

37.5 MW COAL / BIOMASS USED POWER PLANT

Year of Manufacture: 1995
Year Retired: 2014
Condition: Very Good
Operating Hours: TBA
Status: Installed on foundation

Main equipment of the plant composed of

(2) units Coal / Biomass Fueled steam Boilers,
each producing: 94 t/h of steam at 90.7 bar pressure with 510 °C
(1) unit Condensing Turbo Generator, with single controlled extraction.
Producing: 37.5 MW at 11 kV / 3 ph / 50 Hz & 0 - 82 t/h of steam at 44.9 bar.

Technical Data

(2) units, Coal / Biomass fired steam boilers,
each producing: 94 t/h of steam at 90.7 bar pressure with 510 °C
Manufacturer: TBA
Type: Multi-Solids, Fluidised Bed
Fuels: Coal, Biomass, Natural gas, Heavy Fuel Oil

Steam Flow:

Normal: 94,000 kg/h
Max. Cont.: 94,000 kg/h

Steam Pressure:

Normal: 90.7 bar abs.
Max. Cont.: 90.7 bar abs.

Steam Temperature:

Normal: 510 °C
Max. Cont.: 515 °C

Heating Surfaces:

Economizer: 5,252.5 m²
Combustor Water Walls: 137.2 m²
Boiler Water Walls: 215.7 m²
EHE Evaporator: 238.7 m²
Boiler Evaporator: 702 m²
Primary Super heater: 243.6 m²
EHE Super heater: 105 m²
Secondary Super heater: 206.8 m²

Design Fuel (Coal):

Gross Calorific Value: 26,840 kJ/kg
Moisture: 11.1%
Ash: 10.1 %
Fuel Consumption: 11,952 kg/h
Limestone Consumption: 1,940 kg/h
Emissions (will not exceed);
SOx: 1,650 mg/Nm³
NOx: 650 mg/Nm³

Particulate Matter: 50 mg/Nm³

(1) unit, Condensing Turbo - Generator, with single controlled extraction.

Producing: 37.5 MW at 11 kV / 3 ph / 50 Hz & 0 - 82 t/h of steam at 44.9 bar

Manufacturer: TBA

Type: Condensing, with single controlled extraction

Rated Power:

Normal: 37,489 kW

Max. Cont.: 37,489 kW

Inlet Flow:

Normal (at Rated Power, zero extract): 134,000 kg/h

Max. Cont. (at full extraction): 188,000 kg/h

Inlet Pressure: Normal: 87 bar abs.

Max. Cont.: 97 bar abs.

Min. Cont.: 78.5 bar abs.

Inlet Temp.:

Normal: 509 °C

Max. Cont.: 534 °C

Min. Cont.: 482 °C

Controlled Extraction Pressure:

Normal: 44.9 bar abs.

Max. Cont.: 49.5 bar abs.

Min. Cont.: 40.4 bar abs.

Flow: 0-82,000 kg/h

Uncontrolled Bleed Pressure:

(Normal): Flow: 12,000 kg/h

Exhaust Pressure:

Normal: 0.08 bar abs.

Max. Cont.: 0.088 bar abs.

Minimum Cont.: 0.072 bar abs.

Rated Speed: 3,000 RPM

GENERATOR 11,000 V, 3 ph., 50 Hz, 3000 RPM

Manufacturer: Brush Electrical Mach.

Type: Synchronous

Specification: IEC 34.3

Insulation Class: F

Rated Power: 46,875 kVA

Power Factor: 0.8

Active Power: 37,500 kW

Rated Voltage: 11,000 V

Rated Current: 1,986 Amps

Phases: 3

Phase Connect.: Y

Rated Speed: 3,000

Frequency: 50 Hz

CONDENSER

Manufacturer: KWU

Type: Surface Condenser

Steam Flow:

Normal: 122,000 kg/h

Max.: 122,000 kg/h

Water Flow: 2,815 m³/h

Water Temp:

Supply: 30 °C

Outlet: 40 °C