Features

- Industrial Gas Turbine Package
- Compact, Integrated Package Providing Ease of Installation
- Factory Tested
- Dry, Low Emission (SoLoNOx™) Combustion Available
- Onskid Microprocessor-Control with Auto Sync Capability
- Multiple Fuel Capability

Package Arrangement

**Gas Turbine**
- **Centaur®** 40 Industrial, Single-Shaft Axial Compressor – 11 Stages
- Annular Combustion Chamber – 10 Fuel Injectors
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Proximity Probe Vibration Transducers

**Main Reduction Drive**
- Epicyclic
  - 1800 or 1500 rpm
- Acceleration Vibration Transducers

**Generator**
- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Brushless Exciter
- Open Drip-Proof Construction
- Sleeve Bearings
- Velocity Vibration Transducers
- Solid-State Voltage Regulation with Permanent Magnet Generator
- NEMA Class F Insulation with F Rise
- Continuous Duty Rating

**Package**
- Steel Base Frame with Drip Pans
- Direct-Drive AC Start System
- Natural Gas Fuel System

**Control System**
- Microprocessor-Based PLC
- Generator Control
- Vibration and Temperature Monitoring
- Auto Synchronizing

**Integrated Lube Oil System**
- Turbine-Driven Lube Pump
- AC Pre/Post Lube Pump
- Backup Lube Pump
- Air/Oil Cooler
- Integral Lube Oil Tank
- Lube Oil Tank Heater
- Lube Oil Filter

**Documentation**
- Drawings
- Quality Control Data Book
- Inspection and Test Plan
- Test Reports
- O&M Manuals

**Optional Equipment/Services**

- **Generator Options:**
  - WPII, TEWAC
  - Standby Duty Rating
  - Standard Voltages: 3300, 6600, 11,000 50 Hz; 4160, 6900, 12,470, 13,800 60 Hz
- **Fuel Systems**
  - Liquid
  - Dual (Gas/Liquid)

- **SoLoNOx**, Dry, Low Emission
- Alternate Fuels (such as naphtha, propane, low Btu)
- Lube Oil System
  - Water/Oil Lube Cooler
  - Electrostatic Demister
  - Duplex Lube Oil Filters

- **Control System**
  - Remote Display/Control Terminal
  - Heat Recovery Application Interface
  - Serial Link Supervisory Interface
  - KW Control
  - KVAR/Power Factor Control
  - Turbine Performance Map
  - Historical Displays
  - Printer/Logger
  - Predictive Emissions Monitoring
  - Field Programming Terminal

- **Accessory Equipment**
  - 24-VDC Battery/Charger System
  - Turbine Cleaning System: On-Crank and On-line
  - Package Lifting Kit

- **Weatherproof Acoustic Enclosure**
- **Ancillary Equipment:** Various Air Inlet and Exhaust Systems
  - Inlet and Exhaust Silencers
  - Self-Cleaning or Prefilter/Barrier Air Inlet Filter
  - Inlet Evaporative Cooler
  - Inlet Chiller Coils
  - Ancillary Support Frame
**Nominal Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power, kW (ISO: 15°C)</td>
<td>3515</td>
</tr>
<tr>
<td>Heat Rate, kJ/kWe-hr (Btu/kWe-hr)</td>
<td>12,912 (12,240)</td>
</tr>
<tr>
<td>Exhaust Flow, kg/hr (lb/hr)</td>
<td>67,004 (147,718)</td>
</tr>
<tr>
<td>Exhaust Temperature, °C (°F)</td>
<td>437 (819)</td>
</tr>
</tbody>
</table>

* No inlet or exhaust losses
Relative humidity 60%
Natural gas fuel with
LHV = 31.5 to 43.3 MJ/nm³
(800 to 1100 Btu/scf)

**Available Performance**

**Typical Service Connections**

**Forward End**
- Turbine Control Box

**Left Side**
- Lube Oil: Drain, Vent, Cooler
- Generator Control Box, Power
- Generator Drip Pan Drain
- AC Power
  - Lube Tank Heater
  - Pre/Post Lube Pump
  - Backup Lube Pump

**Right Side**
- AC Power - Start Motor
- Generator Monitor Box

**Aft End**
- Fuel Inlet
- Turbine Cleaning
- Fuel Filter, Combustor and
  Exhaust Collector Drains
- Auxiliary Air (optional) for:
  - Liquid Fuel Atomizing
  - Self-Cleaning Filter
- AC Power
  - Liquid Fuel Pump (optional)
- Package Ground

Solar Turbines Incorporated
P.O. Box 85376
San Diego, CA 92186-5376

FOR MORE INFORMATION
Telephone: (+1) 619-544-5352
Telefax: (+1) 619-544-2633
Telex: 695045
Internet: www.solarturbines.com

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Solar, Centaur and SoLoNOx are trademarks of Solar Turbines Incorporated.
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Features

- Industrial Gas Turbine Package
- Compact, Integrated Package Providing Ease of Installation
- Factory Tested
- Dry, Low Emission (SoLoNOx™) Combustion Available
- Onskid Microprocessor-Control with Auto Sync Capability
- Multiple Fuel Capability

Package Arrangement

Gas Turbine

- Centaur® 50 Industrial, Single-Shaft
- Axial Compressor – 11 Stages
- Annular Combustion Chamber – 12 Fuel Injectors
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Proximity Probe Vibration Transducers

Main Reduction Drive

- Epicyclic
  - 1600 or 1500 rpm
  - Acceleration Vibration Transducers

Generator

- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Brushless Exciter
- Open Drip-Proof Construction
- Sleeve Bearings
- Velocity Vibration Transducers
- Solid-State Voltage Regulation with Permanent Magnet Generator
- NEMA Class F Insulation with F Rise
- Continuous Duty Rating

Package

- Steel Base Frame with Drip Pans
- Direct-Drive AC Start System
- Natural Gas Fuel System
- Control System
  - Microprocessor-Based PLC
  - Generator Control
  - Vibration and Temperature Monitoring
  - Auto Synchronizing
- Integrated Lube Oil System
  - Turbine-Driven Lube Pump
  - AC Pre/Post Lube Pump
  - Backup Lube Pump
  - Air/Oil Cooler
  - Integral Lube Oil Tank
  - Lube Oil Tank Heater
  - Lube Oil Filter
- Documentation
  - Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - O&M Manuals
- Factory Testing of Turbine and Package

Optional Equipment/Services

- Generator Options:
  - WPII, TEWAC
  - Standby Duty Rating
  - Standard Voltages: 3300, 6600, 11,000 50 Hz; 4160, 6900, 12,470, 13,800 60 Hz
- SoLoNOx, Dry, Low Emission
- Alternate Fuels (such as naphtha, propane, low Blu)
- Lube Oil System
  - Water/Oil Lube Cooler
  - Electrostatic Demister
  - Duplex Lube Oil Filters
- Control System
  - Remote Display/Control Terminal
  - Heat Recovery Application Interface
  - Serial Link Supervisory Interface
  - KW Control
  - KVAR/Power Factor Control
  - Turbine Performance Map
  - Historical Displays
  - Printer/Logger
  - Predictive Emissions Monitoring
  - Field Programming Terminal
- Accessory Equipment
  - 24-VDC Battery/Charger System
  - Turbine Cleaning System: On-Crank and On-line
  - Package Lifting Kit
- Weatherproof Acoustic Enclosure
- Ancillary Equipment: Various Air Inlet and Exhaust Systems
  - Inlet and Exhaust Silencers
  - Self-Cleaning or Prefilter/Barrier Air Inlet Filter
  - Inlet Evaporative Cooler
  - Inlet Chiller Coils
  - Ancillary Support Frame

Industrial/Utility Grade
Nominal Performance*

<table>
<thead>
<tr>
<th>Performance Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power, kWe ISO: 15°C (59°F), sea level</td>
<td>4600</td>
</tr>
<tr>
<td>Heat Rate, kJ/kWe-hr (Btu/kWe-hr)</td>
<td>12,269 (11,628)</td>
</tr>
<tr>
<td>Exhaust Flow, kg/hr (lb/hr)</td>
<td>68,680 (151,410)</td>
</tr>
<tr>
<td>Exhaust Temperature, °C (°F)</td>
<td>509 (949)</td>
</tr>
</tbody>
</table>

* No inlet or exhaust losses
Relative humidity 60%
Natural gas fuel with LHV = 31.5 to 43.3 MJ/nm³ (800 to 1100 Btu/scf)

Available Performance

<table>
<thead>
<tr>
<th>Output Power at Generator Terminal, MWe</th>
<th>Exhaust Temperature, °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5</td>
<td>550 (1022)</td>
</tr>
<tr>
<td>6.0</td>
<td>500 (932)</td>
</tr>
<tr>
<td>5.5</td>
<td>78 (172)</td>
</tr>
<tr>
<td>4.5</td>
<td>74 (163)</td>
</tr>
<tr>
<td>4.0</td>
<td>70 (154)</td>
</tr>
<tr>
<td>3.5</td>
<td>66 (146)</td>
</tr>
<tr>
<td>3.0</td>
<td>62 (137)</td>
</tr>
<tr>
<td>2.5</td>
<td>58 (129)</td>
</tr>
<tr>
<td>2.0</td>
<td>55 (131)</td>
</tr>
<tr>
<td>1.5</td>
<td>50 (122)</td>
</tr>
<tr>
<td>1.0</td>
<td>40 (104)</td>
</tr>
</tbody>
</table>

Typical Service Connections

**Forward End**
- Turbine Control Box

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>9754 mm (32' 0&quot;)</td>
</tr>
<tr>
<td>Width</td>
<td>2438 mm (8' 0&quot;)</td>
</tr>
<tr>
<td>Height</td>
<td>2591 mm (8' 6&quot;)</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>27 430 kg (60,470 lb)</td>
</tr>
</tbody>
</table>

**Left Side**
- Lube Oil: Drain, Vent, Cooler
- Generator Control Box, Power
- Generator Drip Pan Drain
- AC Power
  - Lube Tank Heater
  - Pre/Post Lube Pump
  - Backup Lube Pump

**Right Side**
- AC Power - Start Motor
- Generator Monitor Box

**Aft End**
- Fuel Inlet
- Turbine Cleaning
- Fuel Filter, Combustor and Exhaust Collector Drains
- Auxiliary Air (optional) for:
  - Liquid Fuel Atomizing
  - Self-Cleaning Filter
- AC Power
- Liquid Fuel Pump (optional)
- Package Ground

FOR MORE INFORMATION
Telephone: (+1) 619-544-5352
Telefax: (+1) 619-544-2633
Telex: 695045
Internet: www.solarturbines.com
General Specifications

*Mars® 100 Gas Turbine*

- **Industrial, Two-Shaft**
- **Axial Compressor**
  - 15-Stage
  - Variable Inlet Guide Vanes
  - Compression Ratio: 17.4:1
  - Inlet Airflow: 41.3 kg/sec (91.0 lb/sec)
  - Max. Speed: 11,168 rpm
  - Vertically Split Case
- **Combustion Chamber**
  - Annular-Type
  - Conventional or Lean-Premixed, Dry, Low Emission (*SoLoNOx™*)
  - 21 Fuel Injectors (Conventional)
  - 14 Fuel Injectors (*SoLoNOx*)
  - Torch Ignitor System
- **Gas Producer Turbine**
  - 2-Stage, Reaction
  - Max. Speed: 11,168 rpm
- **Power Turbine**
  - 2-Stage, Reaction
  - Max. Speed: 9500 rpm
- **Bearings**
  - Journal: Tilting-Pad
  - Thrust, Active: Tilting-Pad
  - Thrust, Inactive: Fixed Tapered Land
- **Coatings**
  - Compressor Stators and Drum: Inorganic Aluminum
  - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
  - Vibration Transducer Type
    - Proximity Probes
- **Electrical System Options**
  - NEC, Class I, Group D, Div 1 or 2
  - CENELEC, Zone 1
- **Turbotronic™ Microprocessor Control System**
  - Freestanding Control Console
  - Color Video Display
  - Vibration Monitoring
- **Control Options**
  - 24-VDC Control Battery/Charger System
  - 120-VDC Accessory Battery/Charger System
  - Gas Turbine and Package Temperature Monitoring
  - Serial Link Supervisory Interface
  - Turbine Performance Map
  - Compressor Performance Map
  - Historical Displays
  - Printer/Logger
  - Predictive Emissions Monitoring
  - Process Controls
  - Compressor Anti-Surge Control
  - Field Programming

Key Package Features

- **Driver Skid with Drip Pans**
- **Driven Equipment Skid**
  - Compressor
  - Compressor Auxiliary Systems
- **316L Stainless Steel Piping ≤4”**
- **Compression-Type Tube Fittings**
- **Gauge Panel Options**
  - Fluid Gauges
  - Digital Display
- **Fuel Systems**
  - Natural Gas
  - Dual (Gas/Liquid)
- **Integrated Lube Oil System**
  - Turbine-Driven Accessories
  - AC Motor-Driven Accessories
- **Oil System Options**
  - Oil Cooler
  - Oil Heater
  - Tank Vent Separator
  - Flame Trap
- **Axial Compressor Cleaning Systems**
  - On-Crank
  - On-Crank/On-Line
  - Portable Cleaning Tank
- **Gearbox (if applicable)**
  - Speed Increaser
  - 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
No Inlet/Exhaust Losses,
Relative Humidity 60%,
Natural Gas Fuel with
LHV = 31.5 to 43.3 MJ/nm³
(800 to 1100 Btu/scf)
Optimum Power Turbine Speed
AC-Driven Accessories
Engine Efficiency: 34.0%
Nominal Rating – ISO
At 15°C (59°F), Sea Level
Output Power
11 185 kW (15,000 hp)
Heat Rate
10 545 kJ/kW-hr (7490 Btu/hp-hr)
Exhaust Flow
150 700 kg/hr (331,500 lb/hr)
Exhaust Temp
486°C (906°F)

15°C (59°F) Turbine Rating Match.
Other Turbine Rating Match Points
Are Available.

Package Dimensions

Typical Weight: 73 331 kg (161,616 lb)
Width: 2794 mm (9’ 2’’)

FOR MORE INFORMATION
Telephone: (+1) 619-544-5352
Telefax: (+1) 619-544-2633
Internet: www.solarturbines.com
Features

- Industrial Gas Turbine Package
- Compact, Integrated Package Providing Ease of Installation
- Factory Tested
- Multiple Fuel Capability
- Onskid Microprocessor-Control with Auto Sync Capability

Package Arrangement

Gas Turbine
- Saturn® 20 Industrial, Single-Shaft
- Axial Compressor – 8 Stages
- Annular Combustion Chamber
  – 12 Fuel Injectors
- Coatings
  – Compressor: Inorganic Aluminum
  – Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Velocity Vibration Transducers

Main Reduction Drive
- Epicyclic
  – 1800 or 1500 rpm
  – Acceleration Vibration Transducers

Generator
- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Brushless Exciter
- Open Drip-Proof Construction
- Sleeve Bearings
- Velocity Vibration Transducers
- Solid-State Voltage Regulation with Permanent Magnet Generator
- NEMA Class H Insulation with H Rise
- Continuous Duty Rating

Package
- Steel Base Frame with Drip Pans
- Direct-Drive AC or Pneumatic Start System
- Natural Gas Fuel System
- Control System
  – Microprocessor-Based PLC
  – Generator Control
  – Vibration and Temperature Monitoring
  – Auto Synchronizing
- Integrated Lube Oil System
  – Turbine-Driven Lube Pump
  – AC Pre/Post Lube Pump
  – Air/Oil Cooler
  – Integral Lube Oil Tank
  – Lube Oil Filter
- Documentation
  – Drawings
  – Quality Control Data Book
  – Inspection and Test Plan
  – Test Reports
  – O&M Manuals
- Factory Testing of Turbine and Package
- Weatherproof Acoustic Enclosure

Optional Equipment/Services
- Generator Options:
  – Standby Duty Rating
  – Standard Voltages: 380, 415, 3300 50 Hz; 240, 480 2400, 4160 60 Hz
- Fuel Systems
  – Liquid
  – Dual (Gas/Liquid)
  – Water Injection for NOx Control
  – Alternate Fuels (such as naphtha, propane, low Btu)
- Lube Oil System
  – Water/Oil Lube Cooler
  – Electrostatic Demister
  – Lube Oil Tank Heater
- Control System
  – Remote Display/Control Terminal
  – Heat Recovery Application Interface
  – Serial Link Supervisory Interface
  – KW Control
  – KVAR/Power Factor Control
- Accessory Equipment
  – Turbine Cleaning System: On-Crank and On-line
  – Package Lifting Kit
- Ancillary Equipment: Various Air Inlet and Exhaust Systems
  – Inlet and Exhaust Silencers
  – Self-Cleaning or Prefilter/Barrier Air Inlet Filter
  – Inlet Evaporative Cooler
  – Inlet Chiller Coils
  – Ancillary Support Frame
Nominal Performance*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power, kWe</td>
<td>1210</td>
</tr>
<tr>
<td>ISO: 15°C (59°F), sea level</td>
<td></td>
</tr>
<tr>
<td>Heat Rate, kJ/kWe-hr (Btu/kWe-hr)</td>
<td>14,741 (13,972)</td>
</tr>
<tr>
<td>Exhaust Flow, kg/hr (lb/hr)</td>
<td>23,220 (51,240)</td>
</tr>
<tr>
<td>Exhaust Temperature, °C (°F)</td>
<td>516 (960)</td>
</tr>
</tbody>
</table>

* No inlet or exhaust losses
Relative humidity 60%
Natural gas fuel with LHV = 31.5 to 43.3 MJ/nm³ (800 to 1100 Btu/scf)

Available Performance

Typical Package Configuration

- PACKAGE GAUGE PANEL
- LUBE OIL COOLER
- PACKAGE CONTROL CONSOLE
- TURBINE AIR INLET CLEANER
- ENCLOSURE VENT FAN (Inside)
- VENT SILENCER
- ENCLOSURE VENT AIR INLET
- LUBE OIL TANK HEATER (Inside)
- TURBINE AIR INLET
- TURBINE EXHAUST
- ENCLOSURE VENT AIR EXHAUST

Weight: 8980 kg (19,800 lb)
Features

- Industrial Gas Turbine Package
- Compact, Integrated Package Providing Ease of Installation
- Factory Tested
- Dry, Low Emission (SoLoNOx™) Combustion Available
- Onskid Microprocessor-Control with Auto Sync Capability
- Multiple Fuel Capability

Package Arrangement

Gas Turbine
- Taurus™ 60 Industrial, Single-Shaft
- Axial Compressor – 12 Stages
- Annular Combustion Chamber – 12 Fuel Injectors
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Proximity Probe Vibration Transducers

Main Reduction Drive
- Epicyclic
  - 1800 or 1500 rpm
- Acceleration Vibration Transducers

Generator
- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Brushless Exciter
- Open Drip-Proof Construction
- Sleeve Bearings
- Velocity Vibration Transducers
- Solid-State Voltage Regulation with Permanent Magnet Generator
- NEMA Class F Insulation with F Rise
- Continuous Duty Rating

Control System
- Microprocessor-Based PLC
- Generator Control
- Vibration and Temperature Monitoring
- Auto Synchronizing
- Integrated Lube Oil System
- Turbine-Driven Lube Pump
- AC Pre/Post Lube Pump
- Backup Lube Pump
- Air/Oil Cooler
- Integral Lube Oil Tank
- Lube Oil Tank Heater
- Lube Oil Filter

Documentation
- Drawings
- Quality Control Data Book
- Inspection and Test Plan
- Test Reports
- O&M Manuals

Optional Equipment/Services
- Factory Testing of Turbine and Package

SoLoNOx, Dry, Low Emission
- Alternate Fuels (such as naphtha, propane, low Btu)
- Lube Oil System
- Water/Oil Lube Cooler
- Electrostatic Demister
- Duplex Lube Oil Filters

Control System
- Remote Display/Control Terminal
- Heat Recovery Application Interface
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Accessory Equipment
- 24-VDC Battery/Charger System
- Turbine Cleaning System: On-Crank and On-line
- Package Lifting Kit

Weatherproof Acoustic Enclosure
- Multiple Fuel Capability

Ancillary Equipment: Various Air Inlet and Exhaust Systems
- Inlet and Exhaust Silencers
- Self-Cleaning or Prefilter/Barrier Air Inlet Filter
- Inlet Evaporative Cooler
- Inlet Chiller Coils
- Ancillary Support Frame
## Nominal Performance*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power, kWe</td>
<td>5200</td>
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<tr>
<td>ISO: 15°C (59°F), sea level</td>
<td></td>
</tr>
<tr>
<td>Heat Rate, kJ/kWe-hr (Btu/kWe-hr)</td>
<td>11,882</td>
</tr>
<tr>
<td>Exhaust Flow, kg/hr (lb/hr)</td>
<td>79,284</td>
</tr>
<tr>
<td>(Btu/kWe-hr) (11,263)</td>
<td></td>
</tr>
<tr>
<td>Exhaust Temperature, °C (°F)</td>
<td>486 (906)</td>
</tr>
</tbody>
</table>

* No inlet or exhaust losses
Relative humidity 60%
Natural gas fuel with
LHV = 31.5 to 43.3 MJ/nm³
(800 to 1100 Btu/scf)

## Available Performance

![Graph showing performance data](DS60PG-002M)

### Typical Service Connections

**Forward End**
- Turbine Control Box

**Left Side**
- Lube Oil: Drain, Vent, Cooler
- Generator Control Box, Power
- Generator Drip Pan Drain
- AC Power
  - Lube Tank Heater
  - Pre/Post Lube Pump
  - Backup Lube Pump

**Right Side**
- AC Power - Start Motor
- Generator Monitor Box

**Aft End**
- Fuel Inlet
- Turbine Cleaning
- Fuel Filter, Combustor and Exhaust Collector Drains
- Auxiliary Air (optional) for:
  - Liquid Fuel Atomizing
  - Self-Cleaning Filter
- AC Power
- Liquid Fuel Pump (optional)
- Package Ground

---

**Length:** 9754 mm (32' 0")
**Width:** 2438 mm (8' 0")
**Height:** 2591 mm (8' 6")
**Approx. Weight:** 29,300 kg (64,590 lb)
Mobile Power - When and Where You Need It

The Taurus™ 60 Mobile Power Unit is the prime choice if you’re looking to produce reliable, low-cost, onsite peaking power. Designed as an onsite generator system to optimize service for seasonal or cyclical loads, the Taurus 60 Mobile Generator System includes these key features:

**Easy to Install and Relocate**
- Highway Transportable
- Modular Design for Quick Set-Up and Connection
- No Concrete Foundation Required
- Compact Footprint to Minimize Space Requirements
- Ideal for Rental Fleets and Utility Equipment Pools

**Environmentally Friendly**
- Low Emissions State-of-the-Art SoLoNOx™ Dry Low NOx Combustion System
- No Visible Emissions
- Sound Attenuation Package for Quiet Operation
- Low Profile Design to Minimize Installed Height
- Easy to Permit

**Flexible Solution**
- Leasing and Rental Options Available
- 5-MW Size for Highly Flexible Capacity Addition and Operation
- Fuel Flexibility, Gas or Diesel with Dual Fuel Option

**Complete Systems Solution**
- Set-Up and Commissioning
- Site Preparation (if needed)
- Ancillary Support Systems (if needed)
- Wide Range of Product Support Programs

**Operational Features**
- Dispatchable to be On Line in Six Minutes (from cold start)
- Range of Control System Options for Remote Operation and SCADA Integration
- Utility Grade Switchgear and Protective Relay Module
- KVAR Control for Excellent Reactive Power Capability
Nominal Generator Set Performance

At the core of the Mobile Power Unit is the 5.5 MW Taurus 60 industrial gas turbine, with a population of more than 1085 units in the field. The Mobile Power Unit combines the features and benefits of the proven Taurus 60 industrial gas turbine with a mobile system that is easy to relocate and connect.

<table>
<thead>
<tr>
<th>Output Power, kWe</th>
<th>5,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Rate, Btu/kWe-hr</td>
<td>11,263</td>
</tr>
</tbody>
</table>

Typical Dimensions

Mobile Power - When and Where You Need It

For information on price, delivery and how the Taurus 60 Mobile Power Unit can meet your needs for short-term capacity and reduce your exposure to market spikes, e-mail: powergen@solarturbines.com or call (858) 694-6570.
TAURUS 70
Gas Turbine Generator Set

Industrial/Utility Grade

Standard Package Configurations

Gas Turbine
- **Taurus™ 70** Industrial, Single-Shaft
- Axial Compressor
  - 14-Stage
  - Variable Inlet Guide Vanes and Stators
  - Compression Ratio 16:1
  - Inlet Airflow: 26.2 kg/sec (57.7 lb/sec)
  - Speed: 15,200 rpm
  - Vertically Split Case
- Annular Combustion Chamber
  - Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx)
  - 12 Fuel Injectors
  - Torch Ignitor System
- Proximity Probe Vibration Transducers
- Turbine
  - 3-Stage, Axial Flow
  - Speed: 15,200 rpm

Main Reduction Drive
- Epicyclic
  - 1500 or 1800 rpm (50 or 60 Hz)
  - Acceleration Vibration Transducer

Generator
- Continuous Duty Rating
- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Brushless Exciter
- Permanent Magnet Generator
- Open Drip-Proof Construction
- Sleeve Bearings
- Velocity Vibration Transducers
- NEMA Class F Insulation with F Rise

Package
- Steel Base Frame with Drip Pans
- Direct-Drive AC Start System
- Natural Gas Fuel System
- **Turbotronic™** 4 Control System
  - ControlLogix Processor
  - Standard Display with Discrete Event Log, Strip Chart, Historical Trend, Maintenance Screen
  - Gas Turbine and Generator Control
  - Vibration and Temperature Monitoring
  - Auto Synchronizing
  - KW Control
  - CGCM Module
  - KVAR/Power Factor Control (Optional)
  - Combination Generator Control Module with Load Share, Synchronization, Voltage Control, Reactive Power Control, Generator Protection
- Integrated Lube Oil System
  - Turbine-Driven Lube Pump
  - Pre/Post Lube Pump
  - Backup Lube Pump
  - Air/Oil Cooler
  - Integral Lube Oil Tank
  - Lube Oil Tank Heater
  - Simplex Lube Oil Filter
  - Oil Mist Eliminator
- Documentation
  - Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - Operation and Maintenance Manuals
  - Turbine Cleaning System: On-Crank and On-Line
  - Factory Testing of Turbine and Package

Optional Equipment

- Generator Options:
  - Totally Enclosed Water/Air Cooled
  - Standard Voltages: 6600, 11,000 V (50 Hz); 4160, 12,470, 13,800 V (60 Hz)
- Fuel Systems
  - Liquid
  - Dual (Gas/Liquid)
  - Alternate Fuels (such as naphtha, propane, low Btu gas)
  - ElectricFuel Control
- Lube Oil System
  - Water/Oil Lube Oil Cooler
  - Duplex Lube Oil Filters
  - Vent Flame Trap
- Control System
  - Auxiliary and Remote Display/Control Terminal
  - Heat Recovery Application Interface
  - Serial Link Supervisory Interface
  - Turbine Performance Map
  - Historical Displays
  - Printer/Logger
  - Field Programming Terminal
- Accessory Equipment
  - 120-VDC Battery/Charger System
  - Package Lifting Kit
- Weatherproof Acoustic Enclosure
- Ancillary Equipment:
  - Inlet and Exhaust Silencers
  - Self-Cleaning or Prefilter/Barrier Air Inlet Filter
  - Inlet Evaporative Cooler
  - Inlet Chiller Coils
  - Ancillary Support Frame
Taurus 70
Gas Turbine Generator Set

Nominal Performance*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power, kWe</td>
<td>7520 kWe</td>
</tr>
<tr>
<td>ISO: 15°C (59°F), sea level</td>
<td></td>
</tr>
<tr>
<td>Heat Rate, kJ/kWe-hr</td>
<td>10,650 kJ/kWe-hr</td>
</tr>
<tr>
<td>(Btu/kWe-hr)</td>
<td>(10,100,000) Btu/kWe-hr</td>
</tr>
<tr>
<td>Exhaust Flow, kg/hr</td>
<td>97,000 kg/hr (213,840 lb/hr)</td>
</tr>
<tr>
<td>Exhaust Temperature, °C</td>
<td>490 °C (910°F)</td>
</tr>
</tbody>
</table>

* No inlet or exhaust losses
Relative humidity 60%
Natural gas fuel with
LHV = 31.5 to 43.3 MJ/nm³
(800 to 1100 Btu/scf)

Available Performance

<table>
<thead>
<tr>
<th>Exhaust Flow, Thousands kg/hr (lb/hr)</th>
<th>Full Load Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 (902)</td>
<td>108 (238)</td>
</tr>
<tr>
<td>100 (220)</td>
<td>26 (82)</td>
</tr>
<tr>
<td>50 (99)</td>
<td>24 (82)</td>
</tr>
<tr>
<td>25 (45)</td>
<td>22 (75)</td>
</tr>
<tr>
<td>15 (27)</td>
<td>20 (68)</td>
</tr>
<tr>
<td>10 (18)</td>
<td>18 (61)</td>
</tr>
<tr>
<td>7 (13)</td>
<td>16 (55)</td>
</tr>
<tr>
<td>5 (9)</td>
<td>14 (48)</td>
</tr>
<tr>
<td>3 (6)</td>
<td>12 (41)</td>
</tr>
<tr>
<td>2 (3)</td>
<td>10 (34)</td>
</tr>
<tr>
<td>1 (2)</td>
<td>8 (15)</td>
</tr>
</tbody>
</table>

Typical Service Connections

Right Side
- Lube Oil Tank Vent

Left Side
- Lube Oil: Cooler, Drain, Vent
- AC Power
  - Starter Motor
  - Liquid Fuel Pump
  - Pre/Post Lube Pump
  - Oil Tank Heater
- Package Ground
- DC Power, Backup Lube Pump
- Lube Oil Tank Drain

Forward End
- Turbine Control Box
- Generator Drip Pan Drain
- Package Ground
- Generator Control Box
- Generator Terminal Box

Aft End
- Combustor and Exhaust Diffuser Drains
- Fuel: Inlet, Filter, Drain, Vent
- Auxiliary Air (optional) for:
  - Liquid Fuel Atomizing
  - Self-Cleaning Filter
  - Turbine Cleaning
  - Turbine Drip Pan Drain

Length: 11,278 mm (37' 0")
Width: 2,932 mm (9' 7-7/16")
Height: 2,743 mm (9' 0")
Approximate Weight (dry): 50,314 kg (110,923 lb)