

SIEMENS

SST-6000
Steam Turbine Package

This PDF offers an advanced interactive experience.
For the best viewing experience, please use Acrobat Reader X or higher.

siemens.com/steamturbines

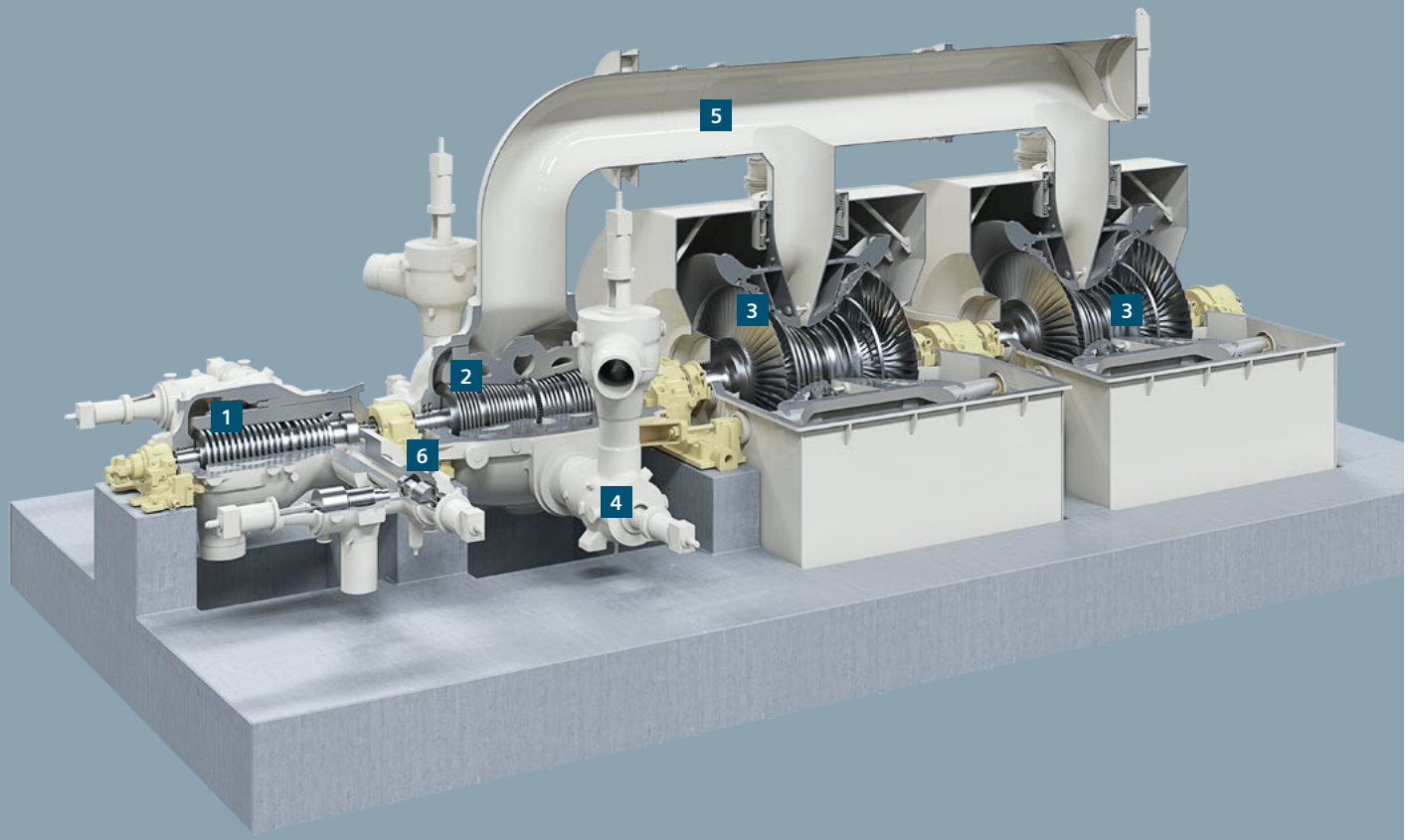
Siemens SST-6000 series

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.



- [1] High-pressure turbine
- [2] Intermediate-pressure turbine
- [3] Low-pressure turbines
- [4] Valve
- [5] Crossover pipe
- [6] Bearing

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

Availability | **Flexibility** | **Performance** | **Trusted Partner**

For us, reliability means living up to what we promise.

- Highest reliability and availability
- Long maintenance intervals to reduce lifecycle costs

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%)

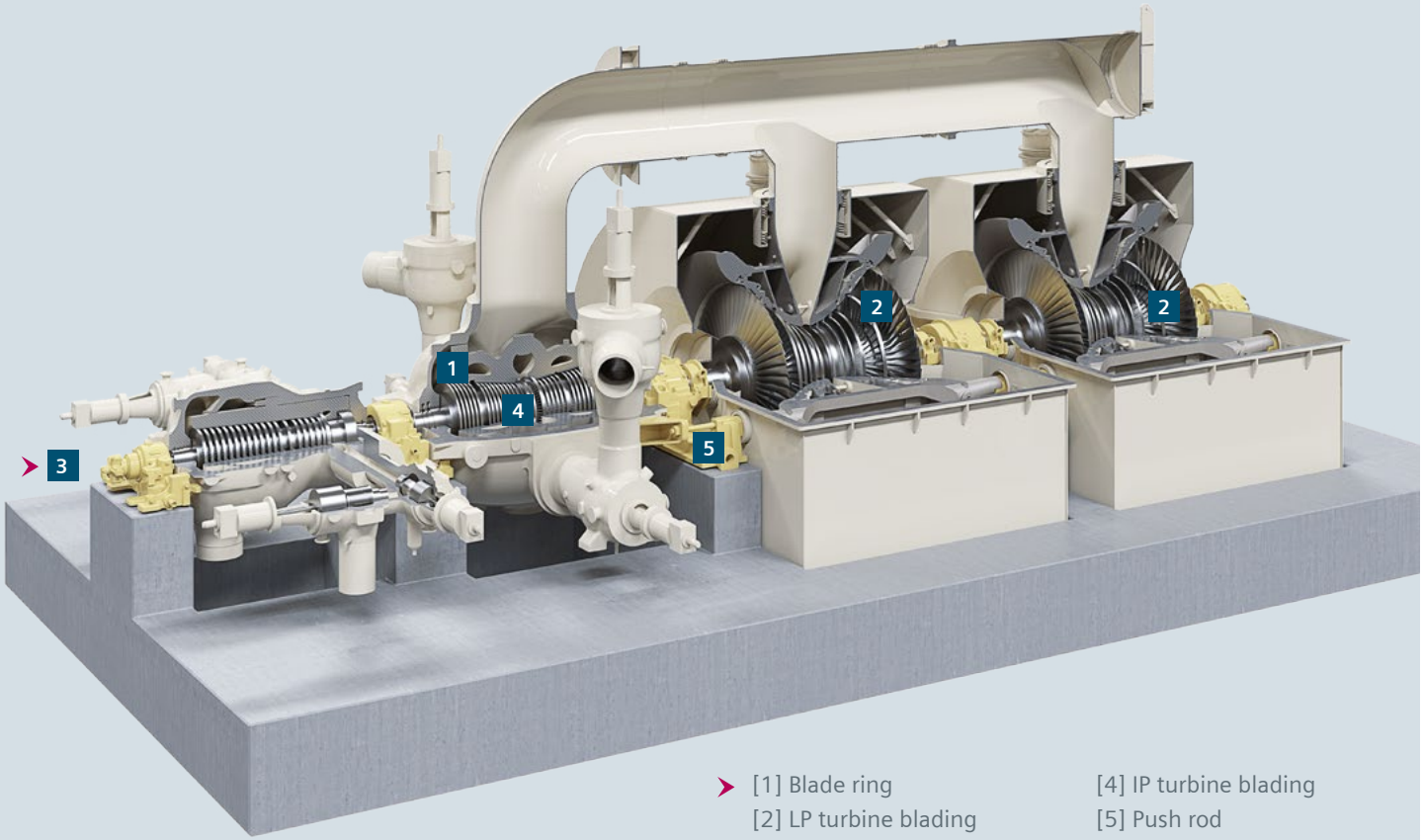
Frequency: 50 or 60 Hz
Speed: 3,000 or 3,600 rpm

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



[1] Blade ring
[2] LP turbine blading
[3] Turning gear
[4] IP turbine blading
[5] Push rod

	50 Hz	60 Hz
Apparent power	600 MVA to 1,300 MVA	600 MVA to 1,270 MVA
Power factor	0.8 to 0.9	0.85
Efficiency	up to 99%	up to 99%
Terminal voltage	20 kV to 27 kV	16 kV to 27 kV

The SGen-3000W series features generators with water-cooled stator windings and hydrogen-cooled rotors. They are the optimal solution for the highest output ranges and have a compact design.



Steam Power Plant Lünen, Germany

Maintenance of SST-6000



Minor Inspection | Medium Inspection | Major Inspection



Functional checks and visual inspection

- Visual inspection of accessible components including condenser
- Functional checks on valve and control components
- Alignment checks
- Optional: Inspection of non-accessible areas with boroscope

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.



Condenser Evacuation System

Reference examples



- [1] Iskenderun, Turkey
- [2] Niederaußem K, Germany
- [3] Isogo, Japan
- [4] Lünen, Germany
- [5] Waigaoqiao III, China
- [6] Yuhuan, China

Switch to printable overview

Subcritical steam power plant. Iskenderun, Turkey



Commercial operation: 2003

Power output*: 2x 660 MW

*Steam turbine generator

Published by:

Siemens Energy, Inc.

Power and Gas Division
4400 Alafaya Trail
Orlando, FL 32826-2399, USA

Customer Support Center:

Phone +49 / (0) 180 / 524 70 00
Fax +49 / (0) 180 / 524 24 71
(Charges depending on provider)
E-mail: support.energy@siemens.com

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

© 09.2017 Siemens AG