

LARGE SIZE STEAM TURBINES

Fuji Electric's large steam turbines (up to 1000 MW) are offered three cylinder and four cylinder configurations. These condensing steam turbines are optimized for large-scale power plants with coal fired and combined cycle power plants.



Superiority In Operation

Blade Configuration Matching with Operation

- Full-arc admission system provides higher efficiency for entire operation range for sliding pressure operation plant.
- Nozzle cut-off system provides higher efficiency at low-loads for constant pressure operation plant.

High Turbine Efficiency

- High efficiency reaction blades with integral shroud as well as twisted and/or 3DS blades.
- Advanced high-efficiency low-pressure (LP) blades with reliable free-standing design.

Simple and Large Flexibility Operation

- Automatic operation by means of digital governor through start-up, full load, shut down and on-load valve test.
- Weekly start and stop or daily start and stop operation
- Large allowable load change rate and cyclic load change
- Large allowable frequency range at -5 to +3% of rated speed for continuous operation.

High-Reliability and Long Life

Safe and High-Reliability Design

- Double shell construction in high-pressure (HP) and intermediate-pressure (IP) turbine reduces thermal stress during start-up and large-load change.
- Triple shell construction in low-pressure (LP) turbine minimizes thermal deformation during operation also effect during start-up and large-load change.
- Drum type rotor provides high-stability against vibrations.
- Bearing pedestals separated from the casing minimize influence of casing deformation on shaft vibration.
- Single-point support bearings provide high-stability against uneven subsiding of foundations.
- Reaction blades with integral shroud provide high-reliability against steam excitation force.
- Free-standing LP blades tuned individually avoid resonance and group vibration.

Long Life Design

- Full-arc admission control of inlet steams with high-temperature avoids thermal stress and deformation.
- Thermal stress evaluation system supervises turbine life consumption during start-up period.

Combination of Proven Components

HP+IP+LP or HP/IP+LP

Turbine Type

Reheat Condensing

Exhaust Direction

Down or Side

Speed

3,000 and 3600 rpm