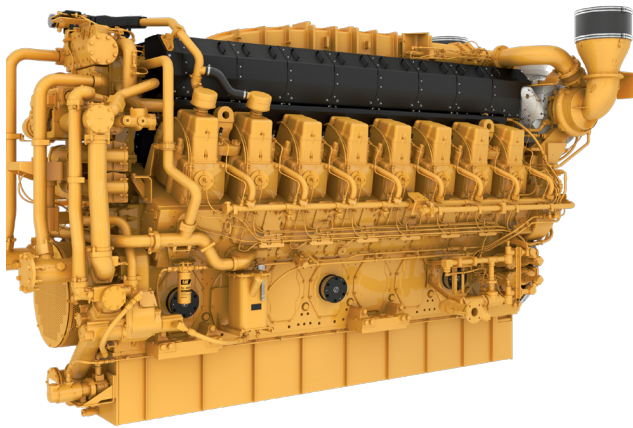




# G3616 with ADEM™4 GAS ENGINE

3729 kW (5000 bhp) & 4101 kW (5500 bhp)

0.3 and 0.5 g/bhp-hr NO<sub>x</sub> (NTE)



Shown with optional equipment.

## SPECIFICATIONS

|                                   |                          |
|-----------------------------------|--------------------------|
| V-16, 4 -Stroke-Cycle             |                          |
| Serial Prefix.....                | HTJ                      |
| Bore.....                         | 300 mm (11.8 in)         |
| Stroke.....                       | 300 mm (11.8 in)         |
| Displacement.....                 | 339L (20,698cu.in)       |
| Aspiration.....                   | Turbocharged-Aftercooled |
| Digital Engine Management         |                          |
| Governor and Protection.....      | Electronic (ADEM™4)      |
| Combustion.....                   | Low Emission (Lean Burn) |
| Cooling System Capacity           |                          |
| Total.....                        | 798 L (211 gal)          |
| JW.....                           | 690 L (182 gal)          |
| SCAC.....                         | 108 L (29 gal)           |
| Lube Oil System (refill).....     | 1329L (351 gal)          |
| Oil Change Interval.....          | 5000 hrs                 |
| Rotation (from flywheel end)..... | Counterclockwise         |
| Flywheel Teeth.....               | 255                      |

## FEATURES AND BENEFITS

### Engine Design

- ADEM™4 engine control system provides complete engine control, monitoring, and protection while maintaining emissions.
- Widest fuel tolerance in the industry for application flexibility.
- Proven reliability and durability with the lowest owning and operating costs.

### Emissions

Meets U.S. EPA Spark Ignited Stationary NSPS emissions for 2010 with the use of an oxidation catalyst.

### Advanced Digital Engine Management

ADEM™4 (A4) engine management system integrates speed control, air/fuel ratio control, and ignition/detonation controls into a complete engine management system. The ADEM™4 (A4) has an improved: user interface, display system, shutdown controls, and system diagnostics.

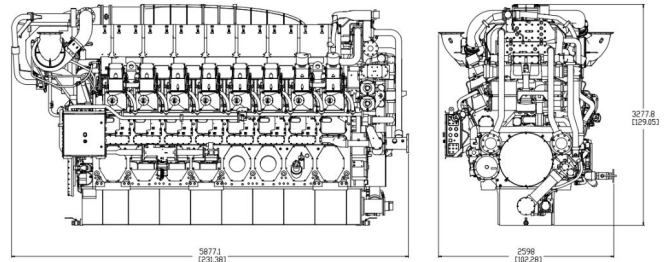
### Full Range of Attachments

Large variety of factory-installed engine attachments reduces packaging time.

### Testing

Every engine is full-load tested to ensure proper engine performance.

## DIMENSIONS



|              |           |           |
|--------------|-----------|-----------|
| Length       | 5877 mm   | 231.38 in |
| Width        | 2598 mm   | 102.28 in |
| Height       | 3279 mm   | 129.05 in |
| Weight (wet) | 31,888 kg | 70,301 lb |

Note: Do not use for installation design. See general dimension drawings for detail. Weights and dimensions are approximations.

# TECHNICAL DATA

| Performance Number   | EM6501-00                        | EM6502-00                        | EM6499-00                        | EM6500-00                        |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <b>Rating</b>  | 0.3 g NOx NTE                    | 0.5 g NOx NTE                    | 0.3 g NOx NTE                    | 0.5 g NOx NTE                    |
| <b>Engine Power</b>  | 3729 bkW (5000 bhp)              | 3729 bkW (5000 bhp)              | 4101 bkW (5500 bhp)              | 4101 bkW (5500 bhp)              |
| <b>Engine Speed</b>  | 1000 rpm                         | 1000 rpm                         | 1000 rpm                         | 1000 rpm                         |
| Max Altitude @ Rated Torque and 38° C (100°F)                | 2135 m (7005 ft)                 | 2015 m (6611 ft)                 | 1535m (5036 ft)                  | 1405 m (4610 ft)                 |
| Speed Turndown @ Max Altitude, Rated Torque and 38°C (100°F) | 25%                              | 25%                              | 25%                              | 25%                              |
| <b>Aftercooler Temperature</b>                               |                                  |                                  |                                  |                                  |
| Stage 1 (JW)   | 88 °C (190 °F)                   | 88 °C (190 °F)                   | 88 °C (190 °F)                   | 88 °C (190 °F)                   |
| Stage 2 (SCAC)   | 54 °C (130 °F)                   | 54 °C (130 °F)                   | 54 °C (130 °F)                   | 54 °C (130 °F)                   |
| <b>Emissions (NTE)*</b>                                      | g/bkW-hr (g/bhp-hr)              | g/bkW-hr (g/bhp-hr)              | g/bkW-hr (g/bhp-hr)              | g/bkW-hr (g/bhp-hr)              |
| NOx  | 0.4 (0.3)                        | 0.67 (0.5)                       | 0.4 (0.3)                        | 0.67 (0.5)                       |
| CO   | 2.88 (2.15)                      | 2.26 (1.68)                      | 2.89 (2.15)                      | 2.26 (1.68)                      |
| CO <sub>2</sub>  | 573 (428)                        | 577 (430)                        | 565 (422)                        | 570 (425)                        |
| VOC**  | 0.23 (0.17)                      | 0.19 (0.14)                      | 0.22 (0.16)                      | 0.19 (0.14)                      |
| <b>Fuel Consumption @ 100% load ***</b>                      | 9.36 MJ/bkW-hr (6619 Btu/bhp-hr) | 9.23 MJ/bkW-hr (6529 Btu/bhp-hr) | 9.27 MJ/bkW-hr (6629 Btu/bhp-hr) | 9.13 MJ/bkW-hr (6456 Btu/bhp-hr) |
| <b>Heat Balance @ 100% Load</b>                              | bkW (Btu/min)                    | bkW (Btu/min)                    | bkW (Btu/min)                    | bkW (Btu/min)                    |
| Heat Rejection to Jacket Water                               | 930 (52863)                      | 930 (52903)                      | 995 (56558)                      | 995 (56572)                      |
| Heat Rejection to Oil Cooler                                 | 536 (30497)                      | 539 (30626)                      | 541 (30768)                      | 554 (31520)                      |
| Heat Rejection to Stage 1 (JW)                               | 828 (47066)                      | 745 (42363)                      | 1024 (58223)                     | 931 (52929)                      |
| Heat Rejection to Stage 2 (SCAC)                             | 236 (13430)                      | 224 (12749)                      | 271 (15421)                      | 259 (14715)                      |
| Heat Rejection to Exhaust LHV to 25°C (77°F)                 | 3280 (186503)                    | 3244 (184483)                    | 3490 (198465)                    | 3428 (194970)                    |
| Heat Rejection to Atmosphere                                 | 346 (19694)                      | 338 (19209)                      | 347 (19751)                      | 339 (19273)                      |
| <b>Exhaust System</b>  |                                  |                                  |                                  |                                  |
| Exhaust Stack Temperature                                    | 433 °C (812 °F)                  | 440 °C (825 °F)                  | 421 °C (790 °F)                  | 425 °C (797 °F)                  |
| <b>Gas Pressure</b>  | 400-485 kPag (58.0-70.3 psig)    | 400-485 kPag (58.0-70.3 psig)    | 485-552 kPag (70.3-80.1 psig)    | 485-552 kPag (70.3-80.1 psig)    |

\* at 100% load and speed, listed as not to exceed

\*\* Volatile organic compounds as defined in U.S. EPA 40 CFR 60, subpart JJJJ

\*\*\* ISO 3046/1

## STANDARD EQUIPMENT

### Air Inlet System

- Air cleaner - standard duty
- Inlet air adapter

### Cooling System

- Compressor Oil cooler connections
- Jacket Water pump
- Aftercooler/oil cooler pump
- Jacket Water thermostats and housing
- Two-stage aftercooler
- Jacket Water heater connections
- Standard ANSI connections

### Starting System

- Dual turbine starting motors

### Exhaust System

- Dry exhaust manifolds
- Single vertical outlet adapter
- Dual layer heat shields
  - Layer 1: stainless steel foil
  - Layer 2: carbon steel

### Fuel System

- Gas admission valves - electronically controlled fuel supply pressure

### Instrumentation

- 8 inch HMI Engine Control Panel
- Interconnect Harness

### Lubrication System

- Crankcase breather- top mounted
- Oil pan drain valve- front and rear

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## OPTIONAL EQUIPMENT

### Air Inlet System

- Heavy-duty air cleaner with precleaners

### Charging Alternator

- 35 Amp & 65 Amp charging alternators - CSA approved

### Exhaust System

- Flexible bellows adapters

### Fuel System

- Fuel filter
- Gas pressure regulator
- Flexible connection

### Lubrication System

- Air or electric motor-driven prelube
- Duplex oil filter
- Oil level regulator

### Rating Definitions and Conditions

Engine performance is obtained in accordance with SAE J1995, ISO3046/1, BS5514/1, and DIN6271/1 standards.

Transient response data is acquired from an engine/generator combination at normal operating temperature and in accordance with ISO3046/1 standard ambient conditions. Also in accordance with SAE J1995, BS5514/1, and DIN6271/1 standard reference conditions.

Conditions: Power for gas engines is based on fuel having an LHV of 33.74 kJ/L (905 Btu/cu ft) at 101 kPa (29.91 in Hg) and 15°C (59°F). Fuel rate is based on a cubic meter at 100 kPa (29.61 in Hg) and 15.6°C (60.1°F). Air flow is based on a cubic foot at 100 kPa (29.61 in Hg) and 25°C (77°F). Exhaust flow is based on a cubic foot at 100 kPa (29.61 in Hg) and stack temperature.

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