**Gas turbine SGT-800**

For power generation applications

Proven reliability, flexible solutions, low emissions and excellent performance make the SGT-800 the perfect choice. Typical applications include both simple and combined cycle plants for industrial or oil and gas power generation, as well as combined heat and power (CHP) generation.

**High efficiency**
- Outstanding in combined cycle
- Excellent steam-raising capability
- High electrical efficiency
- Hot climate option

**Important features**
- Robust industrial design for high reliability and easy maintenance
- Dual-fuel DLE combustion system for low emissions and high fuel flexibility
- High operational flexibility including 10-minute start capability and fast load-following for grid support or island mode operation

**Key benefits**
- 47.5 – 57.0 MW(e) power output
- >40% simple cycle efficiency
- >58.5% combined cycle efficiency
- More than 325 units sold
- More than 5 million fleet hours
- High reliability and availability
- Low lifecycle costs
- Robust dual-fuel (gas/liquid) DLE combustion system
- On-load fuel changeover capability
- Excellent fuel flexibility
- High content of inert gases, hydrogen and heavy hydrocarbons
- Low emissions over a wide load range
- Capable of single-digit NOₓ and CO

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**Customer service and maintenance**
- Flexible standardized time- and cycle-based maintenance concepts
- Up to 60,000 equivalent operating hours (EOH) between major overhauls
- On-site maintenance or modular overhaul
- Option for off-site maintenance with 48-hour core engine exchange
- Maintenance-friendly design
- 24/7 support including emergency service and specialist helpdesk
- Full field service, diagnostic support, and remote monitoring

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**Compressor**
- 15-stage compressor with variable guide vanes on the first 3 stages. A hot-climate option available for increased power and efficiency.

**DLE combustion system**
- Robust dual-fuel (gas/liquid) Dry Low Emission (DLE) combustion system for low environmental footprint and excellent gas fuel flexibility.

**Turbine**
- A highly efficient 3-stage turbine design offering optimal performance and lifetime. High exhaust energy giving excellent cogeneration/combined cycle characteristics.

siemens.com/gasturbines
### SGT-800 Classic package
The gas turbine and gearbox are placed on a single base frame or with the gearbox directly on the foundation. The mechanical auxiliary systems are mounted on a separate skid placed close to the gas turbine inside the enclosure.
- Modular and flexible package design
- Easily transported and installed at site
- On-site maintenance inside the package

### SGT-800 Single Lift package
A single-lift driver unit (i.e., skid-mounted gas turbine, gearbox and mechanical auxiliary systems) or as a complete skid-mounted train (including the generator) for 3-point mount installations, e.g., for power barges.
- Single-lift capability and small footprint
- Short installation and commissioning time
- 48-hour core engine exchange optional
- Available with a special US-adapted option

### Power output
<table>
<thead>
<tr>
<th>Output</th>
<th>Simple cycle power generation</th>
<th>Combined cycle power generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>Natural gas, other gases within specification, liquid fuel (Diesel No.2) and dual fuel (gas and liquid)</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
<td></td>
</tr>
<tr>
<td>Gross efficiency</td>
<td>37.7%</td>
<td>38.3%</td>
</tr>
<tr>
<td>Heat rate</td>
<td>9,547 kJ/kWh</td>
<td>9,389 kJ/kWh</td>
</tr>
<tr>
<td>Turbine speed</td>
<td>6,608 rpm</td>
<td></td>
</tr>
<tr>
<td>Pressure ratio</td>
<td>20.1 : 1</td>
<td>21.0 : 1</td>
</tr>
<tr>
<td>Exhaust gas flow</td>
<td>132.8 kg/s</td>
<td>134.2 kg/s</td>
</tr>
<tr>
<td>Exhaust temperature</td>
<td>541°C (1,007°F)</td>
<td>553°C (1,027°F)</td>
</tr>
<tr>
<td>NOx emissions</td>
<td>≤ 15 ppmvd</td>
<td>≤ 15 ppmvd</td>
</tr>
</tbody>
</table>

### Siemens combined cycle power plant
- **SGC-800 1 x 1**
  - Net plant power output: 66.6 – 80.7 MW(e)
  - Net plant efficiency: 53.8 – 58.0%
  - Net plant heat rate: 6,693 – 6,207 kJ/kWh
  - Number of gas turbines: 1

- **SGC-800 2 x 1**
  - Net plant power output: 135.4 – 163.1 MW(e)
  - Net plant efficiency: 54.7 – 58.6%
  - Net plant heat rate: 6,583 – 6,143 kJ/kWh
  - Number of gas turbines: 2

### Physical dimensions
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Classic package</th>
<th>Single lift package</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. weight</td>
<td>285,000 kg (628,300 lb)</td>
<td>305,000 kg (672,400 lb)</td>
</tr>
<tr>
<td>Length</td>
<td>20.8 m (68 ft)</td>
<td>22.0 m (72 ft)</td>
</tr>
<tr>
<td>Width</td>
<td>7.3 m (24 ft)</td>
<td>4.7 m (16 ft)</td>
</tr>
<tr>
<td>Height</td>
<td>6.6 m (22 ft)</td>
<td>5.3 m (17 ft)</td>
</tr>
</tbody>
</table>

### SGT-800 performance

#### Nominal performance
- **Nominal power**: 47.5 MW(e), 50.5 MW(e), 54.0 MW(e), 57.0 MW(e)
- **Nominal heat rate**:
  - 47.5 MW(e): 9,389 kJ/kWh
  - 50.5 MW(e): 9,206 kJ/kWh
  - 54.0 MW(e): 9,389 kJ/kWh
  - 57.0 MW(e): 9,700 kJ/kWh

#### Nominal performance – hot-climate option
- **Nominal power**: 47.5 MW(e), 50.5 MW(e), 54.0 MW(e), 57.0 MW(e)
- **Nominal heat rate**:
  - 47.5 MW(e): 541°C (1,007°F)
  - 50.5 MW(e): 553°C (1,027°F)
  - 54.0 MW(e): 563°C (1,045°F)
  - 57.0 MW(e): 565°C (1,049°F)

Above performances at ISO conditions, natural gas fuel