



GENERAL ELECTRIC

165A771DD

CONT ON SHEET 2

SH NO. 1

NO.

TITLE

ENGINEERING SPECIFICATIONS FOR TESTING
AND ASSEMBLING DR, DRV TURBINES

165A771DD

CONT ON SHEET 2

SH NO.

1

FIRST MADE FOR TURBINE NO. 155002

Doc. 0027s

REVISIONS

REQUISITION: 420-54826CUSTOMER: POWER SYSTEMS ENGINEERINGNAMEPLATE DATA:RATED:Turbine No. 155002
Model No. DEV419155002
Rating 6510 KW
RPM 8524/1800Inlet Pressure 860 PSIG
Inlet Temperature 770°F
Exhaust Pressure: 68 PSIG

Instruction Book: GEK-83619

Rotation viewed from Governor end:

CW

GOVERNOR DATA:

GE MDT-80S electric governor.

Normal exhaust pressure control, with speed control (droop) for start-up and as pre-emergency.

Speed control (isochronous) provided for isolated operation or on trip of tie-line breaker.

Speed regulation based on F.L.-N.L. travel at operating valve is 5%.

High Speed Stop 9035/1910 RPM (No-Load)

HYDRAULIC DATA:

All settings to be made with oil temperature to bearing at 120°F±5°F.

Governor Oil Pressure 110 ± 10 PSIG
Bearing Oil Pressure 15 ± 2 PSIG
DC Emergency Oil Pump to maintain bearing pressure only.PROTECTIVE DEVICES:

- * Electrical Overspeed Bolt
Setting 9375 RPM $\pm$ 95 RPM
- * Low lube oil header pressure trip/start EOP switches.
- * Low gear lube oil header pressure trip/start EOP switches.
- * TTV-mounted limit switches for position signal to electric governor and to actuate sequential trip circuit.
- * Trip solenoid valve to close inlet and throttle valves.

PRINTS TO

MADE BY

JJ Janikas 3/11/83

APPROVALS

MDTD

DIV OR
DEPT

165A771DD

ISSUED

S. MINIKO 3-16-83

Fitchburg

LOCATION

CONT ON SHEET 2

SH NO. 1

MECHANICAL DRIVE TURBINE PRODUCTS DEPARTMENT FITCHBURG, MASS.

Requisition: <u> (LATER) </u> Customer: <u>POWER SYSTEMS ENGRG</u> <u>LTG</u>	Model List No. DEV420155002 Turbine No: <u>155002</u> Shop Order: <u>155002</u> No. of Units: <u>1</u>
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Rating: <u>6510KW</u> Inlet Press: <u>860 PSIG</u> Inlet Size: <u>8" - 900#</u> Condensing: <u> </u> Noncondensing: <u>YES</u> Rotation: <u>CW</u> Valve Gear: <u>BAR LIFT</u> Oil System: <u>Local - IN BASE</u> <u>Remote - - - - -</u> EXTR: <u>- NONE</u>	Fueled Fossil Nuclear	RPM: <u>8524/1800</u> Inlet Temp: <u>770° F</u> Exhaust Size: <u>16" - 300# UP</u> Exhaust Press: <u>68 PSIG</u> Rotor: Solid <u>X</u> Built Up <u>- -</u> Front End: <u>TO</u> Governor: <u>MDT 80S</u> Control Sys: <u>MDT 80S</u> Base MTD: <u>YES-TURB/GEAR/GEN</u> HP CSG: <u>19" MID RANGE</u>
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MODEL LIST SECTION DESCRIPTION:

- A. Non-Ordering Drawings
 - B. Controls
 - C. Steam Valves
 - D. Main Turbine Parts
 - E. Steam Parts, Rotating
 - F. Steam Parts, Stationary
 - G. Piping and Related Components
 - H. Ordering Specification Drawings
 - J. Electrical
 - K. Miscellaneous Ordering Drawings
- Deviation Drawings Listed on Item A28.
 See Also "D" Indication Against Deviated
 Items on Model List in Column D

12A
19K
1
Dist

Issued By <u>R. W. BROGAN</u>	Date <u>11-4-82</u>	Model List No: DEV420155002
Header Sheet		Cont on Sheet <u>1</u>

091 - 3425-II (7-74)

GEAR INSTRUCTION BOOK

GEK-88459

FOR TEXT SEE GEK-38016A



Speed Reducing Gear Type S-225-AH
Rating 6510 kW
Purchaser Power Systems Engineering
Used with Steam Turbine - Gear - Generator

Serial Number 273724
8524/1800 rpm

Center Distance 24.2500
No. of Teeth (Pinion) 34
Pitch Diameter (Pinion) 8.4564
Diametral Pitch (Trans) 4.020619
Pressure Angle (Normal) 16.500000°
Pinion Bearings 4 x 5
Gear Bearings 6 x 5
Thrust Bearing, Kingsbury No. 6 JHJ
Expected Oil Flow 28 gpm
Operating Oil Pressure 10 psig

Active Tooth Width 10.5000
No. of Teeth (Gear) 161
Pitch Diameter (Gear) 40.0436
Whole Depth 0.4910
Helix Angle 34.575969°
Nominal Clearance .008 - .009
Nominal Clearance .009 - .011
Nominal Clearance .013 - .015
Approx. Heat Rejection 3500 Btu/min

GEK-83619

Gear, G.E. Co.

GEK-88459

Gear No. 273724

Type S-225-AH

Rating, 6510 KW, 8524/1800 RPM

Generator, G.E. Co.

GEK-87748

Generator No. 5AT1871180A2

Type, ATI

Rating, 6510 KW

LIST OF BULLETINS

Title

Tachometer System, Airpax

078

Gland Condenser, Basco

Pressure Transmitter, Rosemount

4260/4261

Oil Filter, Nugent

Solenoid Operated Pilot Valve, Oil Gear

Auxiliary Oil Pump, Lawrence

Instructions

Emergency Oil Pump, Lawrence

Instructions

Coupling, Koppers

Instructions

Coupling, HS Bendix

67E000

INSTRUCTIONS

GEK-87748



**6510 KW SYNCHRONOUS
GENERATOR AND
AIR COOLER WITH
AC BRUSHLESS EXCITER AND
STATIC VOLTAGE REGULATOR**

furnished

POWER SYSTEMS ENGINEERING

Customer Order No.
091-58941

GE Requisition No.
420-54826

for
GENERAL ELECTRIC COMPANY
Fitchburg, MA

GENERAL ELECTRIC COMPANY
LARGE MOTOR AND GENERATOR DEPARTMENT
SCHENECTADY, N.Y. 12345

GENERAL  **ELECTRIC**

SECTION 1 RATING AND CLASSIFICATION DATA

1-1. GENERATOR DATA

Model Number	5AT1871180A2
Manufacturer's Type	ATI
Frame	8711
Number of Poles	4
Output Rating in KW	6510
Voltage	4160
Speed in RPM	1800
KVA	7659
Power Factor	0.85
Frequency in Hertz	60
Number of Phases	3, Connected Y
Ambient Temperature	45°C
Temperature Rise	
Stator by RTD	85°C
Rotor by Resistance	80°C
Type of Winding	Salient pole, revolving field
Duty Classification	Continuous
Class of Insulation	
Stator	F
Rotor	F
Rotation	CW, facing exciter end
Air Gap (nominal)	0.550
Bearings	
Sleeve-type	
Forced-feed Lubricated	
Type of Excitation	
Brushless Exciter	
Static Voltage Regulator	

1-2. AIR COOLER DATA

Maximum Quantity of Water Circulated	130 GPM
Maximum Temperature of Water Entering Cooler	95°F
Maximum Temperature of Air to Generator	45°C
Water Pressure Drop Through Cooler	7.5 PSI
Water Operating Pressure	30 PSIG
Water Test Pressure	125 PSIG