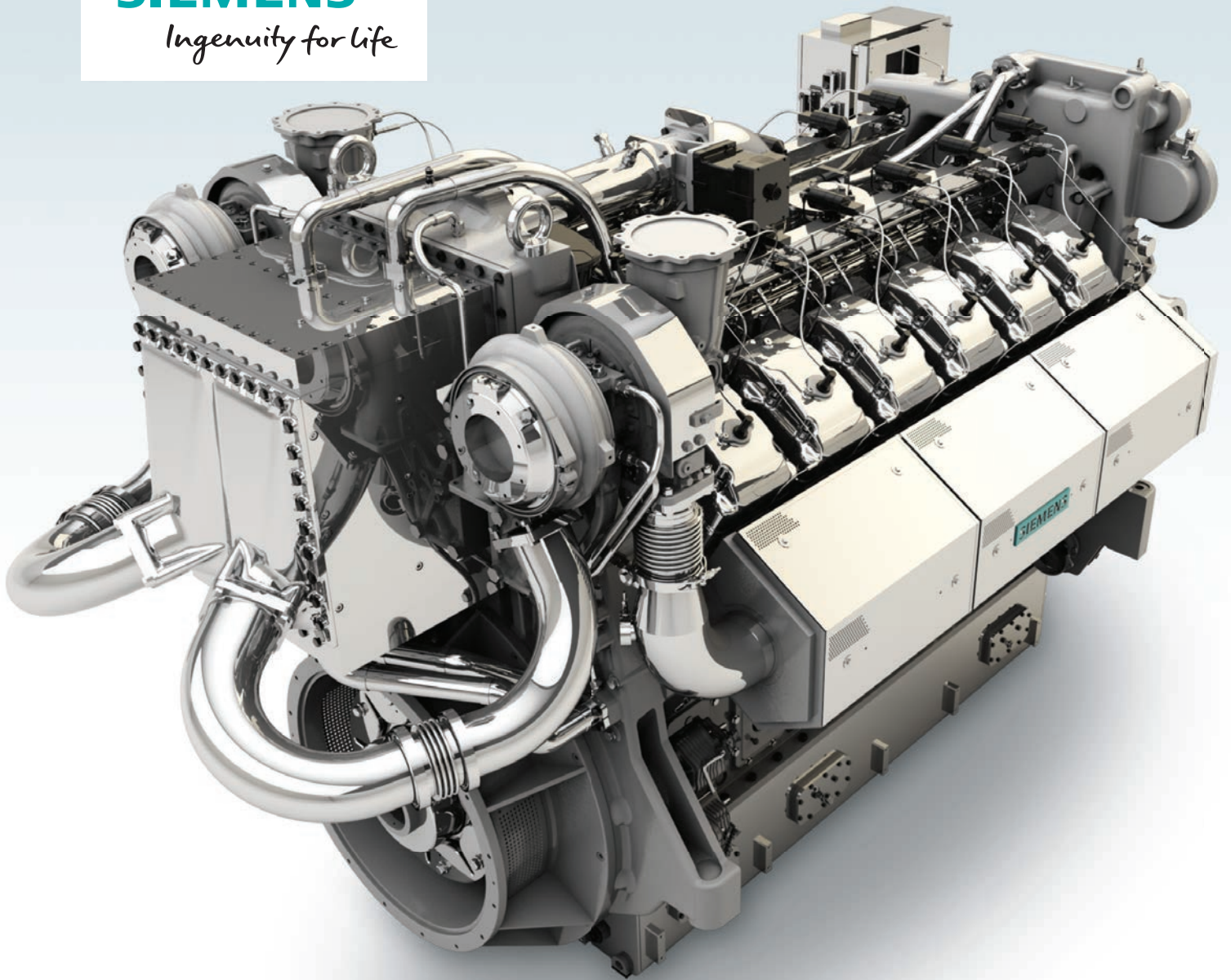


**SIEMENS**

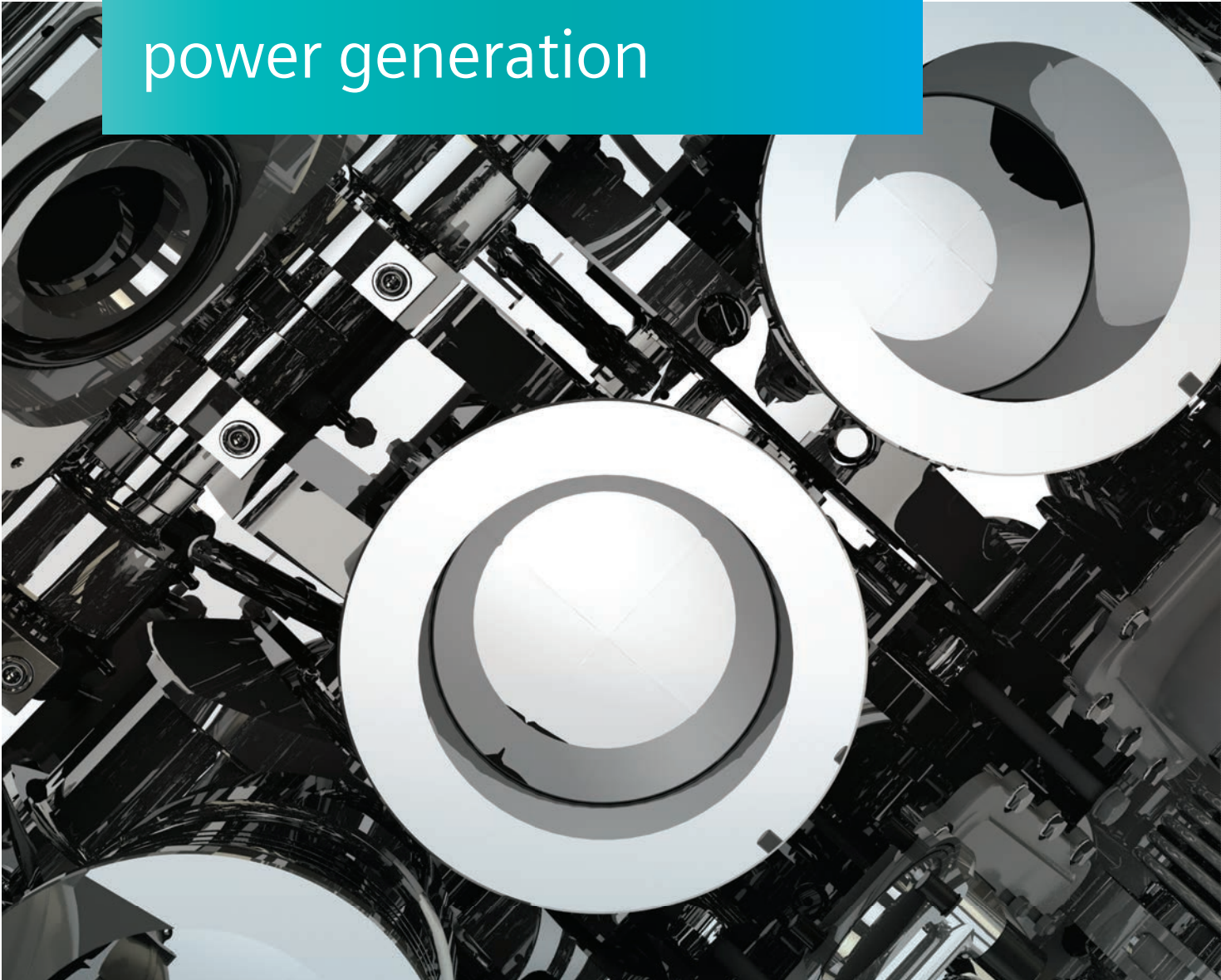
*Ingenuity for life*



# SGE-EM 2 MW-Class Gas Engines

[siemens.com](https://www.siemens.com)

# The new best-in-class solution for more efficient power generation





**Highest electrical efficiency in the 2 MW class**

Before today, when it came to two-megawatt-class engines, your options were limited. Now, there's a powerful new choice on the scene: the new SGE-EM gas engines from Siemens. The result of years of development, testing, refinement and innovative engineering, these intelligently efficient workhorses feature a number of benefits that make them a true competitive choice.

**Uncompromising performance to meet ever-growing demands**

Economic pressures. Customer demands. Reliability concerns. Regulatory standards. In the world of power generation, you face plenty of challenges. If you want to successfully overcome them, you need to have the best solution in place. We believe our new SGE-EM gas engines are your best solution.

# Innovative “from scratch” engine design and combustion technology

At Siemens, we’re known for innovation, and the new E-Series engines carry that torch of ingenuity with a unique cylinder design that produces the highest displacement in the two-megawatt class, innovative pre-combustion chambers, spark-ignited lean-burn control capabilities, and a robust overall design that ensures maximum flexibility in a wide variety of conditions.

- Natural gas-powered engines
- Exceptional displacement
- Low maintenance
- Efficient and stable combustion
- Optimized materials

## **Maximum efficiencies in the smallest footprint.**

The new E-Series engines are not only the new competitive choice in the two-megawatt class, they’re also the most compact. Their unique ability to deliver high power output with incredibly low emissions helps you create a smaller footprint—both physical and environmental.



**Charge cooler**—Two-stage charge cooler for increased engine performance.

**Turbochargers**—High-efficiency turbochargers allow high engine efficiency. Water cooled for longer life.

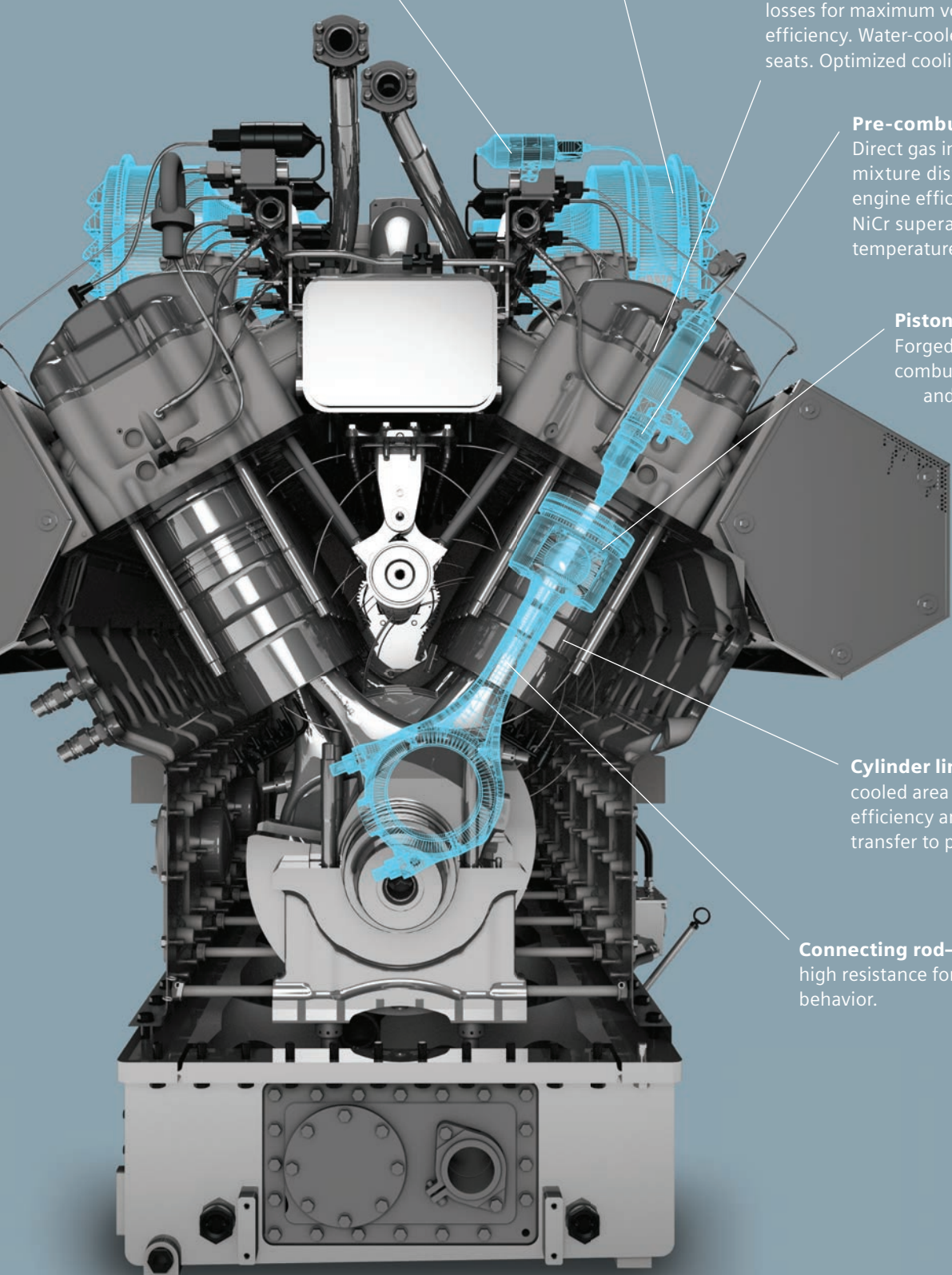
**Cylinder head**—Minimum pressure losses for maximum volumetric efficiency. Water-cooled exhaust valve seats. Optimized cooling galleries.

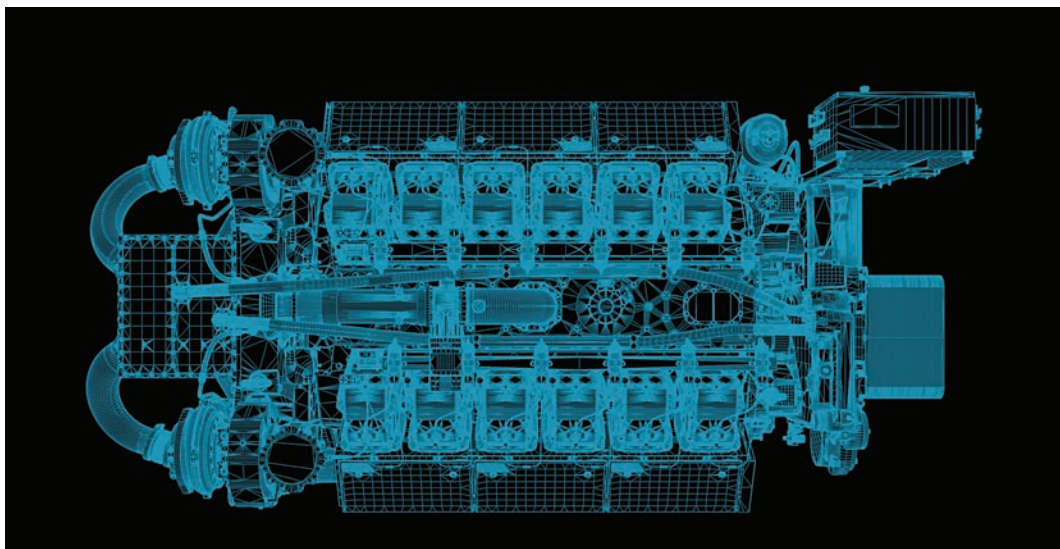
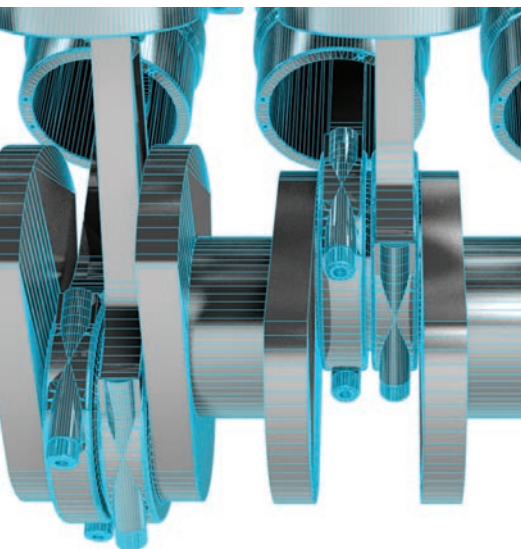
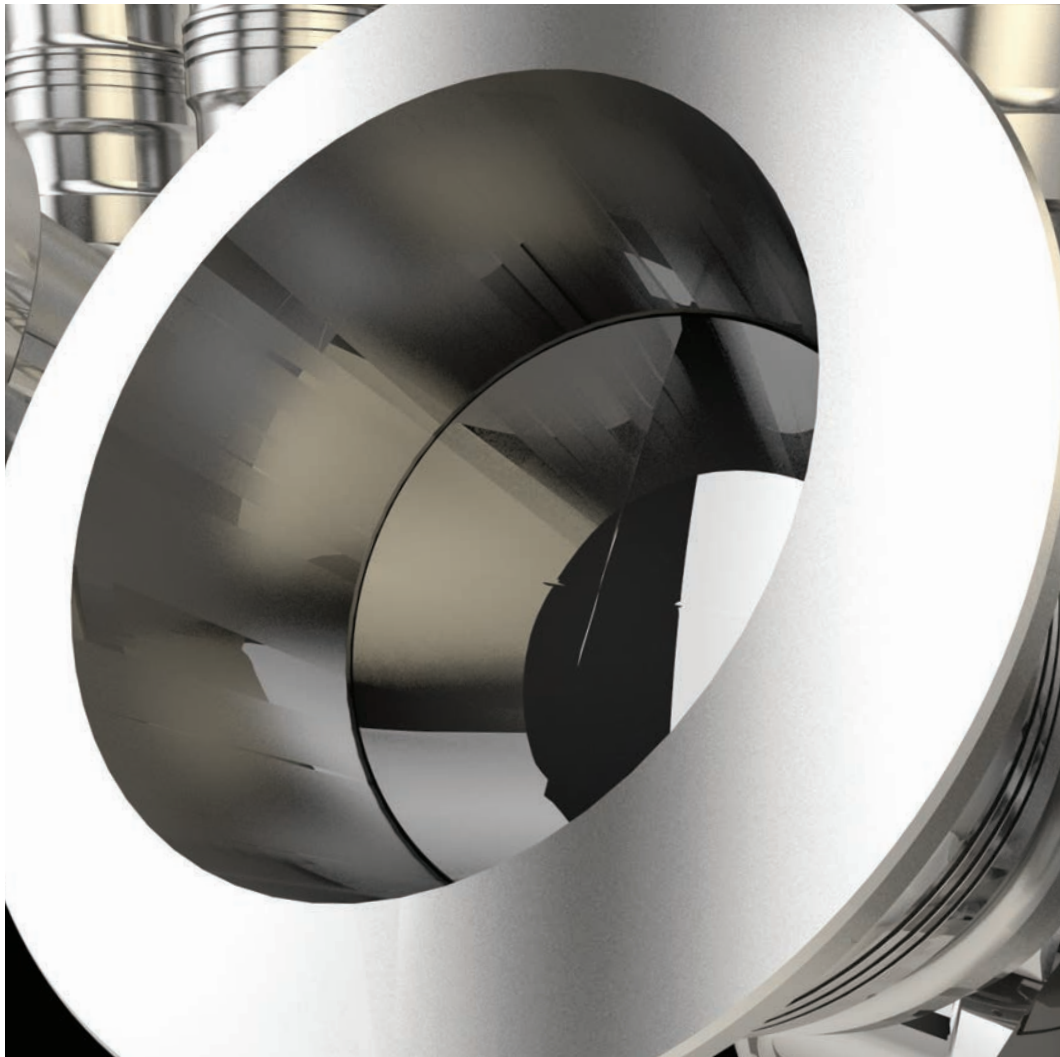
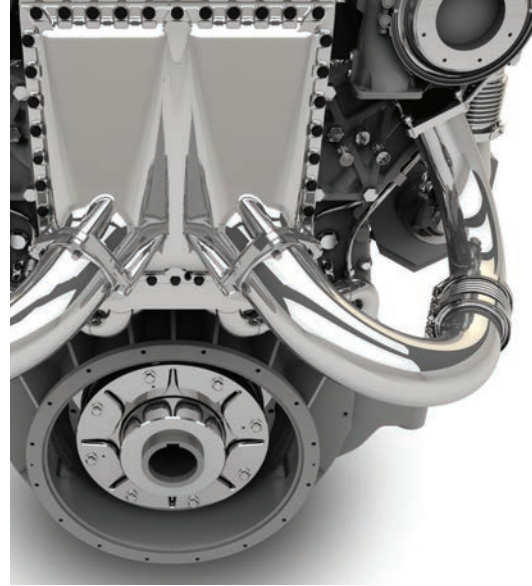
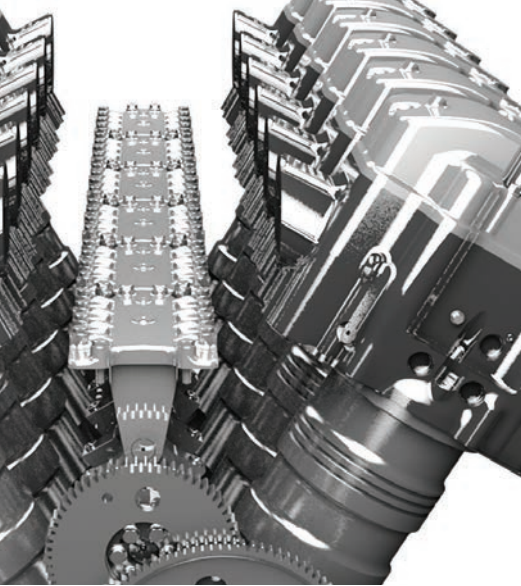
**Pre-combustion chamber**—Direct gas injection. Designed for best mixture distribution, allowing high engine efficiency with low emissions. NiCr superalloy material for high temperature resistance.

**Piston and rings pack**—Forged steel piston for high peak combustion pressures, with skirt and rings design for best oil consumption control.

**Cylinder liner**—Optimized cooled area for better combustion efficiency and maximum energy transfer to powertrain.

**Connecting rod**—Low mass and high resistance for better dynamic behavior.





# The best-in-class solution with the best-in-class cycle time

- **Robust, compact design** provides more relief for long-lasting performance
- **Spark-ignited lean-burn unit** ensures low emissions
- **Innovative pre-combustion chambers** provide efficient and stable combustion
- **12 unique high-volume cylinders** deliver highest displacement
- **Less maintenance** than 16-cylinder engine options
- **Fast cycle times and implementation**—up and running in 24 weeks
- **Smallest footprint** in the competitive set

CYLINDER ARRANGEMENT	12 V	BMEP	19.2 bar
DISPLACEMENT	86 l	MECHANICAL EFFICIENCY	46.6%
BORE	195 mm	ELECTRICAL EFFICIENCY	45.4%
STROKE	240 mm	THERMAL EFFICIENCY	43.7%
COMPRESSION RATIO	13.5:1	GLOBAL EFFICIENCY	89.1%
MECHANICAL POWER	2065 kWb	EXHAUST TEMPERATURE	352 °C
ELECTRICAL POWER	2012 kW <sub>e</sub>	NO <sub>x</sub>	500 mg/Nm <sup>3</sup>

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