



## GeneratorJoe

4016 Quartz Drive  
 Santa Rosa, CA 95405  
 Phone: 707 539-9003  
 Fax: 707 539-5212  
 Email: sales@generatorjoe.NET  
 Web www.generatorjoe.NET

**5900 kWe**
**720 rpm  
 60 Hz**

### Engine

- Engine type  
4-stroke-cycle gas engine
- Cylinder configuration  
Vee - 16
- Fuel Type  
Natural Gas
- Methane Number  
80 (minimum 70)
- Bore - 340 mm (13.4 in)
- Stroke - 420 mm (16.5 in)
- Cylinder displacement - 38.1 L  
(2328 cu in)
- Cylinder output - 381 kW (511 bhp)
- Mean piston speed - 10.1 m/s  
(33.1 ft/s)
- Mean effective pressure - 16.7 bar  
(242 psig)
- Aspiration  
Turbocharged and Aftercooled
- Compression ratio  
11.4:1
- Engine Efficiency (45.3%)
- Engine Rating - 6100 kW
- Generator Set Rating - 5900 kWe

### Features

#### Designed for Efficiency & Reliability

- Spark ignition, lean burn combustion and pre-chamber design.
- Intensive cooling of key components including spark plugs, main/pre-chamber and exhaust valve seats.
- Proven Caterpillar electronic control system, precise fuel delivery and long stroke design result in world-class efficiency.
- Robust engine platform based on proven heavy fuel engine design.

#### Low Emissions

- Air-to-fuel ratio control, optimized pre-chamber design and Caterpillar electronic control result in low emissions.
- Configurations with NOx emissions to 500 or 250 mg/N•m<sup>3</sup> at 5% O<sub>2</sub> available.

#### Minimized Mechanical Wear

- Modular design and state of the art material ensure long life of components.

#### Overall Economy

- Cost savings include high availability, long life, low fuel and oil consumption and low maintenance requirements.

#### Highest Quality Engine Parts

- Semi-dry wear resistant liners with calibration inserts,
- Pistons with forged steel crown and aluminum skirt,
- Inlet/outlet valves with armored seats,
- High efficiency turbocharger.

#### One-Piece Dry Engine Block

- Cast from nodular cast iron with under slung crankshaft and free from cooling water.

#### Ease of Maintenance & Reliability

- Designed to provide efficient maintenance including easily removable cylinder heads, quick removable fluid connections and split connecting rods to allow piston removal without disturbing the big-end bearing.
- High reliability, modular design and integral construction reduce the number of components by 40 percent over conventional designs.

#### Total Power Solutions

- Caterpillar and the world-wide Caterpillar® dealer network can develop, finance, design, build, test, maintain and operate medium speed reciprocating engine power plants, plant assets and at the customer's option provide:
  - Power generation equipment
  - Engineered systems
  - Combined heat & power systems
  - Construction & installation services
  - Operation & maintenance services
  - Turnkey power plants
  - Contract power
  - Plant and equipment leasing

#### Worldwide Product Support

- With nearly 200 Caterpillar dealers and 1500 facilities worldwide serving in excess of 200 countries, you're never far from the Caterpillar support you need.
- Customer Support Agreements offer back-to-back services from scheduled inspections, preventive maintenance and overhauls to full operations & maintenance.

## Nominal Performance

	Units	G16CM34
Engine Rating	kWm	6100
Generator Set Rating	kWe (kVA)	5900 (7375)
Speed	rpm	720
Frequency	Hz	60
Heat Rate	kJ/kWh (Btu/kWh)	8218 (7789)
Specific Lube Oil Consumption	g/kWh (lb/kWh)	0.3 (0.0007)

## Rating Definitions and Conditions

**Ratings** are based on ISO3046/1 standard reference conditions and natural gas having a methane number of 70 or higher. Power output may require adjustment for values other than ISO3046/1 standard reference conditions.

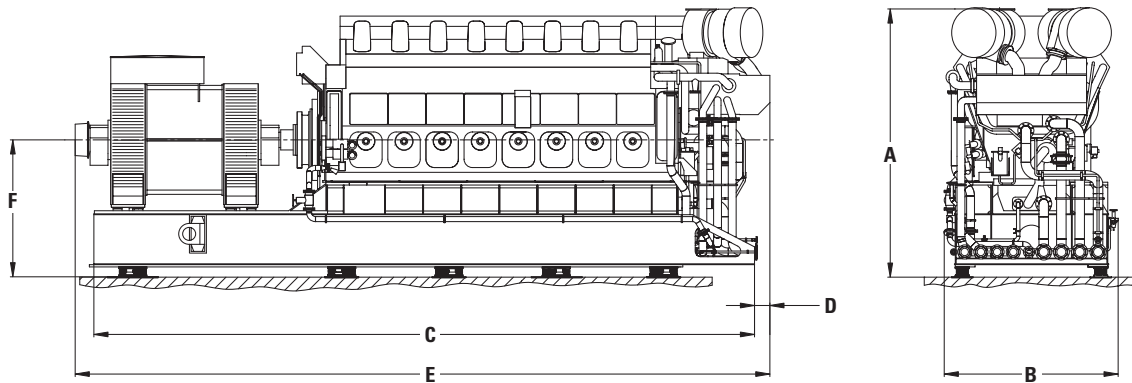
**Continuous** - Output available for an unlimited time without varying load.

**Generator efficiency** - Efficiency of 96.7% based on 0.8 pf with medium voltage class generator; actual efficiency will depend on generator selection.

**Fuel consumption** is based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 in Hg), natural gas with methane number of 80, including engine driven pumps and with 0% tolerance. Value based on measurement at the generator terminals.

**Lube oil consumption** - tolerance on value of ±0.15 g/kWh (0.00035 lb/kWh). Lube oil consumption can only be demonstrated after 500 hours of operation.

## Generator Set Dimensions



Engine Model	Generator Set Dimensions - mm (in)						Approximate Weight (dry) - kg (lb)		
	A	B	C	D	E	F	Generator Set	Engine	Generator
G16CM34	4750	3080	11 700	272	12 303	2425	132 700	81 000	23 800
	(187.0)	(121.3)	(460.6)	(10.7)	(484.4)	(95.5)	(292,553)	(178,574)	(52,470)

Generator set package shown with optional baseframe.



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