

General Specifications

Centaur® 50 Gas Turbine

- Industrial, Single Shaft
- Axial Compressor
 - 11 Stage
 - Variable Inlet Guide Vanes
 - Pressure Ratio: 10:6:1
 - Inlet Airflow: 18.8 kg/sec (41.4 lb/sec)
 - Axially Split Case
- Combustion Chamber
 - Annular Type
 - Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx™)
 - 12 Fuel Injectors
 - Torch Ignitor System
- Turbine
 - 3 Stage, Reaction
 - Max. Speed: 14,950 rpm
- Bearings
 - Journal: Tilting Pad
 - Thrust: Tilting Pad (Active) and Fixed Tapered Land (Inactive)
- Coatings
 - Compressor Stators and Drums: Inorganic Aluminum
 - Turbine Nozzles and Blades: Precious Metal Diffusion Aluminide
- Axial Position Probe, Proximity Probes, Keyphasor and RTDs

Main Reduction Drive

- Epicyclic Type
- 1500 rpm (50 Hz) or 1800 rpm (60 Hz)
- Accelerometer

Generator

- Type: Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous, with Brushless Exciter
- Construction Options
 - Open Drip Proof
 - Weather Protected II (WPII)
 - Totally Enclosed Water/Air Cooled
- Sleeve Bearings
- Voltage Regulation
 - Solid-State Regulation with Permanent Magnet Generator
- NEMA Class F Insulation with B Temperature Rise
- Voltages: 3300 to 13,800 Volts
- Frequency: 50 or 60 Hz

Key Package Features

- Base Frame with Drip Pans
- 316L Stainless Steel Piping ≤ 4 " dia
- Compression-Type Tube Fittings
- Digital Display Panel
- Electrical System Options
 - NEC Class I, Group D, Div. 2
 - CENELEC Zone 2
- Turbotronic™ Microprocessor Control System
 - Freestanding Control Console (with offskid controls)
 - Video Display Unit
 - Temperature and Vibration Monitoring
 - Historical Displays
- Control Systems Options
 - Auxiliary Control Interface or Auxiliary Control Console (with onskid controls)
 - Remote Control and Display
 - 120-VDC Control Battery/Charger
 - Supervisory Communications Interface
 - Turbine Performance Map
 - Printer/Logger
 - Field Programming
- Start System: Direct Drive AC
- Fuel Systems
 - Natural Gas
 - Dual (Gas/Liquid)
 - Alternate Fuels
- Integrated Lube Oil System
 - Turbine-Driven Accessories
 - Oil Tank Vent Separator
 - Oil Tank Vent Flame Trap
- Lube Oil System Options
 - Oil Cooler
 - Oil Heater
- Axial Compressor Cleaning Systems
 - On-Crank
 - On-Crank/On-Line
 - Certified Cleaning Tank
- 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 Instruction Manual

Performance

Output Power	4600 kW _e
Heat Rate	12 270 kJ/kW _e -hr (11,630 Btu/kW _e -hr)
Exhaust Flow	68 680 kg/hr (151,410 lb/hr)
Exhaust Temp.	510°C (950°F)

Nominal Rating – per ISO
At 15°C (59°F), at sea level

No inlet/exhaust losses

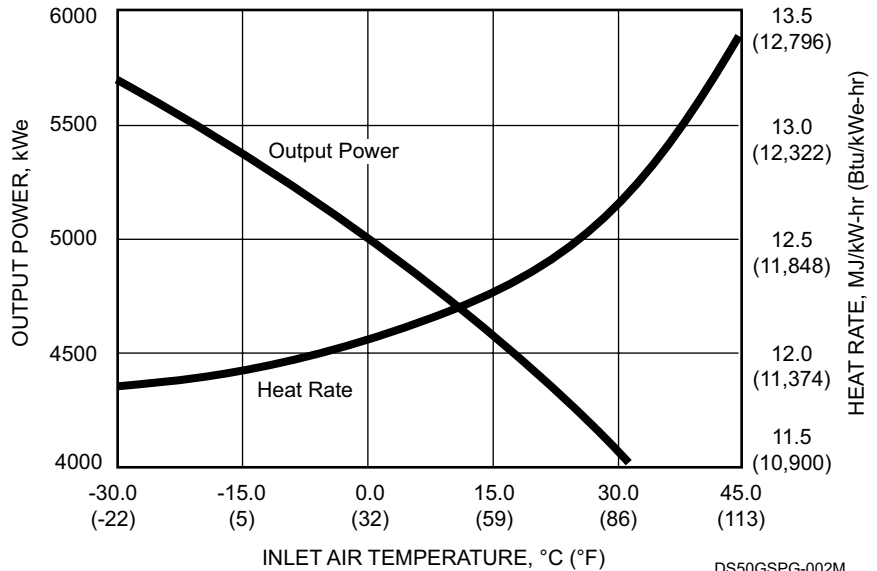
Relative humidity 60%

Natural gas fuel with
LHV = 35 MJ/nm³ (940 Btu/scf)

No accessory losses

Engine efficiency: 29.3% (measured at
generator terminals)

Available Power



Package Dimensions*

- Length: 9.8 m (32' 3")
- Width: 2.6 m (8' 6")
- Height: 3.2 m (10' 5")
- Typical Weight: 37 785 kg (83,300 lb)

*Dry weight, enclosed height

