

## General Specifications

### Taurus™ 60 Gas Turbine

- Industrial, Single-Shaft
  - 12 Stage Axial Compressor
    - Variable Inlet Guide Vanes and Stators
    - Pressure Ratio: 12.2:1
    - Inlet Airflow: 21.5 kg/sec (47.3 lb/sec)
    - Vertically Split Case
  - Combustion Chamber, Annular-Type
    - 12 Conventional Fuel Injectors or 12 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: Precious Metal Diffusion Aluminide
  - Vibration Transducer Type
    - Proximity Probes, 2 per Radial Bearing/ 2 per Thrust Bearing, horizontal and vertical
- 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\*
  - NEMA Class F Insulation
  - Class F Temperature Rise
  - Class B Temperature Rise\*
  - Continuous Duty Rating Voltages:
    - 3300, 6600, 11 000 (50Hz)
    - 4160, 6900, 12 470, 13 200, 13 800 (60Hz)
- 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
    - Diesel\*
    - Dual (Natural Gas and Diesel)\*
    - Low BTU Gas\*
  - Integrated Lube Oil System
    - Turbine-Driven Lube Pump
    - AC Motor Driven Pre/Post Lube Pump
    - DC Motor Driven Backup Lube Pump
    - Air to Oil Cooler
    - Water to Oil Cooler\*
    - Integral Lube Oil Tank
    - Lube Oil Tank Heater
    - 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
    - Driver Only\*
    - 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\*
  - KVAR/Power Factor Control\*
  - ControlNet Redundant Media, Ethernet or 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**
- Factory Testing of Package Systems
    - Non-Dynamic
    - Dynamic

### Performance

Output Power	5670 kW <sub>e</sub>
Heat Rate	11 430 kJ/kWe-hr (10,830 Btu/kWe-hr)
Exhaust Flow	78 370 kg/hr (172,770 lb/hr)
Exhaust Temp.	510°C (950°F)

### Application Performance

Steam (Unfired)	13.5 tonnes/hr (29,750 lb/hr)
Steam (Fired)	58.9 tonnes/hr (129,830 lb/hr)
1536°C (2800°F)	
Chilling (Absorp.)	11 650 kW (3310 refrigeration tons)

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

No inlet/exhaust losses

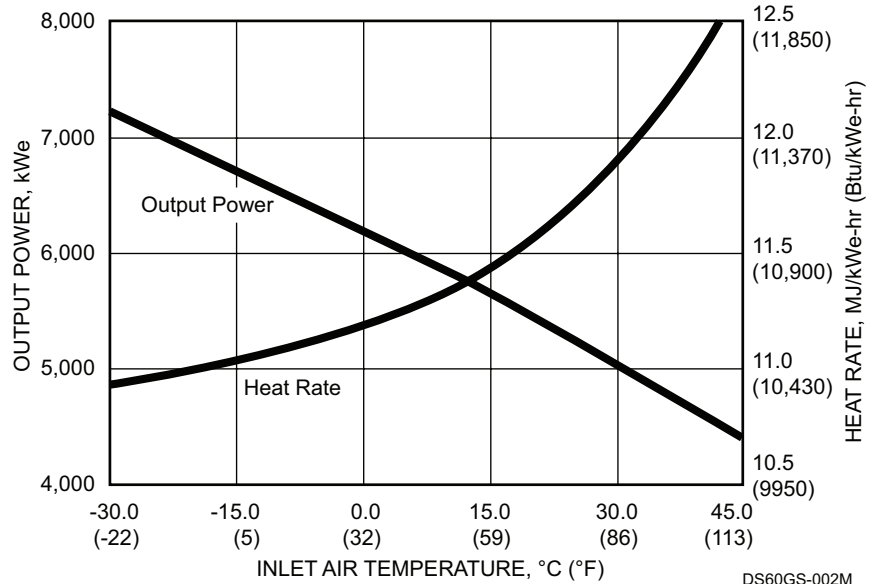
Relative humidity 60%

Natural gas fuel with  
LHV = 35 MJ/Nm<sup>3</sup> (940 Btu/scf)

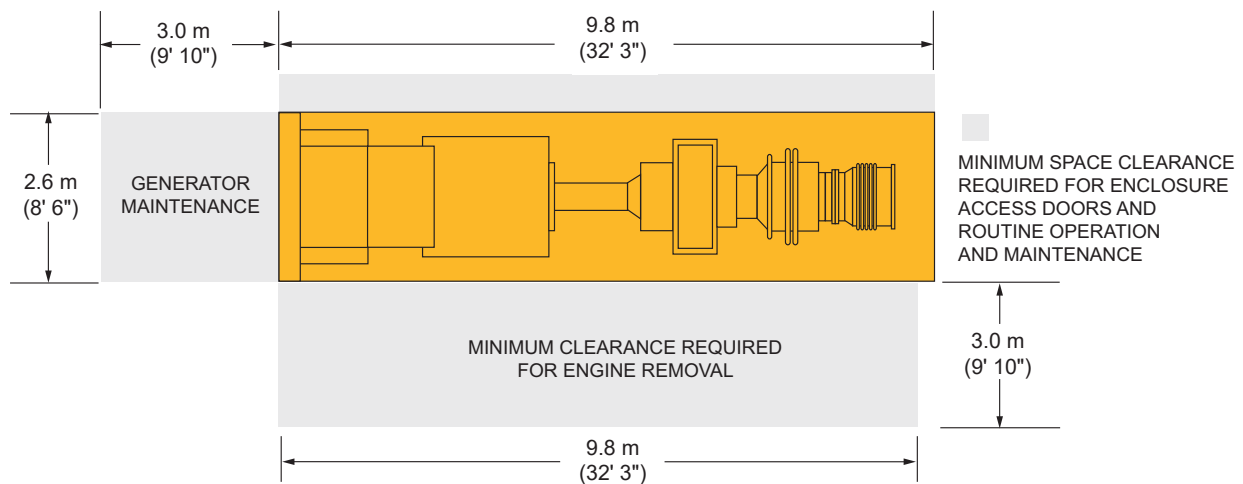
No accessory losses

Engine efficiency: 31.5%  
(measured at generator terminals)

### Available Power



### Enclosure Access and Maintenance Space



Package Height: 3.2 m (10' 5")

Package Weight: 37 920 kg (83,600 lb)

Dry weight, enclosed height

DS40,50,60PG-003C