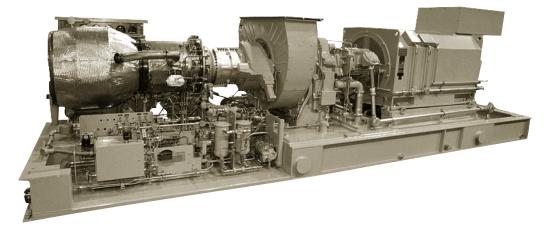
# **Solar Turbines**

A Caterpillar Company

### **TAURUS 60 Gas Turbine Generator Set**

#### **Oil & Gas Applications**



#### **General Specifications**

#### Taurus<sup>™</sup> 60 Gas Turbine

- Industrial, Single-Shaft
- · Axial Compressor
- 12 Stage
- Variable Inlet Guide Vanes
- Pressure Ratio: 12.2:1
- Inlet Airflow:
- 21.6 kg/sec (47.6 lb/sec)
- Vertically Split Case
- Combustion Chamber
  - Annular Type
  - Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx<sup>™</sup>)
  - 12 Fuel Injectors
  - Torch Ignitor System
- Turbine
  - 3 Stage, Reaction
  - Max. Speed: 14,950
- Bearings
  - Journal: Tilting Pad
  - Thrust, Active: Tilting Pad
  - Thrust, Inactive: Fixed Tapered Land
- Vibration Transducer Type
  - Velocity
  - Proximity Probes

#### **Main Reduction Drive**

- · Epicyclic Type
- 1500 or 1800 rpm
- Acceleration Vibration Transducer

#### Generator

 Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous, with PMG Exciter

- Construction Options - Open Drip Proof
  - Totally Enclosed Water or Air Cooled
- Sleeve Bearings
- Solid-State Voltage Regulation with Permanent Magnet Generator (Exciter)
- Insulation/Rise Option - NEMA Class F with B Rise
- Voltages: 3300 to 13,800 Volts
- Frequency: 50 or 60 Hz
- Vibration Transducer Type Velocity
  - Proximity Probes

#### Key Package Features

- Base Frame with Drip Pans
- 316L Stainless Steel Piping
- Compression-Type Tube Fittings
- **Digital Display Panel**
- **Electrical System Options**
- NEC Class I, Group D, Div. 1 **CENELEC** Zone 2
- *Turbotronic*<sup>™</sup> 4 Control System ControlLogix Processor
- Onskid or Freestanding **Control Console**
- Color Video Display
- Gas Turbine and Package Temperature Monitoring CGCM Module
- Vibration Monitoring
- Auto SynchronizingHistorical Displays

- Control Options
  - 120-VDC Control Battery/Charger
  - Serial Link Supervisory Interface
  - Turbine Performance Map
  - Printer/Logger
  - Field Programming
  - Predictive Emissions Monitoring
- Start Systems
  - Direct Drive AC
- Fuel Systems
- Natural Gas
- Dual (Gas/Liquid)
- Electric Fuel Control
- · Integrated Lube Oil System
  - Turbine-Driven Accessories
  - Tank Vent Separator
  - Flame Trap
  - Oil Cooler (Optional)
  - Oil Heater (Optional)
- Axial Compressor Cleaning Systems - On-Crank
  - On-Crank/On-Line (Optional)
  - Cleaning Tank
- · Air Inlet and Exhaust System Options
- · 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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#### **Oil & Gas Applications**

#### Performance

Output Power Continuous Duty 5670 kWe		
Heat Rate	11 430 kJ/kWe-hr (10,830 Btu/kWe-hr)	
Exhaust Flow	78 385 kg/hr (172,810 lb/hr)	
Exhaust Temp.		510°C (950°F)
Nominal Rating – 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)

**Package Dimensions** 

Length: 9.8 m (32' 2")

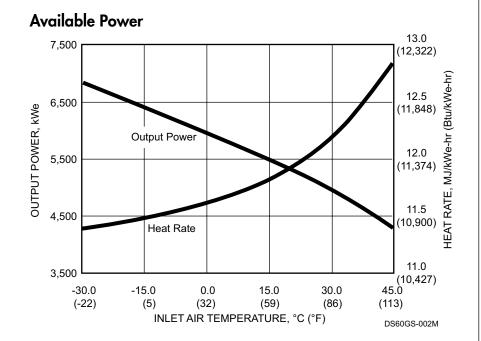
Width: 2.6 m (8' 6")

Height: 3.2 m (10' 5")

Typical Weight: 39 055 kg (87,160 lb)

No accessory losses

Engine efficiency: 31.5% (measured at generator terminals)



# TURBINE EXHAUST

DS60GS(5500)-003M

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#### FOR MORE INFORMATION

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