

A large industrial steam turbine package, the SST-6000, is shown in a factory setting. The turbine is a massive, horizontal, cylindrical unit with a red-painted base and a large, curved, silver-colored ductwork extending from it. It is surrounded by a complex network of pipes, valves, and structural steel. The background shows other industrial equipment and a high-ceilinged factory environment.

SIEMENS

SST-6000 Steam Turbine Package

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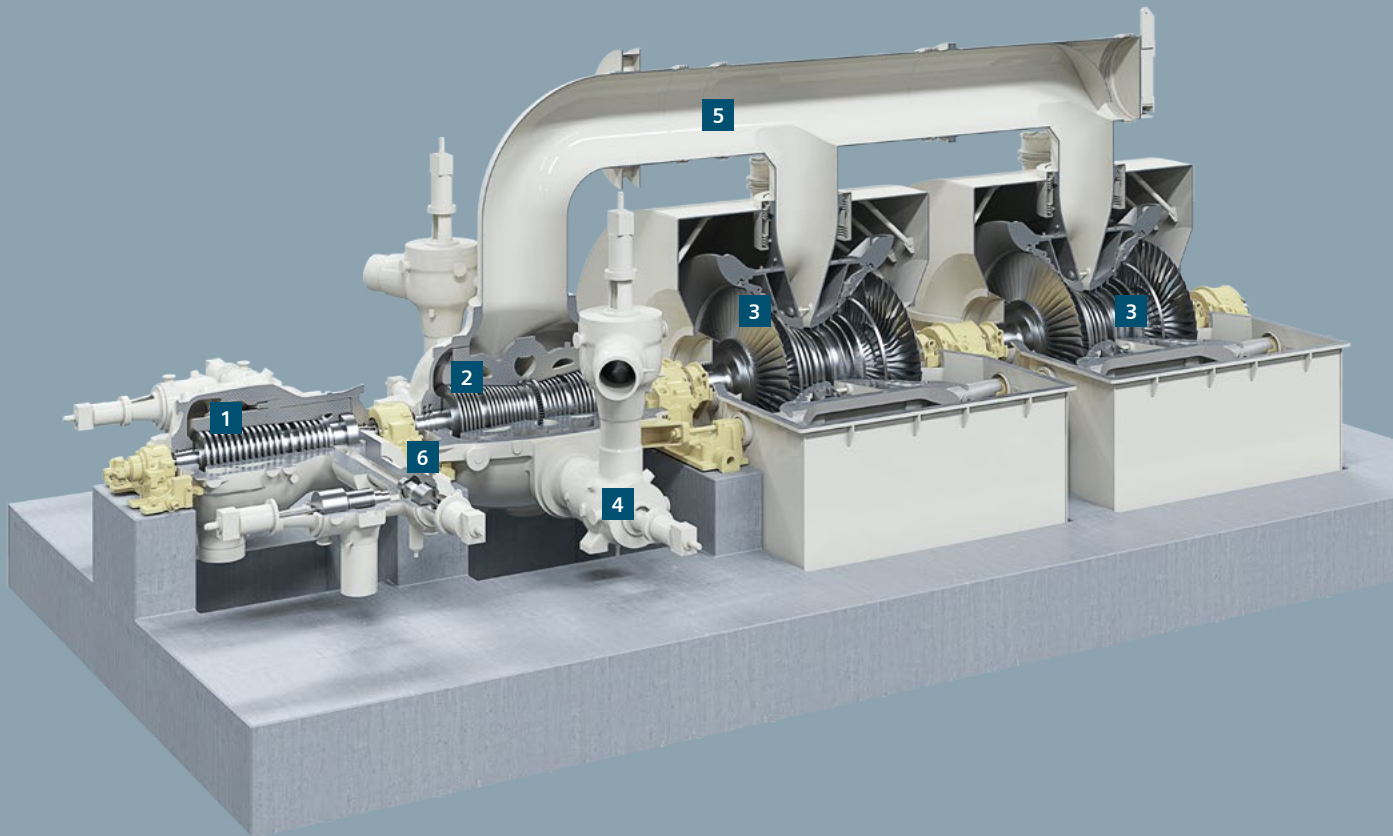
Siemens SST-6000 series

A broad range of turbine modules meet individual requirements of power ratings and steam parameters.

The modularized design secures technical replicability. For each project, Siemens customizes the turbine train and blade path to ensure optimal performance.

Preassembled modules reduce coordination effort, on-site assembly times, and technical risk.

Highest reliability and availability are proven by a forced outage rate that is less than half the North American Electric Reliability Council (NERC) average.



Overview

Siemens Steam Turbines of the SST-6000 series are widely operated in coal-fired steam power plants with a power output up to 1,200 MW and an steam turbine efficiency up to more than 53.7%.

Products of the SST-6000 series consist of a high-pressure (HP) turbine, an intermediate-pressure (IP) turbine, and up to three low-pressure (LP) turbines for 50 and 60 Hz.

The SST-6000 is installed as a high-level arrangement with down exhaust. Various extractions (up to 10 stages) are possible for feed water preheating, process steam, and district heating.

As of June 2015, 488 units of the Siemens SST-6000 series are built worldwide.

Double Reheat

On the path to increased efficiency, Siemens double reheat technology is one smart step towards achieving 54.4% efficiency. It is the optimal solution for applications used in steam power plants with a power output between 1,000 and 1,350 MW.

Customer Benefits

Technical Data

Power output: 300 MW to 1,200 MW
(Double reheat 1,000 MW to 1,350 MW)

Efficiency: more than 53.7%
(Double reheat 54.4%)

Frequency: 50 or 60 Hz

Speed: 3,000 or 3,600 rpm

Main steam conditions:

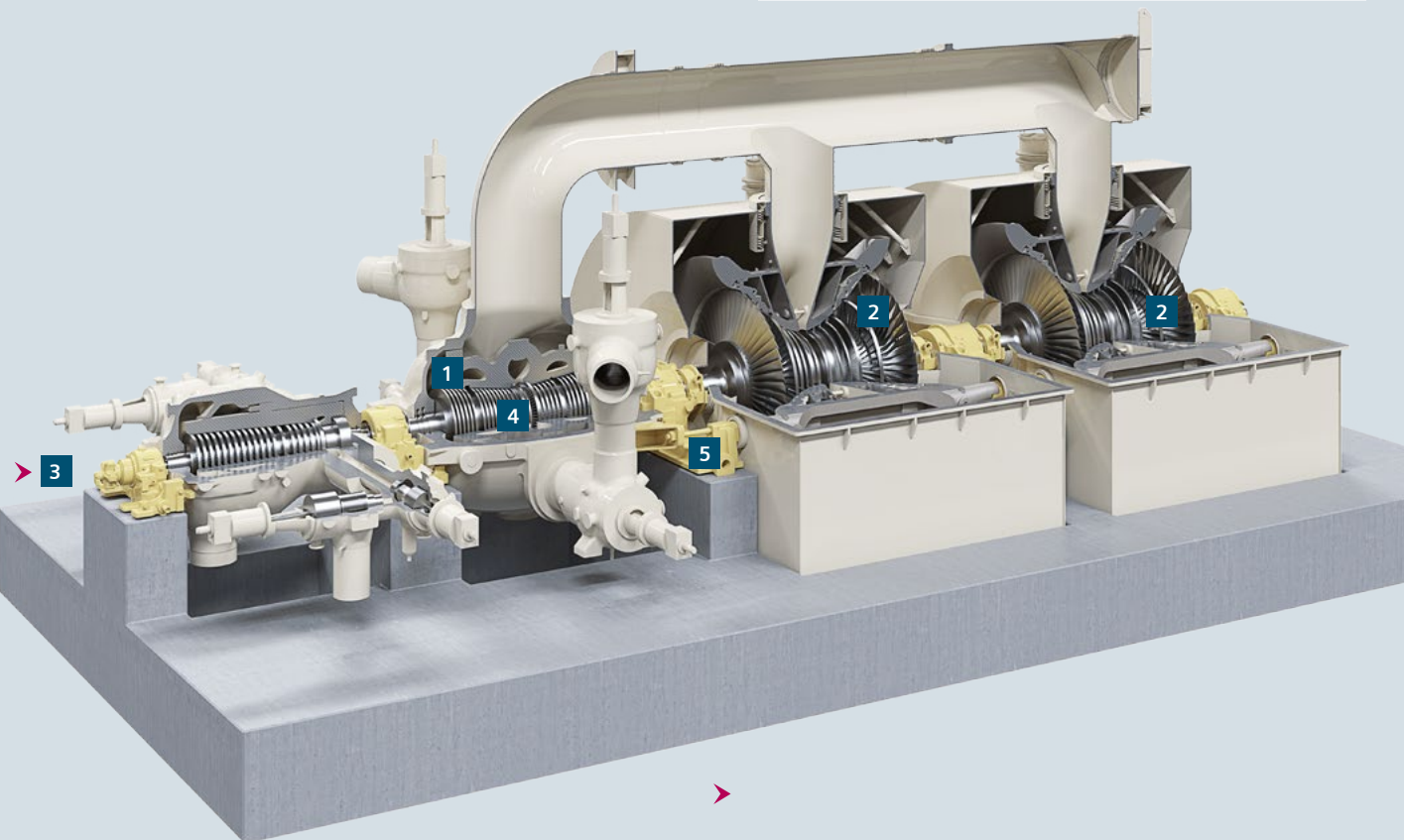
- Pressure up to 610 bar / 1,130 psi
- Temperature up to 330 °C / 4,786 °F

Reheat steam conditions for single and double reheat:

- Temperature up to 630 °C / 1,166 °F

Last stage blade length:

- 50 Hz: 66,4 cm to 142,3 cm / 26.2 inches to 56 inches
- 60 Hz: 65,5 cm to 95,4 cm / 25.8 inches to 37.6 inches



Maintenance of SST-6000



Assembly

High-pressure and intermediate-pressure turbine modules are delivered to site completely assembled. The assembly can also be carried out on-site.

- Fast and simple on-site installation due to pre-assembled modules.
- Thanks to the modular turbine design, Siemens can flexibly respond to project-specific transportation requirements.

Auxiliaries

Not only the pre-assembled core turbine modules but also the provided auxiliary systems are designed for maximum customer value:

Lube oil system, seal oil system, seal steam system, evacuation system, hydrogen system, and additional systems.

Opening of HP casing:

Reference examples



*Steam turbine generator

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