

Shown with
Optional
Equipment

STANDBY 650 kVA PRIME 600 kVA

50 Hz

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

FEATURES

FULL RANGE OF ATTACHMENTS

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

ENCLOSURES (Optional)

- Weather protective and sound attenuated

SINGLE-SOURCE SUPPLIER

- Complete systems designed and built at Caterpillar ISO 9001 certified facilities
- **Certified Prototype Tested** with torsional analysis

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



CAT® 3412 TTA DIESEL ENGINE

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight



CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel 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

- Four 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
 - EMCP II+ Auto-Paralleling provides EMCP II+ features along with synchronization and load sharing
 - Switchgear Conversion provides easy interface for remote switchgear

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	Modular air cleaner, single element with dust evacuator Service indicator	Dual element air cleaner Heavy-duty air cleaner
Cooling	Radiator with guard Coolant drain line with valve Fan and belt guards Caterpillar Extended Life Coolant Low coolant level alarm and shutdown	Radiator duct flange Jacket water heater with shutoff valves Heat exchanger and expansion tank
Exhaust	Stainless steel exhaust flex and ANSI weld flange	10 dBA muffler and ANSI weld flanges 25 dBA muffler and ANSI weld flanges 35 dBA muffler and ANSI weld flanges Elbow kit, through-wall installation kit Manifold and turbocharger guards
Fuel	Primary fuel filter Secondary fuel filter Fuel priming pump Flexible fuel lines Water separator	Manual transfer pump (3) Automatic transfer systems to choose from Low fuel level alarm and shutdown
Generator	Self excited class H insulation class F temperature rise [130° C standby/105° C prime] 2:1 Volts/Hz AVR Reactive droop kit Extension box	Permanent magnet Digital Voltage Regulator Digital Voltage Regulator with KVAR/PF control Anti-condensation space heater Oversize and premium generators Circuit breaker, IEC compliant, 3-pole with shunt trip Circuit breaker, IEC compliant, 4-pole with shunt trip
Governor	Hydra-mechanical	Electronic isochronous (2301A) Electronic load sharing Governor control motor
Control Panels	EMCP II	Switchgear conversion EMCP II+ EMCP II+ with Auto-Paralleling Local alarm and remote annunciator modules
Lube	Lubricating oil and filter Oil drain line with valves Fumes disposal	Manual sump pump
Mounting	Formed steel base Linear vibration isolators between base and engine-generator	Fuel tank base Extended capacity fuel tank base Skid base
Starting/Charging	45 amp charging alternator Energized To Run (ETR) fuel shutoff solenoid 24 Volt starting motor Batteries with rack and cables	Heavy-duty starting system Integral 5 and 10 amp battery chargers Oversize batteries Ether starting aid Battery disconnect switch
Other		Enclosures — sound attenuated, weather protective Automatic transfer switches Floor standing circuit breakers EU Certificate of Conformance (CE)

SPECIFICATIONS

 **CAT SR4B GENERATOR**

Frame size 594
 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 IP22
 Alignment Pilot shaft
 Overspeed capability
 Prototype tested 180%
 Production tested 150%
 Wave form Less than 5% deviation
 Paralleling capability Standard
 Voltage regulator 3-phase sensing with
 2:1 Volts-per-Hertz
 Voltage regulation Less than ± 1/2% (steady state)
 Less than ± 1% (no load to full load)
 Voltage gain Automatic
 TIF Less than 50
 THD Less than 5%

 **CAT ENGINE**

3412 TTA, V-12, 4-stroke-cycle watercooled diesel
 Bore — mm (in) 137 (5.4)
 Stroke — mm (in) 152 (6.0)
 Displacement — L (cu in) 27.0 (1649)
 Compression ratio 14.5:1
 Aspiration Turbocharged-Aftercooled
 Fuel system Mechanical pump
 Governor type Hydra-mechanical

 **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 connection

Consult your Caterpillar dealer for available voltages.

STANDBY 650 kVA
 PRIME 600 kVA
 50 Hz



TECHNICAL DATA

Generator Set — 1500 rpm/50 Hz/400 Volt		Standby TM3217-08		Prime TM4602-09	
Package Performance Power rating @ 0.8 PF Power rating	kVA ekW	650 520		600 480	
Fuel Consumption 100% load with fan 75% load with fan 50% load with fan	L/hr Gal/hr L/hr Gal/hr L/hr Gal/hr	148 39 116 31 79 21	138 36 108 28 74 20		
Cooling System Ambient air temperature Air flow restriction (system) Air flow (maximum @ rated speed for standard radiator arrangement) Engine coolant capacity with radiator Engine coolant capacity without radiator	Deg C Deg F kPa in water m ³ /min cfm L Gal L Gal	50 122 0.12 0.5 935 32,994 160 42 57 15	50 122 0.12 0.5 935 32,994 160 42 57 15		
Exhaust System Combustion air inlet flow rate Exhaust stack gas temperature Exhaust gas flow rate Exhaust flange size (internal diameter) Exhaust system backpressure (maximum allowable)	m ³ /min cfm Deg C Deg F m ³ /min cfm mm in kPa in water	40 1401 586 1086 122 4308 254 10 6.7 27	37 1291 571 1060 112 3938 254 10 6.7 27		
Heat Rejection Heat rejection to coolant (total) Heat rejection to exhaust (total) Heat rejection to atmosphere from engine Heat rejection to atmosphere from generator	kW Btu/min kW Btu/min kW Btu/min kW Btu/min	337.0 19,165 569.0 32,358 113.0 6426 31.5 1791	315.0 17,913 515.0 29,287 128.0 7279 28.2 1604		
Alternator Motor starting capability @ 30% voltage dip Frame Temperature rise	kVA Deg C	1215 594 130	1215 594 105		
Lube System Refill volume with filter change for standard sump	L Qts	139 147	139 147		

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications:

- ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG1-22, VDE0530, 89/392/EEC, 89/336/EEC

Standby — Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request.

Ratings are based on SAE J1349 standard conditions.

These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

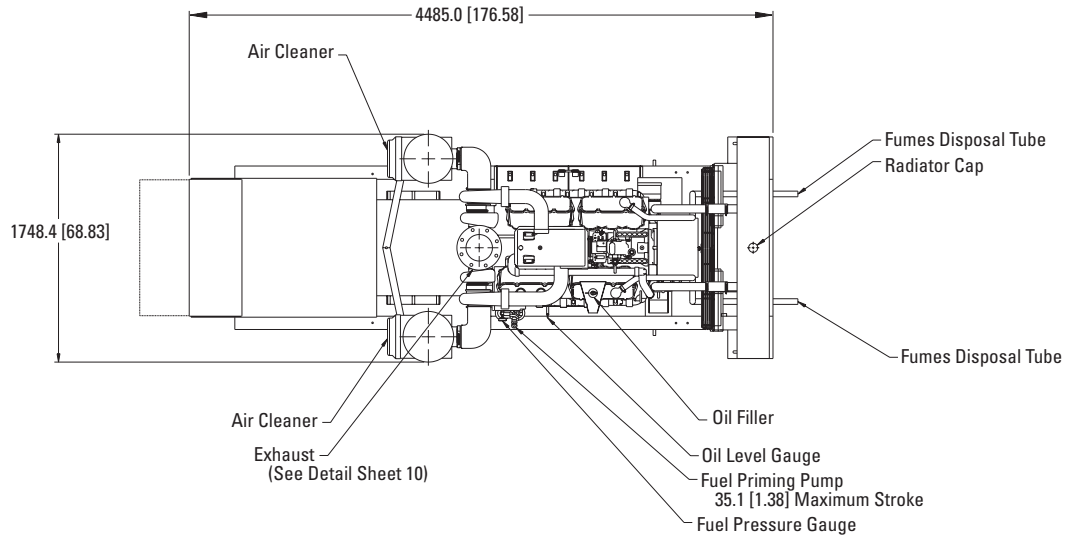
Fuel rates are based on fuel oil of 35° API (@ 16° C (60° F)) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

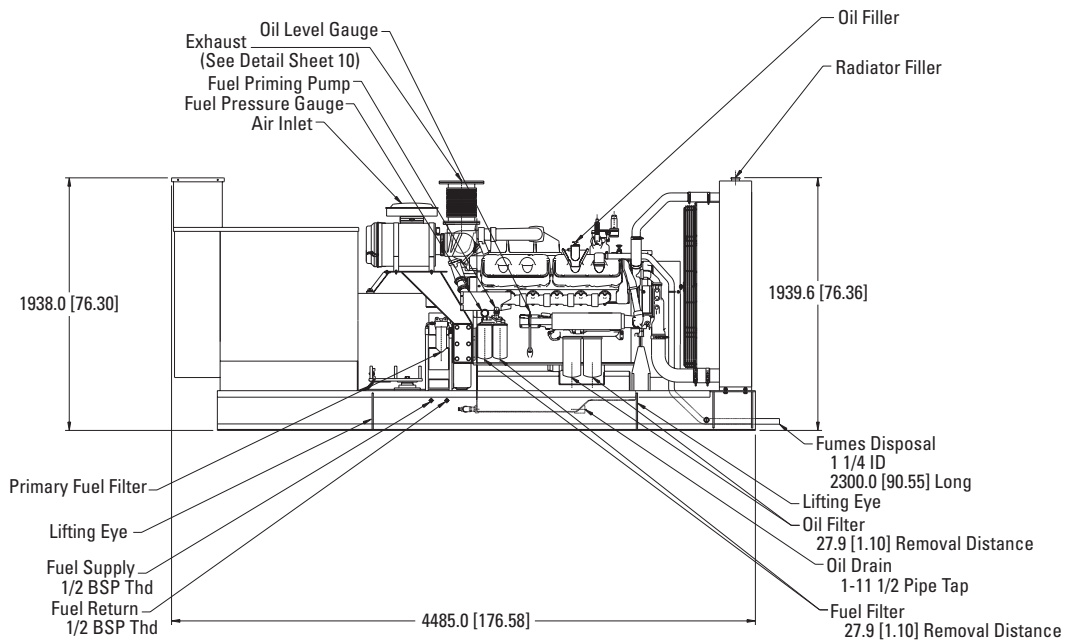
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STANDBY/PRIME POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/PRIME POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	4485.0 mm	176.58 in
Width	1748.4 mm	68.83 in
Radiator Height	1939.6 mm	76.36 in
Control Panel Height	1938.0 mm	76.30 in
Shipping Weight	4630 kg	10,200 lb

Note: General configuration not to be used for installation. See general dimension drawings for detail (Drawing #154-0167).



www.CAT-ElectricPower.com

TMI Reference No.: TM3217-08, TM4602-09

European sourced

LEHX9410 (06-00)
 Replaces LEHX7616-02 and LEHX7617-02

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 The International System of Units (SI) is used in this publication.