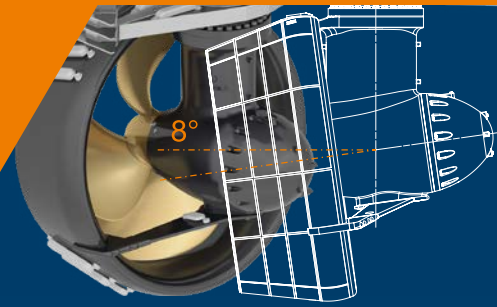


# WST-24R Retractable Thruster



The Wärtsilä WST-24R is a powerful retractable thruster designed to provide auxiliary manoeuvring capability in dynamic positioning or station keeping operations. The 2400 kW power level makes it an ideal choice for shuttle tankers, offshore support and construction vessels.

## Better performance & easier installation

The WST-24R features an 8 degree tilted propeller shaft configuration. Combined with the hydrodynamically optimised performance, this significantly increases the effective thrust to create excellent performance in even the most challenging sea conditions.

The tilt effect significantly reduces thruster / hull interaction losses and can provide up to 20 percent more effective thrust than conventional non-tilted thrusters, depending on vessel configuration and application.

High propulsion efficiency is achieved by the optimal streamlining of the housing, low propeller power density levels, and the dedicated Wärtsilä thruster nozzle (WTN).

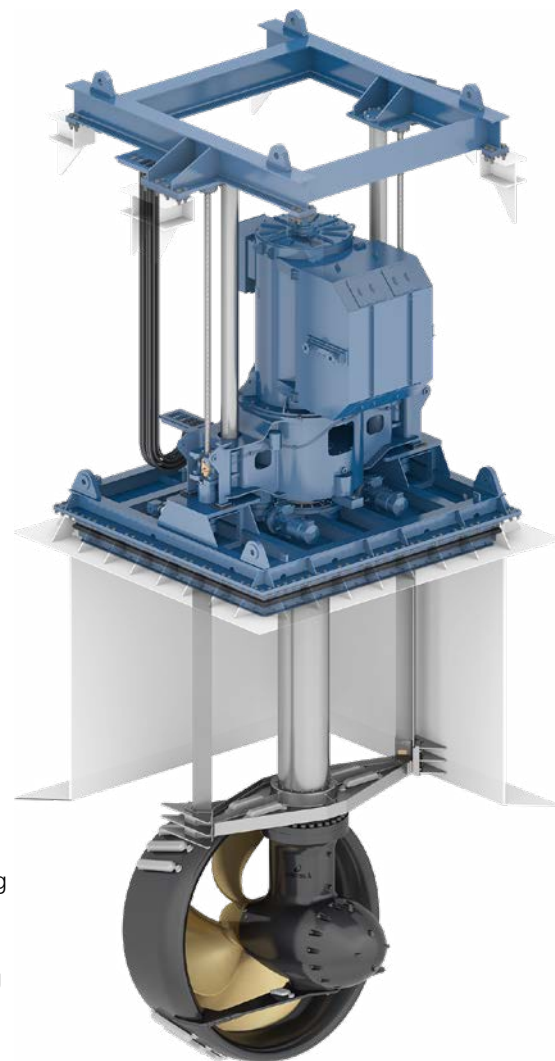
The dynamic positioning (DP) performance is excellent and, as with the entire Wärtsilä portfolio of thrusters, the WST-24R features outstanding reliability. Furthermore, since the thruster can be retracted during transit, the propulsion resistance is reduced and the overall sailing efficiency is increased. The newly designed electrically driven retraction system also enables the vessel to sail safely in shallow waters.

The Wärtsilä WST-24R comes in a plug and play pre-aligned package that eases the installation work. The pre-assembly means that the thruster needs only to be positioned and levelled during installation. The compact design minimises space requirements and facilitates integration into the vessel. These features all save time and, importantly therefore, installation costs.

## Reliable & maintenance friendly

The WST-24R features electric steering and retraction. The new patent pending retraction mechanism offers high lifting capacity with lightweight spindles. This self-lubricating and self-locking solution contributes to the unit's reliability and operational safety. The number of components is kept to a minimum, which reduces maintenance as well as the spare parts requirement. All major parts can be serviced either inboard or under water, thereby limiting the dry dock time needed.

The reliable channel underwater guiding system is robust and effective against marine growth, while the combined steering and retraction seal can be exchanged from inboard whilst the vessel is afloat. There is no oil to sea interface for either the steering seals or the retraction seals.



## Key benefits

- The tilted thruster concept significantly improves vessel DP capability by reducing thruster-hull interaction losses
- Excellent hydrodynamic efficiency for better DP capability
- Less power needed for first class performance thus lowering operational costs (OPEX)
- Combined electric driven steering and retraction system reduces thruster room space requirement
- Plug and play pre-aligned package for simple and fast installation
- Compact design allows larger propeller within the same vessel envelope space
- Optional compliance with CLEAN notations and US EPA VGP2013 requirements.

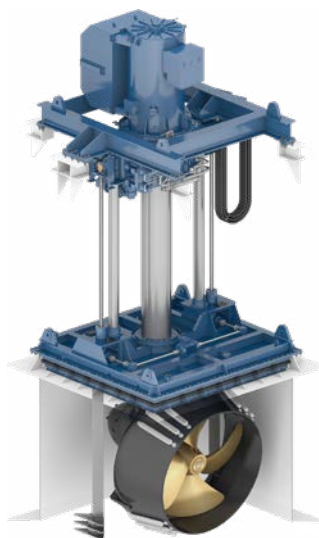
## A state-of-the-art solution from a technology leader

Wärtsilä is an acknowledged marine technology leader with the broadest offering of products, systems and integrated solutions in the industry. With a vast depth of experience and enormous in-house expertise, the company is consistently setting efficiency benchmarks that create real value for its customers around the world.

The Wärtsilä WST-24R retractable thruster is yet another state-of-the-art

development, and is one that optimises DP and station keeping capabilities through simply better performance and greater reliability. Wärtsilä's tilted propeller shaft configuration is one example of how better design delivers improved performance.

Backed by the maritime sector's most extensive global network of repair facilities and service personnel, all Wärtsilä products have support close-at-hand regardless of where the vessel is located.



### WST-24R technical data

Type	Layout	Power (kW)	Input speed (rpm)	Prop. type	Prop. diam. A (mm)	Depth B (mm)	Width C (mm)	Retraction F	Height without motor H1 (mm)	Overall height <sup>1</sup> H2 (mm)	Weight <sup>2</sup> (kg)	
WST-24R	L-drive	2400	900	FP	2600	4090	4410	3455	9496	11439	47000	
					2800	4090	4410	3580	9746	11689	48500	
	Z-drive	2400	1200		2600	4090	4410	3455		9500 <sup>3</sup>	49000 <sup>3</sup>	
					2800	4090	4410	3580		9700 <sup>3</sup>	50500 <sup>3</sup>	

<sup>1</sup> Minimum overall height in retracted position; L-drive includes generic E-motor; Z-drive includes upper gear box (UGB)

<sup>2</sup> Weight for L-drive excludes E-motor weight

<sup>3</sup> Preliminary values

