Steam Turbine Facilities for Environment-oriented Power Generation

Features

◆ For Waste Heat Recovery Power Generation
Using the steam generated by waste heat recovery equipment, energy efficiency can be improved.
- By using the steam from Coke Dry Quenching (CDQ) equipment in the Steel Plant,
- By using the steam from Gas Turbine Combined Cycle Power Plant (CCPP)
- By using the steam from Cement Waste Heat Recovery Power Plant, etc

◆ For Incineration Plant and Waste Material Fired Power Plant
Using the steam generated by garbage incinerator and waste material fired boiler, energy can be used effectively.
- By using the steam from Garbage Incinerator
- By using the steam from Refuse-Derived Fuel (RDF) Fired Boiler, etc

◆ For Biomass Fired Power Plant
Using the steam generated by Biomass Fuel Fired Boiler, Environmental load can be decreased.
- By using the steam from Wood-chip Fired Boiler
- By using the steam from Baggase Fired Boiler, etc

◆ For Effective Utilization of Surplus Steam
Using surplus steam generated in the factory process, surplus energy can be used effectively.
- Mixing steam turbine for Gas Turbine Combined Cycle, etc
  (Which has main inlet steam port and intermediate inlet steam port)

Basic Concept or Summary

◆ Steam is generated by Cokes Quenching Device, and it can be used for Steam Turbine Generator.

◆ Steam is generated by waste heat recovery boiler added to exhaust piping of a gas turbine, and it can be used for Steam Turbine Generator.
- Steam is generated by waste heat recovery boiler added to cement manufacturing process, and it can be used for Steam Turbine Generator.

- Waste heat which used to be cast out in the past can be converted into electric energy, and eventually energy efficiency can be greatly improved and great energy-saving effect can be expected.

**Effects or Remarks**

- Developed by Kawasaki’s original own technology and have been improved by investigating and introducing the latest technologies to improve the efficiency.
- Each Steam Turbine can be designed and optimized for each individual steam condition.
- Wide power range covering 2 to 100MW according to the steam condition

**Installation in Practice or Schedule**

**Domestic**
- Steam turbine for CDQ: 3
- Steam turbine for CCP: 11
- Steam turbine for cement waste heat recovery equipment: 3
- Steam turbine for incineration: 25
- Mixing steam turbine: 5

**Overseas**
- Steam turbine for CDQ: 11
- Steam turbine for CCP: 5
- Steam turbine for cement waste heat recovery equipment: 8
- Steam turbine for incineration: 2
- Steam turbine for biomass power generation: 17
- Mixing steam turbine: 12

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