MILWAUKEE TELEVISION, LLC
4041 N. 35TH Street
Milwaukee, WI 53216

File Number 111482

Zoning Amendment to Stage 14 at Park Place
11520 W. Calumet Road

Equipment Illustrations

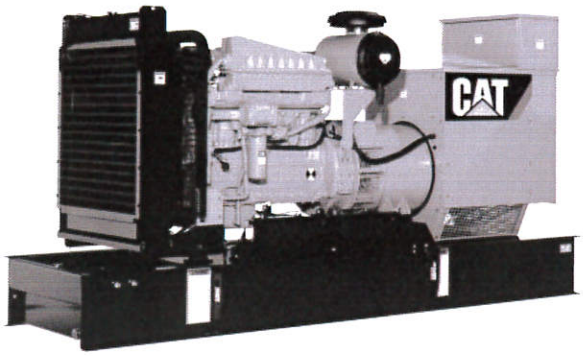
Sheet 1
Satellite Dish Company Will Purchase

Sheet 2
Typical Generator Illustration
Specific Make/Model To Be Determined

4.5 Meter Satellite Dish and Mounting pad

DIESEL GENERATOR SET

CATERPILLAR®



STANDBY 230 ekW
PRIME 210 ekW

60 Hz

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

FEATURES

UL 2200
- UL 2200 Listed configuration available

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•S℠) program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® 3306B 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
- UL 1446 Recognized Class F available for UL 2200 packaged generator set

CAT CONTROL PANELS
- Four levels of controls, designed to meet individual customer needs:
  - Electromechanical panel provides analog monitoring and metering with basic protection
  - EMCP II provides digital monitoring, metering, and protection (UL 508A Listed)
  - EMCP II+ provides EMCP II features along with full-featured power metering and protective relaying (UL 508A Listed)
  - Switchgear conversion provides easy interface for remote switchgear

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FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	Air cleaner Service indicator	Dual element air cleaner Heavy-duty air cleaner with muffler
Cooling	Radiator with guard Coolant drain line with valve Fan and belt guards	Extended life coolant Jacket water heater with shutoff valves Low coolant level alarm and shutdown Heat exchanger and expansion tank Optional radiators
Exhaust	Exhaust manifold	Industrial, residential and critical mufflers ANSI flange Outlet flange and pipe
Fuel	Fuel filter Fuel priming pump Fuel transfer pump	Water separator Day tank Flexible fuel lines Fuel pressure gauge Primary fuel filter
Generator	Self excited class H insulation class F temperature rise [130° C standby/105° C prime] 3-phase sensing VR3 voltage regulator	Permanent magnet excitation 2:1 Volts/Hz AVR Digital Voltage Regulator Digital Voltage Regulator with KVAR/PF control Space heater Reactive droop kit Oversize generators Up to 2 circuit breakers, 3-pole (UL) and 4-pole with shunt trip
Governor	Hydra-mechanical Woodward 524 (EPA only)	Isochronous (electronic) Electronic load sharing Governor control motor PSG governor
Control Panels	EMCP II	Electromechanical auto start/stop panel EMCP II+ Switchgear conversion 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	Narrow base Fuel tank sub-base Skid base
Starting/ Charging	24 Volt starting motor	5 amp and 10 amp battery charger Batteries, rack, and cables Ether starting aid 35 and 45 amp charging alternators
Other		Enclosures — sound attenuated, weather protective Automatic transfer switches Special testing Customer communication module and interface module Alarm module

SPECIFICATIONS

CAT SR4B GENERATOR

Type ..... Self excited, static regulated, brushless
Construction ..... Single bearing, close coupled
Three phase ..... 12 lead reconnectable
Insulation standard package ..... Class H with tropicalization and antiabrasion
Insulation, UL 2200 ..... UL 1446 recognized class F
IP rating ..... Drip proof IP22
Alignment ..... Pilot shaft
Overspeed capability
  Prototype tested 180%
  Production tested 150%
Wave form ..... Less than 5% deviation
Paralleling capability ..... With optional droop transformer
Voltage regulator ..... 3-phase sensing with Volts-per-Hertz
Voltage regulation ..... Less than ± 1/2% (steady state)
Less than ± 1% (no load to full load)
Voltage gain ..... Adjustable to compensate for engine speed droop and line loss
TIF ..... Less than 50
THD ..... Less than 5%

CAT ENGINE

3306B, I-6, 4-stroke-cycle watercooled diesel
Bore — mm (in) 121 (4.75)
Stroke — mm (in) 152 (6.0)
Displacement — L (cu in) 10.4 (638)
Compression ratio 15:1
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
UL 508A Listed

Consult your Caterpillar dealer for available voltages.

TECHNICAL DATA

Generator Set — 1800 rpm/60 Hz/480 Volt			Standby		Prime	
Package Performance						
Power rating	ekW		230		210	
Power rating @ 0.8 PF	kVA		288		263	
Fuel Consumption						
100% load with fan	L/hr	Gal/hr	67.8	17.9	61.3	16.2
75% load with fan	L/hr	Gal/hr	50.7	13.4	45.8	12.1
50% load with fan	L/hr	Gal/hr	35.2	9.3	32.6	8.6
Cooling System						
Ambient air temperature	Deg C	Deg F	52	125	49	121
Air flow restriction (system)	kPa	in water	62	0.25	62	0.25
Air flow (maximum @ rated speed for standard radiator arrangement)	m^3/min	cfm	278	9840	278	9840
Engine coolant capacity with radiator	L	Gal	39.7	10.5	39.7	10.5
Engine coolant capacity without radiator	L	Gal	15.9	4.2	15.9	4.2
Exhaust System						
Combustion air inlet flow rate	m^3/min	cfm	19.7	696	18.3	646
Exhaust stack gas temperature	Deg C	Deg F	556	1032	537	998
Exhaust gas flow rate	m^3/min	cfm	58.2	2055	52.6	1858
Exhaust flange size (internal diameter)	mm	in	152	6.0	152	6.0
Exhaust system backpressure (maximum allowable)	kPa	in water	6723	27	6723	27
Heat Rejection						
Heat rejection to coolant (total)	kW	Btu/min	153	8701	139	7905
Heat rejection to exhaust (total)	kW	Btu/min	263	14,957	235	13,364
Heat rejection to atmosphere from engine	kW	Btu/min	49	2787	43	2445
Heat rejection to atmosphere from generator	kW	Btu/min	19	1102	17	972
Alternator						
Motor starting capability @ 30% voltage dip	kVA		571		571	
Frame			4455		4455	
Temperature rise	Deg C		98		80	
Lube System						
Lube oil refill volume with filter change for standard sump	L	Qts	29	31	29	31

*UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics.

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.).

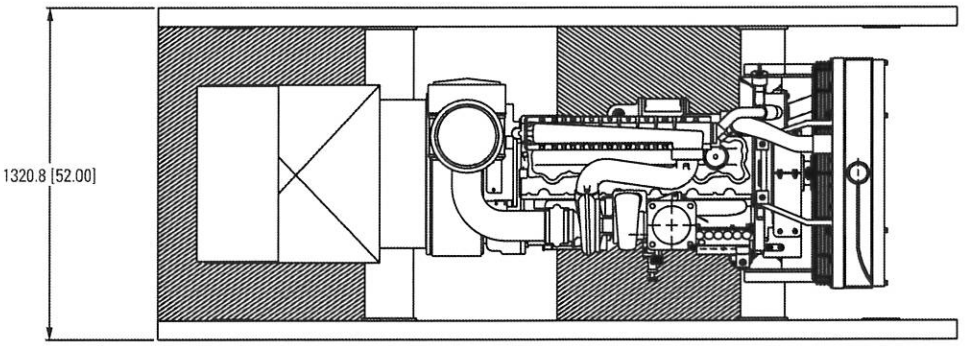
Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

STANDBY
PRIME
60 Hz

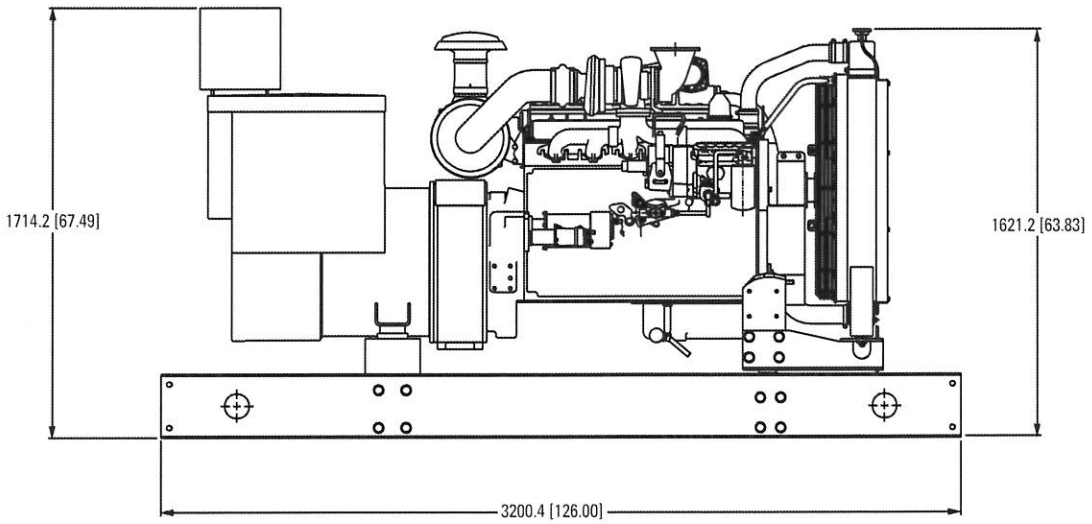
230 ekW
210 ekW

CATERPILLAR®

STANDBY/PRIME POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/PRIME POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	3200.4 mm	126.00 in
Width	1320.8 mm	52.00 in
Radiator Height	1621.2 mm	63.83 in
Control Panel Height	1714.2 mm	67.49 in
Shipping Weight	2277 kg	5,020 lb

Note: General configuration not to be used for installation. See general dimension drawings for detail.

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TMI Reference No.:

U.S. sourced

LEHX0702-01 (05-07)
Replaces LEHX6369, LEHX6370, LEHX0702

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