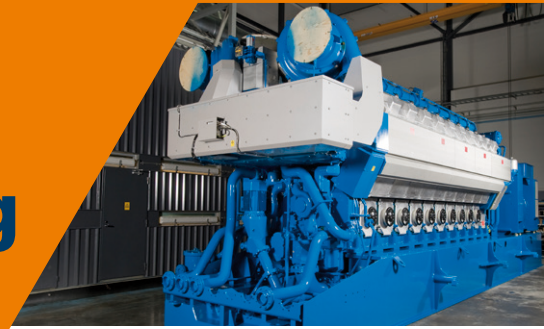


Wärtsilä Cylinder liner temperature monitoring system



While engine breakdown in a power plant is not common, the risk increases in peaking plants with frequent engine start/stop and where load fluctuates heavily. Avoiding breakdown is also crucial for power plants operating in island mode in remote locations. Abnormal piston behaviour increases cylinder liner temperatures, which may cause piston scuffing or breakdown in case of piston seizure – ultimately leading to an unexpected engine stop. Unexpected stops result in lost production and revenue, repair costs and even possible financial penalties. The Wärtsilä Cylinder liner temperature monitoring system for Wärtsilä 32 engines uses real-time monitoring to help prevent breakdowns in the case of abnormal piston behaviour.

TECHNICAL CONCEPT

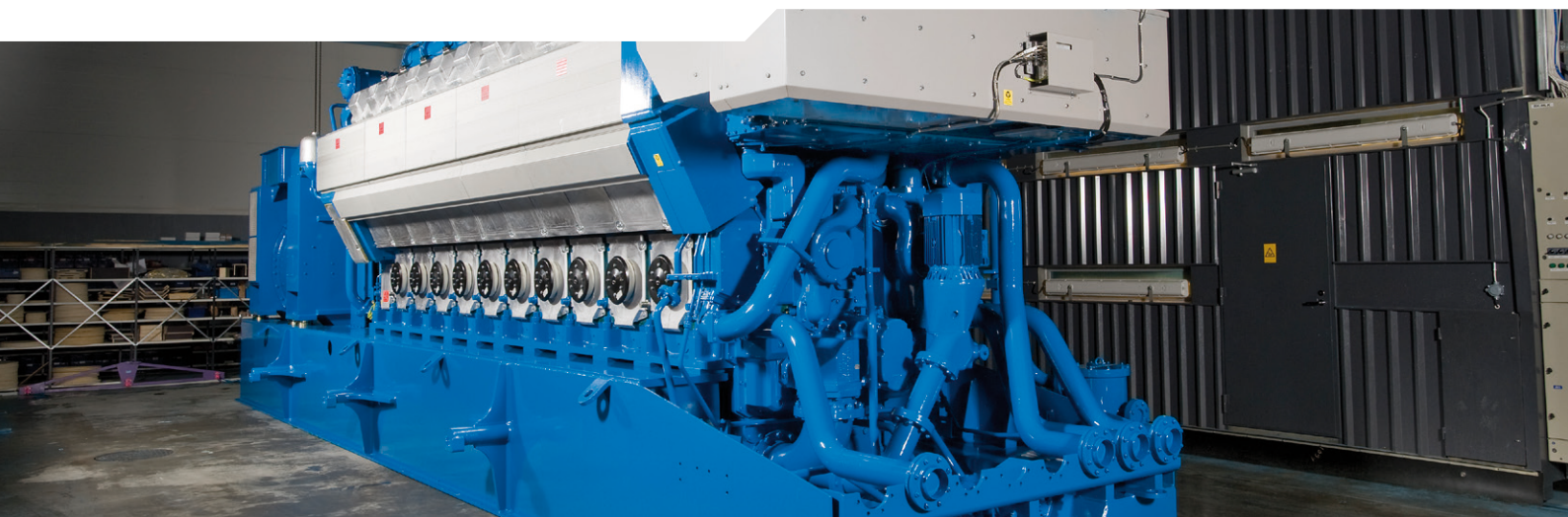
The Wärtsilä Cylinder liner temperature monitoring system increases the safety and reliability of engine operation through continuous monitoring. To prevent breakdown, the system generates an alarm and automatically shuts down the engine if the monitored temperature exceeds specified limits.

You can also follow up trends and historical data to support more effective condition-based maintenance.

KEY BENEFITS

- Prevent damage to Wärtsilä 32 engines by using real-time cylinder monitoring
- Increase the reliability and safety of your power plant operations
- Use collected data and trends to improve condition-based maintenance (CBM)*

*For customers with a valid CBM agreement with Wärtsilä





SCOPE OF SUPPLY

The monitoring system consists of two thermocouples for each cylinder liner as well as the necessary cabling. The cylinder liner temperature sensors are installed very close to the sliding face of the piston and are connected to the existing engine junction boxes. The monitoring system is then connected to the existing alarm system.

It is also necessary to update the plant automation system software and in some cases also the hardware. Engine control system software updates are required for engines with WECS 2000 or UNIC C2 systems.

The Wärtsilä Cylinder liner temperature monitoring system is available as a Wärtsilä Services retrofit solution for power plants with Wärtsilä 32 engines. The system is already standard in Wärtsilä 34SG and marine W32 installations.

Standard scope of supply includes:

- Thermocouples (2 per cylinder)
- Name tags, clamps, plugs, hexagon socket screws and cables with protective hoses
- Adapters for bayonets and tool for fastening adapters
- PLC and WOIS software upgrades as required
- Cabling between the engine and the plant automation system (calculated case by case)
- Installation and commissioning (calculated case by case)

Depending on the design of the engine in question and its external control system, some additional equipment may be needed.