

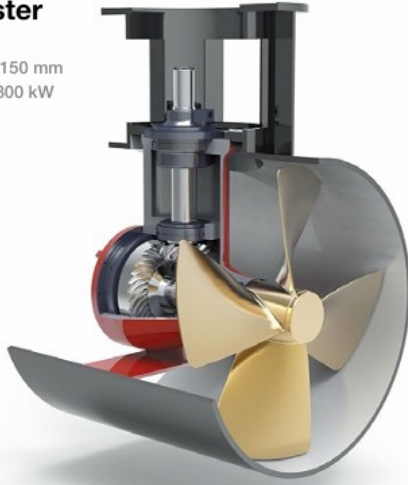
Tunnel thruster

TRANSVERSE THRUSTER

MODEL NT-F

Fixed pitch thruster

Propeller diameter 295 - 3,150 mm
Input power 10 - 3,800 kW



Powerful thrusters with improved thrust

The optimal blade shape for the thruster was selected from numerous design shapes using analysis technology based on a large-scale CFD system developed. The result is a compact, powerful thruster whose nominal thrust is approximately 20% greater than those of our previous products. The compact design not only allows for greater freedom of placement, but also enables the thrusters to be positioned further forward of the hull, which increases the turning moment of the hull and helps improve maneuverability. The small tunnel bore also helps reduced hull resistance.

Reliable construction based on a proven track record

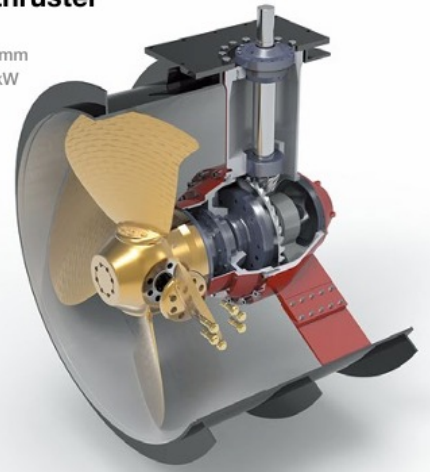
Since 1976, when the company started manufacturing tunnel thrusters, it has been consistently developing, manufacturing and marketing highly reliable high-performance thrusters, with more than 7,000 units having been adopted. The knowledge we have developed on the basis of our experience in manufacturing numerous products has enabled us to create highly reliable thrusters. Our thrusters can be used safely as thruster operation systems, such as peripheral equipment.

- We have simple and robust units for both controllable pitch and fixed pitch types. The thruster body can be taken from hull easily, facilitating maintenance and inspection on-shore.
- The propeller shaft seals is of the same type as the main propulsion stern tube seal. Biodegradable oil (EAL) can be used to comply with the US Environmental Protection Agency's Vessel General Permit. The hydraulic and lubricating oils used for blade angle control are used together, and are thus easy to manage.
- The standard header tank for controllable pitch thrusters are fitted with a high-performance filter to keep the lubricating oil and controllable pitch hydraulic oil clean.
- The remote control unit of the controllable pitch thruster is equipped with a liquid crystal display(LCD) screen, enabling centralized control of a substantial amount of information. Operators can use the console stand on the ship's bridge to circum. It is used to recognize the status of the thruster system, including peripheral equipment, and maintain safe operation.
- Service agencies offering maintenance and after-sales support can be found in Asia, the Middle East, Europe, Africa, North America and South America.

MODEL NT-C

Controllable pitch thruster

Propeller diameter 700 - 3,150 mm
Input power 45 - 3,800 kW



Optimal response to every requirement

Special propeller shapes have been developed for considerate underwater noise, such as research vessels, to reduce such noise. A special seal enables thruster operation without usage restrictions, even in the presence of a large draft difference during operation, such as in heavy-lift vessels. We can provide optimal designs based on our experience with all types of vessels. Special wing thruster



Special propeller shapes thruster

Product range

MODEL NT-F

Fixed pitch thruster

Thruster Model	Input Power(kW)
TFN-15S	27
TFN-25S	45
TFN-50S	57
TFN-75S	83
NT-F005	140
NT-F007	215
NT-F010	285
NT-F020	365
NT-F030	520
NT-F040	670
NT-F050	830
NT-F060	1,005
NT-F070	1,250
NT-F080	1,500
NT-F090	1,800
NT-F100	2,150
NT-F110	2,500
NT-F120	3,000
NT-F130	3,800

MODEL NT-C

Controllable pitch thruster

Thruster Model	Input Power(kW)
TC-70N	115
NT-C010	285
NT-C020	385
NT-C030	520
NT-C040	670
NT-C050	830
NT-C060	1,005
NT-C070	1,250
NT-C080	1,500
NT-C090	1,800
NT-C100	2,150
NT-C110	2,500
NT-C120	3,000
NT-C130	3,800

This lineup table shows the approximate output of the drive unit when used as an auxiliary propulsion unit (short time, intermittent operation specifications). Ship classification, continuous operation specifications and special specifications are considered separately. Please contact us for details. Some models include previous types.

*Elements are subject to change without notice.