GE Power

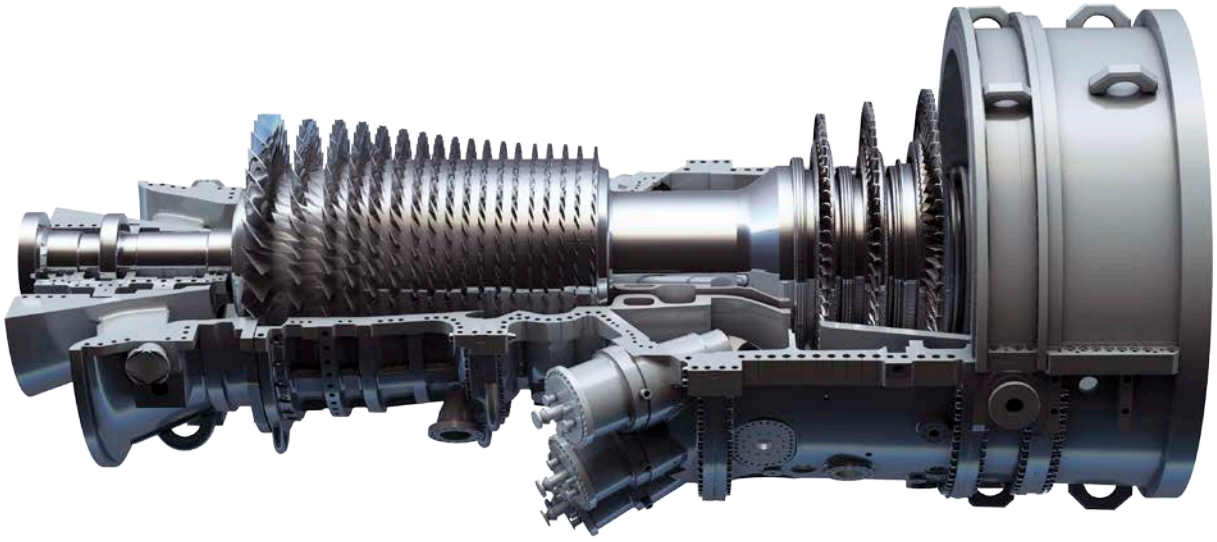
F-CLASS

9F.05 GAS TURBINE (50 Hz)

WHEN FIT COMES FIRST

Capacity constraints are an important part of power project development. GE understands that one size doesn't fit every application, but you don't need to sacrifice efficiency to get the right size solution. Our 9F.05 gas turbine meets the demand for cleaner, reliable, cost-effective power in a 299 MW simple cycle package. With a fleet of more than 50 units and 800,000 hours of operation, the 9F.05 turbine is a proven performer with a combined cycle efficiency of more than 60 percent, and running reliability in excess of 99 percent. These units deliver extended maintenance inspection intervals, fuel flexibility, low NO_X emissions, low CO emission compliant turndown, and fast start options.

299 MW
SIMPLE CYCLE OUTPUT
>60% COMBINED CYCLE EFFICIENCY



Enhanced Architecture for Performance and Reliability

- 9F.05 units are well suited for high fuel cost combined cycle applications or combined heat and power applications.
- Extended 32,000 hour maintenance inspection intervals with multi-interval part life increases availability.
- Mark* VIe control system real-time, physics-based modeling increases overall performance, operability, and reliability.
- Three-stage hot gas path (HGP) turbine has Advanced Gas Path features with improved materials, cooling and sealing that provide enhanced performance and longer parts durability.
- Inlet guide vane enhancements dramatically reduce degradation and stress on wear related components and lengthen compressor life cycle.

Improved Operational Flexibility

- Turndown to 35 percent of baseload within emissions compliance.
- Advanced Dry Low NO_X (DLN) 2.6+ combustion system enables 25 ppm NO_X emissions.
- OpFlex* AutoTune improves DLN combustion system operability, providing ability to operate on a wide range of natural gas compositions.
- Fast start options provide flexibility to shorten time required to produce power.

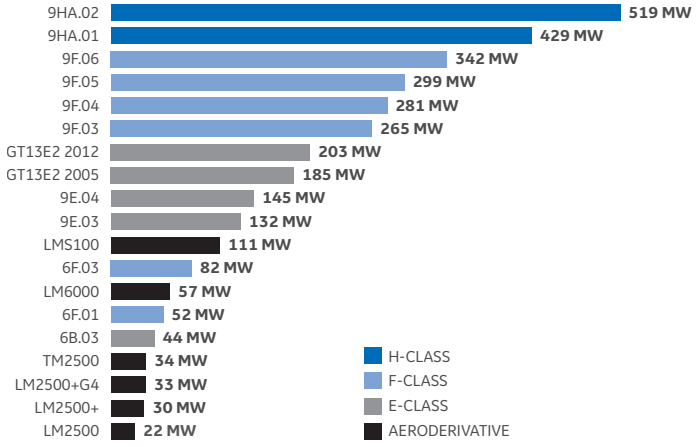
		9F.05
SC Plant Performance	SC Net Output (MW)	299
	SC Net Heat Rate (Btu/kWh, LHV)	8,810
	SC Net Heat Rate (kJ/kWh, LHV)	9,295
	SC Net Efficiency (%, LHV)	38.7%
Gas Turbine Parameters	Exhaust Temperature (°F)	1,187
	Exhaust Temperature (°C)	642
	Exhaust Energy (MM Btu/hr)	1,593
	Exhaust Energy (MM kJ/hr)	1,681
	GT Turndown Minimum Load (%)	35%
	GT Ramp Rate (MW/min)	24
	NO_X (ppmvd) at baseload (@15% O_2)	25
	CO (ppm) at Min. Turndown w/o Abatement	24
	Wobbe Variation (%)	+/-10%
	Startup Time (Conventional/Peaking, Minutes)	23/20
1x CC Plant Performance	CC Net Output (MW)	462
	CC Net Heat Rate (Btu/kWh, LHV)	5,640
	CC Net Heat Rate (kJ/kWh, LHV)	5,951
	CC Net Efficiency (%, LHV)	60.5%
	Plant Turndown – Minimum Load (%)	46%
	Ramp Rate (MW/min)	24
	Startup Time (RR Hot, Minutes)	30
2x CC Plant Performance	CC Net Output (MW)	929
	CC Net Heat Rate (Btu/kWh, LHV)	5,610
	CC Net Heat Rate (kJ/kWh, LHV)	5,919
	CC Net Efficiency (%, LHV)	60.8%
	Plant Turndown – Minimum Load (%)	23%
	Ramp Rate (MW/min)	48
	Startup Time (RR Hot, Minutes)	39

Efficient, Flexible, Reliable Power

GE's portfolio of heavy duty and aeroderivative gas turbines helps provide a sense of certainty in an uncertain world, delivering operational flexibility and performance needed to adapt to a rapidly evolving power generation environment. With gas turbine products ranging in individual output from 22 MW to 519 MW, GE has a solution to reliably and efficiently deliver the power needed by utility power generators, industrial operators, and communities. Even in remote locations and harsh conditions, you can count on GE to deliver a gas turbine that will meet your needs.

All of our gas turbines share the common heritage of jet engine technology pioneered by GE in the first half of the 20th century. They are typically categorized as either heavy duty (sometimes also called "frame") or aeroderivative gas turbines, although some turbines recently have adopted features of both design types. In general, the differences between the aeroderivative and heavy duty gas turbines are weight, size, combustor type, and turbine design. Heavy duty gas turbines are usually field constructed and maintained in place, whereas aeroderivative gas turbines are designed to allow for quick replacement of the entire engine when maintenance is required.

50 Hz Portfolio by Rating



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