Technology
The LMS100 is an intercooled gas turbine system, developed from GE frame and aeroderivative gas turbine technologies, with simple cycle thermal efficiencies of up to 44%.

- Peaking, mid-range and baseload power capabilities of up to 106 MW
- Unrestricted daily stops and starts
- Modular design for ease of maintenance and high availability
- Fast 10-minute start-up
- High part-power efficiency
- Load following and cycling capabilities

Experience
The LMS100 is a new gas turbine based on a combination of proven technologies, derived from the CF6-80E and CF6-80C2 aircraft engines, the predominant engines for the Boeing 747 and 767 wide-body aircraft, and from the frame 6FA gas turbine.

- GE CF6-80 engines have more than 100 million operating hours in airline service
- GE F technology units have more than eight million operating hours in power generation service
- End-Users: utilities, municipalities, independent power producers
- Configurations: simple cycle, cogeneration and combined cycle

Innovation
GE Energy and GE Transportation collaborated—along with three companies from outside of GE—to develop the first modern intercooled gas turbine cycle.

- 100 MW Blocks of power
- Cycling capability
- Sustained power capability on hot days
- Fuel flexibility
- Boiler feedwater heating
- Two waste heat sources (exhaust and intercooler)

ISO performance based on natural gas

<table>
<thead>
<tr>
<th>LMS100 (60 Hz)</th>
<th>SAC</th>
<th>DLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Output (MW)</td>
<td>105.8</td>
<td>101.2</td>
</tr>
<tr>
<td>Heat Rate LHV (Btu/kWh)</td>
<td>7,877</td>
<td>7,816</td>
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<tr>
<td>Exhaust Flow (lbs/sec)</td>
<td>497</td>
<td>488</td>
</tr>
<tr>
<td>Exhaust Temperature (ºF)</td>
<td>771</td>
<td>789</td>
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<tr>
<td>Emissions, NOx @ 15% O2 (ppm)</td>
<td>25</td>
<td>25</td>
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<tr>
<td>Power Turbine Speed (rpm)</td>
<td>3,600</td>
<td>3,600</td>
</tr>
<tr>
<td>No. of Compressor Stages</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>No. of Turbine Stages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate Pressure (IPT)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>High Pressure (HPT)</td>
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<td>2</td>
</tr>
<tr>
<td>Power (PT)</td>
<td>5</td>
<td>5</td>
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</tbody>
</table>
Service
GE Energy is the world’s largest aeroderivative service provider, with a global network of field service offices and fully equipped service centers. A wide range of products and services are offered for the LMS100 utility and industrial operators, including:

• Customer support 24/7/365
• Global field services capability
• Level IV Service Centers in Houston, Texas and Rheden, The Netherlands
• Comprehensive spare parts support
• Critical repairs available globally
• Spare or lease engine module options
• Rotatable module exchange programs
  — Gas Turbine Supercore
  — High Pressure Turbine
  — Intermediate Power Turbine
  — Combustor
  — Power Turbine
  — Low Pressure Turbine (Booster) Rotor
• CM&U – Upgrade programs
• Remote diagnostic services
• Customer training courses
• Wide variety of contractual or long-term service agreements

This comprehensive product offering, combined with our commitment to reduce service center and outage turn times, results in substantial life cycle cost savings for the plant owner/operator.
Standard 60 Hz LMS100 Generator Package

**Gas Turbine**
- 20-Stage Axial Compressor
  - 6 Low Pressure Stages and 14 High Pressure Stages
  - Off-Engine Air-to-Water Intercooler
  - Horizontal Split Casing
  - 42:1 Compression Ratio
  - 460 lb/s (209 kg/s) Nominal Inlet Mass Flow
- Annular Combustor
  - 30 Gas Fuel Nozzles, Water or Steam Injection for NOx Control
  - 15 Gas Fuel Nozzles, Dry Low Emission Control
- 2-Stage High Pressure (HPT) and Intermediate Pressure Turbine (IPT)
- 5-Stage Aerodynamically Coupled Power Turbine (PT)

**Generator**
- 11.5 kV, 0.85 PF Continuous Duty
- 2 Pole, 3 Phase, Brushless Exciter
- WPII Weather Protected
- Voltage Regulator/Neutral Side Protection CTs
- NEMA Class F Insulation and B Temperature Rise
- Integrated Protection Relay Panel

**Package**
- Local Control System in Weatherproof Room
- 24 V and 125 V DC Batteries
- 85 dBA Near Field Design
- Static Inlet Air Filters
- Electro-Hydraulic Start/Shutdown System
- Class 1 Div 2 Group D Class Electrical System
- Mark* VIe Duplex Digital Control System with a Human Machine Interface (HMI)
- Lube Oil System with Duplex Shell and Tube Coolers
- Turbine Factory Tested (Static)
- On and Off Line Water Wash
- 1-Year Parts/Service Warranty and Remote Monitoring and Diagnostics
- Package Familiarization Training
- Electronically Transmitted Drawings
- Start-Up Technical Assistance
Optional Equipment (Packaging)

- Water Cooled Generator (TEWAC)
- High Inertia Generator
- Power System Stabilizer (PSS)
- Synchronous Condenser
- Distillate (Liquid) Fuel System (available only for SAC)
- Dual Fuel System (available only for SAC)
- Pulse Clean Inlet Air Filter
- Online Water Wash for LPC
- Water Injection for NOx Control - Gas or Liquid Fuel (available only for SAC)
- Dry Low Emissions (DLE)
- Combustion Inlet Air Heating Anti-Icing Coil – External-Heated
- Combustion Inlet Air Heating Anti-Icing – Compressor Bleed (available only for SAC)
- Combustion Inlet Air Heating Anti-Icing – Exhaust Heat Recovery
- Combustion Inlet Air Cooling - Evaporative Cooling
- Combustion Inlet Air Cooling – Chilling Coil
- Winterization (for colder climates)
- Duplex Shell and Tube Lube Oil Coolers
- Secondary Discharge CO2 System
- Duplex Integrated Generator Protection System (IGPS)
- Ni-Cad Battery System
- Remote Workstation
- Alternative Generator Lineside and Neutral Cubicle Locations
- Duplex Water Injection Pumps (for NOx Control)
- Combined Lineside and Breaker Cubicle

Optional Equipment (Balance of Plant)

- Secondary Cooling – Water to Air (Cooling Tower)
- Secondary Cooling – (Finned Tube to Air Heat Exchanger)
- Secondary Cooling Motor Control Center
- Gas Fuel Filter/Coalescing Skid
- Liquid Fuel Forwarding Pump Skid
- Liquid Fuel Filter Skid
- Fuel Gas Compressor System
- Instrument Air Compressor Skid
- Demineralized Water Filter Skid
- Simple Cycle Exhaust Stack
- Exhaust Stack Expansion Joint
- SCR and COR Catalyst Emissions Control Systems
- Continuous Emissions Monitoring System (CEMS)
- CTG Package Anchor Bolts/Fixators
- CTG Package First Fill Lubricants
- Power Control Module (PCM)
- Combustion Turbine Generator (CTG) Motor Control Center
- Intercooler Water Pump Skid Motor Control Center
- Balance of Plant (BOP) Motor Control Center
- Generator Step-Up (GSU) Transformer
- 15 kV Rated Generator Breaker
- Supervisory Control System
- Black Start Diesel Generator Package
- Black Start Generator Control System
- 240 V DC Motor Starters