

Wärtsilä WST-14 Steerable Thruster

For Russian River-Going Container
and Cargo Vessels



The Wärtsilä WST-14 Steerable Thruster has been developed primarily to meet the requirements of river going vessels. The development process was based upon the company's extensive experience and strong know-how in the hydrodynamic and mechanical design of propulsion systems. The WST-14 thruster has a robust and reliable design which is optimised for use on river-going container and cargo vessels with ice class, offering efficient propulsion, a high degree of manoeuvrability, and more vessel load capacity. The compact, integrated thruster is low in weight and requires less installation space, while the design is maintenance friendly. The efficiency of the WST-14 helps to keep operating costs low.

Operational Reliability

Because operational reliability is always important, Wärtsilä places high priority on the overall robustness of its thrusters. The design of the drive line and the selection of gears, bearings and other components are tailored for continuous main propulsion use on inland waterways. The thruster housing and steering system match the strong drive line. The WST-14's fixed pitch propeller allows the propulsor to be simple and reliable, thereby minimising maintenance requirements on the outboard part of the thruster.

Ice class notation

This is required for container and cargo vessels operating on Russian rivers. The Wärtsilä WST-14 thrusters comply with RMRS (Russian Maritime) and RRR (Russian river) ice classes to ensure year-round operational capability on sea and river conditions in winter. The ice class provision also indicates that the system has the robustness needed to withstand occasional

Key Values

- Robust and reliable
- Dedicated design for continuous main propulsion and demanding river operations
- Ice class up to RMRS ICE3 / RRR-40
- Superior performance for economic vessel operations
- Enhanced safety through excellent manoeuvrability and intuitive controls
- Compact propulsion layout offers more vessel cargo capacity than regular shaft lines with fixed pitch propellers
- Maintenance friendly design keeps costs low
- Total solution package together with the Wärtsilä 6L20 engine



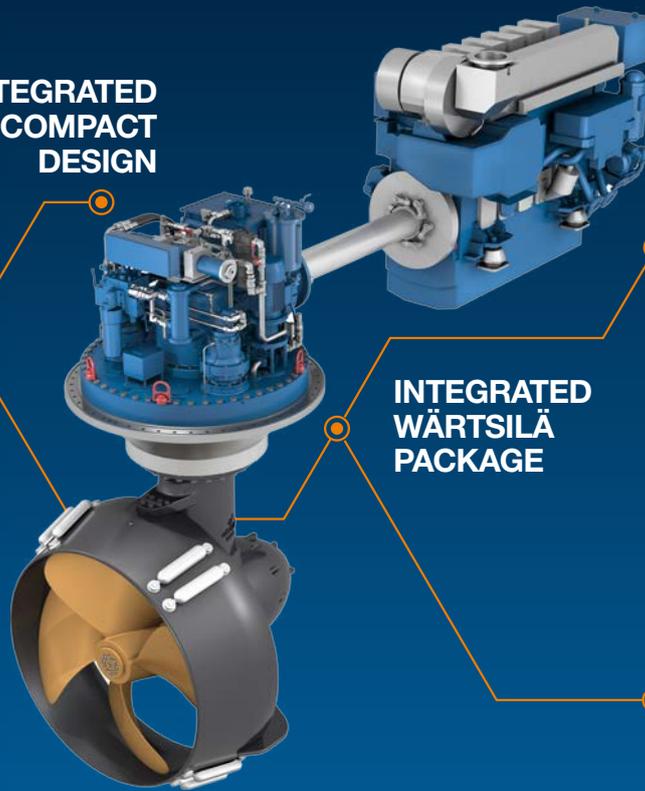
**HIGHLY INTEGRATED
AND COMPACT
DESIGN**

CE COMPLIANT

**INCREASED
MANOEUVRABILITY**

**INTEGRATED
WÄRTSILÄ
PACKAGE**

ICE CLASS



impacts, such as from driftwood or debris. The integrated clutch provides built-in protection against overloading of the propulsion drive line, including the engine.

Superior Performance

For river-going vessels, the Wärtsilä Steerable Thruster is fitted with a free sailing nozzle. This shorter and lighter nozzle is designed for free sailing efficiency at speeds of 10-12 knots, whilst maintaining excellent manoeuvring capabilities at lower speeds. This promotes economic operations, while safety is enhanced by continuous 360° steering capability, the integrated hydraulic clutch and intuitive, easy to operate controls.

Compact and Integrated

This compact propulsion solution has been achieved by integrating all the auxiliary equipment needed to operate the thruster, such as the hydraulics for lubrication and the steering systems, onto the top plate around the upper gearbox of the mechanical Z-drive system. This means that the thruster has small inboard dimensions, as well as minimal space needed for the bolted vessel integration. These features make it easy to install. Overall, less machinery space is required, which means

less engine room space is needed, and more vessel load capacity is available.

The Wärtsilä WST-14 steerable thruster can be combined with Wärtsilä's 6L20 medium speed engines in a complete single-source supplier package for the entire propulsion drive line. This notably reduces risks associated with the design, the integration of the various products, and the project execution. By reducing these risks, the outcome of the project is greatly facilitated, resulting in quicker availability of the vessel.

Maintenance and Service

The integrated design emphasises ease of maintenance through making those components that need periodic inspection and maintenance, easily accessible. For maintenance and overhaul of the drive line components, the operator can choose to remove the complete unit, or only the underwater part, for maintenance in a workshop. Alternatively, maintenance, such as a bearing exchange, can be carried out at the ship yard, whichever is the best option for the vessel's operational and maintenance schedule. Wärtsilä's extensive service network provides local service support and spare part packages.



Type	Input power	Dimensions				Weight	Wärtsilä engine compatibility
		Propeller diameter	Well diameter		PAL options		
			Weld-in	Bolt-in			
WST-14	kW	mm	mm	mm	mm	kg	6L20
	1150	1800	1942 (2000)	1948 (2000)	2500	2800	
	1275	1900					
	1350	2000					