



GPA 654 PSV Series

D-P2 Diesel-Electric Platform Support Vessel
Low Emissions
Crew Safety



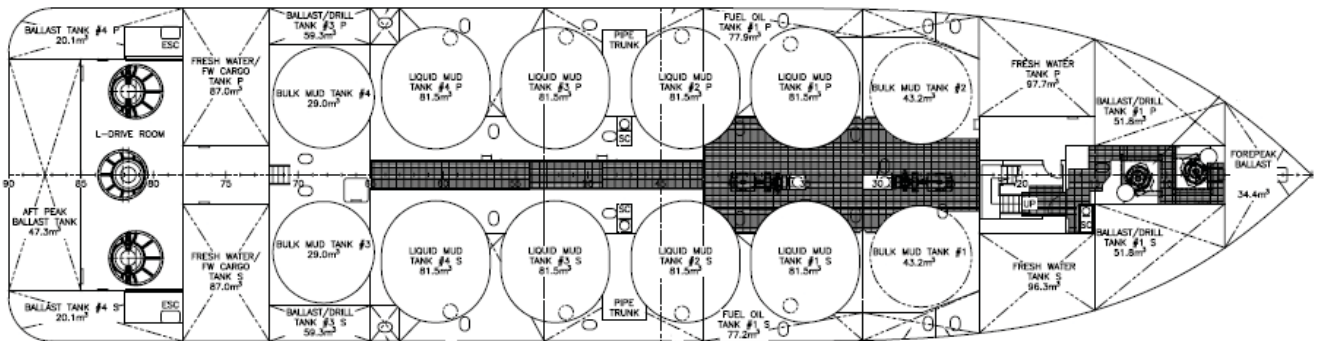
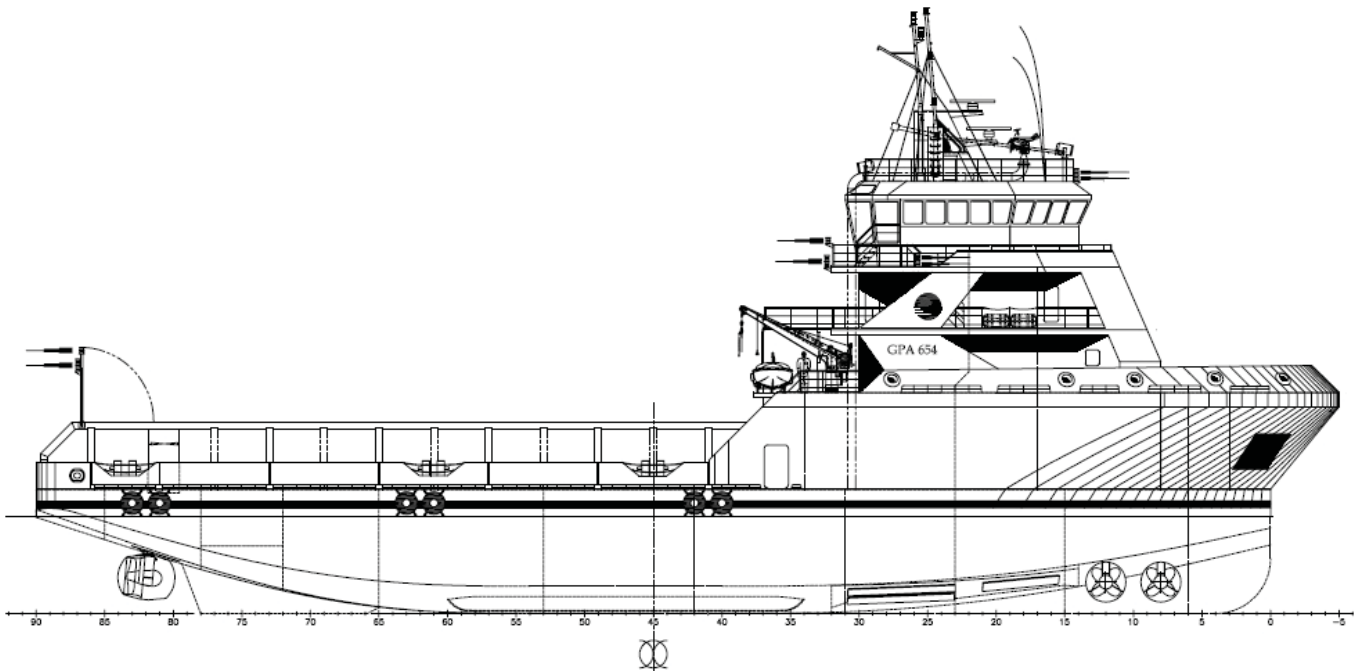
A Modern Diesel-Electric Platform Support
Vessel Equipped with
State-of-the-Art Technology.

Fuel Savings · 30% Greater Cargo Capacity
Reliability in Adverse Weather Conditions
Main Systems Redundancy · Exceptional Maneuverability



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To meet the increasing demand for oil worldwide, the rapid building of vessels, capable of deepwater offshore operations, is required to replace existing, obsolete offshore vessels. GPA's vessel designs are based on efficiency and constructability:

- Efficiency Hulls
- Developable Hull Surfaces (Single Curvature Hulls)
- Transverse Framing
- Flanged Plate Construction
- Modular Electric Propulsion System by Electronic Power Design (EPD)



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Benefits of the GPA 654 PSV A State-of-the-Art Platform Supply Vessel.

+30% Greater Cargo Capacity

The engine room has been moved to above main deck, a concept pioneered by GPA several years ago. This unique propulsion configuration creates greater cargo capacities below deck as the drive shaft has been eliminated. Compared to traditional PSVs of similar size, the GPA 654 PSV can therefore carry 30% more cargo.

Fuel Savings

The Diesel-Electric Propulsion system is environmentally friendly by decreasing CO₂ emissions by 30% and also offers improved fuel efficiency. Clients benefit from considerable cost savings, as the installation of diesel generators of different output ratings can provide smaller increments of power to best suit a given operational mode. Additional electric consumers can be added to the design, such as additional thrusters or Fi-Fi pumps without adding dedicated diesel engines to drive them.

Dynamic Positioning Class II

The Dynamic Positioning system enables vessel to maintain precise position and come alongside rigs or platforms to offload cargo, even in adverse weather conditions.

Exceptional Maneuverability

The combination of the Diesel-Electric propulsion system with Dynamic Positioning Systems Class 2 facilitates tremendous station-keeping capabilities to carry out operations safely, even in adverse weather conditions.

Main Systems Redundancy

Three main generators, two azimuthing stern thrusters, one fixed stern thruster, two bow thrusters and Dynamic Positioning Class II.

These features offer more flexibility to clients, as the GPA 654 PSV can be utilized to support both shelf and deepwater operations at a very competitive operating cost.



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Specifications

MAIN CHARACTERISTICS

Length Overall 57.95 m (190.12 ft)
Length Waterline 54.90 m (180.11 ft)
Beam 14.00 m (45.93 ft)
Depth 5.50 m (18.04 ft)
Operating Draft 4.30 m (14.10 ft)
Maximum Draft 4.57 m (15.00 ft)
Light Draft 2.70 m (8.85 ft)
Operating Displacement
2,398 mt (2,360 lt)
Maximum Displacement
2,824 mt (2,780 lt)
Gross Registered Tonnage < 1,600

CAPACITIES

Deadweight at Max Draft
1,686 mt (1,858 st)
Cargo Deck Area
34.1 m x 11.4 m...388 m²
(112.0 ft x 37.3 ft...4,178 ft²)
Cargo Deck Loading
5 mt per m² (0.51 st per ft²)
Deck Cargo 700 mt (772 st)
Fuel Oil Cargo
477 m³ (126,010 gal) (3,000 bbl)
Fuel Oil Day Tank
30 m³ (7,925 gal) (189 bbl)
Bulk Mud (4 tanks)
156 m³ (41,210 gal) (981 bbl)
Liquid Mud (8 tanks)
636 m³ (168,013 gal) (4,000 bbl)
Rig Water
436 m³ (115,179 gal) (2,744 bbl)
Cargo Fresh Water
334 m³ (88,233 gal) (2,100 bbl)
Ship Fresh Water
34 m³ (8,981 gal) (214 bbl)
Foam Tank optional

DYNAMIC POSITIONING SYSTEM (CLASS II)

ABS classed DP2 Redundant Positioning System
Comprising:
2 BAS IVCS Consoles
2 Leica MX 420 / 2 DGPS
1 Cyscan Laser Reference Unit
2 RM Young Anemometers
2 Vertical Reference Units
2 Yokogawa Gyro Compass
2 DP Alarm and Event Printers
2 7 kVA Uninterrupted Power Supply
1 Independent Joystick Control System

PERFORMANCE

Top Speed Max Draft 12 knots
Top Speed Light Draft 13 knots
Fuel Consumption at 4.9 m Draft
Cruising Speed 11.5 knots 110 gph
Economical Speed 10.5 knots 85 gph

PROPULSION - MACHINERY

Total Installed Power:
2,905 kW (3,894 hp)
Main Diesel Generators:
2 x 1235 kW (1,655 Hp)
480 VAC, 60 Hz
(Cummins KTA50)
1 x 435 kW (583 Hp) 480 VAC
60 Hz (Cummins KTA19)
Emergency Generator:
1 x 113 kW (151 Hp)
480 VAC, 60 Hz
(Cummins / Onan DGDK)
Main Propulsion:
2 x 843 kW (1130 Hp)
L-Drive, 360° azimuthing thruster
1 x 843 kW (1130 Hp)
L-Drive, fixed thruster
Bow Tunnel Thrusters:
2 x 560 kW (750 Hp)
fixed pitch variable speed thrusters

CARGO DISCHARGE

Fuel Oil 660 gpm at 196 ft
(150 m³ / h at 60m)
Rig Fresh Water 660 gpm at 196 ft
(150 m³ / h at 60m)
Liquid Mud (LM) 660 gpm at 196 ft
(150 m³ / h at 60m)
LM Segregated System Integrated /
Segregated (4 Tanks each system)
LM Agitation Flygt Mixers
LM Tank Cleaning System Butterworth
Bulk Material (BM) Compressors rated
for: 55 st/hr at 196 ft (50 mt / hr at 60 m)
BM Segregated System Integrated /
Segregated (2 Tanks each system)

DECK EQUIPMENT

Rescue Boat 1 x MOB boat with davit
SOLAS cargo ship safety
equipment
Deck Cargo Crane 2 st @ 32.8 ft
(optional) (1.8 mt @ 10 m)
Telescopic boom / Electro-hydraulic

DECK EQUIPMENT CONT.

Anchor Windlass 1
Roll Reduction System: Bilge Keels
Firefighting System Class 1 (Optional)
2 pumps at:
5,283 gal / min
(1200 m³ / h) each
2 monitors at:
5,283 gal / min (1200 m³ / h) each

CONTROL & SAFETY

Fully integrated DP / control dual re-
dundant system
Alarm, monitoring and control system
for periodically unattended machinery
space
Remote control and monitoring of bulk
mud cargo system

ELECTRONICS

2 Radars with ARPA
1 Navigation Gyro Compass
1 Autopilot
1 Depth Sounder
1 Speed Log
1 Radio System Compliant with GMDSS
A3 Rules
1 EPIRB (2 radar transponders)
5 UHF, 4 VHF (bridge to bridge)
1 Weather Fax
1 Navtex
1 PA / Loud Hailer

ACCOMMODATION

Fully Air-conditioned
Accommodations for 12 people com-
posed of:
2 x 1 man cabins
3 x 2 man cabins
1 x 4 man cabins
Galley, Provision Room, Stores, Mess

REGISTRATION

Type Offshore Supply Vessel
Designer Guido Perla & Associates, Inc.
Classifications ABS A1 AMS DPS-2
"Circle E", SOLAS,
USCG Subchapter L, Full Ocean



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In 2008, a ten-vessel GPA 654 PSV series was completed for Rigdon Marine at Bollinger Shipyards Inc.

The "First and Ten", the first in the series, won the award of "Ten Significant Boats of 2007".





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By the end of 2008, twelve of 22 GPA 654M PSV vessels were delivered for Bourbon Offshore at Dayang Shipyard in China. The main difference between the original GPA 654 PSV and the GPA 654M PSV is the deckhouse arrangement in that the deckhouse on the GPA 654M PSV has increased to full-width, as opposed to a tropical deckhouse, allowing for more comfortable crew accommodations.



The designation of these vessels as the Liberty Class was inspired by the Liberty Ships of World War II. Like Bourbon's Liberty Class vessels, the Liberty Ships were of a completely standardized design, built in record time, facilitating the construction of 2,710 Liberties within four years.

