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 NOx 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

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.

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

siemens.com/gasturbines
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

<table>
<thead>
<tr>
<th>Power output</th>
<th>Mechanical drive applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.5 MW(e)</td>
<td>25.3 MW</td>
</tr>
</tbody>
</table>

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)

NOx emissions
≤ 15 ppmvd at 15% O2 on fuel gas (with DLE)

Physical dimensions

<table>
<thead>
<tr>
<th>Approx. weight</th>
<th>Power generation package</th>
<th>Mechanical drive package</th>
</tr>
</thead>
<tbody>
<tr>
<td>150,000 kg (330,693 lb)</td>
<td>150,000 kg (330,693 lb)</td>
<td></td>
</tr>
<tr>
<td>11.7 m (38.4 ft)</td>
<td>11.7 m (38.4 ft)</td>
<td></td>
</tr>
<tr>
<td>4.0 m (13.1 ft)</td>
<td>4.0 m (13.1 ft)</td>
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</tbody>
</table>

Combined cycle power generation

<table>
<thead>
<tr>
<th>Siemens combined cycle power plant</th>
<th>SCC-600 1 x 1</th>
<th>SCC-600 2 x 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net power output</td>
<td>35.9 MW(e)</td>
<td>73.3 MW(e)</td>
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<tr>
<td>Net plant efficiency</td>
<td>49.9%</td>
<td>50.9%</td>
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<tr>
<td>Net heat rate</td>
<td>7,220 kJ/kWh</td>
<td>7,071 kJ/kWh</td>
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<tr>
<td>Number of gas turbines</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

SGT-600 performance

Above performances at ISO conditions, gaseous fuel