

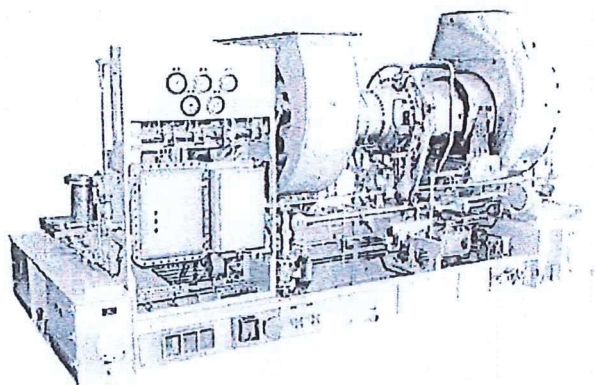
Solar® Turbines

A Caterpillar Company

CENTAUR 40

Gas Turbine Mechanical Drive Package

Oil & Gas Applications



General Specifications

Centaur® 40 Gas Turbine

- Industrial, Two-Shaft
- Axial Compressor
 - 11-Stage
 - Variable Inlet Guide Vanes
 - Pressure Ratio: 10.3:1
 - Inlet Airflow:
 - 18.7 kg/sec (41.3 lb/sec)
- Combustion Chamber
 - Annular-Type
 - Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx™)
 - 10 Fuel Injectors (Conventional)
 - 12 Fuel Injectors (SoLoNOx)
 - Torch Ignitor System
- Gas Producer Turbine
 - 2-Stage, Reaction
 - Max. Speed: 15,000 rpm
- Power Turbine
 - 1-Stage, Reaction
 - Max. Speed: 15,500 rpm
- Bearings
 - Journal: Tilting-Pad
 - Thrust: Fixed Tapered Land
- Coatings
 - Compressor: Inorganic Aluminum
 - Turbine and Nozzle-Blades: Precious Metal Diffusion Aluminide
- Velocity Vibration Transducer

Key Package Features

- Driver Skid with Drip Pans
- 316L Stainless Steel Piping ≤ 4 " dia
- Compression-Type Tube Fittings
- Electrical System Options
 - NEC, Class I, Group D, Div 1
 - CENELEC, Zone 1
- Turbotronic™ Microprocessor Control System
 - Freestanding Control Console
 - Color Video Display
 - Vibration Monitoring
- Control Options
 - 24-VDC Control Battery/Charger System
 - Gas Turbine and Package Temperature Monitoring
 - Serial Link Supervisory Interface
 - Turbine Performance Map
 - Driven Equipment Performance Map
 - Historical Displays
 - Printer/Logger
 - Predictive Emissions Monitoring
 - Process Controls
 - Compressor Anti-Surge Control
 - Field Programming
- Start Systems
 - Pneumatic
 - Direct-Drive AC
- Fuel Systems
 - Natural Gas
 - Alternate Fuels
- Integrated Lube Oil System
 - Turbine-Driven Accessories
- Oil System Options
 - Oil Cooler
 - Oil Heater
 - Tank Vent Separator
 - Flame Trap
- Axial Compressor Cleaning Systems
 - On-Crank
 - On-Crank/On-Line
 - Stationary Cleaning Tank
 - Portable Cleaning Tank
- Gearbox (if applicable)
 - Speed Increaseers
 - Speed Decreasers
- 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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Performance

Output Power	3500 kW (4700 hp)
Heat Rate	12 905 kJ/kW-hr (9,125 Btu/hp-hr)
Exhaust Flow	68 185 kg/hr (150,320 lb/hr)
Exhaust Temp.	445°C (835°F)

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

No inlet/exhaust losses

Relative humidity 60%

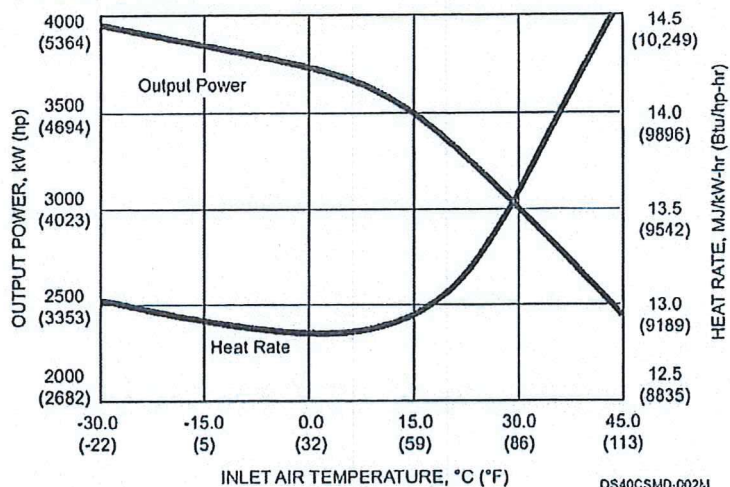
Natural gas fuel with
LHV = 35 MJ/nm³ (940 Btu/scf)

Optimum power turbine speed

AC-driven accessories

Engine efficiency: 27.9%

Available Power



DS40CSMD-002M

Package Dimensions*

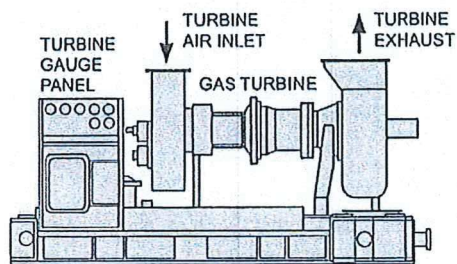
Length: 6.0 m (19' 9")

Width: 2.5 m (8' 1")

Height: 2.7 m (8' 11")

Typical Weight: 14 970 kg (33,000 lb)

*Driver package only, dry weight,
unenclosed height



DS40MD-003M

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