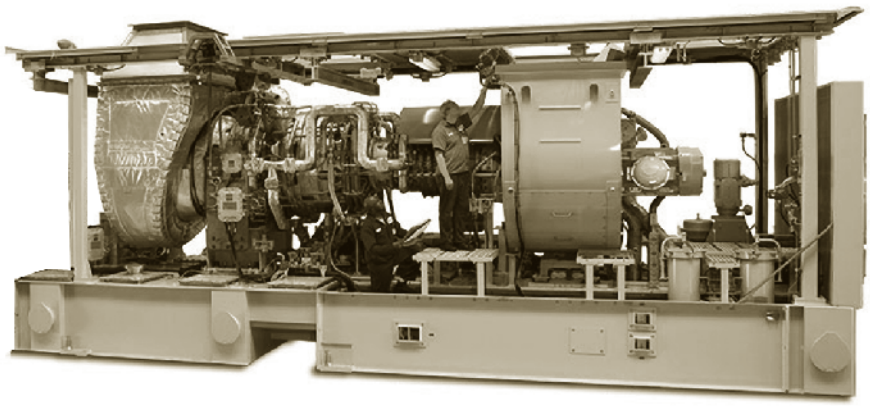
Solar® Turbines
A Caterpillar Company

TITAN 250

Gas Turbine Mechanical Drive Package

Oil & Gas Applications



General Specifications

Titan™ 250 Gas Turbine

- Industrial, Two-Shaft
- Axial Compressor
  - 16-Stage
  - Variable Inlet Guide Vane and 5 Variable Guide Vanes
  - Pressure Ratio: 24:1
  - Inlet Airflow: 67.3 kg/sec (148 lb/sec)
  - Vertically Split Case
- Combustion System
  - Annular-Type, Lean-Premixed, Dry, Low Emission (*SoLoNOx*™)
  - 14 Fuel Injectors (*SoLoNOx*)
  - Torch Ignitor System
- Gas Generator Turbine
  - 2-Stage, Axial
  - Max. Speed: 10,500 rpm
  - Thrust Bearing, Active: Tilting-Pad
  - Thrust Bearing, Inactive: Fixed Tapered Land
- Power Turbine
  - 3-Stage, Axial
  - Max. Speed: 7000 rpm
  - Full Tilting-Pad Thrust Bearing
- Journal Bearings
  - Tilting-Pad
- Turning Gear
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Vibration Transducer Type
  - Proximity Probes

Key Package Features

- Driver Skid 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 1, or Div 2
  - ATEX, Zone 2
  - CENELEC, Zone 1
- *Turbotronic*™ Microprocessor Control System
  - Onskid Control System (Div 2 or ATEX, Zone 2)
  - Freestanding Control Console
  - Color Video Display
  - Vibration Monitoring
- Control Options
  - 120 VDC Battery/Charger System
  - Gas Turbine and Package Temperature Monitoring
  - Serial Link Supervisory Interface
  - Turbine Performance Map
  - Compressor Performance Map
  - Historical Displays
  - Printer/Logger
  - Remote Monitoring and Diagnostics Option
  - Process Controls
  - Compressor Anti-Surge Control
  - Field Programming
- Start Systems
  - Direct-Drive AC
- Natural Gas Fuel System
- 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 (Options)
  - Tank Vent Separator and Flame Trap
  - Lube Oil Filter
  - DC (120 V) Turning Gear System
- Package Skid Design
  - Accommodates *Titan* Turbines
  - Optional Modifications for Floating Production Applications
  - Modularized System Design
- Axial Compressor Cleaning Systems
  - On-Crank/On-Line
  - Portable Cleaning Tank
- Gearbox (if applicable)
  - Speed Increaser
  - Speed Decreaser
- Air Inlet and Exhaust System Options (Carbon or Stainless Steel)
- 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

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Performance

Output Power	22 370 kW (30,000 hp)
Heat Rate	9000 kJ/kW-hr (6360 Btu/hp-hr)
Exhaust Flow	245 660 kg/hr (541,590 lb/hr)
Exhaust Temp.	465°C (865°F)

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

No inlet/exhaust losses

Relative humidity 60%

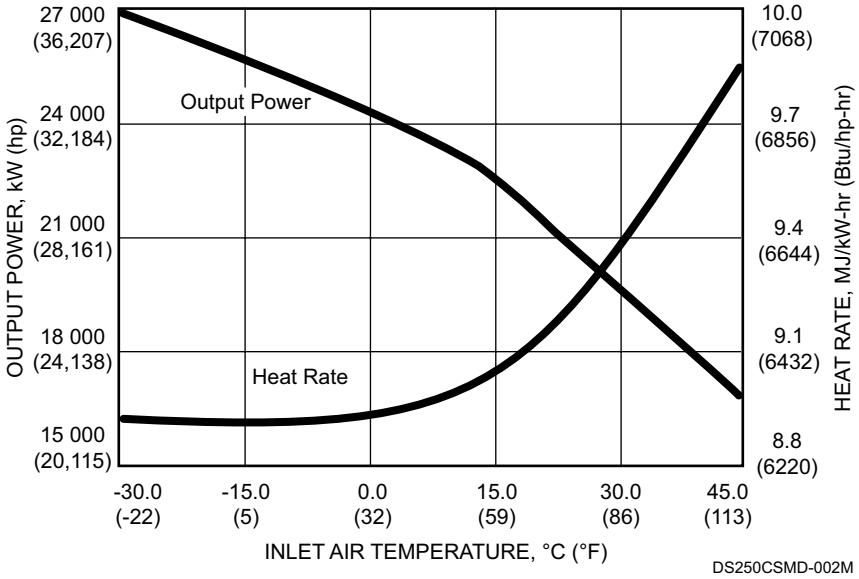
Natural gas fuel with
LHV = 31.5 to 43.3 MJ/nm³
(800 to 1100 Btu/scf)

Optimum power turbine speed

AC-driven accessories

Engine efficiency: 40%

Available Power



DS250CSMD-002M

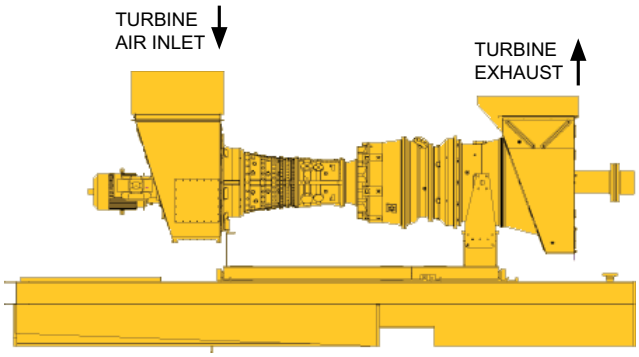
Package Dimensions

Length: 10.3 m (33' 9")

Width: 3.7 m (12' 0")

Height: 3.6 m (11' 11")

Typical Weight: 49 900 kg (110,000 lb)



DS250MD-003M

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DS250MD/1109/EO

FOR MORE INFORMATION

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