

## GE5 Gas Turbine

### Technology

The merging of proven GE Aircraft Engines and GE Oil & Gas technology coupled with the benefits of Six Sigma Methodology have resulted in:

- Low Operational and Maintenance Cost Machine
- High Parts Commonality Between Two-shaft and Single-shaft Models

### Experience

The GE5 is an evolution of the existing PGT5 and GE10 model of gas turbines. The fleet spans from the United States to central China.

- Fleet Leader Has Over 20,000 Fired Hours
- Cogeneration Applications Ranging From Paper Mills to Universities

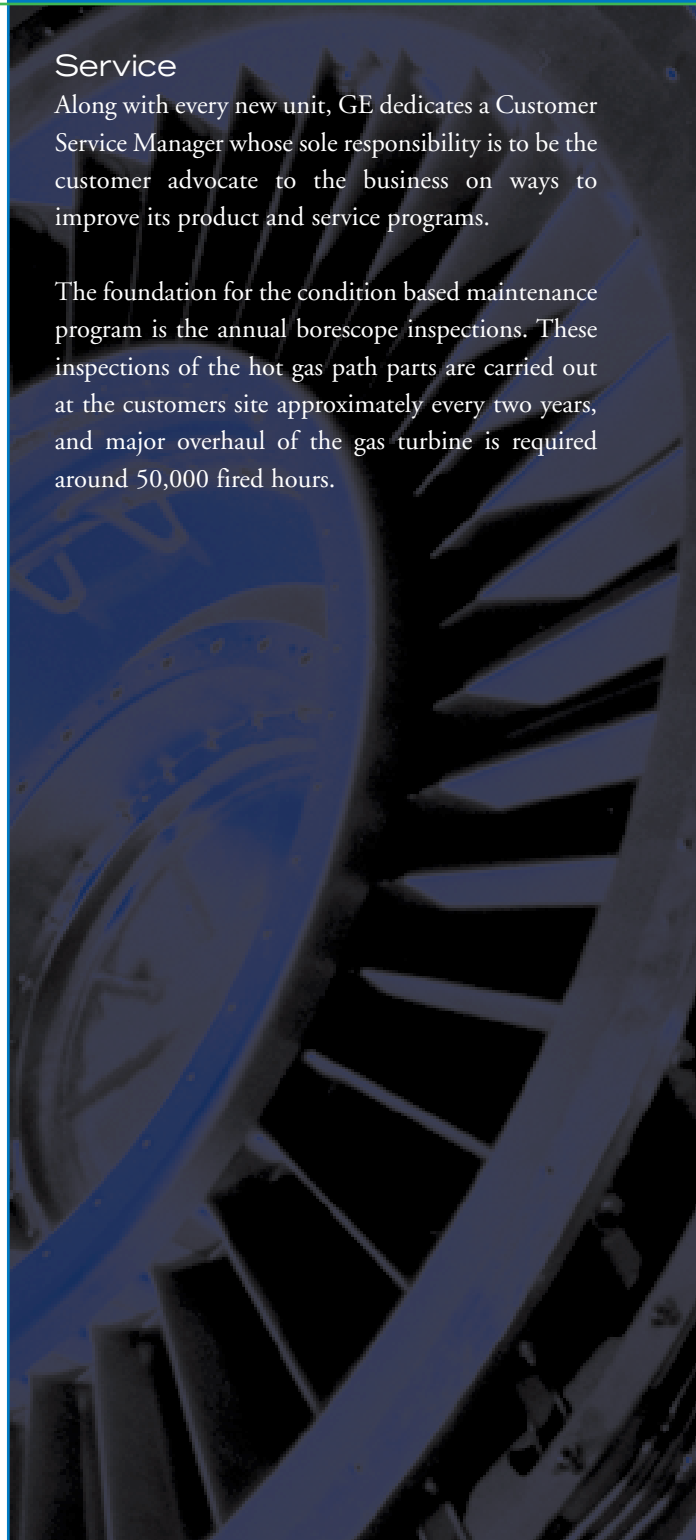
### Innovation

The modular package design of the GE5 has the starting, lube oil, and fuel systems integrated to the baseplate enabling one of the smallest package footprints available in the industry.

- Low Dual Fuel DLE Emissions

ISO Performance based on natural gas DLE

<b>Power Output (kWe)</b>	<b>5,500</b>
<b>Heat Rate LHV (Btu/kWe-Hr)</b>	<b>11,110</b>
<b>Exhaust Flow (lbs/sec)</b>	<b>44</b>
<b>Exhaust Temperature (°F)</b>	<b>1060</b>
<b>Emissions (ppmvd)</b>	<b>NOx/CO</b>
Gas or Liquid-DLE	25/20, 65/25
<b>Power Turbine Speed (rpm)</b>	<b>16,630</b>
<b>No. of Compressor Stages</b>	<b>11</b>
<b>No. of Turbine Stages</b>	<b>2</b>

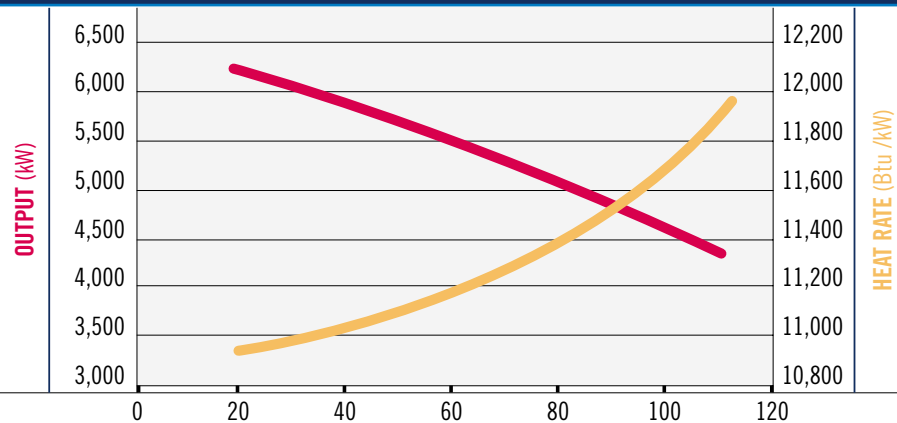


### Service

Along with every new unit, GE dedicates a Customer Service Manager whose sole responsibility is to be the customer advocate to the business on ways to improve its product and service programs.

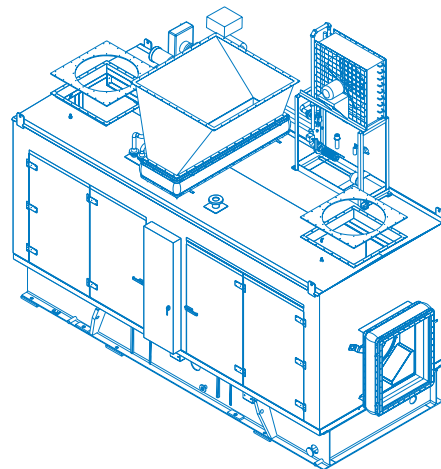
The foundation for the condition based maintenance program is the annual borescope inspections. These inspections of the hot gas path parts are carried out at the customers site approximately every two years, and major overhaul of the gas turbine is required around 50,000 fired hours.

## GE5 60Hz Output and Heat Rate



0 ft, 60%RH, Q/O in H2O inlet/exhaust loss on natural gas, DLE

AMBIENT (°F)



LENGTH 34' x WIDTH 9' x HEIGHT 11'

### STANDARD 60HZ GE5 GENERATOR PACKAGE

#### Gas Turbine

- 11 Stage Axial Compressor
  - > Horizontal Split Casing
  - > 14.6:1 Compression Ratio
  - > 43 lb/s Nominal Inlet Mass Flow
- Annular Combustor
  - > 18 Fuel nozzles
- Turbine
  - > 2 Stage, Air Cooled Axial Flow Reaction

#### Gear Box

- 1800 rpm Epicyclic

#### Generator

- Continuous Duty 13.8kV, 0.8PF
- 4 pole, 3 Phase Brushless Exciter
- WPII Weather Protected
- NEMA Class F Insulation & B Temperature Rise

#### Package

- 85 dBA Near Field Design
- Barrier Inlet Air Filters
- Electro-hydraulic Start/Shutdown System
- Class I Div 2 Group D Class Electrical System
- PLC Control System
- Lube Oil System with Air-to-Oil Coolers Rated at 105F
- Turbine Factory Tested
- On-line/Off-line Water Wash
- Package Familiarization Training
- Startup Technical Assistance

### OPTIONAL EQUIPMENT AND SERVICES

- Generator
  - > TEWAC
  - > Voltages: 6.6kV, 4.16kV
  - > Enclosure
  - > Fault Protection
- Fuel System
  - > Liquid DLE
  - > Dual DLE
- Control System
  - > Emission Monitoring System
- Technical Assistance
- Batteries
- Remote Monitoring and Diagnostics
- Winterization
- Inlet Conditioning
  - > Chilling
  - > Heating