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THE GAS TURBINE: AE94.2

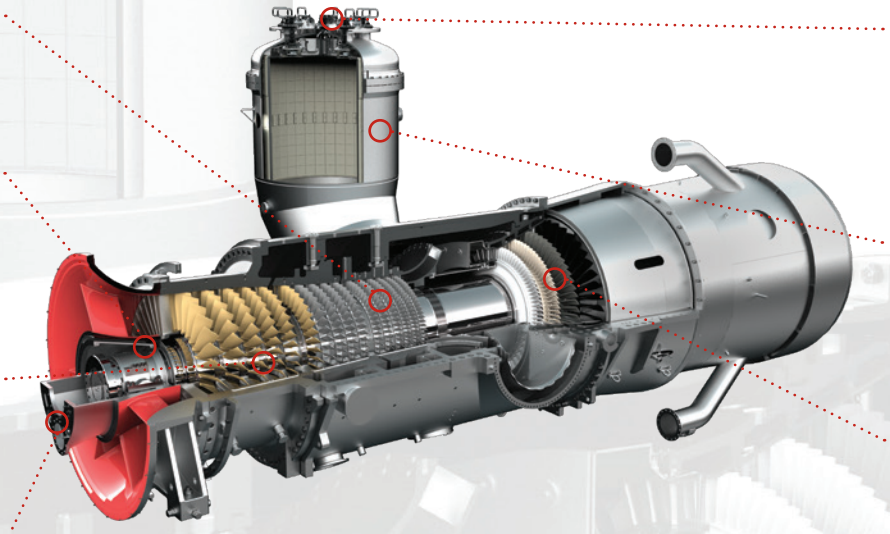
Robust design for top class reliability

16 stages axial compressor with variable guide vane*

Rotor Displacement System (RDS) for gap optimization

Single shaft, internally **air-cooled rotor**, disk type with Hirth serration and central tie rod

Cold-end generator



Dry low NOx dual-fuel burners (8 for each chamber)

2 silo-type Combustion Chambers lined with individually replaceable tiles

4 stages, air cooled turbine with axial discharge*

*All vanes and blades replaceable with rotor in place.

Fast and Flexible

The AE94.2 gas turbine is a benchmark for both operational and fuel flexibility.
Its high cycling capability, combined with fast start up and high ramp rates, makes it suitable for peak plants, grid support and dead power grid energization as well.

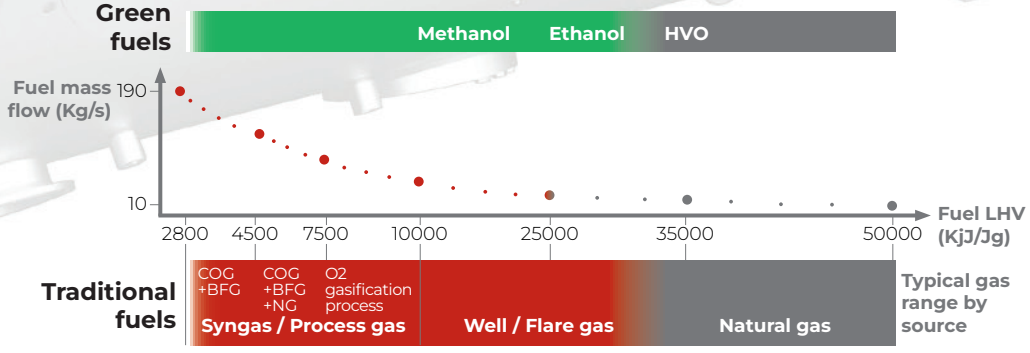
Fuel diversification

For normal operation it is possible to use up to 40% of hydrogen in fuel gas blends, but the AE94.2 can burn also non conventional fuels (i.e. naphtha, crude and heavy fuel oil, hydrogen rich fuels, coal gases) as well liquid green fuels such as HVO, Methanol and Ethanol.
Its special “version K”, specifically designed for low and very low BTU fuels, can manage a very wide range of syngas, well gases, coal gases.

AE94.2 extensive solutions for a wide range of fuels

AE94.2/AE94.2K fuel capability

Typical fuel consumption vs fuel LHV in AE94.2 / 2K gas turbine.



AE94.2 ●
AE94.2K ●

COG = Coke Oven Gas
BFG = Blast Furnace Gas
NG = Natural Gas

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With more than 120 units installed worldwide and 9 millions of operating hours cumulative through different fuels and load regimes, the AE94.2 shows excellent record of robustness, operational reliability and durability.

Environmentally sustainable

NOx level down to **15 ppm in dry gas mode** and **75 ppm in dry oil mode** (with possibility to reach **25 ppm** with small water amount).

Smart maintenance approach

- Extended 41 kEOH inspection interval for hot gas components
- Possibility to replace vanes and blades with rotor in place
- Immediate accessibility into the combustion chambers for checks and repairs

→ **Maximized availability to ensure the best revenues for our Customers.**

Customized service agreements, including upgrading packages, allow Customers to choose the best solution for their needs.

Natural gas ISO conditions	AE94.2 Performance
Power output (MW)	191
Efficiency (%)	36.8
Exhaust Mass Flow (Kg/s)	555
Exhaust Temperature (°C)	550
GT minimum load (%)	40

Power Plant Configuration	1+1	2+1
CC Net Output (MW)	287	578
CC Net Efficiency (%)	55.8	56.2
CC Net Heat Rate (kJ/kWh)	6,450	6,405
Plant Turndown Minimum load (%)	45	25

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

References:

93 units in Combined Cycle, 38 units in Open Cycle

total > 9 millions EOH

For more information, please visit ***www.ansaldoenergia.com***

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