



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•SSM) 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 (105° C continuous/130° C standby) VR6 voltage regulator, 3-phase sensing, with reactive droop 2:1 Volts/Hz or 1:1 Volts/Hz Bus bar extension 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..... 180%
 Production tested..... 150%
 Wave form..... Less than 5% deviation
 Paralleling capability..... Standard
 Voltage regulator 3-phasing sensing with Volts-per-Hertz
 Voltage regulation..... Less than $\pm 1/2\%$ (steady state)
 Less than $\pm 1\%$ (no load to full load)
 Voltage gain Automatic
 Telephone Influence Factor (TIF)..... Less than 50
 Harmonic Distortion (THD) Less than 5%
 Voltages available 415, 400, 380, 220 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

382 kVA (305 ekW)

CONTINUOUS — 50 Hz/1500 rpm



TECHNICAL DATA

Generator Set — 1500 rpm/50 Hz		Continuous DM5567
Package Performance		
Power rating @ 0.8 pf	kVA	382
Power rating	ekW	305
Aftercooler temperature	°C	54
Fuel Consumption (Natural Gas)		
100% load with fan	MJ/bkW-hr	9.99
75% load with fan	MJ/bkW-hr	10.69
50% load with fan	MJ/bkW-hr	12.11
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	40
Air flow restriction (system)	kPa	0.12
Air flow (maximum @ rated speed for standard radiator arrangement)	m³/min	990
Engine coolant capacity with radiator	L	106
Jacket water outlet temperature	°C	99
Exhaust System		
Combustion air inlet flow rate	N•m³/bkW-hr	3.25
Exhaust gas stack temperature	°C	405
Exhaust gas flow rate	N•m³/bkW-hr	3.42
Exhaust flange size (internal diameter)	mm	203
Exhaust system backpressure (maximum allowable)	kPa	6.7
Heat Rejection		
Low Heat Value (LHV) fuel input	kW	977
Heat rejection to jacket water (includes oil cooler)	kW	366
Total heat rejection to exhaust (LHV to 25° C)	kW	181
Heat rejection to exhaust (LHV to 120° C)	kW	138
Heat rejection to A/C	kW	28
Heat rejection to atmosphere from engine	kW	39
Heat rejection to atmosphere from generator	kW	25
Generator		
Motor starting capability @ 30% voltage dip**	kVA	724
Frame		592
Temperature rise	°C	105
Emissions (Without Catalyst)***		
NOx	mg/N•m³ @ 5% O₂	9304
CO	mg/N•m³ @ 5% O₂	684
HC (total)	mg/N•m³ @ 5% O₂	1513
HC (non-methane)	mg/N•m³ @ 5% O₂	227
Exhaust O₂ (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, CO₂, 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•m³ (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.

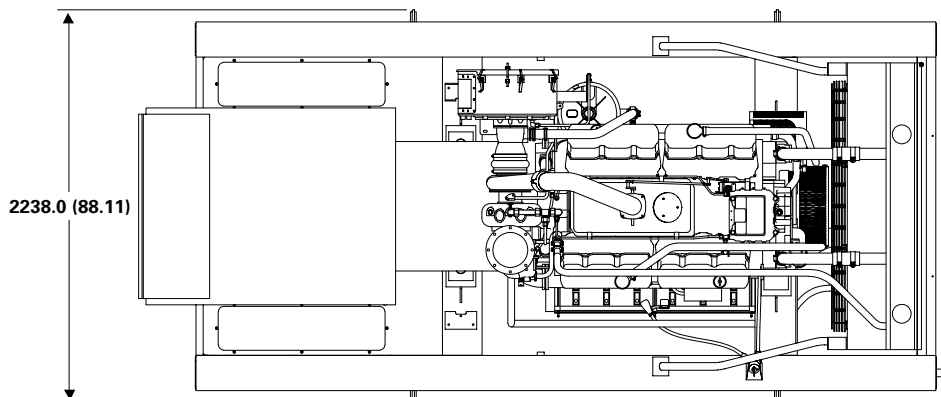
RATING DEFINITIONS AND CONDITIONS

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

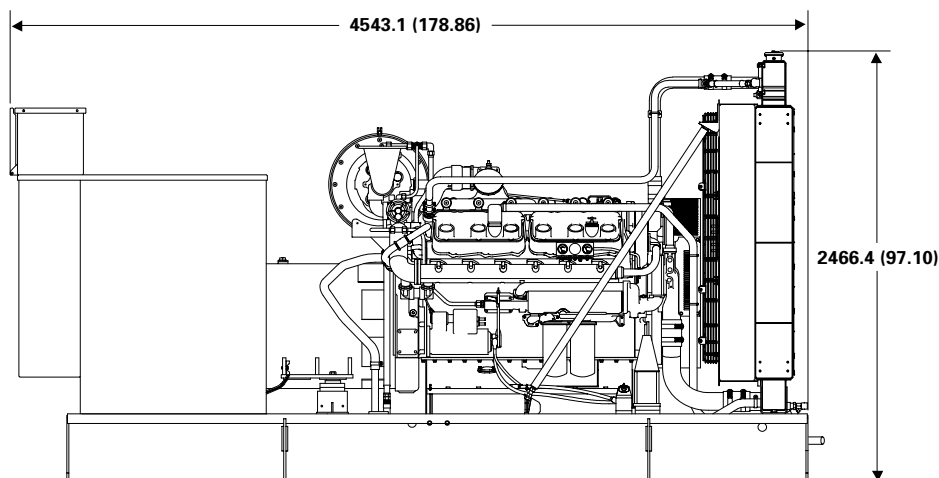
Ratings are based on ISO3046/1 standard reference conditions of 25° C (77° F) and 100 kPa (29.61 in. Hg).

Ratings are based on pipeline natural gas having a LHV (low heat value) of 36.2 mJ/N•m³ (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.

CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW



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).