



THRUSTLEADER



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Propulsion Systems And
Controls From Design To Delivery

Dutch Thrustleader Marine Propulsion

Propulsion Systems And Controls From Design To Delivery





Company Profile

The European brand "Dutch Thrustleader" started in Holland in 2007. To meet the growing customers, demand, and company' s continuous development, DUTCH THRUSTLEADER MARINE PROPULSION(JIANGSU) CO., LTD was founded in 2017. This company houses the R&D, engineering and manufacturing using the high developed Chinese manufacturing resources.

Our company's production area is around 10000m² and is equipped with a specialized assembly and testing workshop. It is certified with a GB/T19001-2016/ISO9001, 2015 CCS quality system certification and a BV-Factory Accreditation certificate. Our R&D center is supported with two postdoctoral professor advisors, dozens of European and Chinese senior engineers.

We design and manufacture Tunnel thrusters, Azimuth thrusters, Deck mounted azimuth thrusters, Retractable azimuth thrusters, together with advanced thruster control systems. Our thruster products range with powers from 30kW up to 6000kW.

We can integrate and deliver our thruster systems with dynamic positioning systems.

For the renewable market we deliver battery power propulsion systems, hybrid electric propulsion systems, unmanned vessel control systems and on special request pod thrusters.

All propulsion projects can be delivered under approval of major classification societies like: CCS, DNV-GL, RMRS, BVABS, RINA, LR, NK, IRS, CRS.

Our goal is to make Dutch Thrustleader marine propulsion into a world class brand, high customer focused, reliable and innovative.

Company Qualifications



Certificates And Honors



CCS Quality Management System

RMRS Product Certificate

BV Factory Certification

BV Product Certification



DNV-GL Product Certification

RINA Product Certificate

ABS Product Certificate

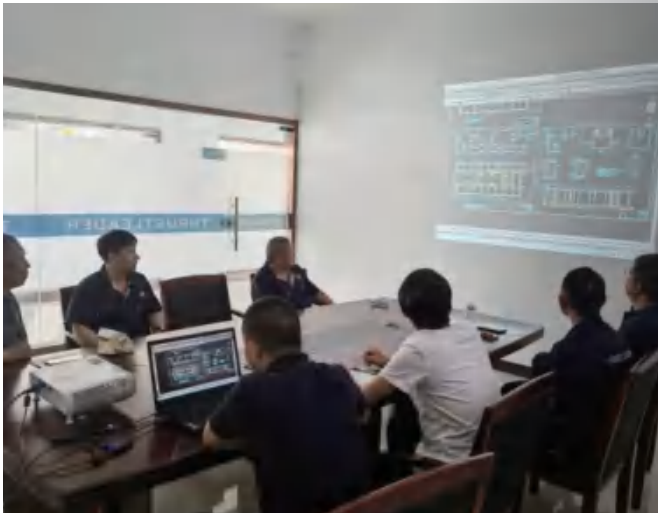
IRS Product Certificate



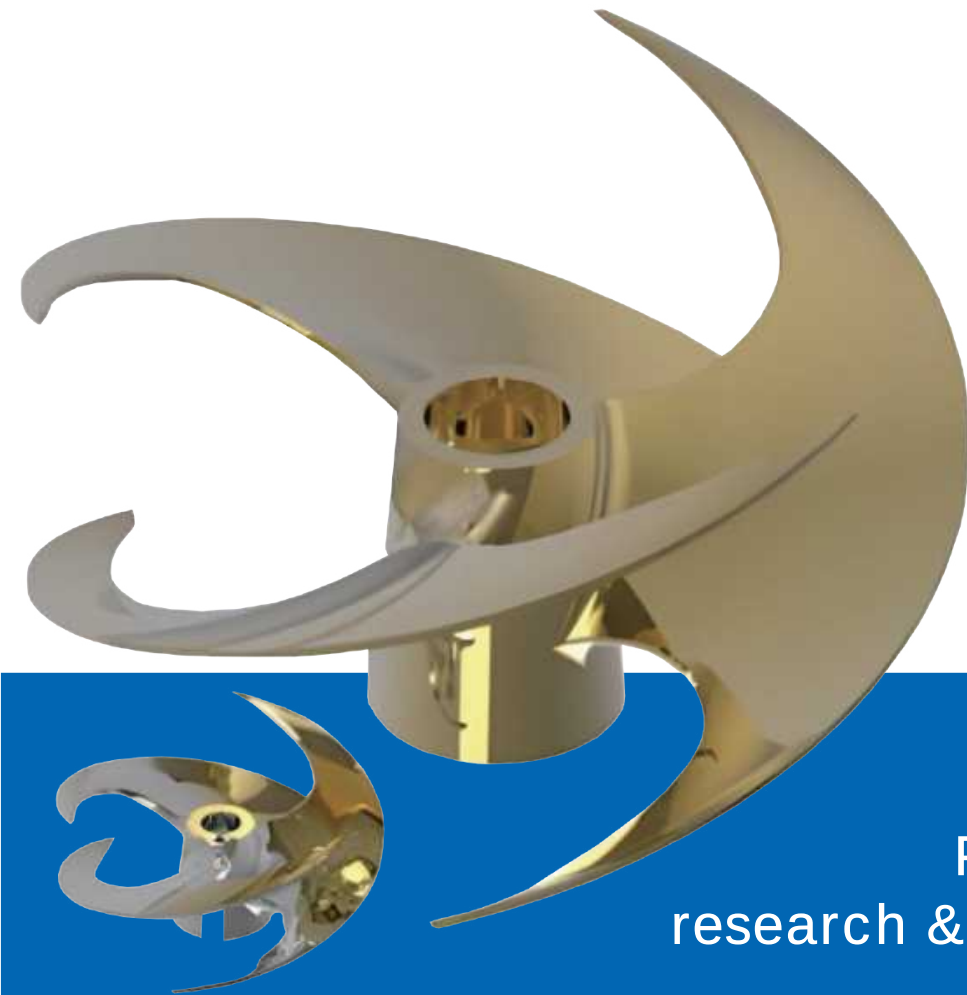
R&D Center



Holland R&D Design Center



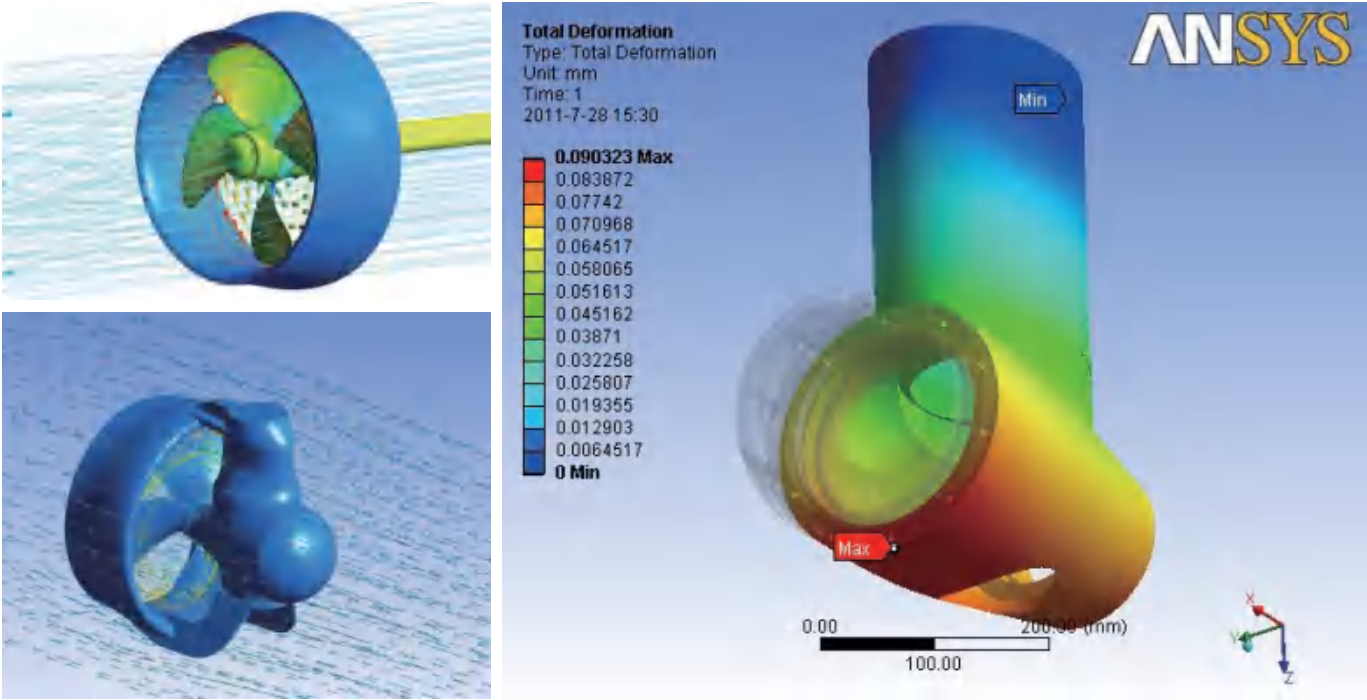
China R&D Design Center



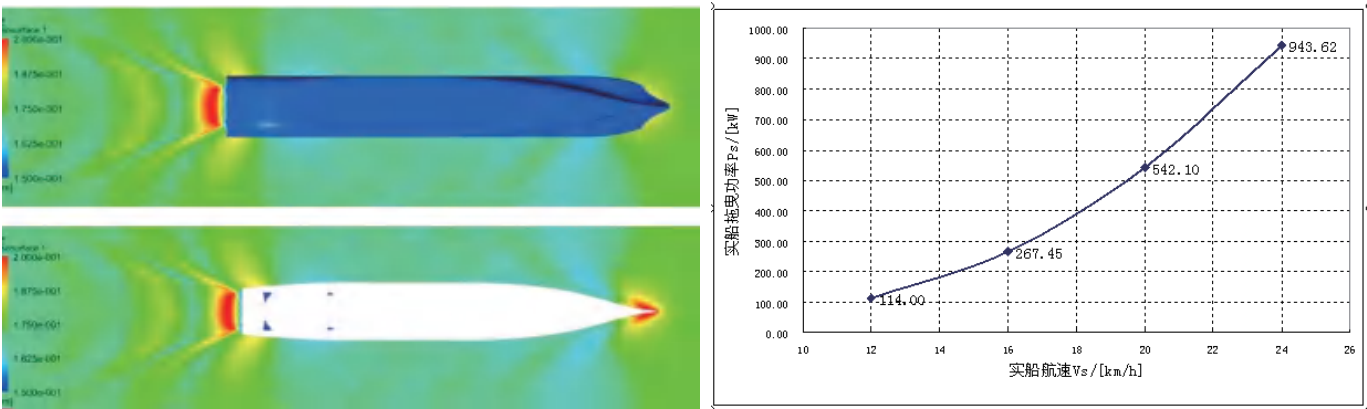
Propeller
research & design



Smart control system
research & design



CFD calculation of hydrodynamic
performance & finite element analysis



Navigation speed and Resistance estimation

TUNNEL THRUSTER

The tunnel thruster is installed in the bow or stern on the vessel to create transverse thrust. Propellers that produce thrust could be driven by electric motor, hydraulic motor or diesel engine. The driving part is assembled in the whole tunnel structure.

- Possibility for flexible installation to reduce vibration.
- CRP tunnel thruster making the size of the gear and the lower box significantly smaller, and the lower gear box tends to streamline, reducing the flow resistance and noise.
- The counter rotating propellers greatly reduces the bearing load and improves the safety and reliability of thruster operation.

Fixed pitch single propeller(FPP).

Fixed pitch counter rotating propellers(CRP).

Controllable pitch propellers(CPP).

Driven types:

Diesel engine drive, electric motor drive,hydraulic motor drive.

Installation types:

L-drive for vertical main drive motor installation(electric motor and hydraulic motor).

Z-drive installation (often used for diesel engine drives but also electric drives).

Flexible installation (to reduce vibration).

Main applicable ship types:

Typical applications for electric propulsion ship, hybrid ship, marine surveillance vessel, unmanned intelligent ship, ferry, tourist ship, deluxe passenger ship, container vessel, fishing vessel, LPG carrier, LNG carrier, PSV, AHTS, OSV, yacht, navy vessel and so on.



Type	Max Power (kW)	Propeller Diameter(mm)	Inner Tunnel Diameter(mm)	Tunnel Thickness(mm)	Tunnel Length(mm)	Max Thrust (kN)
TLCT25	18.5	225	250	8	450	2.8
TLCT37	37	370	400	10	600	6.0
TLCT50	90	500	520	12	900	14.0
TLCT60	132	600	625	12	1000	21.0
TLCT70	185	700	725	15	1250	29.6
TLCT80	280	800	825	15	1250	44.5
TLCT100	375	1000	1030	20	1400	60.0
TLCT120	560	1200	1230	20	1700	88
TLCT150	750	1500	1535	25	2000	120
TLCT165	950	1650	1685	25	2100	150
TLCT185	1300	1850	1885	25	2400	206
TLCT200	1560	2000	2040	30	2600	248

CRP tunnel thruster

Type	Max Power (kW)	Propeller Diameter(mm)	Inner Tunnel Diameter(mm)	Tunnel Thickness(mm)	Tunnel Length(mm)	Max Thrust (kN)
TLTT80	200	800	825	15	920	30
TLTT90	280	900	930	15	920	42
TLTT110 TLTT110-CP	375	1100	1130	15	1400	60
TLTT135 TLTT135-CP	560	1350	1378	16	2000	84
TLTT150 TLTT150-CP	680	1500	1535	15	2000	102
TLTT165 TLTT165-CP	750	1650	1685	25	2000	112
TLTT185 TLTT185-CP	950	1850	1890	25	2000	152
TLTT200 TLTT200-CP	1300	2000	2040	25	2100	195
TLTT225 TLTT225-CP	1560	2250	2290	25	2400	235
TLTT250 TLTT250-CP	1750	2500	2550	30	2800	262
TLTT265 TLTT265-CP	2050	2650	2700	30	2800	306
TLTT280 TLTT280-CP	2450	2800	2845	30	2850	368
TLTT300 TLTT300-CP	2800	3000	3060	40	3100	420
TLTT330 TLTT330-CP	3150	3300	3360	40	3400	472

Remarks: TLTTXXX means single fixed pitch propeller tunnel thruster type and TLTTXXX-CP means controllable pitch propeller tunnel thruster type.

Single propeller tunnel thruster

CRP(COUNTER ROTATING PROPELLER) AZIMUTH THRUSTER

An azimuth thruster with counter rotating propellers is suitable for ships with a high-speed requirement, shallow draught or other purposes where a smaller propeller diameter is needed. This type of azimuth thruster can provide 360-degree all directional thrust for the vessel. When used as the main propulsion system for the vessel, it not only gives forward speed but also improves the vessel's maneuverability.

Driven types:

Diesel engine drive, electric motor drive,hydraulic motor drive.

Installation types:

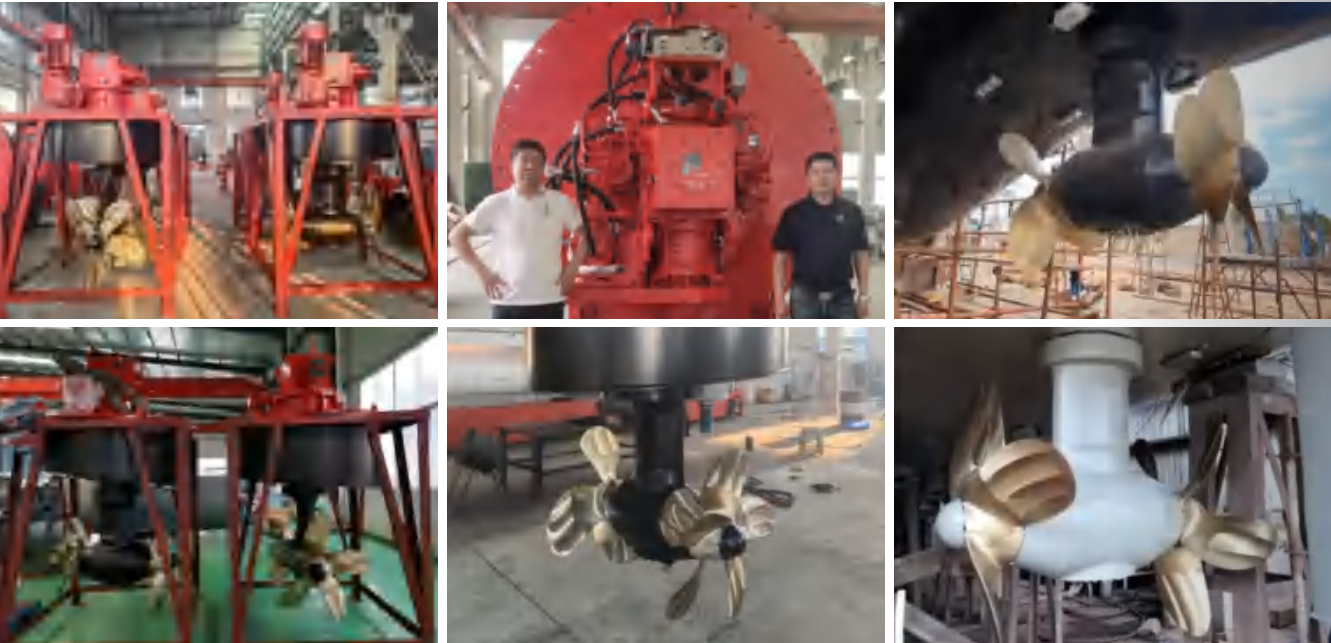
L-drive for vertical main drive motor installation(electric motor and hydraulic motor).

Z-drive installation (often used for diesel engine drives but also electric drives).

Flexible installation (to reduce vibration).

Main applicable ship types:

Typical applications for electric propulsion ship, hybrid ship, unmanned intelligent ship, ferry,tourist ship, deluxe passenger ship, pilot vessel and so on.



Type	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLAT50WM-CR	40	1800/1500	300-400
TLAT80WM-CR	60	1800/1500	400-500
TLAT100WM-CR	75	1800/1500	450-700
TLAT150WM-CR	110	1800/1500	500-800
TLAT250WM-CR	185	1800/1500/1200/1000	800-1000
TLAT350WM-CR	260	1800/1500/1200/1000	750-1100
TLAT450WM-CR	350	1800/1500/1200/1000	800-1200
TLAT600WM-CR	450	1800/1500/1200/1000	900-1400
TLAT850WM-CR	670	1800/1500/1200/1000	1100-1400
TLAT1000WM-CR	750	1800/1500/1200/1000	1200-1500
TLAT1200WM-CR	900	1800/1500/1200/1000/750	1200-1700
TLAT1400WM-CR	1050	1800/1500/1200/1000/750	1250-1750
TLAT1600WM-CR	1200	1800/1500/1200/1000/750	1300-1850
TLAT1800WM-CR	1350	1800/1500/1200/1000/750	1350-1950
TLAT2000WM-CR	1500	1200/1000/750	1400-2000
TLAT2200WM-CR	1650	1200/1000/750	1500-2100
TLAT2400WM-CR	1800	1200/1000/750	1600-2200
TLAT2700WM-CR	2000	1200/1000/750	1650-2300
TLAT3000WM-CR	2250	1200/1000/750	1700-2400
TLAT3500WM-CR	2600	1200/1000/750	1800-2600
TLAT4000WM-CR	3000	1200/1000/750	1900-2800
TLAT4500WM-CR	3350	1200/1000/750	2000-3200
TLAT5000WM-CR	3700	1200/1000/750	2100-3300
TLAT5500WM-CR	4050	1200/1000/750	2200-3400
TLAT6000WM-CR	4450	1200/1000/750	2300-3500
TLAT7000WM-CR	5150	1200/1000/750	2400-3600

CRP azimuth thruster

WELL MOUNTED AZIMUTH THRUSTER

The azimuth thruster is designed to create thrust for propulsion in 360° direction to support maneuvering operations for navigation and/or position keeping.
Fixed pitch propeller and controllable pitch propeller can be chosen according to your requirements.

Driven types:

Diesel engine drive, electric motor drive, hydraulic motor drive.

Installation types:

L-drive for vertical main drive motor installation (electric motor and hydraulic motor).
Z-drive installation (often used for diesel engine drives but also electric drives).
Flexible installation (to reduce vibration).

Main applicable ship types:

Typical applications for tugboats, cable laying vessel, wind power installation vessel, deck cargo vessel, research ship, PSV, AHTS, OSV, drilling vessel, yacht and river cruise vessel and so on.



Type	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLAT50WM	40	1800/1500	300-500
TLAT80WM	60	1800/1500	400-600
TLAT100WM	75	1800/1500	450-800
TLAT150WM	110	1800/1500	500-900
TLAT250WM	185	1800/1500/1000	800-1100
TLAT350WM	260	1800/1500/1000	650-1200
TLAT450WM	350	1800/1500/1000	900-1300
TLAT600WM TLAT600WM-CP	450	1800/1500/1000	1100-1500
TLAT850WM TLAT850WM-CP	670	1800/1500/1000	1300-1650
TLAT1000WM TLAT1000WM-CP	750	1800/1500/1000/750	1400-1750
TLAT1200WM TLAT1200WM-CP	900	1500/1000/750	1500-1800
TLAT1400WM TLAT1400WM-CP	1050	1500/1000/750	1600-1950
TLAT1600WM TLAT1600WM-CP	1200	1500/1000/750	1700-2000
TLAT1800WM TLAT1800WM-CP	1350	1500/1000/750	1800-2100
TLAT2000WM TLAT2000WM-CP	1500	1000/750	1900-2300
TLAT2200WM TLAT2200WM-CP	1650	1000/750	2000-2400
TLAT2400WM TLAT2400WM-CP	1800	1000/750	2100-2500
TLAT2700WM TLAT2700WM-CP	2000	1000/750	2200-2600
TLAT3000WM TLAT3000WM-CP	2250	1000/750	2300-2800
TLAT3500WM TLAT3500WM-CP	2600	1000/750	2400-3100
TLAT4000WM TLAT4000WM-CP	3000	1000/750	2500-3200
TLAT4500WM TLAT4500WM-CP	3350	1000/750	2700-3500
TLAT5000WM TLAT5000WM-CP	3700	750	3000-3600
TLAT5500WM	4050	750	3100-3700
TLAT6000WM	4450	750	3200-3800
TLAT7000WM	5150	750	3300-4000

Remarks: TLATXXXXWM means fixed pitch propeller azimuth thruster type and TLATXXXXWM -CP means controllable pitch propeller azimuth thruster type.

Well mounted azimuth thruster

RETRACTABLE AZIMUTH THRUSTER

The retractable azimuth thruster is an in-hull system that can operate in full azimuth thruster mode when deployed. It is used as an auxiliary propulsion system to increase the vessel's station-keeping capabilities. A tunnel can be incorporated in the design of the outer well so that the thruster can be used as bow thruster as well.

Driven types:

Diesel engine drive, electric motor drive, hydraulic motor drive.

Installation types:

L-drive for vertical main drive motor installation (electric motor and hydraulic motor).
Z-drive installation (often used for diesel engine drives but also electric drives).

Main applicable ship types:

Typical applications for cable laying vessel, research vessel, OSV, navy vessel, super yacht and so on.



Type	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLAT150RT	110	1800/1500	500-900
TLAT250RT	185	1800/1500/1200/1000	800-1100
TLAT350RT	260	1800/1500/1200/1000	650-1200
TLAT450RT	350	1800/1500/1200/1000	900-1300
TLAT600RT	450	1800/1500/1200/1000	1100-1500
TLAT850RT	670	1800/1500/1200/1000	1300-1650
TLAT1000RT	750	1800/1500/1200/1000	1400-1750
TLAT1200RT	900	1800/1500/1200/1000/750	1500-1800
TLAT1400RT	1050	1800/1500/1200/1000/750	1600-1950
TLAT1600RT	1200	1800/1500/1200/1000/750	1700-2000
TLAT1800RT	1350	1800/1500/1200/1000/750	1800-2100
TLAT2000RT	1500	1200/1000/750	1900-2300
TLAT2200RT	1650	1200/1000/750	2000-2400
TLAT2400RT	1800	1200/1000/750	2100-2500
TLAT2700RT	2000	1200/1000/750	2200-2600
TLAT3000RT	2250	1200/1000/750	2300-2800
TLAT3500RT	2600	1200/1000/750	2400-3000
TLAT4000RT	3000	1200/1000/750	2500-3200
TLAT4500RT	3350	1200/1000/750	2500-3500
TLAT5000RT	3700	1200/1000/750	2900-3600

Retractable azimuth thruster

PULLING AZIMUTH THRUSTER

The pulling azimuth thruster increase the propeller efficiency and steering.

Driven types:

Diesel engine drive, electric motor drive, hydraulic motor drive.

Installation types:

L-drive for vertical main drive motor installation (electric motor and hydraulic motor).
Z-drive installation (often used for diesel engine drives but also electric drives).

Main applicable ship types:

Typical applications for multipurpose vessel, ferry and so on.



Type	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLAT150P	110	1800/1500	500-900
TLAT250P	185	1800/1500/1200/1000	800-1100
TLAT350P	260	1800/1500/1200/1000	650-1200
TLAT450P	350	1800/1500/1200/1000	900-1300
TLAT600P	450	1800/1500/1200/1000	1100-1500
TLAT850P	670	1800/1500/1200/1000	1300-1650
TLAT1000P	750	1800/1500/1200/1000	1400-1750
TLAT1200P	900	1800/1500/1200/1000/750	1500-1800
TLAT1400P	1050	1800/1500/1200/1000/750	1600-1950
TLAT1600P	1200	1800/1500/1200/1000/750	1700-2000
TLAT1800P	1350	1800/1500/1200/1000/750	1800-2100
TLAT2000P	1500	1200/1000/750	1900-2300
TLAT2200P	1650	1200/1000/750	2000-2400
TLAT2400P	1800	1200/1000/750	2100-2500
TLAT2700P	2000	1200/1000/750	2200-2600
TLAT3000P	2250	1200/1000/750	2300-2800

Pulling azimuth thruster

DECK MOUNTED AZIMUTH THRUSTER

The deck mounted azimuth thruster is a containerized thruster propulsion system that can be placed right on the deck of the vessel or barge. The compact structure, high mobility and easy installation makes it very suitable for barges, ferries and jack-up vessels. The whole unit can be installed directly on the deck, and it can be equipped with a lifting and swing up function. The vertical height can be adjusted to give the ship better possibilities for the change in draft.

Driven types:

Diesel engine drive, electric motor drive, hydraulic motor drive.

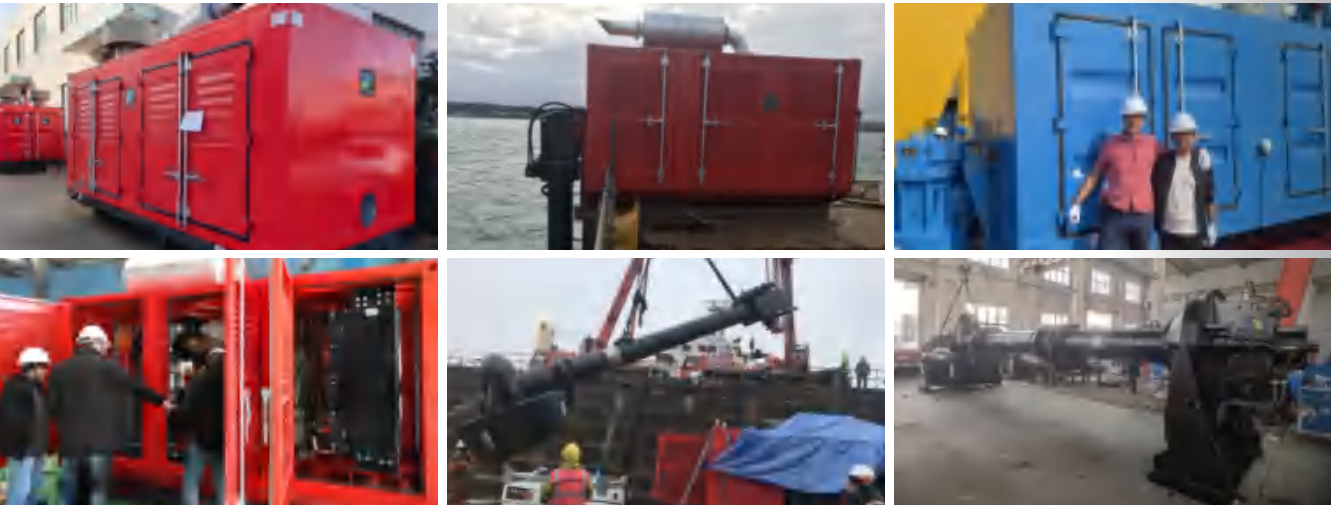
Installation types:

L-drive for vertical main drive motor installation (electric motor and hydraulic motor).

Z-drive installation(often used for diesel engine drives but also electric drives).

Main applicable ship types:

Typical applications for self-propelled barge, cable laying dynamic positioning barge, crane or dredger barge, ferry, river vessel.

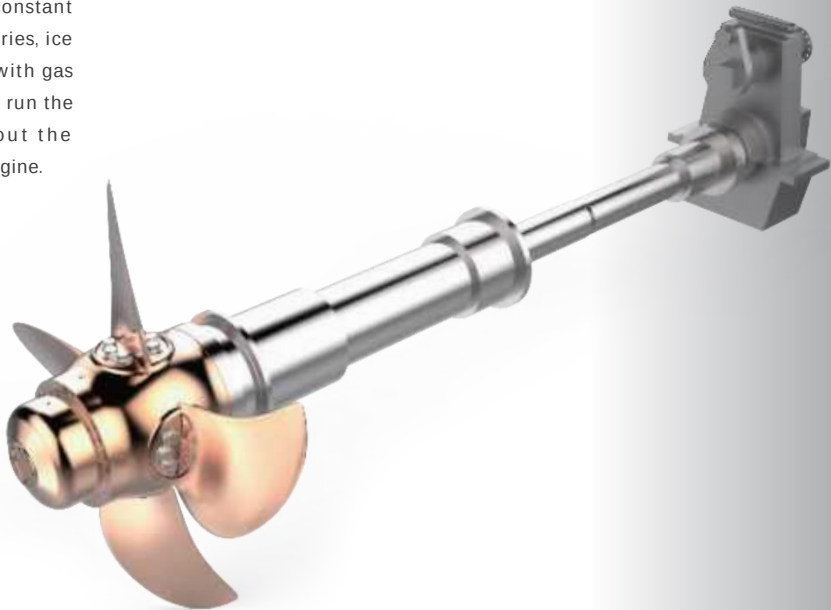


Type	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLAT50DM	40	1800/1500	300-500
TLAT80DM	60	1800/1500	400-600
TLAT100DM	75	1800/1500	450-800
TLAT150DM	110	1800/1500	500-900
TLAT250DM	185	1800/1500/1000	800-1100
TLAT350DM	260	1800/1500/1000	650-1200
TLAT450DM	350	1800/1500/1000	900-1300
TLAT600DM	450	1800/1500/1000	1100-1500
TLAT850DM	670	1800/1500/1000	1300-1650
TLAT1000DM	750	1800/1500/1000/750	1400-1750
TLAT1200DM	900	1500/1000/750	1500-1800
TLAT1400DM	1050	1500/1000/750	1600-1950
TLAT1600DM	1200	1500/1000/750	1700-2000
TLAT1800DM	1350	1500/1000/750	1800-2100
TLAT2000DM	1500	1000/750	1900-2300
TLAT2200DM	1650	1000/750	2000-2500
TLAT2400DM	1800	1000/750	2100-2600
TLAT2700DM	2000	1000/750	2200-2700
TLAT3000DM	2250	1000/750	2300-2800

Deck mounted azimuth thruster

CONTROLLABLE PITCH PROPELLER(CPP)

Controllable pitch propellers are used in ships that are required to operate at variable speeds even when operating at constant power requirements. Such ships are tugs, trawlers, ferries, ice breakers, and small scale warships that are equipped with gas turbines. The controllable pitch propellers can be used to run the ship in forward and astern direction both without the requirement to change the direction of rotation of the engine.

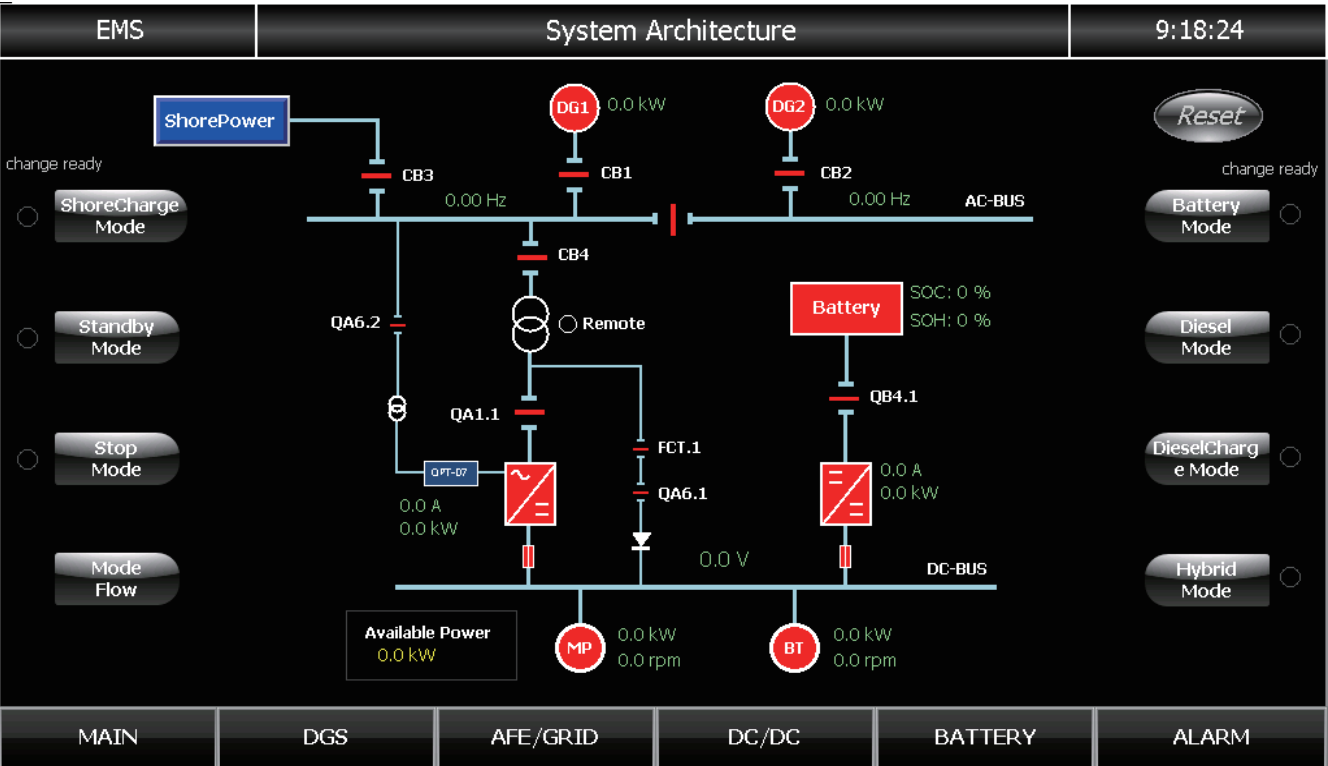


Type	HUB Diameter(mm)	Max Power (kW)	Normal Input Speed(rpm)	Propeller Diameter(mm)
TLCP35	350	550	1800/1500/1200/1000	700-1700
TLCP42	420	900	1800/1500/1200/1000	1200-1950
TLCP46	460	1100	1800/1500/1200/1000	1500-2200
TLCP50	500	1500	1800/1500/1200/1000	1700-2450
TLCP55	550	2200	1200/1000/750	1800-2800
TLCP62	620	3000	1000/750/600	1900-3000
TLCP70	700	5000	1000/750/600	2400-3500
TLCP75	750	7000	750/600/300	2500-3600
TLCP85	850	9000	750/600/300	2700-3750
TLCP92	920	11000	750/600/300	3200-3900
TLCP98	980	12000	750/600/300	3300-4200
TLCP102	1020	13500	750/600/300	3600-4500
TLCP110	1100	15000	750/600/300	3700-5500

Controllable pitch propeller

NEW ENERGY ELECTRIC PROPULSION SYSTEM

As the global requirements for energy conservation and environmental protection become more and more urgent, many kinds of renewable energy such as lithium batteries and hydrogen fuel cells are widely used to install on ships. It can be as a propulsion system for pure battery ship and a supplement to diesel generator set for hybrid ship. Dutch Thrustleader can offer a total solution for battery power, AC switchboard, DC switchboard, energy management systems, power management systems, integrated control systems to propulsion motors, propulsion and remote control systems.



CONTROL SYSTEM

The Dutch Thrustleader marine propulsion, control system is touch panel operated. The display enables user to monitor and operate each propulsion and thruster unit. All essential operations, such as system activation and deactivation, command transfer, backup-control and silencing of audible alarms can be conducted with the on screen pushbuttons and indicators. The components and functions comply with applicable main class rules (DNV GL, ABS, LR, CCS) for remote control of propulsion, thrusters. The integrated PLC can be configured according the different software programs available. The system is designed to make the operation of the thruster simple and intuitive.



The control system is designed with software for use with all brands, diesel engines, frequency converters and hydraulic driven systems. A canopen or profinet protocol can be used.

- Ergonomic proportional joystick.
- All classification applicable alarms are standard.
- Wing panels communicate via a computer network.
- Command transfer between multiple operator stations.
- Oil level alarm can be switched on and off for system shut off (extra safety).
- A shaft brake system control is built in.
- A Power.



Application



Tugboat



Container Vessel



Clean Vessel

Application



60m
Research
Vessel



Research
Vessel



Research
Vessel

Application



Cable Laying
Vessel



3500t Cable
Laying
Barge



Chinese
Marine
Surveillance
Ship

Application



Fishing
Vessel



LPG
Powered
Vessel



Three
Gorges
Security
Vessel

Application



Ferry



Passenger
Vessel



Car
Passenger
Vessel

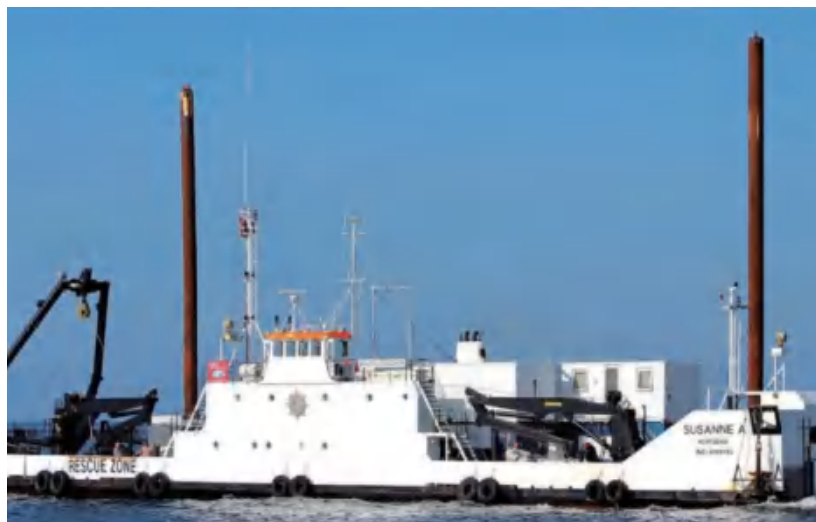
Application



46m
Research
Vessel



Three Gorges
Hydrogen
Zhou-1



Multi Purpose
Vessel

Application



DP Working
Barge



12000hp
AHTS



5440hp
PSV

Application



3000t
Deck Cargo
Vessel



3000t Cargo
Vessel



Hybrid Ferry

Application



Container
Vessel

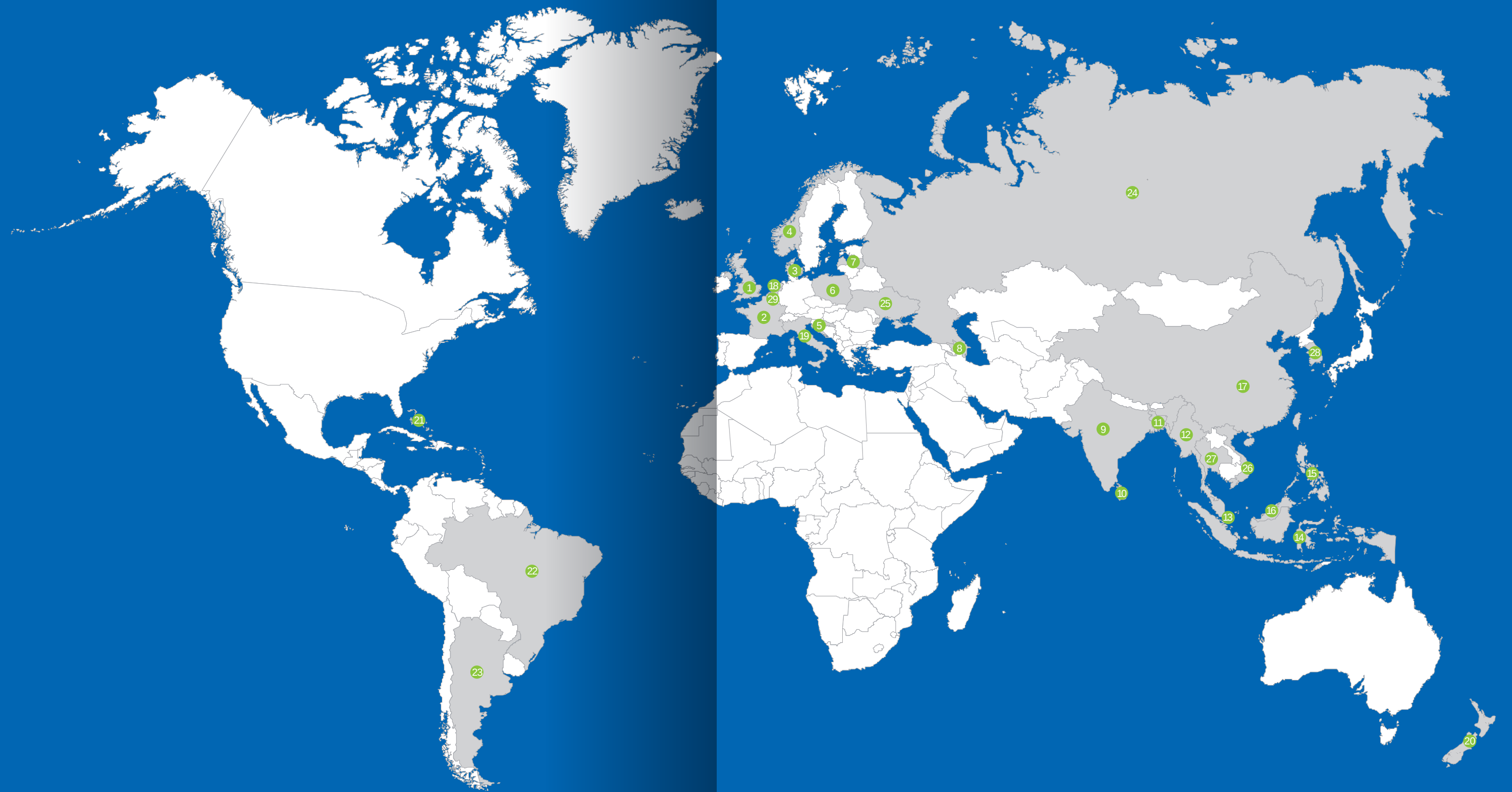


Tugboat



3000t Barge

Our Global Presence



- | | | | | | |
|-----------|--------------|----------------|----------------|--------------|-------------|
| 1 England | 6 Poland | 11 Bangladesh | 16 Malaysia | 21 Bahamas | 26 Vietnam |
| 2 France | 7 Latvia | 12 Myanmar | 17 China | 22 Brazil | 27 Thailand |
| 3 Denmark | 8 Azerbaijan | 13 Singapore | 18 Holland | 23 Argentina | 28 Korea |
| 4 Norway | 9 India | 14 Philippines | 19 Italy | 24 Russia | 29 Belgium |
| 5 Croatia | 10 Sri Lanka | 15 Indonesia | 20 New Zealand | 25 Ukraine | |