

General Specifications

Saturn® 20 Gas Turbine

- Industrial, Single-Shaft
- Axial Compressor
 - 8-Stage
 - Pressure Ratio: 6.7:1
 - Inlet Airflow: 5.8 kg/sec (12.8 lb/sec)
- Combustion Chamber
 - Annular-Type
 - 12 Fuel Injectors
 - Torch Ignitor System
- Turbine
 - 3-Stage, Reaction
 - Max. Speed: 22,300 rpm
- Bearings
 - Journal: Multi-Ramp Sleeve
 - Thrust: Fixed Tapered Land
- Coatings
 - Compressor: Inorganic Aluminum
 - Turbine and Nozzle Blades: Precious Metal Diffusion Aluminide
- Velocity Vibration Transducer

Main Reduction Drive

- Epicyclic Type
- 1500 or 1800 rpm

Generator

- Type: Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous, with Brushless Exciter
- Construction Options
 - Open Drip Proof
- Antifriction (Ball) Bearings

- Voltage Regulation
 - Solid-State Regulation with Permanent Magnet Generator
- Insulation/Rise Options
 - NEMA Class F with F Rise
 - NEMA Class F with B Rise
- Voltages: 380 to 4160 Volts
- Frequency: 50 or 60 Hz

Key Package Features

- Base Frame with Drip Pans
- 316L Stainless Steel Piping ≤ 4 " dia
- Compression-Type Tube Fittings
- Gauge Panel Option
 - Analog Gauges
- Electrical System Options
 - NEC, Class I, Group D, Div. 2
 - CENELEC, Zone 2
- *Turbotronic™* Microprocessor Control System
 - Freestanding Control Console
 - Color Video Display
 - Vibration Monitoring
- Control Options
 - 24-VDC Control Battery/Charger
 - Gas Turbine and Package Temperature Monitoring
 - Serial Link Supervisory Interface
 - Turbine Performance Map
 - Historical Displays
 - Printer/Logger
 - Predictive Emissions Monitoring
 - Field Programming
- Start Systems
 - Pneumatic
 - Direct-Drive AC
- Fuel Systems
 - Natural Gas
 - Liquid
 - Dual (Gas/Liquid)
 - 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
 - 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

Performance

Output Power	1210 kW
Heat Rate	14 795 kJ/kWe-hr (14,025 Btu/kWe-hr)
Exhaust Flow	23 540 kg/hr (51,890 lb/hr)
Exhaust Temp.	505°C (940°F)

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

No inlet/exhaust losses

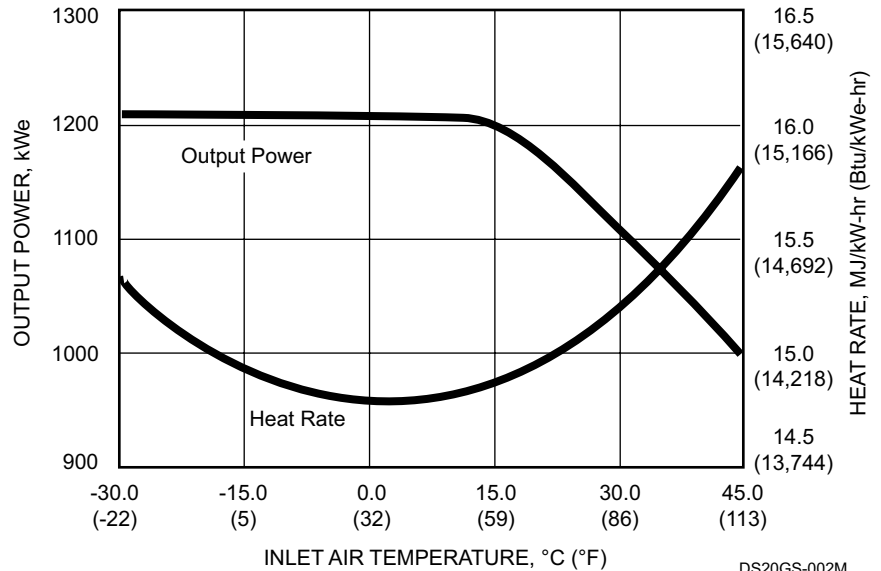
Relative humidity 60%

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

No accessory losses

Engine efficiency: 24.3% (measured at
generator terminals)

Available Power



DS20GS-002M

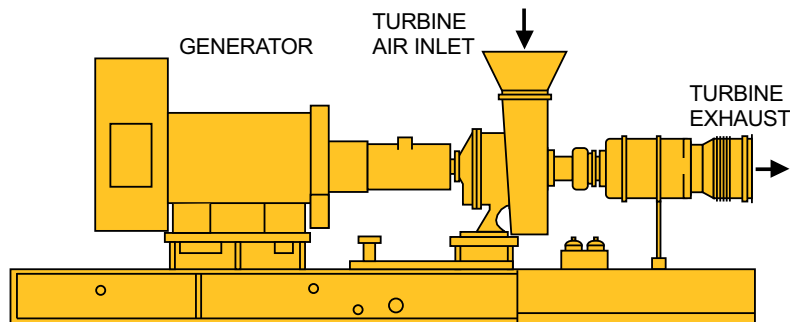
Package Dimensions

Length: 6.7 m (21' 11")

Width: 2.4 m (8' 0")

Height: 2.7 m (8' 11")

Typical Weight: 10 530 kg (23,215 lb)



DS20GS-003M