

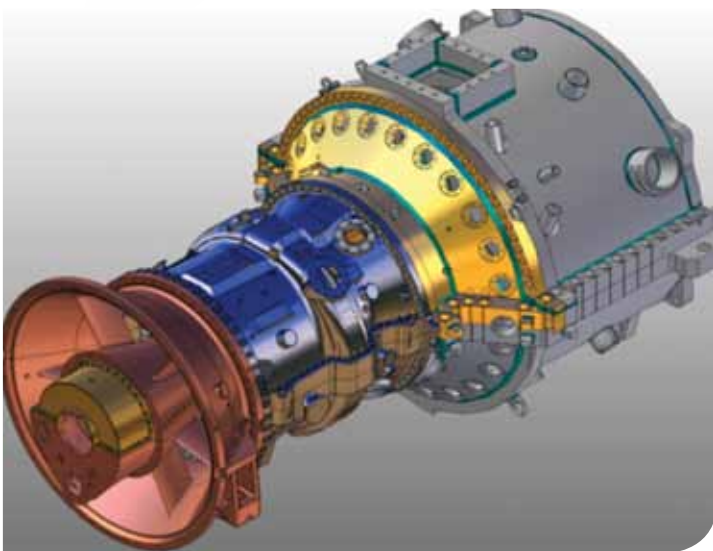
**AE64.3A
GAS TURBINE**



AnsaldoEnergia
A Finmeccanica Company

AE64.3A - High efficiency for medium sized plants

The high technology AE64.3A model combines **F-Class** efficiency with a **mid-size package** suitable for phased, low-investment capacity expansion plans. It is also ideally suited to customers who need to combine reliable and efficient electric power generation with cogeneration and district heating. The availability of different fuels can also be accommodated, while ensuring very stable and reliable operation (both gaseous and liquid fuels can be used and fuels can be switched from gaseous to liquid fuel and vice versa).



AE64.3A Gas Turbine body

The characteristics of the AE64.3A gas turbine address all the main market drivers for mid-size power plants: low environmental impact, operating flexibility, high performance levels achieved in combined cycles and short plant delivery times.

A proven layout for a reliable engine

- Compressor cold-end drive
- Compressor with variable inlet guide vanes
- Disk-type rotor with two bearings
- **Annular type combustion chamber** lined with individually replaceable metallic heat shields
- 24 hybrid burners (premix operation) for natural gas and light oil
- High mass flow compressor
- Axial exhaust
- Aerodynamically optimized turbine exhaust
- Turbine blades/vanes with advanced coating and Thermal Barrier Coating (TBC)
- Easy maintenance features (all blades and vanes are replaceable with rotor in place, and the hot gas path can be inspected with no need to open the turbine)

Performance (natural gas, ISO conditions, base load)		AE64.3A
Power output at generator terminals	[MW]	75
Efficiency at generator terminals	[%]	35.9
Exhaust gas mass flow	[kg/s]	213
Exhaust gas temperature	[°C]	574
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1 GT + 1 ST Combined cycle power output	[MW]	111.7
1 GT + 1 ST Combined cycle efficiency	[%]	53.8
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2 GT + 1 ST Combined cycle power output	[MW]	223.7
2 GT + 1 ST Combined cycle efficiency	[%]	53.8



AE64.3A Gas Turbine combustion chamber tiles and turbine blades

A quick-start Gas Turbine for more flexibility

Ansaldo Energia's AE64.3A is a quick start gas turbine: full speed is reached in less than 5 minutes and baseload conditions about 20 minutes later. Fast-loading gradient procedures can reduce this time to about 15 minutes.

The AE64.3A was the first annular gas turbine in the world to be operated in **fuel gas premix** mode across the entire load range, including GT run up to full speed no load. This important achievement significantly improves operations, because it greatly simplifies the management of load rejection and transient modes in general, as well as improving the ability to provide grid support from any load. For these reasons, fuel gas premix mode has been extended to the entire annular fleet, including both AE64.3A and AE94.3A models.

Addressing a growing need for fuel flexibility, the gas turbine can be fired with **different fuels**: both natural gas and liquid fuel oils can be used.

The fuel switch from gaseous to liquid, and vice versa, can be performed very reliably in the mid-to-high load range.

A specifically redesigned onboard fuel distribution system with flexible hoses ensures operational and layout optimization, reduces erection and commissioning times and improves maintainability

Low emissions for challenging targets

AE64.3A	FUEL GAS		FUEL OIL	
	PREMIX DRY	PREMIX DRY	DIFFUSION	45% water/fuel
NO _x [mg/Nm ³]*	50	250	120	
CO [mg/Nm ³]*	30	30	30	

* Dry gases, 15% O₂

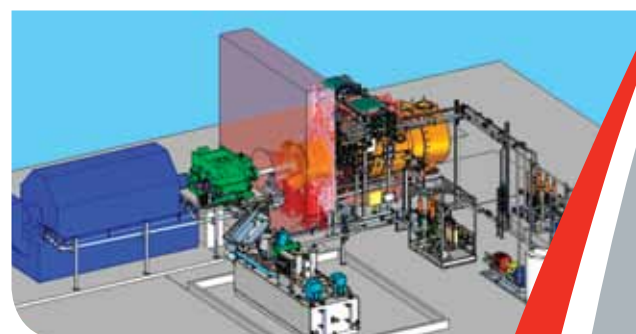
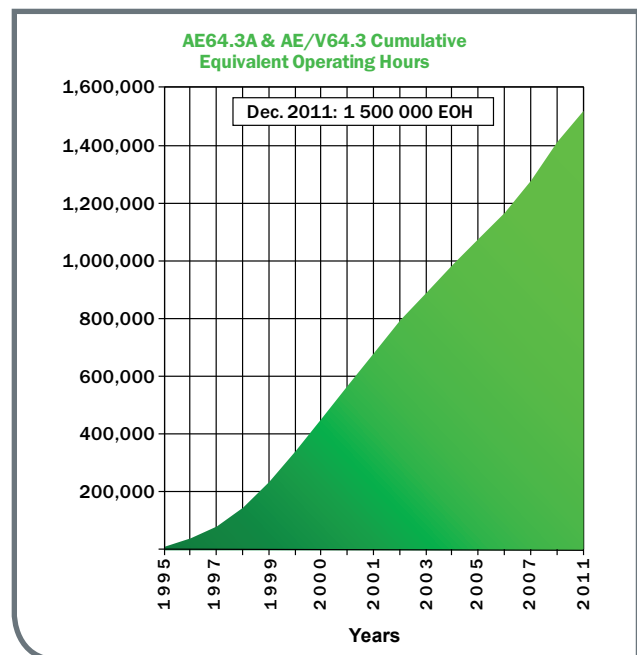
Recognised excellence in commissioning and after sales services

Ansaldo Energia offers a full range of services and qualified personnel for erection and/or supervision, start-up and testing of your AE64.3A gas turbine. The availability of standard arrangements and in some cases packaged solutions ensures rapid, problem-free erection, start-up and commissioning. The Ansaldo Energia Service Organisation provides technical assistance services worldwide, available **24 hours a day, 7 days a week**, in the fields of maintenance, spare parts supply and preventive maintenance programs, so ensuring that customers are in the best position to achieve optimum operation.

Continuous process improvements guarantee the best assistance for our customers: for example, the latest maintenance procedures include extended spare parts stocks and streamlined logistics.

Proud of our worldwide references - decades of experience:

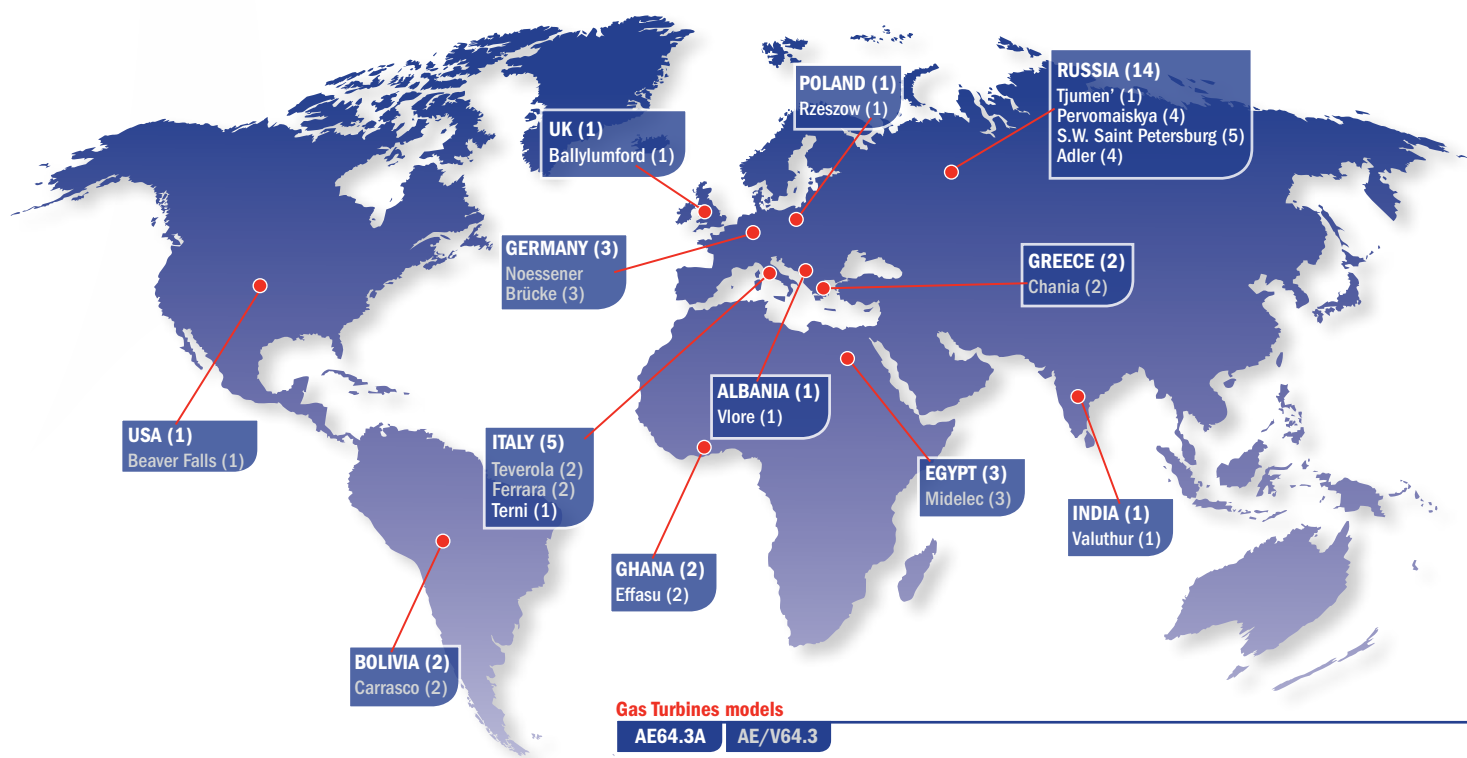
Our AE64.3A gas turbines, and the previous AE/V64.3 version, are installed worldwide and have an excellent track record of **robustness, operational flexibility and durability**.



AE64.3A Gas Turbine package - typical arrangement



Ansaldo Energia AE64.3A & AE/V64.3 Gas Turbine References in the World



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