General Specifications

**Taurus™ 65 Gas Turbine**
- Industrial, Single-Shaft
- 13 Stage Axial Compressor
  - Variable Inlet Guide Vanes and Stators
  - Pressure Ratio: 15:1
  - Inlet Airflow: 21 kg/sec (46.4 lb/sec)
  - Vertically Split Case
- Combustion Chamber, Annular-Type
  - 10 Lean-Premixed, Dry Low Emissions SoLoNOx™ Injectors
  - Single Torch Ignitor System
- Power Turbine
  - 3-Stage Reaction
  - Clockwise Rotation
- Bearings
  - 3 Radial Journal: Tilt-Pad
  - 1 Thrust, Active: Tilt-Pad
  - 1 Thrust, Inactive: Fixed Tapered Land
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Platinum Aluminide (Stages 1 and 2)
- Vibration Transducer Type
  - Proximity Probes, 2 per Radial Bearing/2 per Thrust Bearing (1 Active, 1 Inactive)
  - Velocity Pick-up*

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

**Generator**
- 4 Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous with Permanent Magnet Generator Exciter
- Available Construction Types:
  - Open Drip-Proof Construction
  - CACA/TEAAC (Closed Air, Cooling Air/Totally Enclosed, Air to Air Cooling)*
  - CACW/TEWAC (Closed Air, Cooling Water/Totally Enclosed, Water to Air Cooling)*
- Sleeve Bearings
- Vibration Monitoring: Velocity Transducers
- Vibration Monitoring: Displacement Transducers*

**Package**
- Mechanical Construction
  - Steel Base Frame with Drip Pans
  - 316L Stainless Steel Piping
  - Compression Type Tube Fittings
- Start System
  - Direct Drive AC Motor with VFD Control
- Package Electrical Certification
  - NEC, CSA Class 1, Group D, Div.2
- Fuel System
  - Natural Gas
  - Integrated Lube Oil System
    - Turbine-Driven Lube Pump
    - DC Motor Driven Backup Lube Pump
    - Air to Oil Cooler
    - Water to Oil Cooler*
    - Integral Lube Oil Tank
    - Lube Oil Filter
    - Duplex Lube Oil Filter*
    - Oil Tank Vent Separator with Flame Arrestor
- Air Inlet and Exhaust Systems
  - Carbon Steel
  - Stainless Steel*
  - Barrier Type Filters*
  - Self-Cleaning Filters*
  - Inlet and Exhaust Silencers
  - Inlet Evaporative Cooler*
  - Inlet Chiller Coils*
- Enclosure
  - Complete Package
  - Fire Detection and CO2 Suppression System
  - Turbine Compressor Cleaning Systems
    - On-Crank/On-Line

- Portable Cleaning Tank*
- Package Power
  - 120VDC Battery/Charger System*
- Turbotronic™ On-Skid Gas Turbine and Generator Control System Features
  - Combination Generator Control Module with Load Share, Auto Synchronization, Voltage Control
  - Standard Display with Discrete Event Log, Strip Chart, Historical Trend, Maintenance Screen
  - Vibration and Temperature Monitoring
  - English Display Text and Labels
  - Spanish, Portuguese, German, French or Simplified Chinese Display Text and Labels*
  - Auxiliary and Remote Display/Control Terminals*
  - Turbine Performance Map*
  - KW Import Control*
  - KV/AR/Power Factor Control
  - ControlNet Redundant Media, Ethernet, Modbus RS232C/422/485 Supervisory Interface*
  - Heat Recovery Application Interface*
  - Multi-Unit Applications: Load Shed Control, Import/Export or kW/KVAR Control Panels*
  - InSight Platform™ Equipment Health Management*
  - Printer/Logger*
- Electrical System Options
  - Neutral Grounding Resistor or Transformer*
  - Switchgear and Generator Protective Relay*
  - Motor Control Center with Automatic Transfer Switch*
- Documentation
  - Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - O&M Manuals
- Factory Testing of Turbine and Package Systems
**Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power</td>
<td>6500 kWe</td>
</tr>
<tr>
<td>Heat Rate</td>
<td>10 860 kJ/kWe-hr</td>
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<tr>
<td>Exhaust Flow</td>
<td>76 880 kg/hr</td>
</tr>
<tr>
<td>Exhaust Temperature</td>
<td>540°C (1000°F)</td>
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</tbody>
</table>

**Application Performance**

- **Steam (Unfired)**: 14.7 tonnes/hr (32,430 lb/hr)
- **Steam (Fired)**: 57.1 tonnes/hr (125,850 lb/hr)
- **Chilling (Absorp.)**: 12 670 kW (3600 refrigeration tons)

Nominal rating – per ISO
At 15°C (59°F), 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: 33%
(measured at generator terminals)

**Enclosure Access and Maintenance Space**

- Generator Maintenance: 3.0 m (9’ 10”)
- Minimum Clearance Required for Engine Removal: 9.8 m (32’ 2”)
- Minimum Space Clearance Required for Enclosure Access Doors and Routine Operation and Maintenance: 3.0 m (9’ 10”)

Package Height: 3.3 m (10’ 9”)
Package Weight: 39 600 kg (87,300 lb)