill WindObserver 2
Speed Log:	Furuno Doppler Speed Log DS-80
Communications:	Furuno MF-HF (SSB) Transceiver integrated with DSC/Watch Receiver. Furuno Inmarsat-C (no.1) - Felcom 18 (Integrated with EGC) Furuno Inmarsat-C (no.2) - Felcom 18
Watch System:	Furuno BRR-500
Navtex Receiver:	Furuno NX-700A
Weather Fax:	Furuno FAX-410
Satellite Communication:	FBB: Sailor 500 VSAT: Sailor 900
AIS:	Furuno FA-150
Satellite Navigation:	Furuno GP150
Voyage Data Recorder(VDR):	Furuno VDR VR-3000
VHF:	Furuno FM-8900S Semiduplex VHF
Electronic Chart Display:	1 set - Furuno FMD-3300
VRU:	SMC IMU-007
BNWAS:	Furuno BR-500

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### Discharge Pumps

Fuel Oil:	1 x 150 m3/hr - 9 bar (90 metres head)
Potable Water:	1 x 150 m3/hr - 9 bar (90 metres head)
Ballast Water:	1 x 250 m3/hr - 2.5 bar (25 metres head)
Drill Water:	1 x 150 m3/hr - 9 bar (90 metres head)
Drilling Brine:	1 x 150 m3/hr - 9 bar (90 metres head)
NLS (Brine / Liquid Mud / Base Oil):	5 x 100 m3/hr - 18 bar each serving one pair of NLS Tanks
Dry Bulk:	2 x Sets Cargomaxx/Van Aalst Systems, 75 t/hr, with weighing facility
Cargo Flow Meters :	Fuel oil and fresh water
Special liquid (Methanol):	Prepared for future installation of an HPU to serve the LFL* cargo discharge pumps.
Hose Connections :	Fuel – 4" Mann quick release self-sealing female connection. 12 bar pressure Potable Water - 4" Anson hammer lug female connection 12 bar pressure Drill Water – 4" Anson hammer lug female connection 12 bar pressure NLS including Brine – 4" Mann quick release self-sealing male coupling 24 bar pressure Dry Cement – 5" Anson Hammer lug male coupling 12 bar pressure

### Dynamic Positioning

Type:	GE Energy DPS21 - Duplex DP+IJS
Reference Systems:	1 off Veripos DGPS LID6-GG2 1 off Veripos DGPS LHD6-GG2 1 off Cyscan Mk 4 (Prepared for HPT transceiver deployment)
Control Modes:	Manoeuvre / FU Position and Transit / Autopilot Position Aft bridge, Manual Thruster Control levers, Independent Joystick System and 2 DP workstations
Joystick:	Independent IJS fixed joystick

### External Fire Fighting

Capacity:	3700 m3/hr pump driven by electric motor
Monitors:	2 x 1200 m3/hr
Throw Length:	120 metres from bow
Throw Height:	50 metres at 70 metres distance
Drenching System:	1300 m3/hr combined with main pump

### Standby Rescue Equipment

- 1 x SOLAS Type Approved FRC MP 660 Springer with 230hp inboard diesel engine water jet propulsion. Max: 10pax. Speed with 2 persons approx. 32 knots. Davit for quick launch and recovery.
- Rescue zone on both port and starboard side Main Deck

### Anti-Pollution

Dispersant Tank:	15.19 m3
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Spray Nozzles: Fixed installed spray nozzles for neat and dilute, port and starboard side

### Accommodation

Berths:

- 15 x 1 man (single) cabins
- 3 x 2 man (double) cabins
- 4 x 4 man (quadruple) cabins
- 37 berths total
- 1 x Messroom (with TV Lounge)
- 1 x Hospital (2 beds)
- 1 x Gymnasium

### Environmental Features

1. All NLS cargo tanks built with free flowing design with external stiffening 2 metres from the bottom and sloped bottoms.
2. Oily Water Separator. Certified in accordance with IMO MEPC.107(49)
3. Sewage Treatment Plant certified to the latest IMO MEPC.159(55)
4. Prepared for future installation of a Ballast Water Treatment Plant
5. Cargo loading and discharge stations provided with save alls to an inboard Saveall Drains Tank
6. Incinerator capable of burning plastics

### Miscellaneous

1. Zöllner Sound Reception System SRD 414/2
2. NLS Cargo re-circulating pumps, 5 x 90m3/hr - 5 bar
3. 5 x Cargomaxx design tanks, square shape, pyramid bottom shape + 4 x Cargomaxx re-loader tanks with respective weight measurement system
4. Prepared for future installation of an N2 generator
5. Space for the fitting of a non structural Foam Tank (2.7 m3) to be used on a future installation of a fixed foam fire extinguishing system for protection of the cargo deck area
6. NLS cargo tanks are arranged in 5 pairs, each pair of tanks fitted with a recirculating dedicated single pump and internal spray nozzles inside each tank
7. Dry Bulk CargoMaxx tanks prepared with flange penetrations for the future connection to the cargo fresh water system
8. 2 x totally enclosed lifeboats (38 persons capacity) fitted together with respective davits, one port and one starboard side
9. 2 x 12 man life rafts, davit launched one P & S
10. Wood sheathed main deck
11. 3 x Xenon 2000W search lights on top of bridge, remotely controlled

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### FUEL EFFICIENCY

#### FUEL OIL CONSUMPTION ON PASSAGE

Fuel Oil Consumption (t/24 hours)-Seastate 4 <sup>Φ</sup>				
Draft(m)	10.00 knot	12.00 knot	14.00 knot	15.00 knot
4.5	7.80	9.00	15.60	20.92
5.0	8.43	9.83	17.00	22.79
5.5	9.12	10.64	18.41	24.63
6.0	9.81	11.38	19.88	26.45
6.44	10.31	12.00	21.00	27.71
6.80	10.82	12.56	22.00	29.09

Φ: Seastate 4 is Moderate breeze, 11–16 knot wind, 3.5–6 ft wave height