General Specifications
Mars® 100 Gas Turbine
• Industrial, Two-Shaft
• Axial Compressor
  – 15-Stage
  – Variable Inlet Guide Vanes and Stators
  – Pressure Ratio: 17:1
  – Inlet Airflow: 41.6 kg/sec (91.8 lb/sec)
  – Max. Speed: 11,170 rpm
  – Vertically Split Case
• Combustion Chamber
  – Annular-Type
  – Conventional or Lean-Premixed, Dry, Low Emission (SoLoNOx™)
  – 21 Fuel Injectors (Conventional)
  – 14 Fuel Injectors (SoLoNOx)
  – Torch Ignitor System
• Gas Producer Turbine
  – 2-Stage, Reaction
  – Max. Speed: 11,170 rpm
  – Thrust Bearing, Active: Tilting-Pad
  – Thrust Bearing, Inactive: Fixed Tapered Land
• Power Turbine
  – 2-Stage, Axial
  – Max. Speed: 9500 rpm
  – Full Tilting-Pad Thrust Bearing
• Journal Bearings
  – Tilting-Pad
• Coatings
  – Compressor: Inorganic Aluminum
  – Turbine and Nozzle Blades: Platinum Aluminide
• Vibration Transducer Type
  – Proximity Probes
  – Velocity Pick-up
Solar® Gas Compressors
• Single Body or Tandem
• Gearbox (if required)
• Dry Gas Seal System
• Driven Equipment Monitoring
Key Package Features
• Driver and Driven Skid with Drip Pans
• 316L Stainless Steel Piping ¾“
• Compression-Type Tube Fittings
• Digital Display Panel
• Electrical System Options
  – NEC, Class I, Group D, Div 1
  – 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
  – Remote Monitoring and Diagnostic Option
  – Printer/Logger
  – Process Controls
  – Compressor Anti-Surge Control
  – Field Programming
• Start Systems
  – Pneumatic
  – Direct Drive AC
• Fuel System
  – Natural Gas
• Integrated Lube Oil System
  – Turbine-Driven Accessories
  – AC Motor-Driven Accessories
• Oil System Options
  – Oil Cooler
  – Oil Heater
  – Tank Vent Separator
  – Flame Trap
• Package Skid Design
  – Accommodates Mars and Titan™ Gas Turbines
  – Optional Modifications for Floating Production Applications
  – Drop-In Lube Oil Tank
  – Modularized System Design
• Axial Compressor Cleaning Systems
  – On-Crank
  – 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
**Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power</td>
<td>11,860 kW (15,900 hp)</td>
</tr>
<tr>
<td>Heat Rate</td>
<td>10,465 kJ/kW-hr (7395 Btu/hp-hr)</td>
</tr>
<tr>
<td>Exhaust Flow</td>
<td>153,245 kg/hr (337,850 lb/hr)</td>
</tr>
<tr>
<td>Exhaust Temp.</td>
<td>485°C (905°F)</td>
</tr>
</tbody>
</table>

*Nominal Rating – ISO  
At 15°C (59°F), sea level  
No inlet/exhaust losses  
Relative humidity 60%  
Natural gas fuel with  
LHV = 35 MJ/m³ (940 Btu/scf)  
Optimum power turbine speed  
AC-driven accessories  
Engine efficiency: 34.4%

**Package Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>9.1 m (29' 11&quot;)</td>
</tr>
<tr>
<td>Width</td>
<td>2.8 m (9' 2&quot;)</td>
</tr>
<tr>
<td>Height</td>
<td>3.4 m (11' 0&quot;)</td>
</tr>
<tr>
<td>Typical Weight</td>
<td>33,565 kg (74,000 lb)</td>
</tr>
</tbody>
</table>

*Driver package only, dry weight, unenclosed package

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FOR MORE INFORMATION

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