



Industrial Applications

Solving Your Power Shortfalls - Promptly and Efficiently

A responsive partner, delivering you a fast, robust
power source anywhere in the world

Power Generation

Our expertise removes your power constraint

Are you looking for a partner to rapidly augment the power at your facility?

Working remotely or with an unreliable grid connection, makes the success of your business highly dependent upon the ability to provide your own electrical power. Not having access to electricity directly impacts the revenue stream which underpins your results.

At Siemens we recognize the crucial importance of reliable power systems and the need for rapid adjustments to the systems to support changes in your business. We offer a lifetime partnership in products and services to help you fulfil your commitments.

We can help you

- *establish initial or additional power modules in just a few weeks, with only days of site activity*
- *operate in extreme ambient temperatures, using a wide variety of fuels*
- *limit costs by providing a standard pre-defined and validated solution which minimizes bespoke engineering and support costs*
- *optimize your use of capital expenditure by enabling you to easily relocate your power plant to where it is required*

So, if you are looking for a reliable partner to secure the electrical supply which underpins your business, then it is time to talk to Siemens.



Simplicity in partnership

Wherever your need for power, we have a modular solution which can easily be configured and transported to your site, however remote. Setting up a power plant has never been simpler or quicker. We will then support you over the lifetime of your plant to ensure that you generate revenues, day in, day out.

Committed to technology

With a Siemens turbine at the heart of your generation scheme you access our *Global Network of Innovation*. We are committed to maintaining our leading edge position in turbine technology, ensuring the highest efficiency, optimized life and lowest emissions. These make up the lowest Total Cost of Ownership and drive up your energy savings.

Committed to the environment

We take responsibility for the environment very seriously. That is why our turbine products are known as the cleanest in the world. Industry-leading energy efficiency ensures maximum usage of the energy released by your fuels, minimizing CO₂ emissions. Exhaust emissions of nitrogen oxides (NO_x), which play a role in the production of low level ozone, are among the lowest in the industry.



Lifelong support

We recognize that your core business depends on a reliable electrical power source. That is why we offer you a range of support options which will allow us to work together as partners to maximize plant availability year after year. Our global service network offers around-the-clock support wherever you need it. In addition we are able to offer financing or leasing solutions to minimize the capital which you tie up in the power plant.



■ Three SGT-300 industrial gas turbine generator packages installed at a site in Canada to provide a reliable source of power. The units were supplied from stock and installed to allow operation within days of arrival.



■ Four SGT-400 mobile packages operate in the Middle East, providing power to the local grid system. The units are capable of operation on either natural gas or diesel fuel and include the Siemens Dry Low Emission combustion technology. Each 13 MW mobile package is contained on four trailer units and includes a control room with switchgear, black start diesel and instrument air compressor.



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SGT-300 Modular Package

The complete package consists of five main modules plus a shipping container for miscellaneous items. The package is suitable for location in a non-hazardous area.

Module 1 Gas turbine generator package

- engine core with a normal rating of 7.9MW(e)
- multipoint-mounting baseplate of fabricated steel construction carrying the gas turbine, gearbox, generator and auxiliaries
- turbine compressor cleaning system for hot and cold crank wash
- start system
- dual fuel system
- off-skid gas fuel block and vent valve assembly
- acoustic enclosure fitted over turbine and gearbox
- fire and gas system
- a 1500 rpm, 11 kV, 3 phase, 4 Pole, 50Hz, 0.8 power factor, salient pole brushless AC Generator

Module 2 Exhaust System

- a free-standing exhaust system fabricated in ferritic stainless steel comprising lagged cascade bend, exhaust silencer and support structure
- total height of exhaust approximately 12 m

Module 3 Combustion Inlet Filter System

- pulse-type automatic self-cleaning air intake filter
- ferritic stainless steel air intake silencer

Module 4 Ventilation and Cooler Systems

- the ventilation and cooler systems will be supported between the combustion inlet filter system (module 3) and a set of support legs, and comprise: *lubricating oil breather oil mist eliminator / airblast simplex lubricating oil cooler / gas turbine enclosure ventilation system / AC generator cooling air system*

Module 5 Control Room

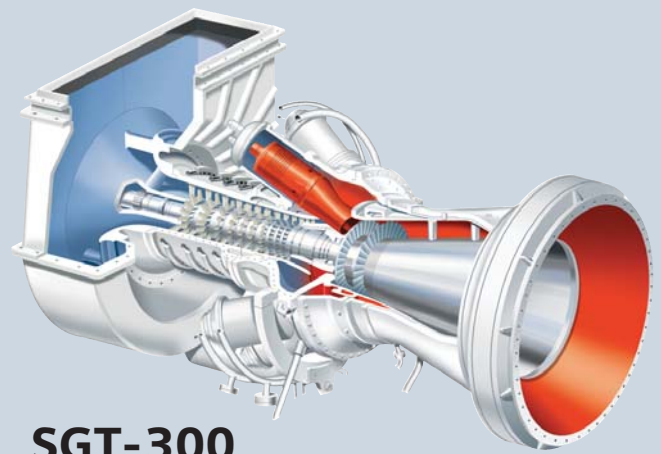
- the separate air-conditioned control room will contain all necessary control equipment for the operation of one complete generator package and will be connected to the generator package using a system of pre-wired plugs/sockets. The control room comprises: *Rustronic 3000 turbine control system incorporating an Allen Bradley ControlLogix / motor control center for on-package AC motors only / generator control panel / nickel cadmium battery system complete with charger to provide power for three hours to ensure the safe rundown of the turbine in an emergency / auxiliary transformer / medium voltage switchgear / neutral earthing resistor*

Shipping container for miscellaneous items

- an ISO standard shipping container is included within the scope of supply and is used to transport and store the following equipment: *off-package low pressure compressor wash trolley / installation and commissioning equipment including commissioning spares, equipment and tools / standard set of certified information, drawings and manuals in the English language*

Standard option for instrument air compressor package

- a standard option is available for a containerized instrument air compressor package



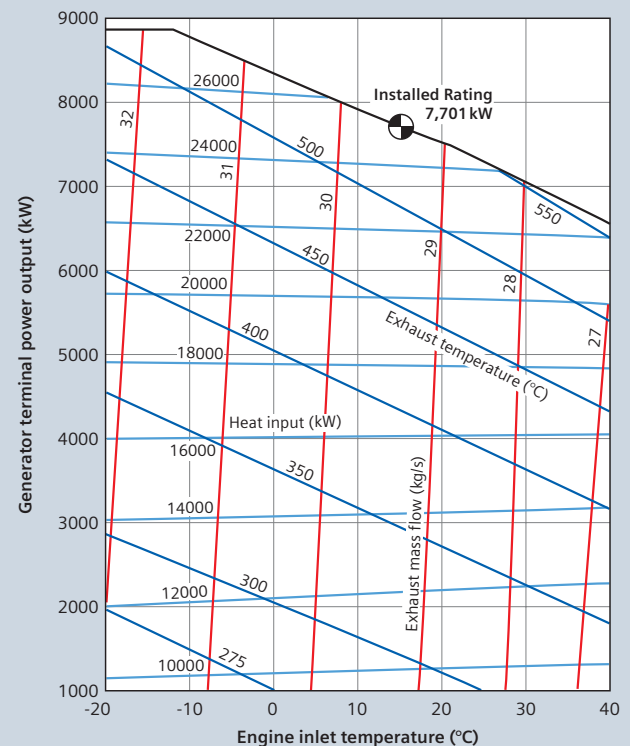
SGT-300

The SGT-300 combines simplicity and technology to provide high reliability and excellent emissions performance for power generation. The cold end drive provides a very compact package for ease of installation.

Technical Data

■ Fuel:	Natural Gas
■ Frequency:	50/60Hz
■ Electrical efficiency:	31.2%
■ Heat rate:	11,532 kJ/kW-hr (10,930 Btu/kW-hr)
■ Turbine speed:	14,010 rpm
■ Compressor pressure ratio:	13.7:1
■ Exhaust gas flow / temperature:	29.8 kg/s, 537°C (65.6 lb/s, 999°F)
■ NO _x emissions (with DLE, corrected to 15% O ₂ dry):	<25 ppmv

Performance - Power Generation 7.90MW(e)



Altitude:	Sea level	Exhaust ducting Loss:	2.0 kPa
Ambient pressure:	101.3 kPa	(assumes waste heat recovery)	
Relative humidity:	60%	Gearbox efficiency:	99.0%
Inlet ducting Loss:	1.0 kPa	Generator efficiency:	97.0%