

SIEMENS
ENERGY

We power the world with innovative gas turbines

Siemens Energy gas turbine portfolio



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Gas turbines from 2 to 593 MW

The Siemens Energy gas turbine range has been designed and tailored to help meet our customers' challenges in a dynamic market environment.

Our models range from 2 to 593 MW, fulfilling the requirements of a wide spectrum of applications in terms of efficiency, reliability, flexibility, and environmental compatibility. The products offer low lifecycle costs and an excellent return on investment.



SGT-100 packages for power generation

Siemens Energy gas turbines overview

For more information, please click on a product name

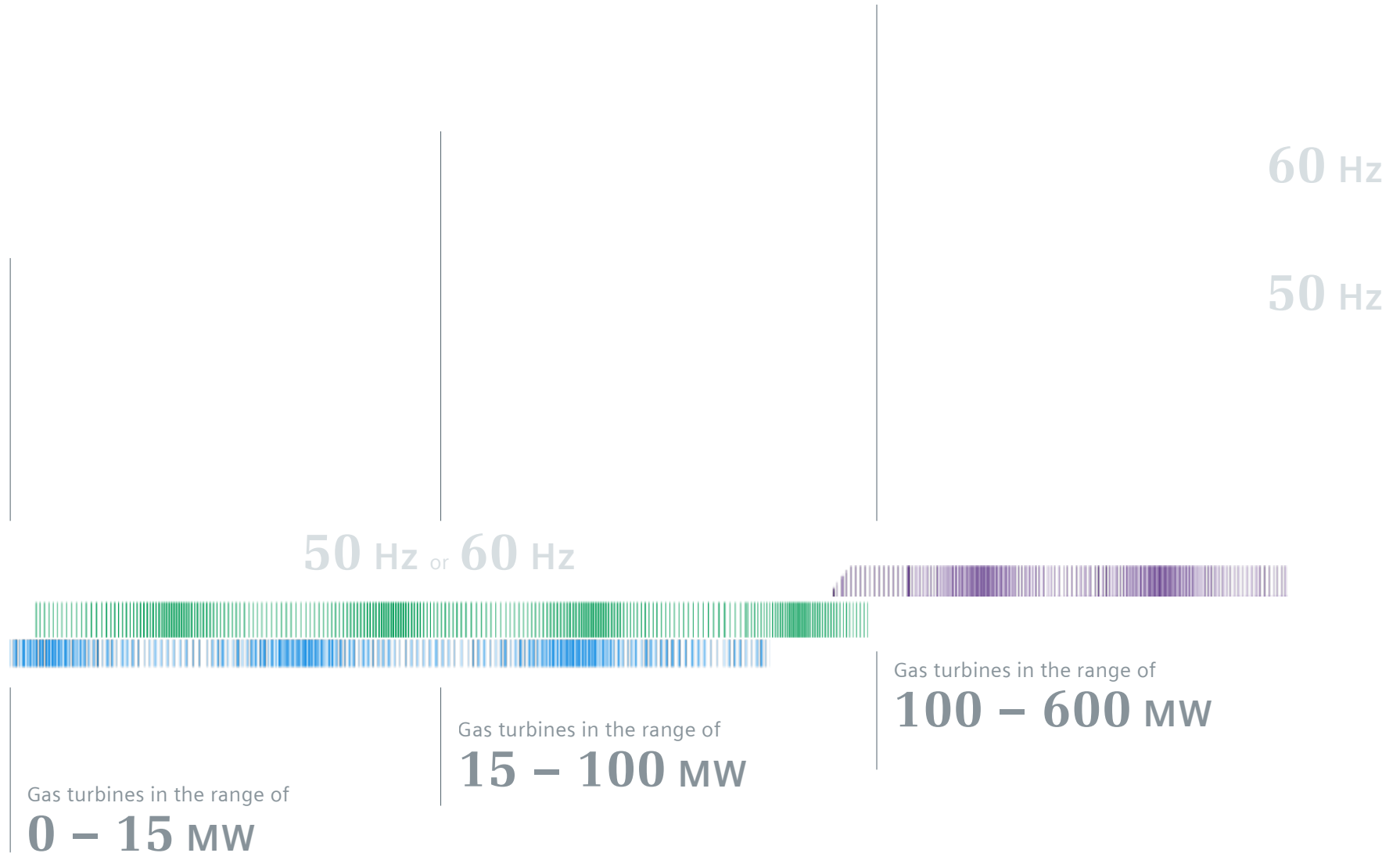
Heavy-duty
gas turbines



Industrial
gas turbines



Aeroderivative
gas turbines



General note:

All simple cycle and mechanical drive performance data in this document are gross values at ISO ambient conditions.

All combined cycle performance data in this document are gross values at ISO ambient conditions.

Siemens Energy **HL-class** gas turbines are paving the way to the next level of efficiency and performance. The evolutionary development step, derived from proven H-class technology, combines a **series of new but already tested technologies** like super-efficient internal cooling features for blades and vanes and an advanced combustion system to increase firing temperature.

Record-holder for the most powerful and efficient **combined cycle efficiency exceeding 64%**.

The HL-class consists of two engines: SGT5-9000HL and SGT6-9000HL.

- Derived from proven Siemens Energy H-class technology
- Pushing efficiency and performance to the next level
- Competitive service model with 33,000 Equivalent Base Hours (EBH) / 1,250 Equivalent Starts (ES)



Duke Energy, Lincoln County, USA

SGT5-9000HL SGT6-9000HL

Power output: 440 – 593 MW

Heavy-duty gas turbines

The **SGT5-8000H** offers outstanding performance and high operational flexibility. The air-cooled turbine provides a power output of **450 MW**. With short start-up times and high load variations, the turbine offers **low lifecycle costs** and helps to meet fluctuating power demands.

The turbine is the core component of highly efficient gas-fired power plants, designed for 675 MW with an efficiency higher than 62% in combined cycle operation.

With more than **4.0 million fired hours**, the SGT-8000H series provides mature technology with verified reliability and availability.

- Outstanding performance
- High operational flexibility
- Proven in commercial operations



SGT5-8000H

Heavy-duty gas turbine

Power output: 450 MW

The **SGT6-8000H** offers outstanding performance and high operational flexibility. The air-cooled turbine provides a power output of **310 MW**. With short start-up times and high load variations, the turbine offers low life-cycle costs and helps to meet fluctuating power demands.

The turbine is the core component of highly efficient gas-fired power plants, designed for 472 MW with an efficiency higher than around 62% in combined cycle operation.

With more than **4.0 million fired hours**, the SGT-8000H series provides mature technology with verified reliability and availability.

- Outstanding performance
- High operational flexibility
- Proven in commercial operations



Dangjin 3, South Korea

SGT6-8000H

Heavy-duty gas turbine

Power output: 310 MW

The proven **SGT5-4000F** gas turbine has a **robust design** with internal cooling air passages for **trusted long-term operation** and **fast start-up capability**. The advanced annular combustion chamber with individually replaceable heat shields allows for **easy and fast walk-in maintenance**. Hydraulic Clearance Optimization (HCO) reduces clearance losses to increase the gas turbine efficiency and minimize degradation at start-up and shut down.

Today, more than **360 turbines** have been **sold**. The installed fleet has accumulated an impressive fleet experience of over **20.5 million equivalent operating hours**, and a fleet **reliability** of more than **99%**.

- Proven design, large fleet experience
- Easy maintenance, high availability
- High operational flexibility



Ribatejo, Lisbon, Portugal

SGT5-4000F

Heavy-duty gas turbine

Power output: 329 – 385 MW

The **SGT6-5000F** gas turbine offers economical power generation with fast start-up for peak, intermediate, or base load duty. It achieves peak values for reliability and continuous operation with **highest performance values in its class**.

Today, more than **380 turbines** have been **sold**. The installed fleet has accumulated more than **17 million equivalent operating hours**, with a fleet **reliability** of over **99%**.

- Highest power output for 60 Hz F-class
- Fast start-up and load changing capabilities
- Low emissions with an NO_x emission of ≤9 ppmvd on gas and ≤25 ppmvd on oil



SGT6-5000F

Heavy-duty gas turbine

Power output: 260 MW

The **SGT5-2000E** gas turbine is a **proven, robust** engine for the 50 Hz market which is used in simple cycle or combined cycle processes with or without combined heat and power. It is suitable for **all load ranges**, including peak load.

The SGT5-2000E offers outstanding **fuel flexibility**. It can be fired with low calorific gases or gases containing CO₂, H₂S and N₂, as well as with crude oil and other liquid fuels with high viscosity. It provides **low NO_x emissions**, even in the part-load range.

Today, around **330 turbines** have been sold, and additionally, more than **270 units** under license. Our installed fleet has accumulated over **24 million equivalent operating hours**. The SGT-2000E series fleet's overall best-in-class reliability exceeds **99.5%**.

- Best-in-class reliability
- High operational and fuel flexibility
- Easy maintenance



Az Zour South, Kuwait

SGT5-2000E

Heavy-duty gas turbine

Power output: 198 MW

The **SGT6-2000E** gas turbine is a **proven, robust** engine for the 60 Hz market which is used in simple cycle or combined cycle processes with or without combined heat and power supply. It is suitable for all load ranges, including peak load.

The SGT6-2000E offers outstanding **fuel flexibility**. It can be fired with low calorific gases or gases containing CO₂, H₂S and N₂, as well as with crude oil and other liquid fuels with high viscosity. It provides **low NO_x emissions**, even in the part-load range.

Today, more than **100 turbines** have been sold, resulting in a fleet experience of over **12 million equivalent operating hours**. The SGT-2000E series fleet's overall best-in-class reliability constantly exceeds **99.5%**.

- Best-in-class reliability
- High operational and fuel flexibility
- Easy maintenance



Charles D. Lamb Energy Center, Oklahoma, USA

SGT6-2000E

Heavy-duty gas turbine

Power generation: 119 MW

The **market leading SGT-800** industrial gas turbine offers **broad flexibility**.

The SGT-800 combines a simple, robust design, for **high reliability** and **easy maintenance**, with **high efficiency** and **low emissions**.

Sustainable and future proof. **Targeting 100% hydrogen** capability by 2025. Continuously improving **other green fuel** capabilities.

Designed for **flexible operation** makes it perfectly suited for **peaking power** and **grid support**.

Excellent **simple cycle** efficiency and steam-raising capability make it outstanding in **cogeneration** and **combined cycle** installations.

More than **525 units sold** and over **17 million operating hours**. An excellent choice for both **power generation** and **industrial applications**.

- High fleet reliability
- Flexible solutions
- Excellent performance



Amata Nakorn, Chonburi, Thailand

SGT-800

Industrial gas turbine

Power generation: 45.3 – 62.5 MW(e)

With **maximized uptime, top-class performance**, and a **low environmental footprint** offering the customer high lifetime profitability, the **SGT-750** industrial gas turbine is a perfect choice for the oil and gas industry as well as industrial power generation. The modular and flexible engine enables onshore or offshore applications, mechanical drive or heat and power. It combines a robust, reliable design with high efficiency and low emissions.

The SGT-750 offers broad flexibility with **different rating options** due to excellent part load capability. When running on lower load the maintenance intervals will be extended, low emissions can be guaranteed while the efficiency still is kept over 40%.

The SGT-750 has a track record of **successful performance** after years in operation and verified results in various applications. Units are sold for use in both power generation and compressor applications such as pipelines and liquefied natural gas (LNG).

- Maximized uptime
- High efficiency
- Low emissions



Kaltex, Altamira, Mexico

SGT-750

Industrial gas turbine

Power generation: 38.9 – 41.0 MW(e)
Mechanical drive: 40.0 – 42.2 MW

Thanks to its wide fuel range capability and design features, the **SGT-700** is a perfect choice for several applications: industrial power generation, oil and gas power generation, and mechanical drive applications.

It performs well in **combined cycle plants**, and **combined heat and power plants**.

The SGT-700 gas turbine is an evolution of the proven SGT-600 and is specifically designed for **higher power output**. It offers **easy on-site or off-site maintenance**, and operates with a wide range of gaseous and liquid fuels on Dry Low Emission (DLE).

More than **136 units** have been sold with over **4.6 million operating hours**. The fleet-leading gas turbine has over 152,000 operating hours.

- Robust, reliable design
- High fuel flexibility
- Low emissions



Three SGT-700 packages for mechanical drive

SGT-700

Industrial gas turbine

Power generation: 32.6 – 35.2 MW(e)
Mechanical drive: 33.5 – 36.2 MW

High reliability and availability in combination with good fuel flexibility and third-generation DLE makes the **SGT-600** a perfect choice for several onshore applications: Industrial power generation, oil and gas power generation, and mechanical drive applications. Within the IPG applications, the turbine performs well in **combined heat and power plants**, and **combined cycle plants**.

The industrial gas turbine combines a robust, reliable design with **high fuel flexibility**, and **low emissions**.

More than **360 units** have been sold with over **13 million operating hours**. The fleet-leading gas turbine has 160,000 operating hours.

- Robust, reliable design
- High fuel flexibility
- Low emissions



SGT-600 installation for both mechanical drive and power generation

SGT-600

Industrial gas turbine

Power generation: 24.5 MW(e)
Mechanical drive: 25.2 MW

The **SGT-400** is a twin-shaft gas turbine available in different configurations and power ratings to support power generation and mechanical drive applications from 10 – 15 MW. The twin-shaft arrangement allows for commonality of parts in mixed-duty installations.

The gas turbine offers the **highest efficiency** in its power class, incorporating the latest aerodynamic and combustion technologies.

With about 20 years of operating experience, the SGT-400 is proven in both offshore and onshore applications. Over **420 units** have been sold with more than **7 million hours operating experience**. The fleet leader has accumulated more than 120,000 operating hours.

- Latest aerodynamic and combustion technology
- Suitable for all climates, onshore and offshore
- High power-to-weight ratio



The SGT-400 is available as a factory-assembled package

SGT-400

Industrial gas turbine

Power generation: 10.5 – 14.3 MW(e)
Mechanical drive: 10.9 – 14.9 MW

The **SGT-300** industrial gas turbine has a rugged industrial design that enables **high efficiency, reliability, and excellent emissions performance** in a broad spectrum of applications for both power generation and mechanical drive.

The gas turbine is a **proven** unit for all electrical power generation and cogeneration applications. It operates on a wide range of gaseous and liquid fuels. The compact arrangement, on-site or off-site maintainability, and inherent reliability of the SGT-300 make it an ideal gas turbine for the demanding oil and gas industry.

Over **175 units** have been sold, with more than **7.5 million equivalent operating hours**.

- Low maintenance requirements
- Low emissions
- Single-shaft version for power generation, twin-shaft version for mechanical drive applications



Orient Champion Paper Shanghai, China

SGT-300

Industrial gas turbine

Power generation: 7.9 MW(e)
Mechanical drive: 8.4 – 9.1 MW

The **SGT-100** industrial gas turbine is a proven unit for all electrical power generation and mechanical drive applications. The compact arrangement, on-site or off-site maintainability, and inherent reliability makes it an ideal gas turbine for the demanding **oil and gas industry**.

The gas turbine has a rugged industrial design that enables **high efficiency** and **excellent emissions performance** on a wide range of gaseous and liquid fuels.

More than 420 units have been sold with more than 29.5 million operating hours. The lead package has over **180,000 equivalent hours of operation**.

- Robust and reliable product
- Wide range of gaseous and liquid fuels
- Single-shaft version for power generation or twin-shaft version for mechanical drive applications



The SGT-100 combines advanced technology with robust construction

SGT-100

Industrial gas turbine

Power generation: 5.1 – 5.4 MW(e)
Mechanical drive: 5.7 MW

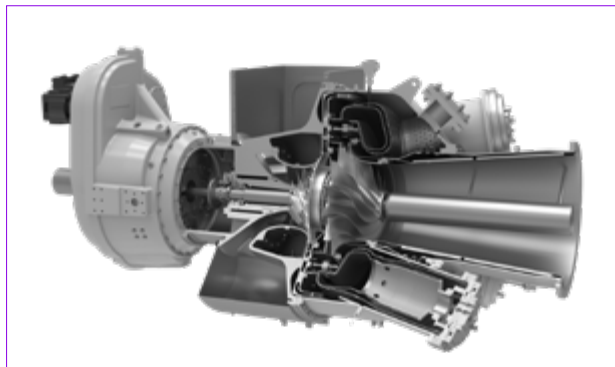
The Siemens Energy **SGT-50** gas turbines is an industrial gas turbine with a power output range of 2MW. The turbine combines minimal maintenance in a compact footprint that make it ideal for continuous power generation onshore and offshore, emergency and standby power and combined heat and power (CHP) plants.

Because of it's simple, **low maintenance design, high reliability and operational experience**, the SGT-50 turbine generator packages are the preferred solution for 2MW power requirements.

The wide fuel range enables operation on extremely low heating value fuels, landfill gas, associated gas from crude oil production, and liquid fuels including some crude oils. They are also available in an externally fired configuration for those customers with off-combustor technologies.

Over 1,000 units have been sold with more than 25 million hours operating experience. The fleet leader has accumulated **more than 250,000 operating hours**.

- Robust and reliable
- Low emissions
- Suitable for all climates – onshore and offshore
- Available in a mobile configuration



SGT-50 units providing base load power generation

SGT-50

Industrial gas turbine

Power generation: 2 MW(e)

With class-leading reliability and availability, the **SGT-A35** is a proven, dependable choice in power generation and mechanical drive applications. It is qualified to meet the stringent standards of the oil and gas industry in both onshore and offshore service.

The aeroderivative gas generator is highly tolerant of transient excursions and challenging mission cycles, and can be easily exchanged at site, reducing maintenance downtime and cost. Both conventional and DLE combustion systems are available, including dual fuel capability.

Evolved through decades of technological advancements, the SGT-A35 has accumulated over **46 million operating hours**, with over **850 units sold**.

- Proven track record in the oil and gas industry
- Several variants to meet different power needs
- Lightweight, compact, modular package design to maximize power density



Two SGT-A35 offshore generating sets installed on a Floating Production, Storage and Offloading (FPSO) vessel

SGT-A35

Aeroderivative gas turbine

Power generation: 31.3 – 37.2 MW(e)
Mechanical drive: 32.2 – 38.5 MW

Based on proven aeroderivative design, the **SGT-A05** gas turbines are flexible, compact and lightweight designs that are ideally suited for decentralized power generation offering high efficiency and fast start-up capabilities.

The gas turbine engine is designed to operate on a **wide variety of fuels**. The fuel system operations include dual fuel, steam, and water injection. DLE technology is also available.

More than **1,720 SGT-A05 gas turbines** have been sold for industrial use to more than **500 customers in 55 countries**, accumulating an impressive 133 million operating hours since its introduction in 1963.

- More than 1,720 gas turbines supplied
- Full engine power within 60 seconds
- High electrical and cycle efficiency



Mitchelstown, County Cork, Ireland

SGT-A05

Aeroderivative gas turbine

Power generation: 4.0 – 5.8 MW(e)

Siemens Energy Hydrogen Gas Turbines for our sustainable future



■ Reference highlight
for power generation

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for mechanical drive

or
choose
your
turbine:



■ Reference highlight
for power generation

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