PORTABLE DYNAMIC POSITIONING SYSTEM

Instantly convert any barge or vessel into a Dynamically Positioned work vessel.
For over 30 years, Thrustmaster of Texas has been designing, manufacturing and supporting marine propulsion systems for a global network of customers and continues to be the largest manufacturer of marine thrusters in the U.S.

Thrustmaster’s propulsion units are manufactured in Houston, TX with a variety of configurations including self-contained and portable deck-mounted propulsion units, thru-hull azimuthing thrusters, Z-drives, water jets, retractable thrusters and tunnel thrusters in power ranges from 35 to 10,740 hp (22 kW to 8 MW).

Special expertise has been developed in designing and manufacturing equipment for maneuvering, navigating and dynamic positioning of slow-speed marine craft and barges.

Thrustmaster’s patented Portable Dynamic Positioning System is a unique modular system of azimuth thrusters, power modules and controls allowing quick dockside conversion of any work barge or ship to a dynamically positioned vessel. Ideal for upgrading derrick barges, pipelay vessels, cable lay barges, accommodation vessels, FPSO’s, heavy lift vessels, and more. As offshore operations move to deeper waters, you can upgrade your anchor moored vessels to DP-1, DP-2 or even DP-3.
The Portable Dynamic Positioning System consists of modular deck mounted azimuthing thrusters with separate hydraulic power units and a DP control van interfaced and ready to go.

The whole deck mounted system can be quickly installed dockside without dry dock-ing and without extensive modifications to the vessel so your vessel of opportunity can be ready to go in minimal conversion time.

A wide variety of options are available with power ranges from 225 kW to 2,250 kW (300 hp to 3,000 hp), DP Systems, Controls, and deck mounted Hydraulic Power Units (HPU).

Thrustmaster’s Portable DP Systems are available for ships and barges from 30 to 180 meters (100 to 600 ft) in length and can be provided per DPS-0 to DPS-3 requirements of any classification society.

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PDPS installed on the Crossmar 21 - a 260 ft (80 m) offshore construction barge. Its DPS-3 system uses four 1000 HP (750 kW) thrusters.

PDPS installed on the 270 x 85 x 17 ft (82 x 25 x 5 m) reel pipelay barge owned by Nippon Salvage. The system allows subsea pipelay installation many times faster than can be done with an anchor moored barge. Uses four 500 HP (380 kW) azimuth thrusters.

PDPS installed on Versabar VB 10,000 - a barge-mounted dual truss system with the ability to perform single-piece topside floatovers and retrievals of up to 10,000 tons. Its DPS-2 class uses eight 1000 HP (750 kW) retractable azimuth thrusters.
The Titan II is a 465 ft (142 m) long catamaran with an 850 ton pedestal crane for construction support & accommodation working in the Gulf of Mexico. It uses a PDPS with 8 thrusters that have been operating around the clock without interruption for more than 12 years. The vessel continued to hold heading and position even during a complete vessel blackout.

The Wind pioneer is a 180 x 90 ft (56 x 28 m) offshore construction jack up vessel for offshore wind turbine installation and maintenance. The PDPS uses four azimuth thrusters at 1000 HP (750 kW) each.

POPS installed on the Helix Producer I, a 530 x 95 ft (160 x 30 m) DP-2 FPO operating in the Gulf of Mexico equipped with a disconnectable transfer system. The vessel services smaller oil fields in deepwater over the life of the facility and can also be used as an early production test vessel.
PDPS installed on Jascon 28, a 360 x 100 ft (110 x 30 m) DPS-3 accommodation hook-up vessel equipped with four 1500HP (1200 kW) and two 1000 HP (745 kW) thrusters for deep water construction support in West Africa.

PDPS installed on the BGL-1 - a 400 ft (122 m) pipelay and derrick barge owned and operated by Petrobras. It was upgraded in 2006 with a PDPS comprising six 2000 HP (1500 kW) thrusters.

PDPS installed on Versabar VB 10,000 - a barge-mounted dual truss system with the ability to perform single-piece topside retrievals.

PDPS installed on the Dockwise Mighty Servant 3, a 460 by 130 ft (140 by 40 m) semi-submersible heavy lift vessel, during testing of offshore vehicle transfer technology with the U.S. Navy. Its DP-2 class uses five 2000 HP (1500 kW) azimuth thrusters.
Complete system with DP computers, sensors, thrusters, prime movers and support systems all fully integrated.

BENEFIT

No design studies, no system engineering, no shipyard, single source system responsibility. Saves time, money, and eliminates mismatches/compatibility issues between component suppliers. No finger pointing. Everything arrives in one shipment.

FEATURE

Flexible DP system configuration. Easy upgrades to DP-2 through DP-3 with options for cable or pipe lay software, ROV, AVD and electronic navigation chart display.

BENEFIT

Allows easy matching to project mission requirements with many options for future upgrades. Class certification available as required by contract or insurance carriers.

FEATURE

Modular design, with thruster & HPU modules available up to 2,250 kW (3,000 hp).

BENEFIT

No vessel conversion needed to create new engine rooms for generator sets and thrust rooms for thru-hull thrusters. Saves lots of engineering design time and money. Eliminates the need for lengthy and expensive vessel conversion in dry-dock.

FEATURE

Deck-mounted or porch mounted azimuthing thrusters with tiltable stems and power units.

BENEFIT

No vessel utilities required. Each power unit is completely independent, fully unitized and ready for start-up as delivered. Vessel DP conversion or mobilization can be accomplished within days.

FEATURE

Thrusters and power units are bolted to the deck.

BENEFIT

Allows quick and easy installation and removal dockside, without dry-docking. Equipment does not become part of the vessel and can be used as a temporary enhancement of a leased or chartered vessel of opportunity.

FEATURE

Power units are totally self-contained with radiator-cooled engines and hydraulics, built-in fuel day tank, critical muffler, battery powered start and control system with charging alternator and local control panel.

BENEFIT

No vessel utilities required. Each power unit is completely independent, fully unitized and ready for start-up as delivered. Vessel DP conversion or mobilization can be accomplished within days.

FEATURE

Thrusters are fully azimuthing and the hydraulic drive provides fully proportional propeller speed control with full torque available at any speed setting.

BENEFIT

Perfect thrust vectoring with fast and accurate response to control commands; ensures highly accurate vessel positioning capability.

FEATURE

Thrusters use podded design concept. Propeller shaft is directly driven by hydraulic motor in the foot (or pod) of the thruster. Stem contains hydraulic hoses only.

BENEFIT

High propulsion efficiency; no gear losses. Reliable due to its simplicity & limited number of moving parts. Allows the use of long stems, as the stem does not contain drive shafts, bearings or gears. Lateral & torsional critical speeds are far above operating speeds. Runs smooth, no vibration.

FEATURE

Thrusters have hydraulic kick-up feature to lift thrusters completely out of the water to deck level.

BENEFIT

Allows easy access to all parts of the thruster, including propeller to clear fouling. Dry-docking for thruster repair is never required. Allows vessel access to shallow ports. Allows vessel transit with thrusters stowed out of the water.

FEATURE

Each thruster has its own dedicated power unit and controls as an independent, stand-alone package.

BENEFIT

True redundancy, no common points of failure. Very easy REMA. No need for a power management system.

FEATURE

Packaged DP control van with completely integrated DP system with UPS, MRU, gyro, wind sensor, DGPS and options for laser, microwaves, radar, taut wire system, HPS, navigation and communication equipment.

BENEFIT

Portable bridge, fully outfitted and wired, already class approved and ready for use.
### OUTBOARD HYDRAULIC THRUSTER UNIT

**TECHNICAL SPECIFICATIONS**

<table>
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<th>Power</th>
<th>Bollard Pull</th>
<th>Max Length</th>
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<th>Thruster Weight</th>
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**HYDRAULIC POWER UNIT & ACCESSORIES**

A containerized diesel-hydraulic power unit is provided for each thruster and is suitable for remote mounting at any convenient deck space on the vessel.

Each diesel-hydraulic power unit consists of a radiator-cooled marine diesel prime mover, hydrostatic main hydraulic pumps operating in a closed-loop hydraulic system, hydraulic and engine cooling equipment, hydraulic reservoir, filters, hoses and piping, engine exhaust system and all other related parts and equipment.

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**DP CONTROL VAN**

The control van contains all of the DP controls and thruster controls.

It is provided with captain’s chair, air conditioning, and heating, large marine windows all around, marine doors, and an easily accessible connector box for all external cables to thrusters HPU’s and sensor equipment.