

# Gas turbine SGT-600

For power generation and mechanical drive applications

A small footprint, high fuel flexibility, and third-generation DLE make the SGT-600 the perfect choice. Typical applications include industrial power generation in combined heat and power (CHP), and combined cycle power plants (CCPP), onshore oil and gas power generation, and mechanical drives.

### High fuel flexibility

- Available with both conventional and DLE combustion systems
- Gaseous and liquid fuels on-load changeover
- Third-generation DLE system
- Best-in-class NO<sub>x</sub> emission levels

### Important features

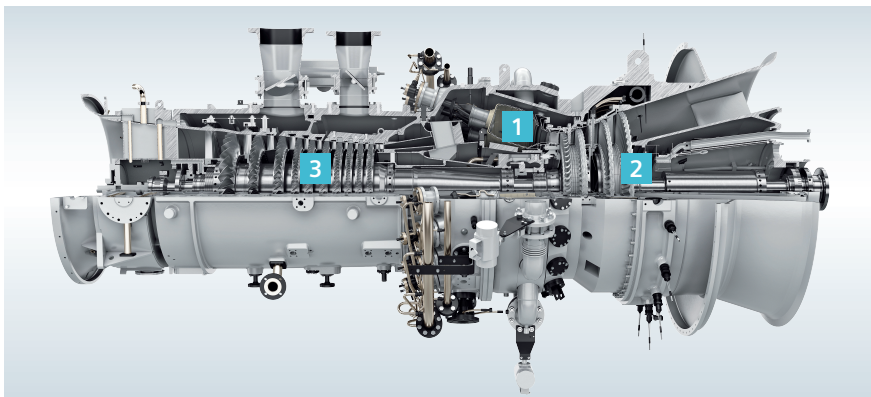
- Low emissions maintained on different fuels
- Maximized uptime
- Robust industrial design
- Small environmental footprint
- High lifetime profitability

### Customer service and maintenance

- 24-hour gas generator swap
- Maximized serviceability – on-site maintenance or gas generator removal for off-site maintenance
- Service plan with just 17 scheduled maintenance days over a 17-year service cycle
- Minimized load-to-load downtime
- Remote diagnostic service with online monitoring, expert performance data analysis, and fleet data comparisons
- 24-hour global help desk

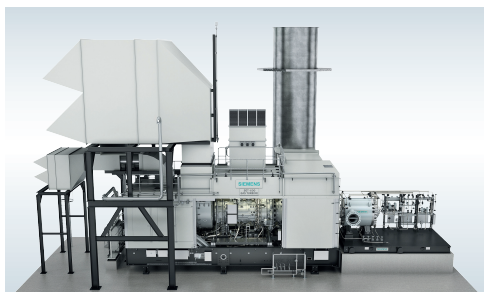
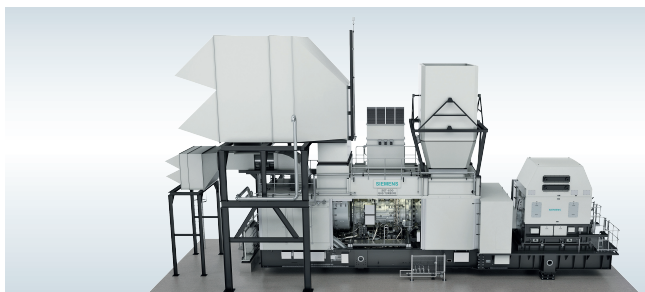
### Key benefits

- 25-MW gas turbine
- 34.6% simple cycle efficiency
- More than 330 units sold (>9 million equivalent operating hours)
- Robust, reliable design
- High fuel flexibility – High exhaust energy
- Well-proven dry low emissions (DLE) combustion system < 15 Ppmvd
- On-load fuel changeover (gas to liquid fuel and liquid fuel to gas)
- Low lifecycle costs



Easy to maintain, reliable, and robust twin-shaft designed core engine, consisting of gas generator plus a free spinning power turbine

- 1 DLE combustion system**  
Well-proven and reliable dry low emissions (DLE) combustor with low emissions.
- 2 Power turbine**  
Two-stage uncooled free power turbine offers nominal shaft speed up to 7,700 rpm. For mechanical drive, it may operate at 50 to 105 percent of the nominal speed. The blades use interlocking shrouds for extra robustness.
- 3 Compressor**  
10-stage axial flow transonic compressor with three balancing planes accessible from the outside.



Frequency	Model	Power (MW)
50 Hz	SGT5-8000H	400 MW
	SGT5-4000F	307 MW
	SGT5-2000E	187 MW
60 Hz	SGT6-8000H	296 MW
	SGT6-5000F	242 MW
	SGT6-2000E	117 MW
50 or 60 Hz	Industrial Trent 60	53 to 66/54 to 62 MW
	SGT-800	48 to 54 MW
	SGT-750	38/39 MW
	SGT-700	33/34 MW
	Industrial RB211	27 to 32/28 to 34 MW
	SGT-600	24/25 MW
	SGT-500	19/19 MW
50 or 60 Hz	SGT-400	13 to 14 MW/13 to 15 MW
	SGT-300	8/8 to 9 MW
	SGT-200	7/8 MW
	SGT-100	5/6 MW
	Industrial 501-K	4 to 6 MW

Gas turbines from 4 to 400 MW

### Power generation package

The SGT-600's ability to handle sudden load changes and its high exhaust temperature makes it ideal for simple cycle, combined cycle, cogeneration, and other heating applications.

- Small footprint for easy fitting
- Modular and flexible package design
- Single-lift capability

### Mechanical drive package

SGT-600 mechanical drive packages offer long lifecycles and can withstand extreme climates ranging from hot deserts to arctic cold, oil platforms, and harsh industrial environments:

- Variable power turbine speed: 50 to 105%
- High load on low-power turbine speed
- Maintains efficiency at partial load
- Low emissions at partial load

	Simple cycle power generation	Mechanical drive applications
Power output	24.5 MW(e)	25.3 MW
Fuel	Natural gas, liquid fuel, dual fuel	
Frequency	50/60 Hz	
Gross efficiency	33.6%	34.6%
Heat rate	10,720 kJ/kWh	10,390 kJ/kWh
Turbine speed	7,700 rpm	3,850 – 8,085 rpm
Pressure ratio	14.0 : 1	
Exhaust gas flow	81.3 kg/s	
Exhaust temperature	543° C (1,009° F)	
NO <sub>x</sub> emissions	≤ 15 ppmvd at 15% O <sub>2</sub> on fuel gas (with DLE)	

	Physical dimensions	
	Power generation package	Mechanical drive package
Approx. weight	150,000 kg (330,693 lb)	59,000 kg (130,072 lb)
Length	18.8 m (61.7 ft)	11.7 m (38.4 ft)
Width	4.6 m (15.0 ft)	4.0 m (13.1 ft)
Height	4.0 m (13.1 ft)	4.0 m (13.1 ft)

	Combined cycle power generation	
Siemens combined cycle power plant	SCC-600 1 x 1	SCC-600 2 x 1
Net power output	35.9 MW(e)	73.3 MW(e)
Net plant efficiency	49.9%	50.9%
Net heat rate	7,220 kJ/kWh	7,071 kJ/kWh
Number of gas turbines	1	2

Published by  
Siemens AG 2016

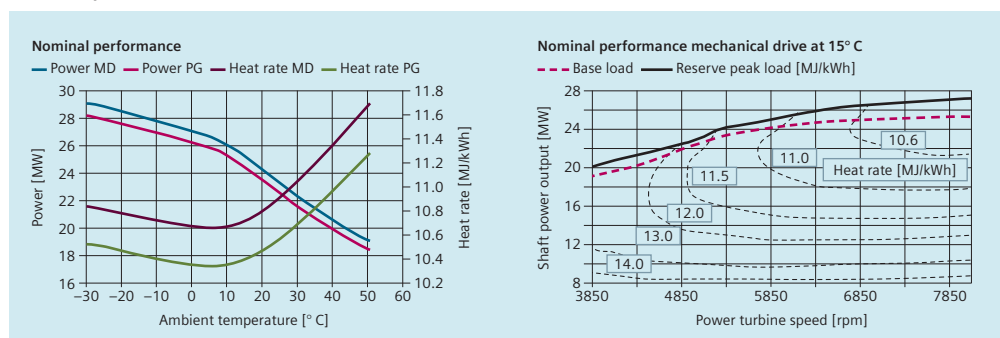
Power and Gas Division  
Distributed Generation  
Freyeslebenstrasse 1  
91058 Erlangen, Germany

Article No. PGDG-T10012-00-7600  
Printed in Germany  
Dispo 34806  
TH 566-160138 FS 0816

Subject to changes and errors.  
The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

Note: At ISO conditions. All combined cycle performance is based on dual pressure, no reheat. Above dimensions exclude inlet filter housing and exhaust stack. For power generation, AC generator is included. For mechanical drive, driven equipment is excluded.

### SGT-600 performance



Above performances at ISO conditions, gaseous fuel