

# Wärtsilä Turbocharger safety package



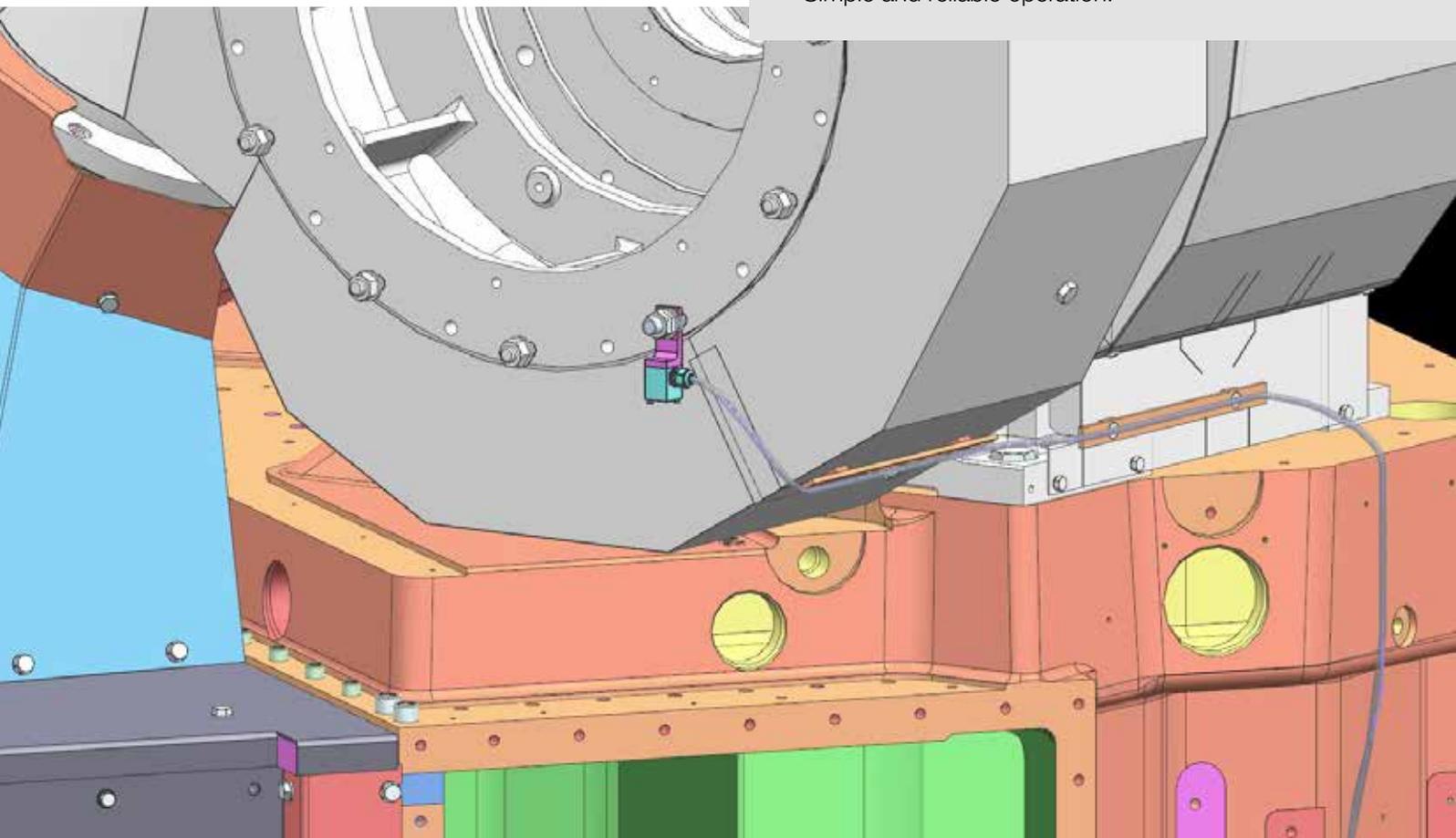
The Wärtsilä Turbocharger safety package contributes to reliable turbocharger operation and reduces the risk of potential engine damage by monitoring turbocharger vibration levels and detecting the presence of metal particles in the lubricating oil. Data obtained from these functionalities can be used to plan maintenance, to reduce installation downtime and prevent failures.

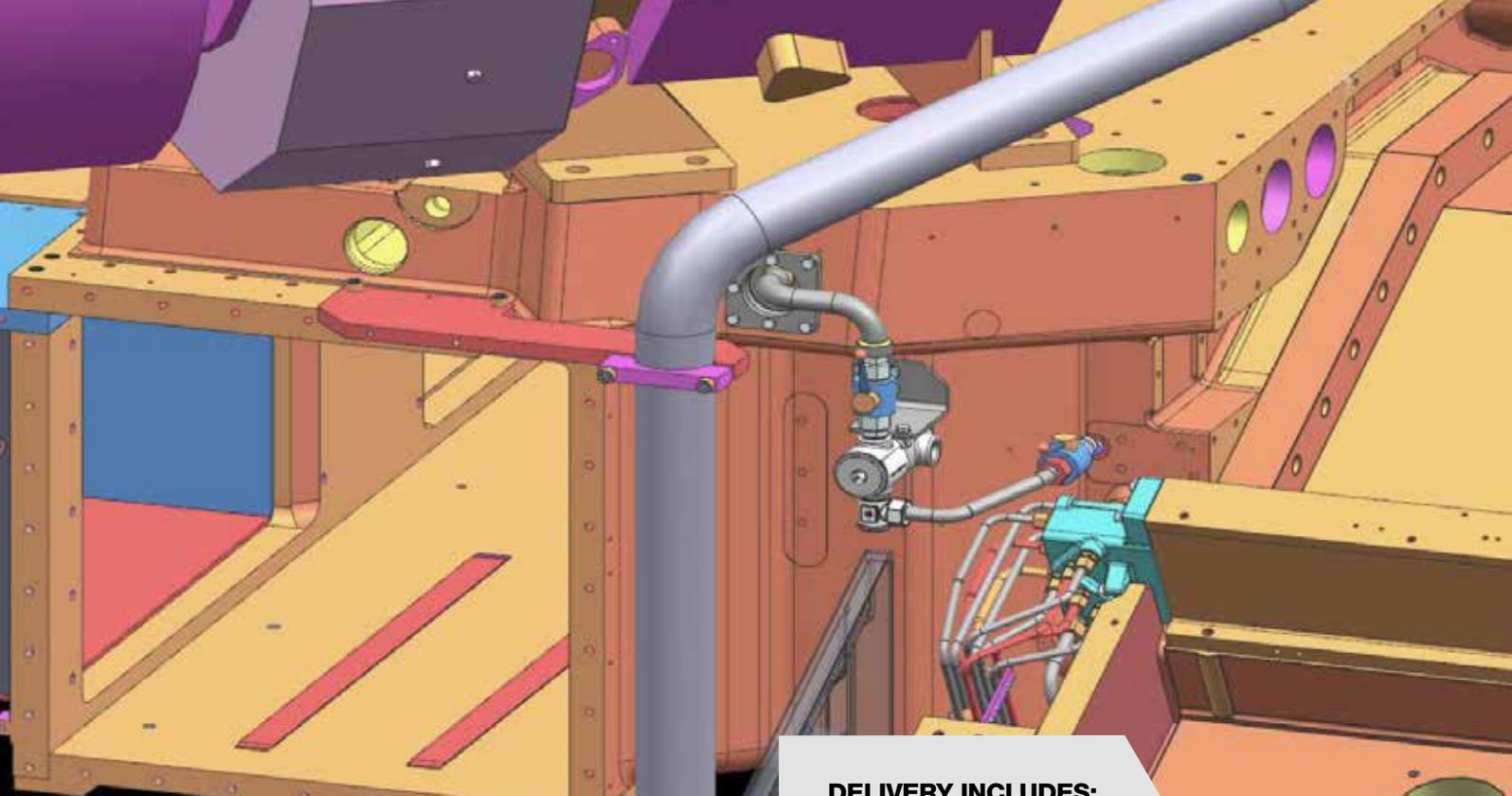
A turbocharger operates at a speed exceeding 20000 rotations per minute and the installation performance and operational safety are linked to the performance and safety of the turbocharger itself. The Wärtsilä Turbocharger safety package is designed to provide an early warning in case of operational issues. Turbocharger vibrations are monitored as well as the presence of metallic particles within the turbocharger lubricating oil. The system gives an alarm if an anomaly occurs in order to prevent major damage to the turbocharger and engine and/or to advise on the need for turbocharger maintenance.

The package is designed for power plants and marine installations, and is particularly suitable for customers who value engine reliability and availability above all else.

## KEY BENEFITS

- Monitors the turbochargers for critical faults, identifying them on time to prevent major damage
- Reduces the risk of unplanned installation downtime
- Reduces the risk for human injury
- Fast and simple installation with pre-engineered connection components
- Simple and reliable operation.





## YOUR ONE STOP SHOP FOR TURBOCHARGER SERVICES

Wärtsilä offers a full range of turbocharger services, including maintenance facilities worldwide.

As the engine OEM and originator of the engine design, Wärtsilä is in the best position to optimally integrate additional systems and functionalities with its products, and fully utilise the potential of the safety pack far into the future.

### TECHNICAL CONCEPT

The Wärtsilä Turbocharger safety package combines two main functionalities:

**Metal particle detector:** the system continuously analyses the turbocharger lubrication oil return line for metal particles that could indicate potential problems (i.e. wear) with internal turbocharger components (e.g. bearings).

**Turbocharger vibration monitoring:** the system continuously monitors the compressor housing vibration level at rotor speed frequency. An increase in vibration level can indicate growing unbalance due to i.e. contamination. The system will in that case provide an alarm signal, that can trigger an immediate inspection to assess if the turbocharger is safe to be operated in the short term while scheduling a more complete turbocharger maintenance as soon as possible if necessary.

### DELIVERY INCLUDES:

- Metal particle detector with control and connection unit
- Turbocharger vibration sensor with control and connection unit
- Installation, integration into the engine automation system (if possible) and commissioning of the delivered systems
- Documentation manuals

### Optional:

- Turbocharger vibration system configuration tool

### Delivery excludes:

- Integration into the external plant automation system (if needed).

The Wärtsilä Turbocharger safety package can be installed on a **selected range of Wärtsilä 32, Wärtsilä 34, Wärtsilä 46 and Wärtsilä 50 engines** that are fitted with the **Napier 357 turbocharger**. The product might be available for other Wärtsilä engine types fitted with other turbocharger types, depending on technical feasibility. Please inquire your Wärtsilä sales contact for more information.

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