

The new prechamber improves efficiency



The new prechamber has been developed to improve overall engine efficiency. Among the many advantages it offers is increased combustion stability, which results in a more stable load.

The prechamber is the ignition source for the main fuel charge, and is thus one of the essential components of a lean-burn spark-ignited gas engine.

The prechamber should be as small as possible in order to achieve low NO_x values, but still big enough to provide rapid and reliable combustion. Among the design parameters taken into consideration are the:

- shape and size
- mixing of air and fuel
- gas velocities and turbulence at the spark plug
- cooling of the prechamber and the spark plug
- choice of material.

The new prechamber represents the latest design based upon advanced, three-dimensional, computerised fluid dynamics. As a result, the Wärtsilä 34SG engine now features:

- more stable combustion
- improved efficiency (up to 1%)
- reduced NO_x emissions
- reduced urea consumption of up to 25% in SCR installations

The new prechamber is available for the following engines:

- 1% prechamber for the Wärtsilä 12V34SG and Wärtsilä 18V34SG engines
- 0.9% prechamber for the Wärtsilä 9L34SG, Wärtsilä 16V34SG and Wärtsilä 20V34SG engines

