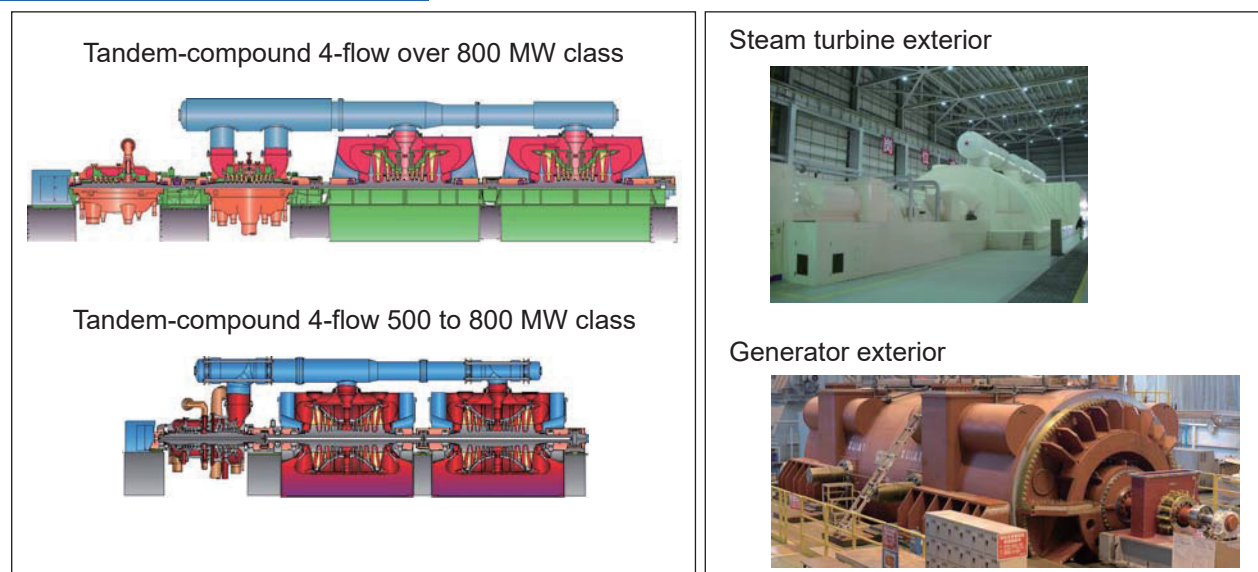


Supercritical Pressure High-performance Thermal Power Plant

Features

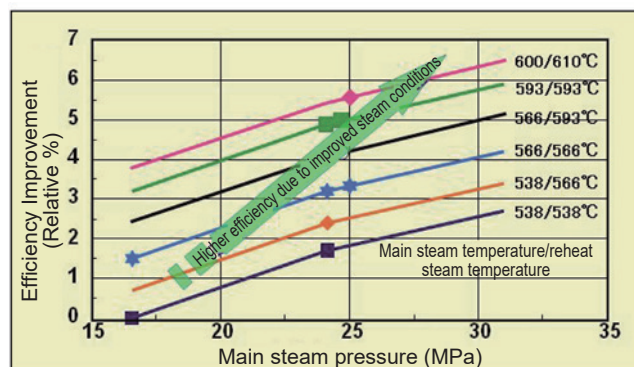
- ◆ Main uses, applicable range, general versatility: Thermal power generation, which comprises nearly 60% of the world's total power generation, and particularly coal-fired power generation has been recognized as a stable and economical source of electric power, where supercritical pressure high-performance thermal power plants, which through the application of advanced technology, increase efficiency through higher steam temperature, increase capacity, and are more compact, play a very important role.
- ◆ Energy efficiency and energy-saving effect: An energy-saving and CO₂ reduction effect are obtained from improved terminal efficiency by increased pressure and temperature steam conditions (example: 25 MPa/600°C/610°C).
- ◆ Weather resistance, durability, etc.: Has mechanical reliability that has left its mark in the Guinness Book of world records for continuous operation.
- ◆ Price advantage, originality: In the steam turbines, various measures have been taken to improve the steam turbine internal efficiency by developing new technology, and higher performance and higher temperatures have been achieved by using the most optimal high-strength materials and construction suitable for high-pressure and high-temperature conditions.
 In addition, in the generators, higher capacity and higher performance have been achieved by developing technology for larger size and higher energy density.

Basic Concept or Summary



Effects or Remarks

- ◆ An improvement in thermal efficiency of 5.5% or greater can be expected when comparing prior equipment (subcritical pressure steam turbine, 17MPa, 538°C/538°C) with this equipment (example: 25MPa/600°C/610°C).



- Domestic**
- ◆ 1,050MW, 25.0MPa/600°C /610°C (Started commercial operation in 2000.)
 - ◆ 900MW, 24.5MPa/595°C/595°C (Started commercial operation in 2010.)
 - ◆ 1,000MW, 24.1MPa/566°C/593°C (Started commercial operation of 2 plants in 2001 and 2002.)
 - ◆ 700MW, 24.1MPa/593°C/593°C (Started commercial operation in 2003.)
 - ◆ 700MW, 24.1MPa/593°C/593°C (Started commercial operation in 2000.)
 - ◆ 700MW, 24.1MPa/566°C/593°C (Started commercial operation in 2000.)
 - ◆ 1,000MW, 24.5MPa/600°C /600°C (Started commercial operation in 2019.)
 - ◆ Have started commercial operation at a total of 24 plants since 1990.
- Overseas**
- ◆ China 1,000MW, 24.9MPa/600°C/600°C (Started commercial operation of 2 plants in 2007 and 2008.)
 - ◆ USA 583MW, 24.7MPa/582°C/582°C (Started commercial operation in 2008.)
 - ◆ Australia 420MW, 25.0MPa/566°C/566°C (Started commercial operation of 2 plants in 2001 and 2002.)
 - ◆ Australia 450MW, 25.0MPa/566°C/566°C (Started commercial operation in 2003.)
 - ◆ India 830MW, 24.1MPa/565°C/593°C (Started commercial operation of 5 plants between 2012 and 2013)
 - ◆ USA 914MW, 24.6MPa/582°C/582°C (Started commercial operation in 2010.)
 - ◆ USA 878MW, 25.5MPa/566°C/577°C (Started commercial operation in 2012.)
 - ◆ USA 877MW, 25.4MPa/566°C/567°C (Started commercial operation of 2 plants in 2012)
 - ◆ USA 958MW, 26.0MPa/582°C/582°C (Started commercial operation in 2013.)
 - ◆ Korea 1,100MW, 24.6MPa/600°C/600°C (Started commercial operation of 2 plants in 2016 and 2017)
 - ◆ India 800MW, 24.1MPa/565°C/593°C (Scheduled to start commercial operation of 3 plants in 2017 and 2018)
 - ◆ Taiwan 800MW, 25.0MPa/600°C/600°C (Started commercial operation of 2 plants in 2018 and 2019)
 - ◆ India 800MW, 24.1MPa/565°C/593°C (Started commercial operation of 2 plants in 2019)
 - ◆ Vietnam 600MW, 24.1MPa/566°C/593°C (Started commercial operation of 2 plants in 2017 and 2018)
 - ◆ Vietnam 688MW, 24.2MPa/566°C/566°C (Scheduled to start commercial operation in 2020)
 - ◆ Malaysia 1,064MW, 27.0MPa/600°C/610°C (Started commercial operation of 2 plants in 2018 and 2019)
 - ◆ Vietnam 600MW, 24.1MPa/566°C/593°C (Started commercial operation of 1 plant in 2019)
 - ◆ Indonesia 315MW, 24.9MPa/582°C/593°C (Scheduled to start commercial operation of 1 plant in 2020)
 - ◆ Indonesia 1,070MW, 24.9MPa/600°C/600°C (Scheduled to start commercial operation of 2 plants in 2021)
 - ◆ Vietnam 660MW, 24.2MPa/566°C/566°C (Scheduled to start commercial operation of 2 plants in 2023)

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