

9E Gas Turbine Proven Performance for 50 Hz Applications

fact sheet

High Reliability and Availability

GE Energy has more than 500 9E gas turbines in service that have accumulated over 23 million fired hours for utility and industrial customers—often in arduous climates that range from desert heat and tropical humidity to arctic cold. The 9E was introduced in 1978 with an output of 105 MW. Since then, GE's 9E has incorporated numerous component improvements and now boasts an output of 126 MW. In a combined-cycle configuration, it is capable of achieving 52.7% efficiency. For customers needing additional performance, GE Energy offers an optional Performance Improvement Pack which can provide up to 2.1+% incremental output and as much as a 1.7% reduction in heat rate in simple cycle applications.

Whether used for simple or combined cycle applications, base load or peaking duty, 9E gas turbines are comprehensively engineered with integrated systems that include controls, auxiliaries, ducts and silencing. GE's Dry Low NO_x (DLN) combustion system is also available on the 9E, allowing it to achieve NO_x and CO emissions below 15 ppm and 25 ppm respectively when burning natural gas.

Fuel Flexibility

Designed for reliable operation and minimal maintenance at a competitively low cost, the 9E gas turbine also has flexible fuel handling capabilities—including natural gas, light and heavy distillate oil, naphtha, crude oil and residual oil—with the ability to switch from one fuel to another while running under load. This machine can also burn a variety of Medium-Btu or Low-Btu gases, including Syngas produced from oil or coal gasification and Blast Furnace Gas mixed with richer gas.

In simple cycle, the 9E is a reliable, low first-cost machine for peaking service, while its high combined-cycle efficiency helps to reduce cost in base load operations. The compact design of the 9E provides flexibility in plant layout as well as the easy addition of increments of power when a phased capacity expansion is required. In addition to power generation, the 9E is also well suited for mechanical drive applications.



9E Simple Cycle Performance Ratings

	50 Hz Power Generation	
Output	(MW)	126.1
Heat Rate	(Btu/kWh)	10,100
	(kJ/kWh)	10,653
Pressure Ratio		12.6:1
Mass Flow	(lb/sec)	922
	(kg/sec)	418
Turbine Speed	(rpm)	3,000
Exhaust Temperature	(°F)	1,009
	(°C)	543
Model Designation		PG9171E



9E simple cycle gas turbines (4x123.4 MW) at Malacca, Malaysia power plant.

9E Combined Cycle Performance Ratings (50 Hz)

	Net Plant Output (MW)	Heat Rate		Net Plant Efficiency	GT Number and Type
		(Btu/kWh)	(kJ/kWh)		
S109E	193.2	6,570	6,930	52.0%	1 x 9E
S209E	391.4	6,480	6,835	52.7%	2 x 9E

For more information, contact your GE representative or visit ge.com/energy.