

Image shown may not reflect actual package

STANDBY 2500 kVA PRIME 2275 kVA

50 Hz

10,000, 10,500, 11,000 Volts

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

FEATURES

PERFORMANCE STRATEGY OPTIONS

- Low emission and low BSFC (brake specific fuel consumption) versions available

FULL RANGE OF ATTACHMENTS

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

SINGLE-SOURCE SUPPLIER

- Complete systems designed at Caterpillar ISO 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® 3516B HD DIESEL ENGINE FAMILY

- 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 HV GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Single point access to accessory connections



CAT CONTROL PANELS

- Controls, designed to meet individual customer needs:
 - EMCP II+ provides full-featured power metering and protective relaying
- Remote control and monitor capability options
- Floor standing switchgear available



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**FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT
FOR HIGH VOLTAGE PACKAGES
(Optional equipment listed may not be available on all packages)**

System	Standard	Optional
Air Inlet	Regular-duty single element canister type air cleaner with service indicator	Dual element and heavy duty air cleaners Air inlet adapters Air inlet shutoffs
Cooling	Jacket water pump Aftercooler water pump* Radiator sized for 43° C/110° F ambient Radiator fan and drive with guards Coolant drain line with valve Coolant level sensor Low coolant level alarm and shutdown High coolant temperature alarm and shutdown Caterpillar extended life coolant***	50° C/125° F ambient capability radiators Two circuit radiators (jacket water and aftercooler water)* Folded core radiators for standby applications*** Radiator removal Expansion tank with inlet/outlet connections Heat exchangers Radiator duct flange Fan Pulleys (various fan drive ratios)
Exhaust	Dry exhaust manifold Flange faced outlet(s)	Stainless steel exhaust flex Mufflers Elbows, flanges, expanders and Y adapters
Fuel	Secondary fuel filters Fuel cooler Fuel priming pump Flexible fuel lines	Primary fuel filter Primary fuel filter with water separator Duplex fuel filter
Generator	Caterpillar SR4B HV	6300 V, 6600 V and 6900 V generators Oversized generators LH extension box for cable entry Top cable entry conversion Air inlet filters Insulated lug landings for 6 leads 2 V/hz response voltage regulator KCR-760 Digital Voltage Regulator VAR/power factor controller Auto/manual voltage control Motor operated potentiometer (voltage adjust) Thermostat for space heater control Regulator RFI suppression to MIL std 461 C Diode fault detector
Governor	Electronic isochronous control	Load share module* or load share governor**
Control Panels and Instrumentation	EMCP II + (wall mounted, shipped loose)	Customer Interface Module Customer Communications Module Synchronizing Module Local alarm modules Programmable relay control module* Relay driver module Engine failure relay Auto starting aid & switch Instrument panel, RH, 16 hole** Remote annunciator modules Pyrometer and thermocouples (exhaust)
Lube	Lubricating oil Gear type lube oil pump Integral lube oil cooler Oil filter, filler and dipstick Oil drain line and valve Fumes disposal	Electric prelube pump Air prelube pump Sump pump with manual prelube Deep sump oil pan Duplex oil filter (RH service only) Oil level regulator
Mounting	330 mm/13 in structural steel rails Spring-type anti-vibration mounts (shipped loose)	Isolator removal
Starting/Charging	24 volt electric starting motor(s) 45 amp charging alternator Battery with rack and cables Battery disconnect switch	Dual and heavy duty electric starting motors Oversized batteries Battery charger Ether starting aid Jacket water coolant heater Air starting motor with control and silencer
Other	RH service	Switchgear (floor standing) Automatic transfer switches Enclosures Engine barring device (manual) EU Certification CSA Certification

*3500 B series only

**Not available on 3500 B series

***Not included with radiator removal, shipped loose radiator, or expansion tank

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TECHNICAL DATA

Generator Set — 1500 rpm/50 Hz/11,000 Volt		Standby				
		DM4738	DM4739	DM4729	DM4730	
Package Performance Power rating @ 0.8 PF	kVA	2500	2500	2500	2500	
	ekW	2000	2000	2000	2000	
	Performance Strategy	Low Emissions		Low BSFC		
Coolant to aftercooler temperature (maximum)*	Deg C	60	90	60	90	
Fuel Consumption 100% load with fan	L/hr	547.5	525.5	506.8	519.7	
	Gal/hr	144.6	138.8	133.9	137.3	
	75% load with fan	L/hr	412.3	395.8	375.1	382.1
	Gal/hr	108.9	104.6	99.1	101.0	
	50% load with fan	L/hr	278.8	268.5	257.0	260.1
	Gal/hr	73.7	70.9	67.9	68.7	
Cooling System Ambient air temperature	Deg C	43	43	43	43	
	Deg F	110	110	110	110	
	Air flow restriction (system)	kPa	0.12	0.12	0.12	0.12
	in water	0.5	0.5	0.5	0.5	
	Engine coolant capacity without radiator	L	233.0	233.0	233.0	233.0
	Gal	61.6	61.6	61.6	61.6	
Exhaust System Combustion air inlet flow rate	m ³ /min	174.3	158.2	155.1	151.7	
	cfm	6155	5586	5477	5357	
	Exhaust stack gas temperature	Deg C	535	540	510	554
	Deg F	996	1004	950	1030	
	Exhaust gas flow rate	m ³ /min	490.2	453.6	428.0	443.2
	cfm	17,309	16,017	15,113	15,649	
	Exhaust flange size (internal diameter) (qty. of 2)	mm	203.0	203.0	203.0	203.0
	in	8.0	8.0	8.0	8.0	
	Exhaust system backpressure (maximum allowable)	kPa	6.7	6.7	6.7	6.7
	in water	27	27	27	27	
Heat Rejection Heat rejection to coolant (total)	kW	724	759	684	751	
	Btu/min	41,174	43,164	38,899	42,709	
	Heat rejection to aftercooler	kW	549	406	452	379
	Btu/min	31,222	23,089	25,705	21,554	
	Heat rejection to exhaust (total)	kW	2301	2117	1965	2080
	Btu/min	130,858	120,394	111,749	118,289	
	Heat rejection to atmosphere from engine	kW	167	175	153	166
	Btu/min	9497	9952	8701	9440	
Heat rejection to atmosphere from generator	kW	82.47	82.47	82.47	82.47	
	Btu/min	4691	4691	4691	4691	
Alternator Motor starting capability @ 30% voltage dip	kVA	3338	3338	3338	3338	
	Frame	2480	2480	2480	2480	
	Temperature rise	Deg C	130	130	130	130
Lube System Refill volume with filter change for standard sump	L	401.3	401.3	401.3	401.3	
	Qts	424	424	424	424	
Emissions** NO _x	g/bhp-hr	5.57	7.8	8.02	8.45	
	mg/N•m ³ @ 5% O ₂	2515	3671	3908	4022	
	CO	g/bhp-hr	2.24	1.24	1.08	1.46
	mg/N•m ³ @ 5% O ₂	1010	582	524	697	
	HC	g/bhp-hr	0.12	0.16	0.18	0.15
	mg/N•m ³ @ 5% O ₂	54	73	87	71	
	PM	g/bhp-hr	0.200	0.038	0.094	0.079
	mg/N•m ³ @ 5% O ₂	90	18	46	38	

*Consult Caterpillar dealer for performance data and configuration details with 30° C aftercooler temperature.
(Reference DM4737 for low emissions and DM4726 for low BSFC.)

**Emissions data measurement is consistent with those described in EPA CFR40 Part 89, Subpart D and ISO8178-1 for measuring HC, CO, PM, NO_x.

STANDBY 2500 kVA
PRIME 2275 kVA
50 Hz
10,000, 10,500, 11,000 Volts



TECHNICAL DATA

Generator Set — 1500 rpm/50 Hz/11,000 Volt		Prime				
		DM4741	DM4742	DM4732	DM4733	
Package Performance Power rating @ 0.8 PF	ekW	1820	1820	1820	1820	
	kVA	2275	2275	2275	2275	
	Performance Strategy	Low Emissions		Low BSFC		
Coolant to aftercooler temperature (maximum)*	Deg C	60	90	60	90	
Fuel Consumption 100% load with fan	L/hr	497.3	479.5	460.6	471.0	
	Gal/hr	131.4	126.3	121.7	124.4	
	75% load with fan	L/hr	374.4	360.3	340.7	346.3
	Gal/hr	98.9	94.9	90.0	91.5	
	50% load with fan	L/hr	255.5	247.5	236.4	239.2
	Gal/hr	67.5	65.2	62.5	63.2	
Cooling System Ambient air temperature	Deg C	43	43	43	43	
	Deg F	110	110	110	110	
	Air flow restriction (system)	kPa	0.12	0.12	0.12	0.12
	in water	0.5	0.5	0.5	0.5	
	Engine coolant capacity without radiator	L	233.0	233.0	233.0	233.0
	Gal	61.6	61.6	61.6	61.6	
Exhaust System Combustion air inlet flow rate	m ³ /min	167.6	150.9	147.5	143.9	
	cfm	5918	5321	5208	5081	
	Exhaust stack gas temperature	Deg C	506	519	489	532
	Deg F	943	966	912	989	
	Exhaust gas flow rate	m ³ /min	453.7	420.2	395.4	407.5
	cfm	16,020	14,837	13,962	14,389	
	Exhaust flange size (internal diameter) (qty. of 2)	mm	203.0	203.0	203.0	203.0
	in	8.0	8.0	8.0	8.0	
	Exhaust system backpressure (maximum allowable)	kPa	6.7	6.7	6.7	6.7
	in water	27	27	27	27	
Heat Rejection Heat rejection to coolant (total)	kW	674	711	639	702	
	Btu/min	38,330	40,434	36,340	39,923	
	Heat rejection to aftercooler	kW	480	347	388	314
	Btu/min	27,298	19,734	22,066	17,857	
	Heat rejection to exhaust (total)	kW	2052	1923	1775	1884
	Btu/min	116,697	109,361	100,944	107,143	
	Heat rejection to atmosphere from engine	kW	154	164	144	157
	Btu/min	8758	9327	8189	8929	
	Heat rejection to atmosphere from generator	kW	74.22	74.22	74.22	74.22
	Btu/min	4222	4222	4222	4222	
Alternator Motor starting capability @ 30% voltage dip	kVA	3338	3338	3338	3338	
	Frame	2480	2480	2480	2480	
	Temperature rise	Deg C	105	105	105	105
Lube System Refill volume with filter change for standard sump	L	401.3	401.3	401.3	401.3	
	Qts	424	424	424	424	
Emissions** NO _x	g/bhp-hr	5.22	7.37	7.54	8.10	
	mg/N·m ³ @ 5% O ₂	2364	3469	3680	3871	
	CO	g/bhp-hr	1.59	1.38	0.77	1.16
	mg/N·m ³ @ 5% O ₂	721	647	378	553	
	HC	g/bhp-hr	0.15	0.18	0.18	0.17
	mg/N·m ³ @ 5% O ₂	67	85	90	81	
	PM	g/bhp-hr	0.157	0.041	0.056	0.065
	mg/N·m ³ @ 5% O ₂	71	19	27	31	

*Consult Caterpillar dealer for performance data and configuration details with 30° C aftercooler temperature.
(Reference DM4740 for low emissions and DM4731 for low BSFC.)

**Emissions data measurement is consistent with those described in EPA CFR40 Part 89, Subpart D and ISO8178-1 for measuring HC, CO, PM, NO_x.

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PRIME 2275 kVA
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10,000, 10,500, 11,000 Volts



SPECIFICATIONS



CAT SR4B HV GENERATOR

Type..... Salient pole, revolving field, brushless, permanent magnet excited
 Drive configuration..... Two bearing, close coupled
 Connection..... Three phase wye with insulated stand-off copper lug landings
 IP rating..... Drip proof IP23
 Insulation..... Class F Vacuum Pressure Impregnated (VPI) on stator, rotor, exciter and leads
 Stator coils..... Form wound
 Overspeed capability..... 125% of rated
 Wave form..... < 5% deviation
 Harmonic distortion..... < 5% THD
 Telephone influence factor..... < 50
 Stator temperature detectors..... Two (2) 100 ohm platinum RTD's installed per phase
 Voltage regulator..... Solid state automatic voltage regulator KCR-760, 3 phase sensing with volts-per-hertz response
 Voltage regulation..... < ± 1/2% (steady state)
 Paralleling capability..... Regulator input for reactive droop or cross-current methods
 Anti-condensation space heaters.... 120/240 V, 1 phase, 2 kW
 Cable entry..... RH bottom



CAT ENGINE

3516B HD, 4-stroke-cycle watercooled diesel
 Bore — mm (in)..... 170 (6.7)
 Stroke — mm (in)..... 215 (8.5)
 Displacement — L (cu in)..... 78 (4758)
 Compression ratio..... 15.5:1
 Aspiration..... Turbocharged and Aftercooled
 Fuel system..... Direct unit injection
 Governor type..... Caterpillar ADEM control system



CAT EMCP II+ CONTROL PANEL*

24 Volt DC Control
 NEMA 12, IEP44 dustproof enclosure
 Lockable hinged door
 Single location customer connection
 Panel illuminating lights
 Auto start/stop control
 Voltage adjust potentiometer (shipped loose)
 True RMS AC metering
 Digital indications for:
 Rpm
 Operating hours
 Oil pressure
 Coolant temperature
 DC volts
 L-L volts, L-N volts, Phase amps, Hz
 KW, kVA, kVAR, kWhr, %kW, PF
 Shutdowns with indicating lights for:
 Low oil pressure
 High coolant temperature
 Overspeed
 Emergency stop
 Failure to start (overcrank)
 Low coolant level
 Programmable protective relaying functions
 Under and over voltage
 Under and over frequency
 Reverse power
 Over current (phase and total)
 Programmable kW level relay
 3 spare indicator LED's (programmable)
 4 spare alarm/shutdown inputs

*Shipped loose for wall mounting. 120 V secondary voltage sensing, 5 A secondary current sensing and wiring interconnect between generator set and EMCP II+ to be provided by others at installation (drawing provided).

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 MG 1-22, 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.

Continuous — Output available without varying load for an unlimited time. Continuous power in accordance with ISO8528, ISO3046/1, AS2789, DIN6271, and BS5514.

Ratings are based on SAE J1349 standard conditions.

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

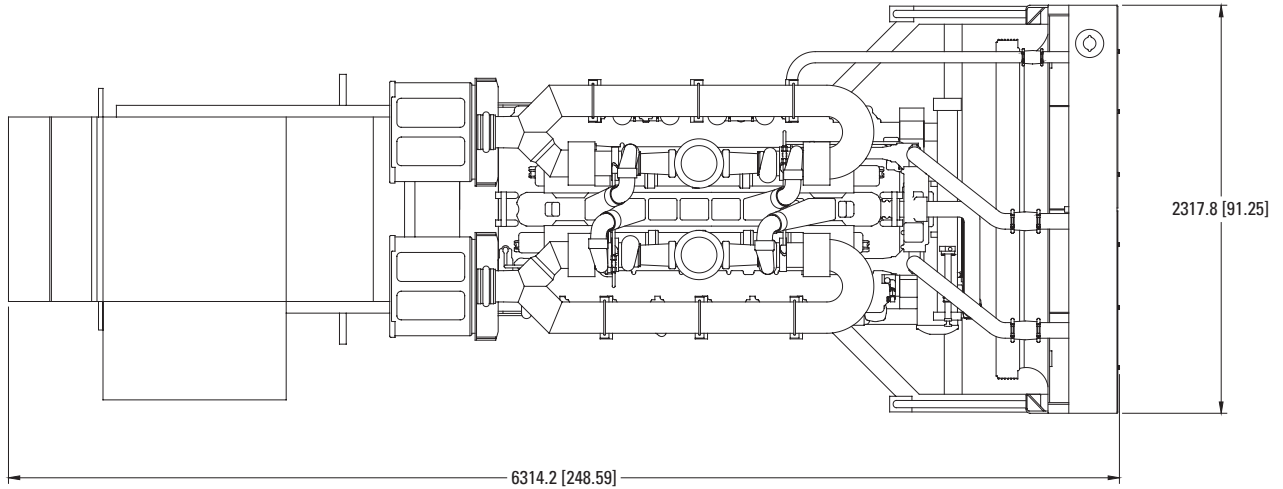
Fuel rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

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

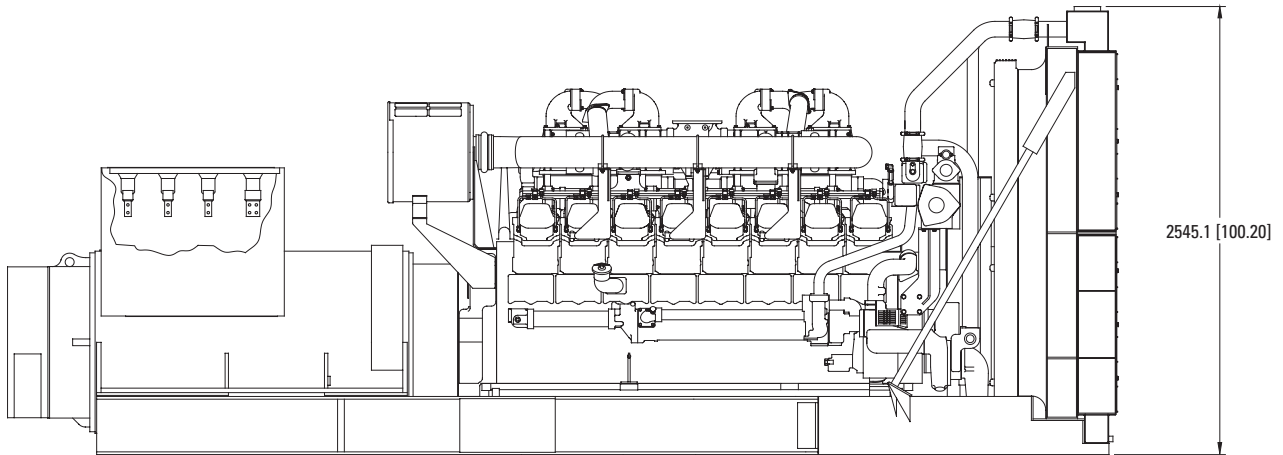
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PRIME 2275 kVA
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STANDBY/PRIME POWER GENERATOR SET PACKAGE — TOP VIEW



STANDBY/PRIME POWER GENERATOR SET PACKAGE — SIDE VIEW



Package Dimensions		
Length	6314.2 mm	248.59 in
Width	2317.8 mm	91.25 in
Height	2545.1 mm	100.20 in

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



www.CAT-ElectricPower.com

TMI Reference No.: DM4726, DM4729, DM4730, DM4731, DM4732, DM4733
 DM4737, DM4738, DM4739, DM4740, DM4741, DM4742

U.S. sourced

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