

### Package Features

- Offshore Marine Duty or Onshore Duty in High-Specification Applications
- NEC Class 1, Division 2 or CENELEC/ATEX Zone 2 Area Classification
- Axial or Space Saving Radial Exhaust Configuration
- Standard Onshore Configuration Available (Axial Exhaust Only)

### General Specifications

#### Gas Turbine

- Industrial, Single-Shaft, Simple-Cycle
- Compressor:
  - 14-Stage, Axial
  - Variable Inlet Guide Vanes, 5 Stators
  - Pressure Ratio: 17.1:1
  - Inlet Airflow:
    - 49.8 kg/sec (109.7 lb/sec)
  - Vertically Split Case
- Combustion Chamber:
  - Single, Annular-Type
  - Conventional: 21 Fuel Injectors or SoLoNOx™ Lean-Premixed, Dry, Low Emission: 14 Fuel Injectors
  - Torch Igniter System
- Power Turbine
  - 3-Stage, Axial-Flow
  - Max. Speed: 11,220 rpm
- Bearings:
  - 3 Tilt-Pad Radial Bearings
  - 1 Tilt-Pad Thrust Bearing
- Coatings
  - Compressor: Inorganic Aluminum
  - Turbine Blades and Nozzles: Precious Metal Diffusion Aluminide

#### Reduction Drive

- Epicyclic Type
  - 1500 rpm (50 Hz) or 1800 rpm (60 Hz)
  - Accessory Power Take-Off

#### Generator

- Salient Pole, 3 Phase, 6 Wire, Wye Connected, Synchronous, with Permanent Magnet Generator Exciter
- Available Construction Types:
  - Open Drip Proof
  - Totally Enclosed Air-to-Air Cooled \*
  - Totally Enclosed Water-to-Air Cooled \*
- Sleeve Bearings

- NEMA Class F Insulation
- Class B Temperature Rise
- Voltages: 6600 to 13,800 VAC
- Frequency: 50 or 60 Hz

#### Package

- Mechanical Construction
  - Steel Base Frame with Drip Pans
  - 316L Stainless Steel Piping ≤4" dia.
  - Compression-Type Tube Fittings
  - Suitable for 3-Point Mounting \*
  - FPSO Modifications (Option) \*
- Electrical System
  - NEC, Class 1, Group D, Div 2
  - CENELEC/ATEX Zone 2 \*
  - Cable Tray Wiring
  - 120VDC Battery/Charger System
- Direct-Drive AC Start System
- Fuel Systems
  - Conventional Combustion or Dry Low Emission (SoLoNOx)
- Fuel Types
  - Natural Gas or Dual (Gas/Distillate)
- Integrated Lube Oil System
  - Turbine-Driven Main Pump
  - AC Motor-Driven Pre/Post Pump
  - DC (120V) Motor-Driven Backup Pump
  - Oil Cooler and Oil Heater (Options)
  - Tank Vent Separator and Flame Trap
  - Lube Oil Filter
- On-Crank or On-Crank/On-Line Turbine Compressor Cleaning System (Options) \*
  - Portable Cleaning Tank (Option)
- Air Inlet and Exhaust System
  - Carbon Steel
  - Stainless Steel \*
  - Marine-Type Filters \*

- Enclosure (Driver Only or Complete)
  - Fire Detection and Suppression
- Factory Testing of Turbine and Package
- Documentation
  - Electrical Drawings
  - Mechanical Drawings
  - Quality Control Data Book
  - Inspection and Test Plan
  - Test Reports
  - Operation and Maintenance Manuals
- Digital Onskid Display Panel **Turbotronic™ Control System**
- Onskid Control System (Optional Offskid System)
  - 24 VDC Control Power (120VDC Input)
  - Serial Link Supervisory Interface
  - Field Programmable
- Vibration Monitoring
  - Turbine Bearings and Shaft
  - Gearbox
  - Generator Bearings
- Temperature Monitoring
  - Turbine Combustion Process
  - Turbine Bearings and Lube Oil
  - Generator Bearings and Windings
- Generator Control
  - Selectable Control Modes
  - Solid-State Voltage Regulation
  - Automatic Synchronization
  - Metering Panel with Manual Synchronization (Option)
  - KW Control (Option)
- TT4000 Display and Monitoring System
  - Multiple Operator Display Screens
  - Data Collection and Playback
  - Turbine Performance Map (Option)
  - Printer/Logger (Option)
  - Predictive Emissions Monitoring (Option)

### Performance

Output Power	15 000 kWe
Heat Rate	10 230 kJ/kWe-hr (9695 Btu/kWe-hr)
Exhaust Flow	179 250 kg/hr (395,180 lb/hr)
Exhaust Temp.	495°C (925°F)

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

No inlet/exhaust losses

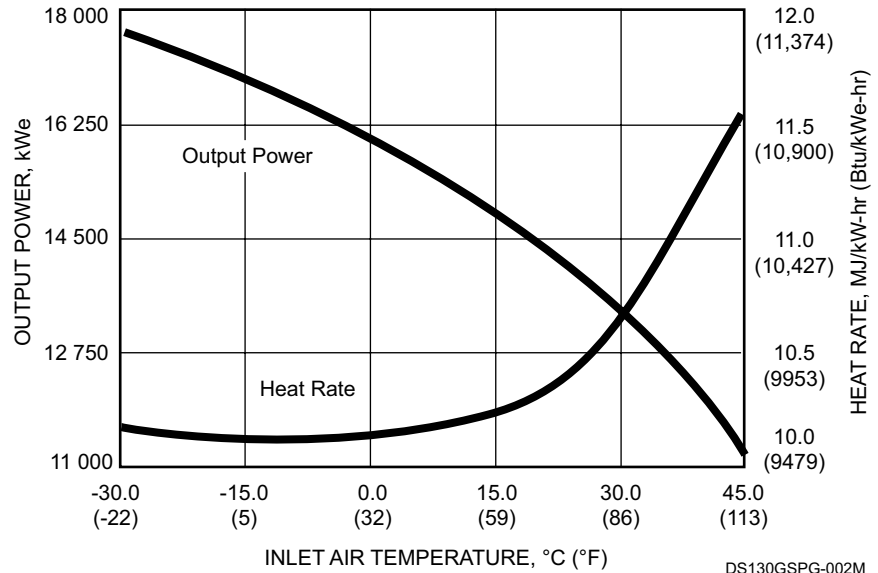
Relative humidity 60%

Natural gas fuel with  
LHV = 35 MJ/nm<sup>3</sup> (940 Btu/scf)

No accessory losses

Engine efficiency: 35.2% (measured at  
generator terminals)

### Available Power



### Package Dimensions

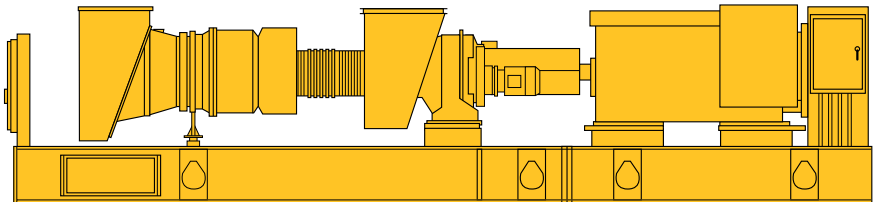
Length: 14.0 m (46' 0")

Width: 3.2 m (10' 7")

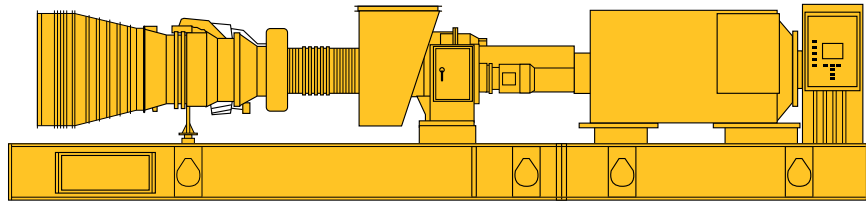
Height: 3.3 m (10' 9")

Typical Weight: 86 850 kg (191,465 lb)

#### Radial Exhaust



#### Axial Exhaust



DS130GS-AR-003C