



# IMPROVED CYLINDER HEAD FOR WÄRTSILÄ 46 ENGINES – INCREASED COMPONENT LIFETIME AND REDUCED RISK OF DOWNTIME

An engine cylinder head faces many sources of stress and needs to withstand high pressures and temperatures. Some areas of the cylinder head are especially vulnerable to thermal deformation, which results in a shorter component lifetime. Wärtsilä has optimised the cylinder head design for Wärtsilä 46 engines, leading to a temperature drop of around 10% on the flame plate and combustion side of the cylinder head, which results in longer component lifetime.

## Technical concept

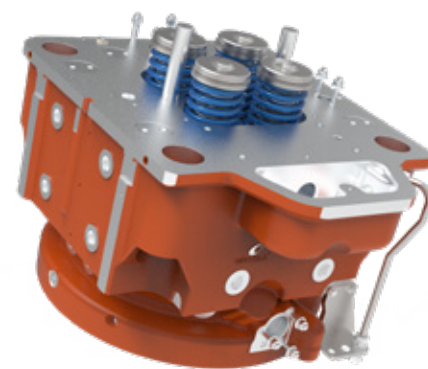
Wärtsilä continually develops its cylinder heads to make them as hard wearing as possible. Advances in manufacturing technologies have allowed us to further optimise the component and, after a successful field test, we are offering a new cylinder heads design for most Wärtsilä 46 engines.

Due to the lower thermal stress, the lifetime of the flame plate and combustion side is significantly improved, leading to longer component lifetimes. The new cylinder head generation is especially beneficial for engines with excessive thermal load, typically seen in peaking type operation where engines are often started and stopped and in other installations where the cooling capacity is limited.

The new cylinder head is fully interchangeable with earlier designs, meaning new and old cylinder heads can be mixed in the same engine. The new-generation cylinder heads are marked with the Wärtsilä logotype and supplied with valves. The new cylinder heads are available with valves, and replace earlier variants.

## KEY BENEFITS

- Increase component lifetimes
- Reduce thermal load and increase cooling capacity
- Decrease cylinder head flame plate temperatures by approximately 10%
- Reduced risk of downtime caused by component failure



Improved cylinder head design for W46 engines

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