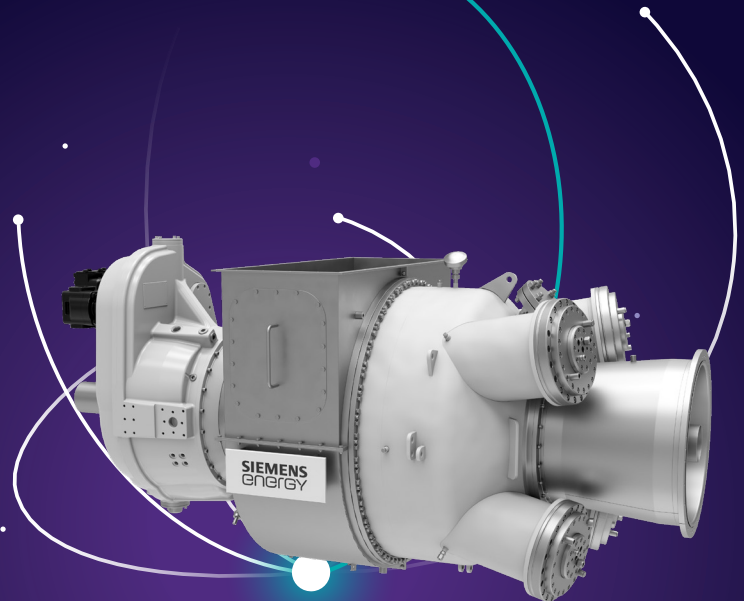


SGT-50 DLE

Radial gas turbine with radial compressor and turbine inflow

siemens-energy.com



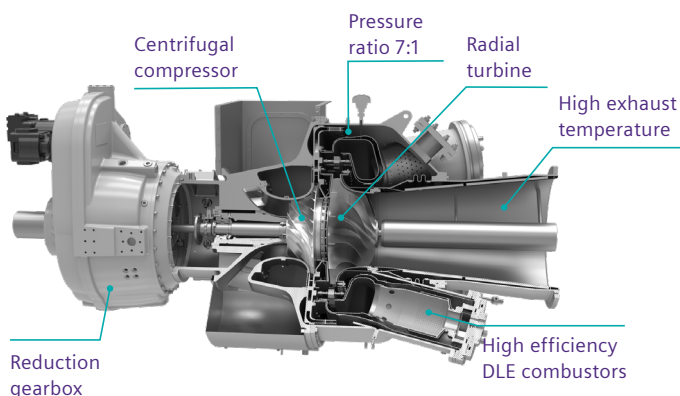
Technical Description

- **Reduction gearbox**
 - Epicyclic with journal bearings
 - Available in 50Hz and 60Hz version (1500/1800rpm)
 - Equipped with thermocouples on main bearings
- **Turbine Rotor Bearings**
 - In the cold side of the engine
 - Thrust (tilting pad) and journal
- **Compressor wheel**
 - Centrifugal single stage
- **Turbine wheel**
 - Radial single stage
- **Combustors**
 - Can (tubular) type
 - DLE (dry low emission)

Performance at ISO conditions

SGT-50 DLE

Type	Radial gas turbine	
Power Output	2000	kW
Emissions (NOx/CO)	<15	ppm
Shaft efficiency	25	%
Availability/ Reliability	>98	%
Compressor pressure ratio	7:1	-
Air inlet mass flow	9,26	kg/s
Exhaust heat	5221	kW
Exhaust gas flow	9.44	kg/s
Exhaust gas temperature	600	°C
Fuel flow rate	623.6	kg/h
Required inlet gas pressure	13	barg
Generator voltage	0.4 – 13.8	kV
Gearbox	Epicyclic	-
Frequency	50 or 60	Hz
Maintenance (MTBO)	>40 000	h
Noise (enclosure)	75-85	dba



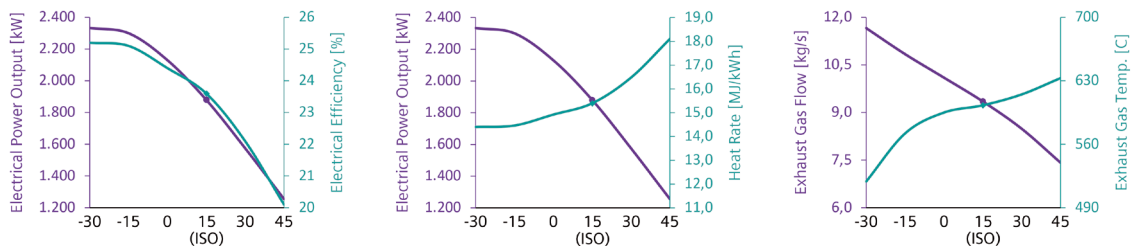
Sub-components

- **Base frame**
 - Integrated lube oil reservoir including level gauge, drain and vent connections
 - Coated and painted
- **Junction box** available for easy customer connection
- **Starter system**
 - Hydraulic starter with el. motor and high-pressure pump
 - Optionally: air starter motor (pre-required 7 barg air pressure (could be supplied with separate compressor))
- **Lube oil system**
 - Turbine driven
 - Optional: lube oil cooler (air to oil / water to oil)
- **Compressor cleaning system** (optional)
 - Mobile off-skid trolley with water-wash tank
- **Control system**
 - Woodward Flex 500 PLC-Based Turbine Control Panel (TCP)
 - MCC, main circuit breaker, communication link to ICCS/DCS – optional
- **Control room**
 - On and Off skid
 - Optionally can be integrated on Level 2 package
- **Coupling**
 - Flexible Dry Coupling with Integrated Shear Pin for Overload Protection
- **Generator**
 - 4 pole, 400 or 480V
 - Available up to 13kV

CHP application (optional CCHP)

- CHP Efficiency: >90% (typically w/ duct burner)
- Steam output: from 6.6 to 13.5 t/h
- Pressure: 10 barg
- Steam outlet temperature: 186°C

Performance curves:



Package features

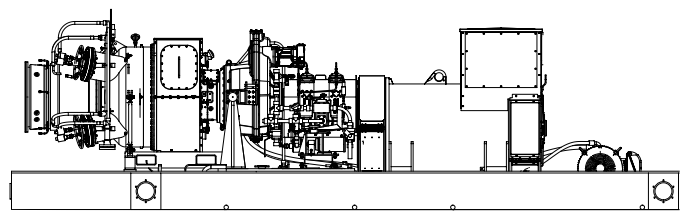
Available in following package levels:

- **Level 1** – Gas turbine mounted on base frame (incl. all auxiliaries)
- **Level 2** – Fully packaged (incl. Level 1, CO2 gas suppression system, air intake and exhaust system with silencer). Standard package complies with 85dBA noise level.
- **Extreme Temperature conditions:**
 - Below -25°C
 - Above +45°C

*All package levels include control system cabinet

Package's details

Type	Length [m]	Width [m]	Height [m]	Weight [kg]
Level 1	8.5	2.1	2.1	14 100
Level 2	8.5	2.1	3.4	21 000



Typical Level 1 layout

Applicability

SGT-50 has a wide range of applications that already has been proven through existing installed base both on- and off-shore.

We cover markets such as power generation, distributed energy, district heating including C(C)HP (Combined Cooling Heat and Power).

We offer SGT-50 in several different modular options to suit the best customers' requirements.

Siemens-Energy

Dresser-Rans AS

Kirkegårdsveien 45, 3616 Kongsberg, Norway

For more information:

<https://www.siemens-energy.com/global/en/offerings/power-generation/gas-turbines/sgt-50.html>

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