

Wärtsilä 32 Performance upgrade



Upgrading the turbocharger of your Wärtsilä 32 diesel engine offers a wide range of benefits and can be achieved in a relatively short timeframe. The Wärtsilä 32 Performance upgrade improves the efficiency, thermal loading, speed margin and turbocharger performance of Wärtsilä W6L32 or W12V32 engines equipped with Napier 297 turbochargers.

TECHNICAL CONCEPT

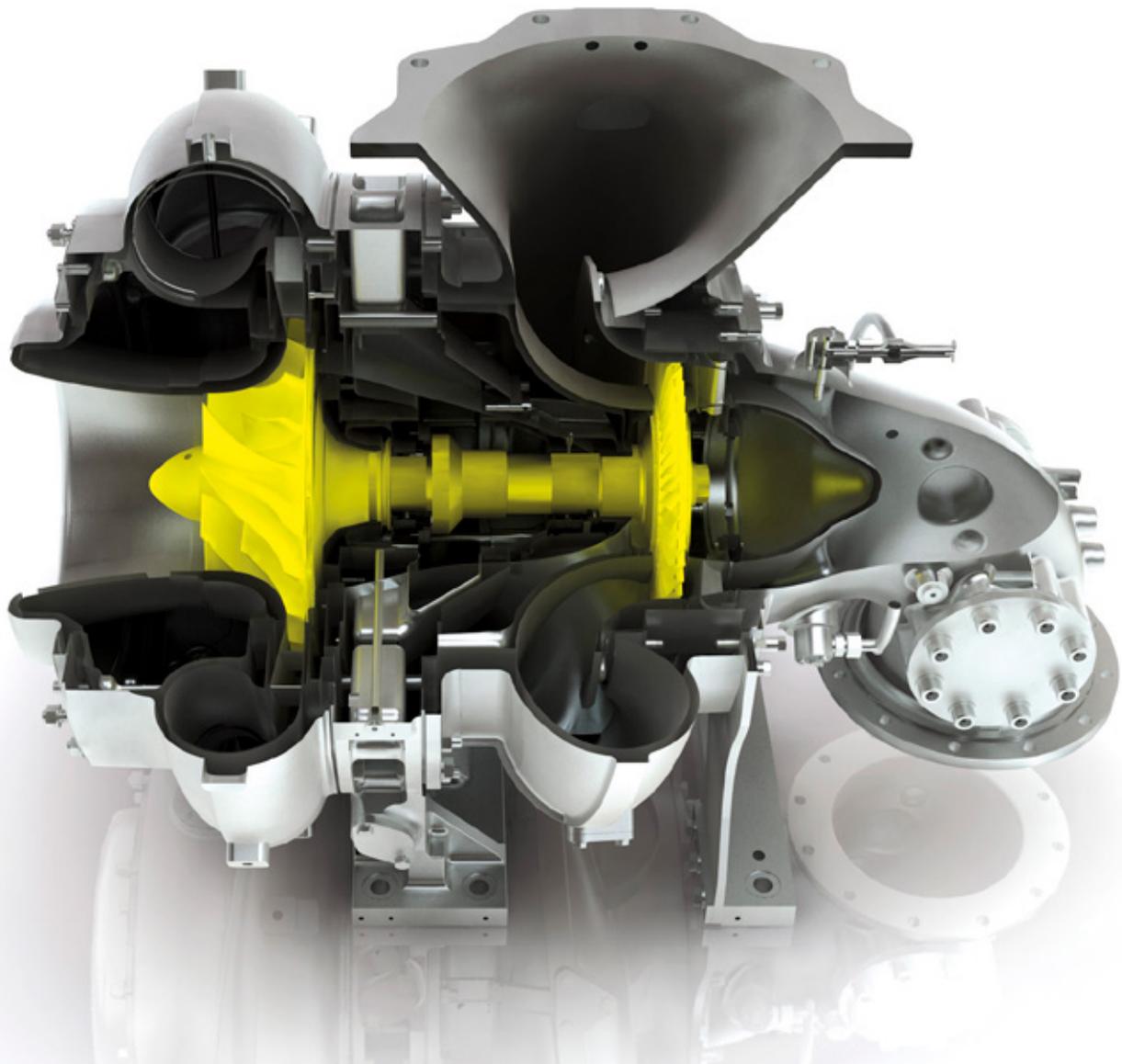
The Wärtsilä 32 Performance upgrade is available for Wärtsilä W6L32 or W12V32 engines equipped with Napier 297 turbochargers, and is applicable to both diesel-electric and controllable pitch propeller installations. The existing turbocharger is replaced with the Napier 307L turbocharger, which includes a number of mechanical and aerodynamic improvements that enable better overall performance and improved safety margins.

KEY BENEFITS

- Reduce Specific Fuel Oil Consumption (SFOC) by up to 3%
- Increase turbocharger speed margin
- Reduce thermal wear and load on components, and increase turbocharger reliability
- Minimise downtime – the upgrade can be completed during a scheduled maintenance break

The Napier 307L features a wider compressor map, which enables greater operational flexibility by increasing the turbocharger's speed margin. In addition, thermal stress is reduced because of the lower turbine inlet temperature. The level of SFOC reduction enabled by the upgrade depends on installation and site conditions, but the approximate savings can be as much as 3%.





SCOPE OF SUPPLY

The scope typically covers:

- Napier 307L turbocharger(s)
- Required parts for engine control system update
- Installation by Wärtsilä service engineers

NAPIER 297 VS. NAPIER 307L

- Better efficiency via improved impeller design
- Optimised geometry
- Increased compressor stability from anti-surge insert (ASI)

NA307L BENEFITS W32 DPP C-STAGE

General table, replacing NA297

	NA307L	Tolerance
SFOC ¹⁾	-2.0%	±1.0%
Cylinder max pressure ¹⁾	1.5%	±0.5%
Temp before charger ¹⁾	-5.0%	±3.0%
Charger speed margin increase ²⁾	2.0%	±2.0%
Weighted NO _x value ³⁾	-	-
Charge air pressure ¹⁾	2.0%	±2.0%

¹⁾ Depending on optimisation, full-load / mid-load

²⁾ Depending on original turbocharger

³⁾ Case specific

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