General Specifications
Centaur® 40 Gas Turbine
• Industrial, Two-Shaft
• Axial Compressor
  – 11-Stage
  – Variable Inlet Guide Vanes
  – Pressure Ratio: 10.3:1
  – Inlet Airflow: 18.7 kg/sec (41.3 lb/sec)
• Combustion Chamber
  – Annular-Type
  – Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx™)
  – 10 Fuel Injectors (Conventional)
  – 12 Fuel Injectors (SoLoNOx)
  – Torch Ignitor System
• Gas Producer Turbine
  – 2-Stage, Reaction
  – Max. Speed: 15,000 rpm
• Power Turbine
  – 1-Stage, Reaction
  – Max. Speed: 15,500 rpm
• Bearings
  – Journal: Tilting-Pad
  – Thrust: Fixed Tapered Land
• Coatings
  – Compressor: Inorganic Aluminum
  – Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
• Velocity Vibration Transducer

Key Package Features
• Driver Skid with Drip Pans
• Driven Equipment Skid
  – Compressor
  – Compressor Auxiliary Systems
• 316L Stainless Steel Piping ≤4” dia
• Compression-Type Tube Fittings
• Electrical System Options
  – NEC, Class I, Group D, Div 1
  – CENELEC, Zone 1
• Turbotronic™ Microprocessor Control System
  – Freestanding Control Console
  – Color Video Display
  – Vibration Monitoring
• Control Options
  – 120-VDC Control Battery/Charger System
  – Package Temperature Monitoring
  – Serial Link Supervisory Interface
  – Turbine Performance Map
  – Compressor Performance Map
  – Historical Displays
  – Printer/Logger
  – Process Controls
  – Compressor Anti-Surge Control
  – Field Programming
• Start Systems
  – Pneumatic
  – Direct-Drive AC
• Fuel Systems
  – Natural Gas
  – Alternate Fuels
• Integrated Lube Oil System
  – Turbine-Driven Accessories
• Oil System Options
  – Oil Cooler
  – Oil Heater
  – Tank Vent Separator
  – Flame Trap
• Axial Compressor Cleaning Systems
  – On-Crank
  – On-Crank/On-Line
  – Stationary Cleaning Tank
  – Portable Cleaning Tank
• Gearbox (if applicable)
  – Speed Increasers
  – Speed Decreasers
• Air Inlet and Exhaust System Options
• Enclosure and Associated Options
• Factory Testing of Turbine and Package
• Documentation
  – Drawings
  – Quality Control Data Book
  – Inspection and Test Plan
  – Test Reports
  – Operation and Maintenance Manuals
**Performance**

- **Output Power:** 3500 kW (4700 hp)
- **Heat Rate:** 12,905 kJ/kW-hr (9,125 Btu/hp-hr)
- **Exhaust Flow:** 68,185 kg/hr (150,320 lb/hr)
- **Exhaust Temp.:** 445°C (835°F)

**Nominal Rating** – per ISO
At 15°C (59°F), at sea level
No inlet/exhaust losses
Relative humidity 60%
Natural gas fuel with
LHV = 35 MJ/m³ (940 Btu/scf)
Optimum power turbine speed
AC-driven accessories
Engine efficiency: 27.9%

**Available Power**

<table>
<thead>
<tr>
<th>OUTPUT POWER, kW (hp)</th>
<th>HEAT RATE, MJ/kW-hr (Btu/hp-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000 (5364)</td>
<td>14.5 (10,249)</td>
</tr>
<tr>
<td>3500 (4694)</td>
<td>14.0 (9896)</td>
</tr>
<tr>
<td>3000 (4023)</td>
<td>13.5 (9542)</td>
</tr>
<tr>
<td>2500 (3353)</td>
<td>13.0 (9189)</td>
</tr>
<tr>
<td>2000 (2682)</td>
<td>12.5 (8835)</td>
</tr>
</tbody>
</table>

**INLET AIR TEMPERATURE, °C (°F)**

-30.0 (-22)  | 14.5 (10,249) |
-15.0 (5)     | 14.0 (9896)   |
-10.0 (14)    | 13.5 (9542)   |
5.0 (41)      | 13.0 (9189)   |
10.0 (50)     | 12.5 (8835)   |
15.0 (59)     | 12.0 (857)    |
20.0 (68)     | 11.5 (827)    |
25.0 (77)     | 11.0 (807)    |
30.0 (86)     | 10.5 (777)    |
35.0 (95)     | 10.0 (747)    |
40.0 (104)    | 9.5 (717)     |
45.0 (113)    | 9.0 (687)     |
50.0 (122)    | 8.5 (657)     |
55.0 (131)    | 8.0 (627)     |
60.0 (140)    | 7.5 (597)     |

**Package Dimensions**

- **Length:** 6.0 m (19’ 9")
- **Width:** 2.5 m (8’ 1")
- **Height:** 2.7 m (8’ 11”)
- **Typical Weight:** 14,970 kg (33,000 lb)

*Driver package only, dry weight, unenclosed height*