

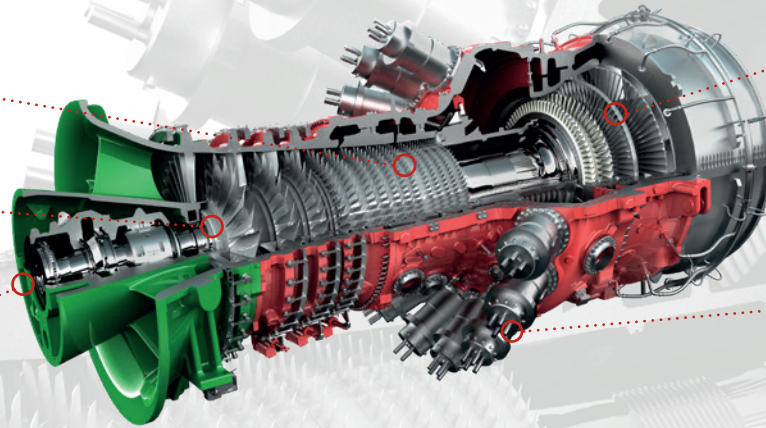
THE GAS TURBINE: GT36

The superior value

15 stages axial compressor with 4 variable guide vanes

Solid welded rotor

Cold-end generator driven



4 stages, air cooled turbine

Cannular sequential combustor chamber

Operation excellence based on well proven technology

Built on the evolution of several generations of proven technology and the GT26 excellence, the GT36 gas turbine offers high efficiency at full and part load, low emissions, a high turn-down capability and high fuel flexibility. Entering in the very large class, the GT36 has been designed to serve evolving customer needs by reducing cost of electricity and CO₂ emissions, increasing operational flexibility and offering outstanding serviceability.

Simple to operate and maintain

The GT36 has been designed for easy constructability, operation and maintenance with a specific attention to increased inspection intervals and reduced outage time and duration. Ansaldo Energia offers a full and flexible range of service solutions, from Transactional Services to Operation & Maintenance contracts. Customized service agreements allow customers to choose the best solution to fit their needs.

Natural gas ISO conditions	GT36 Performance	Power Plant Configuration	1+1	2+1
Power output (*) (MW)	538	CC Net Output (MW)	760	1525
Frequency (Hz)	50	CC Net Efficiency (%)	62.6	62.8
Efficiency (*) (%)	42.8	CC Net Heat Rate (kJ/kWh)	5,751	5,732
Exhaust Mass Flow (kg/s)	1,020	Plant Turndown Minimum load (%)	30	15
Exhaust Temperature (°C)	621	Low Load Operation (%)	10-15	5-8

(*) including OTC contribution

General note: Performance data are calculated with 100% methane (LHV) at ISO conditions, direct cooling.

MEL: Minimum Environmental Load (depending on allowed emission limits)

Environmental sustainable

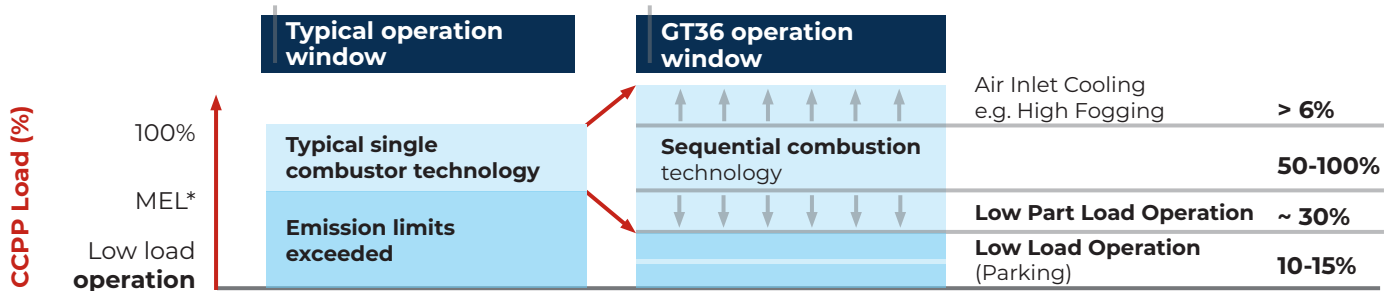
NOx level at 25 ppm in dry gas mode with option down to 15 ppm.

Operational flexibility

The GT36 offers an unmatched operation flexibility in its class: its unique sequential combustion technology allows a high turndown. This enlarges the emission-compliant operation window compared to other combustor technologies and consequently the options for the power plant operator – thus offering a clear advantage in today’s and future power generation markets.

The GT36 flexibility features include:

- Fast start and fast ramp
- High part load efficiency
- High turndown capability with low fuel consumption, providing high reserve power
- High fuel flexibility
- High Hydrogen Capability



*MEL: Minimum Environmental Load subject to allowed emission limits.

High Hydrogen Capability

Due to the high burning velocity and high flame temperature, standard gas turbine combustion technology struggles at high hydrogen content with high NOx emissions and the risk of flashback. This usually results in the necessity of power derating to comply with required standards. Based on two successive combustion stages, the GT36 recovers the derating of the first stage by shifting the fuel into the second stage. This allows for full operational flexibility, low NOx and no derating.

The GT36 engine represents a future-proof investment, keeping its high efficiency at high hydrogen contents. Currently 70% hydrogen in natural gas blends are released for operation, providing best-in-class hydrogen capability, and the development to 100% is on the way.

References:

5 units

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Via N. Lorenzi, 8 - 16152 Genoa - Italy
 Tel: +39 010 6551
 info@ansaldoenergia.com
 ansaldoenergia.com