CATERPILLAR®

Petroleum Gas Generator Set

360 ekW (451 kVA)

STANDBY/CONTINUOUS
60 Hz/1800 rpm

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness. The entire power module is manufactured and assembled by Caterpillar, providing single source responsibility.

FEATURES

FULL RANGE OF ATTACHMENTS

- Wide range of bolt-on system expansion attachments, factory designed and tested

SINGLE-SOURCE SUPPLIER

- **Fully Prototype Tested** with certified torsional vibration analysis available
- Complete systems designed and built at ISO-certified facilities.

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need.
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry.
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system.
- Preventive maintenance agreements
- The Cat Scheduled Oil Sampling (S•O•S^{SM}) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

WEB SITE

- For additional information on all your power requirements, visit www.oilandgas.com.

CAT® G3412 TA GAS ENGINE

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Low pressure gas

CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated AC/DC, low voltage accessory box provides single point access to accessory connections

CAT CONTROL PANELS

- Two levels of controls, designed to meet individual customer needs:
  EMCP II provides digital monitoring, metering, and protection
  EMCP II+ provides EMCP II features along with full-featured power metering and protective relaying

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	Single element canister-type air cleaner Service indicator	
Cooling	Radiator with guard Coolant drain lines with valves Fan and belt guards Caterpillar coolant Low coolant level sensors	Jacket water coolant heater with shutoff valves Radiator removal
Exhaust	Stainless steel exhaust flex with weld outlet flange	15 dBA muffler Spark arresting muffler Exhaust system accessories
Fuel	Gas pressure regulator Low pressure fuel system Energize To Run (ETR) gas shutoff valve	
Generator	Self excited Class H insulation Class F temperature rise (130° C standby/105° C continuous) VR6 voltage regulator, 3-phase sensing, with reactive droop 2:1 Volts/Hz or 1:1 Volts/Hz Bus bar termination Extension box	Permanent magnet excited Digital Voltage Regulator Digital Voltage Regulator with KVAR-PF control Anti-condensation space heater Oversize and premium generators Circuit breakers, UL, 3 pole with shunt trip Multiple breaker capability Auxiliary contacts
Governor	2301A speed control with EG3P actuator	Electronic load sharing
Ignition	Digital ignition system	
Control Panels	EMCP II	EMCP II + Customer Communication Module Local alarm and remote annunciator modules Customer Interface Module Dust-proof enclosure AC Contactor Manual Synchronizing Module Generator running relay
Lube	Lubricating oil and filter Oil drain line with valve Fumes disposal	Manual sump pump
Mounting	Wide base Linear vibration isolators between base and engine-generator	
Starting/Charging	35 amp charging alternator 24 volt starting motor Batteries with rack and cables Battery disconnect switch	Battery chargers, 5 and 10 amp Oversize batteries Battery removal
General		Automatic Transfer Switches (ATS) Floor standing circuit breakers Optional languages and extra literature Special paint Special test reports CSA certification Marine society certificates

SPECIFICATIONS

CAT SR4B GENERATOR

Frame 592
Type . . . . . Self excited, static regulated, brushless
Construction . . . . . Single bearing, close coupled
Three phase . . . . . 12 lead reconnectable
Insulation . . . . . Class H with tropicalization and antiabrasion
IP rating . . . . . Drip proof 22
Alignment . . . . . Pilot shaft
Overspeed capability
  Prototype tested 150%
  Production tested 125%
Wave form . . . . . Less than 5% deviation
Paralleling capability . . . . . Standard
Voltage regulator . . . . 3-phasing sensing with Volts-per-Hertz
Voltage regulation . . . . . Less than ± 1/2% (steady state)
Less than ± 1% (no load to full load)
Voltage gain . . . . . Automatic
Telephone Influence Factor (TIF) . . . . . Less than 50
Harmonic Distortion (THD) . . . . . Less than 5%
Voltages available . . . . . 600, 480, 440, 240, 220, 208 Volts

CAT ENGINE

G3412 TA, 4-stroke-cycle, SCAC
Bore — mm (in) 137 (5.4)
Stroke — mm (in) 152 (6.0)
Displacement — L (cu in) 27.0 (1649)
Compression ratio 8.5:1
Aspiration . . . . . Turbocharged-Aftercooled
Ignition system . . . . . Digital Ignition
Governor type . . . . . Woodward 2301A

CAT CONTROL PANEL

24 Volt DC Control
NEMA 1, IP22 enclosure
Electrically dead front
Lockable hinged door
Generator instruments meet ANSI C-39-1
Terminal box mounted
Single location customer connector point

TECHNICAL DATA

Generator Set — 1800 rpm/60 Hz		Standby/Continuous DM5568
Package Performance		
Power rating	ekW	350
Power rating @ 0.8 pf	kVA	438
Aftercooler temperature	°C (°F)	54 (130)
Fuel Consumption (Natural Gas)		
100% load with fan	btu/bhp-hr	7331
75% load with fan	btu/bhp-hr	7869
50% load with fan	btu/bhp-hr	8846
Low heat value range	btu/gal	800 to 1200
Full power range	methane #	60 to 100
Derate amount	%	0.9
Derate range	methane #	32 to 60
Pressure range	kPag	10 to 34.5
Cooling System		
Ambient air temperature*	°C (°F)	40 (105)
Air flow restriction (system)	kPa (in water)	0.12 (0.5)
Air flow (maximum @ rated speed for standard radiator arrangement)	m^3/min (cfm)	1257 (47,480)
Engine coolant capacity with radiator	L (gal)	106 (28)
Jacket water outlet temperature	°C (°F)	99 (210)
Exhaust System		
Combustion air inlet flow rate	scfm	881
Exhaust gas stack temperature	°C (°F)	427 (801)
Exhaust gas flow rate	cfm	2338
Exhaust flange size (internal diameter)	mm (in)	203 (8)
Exhaust system backpressure (maximum allowable)	kPa (in water)	6.7 (27)
Heat Rejection		
Low Heat Value (LHV) fuel input	Btu/min	69,155
Heat rejection to jacket water (includes oil cooler)	Btu/min	25,666
Total heat rejection to exhaust (LHV to 25° C)	Btu/min	13,768
Heat rejection to exhaust (LHV to 120° C)	Btu/min	8685
Heat rejection to A/C	Btu/min	2359
Heat rejection to atmosphere from engine	Btu/min	2766
Heat rejection to atmosphere from generator	Btu/min	
Generator		
Motor starting capability @ 30% voltage dip**	kVA	928
Frame		592
Temperature rise	°C	105
Emissions (Without Catalyst)* **		
NOx	g/bhp-hr	21.2
CO	g/bhp-hr	1.5
HC (total)	g/bhp-hr	1.8
HC (non-methane)	g/bhp-hr	0.27
Exhaust O_2 (dry)	%	4.0

* Ambient capability at 200 m (660 ft.) above sea level. For ambient capability at other altitudes, consult your Caterpillar dealer.

** Assumes synchronous driver

*** Emissions data measurement is consistent with those described in EPA CFR 40 PART 89 SUBPART D and ISO8178-1 for measuring HC, CO, CO_2, NOx. Data shown is based on steady state engine operating conditions of 25° C (77° F), 96.28 kPa (28.43 in. Hg), and fuel having an LHV of 36.2 mJ/ N•m^3 (920 Btu/cu. ft) at 101.60 kPa (30.00 in. Hg) absolute and 0° C (32° F). Not to exceed emission data shown is subject to instrumentation, measurement, facility, and engine fuel system adjustments.

RATING DEFINITIONS AND CONDITIONS

Standby — Output available with varying load for the duration of the interruption of the normal source power.

Continuous — Output available without varying load for an unlimited time.

Ratings are based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 in. Hg).

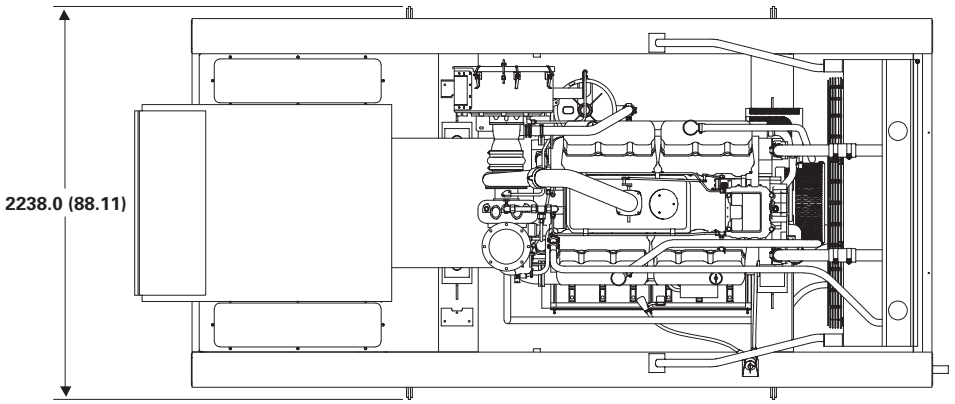
Ratings are based on pipeline natural gas having a LHV (low heat value) of 36.2 mJ/N•m^3 (920 Btu/cu. ft). Variations in altitude, temperature, and gas composition from standard conditions or the use of a three way catalyst may require a reduction in engine horsepower.

CATERPILLAR®

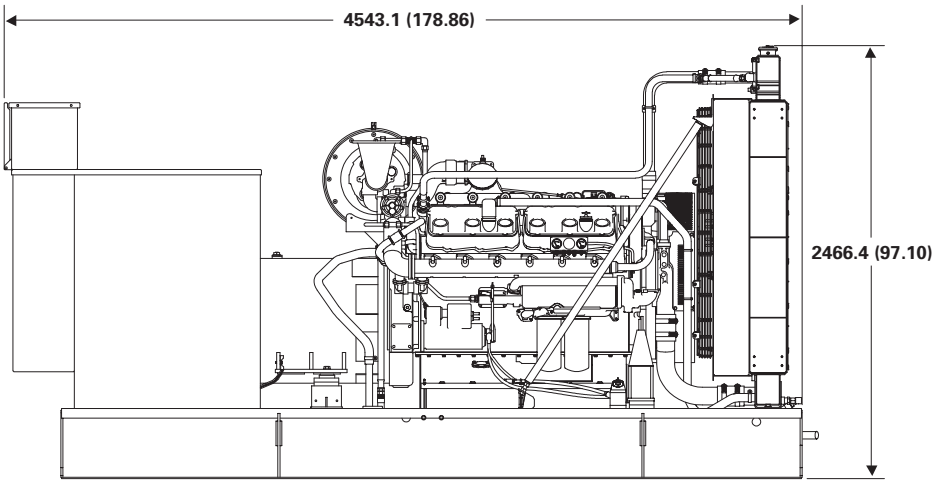
PETROLEUM GAS GENERATOR SET

360 ekW (451 kVA)

STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	4543.1 mm	178.86 in
Width	2238.0 mm	88.11 in
Height	2466.4 mm	97.10 in
Shipping Weight	6356 kg	14,000 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #234-4316).

TMI Reference No.: DM5568-00
U.S. Sourced
LEHW3890-01 (11-07)