



Back Pressure Turbine

FUJI

Type

Single Casing Backpressure

Rated Output

1920 Kw

Main Steam Pressure

900 psig

at Main Steam Stop Valve

Back Pressure

90 psig

Rated Speed

11981 RPM

Inlet Flow Capacity

39,323 lb/hr

Reduction Gear:

Type

Double Helical

Speed

11981/1800 RPM

Auxiliary Equipment

1 Main Oil Tank

Capacity

1025 gallons

2 Main Oil Pumps

Type

Centrifugal

Capacity

153 GPM

Speed

3600 RPM

1 Emergency Oil Pump

Type

Centrifugal

Capacity

26 GPM

Speed

1750 RPM

Motor

2 Oil Coolers

Cooling Water Flow Rate

1 Oil Tank Vaper Extraction

Type

Capacity

Generator Manufacture

Type

Output

Voltage

Current

Number of Phases

Number of Poles

Frequency

Speed

Exciting System

Cooling System

1 Brushless Exciter

Output

Voltage

Current

1 Permanent Magnet Generator

Output

Voltage/Current

DC Motor

60 GPM

Electric Turbo Blower

348 CFM

Fuji

Horizional Cylindrical Revolving

Field Totally Enclosed

2400 KVA

12000 Volts

115 Amps

3

4

60 Hertz

1800 RPM

Brushless

Totally Enclosed Water -Air Cooled

30 KWD

D.C. 80 volts

D.C. 375 Amps

3 KVA

220 Volts/ 7.87 Amps

BACK PRESSURE EQUIPMENT INVENTORY

1 Back Pressure Turbine 1920 KW

1 REDUCTION GEAR- 11,981/1800 RPM

1 MAIN OIL TANK - 1025 GPM

1 MAIN OIL PUMP - 158.7 GMP

1 EMERGENCY OIL PUMP - 39.2

1 AUXILIARY OIL PUMP –

2 OIL COOLERS 60 GPM

1 GENERATOR FUJI-2400 KVA 12,000 VOLTS

1 BRUSHLESS EXCITER-30 KW

1 PERMANENT MAGNET GENERATOR - 3 KVA

1 GLAND STEAM CONDENSER 8 5/8 X 164 ³/4

2 CONDENSATE PUMPS

1 CURRENT TRANSFORMER

1 SURGE PROTECTOR GENERATOR PANEL

1 VOLTAGE REGULATOR AND ELECTRO-HYDRAULIC GOVERNOR

1 CONTROL PANEL FOR TURBINE AND GENERATOR

1 LOCAL CONTROL PANEL FOR TURBINE (#11)

1 COVER TURBINE

6 BOXES (19,20,21,22,23,24) (MONITORS, VALVES, PIPES)

1 OIL PURIFIER

1 STEAM CONTROL VALVE

1 OIL FILTER

ONE ACCUMULATOR

1 COVER FOR REDUCER

LIST OF SPARE PARTS

BOX NO. 1 (BACK PRESSURE TURBINE)

1 SET BEARING GENERATOR (TWO)

BOX NO. 2 (CONDENSING TURBINE)

1 SET BEARING GENERATOR (TWO)

BOX NO. 3 (CONDENSING TURBINE)

1 SET SPARE PARTS FOR EXTRACTION CHECK VALVE

GRAPHITE PACKING (EXTRACTION CHECK VALVE)

SPARE PARTS FOR OIL PUMPS

ASBESTOS PACKING (CONTROL VALVE)

1 SET PAD FOR NO. 1 JOURNAL BEARING

1 SET PAD FOR NO. 2 JOURNAL BEARING

1 SET PAD FOR THRUST BEARING

BOX NO. 4 (BACK PRESSURE TURBINE)

2 ELEMENTS FOR LUBE OIL FILTER

1 SET PAD FOR NO. 1 JOURNAL BEARING

1 SET PAD FOR NO. 2 JOURNAL BEARING

1 SET PAD FOR THRUST BEARING

1 SPARE PART FOR OIL PUMP

ASBESTOS PACKING AND GRAPHIETE FOR (CONTROL VALVE)

BOX NO. 5 (CONDENSING TURBINE)

1 GLAND PACKING FRONT (LABYRINTH SEAL)

1 SET MOVING BLADES (20 PIECES)

1 SET MOVING BLADES (20 PIECES)

1 COMPLETE SET OF TURBINE BLADES FOR THE LAST THREE STAGES

(CONDENSING TURBINE)

LIST OF SPARE PARTS (CONTINUED)

BOX NO. 6 (BACK PRESSURE TURBINE)

2 GLAND PACKING FRONT (LABYRINTH SEAL)
1 JOURNAL BEARING NO. 1 TURBINE
1 JOURNAL BEARING NO. 2 TURBINE
1 SET METAL BEARING
RELAY SWITCHES

BOX NO. 7 (CONDENSING TURBINE)

1 GLAND PACKING REAR (LABYRINTH SEAL)
1 BEARING NO. 1 TURBINE
1 BEARING NO. 2 TURBINE
1 SET METAL BEARING (TWO)

BOX NO. 11, 12 (BACK PRESSURE TURBINE) (VALVE PARTS)

SPARE PARTS FOR MAIN STEAM VALVE

BOX NO. 13,14,15,16 (CONDENSING TURBINE)

SPARE PARTS FOR MAIN STEAM VALVE AND TOOLS

SEVERAL BOXES OF TECHNICAL MANUALS AND ENGINEERING DRAWINGS

Inventory performed on June 6, 2001 by the following:

Ariel Molina
Hugh Bradbury
Robert Pyle

BACKPRESSURE TURBINE & GENERATOR

Turbine Manufacturer	Fuji
Type	Single Casing Back Pressure
Rated Output	1920 KW
Main Steam Pressure At Main Stop Valve	900 psig
Back Pressure	90 psig
Rated Speed	11981 RPM
Inlet Flow Capacity	39323 lb/hr
Reduction Gear:	
Type	Double Helical
Speed	11981/1800 RPM
AUXILIARY EQUIPMENT	
1 Main Oil Tank:	
Capacity	1025 gallons
2 Main Oil Pumps:	
Type	Centrifugal
Capacity	153 GPM
Speed	3600 RPM
1 Emergency Oil Pump:	
Type	Centrifugal
Capacity	39 GPM
Speed	1750 RPM

Motor	D.C. Motor
2 Oil Coolers:	
Type	Shell and Tube
Cooling Water Flow Rate	60 GPM
1 Oil Tank Vapor Extractor:	
Type	Electric Turbo Blower
Capacity	348 CFM

FUJI GENERATOR

Generator Manufacturer	Fuji
Type	Horizontal Cylindrical Revolving Field Totally Enclosed
Output	2400 KVA
Voltage	12000 Volts
Current	115 Amps
Number of Phases	3
Number of Poles	4
Frequency	60 HZ
Speed	1800 RPM
Exciting System	Brushless
Cooling System	Totally Enclosed Water-Air Cooled
1 Brushless Exciter:	
Output	30 KW
Voltage	D.C. 80 Volts
Current	D.C. 375 Amps
1 Permanent Magnet Generator:	
Output	3 KVA
Voltage	220 Volts
Current	7.87 Amps

SPARE PARTS

1 Set Bearing Generator
1 Set Pad for No. 1 Journal Bearing
1 Set Pad for No. 2 Journal Bearing
1 Set Pad for Thrust Bearing
1 Gland Packing Front (Labyrinth Seal)
1 Gland Packing Rear (Labyrinth Seal)
1 Journal Bearing No. 1 Turbine
1 Journal Bearing No. 2 Turbine
1 Set Metal Bearing
1 Bearing No. 1 Turbine
1 Bearing No. 2 Turbine
1 Complete Set of Turbine Blades for last three stages

Condensing Turbine

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