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
- 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
  - Gas Turbine and Package Temperature Monitoring
  - Serial Link Supervisory Interface
  - Turbine Performance Map
  - Driven Equipment 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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power</td>
<td>3500 kW (4700 hp)</td>
</tr>
<tr>
<td>Heat Rate</td>
<td>12 905 kJ/kW-hr (9,125 Btu/hp-hr)</td>
</tr>
<tr>
<td>Exhaust Flow</td>
<td>68 185 kg/hr (150,320 lb/hr)</td>
</tr>
<tr>
<td>Exhaust Temp.</td>
<td>445°C (835°F)</td>
</tr>
</tbody>
</table>

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/nm³ (940 Btu/scf)
Optimum power turbine speed
AC-driven accessories
Engine efficiency: 27.9%

### Available Power

**Output Power**
- 4000 kW (5364 hp)
- 3500 kW (4694 hp)
- 3000 kW (4023 hp)
- 2500 kW (3353 hp)
- 2000 kW (2682 hp)

**Heat Rate**
- 14.5 MJ/kW-hr (10,249 Btu/hp-hr)
- 14.0 MJ/kW-hr (9896 Btu/hp-hr)
- 13.5 MJ/kW-hr (9542 Btu/hp-hr)
- 13.0 MJ/kW-hr (9189 Btu/hp-hr)
- 12.5 MJ/kW-hr (8835 Btu/hp-hr)

**Output Power vs. HEAT RATE**

**Heat Rate vs. INLET AIR TEMPERATURE**

### 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