



# 7HA.03

## THE NEXT EVOLUTION OF THE HA GAS TURBINE

GE's 7HA.03 gas turbine is the next evolution of the HA. It is the world's largest, most efficient and flexible gas turbine with the lowest cost conversion of gas to electricity for 60 Hz customers.

### **POWERFUL**

Offering power producers the highest capacity 60 Hz gas turbine, 430 MW simple cycle output and the largest combined cycle block of power: 640 MW (1x1) and 1,282 MW (2x1).

### **EFFICIENT**

Unmatched at >64% in combined cycle configuration and offering customers the lowest \$/kwh conversion of gas to electricity.

### **FLEXIBLE**

Full GT load in 10 minutes, full CC plant load in <30 minutes, 75 MW/min ramp rate and double the fuel flexibility of 7HA.02. An ideal complement to intermittent renewable sources.

### **BENEFITS**

- The 14-stage compressor increases airflow enabling greater nominal and hot day output
- The combustion system's advanced pre-mixer and axial fuel staging offer a step change in fuel flexibility
- A 15% park mode enables customers to minimize fuel burn and plant shutdown/startup costs during periods of low demand while providing a faster ramp to full load

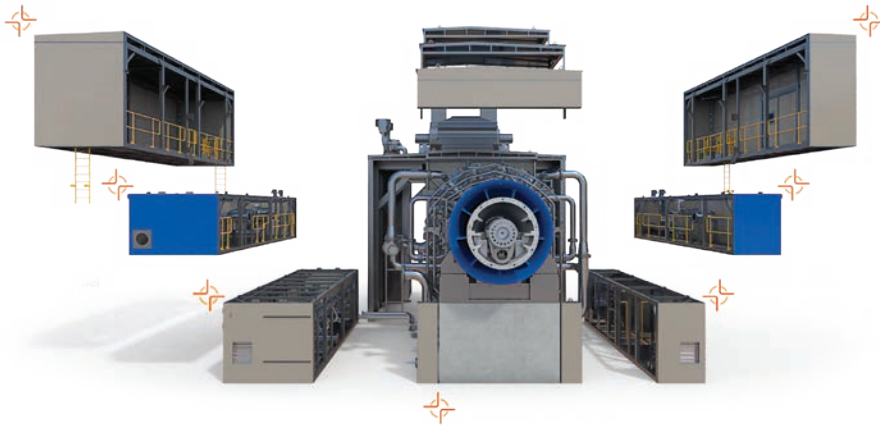


**READY TODAY. REINVENTING TOMORROW.**

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## THE NEXT EVOLUTION OF THE HA GAS TURBINE



The 7HA.03 gas turbine modular packaging configuration shortens the critical path installation cycle by eight weeks.

**98%**  
REDUCTION  
IN FIELD-INSTALLED VALVES

**64%**  
REDUCTION  
IN ELECTRICAL  
TERMINATION POINTS

**63%**  
REDUCTION  
IN FIELD CONNECTIONS

**55%**  
REDUCTION  
IN TURBINE FIELD WELDS

### GE'S HA TECHNOLOGY WORLD RECORDS:

- 63.08% gross CC efficiency at Chubu Electric's Nishi Nagoya power plant in Japan (7HA.01, 60 Hz)
- 62.22% net CC efficiency at EDF's Bouchain power plant in France (9HA.01, 50 Hz)

	7HA.01	7HA.02	7HA.03	
<b>SC Plant Performance</b>	SC Net Output (MW)	290	384	430
	SC Net Heat Rate (Btu/kWh, LHV)	8,120	8,009	7,897
	SC Net Heat Rate (kJ/kWh, LHV)	8,567	8,450	8,332
	SC Net Efficiency (% , LHV)	42.0%	42.6%	43.2%
<b>1x CC Plant Performance</b>	CC Net Output (MW)	438	573	640
	CC Net Heat Rate (Btu/kWh, LHV)	5,481	5,381	5,342
	CC Net Heat Rate (kJ/kWh, LHV)	5,783	5,677	5,636
	CC Net Efficiency (% , LHV)	62.3%	63.4%	63.9%
	Plant Turndown - Minimum Load (%)	33.0%	33.0%	33.0%
	Ramp Rate (MW/min)	55	60	75
	Startup Time (RR Hot, Minutes)	<30	<30	<30
<b>2x CC Plant Performance</b>	CC Net Output (MW)	880	1,148	1,282
	CC Net Heat Rate (Btu/kWh, LHV)	5,453	5,365	5,331
	CC Net Heat Rate (kJ/kWh, LHV)	5,753	5,660	5,624
	CC Net Efficiency (% , LHV)	62.6%	63.6%	64.0%
	Plant Turndown - Minimum Load (%)	15.0%	15.0%	15.0%
	Ramp Rate (MW/min)	110	120	150
Startup Time (RR Hot, Minutes)	<30	<30	<30	

NOTE: All ratings are net plant, based on ISO conditions and natural gas fuel. Actual performance will vary with project-specific conditions and fuel.



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