WÄRTSILÄ **Engines**

Wärtsilä 32

WÄRTSILÄ© 32 bore engines have been the preferred choice of yards, operators and owners since the 1980s, with more than 4000 engines delivered to the marine market alone. The Wärtsilä 32 is available with 6 to 18 cylinders and a power output ranging between 3 and 9.3 MW at 720 and 750 RPM. It has best-in-class power density and fuel economy over a wide operating range. With proven reliability and low consumption of consumables, the Wärtsilä 32 represents the most efficient solution throughout the entire lifecycle of the vessel.

- Proven in service
- High reliability
- High power density, 580 kW/cyl
- Low fuel consumption over a wide load range
- Operates on HFO, MDO and liquid bio fuels
- Supported by Wärtsilä's global service network.

TYPICAL APPLICATION AREAS

The Wärtsilä 32 has a proven track record in a wide range of vessel applications. It is used for main engine applications, both direct mechanical drive as well as diesel electric, and as an auxiliary engine. It can be optimized for either constant speed or along a combinatory curve. In the merchant fleet, typical applications include use as the main engine on different types of tankers and container vessels. In the offshore sector, the reliability of the Wärtsilä 32 has made it the most popular medium speed engine for OSV's and drilling vessels. Similarly, in the cruise and ferry sector, the Wärtsilä 32 has proven to be the most favoured engine of its size.

In auxiliary electric production, the Wärtsilä 32 is widely utilized in all vessel categories where high auxiliary load is needed.

OPERATIONAL FEATURES

Its excellent fuel flexibility allows the Wärtsilä 32 to operate on HFO, MDO and liquid bio fuel with a broad range of fuel viscosities, from 2.0 cSt up to 730 cSt HFO (at 50 °C/122 °F).

The engine is able to operate efficiently and economically on low sulphur fuel oils (<0.1% S), making it suitable for operation in emission-controlled areas. The engine can also be equipped with a SCR catalyst, such as the Wärtsilä NOR (nitrogen oxide reducer), which can reduce NO_X emissions by up to 95%. This means that, already today, the machinery is IMO Tier III compliant. The standard Wärtsilä 32 naturally fulfils IMO Tier II regulations.

The Wärtsilä 32 is equipped with a Variable Inlet Valve Closure (VIC) unit. This

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WÄRTSILÄ 32 IMO Tier II

Cylinder bore	320 mm
Piston stroke	400 mm
Cylinder output	500 kW/cyl, 580 kW/cyl
Speed	750 rpm
Mean effective pressure	24.9 bar, 28.9 bar
Piston speed	10.0 m/s

Fuel specification:
Fuel oil 700 cSt/50 °C, 7200 sR1/100 °F, ISO 8217, category ISO-F-RMK 700
SFOC 176 g/kWh, at ISO condition

Option: Common rail fuel injection.

makes it possible to apply early inlet valve closure at high load, which in turn enables minimized NO_X levels and reduced fuel consumption. By switching to late inlet valve closure, good part load and transient performance is assured. The overall operational benefits include improved part load performance, smoke reduction, and improved load acceptance.

The engine control system incorporates automatic monitoring and control for optimal operating efficiency.

LIFECYCLE COSTS

The Wärtsilä 32 has been designed to operate reliably on a range of fuels, even the poorest quality heavy fuel. The engine is designed for long periods of maintenance-free operation and have overhaul intervals of up to 24,000 hours. This and the maintenance-friendly design reduce downtime, promote scheduling, and cut operating costs. Together with conditional based maintenance and long-time service agreements, the overhaul interval time for the Wärtsilä 32 can be even further extended, thus minimizing maintenance costs and maximizing the revenue-earning capability of the vessel. The Wärtsilä 32 engine is fully compliant with the IMO Tier II exhaust emissions regulations as set out in Annex VI of MARPOL 73/7.

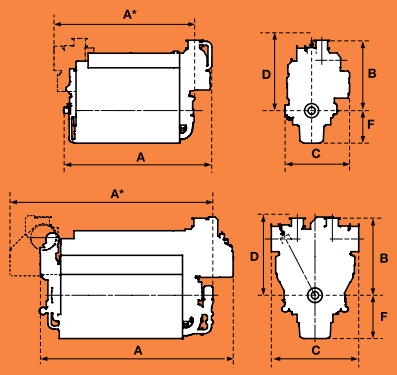
Rated power

Engine type	500 kW/cyl	580 kW/cyl
6L32	3 000	3480
7L32	3 500	–
8L32	4 000	4640
9L32	4 500	5220
12V32	6 000	6960
16V32	8 000	9280
18V32	9 000	–

Dimensions (mm) and weights (tonnes)

Engine type	A*	A	B*	B	C	D	F	Weight
6L32	4 980	5 260	2 560	2 490	2 305	2 345	1 155	33.3
7L32	5 470	5 750	2 560	2 490	2 305	2 345	1 155	39.0
8L32	5 960	6 245	2 360	2 295	2 305	2 345	1 155	43.4
9L32	6 450	6 730	2 360	2 295	2 305	2 345	1 155	46.8
12V32	6 935	6 615	2 715	2 665	3 020	2 120	1 475	58.7
16V32	8 060	7 735	2 480	2 430	3 020	2 120	1 475	74.1
18V32	8 620	8 295	2 480	2 430	3 020	2 120	1 475	81.2

*Turbocharger at flywheel end. Final dimensions might vary depending on engine rating.



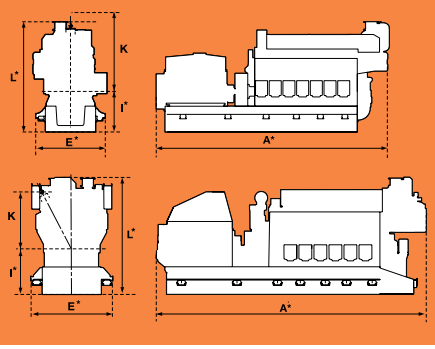
Rated power generating sets

Engine type	60 Hz/720 rpm				50 Hz/750 rpm			
	480 kW/cyl		550 kW/cyl		500 kW/cyl		580 kW/cyl	
	Engine kW	Gen. kW	Engine kW	Gen. kW	Engine kW	Gen. kW	Engine kW	Gen. kW
6L32	2 880	2 760	3300	3170	3 000	2 880	3480	3340
7L32	3 360	3 230	–	–	3 500	3 360	–	–
8L32	3 840	3 690	4400	4220	4 000	3 840	4640	4450
9L32	4 320	4 150	4950	4750	4 500	4 320	5220	5010
12V32	5 760	5 530	6600	6340	6 000	5 760	6960	6680
16V32	7 680	7 370	8800	8450	8 000	7 680	9280	8910
18V32	8 640	8 290	–	–	9 000	8 640	–	–

Dimensions (mm) and weights (tonnes)

Engine type	A*	E*	I*	K	L*	Weight*
6L32	8 345	2 290	1 450	2 345	3 940	57
7L32	9 215	2 690	1 650	2 345	4 140	69
8L32	9 755	2 690	1 630	2 345	3 925	77
9L32	10 475	2 890	1 630	2 345	3 925	84
12V32	10 075	3 060	1 700	2 120	4 365	96
16V32	11 175	3 060	1 850	2 120	4 280	121
18V32	11 825	3 360	1 850	2 120	4 280	133

* Dependent on generator type and size.
Generator output based on a generator efficiency of 96%. Final dimensions might vary depending on engine rating.



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