

Propulsion Solutions for Naval Auxiliaries



With a vast commercial marine experience, Wärtsilä can assist in the development of propulsion concepts for Naval auxiliaries utilising COTS equipment.

Wärtsilä offers a complete range of solutions covering 2-stroke and 4-stroke marine engines, gearboxes and controllable pitch propellers. These conventional propulsion solutions are supported by auxiliary generating sets for ships hotel power. Hybrid solutions with power take-in PTI electric motors and power take-off PTO generators are available to enhance operational efficiency. Wärtsilä offers integrated electrical propulsion solutions with the patented Low Loss Concept and complete power management and vessel management marine Automations systems.



RFA Wave Class, photo courtesy of BVT Surface Fleet Ltd

Considerable research and development investments have placed Wärtsilä as a market leader capable of offering innovative technologies to boost energy efficiency and environmentally sound operation at sea.

Even though these measures may make a significant difference,

now or sometime in the future, they are just the beginning. In addition to engine tuning by using a combination of superior propulsion solutions along with first class products and inventions, Wärtsilä can offer more than 30 different ways of making your vessel operate more efficiently.

Condition Based Maintenance for Optimized Performance

Condition Based Maintenance (CBM) offers a substantial cost advantage since it closely conforms to the operational availability requirements. CBM makes maintenance proactive, rather than reactive, by spotting fault sources and emerging operational trends well before any failure occurs.

The main aims are to:

- improve the time between overhauls,
- minimize planned and unplanned downtime,
- optimize engine performance,
- maximize installation safety and improve availability under all operating conditions.

At Wärtsilä, we have taken the development of CBM systems to a new level using remote online monitoring and analysis of the installation's condition and system efficiency. Entering all this information into the CBM system enables us to accurately determine the actual overall condition of your system and ultimately the maintenance it needs. CBM monitors the equipment condition, analyses the measured data, calculates the optimal performance parameters for the same operating conditions, and predicts the future condition of your equipment.



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US Navy Lewis & Clark Class, T-AKE

Wärtsilä equipment:

- 1 x Wärtsilä FPP
- 1 x shaftline
- 1 x Wärtsilä Thrust Bearing
- 1 x Wärtsilä Oceanguard Seal
- 1 x Wärtsilä Enviroguard Seal
- 1 x turning gear

French Navy Mistral Class, BPC Tonnerre

Wärtsilä equipment:
interior communications
navigation systems

- 1 x Wärtsilä 18V200 generating set
- 3 x Wärtsilä 16V32 generating sets
- 1 x Wärtsilä Oceanguard Seal
- 1 x Wärtsilä Sternguard Seal



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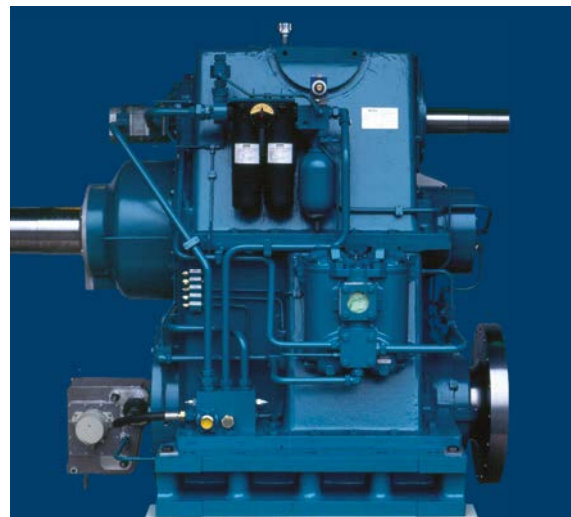
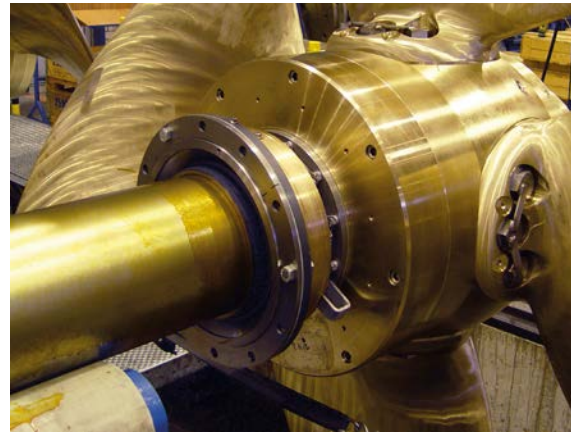


Royal Navy Albion Class, Albion & Bulwark

Wärtsilä equipment:

- 2 x Wärtsilä 16V32LNE generating sets
- 2 x Wärtsilä 4R32LNE generating sets
- 2 x 5-blade Wärtsilä FPP
- 2 x shaftlines
- 1 x Wärtsilä Oceanguard Seal
- 1 x Wärtsilä Floodguard Seal

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Our Solutions

Engines and Generating Sets

The guiding principles behind the design of Wärtsilä engines and generating sets are:

- Reliability and low maintenance costs
- High thermal efficiency and low emissions
- Modular construction and reduced parts count
- Ergonomic interfaces
- Minimised consumables
- Cylinder liner with anti polishing ring
- Extended time between overhauls (up to 24,000 hours between top overhauls)
- Common rail technology
- Emission compliant with IMO Tier II requirements

Seals & Bearings

We provide Tail Shaft Support Solutions -Our wide portfolio of products and services help vessel owners; maximise efficiency, reduce risk and promote environmental excellence throughout the complete vessel lifecycle.

- Design simplicity provides maximum sealing system security
- Leakage virtually eliminated and easily accommodates high & low frequency vibrations
- Axial and radial movements also absorbed eliminating minor vessel build errors
- ENVIROSAFE composite bearing materials with low wear down properties

Electrical & Automation

- Turnkey integrated system solutions covering power distribution and automation
- Detail engineering, electrical analysis and equipment for naval applications
- Power Generation, Drives, Electric Motors, Distribution, Automation and Integrated Bridge

Reduction Gears

- Modular and flexible design
- Compact and reliable
- Optimum propeller speed for any engine
- CP propeller combination
- Optional PTO/PTI solutions
- Optional built-in multiple plate type of clutch
- Combined oil system for gear and CP propeller

Controllable Pitch Propellers

- Tailor-made designs
 - Wake-adapted
 - High efficiency
 - Low noise
 - Low vibration level
 - No erosive cavitation
- Design based on mission profile
 - Reduction of fuel consumption
- Optimized match of propeller with engine
 - Reduction of fuel consumption
 - Increased engine lifetime

Naval Auxiliaries References

Country	Type	Name	T Full Load	Speed	Wärtsilä products: equipment per shipset
Algeria	LPD	Kalaat Beni-Abbes	8500	20	2 x Wärtsilä 12V32 main engines
Australia	AORH	Success	18000	20	2 x Wärtsilä CPP
Australia	LPD	Choules	16200	19	2 x Wärtsilä 12V26, 2 x Wärtsilä 8L26 generating sets
Brazil	AORH	Alm. Gastao Motta	10300	20	2 x Wärtsilä 12V32 generating sets
Canada	R CLASS	Henry Larsen	6200	16	3 x Wärtsilä 12V32 generating sets
France	LHDM/BPC	Mistral	21300	19	3 x Wärtsilä 16V32, 1 x Wärtsilä 18V200 generating sets
Italy	LPD	San Giorgio	8000	21	2 x Wärtsilä/GMT A420.12 main engines, 2 x Wärtsilä CPP
Netherlands	LPD	Amsterdam	17000	20	1 x Wärtsilä CPP
Netherlands	LPD	Rotterdam	12700	19	4 x Wärtsilä Stork 12SW28 main engines, 2 x Wärtsilä FPP
Netherlands	LPD	Johan De Witt	16600	19	4 x Wärtsilä 12V26 A generating sets
New Zealand	AKRH	Canterbury	8900	19	2 x Wärtsilä 9L32 main engines, 2 x Wärtsilä CPP
Norway	AOR	Logistic Support Vessel	26000	18	2 x Wärtsilä 6L46F main engines + 2 x 6L32 generating sets + 2 x gearboxes SVC110-PDCT 65 + 2 x CPP 4E1300 + 2 x Tunnel thrusters FT200M
Russia	LHD/BPC	Mistral	21300	19	3 x Wärtsilä 12V32, 1 x Wärtsilä 16V26 generating sets
Russia	AK	Elbrus	9000	18	4 x Wärtsilä 8L32E, 1 x Wärtsilä 6L20 generating sets, E&A, HS EDG
Thailand	LPD	Anthonh	8636	>17	2 x Wärtsilä CPP + 2 Wärtsilä thrusters
Turkey	AK-Transport	Iskenderun	10500	15	4 x Wärtsilä Sulzer main engines
UK	LSD	Bay Class	16.200	19	2 x Wärtsilä 12V26, 2 x Wärtsilä 8L26 generating sets
UK	AOR	MARS	37000	19	2 x Wärtsilä 6L46F main engines + 2 Wärtsilä 6L32 generating sets
UK	LPD	Albion Class	18500	18	4 x Wärtsilä 16V32E, 2 x Wärtsilä 4R 32 LNE generating sets, 2 x Wärtsilä FPP
UK	AORH	Wave Class	31500	18	4 x Wärtsilä 12V32 LNE, 1 x Wärtsilä 4R32 LNE generating sets
USA	AKEH	Lewis&Clark T-AKE	42000	20	1 x Wärtsilä FPP
USA	AKR	Montfort Point	80000	15	1 x Wärtsilä FPP, 850 kWe emergency generating sets

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More information

More detailed information about Wärtsilä's Solutions for Naval Auxiliaries can be found on our website www.wartsila.com/navy

www.wartsila.com

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