

### General Specifications

#### Titan™ 250 Gas Turbine

- Industrial, Two-Shaft
- 16 Stage Axial Compressor
  - Variable Inlet Guide Vanes
  - Pressure Ratio: 24:1
  - Inlet Airflow: 67.3 kg/sec (148 lb/sec)
  - Vertically Split Case
- Combustion Chamber Annular-Type
  - 14 Lean-Premixed, Dry Low Emissions Injectors
  - Torch Ignitor System
- Gas Generator Turbine
  - 2-Stage Reaction
  - Max. Speed: 10,500 rpm
- Power Turbine
  - 3-Stage Reaction
  - Max. Speed: 7000 rpm
- Bearings
  - 5 Radial Journal, Tilt-Pad
  - 2 Active Thrust, Tilt-Pad
  - 2 Inactive Thrust, 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

#### Main Reduction Drive

- Epicyclic Type
  - 1500 rpm (50 Hz) or 1800 rpm (60 Hz)
  - Accessory Power Take-Off

#### Generator

- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous, with Permanent Magnet Generator Exciter

- Available Construction Types:
  - Duct In/Duct Out
  - Totally Enclosed Air-to-Air Cooled
  - Totally Enclosed Water-to-Air Cooled
- Sleeve Bearings
- Oil Jacking System
- NEMA Class F Insulation
- Class B Temperature Rise
- Voltages: 1100 to 13,800 VAC
- Frequency: 50 or 60 Hz

#### Package

- Mechanical Construction
  - Steel Base Frame with Drip Pans
  - 316L Stainless Steel Piping ≤8" dia.
  - Compression-Type Tube Fittings
- Electrical System
  - NEC, Class 1, Group D, Div 2
  - CENELEC/ATEX Zone 2
  - Cable Tray Wiring
  - 120 VDC Battery/Charger System
- Direct-Drive AC Start System
- Fuel System
  - Dry Low Emission (SoLoNOx)
  - Conventional
- Fuel Types
  - Natural Gas or Dual (Gas/Distillate)
- Integrated Lube Oil System
  - Turbine-Driven Main Pump
  - AC Motor-Driven Pre/Post Pump
  - DC (120 V) Motor-Driven Backup Pump
  - Oil Cooler and Oil Heater\*
  - Tank Vent Separator and Flame Trap
  - Lube Oil Filter
- Turbine Compressor Cleaning System
  - On-Crank/On-Line
  - Portable Cleaning Tank\*

- Air Inlet and Exhaust System
  - Carbon Steel
  - Stainless Steel
  - Coastal Type Filters
- Enclosure
  - Fire Only
  - Fire Detection and Suppression
- TurboTronic™ 4 Control System
  - Onskid Control System
  - Digital Onskid Display Panel
  - 24 VDC Control Power (120 VDC Input)
  - Serial Link Supervisory Interface
  - Field Programmable
  - Vibration Monitoring
  - Temperature Monitoring
  - Generator Control
    - Selectable Control Modes
    - Solid-State Voltage Regulation
    - Automatic Synchronization
    - Metering Panel with Manual Synchronization\*
    - KW Control\*
  - Heat Recovery Application Interface
  - Multiple Operator Display Screens
  - Data Collection and Playback
  - Turbine Performance Map\*
  - InSight System™ Equipment Health Management\*
  - Printer/Logger\*
- Documentation
  - Electrical Drawings
  - Mechanical Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - O&M Manuals
- Factory Testing of Turbine
- Factory Testing of Package
  - Non-Dynamic
  - Dynamic

### Performance

Output Power	21 745 kWe
Heat Rate	9260 kJ/kWe-hr (8775 Btu/kWe-hr)
Exhaust Flow	245 660 kg/hr (541,590 lb/hr)
Exhaust Temp.	465°C (865°F)

### Application Performance

Steam (Unfired)	35.2 tonnes/hr (77,600 lb/hr)
Steam (Fired) 1536°C (2800°F)	184.8 tonnes/hr (407,490 lb/hr)
Chilling (Absorp.)	30 340 kW (8620 refrigeration tons)

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

No inlet/exhaust losses

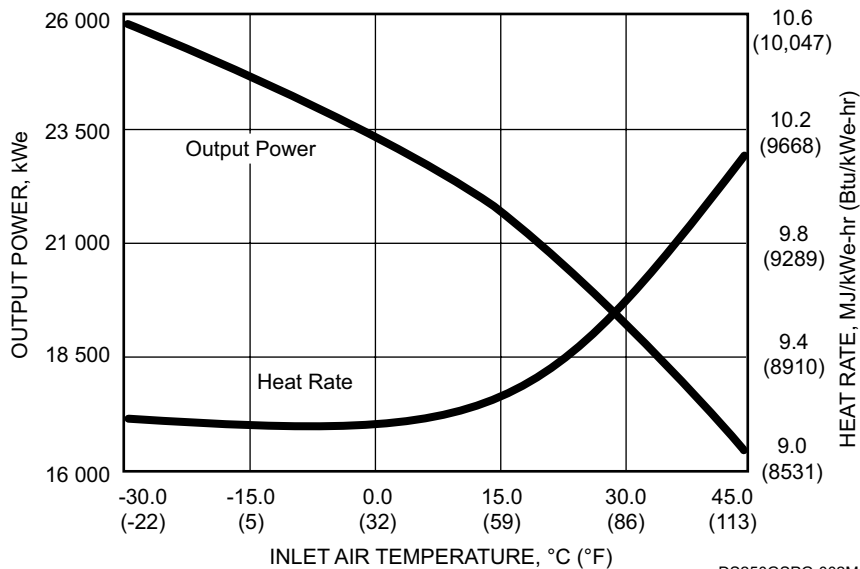
Relative humidity 60%

Natural gas fuel with  
LHV = 31.5 to 43.3 MJ/Nm<sup>3</sup> (940 Btu/scf)

No accessory losses

Engine efficiency: 38.9%  
(measured at generator terminals)

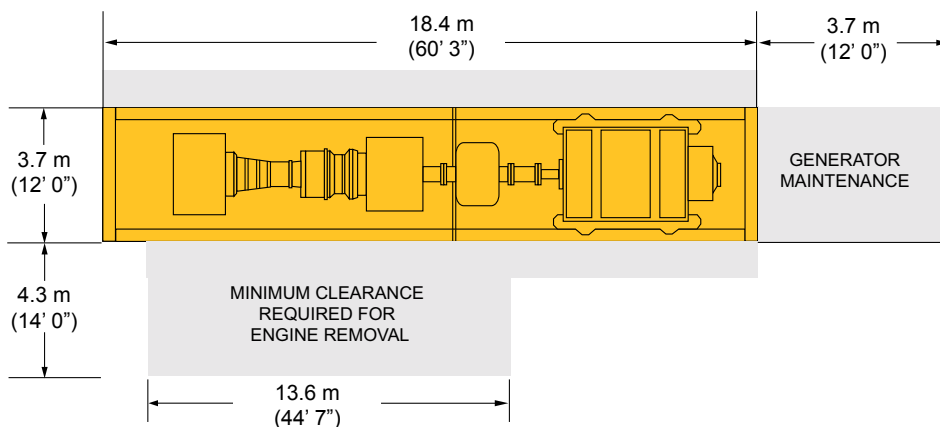
### Available Power



DS250GSPG-002M

### Enclosure Access and Maintenance Space

MINIMUM SPACE CLEARANCE REQUIRED FOR ENCLOSURE ACCESS DOORS AND ROUTINE OPERATION AND MAINTENANCE



Package Height: 4.1 m (13' 5")  
Package Weight: 125 000 kg (276,000 lb)

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