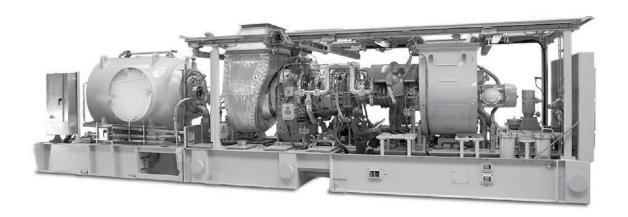
A Caterpillar Company

## **Gas Turbine Compressor Set**

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
- · 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<sup>™</sup> 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
- 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
- Documentation
- Drawings
- Quality Control Data Book
- Inspection and Test Plan
- Test Reports
- Operation and Maintenance Manuals

# **Solar Turbines**

## **TITAN 250**

A Caterpillar Company

**Gas Turbine Compressor Set** 

Oil & Gas Applications

### **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

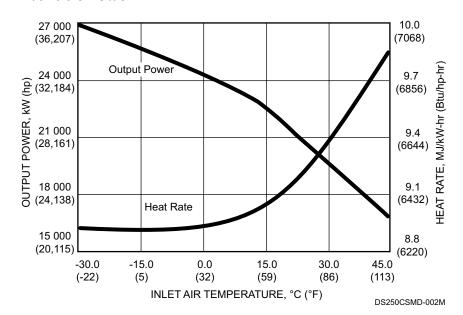
Relative humidity 60%

Natural gas fuel with LHV = 31.5 to 43.3 MJ/nm<sup>3</sup> (800 to 1100 Btu/scf)

Optimum power turbine speed

AC-driven accessories Engine efficiency: 40%

### **Available Power**

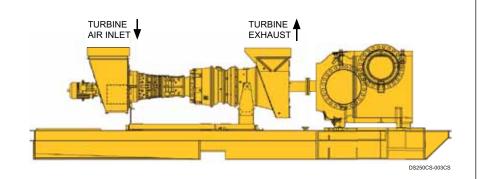


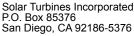
### Package Dimensions\*

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)

\*Driver package only





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DS250CS/1109/EO

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