

Shown with  
Optional  
Equipment

## FEATURES



### EMISSIONS

- Meets most worldwide emissions requirements down to 0.5 g/bhp-hr NOx level without after treatment

### 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

### WORLDWIDE PRODUCT SUPPORT

- With over 1,800 dealer branch stores 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.
- Customer Support Agreements offer back-to-back services from scheduled inspections and preventive maintenance to before-failure overhauls and Total Cost-Per-Hour Guarantees.

**CONTINUOUS 1300 ekW**  
**1400 ekW**

**60 Hz**

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.



### CAT® G3516B LE GAS ENGINE

- Robust design provides prolonged life and lower owning and operating costs
- Designed for maximum performance on low pressure pipeline natural gas
- One electronic control module handles all engine functions: ignition, governing, air fuel ratio control, and engine protection



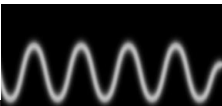
### CAT SR4B GENERATOR

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



### CAT CONTROL PANELS

- Designed to meet individual customer needs: EMCP II+ provides full-featured power metering, purge cycle, staged shutdown logic, plus programmable protective relaying functions
- Remote control and monitor capability options



**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT**

System	Standard	Optional
<b>Air Inlet</b>	Modular air cleaner, single element service indicator	
<b>Cooling</b>	Engine driven water pumps for jacket water and aftercooler circuit, jacket water and SCAC thermostats Cat flange connections	
<b>Engine Control Module</b>	Fuel/air ratio control Start/stop logic: gas purge cycle, stage shutdown Engine Protection Systems: detonation sensitive timing, high jacket water temperature, low oil pressure, failure to start (overcrank), overspeed, high oil temperature, emergency stop, transient richening and turbo bypass control	
<b>Exhaust</b>	Dry exhaust manifolds CAT flanged outlet	15 dBA muffler 18 dBA muffler Spark arresting muffler without companion flanges
<b>Fuel</b>	Electronic air fuel ratio control (Engine Control Module; ADEM III based), electronic fuel metering valve, gas shutoff valve, 24 volt energized-to-run	Fuel filter (non-coalescent) Gas train with 24V double gas shutoff valve, isolation valve, regulator, gas leak detection
<b>Ignition</b>	Electronic ignition system, individual cylinder timing and detonation control	
<b>Integrated Thermo Sensing Module (ITSM)</b>	24 thermocouples to input individual exhaust port temperatures and turbo inlet and outlet temperatures on both the turbine and compressor	CCM transfers CAT DataLink information through RS232 to customer terminal
<b>Generator</b>	Permanent magnet excitation, 105° C rise, single bearing, form wound, six lead, 3-phase sensing, platinum stator RTDs, class H Insulation, DVR with adjustable 1:1 or 2:1 Volts/Hz, bus bar termination, segregated low voltage wiring panel	Digital Voltage Regulator with KVAR/PF control Oversize and premium generators, bearing temperature detector Low voltage cable extension box
<b>Circuit Breaker</b>		IEC compliant, 3-pole and 4-pole
<b>Governor</b>	Electronic — Engine Control Module	Electronic load sharing (ship loose module)
<b>Control Panels</b>	EMCP II+	Local alarm and remote annunciator modules Customer Interface Module, synchronizing module
<b>Lube</b>	Lubricating oil and filter, oil drain valve Crankcase breathers gear type lube oil pump, integral lube oil cooler, filler/dipstick, prelube pump	Closed crankcase ventilation system
<b>Mounting</b>	Spring-type anti-vibration isolators	
<b>Starting/Charging</b>	60 amp charging alternator Dual 24 volt starting motor Batteries with rack and cables Batteries disconnect switch	Battery charger, air starting system, jacket water heaters, 12 kW (dual 6 kW) 480 V/3 phase/60 Hz heater element; 9 kW 480 V/3 phase 60 Hz with 230 V/1 phase/60 Hz circulation pump. Battery disconnects switch, oversize batteries
<b>Other</b>		EEC declaration of Incorporation CSA Certification (generator only)

**SPECIFICATIONS**



**CAT SR4B GENERATOR**

Frame size ..... 697/824  
 Excitation ..... Permanent magnet  
 Pitch ..... 0.6667  
 Number of poles ..... 4  
 Number of bearings ..... 1  
 Number of leads ..... 6  
 Insulation ..... UL 1446 Recognized Class H Insulation  
 IP rating ..... Drip proof IP22  
 Alignment ..... Pilot shaft  
 Overspeed capability ..... 125%  
 Wave form ..... Less than 5% deviation  
 Paralleling kit droop transformer ..... Standard  
 Voltage regulator ..... 3-phase sensing with adjustable  
 1:1 or 2:1 Volts/Hz, UL 508A Listed  
 TIF ..... Less than 50  
 THD ..... Less than 3%

Consult your Caterpillar dealer for available voltages.



**CAT ENGINE**

G3516B SCAC, 4-stroke-cycle watercooled gas  
 Bore — mm (in) ..... 170 (6.7)  
 Stroke — mm (in) ..... 190 (7.5)  
 Displacement — L (cu in) ..... 69 (4210)  
 Compression ratio ..... 11.1:1  
 Aspiration ..... Turbocharged, Separate Circuit Aftercooled  
 Fuel system ..... Electronic Ignition System  
 Governor type ..... Electronic Engine Control Module



**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  
 EC compliant — segregated AC/DC connections and wiring



**TECHNICAL DATA**

Generator Set — 1800 rpm/60 Hz/480 Volts		DM5498		DM5496	
<b>G3516B LE Gas Generator Set</b> Emission level (NOx) Aftercooler — SCAC temperature	g/bhp-hr Deg C      Deg F	0.5 32      90		0.5 54      130	
<b>Package Performance</b> Power rating @ 1.0 pf (unity) Power rating @ 0.8 pf (3)	ekW ekW kVA	1410 1400 1750		1310 1300 1625	
<b>Fuel Consumption (1)</b> 100% load 60 without fan 75% load 60 without fan 50% load 60 without fan	N•m <sup>3</sup> /hr      scf/hr N•m <sup>3</sup> /hr      scf/hr N•m <sup>3</sup> /hr      scf/hr	407      15,190 319      11,912 229      8525	380      14,174 298      11,134 211      7879		
<b>Electrical Efficiency</b>	%	35.3		34.8	
<b>Altitude Capability (2)</b> At 25° C/77° F ambient	M      ft	553      1813		682      2237	
<b>Cooling System</b> Ambient air temperature Jacket water temperature (maximum outlet)	Deg C      Deg F Deg C      Deg F	25      77 92      198		25      77 92      198	
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter)	N•m <sup>3</sup> /min      scfm Deg C      Deg F N•m <sup>3</sup> /min      cfm mm      in	115      4290 529      985 355      12,525 203      8	110      4120 523      974 338      11,923 203      8		
<b>Heat Balance (2) (3)</b> Low Heat Value (LHV) fuel input Heat rejection to jacket water (total) Heat rejection to exhaust (LHV to 350° F) Heat rejection to A/C — Stage 2 Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min	4146      235,819 826      46,996 989      56,262 193      10,956 138      7838 44      2513	3868      220,033 798      45,398 930      52,907 133      7542 137      7794 43      2432		
<b>Alternator</b> Motor starting capability @ 30% voltage dip* Frame Temperature rise	KVA Deg C	3271 824 105		2661 697 105	
<b>Lube System</b> Lube oil refill volume w/filter change for standard sump	L      Gal	401      106		401      106	
<b>Emissions**</b> NOx CO HC (total) HC (non-methane) Exhaust O <sub>2</sub> (dry)	g/ghp-hr g/ghp-hr g/ghp-hr g/ghp-hr %	0.5 2.4 4.8 0.72 9.1		0.5 2.5 5.4 0.81 9.2	

\*Assumes synchronous driver.

\*\*Emissions data measurements are consistent with those described in EPA CFR 40 Part 89 Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state engine operating conditions of 25° C (77° F), 96.28 kPa (28.43 inches Hg) and fuel having a LHV of 35.6 MJ/N•m<sup>3</sup> (905 Btu/cu.ft) at 101.60 kPa (30.00 inches 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.

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

**(2) Ratings and fuel consumption** based on ISO3046/1 conditions with nominal 2.5 kPa inlet restriction and 5 kPa exhaust restriction. All performance numbers listed on this page are at these conditions except Fuel input (1) .

**(3) Ratings** are based on pipeline natural gas having a LHV (low heat value) of 35.6 MJ/N•m<sup>3</sup> (905 Btu/cu.ft) and 80 MN. For values in excess of the altitude, temperature, inlet/exhaust restriction, or for natural gas compositions different from the conditions listed, contact your local Caterpillar dealer.

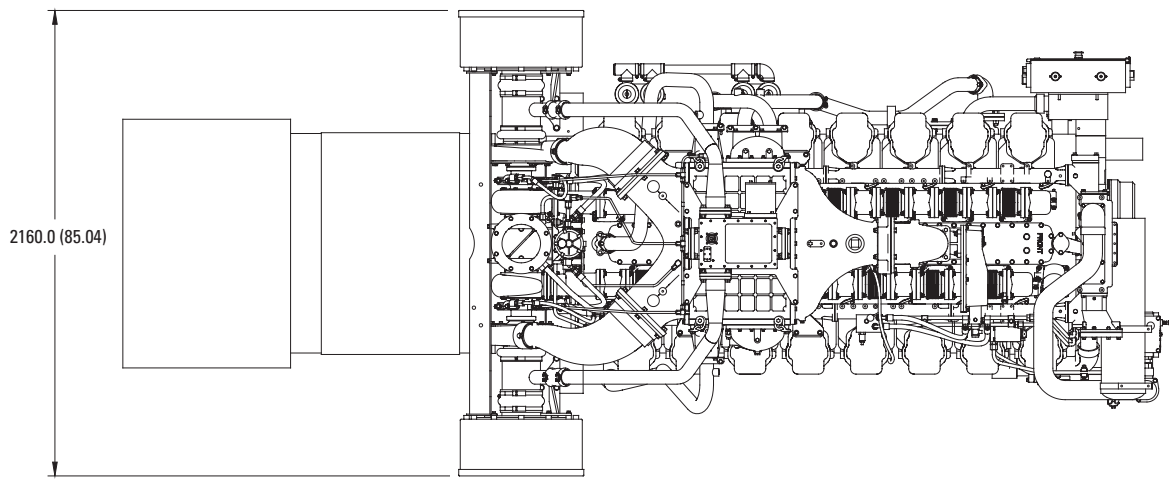

**TECHNICAL DATA**

Generator Set — 1800 rpm/60 Hz/480 Volts		DM5497		DM5495	
<b>G3516B LE Gas Generator Set</b> Emission level (NOx) Aftercooler — SCAC temperature	g/bhp-hr Deg C      Deg F	1.0 32      90		1.0 54      130	
<b>Package Performance</b> Power rating @ 1.0 pf (unity) Power rating @ 0.8 pf (3)	ekW ekW kVA	1410 1400 1750		1310 1300 1625	
<b>Fuel Consumption (1)</b> 100% load 60 without fan 75% load 60 without fan 50% load 60 without fan	N•m <sup>3</sup> /hr      scf/hr N•m <sup>3</sup> /hr      scf/hr N•m <sup>3</sup> /hr      scf/hr	396      14,770 312      11,650 223      8321		369      13,789 288      10,737 208      7777	
<b>Electrical Efficiency</b>	%	36.3		35.7	
<b>Altitude Capability (2)</b> At 25° C/77° F ambient	M      ft	872      2862		903      2961	
<b>Cooling System</b> Ambient air temperature Jacket water temperature (maximum outlet)	Deg C      Deg F Deg C      Deg F	25      77 92      198		25      77 92      198	
<b>Exhaust System</b> Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter)	N•m <sup>3</sup> /min      scfm Deg C      Deg F N•m <sup>3</sup> /min      cfm mm      in	110      4117 532      990 342      12,064 203      8		105      3926 530      986 325      11,469 203      8	
<b>Heat Balance (2) (3)</b> Low Heat Value (LHV) fuel input Heat rejection to jacket water (total) Heat rejection to exhaust (LHV to 350° F) Heat rejection to A/C — Stage 2 Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min kW      Btu/min	4032      229,357 783      45,511 958      54,471 180      10,211 137      7793 44      2523		3764      214,100 764      43,448 906      51,547 118      6717 136      7762 43      2432	
<b>Alternator</b> Motor starting capability @ 30% voltage dip* Frame Temperature rise	KVA  Deg C	3271 824 105		2661 697 105	
<b>Lube System</b> Lube oil refill volume w/filter change for standard sump	L      Gal	401      106		401      106	
<b>Emissions**</b> NOx CO HC (total) HC (non-methane) Exhaust O <sub>2</sub> (dry)	g/ghp-hr g/ghp-hr g/ghp-hr g/ghp-hr %	1.0 2.5 4.1 0.62 8.9		1.0 2.6 4.4 0.66 9.2	

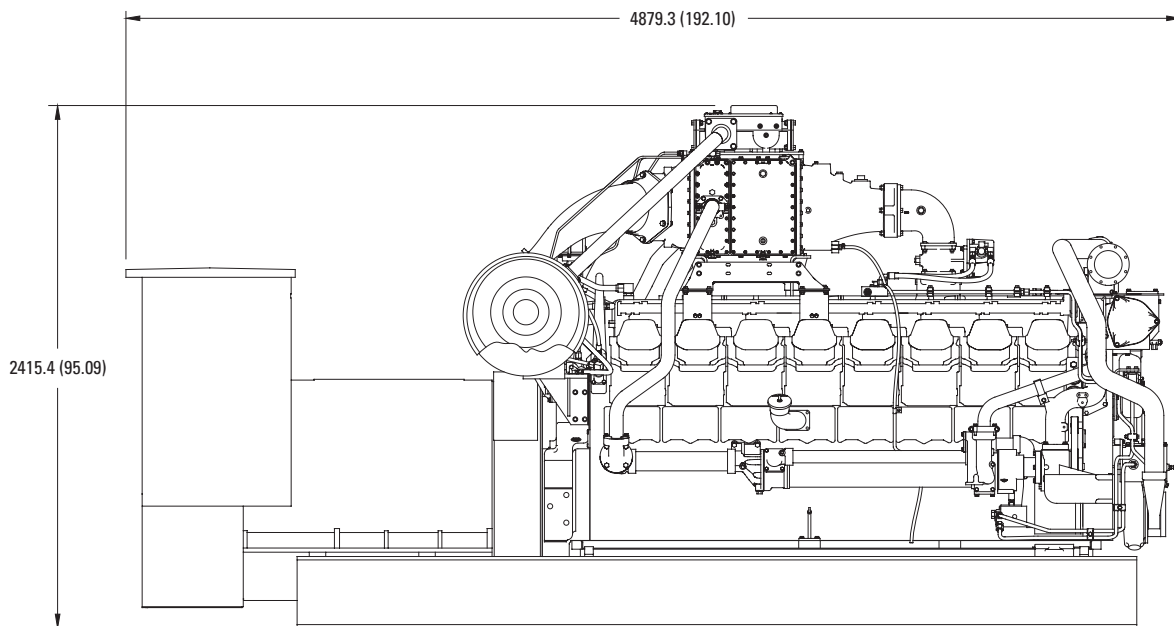
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**697 GENERATOR FRAME  
CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW**



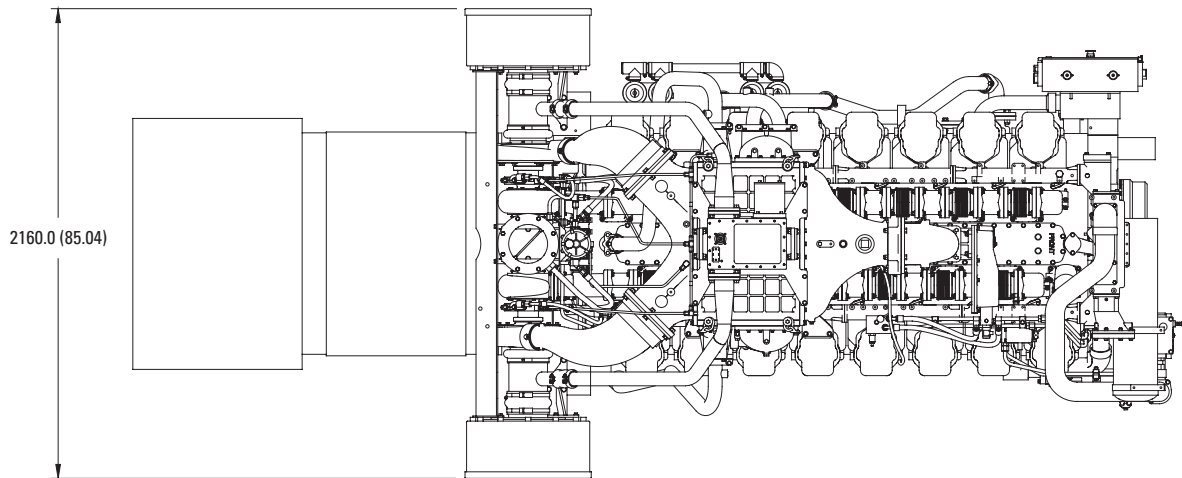
**697 GENERATOR FRAME  
CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW**



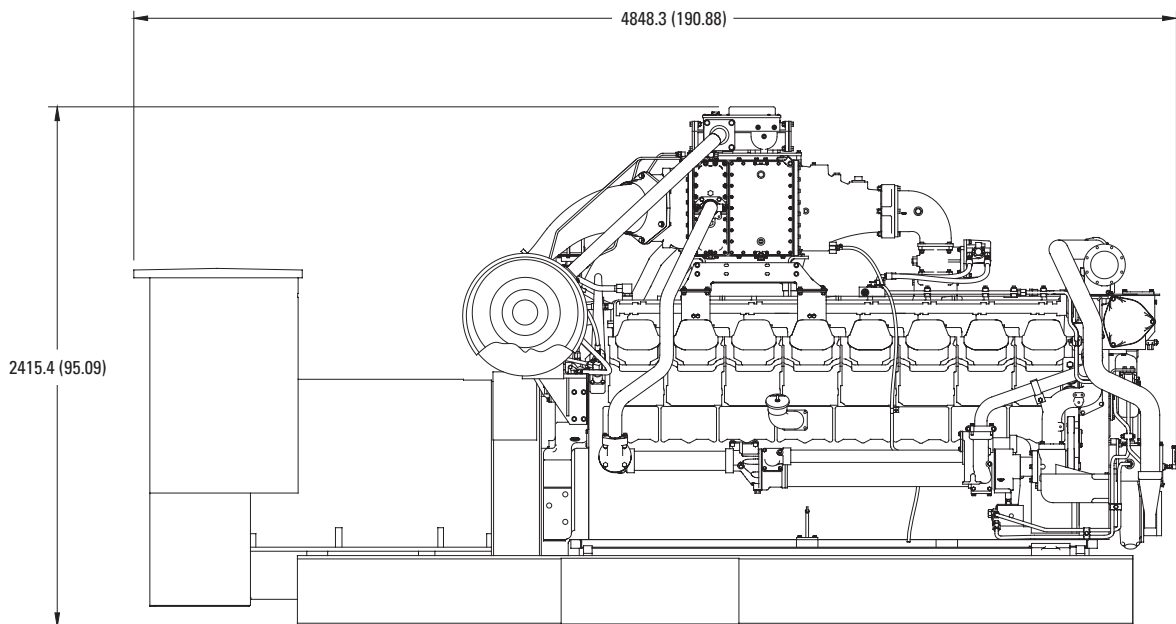
Package Dimensions with 697 Frame Generator		
<b>Length</b>	4879.3 mm	192.10 in
<b>Width</b>	2160.0 mm	85.04 in
<b>Height</b>	2415.4 mm	95.09 in
<b>Shipping Weight</b>	12 283.0 kg	27,080.0 lbs

Note: Do not use for installation design.  
See general dimension drawings  
for detail (Drawing # 212-9995).

**824 GENERATOR FRAME  
CONTINUOUS POWER GENERATOR SET PACKAGE — TOP VIEW**



**824 GENERATOR FRAME  
CONTINUOUS POWER GENERATOR SET PACKAGE — SIDE VIEW**



Package Dimensions with 824 Frame Generator		
<b>Length</b>	4848.3 mm	190.88 in
<b>Width</b>	2160.0 mm	85.04 in
<b>Height</b>	2415.4 mm	95.09 in
<b>Shipping Weight</b>	12 873.0 kg	28,380.0 lbs

Note: Do not use for installation design.  
See general dimension drawings  
for detail (Drawing # 212-9995).

[www.CAT-ElectricPower.com](http://www.CAT-ElectricPower.com)

TMI Reference No.: DM5495, DM5496, DM5497, DM5498

U.S. sourced

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