

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



Specifications

Generator Set Specifications	
Minimum Rating	1650 ekW
Maximum Rating	2500 ekW
Voltage	220 to 13800 volts
Frequency	60 Hz
Speed	1800 RPM

Generator Set Configurations	
Emissions/Fuel Strategy	EPA Certified for Stationary Emergency Application (Emits Equivalent U.S. EPA Tier 2 Nonroad Standards)

Engine Specifications	
Engine Model	3516C, ATAAC, V-16,4-Stroke Water-Cooled Diesel
Bore	170 mm (6.69 in)
Stroke (Std)	190 mm (7.48 in)
Stroke (HD)	215 mm (8.46 in)
Compression Ratio	14.7:1
Aspiration	TA
Governor Type	Adem™3
Fuel System	Electronic unit injection
Exhaust Flange Size (Internal Diameter)	203.2 mm (8.0 in)

Benefits And Features

Cat™ 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

Generator

- Matched to the performance and output characteristics of Cat engines
- Industry leading mechanical and electrical design
- Industry leading motor starting capabilities
- High Efficiency

Cat EMCP Control Panel

The EMCP controller features the reliability and durability you have come to expect from your Cat equipment. EMCP4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP4 systems can be further customized to meet your needs through programming and expansion modules.

Seismic Certification

- Seismic Certification available.
- Anchoring details are site specific, and are dependent on many factors such as generator set size, weight, and concrete strength. IBC Certification requires that the anchoring system used is reviewed and approved by a Professional Engineer
- Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007, CBC 2010
- Pre-approved by OSHPD and carries an OSP-0321-10 for use in healthcare projects in California

Design Criteria

The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200 / CSA - Optional

- UL 2200 listed packages
- CSA Certified
- Certain restrictions may apply.
- Consult with your Cat® Dealer.

Single-Source Supplier

Fully prototype tested with certified torsional vibration analysis available

World Wide Product Support

Cat Dealers provide extensive post sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Cat® S•O•SSM program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.

Standard Equipment

Air Inlet

- Air Cleaner

Cooling

- Package mounted radiator

Exhaust

- Exhaust flange outlet

Fuel

- Primary fuel filter with integral water separator
- Secondary fuel filter
- Fuel priming pump

Generator

- Matched to the performance and output characteristics of Cat engines
- IP23 Protection

Power Termination

- Bus Bar

Control Panel

- EMCP 4 Genset Controller

General

- Paint - Caterpillar Yellow except rails and radiators gloss black

Optional Equipment

Exhaust

- Exhaust mufflers

Generator

- Anti-condensation heater
- Internal excitation (IE)
- Permanent magnet excitation (PMG)
- Oversize and premium generators

Power Termination

- Circuit breakers, UL listed
- Circuit breakers, IEC compliant

Control Panels

- EMCP 4.2
- EMCP 4.3
- EMCP 4.4
- Generator temperature monitoring & protection
- Load share module
- Digital I/O module
- Remote monitoring software

Mounting

- Rubber anti-vibration mounts
- Spring-type vibration isolator
- IBC isolators

Starting/Charging

- Battery chargers
- Oversize batteries
- Jacket water heater
- Heavy-duty starting system
- Charging alternator
- Air starting motor with control and silencer

General

- The following options are based on regional and product configuration:
- Seismic Certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- UL 2200 package
- EU Certificate of Conformance (CE)
- CSA Certification
- EEC Declaration of Conformity
- Enclosures: sound attenuated, weather protective
- Automatic transfer switches (ATS)
- Integral & sub-base fuel tanks
- Integral & sub-base UL listed dual wall fuel tanks

The International System of Units (SI) is used in this publication. CAT, CATERPILLAR, their respective logos, ADEM, EUI, S•O•S, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

ELECTRIC POWER - Technical Spec Sheet

STANDARD



3516C

2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

Rating Type: MISSION CRITICAL STANDBY

Emissions: EPA Certified for Stationary Emergency
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad
Standards)

3516C

2500 ekW/ 3125 kVA
60 Hz/ 1800 rpm/ 480 V



Image shown may not reflect actual configuration

Metric

English

Package Performance

Genset Power Rating with Fan @ 0.8 Power Factor	2500 ekW	
Genset Power Rating	3125 kVA	
Aftercooler (Separate Circuit)	N/A	N/A

Fuel Consumption

100% Load with Fan	656.8 L/hr	173.5 gal/hr
75% Load with Fan	510.8 L/hr	134.9 gal/hr
50% Load with Fan	372.4 L/hr	98.4 gal/hr
25% Load with Fan	219.3 L/hr	57.9 gal/hr

Cooling System¹

Engine Coolant Capacity	233.0 L	61.6 gal
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Inlet Air

Combustion Air Inlet Flow Rate	204.2 m ³ /min	7212.2 cfm
Max. Allowable Combustion Air Inlet Temp...	N/A	N/A

Exhaust System

Exhaust Stack Gas Temperature	490.7 ° C	915.2 ° F
Exhaust Gas Flow Rate	554.5 m ³ /min	19578.8 cfm
Exhaust System Backpressure (Maximum Allowable)	6.7 kPa	27.0 in. water

3516C**2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor****Rating Type: MISSION CRITICAL STANDBY****Emissions: EPA Certified for Stationary Emergency
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad
Standards)****Heat Rejection**

Heat Rejection to Jacket Water	826 kW	46992 Btu/min
Heat Rejection to Exhaust (Total)	2502 kW	142265 Btu/min
Heat Rejection to Aftercooler	786 kW	44723 Btu/min
Heat Rejection to Atmosphere from Engine	161 kW	9146 Btu/min
Heat Rejection to Atmosphere from Generator	102 kW	5772 Btu/min

Alternator²

Motor Starting Capability @ 30% Voltage Dip	6559 skVA
Current	3759 amps
Frame Size	1842
Excitation	PM
Temperature Rise	150 ° C

Emissions (Nominal)³

NOx	2349.1 mg/Nm ³	5.3 g/hp-hr
CO	195.4 mg/Nm ³	0.4 g/hp-hr
HC	42.1 mg/Nm ³	0.1 g/hp-hr
PM	14.1 mg/Nm ³	0.0 g/hp-hr

DEFINITIONS AND CONDITIONS

1. For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
2. UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.
3. Emissions data measurement procedures 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 operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

Applicable Codes and Standards:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200,
NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528,
NEMA MG1-22, NEMA MG1-33, 72/23/EEC, 98/37/EC, 2004/108/EC

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.



3516C
2500 ekW/ 3125 kVA/ 60 Hz/ 1800 rpm/ 480 V/ 0.8 Power Factor

Rating Type: MISSION CRITICAL STANDBY

**Emissions: EPA Certified for Stationary Emergency
Application (Emits Equivalent U.S. EPA Tier 2 Nonroad
Standards)**

MISSION CRITICAL STANDBY:Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the standby power rating. Typical peak demand up to 100% of standby rated ekW for 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 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, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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Performance No.: DM9228-01

Feature Code: 516DE8F

Generator Arrangement: 3723052

Date: 10/06/2014

Source Country: U.S.

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Image shown may not reflect actual product

1800 Frame

Standby Power

50 Hz 2500-3100 kVA
60 Hz 2500-3100 ekW

1500 rpm
1800 rpm

Prime Power

50 Hz 2275-2825 kVA
60 Hz 2250-2825 ekW

1500 rpm
1800 rpm

Continuous Power

50 Hz 2000-2600 kVA
60 Hz 2050-2600 ekW

1500 rpm
1800 rpm

FEATURES

GENERAL

- Standards: meets the requirements of NEMA, IEC, ISO, IEEE, BS, AS
- Industry leading insulation technology
- Proven mechanical and electrical design
- Reliable and durable construction
- Improved excitation system for high power quality
- Improved motor starting capability
- Radio frequency noise suppression better than industry standards
- Superior construction and testing

STANDARD

- 3 phase brushless, salient pole
- NEMA Class H insulation
- Class H temperature rise 40 ° ambient
- 2/3 winding pitch
- Form Wound
- Standard voltages:
60 Hz: 480V, 4160V
50 Hz: 400V, 3300V
- Bus bar connections
60 Hz models: NEMA standard hole pattern
50 Hz models: IEC standard hole pattern

OPTIONAL

- Space heater kit
- Bearing temperature detectors
 - Optional voltages:
60 Hz: 380V, 440V, 600V
50 Hz: 380V, and 415V
- Oversized generators for Class F temperature rise
- UL Listing

SPECIFICATIONS

Type.....	Brushless, revolving field solid-state automatic voltage regulator
Construction.....	Two bearings three phase, series star connected
Enclosure.....	Drip proof IP23, guarded
Over-speed capability	
60 Hz.....	125% of synchronous speed
50 Hz.....	150% of synchronous speed
Waveform deviation, line to line, no load.....	Less than 3%
Paralleling capability.....	Standard with adjustable voltage droop
Voltage level adjustment.....	+/- 5.0%
Voltage regulator	3-phase sensing with variable Volts-Per-Hertz response
Voltage regulation, steady state.....	+/- 0.5%
Voltage regulation with 3% speed change.....	+/- 0.5%
Voltage gain.....	adjustable to compensate for engine speed droop and line loss
TIF.....	Less than 50
Number of leads.....	6

PRODUCT SUPPORT

- Standard Caterpillar warranty
- Optional extended Caterpillar warranty
- Serviceable parts available through Cat Parts System
- Service intervals agree with recommended engine practices

SERVICEABILITY

- Stator leads exit top
- Replaceable bearing sleeve(s) for longer life and lower repair cost
- Easy access to serviceable parts
- Improved wire and terminal identification ensuring reliable connection

CABLE ENTRY

- Top cable entry on LV package
- Bottom cable entry on MV packages

MAIN STATOR CONSTRUCTION

The 1800 frame generators use Round lamination stator design.

Stator coil pitch, coil distribution designed to produce optimum waveform and minimum total harmonic distortion. Stator slots are insulated by slot liners and coil separators. Slot liners, coil separators, and top sticks provide an adequate distance from the coil to ground.

The thickness of liners, separators, and phase sheets provides superior protection between phases and ground.

Low voltage stator windings are given a 3000 volt "high pot" test (150% of the NEMA and IEC requirements for 460 volt generators) before the insulation is applied. The stators are then given a vacuum impregnation treatment of polyester material, followed by an application of epoxy resin. This sealed stator is then given a final 2000 volt "high pot" test.

ROTOR CONSTRUCTION

The main rotor is constructed using a precision "wet" layer winding process with epoxy painted on the bare rotor and on each layer. This ensures bonding of all the wire layers together, bonding of the coils to the rotor laminations, and a sealed insulation system. The rotor is put in the oven for curing the epoxy.

The exciter rotor is machine wound and receives a trickle coat of a fungus-resisting resin. Numerically controlled turning and grinding machines produce rotor shafts with close repeatable tolerances. Grade-8 bolts are used wherever joints are subject to induced stresses. A complete coating of red sealer is applied to protect the rotors and shaft from corrosion.

Every production rotor is dynamically balanced in two planes to within 0.0508 mm deflection peak-to-peak amplitude and run at rated speed before assembly into the stator.

Information contained in this publication may be considered confidential. Discretion is recommended when distributing.

Materials and specifications are subject to change without notice.

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Performance Number: DM9228

Change Level: 01

SALES MODEL:	3516C	COMBUSTION:	DI
ENGINE POWER (BHP):	3,634	ENGINE SPEED (RPM):	1,800
GEN POWER WITH FAN (EKW):	2,500.0	HERTZ:	60
COMPRESSION RATIO:	14.7	FAN POWER (HP):	130.1
RATING LEVEL:	MISSION CRITICAL STANDBY	ASPIRATION:	TA
PUMP QUANTITY:	2	AFTERCOOLER TYPE:	ATAAC
FUEL TYPE:	DIESEL	AFTERCOOLER CIRCUIT TYPE:	JW+OC, ATAAC
MANIFOLD TYPE:	DRY	INLET MANIFOLD AIR TEMP (F):	122
GOVERNOR TYPE:	ADEM3	JACKET WATER TEMP (F):	210.2
ELECTRONICS TYPE:	ADEM3	TURBO CONFIGURATION:	PARALLEL
CAMSHAFT TYPE:	STANDARD	TURBO QUANTITY:	4
IGNITION TYPE:	CI	TURBOCHARGER MODEL:	GT6041BN-48T-1.10
INJECTOR TYPE:	EUI	CERTIFICATION YEAR:	2010
FUEL INJECTOR:	2501368	CRANKCASE BLOWBY RATE (FT3/HR):	3,619.4
REF EXH STACK DIAMETER (IN):	12	FUEL RATE (RATED RPM) NO LOAD (GAL/HR):	16.2
MAX OPERATING ALTITUDE (FT):	2,953	PISTON SPD @ RATED ENG SPD (FT/MIN):	2,539.4

INDUSTRY	SUBINDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP
EKW	%	BHP	PSI	LB/BHP-HR	GAL/HR	IN-HG	DEG F	DEG F	IN-HG	DEG F
2,500.0	100	3,633	336	0.334	173.5	78.1	121.9	1,235.6	67.6	915.2
2,250.0	90	3,283	303	0.335	157.1	71.3	119.4	1,190.0	61.3	881.2
2,000.0	80	2,935	271	0.339	142.3	64.3	116.9	1,158.9	55.3	864.0
1,875.0	75	2,760	255	0.342	134.9	60.7	115.8	1,145.6	52.3	858.5
1,750.0	70	2,586	239	0.346	127.6	57.0	114.7	1,133.3	49.3	854.6
1,500.0	60	2,237	207	0.354	113.0	49.5	112.7	1,112.4	43.2	851.2
1,250.0	50	1,889	174	0.365	98.4	41.3	111.0	1,091.8	36.8	850.7
1,000.0	40	1,547	143	0.373	82.5	31.4	109.4	1,061.5	29.3	856.6
750.0	30	1,203	111	0.385	66.2	21.7	107.9	1,010.3	22.1	848.2
625.0	25	1,029	95	0.394	57.9	17.2	107.2	968.3	18.7	831.1
500.0	20	854	79	0.403	49.2	12.7	106.4	902.0	15.5	796.1
250.0	10	497	46	0.441	31.3	4.8	104.1	700.7	9.8	647.3

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
EKW	%	BHP	IN-HG	DEG F	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
2,500.0	100	3,633	85	466.7	7,212.2	19,578.8	32,046.3	33,260.4	7,001.7	6,362.4
2,250.0	90	3,283	78	443.0	6,831.8	17,980.7	30,219.3	31,318.8	6,593.0	6,013.7
2,000.0	80	2,935	70	417.8	6,404.5	16,560.6	28,284.6	29,277.2	6,151.5	5,625.4
1,875.0	75	2,760	66	404.7	6,173.3	15,893.2	27,261.3	28,202.4	5,928.1	5,427.1
1,750.0	70	2,586	63	391.2	5,929.9	15,232.6	26,196.0	27,086.8	5,698.4	5,222.0
1,500.0	60	2,237	55	363.5	5,411.9	13,879.0	23,947.5	24,739.5	5,205.5	4,779.1
1,250.0	50	1,889	46	334.6	4,843.3	12,413.0	21,444.3	22,133.2	4,657.5	4,283.2
1,000.0	40	1,547	36	297.5	4,121.4	10,609.5	18,262.0	18,840.0	3,963.0	3,647.2
750.0	30	1,203	25	249.8	3,423.0	8,763.8	15,175.3	15,640.3	3,294.6	3,037.8
625.0	25	1,029	21	223.4	3,104.6	7,844.6	13,765.1	14,171.8	2,988.1	2,760.8
500.0	20	854	16	197.2	2,791.2	6,823.5	12,376.2	12,722.2	2,671.7	2,476.1
250.0	10	497	7	152.3	2,237.9	4,800.2	9,917.6	10,136.8	2,132.0	1,999.8

Heat Rejection Data

GENSET POWER WITH FAN	PERCENT LOAD	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHUAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
EKW	%	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN
2,500.0	100	3,633	46,992	9,146	142,265	79,907	19,835	44,723	154,077	372,403	396,702
2,250.0	90	3,283	44,242	8,557	127,929	70,449	17,960	39,380	139,243	337,204	359,207
2,000.0	80	2,935	41,477	8,162	116,879	63,561	16,262	34,167	124,444	305,311	325,233
1,875.0	75	2,760	40,076	8,007	111,588	60,518	15,425	31,612	117,053	289,608	308,505
1,750.0	70	2,586	38,657	7,874	106,293	57,637	14,588	29,085	109,651	273,881	291,752
1,500.0	60	2,237	35,755	7,684	95,729	52,220	12,915	24,201	94,874	242,485	258,307
1,250.0	50	1,889	32,626	7,527	85,184	46,626	11,245	19,401	80,109	211,118	224,893
1,000.0	40	1,547	29,235	7,262	72,693	40,153	9,427	13,873	65,583	176,995	188,544
750.0	30	1,203	25,476	6,784	59,425	32,726	7,565	8,706	51,005	142,037	151,305
625.0	25	1,029	23,394	6,435	52,542	28,568	6,621	6,496	43,653	124,317	132,429
500.0	20	854	21,006	5,995	44,739	23,683	5,624	4,534	36,223	105,594	112,484
250.0	10	497	15,737	5,026	27,795	12,371	3,578	1,916	21,071	67,181	71,564

Emissions Data

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER WITH FAN		EKW	2,500.0	1,875.0	1,250.0	625.0	250.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BHP	3,633	2,760	1,889	1,029	497
TOTAL NOX (AS NO2)		G/HR	22,948	14,101	7,004	3,568	3,185
TOTAL CO		G/HR	2,726	1,304	1,092	1,496	2,098
TOTAL HC		G/HR	500	499	543	408	437
PART MATTER		G/HR	185.5	123.7	132.1	139.5	141.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,818.9	2,229.5	1,544.3	1,352.7	2,230.2
TOTAL CO	(CORR 5% O2)	MG/NM3	351.8	213.9	252.3	594.6	1,552.7
TOTAL HC	(CORR 5% O2)	MG/NM3	55.9	72.8	108.8	140.7	282.4
PART MATTER	(CORR 5% O2)	MG/NM3	19.7	16.5	25.8	48.5	88.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,373	1,086	752	659	1,086
TOTAL CO	(CORR 5% O2)	PPM	281	171	202	476	1,242
TOTAL HC	(CORR 5% O2)	PPM	104	136	203	263	527
TOTAL NOX (AS NO2)		G/HP-HR	6.38	5.15	3.74	3.50	6.47
TOTAL CO		G/HP-HR	0.76	0.48	0.58	1.47	4.26
TOTAL HC		G/HP-HR	0.14	0.18	0.29	0.40	0.89
PART MATTER		G/HP-HR	0.05	0.05	0.07	0.14	0.29
TOTAL NOX (AS NO2)		LB/HR	50.59	31.09	15.44	7.87	7.02
TOTAL CO		LB/HR	6.01	2.88	2.41	3.30	4.62
TOTAL HC		LB/HR	1.10	1.10	1.20	0.90	0.96
PART MATTER		LB/HR	0.41	0.27	0.29	0.31	0.31

RATED SPEED NOMINAL DATA: 1800 RPM

GENSET POWER WITH FAN		EKW	2,500.0	1,875.0	1,250.0	625.0	250.0
PERCENT LOAD		%	100	75	50	25	10
ENGINE POWER		BHP	3,633	2,760	1,889	1,029	497
TOTAL NOX (AS NO2)		G/HR	19,123	11,751	5,837	2,974	2,654
TOTAL CO		G/HR	1,515	725	607	831	1,165
TOTAL HC		G/HR	376	375	408	307	329
TOTAL CO2		KG/HR	1,740	1,340	966	559	296
PART MATTER		G/HR	132.5	88.4	94.3	99.6	100.7
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	2,349.1	1,857.9	1,286.9	1,127.3	1,858.5
TOTAL CO	(CORR 5% O2)	MG/NM3	195.4	118.8	140.1	330.3	862.6
TOTAL HC	(CORR 5% O2)	MG/NM3	42.1	54.8	81.8	105.8	212.3
PART MATTER	(CORR 5% O2)	MG/NM3	14.1	11.8	18.4	34.7	63.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	1,144	905	627	549	905
TOTAL CO	(CORR 5% O2)	PPM	156	95	112	264	690
TOTAL HC	(CORR 5% O2)	PPM	79	102	153	197	396
TOTAL NOX (AS NO2)		G/HP-HR	5.32	4.30	3.12	2.92	5.39
TOTAL CO		G/HP-HR	0.42	0.26	0.32	0.82	2.37
TOTAL HC		G/HP-HR	0.10	0.14	0.22	0.30	0.67

PERFORMANCE DATA[DM9228]

October 23, 2015

PART MATTER	G/HP-HR	0.04	0.03	0.05	0.10	0.20
TOTAL NOX (AS NO2)	LB/HR	42.16	25.91	12.87	6.56	5.85
TOTAL CO	LB/HR	3.34	1.60	1.34	1.83	2.57
TOTAL HC	LB/HR	0.83	0.83	0.90	0.68	0.72
TOTAL CO2	LB/HR	3,836	2,955	2,130	1,233	654
PART MATTER	LB/HR	0.29	0.19	0.21	0.22	0.22
OXYGEN IN EXH	%	9.4	10.4	11.3	12.2	14.4
DRY SMOKE OPACITY	%	1.7	1.4	1.9	2.5	3.8
BOSCH SMOKE NUMBER		0.58	0.49	0.62	0.92	1.27

Altitude Derate Data

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	50	60	70	80	90	100	110	120	130	NORMAL
ALTITUDE (FT)										
0	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,634
1,000	3,634	3,634	3,634	3,634	3,634	3,634	3,634	3,625	3,563	3,634
2,000	3,634	3,634	3,634	3,634	3,634	3,614	3,551	3,490	3,430	3,634
3,000	3,634	3,634	3,634	3,607	3,542	3,478	3,417	3,358	3,301	3,634
4,000	3,634	3,604	3,536	3,470	3,407	3,346	3,288	3,231	3,176	3,574
5,000	3,534	3,466	3,401	3,338	3,277	3,218	3,162	3,107	3,055	3,461
6,000	3,398	3,332	3,270	3,209	3,151	3,094	3,040	2,987	2,937	3,351
7,000	3,266	3,203	3,142	3,084	3,028	2,974	2,922	2,871	2,823	3,243
8,000	3,137	3,077	3,019	2,963	2,909	2,857	2,807	2,758	2,712	3,137
9,000	3,013	2,955	2,899	2,845	2,794	2,744	2,696	2,649	2,604	3,034
10,000	2,892	2,837	2,783	2,732	2,682	2,634	2,588	2,543	2,500	2,933
11,000	2,776	2,722	2,671	2,621	2,574	2,528	2,483	2,441	2,399	2,835
12,000	2,663	2,611	2,562	2,515	2,469	2,425	2,382	2,341	2,301	2,739
13,000	2,553	2,504	2,457	2,411	2,367	2,325	2,284	2,245	2,207	2,645
14,000	2,447	2,400	2,354	2,311	2,269	2,228	2,189	2,151	2,115	2,554
15,000	2,344	2,299	2,256	2,214	2,174	2,135	2,097	2,061	2,026	2,465

Cross Reference

Engine Arrangement			
Arrangement Number	Effective Serial Number	Engineering Model	Engineering Model Version
2666136	SBK00001	GS336	-
3994249	DD500001	GS716	-

Supplementary Data

Type	Classification	Performance Number
SOUND	SOUND PRESSURE	DM8779

General Notes

General Notes DM9228 - 01
SOUND PRESSURE DATA FOR THIS RATING CAN BE FOUND IN PERFORMANCE NUMBER - DM8779

Performance Parameter Reference

Parameters Reference:DM9600-08
PERFORMANCE DEFINITIONS

PERFORMANCE DEFINITIONS DM9600

APPLICATION:
Engine performance tolerance values below are representative of a typical production engine tested in a calibrated dynamometer test cell at SAE J1995 standard reference conditions. Caterpillar maintains ISO9001:2000 certified quality management systems for engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995. Additional reference material SAE J1228, J1349, ISO 8665, 3046-1:2002E, 3046-3:1989, 1585, 2534, 2288, and 9249 may apply in part or are similar to SAE J1995. Special engine rating request (SERR) test data shall be noted.

PERFORMANCE PARAMETER TOLERANCE FACTORS:

Power	+/- 3%
Torque	+/- 3%
Exhaust stack temperature	+/- 8%
Inlet airflow	+/- 5%
Intake manifold pressure-gage	+/- 10%
Exhaust flow	+/- 6%
Specific fuel consumption	+/- 3%
Fuel rate	+/- 5%
Specific DEF consumption	+/- 3%
DEF rate	+/- 5%
Heat rejection	+/- 5%
Heat rejection exhaust only	+/- 10%
Heat rejection CEM only	+/- 10%

Heat Rejection values based on using treated water.

Torque is included for truck and industrial applications, do not use for Gen Set or steady state applications.

On C7 - C18 engines, at speeds of 1100 RPM and under these values are provided for reference only, and may not meet the tolerance listed.

These values do not apply to C280/3600. For these models, see the tolerances listed below.

C280/3600 HEAT REJECTION TOLERANCE FACTORS:

Heat rejection	+/- 10%
Heat rejection to Atmosphere	+/- 50%
Heat rejection to Lube Oil	+/- 20%
Heat rejection to Aftercooler	+/- 5%

TEST CELL TRANSDUCER TOLERANCE FACTORS:

Torque	+/- 0.5%
Speed	+/- 0.2%
Fuel flow	+/- 1.0%
Temperature	+/- 2.0 C degrees
Intake manifold pressure	+/- 0.1 kPa

OBSERVED ENGINE PERFORMANCE IS CORRECTED TO SAE J1995 REFERENCE AIR AND FUEL CONDITIONS.

REFERENCE ATMOSPHERIC INLET AIR
FOR 3500 ENGINES AND SMALLER
SAE J1228 AUG2002 for marine engines, and J1995 JAN2014 for other engines, reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity at the stated aftercooler water temp, or inlet manifold temp.

FOR 3600 ENGINES
Engine rating obtained and presented in accordance with ISO 3046/1 and SAE J1995 JANJAN2014 reference atmospheric pressure is 100 KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F) at 30% relative humidity and 150M altitude at the stated aftercooler water temperature.

PERFORMANCE DATA[DM9228]

October 23, 2015

MEASUREMENT LOCATION FOR INLET AIR TEMPERATURE

Location for air temperature measurement air cleaner inlet at stabilized operating conditions.

REFERENCE EXHAUST STACK DIAMETER

The Reference Exhaust Stack Diameter published with this dataset is only used for the calculation of Smoke Opacity values displayed in this dataset. This value does not necessarily represent the actual stack diameter of the engine due to the variety of exhaust stack adapter options available. Consult the price list, engine order or general dimension drawings for the actual stack diameter size ordered or options available.

REFERENCE FUEL

DIESEL

Reference fuel is #2 distillate diesel with a 35API gravity;

A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at 29 (84.2), where the density is 838.9 G/Liter (7.001 Lbs/Gal).

GAS

Reference natural gas fuel has a lower heating value of 33.74 KJ/L (905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500 BTU/CU FT) lower heating value gas. Propane ratings are based on 87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas.

ENGINE POWER (NET) IS THE CORRECTED FLYWHEEL POWER (GROSS) LESS EXTERNAL AUXILIARY LOAD

Engine corrected gross output includes the power required to drive standard equipment; lube oil, scavenge lube oil, fuel transfer, common rail fuel, separate circuit aftercooler and jacket water pumps. Engine net power available for the external (flywheel) load is calculated by subtracting the sum of auxiliary load from the corrected gross flywheel out put power. Typical auxiliary loads are radiator cooling fans, hydraulic pumps, air compressors and battery charging alternators. For Tier 4 ratings additional Parasitic losses would also include Intake, and Exhaust Restrictions.

ALTITUDE CAPABILITY

Altitude capability is the maximum altitude above sea level at standard temperature and standard pressure at which the engine could develop full rated output power on the current performance data set.

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEUI fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditions above the altitude defined on the engine performance sheet. See your Caterpillar technical representative for non standard ratings.

REGULATIONS AND PRODUCT COMPLIANCE

TMI Emissions information is presented at 'nominal' and 'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission requirements need to be verified by your Caterpillar technical representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

PERFORMANCE DATA[DM9228]

October 23, 2015

EMISSIONS DEFINITIONS:
Emissions : DM1176

HEAT REJECTION DEFINITIONS:
Diesel Circuit Type and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS:
3500: EM1500

RATING DEFINITIONS:
Agriculture : TM6008

Fire Pump : TM6009

Generator Set : TM6035

Generator (Gas) : TM6041

Industrial Diesel : TM6010

Industrial (Gas) : TM6040

Irrigation : TM5749

Locomotive : TM6037

Marine Auxiliary : TM6036

Marine Prop (Except 3600) : TM5747

Marine Prop (3600 only) : TM5748

MSHA : TM6042

Oil Field (Petroleum) : TM6011

Off-Highway Truck : TM6039

On-Highway Truck : TM6038

SOUND DEFINITIONS:
Sound Power : DM8702

Sound Pressure : TM7080

Date Released : 7/7/15

Systems Data



Reference Number: DM9228

AIR INTAKE SYSTEM		
<i>THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.</i>		
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH CLEAN ELEMENT	15	IN-H2O
MAXIMUM ALLOWABLE INTAKE RESTRICTION WITH DIRTY ELEMENT	25	IN-H2O
MAXIMUM PRESSURE DROP FROM COMPRESSOR OUTLET TO MANIFOLD INLET (OR MIXER INLET FOR EGR)	5.9	IN-HG
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET	101.4	LB
MAXIMUM ALLOWABLE STATIC WEIGHT ON AIR INLET (AIR SHUT OFF INCLUDED)	19.8	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON AIR INLET	11.8	LB-FT
MAXIMUM ALLOWABLE STATIC WEIGHT ON TURBO OUTLET CONNECTION	0	LB
MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON TURBO OUTLET CONNECTION	0	LB-FT
COOLING SYSTEM		
ENGINE ONLY COOLANT CAPACITY	61.6	GAL
MAXIMUM ALLOWABLE JACKET WATER OUTLET TEMPERATURE	210	DEG F
REGULATOR LOCATION FOR JW CIRCUIT	OUTLET	
MAXIMUM UNINTERRUPTED FILL RATE	5.0	G/MIN
ENGINE SPEC SYSTEM		
CYLINDER ARRANGEMENT	VEE	
NUMBER OF CYLINDERS	16	
CYLINDER BORE DIAMETER	6.7	IN
PISTON STROKE	8.5	IN
TOTAL CYLINDER DISPLACEMENT	4765	CU IN
STANDARD CRANKSHAFT ROTATION FROM FLYWHEEL END	CCW	
STANDARD CYLINDER FIRING ORDER	1-2-5-6-3-4-9-10-15-16-11-12-13-14-7-8	
NUMBER 1 CYLINDER LOCATION	RIGHT FRONT	
STROKES/COMBUSTION CYCLE	4	
EXHAUST SYSTEM		
<i>THE INSTALLED SYSTEM MUST COMPLY WITH THE SYSTEM LIMITS BELOW FOR ALL EMISSIONS CERTIFIED ENGINES TO ASSURE REGULATORY COMPLIANCE.</i>		
MAXIMUM ALLOWABLE SYSTEM BACK PRESSURE	27	IN-H2O
MANIFOLD TYPE	DRY	
MAXIMUM ALLOWABLE STATIC WEIGHT ON EXHAUST CONNECTION	61.7	LB

MAXIMUM ALLOWABLE STATIC BENDING MOMENT ON EXHAUST CONNECTION	31.0	LB-FT
FUEL SYSTEM		
MAXIMUM FUEL FLOW FROM TRANSFER PUMP TO ENGINE	443.8	G/HR
MAXIMUM ALLOWABLE FUEL SUPPLY LINE RESTRICTION	8.9	IN-HG
MAXIMUM ALLOWABLE FUEL TEMPERATURE AT TRANSFER PUMP INLET	151	DEG F
MAXIMUM FUEL FLOW TO RETURN LINE FROM ENGINE	429.8	G/HR
MAXIMUM ALLOWABLE FUEL RETURN LINE RESTRICTION	8.0	IN-HG
NORMAL FUEL PRESSURE IN A CLEAN SYSTEM	60.2	PSI
FUEL SYSTEM TYPE	EUI	
MAXIMUM TRANSFER PUMP PRIMING LIFT WITHOUT PRIMING PUMP	12.1	FT
MAXIMUM HEAT REJECTION TO FUEL	722	BTU/MIN
LUBE SYSTEM		
CRANKCASE VENTILATION TYPE	TO ATM	
MOUNTING SYSTEM		
CENTER OF GRAVITY LOCATION - X DIMENSION - FROM REAR FACE OF BLOCK - (REFERENCE TM7077)	47.2	IN
CENTER OF GRAVITY LOCATION - Y DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	8.0	IN
CENTER OF GRAVITY LOCATION - Z DIMENSION - FROM CENTERLINE OF CRANKSHAFT - (REFERENCE TM7077)	0.0	IN
MASS MOMENT OF INERTIA - X AXIS	10621	LB IN SEC2
MASS MOMENT OF INERTIA - Y AXIS	123910	LB IN SEC2
MASS MOMENT OF INERTIA - Z AXIS	132761	LB IN SEC2
STARTING SYSTEM		
MINIMUM CRANKING SPEED REQUIRED FOR START-RPM	120	

GENERATOR DATA**Selected Model**

Engine: 3516 **Generator Frame:** 1844 **Genset Rating (kW):** 2500.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 3723056 **Genset Rating (kVA):** 3125.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 3758.8
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 41205 /40749 /40681 /9309

Spec Information

Generator Specification			Generator Efficiency		
Frame: 1844	Type: SR5	No. of Bearings: 2	Per Unit Load	kW	Efficiency %
Winding Type: FORM WOUND	Flywheel: 21.0		0.25	625.0	92.8
Connection: SERIES STAR	Housing: 00		0.5	1250.0	95.3
Phases: 3	No. of Leads: 6		0.75	1875.0	95.8
Poles: 4	Wires per Lead: 8		1.0	2500.0	95.7
Sync Speed: 1800	Generator Pitch: 0.6667				

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X''_d	0.1194	0.0088
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.1139	0.0084
TRANSIENT - SATURATED X'_d	0.1804	0.0133
SYNCHRONOUS - DIRECT AXIS X_d	2.8673	0.2114
SYNCHRONOUS - QUADRATURE AXIS X_q	1.2709	0.0937
NEGATIVE SEQUENCE X_2	0.1166	0.0086
ZERO SEQUENCE X_0	0.0081	0.0006

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	5.3930
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.3395
OPEN CIRCUIT SUBTRANSIENT - DIRECT AXIS T''_{d0}	0.0079
SHORT CIRCUIT SUBTRANSIENT - DIRECT AXIS T''_d	0.0066
OPEN CIRCUIT SUBTRANSIENT - QUADRATURE AXIS T''_{q0}	0.0071
SHORT CIRCUIT SUBTRANSIENT - QUADRATURE AXIS T''_q	0.0060
EXCITER TIME CONSTANT T_e	0.2580
ARMATURE SHORT CIRCUIT T_a	0.0414

Short Circuit Ratio: 0.48	Stator Resistance = 0.0012 Ohms	Field Resistance = 0.9703 Ohms
---------------------------	---------------------------------	--------------------------------

Voltage Regulation		Generator Excitation		
Voltage level adjustment: +/-	5.0%	No Load	Full Load, (rated) pf	
Voltage regulation, steady state: +/-	0.5%		Series	Parallel
Voltage regulation with 3% speed change: +/-	0.5%	Excitation voltage:	12.98 Volts	52.73 Volts Volts
Waveform deviation line - line, no load: less than	3.0%	Excitation current	1.19 Amps	3.99 Amps Amps
Telephone influence factor: less than	50			

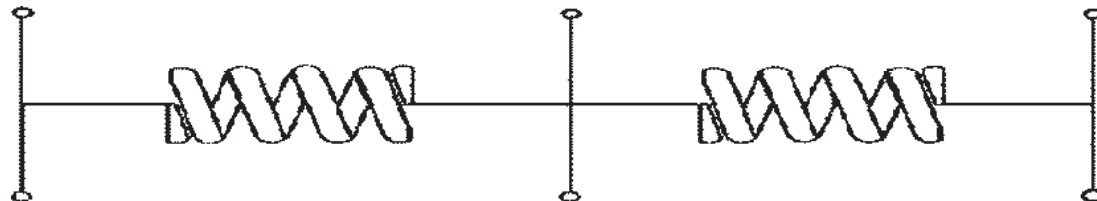
Engine: 3516	Generator Frame: 1844	Genset Rating (kW): 2500.0	Line Voltage: 480
Fuel: Diesel	Generator Arrangement: 3723056	Genset Rating (kVA): 3125.0	Phase Voltage: 277
Frequency: 60	Excitation Type: Permanent Magnet	Pwr. Factor: 0.8	Rated Current: 3758.8
Duty: STANDBY	Connection: SERIES STAR	Application: EPG	Status: Current

Generator Mechanical Information

Dimension X	-1145.5 mm	-45.1 IN.
Dimension Y	0.0 mm	0.0 IN.
Dimension Z	0.0 mm	0.0 IN.

- Generator WT = 4938 kg * Rotor WT = 1835 kg * Stator WT = 2452 kg
10,886 LB 4,045 LB 5,406 LB

Generator Torsional Data



J3 = Exciter
End

**K2 = Shaft Stiffness between
J2 + J3 (Diameter 2)**

J1	K1	Min Shaft Dia 1	J2	K2	Min Shaft Dia 2	J3
30.1 LB IN. s ²	61.3 MLB IN./rad	5.0 IN.	557.6 LB IN. s ²	58.4 MLB IN./rad	3.8 IN.	3.8 LB IN. s ²
3.397 N m s ²	6.93 MN m/rad	127.0 mm	63.0 N m s ²	6.6 MN m/rad	96.5 mm	0.43 N m s ²
			Total J			
			591.5 LB IN. s ²			
			66.827 N m s ²			

Selected Model

Engine: 3516 **Generator Frame:** 1844 **Genset Rating (kW):** 2500.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 3723056 **Genset Rating (kVA):** 3125.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 3758.8
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 41205 /40749 /40681 /9309**Generator Cooling Requirements -
Temperature - Insulation Data**

Cooling Requirements: **Temperature Data: (Ambient 40 °C)**

Heat Dissipated: 112.3 kW **Stator Rise:** 125.0 °C

Air Flow: 199.2 m³/min **Rotor Rise:** 125.0 °C

Insulation Class: H

Insulation Reg. as shipped: 100.0 MΩ minimum at 40 °C

Thermal Limits of Generator

Frequency: 60 Hz

Line to Line Voltage: 480 Volts

B BR 80/40 2500.0 kVA

F BR -105/40 2844.0 kVA

H BR - 125/40 3125.0 kVA

F PR - 130/40 3125.0 kVA

H PR - 150/40 3438.0 kVA

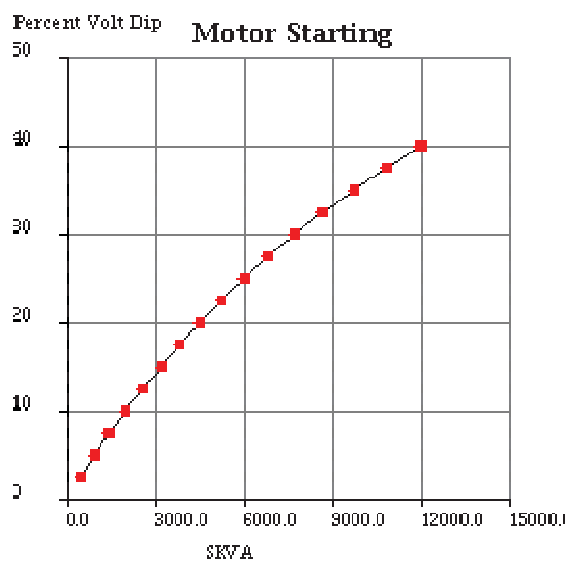
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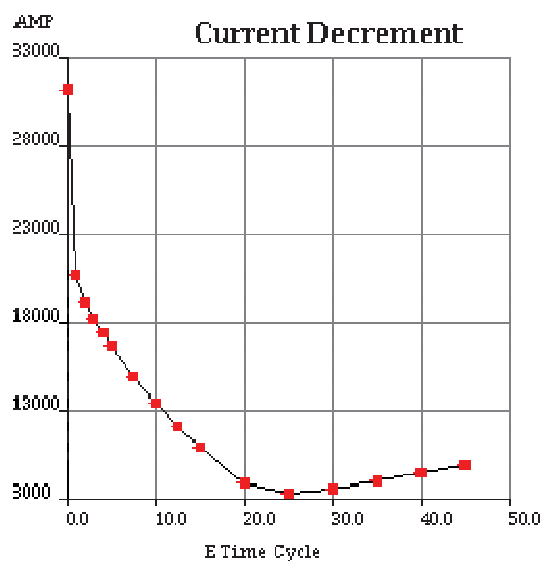
 Version: 41205 /40749 /40681 /9309

Starting Capability & Current Decrement
Motor Starting Capability (0.4 pf)

SKVA	Percent Volt Dip
463	2.5
950	5.0
1,464	7.5
2,006	10.0
2,579	12.5
3,185	15.0
3,829	17.5
4,513	20.0
5,240	22.5
6,017	25.0
6,847	27.5
7,736	30.0
8,691	32.5
9,719	35.0
10,830	37.5
12,034	40.0


Current Decrement Data

E Time Cycle	AMP
0.0	31,132
1.0	20,768
2.0	19,122
3.0	18,234
4.0	17,442
5.0	16,692
7.5	14,973
10.0	13,452
12.5	12,107
15.0	10,917
20.0	8,934
25.0	8,359
30.0	8,564
35.0	8,968
40.0	9,431
45.0	9,915



Instantaneous 3 Phase Fault Current: 31132 Amps **Instantaneous Line - Line Fault Current:** 27270 Amps
Instantaneous Line - Neutral Fault Current: 45568 Amps

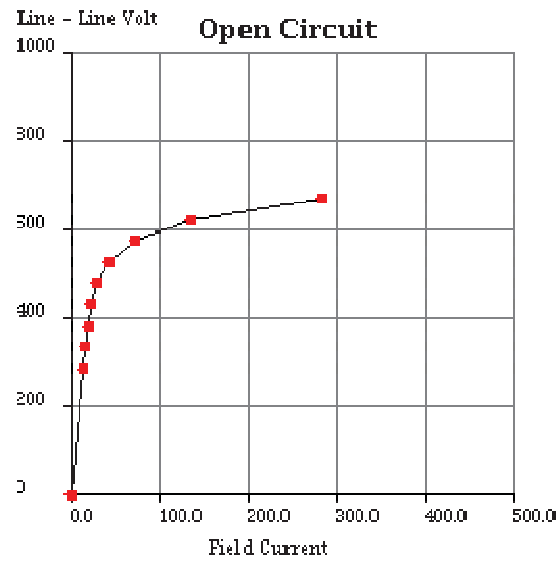
Selected Model

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Fuel: Diesel **Generator Arrangement:** 3723056 **Genset Rating (kVA):** 3125.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 3758.8
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

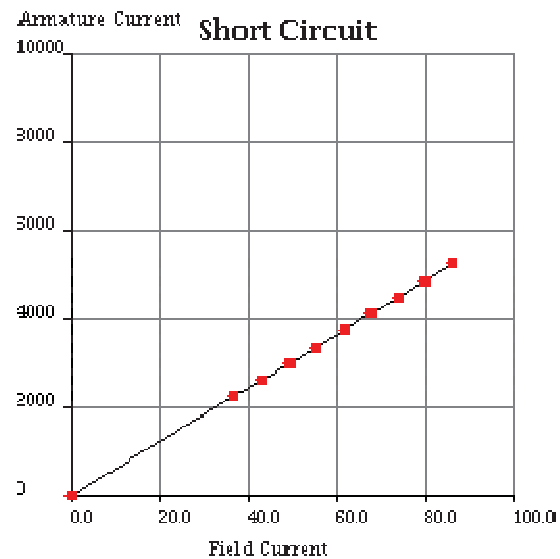
Version: 41205 /40749 /40681 /9309

Generator Output Characteristic Curves**Open Circuit Curve**

Field Current	Line - Line Volt
0.0	0
13.7	288
16.3	336
19.4	384
23.7	432
30.6	480
44.0	528
72.4	576
136.3	624
283.6	672

**Short Circuit Curve**

Field Current	Armature Current
0.0	0
37.0	2,255
43.2	2,631
49.4	3,007
55.5	3,383
61.7	3,759
67.9	4,135
74.1	4,511
80.2	4,886
86.4	5,262



Selected Model

Engine: 3516Generator Frame: 1844Genset Rating (kW): 2500.0Line Voltage: 480

Fuel: DieselGenerator Arrangement: 3723056Genset Rating (kVA): 3125.0Phase Voltage: 277

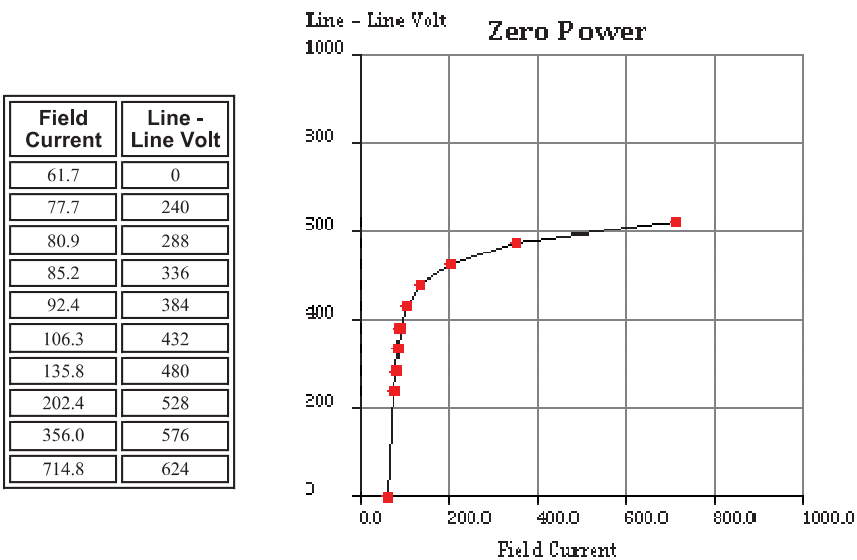
Frequency: 60Excitation Type: Permanent MagnetPwr. Factor: 0.8Rated Current: 3758.8

Duty: STANDBYConnection: SERIES STARApplication: EPGStatus: Current

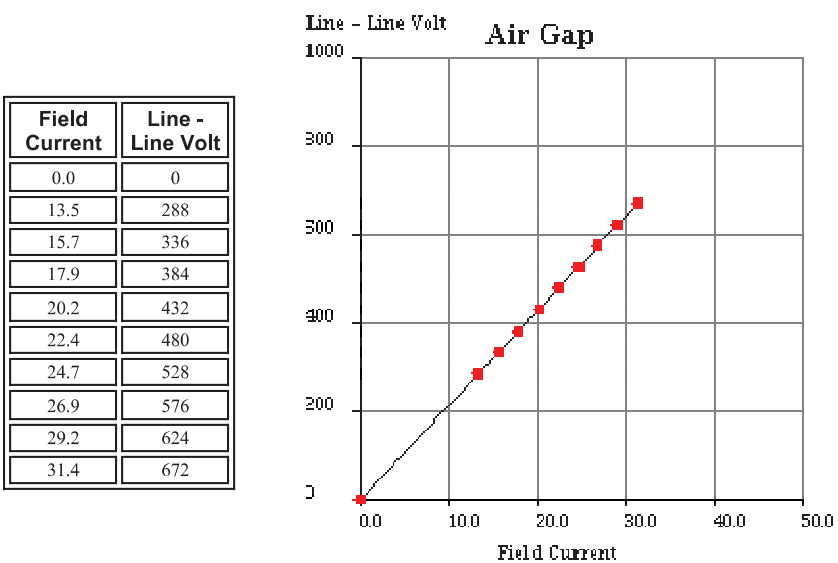
Version: 41205 /40749 /40681 /9309

Generator Output Characteristic Curves

Zero Power Factor Curve



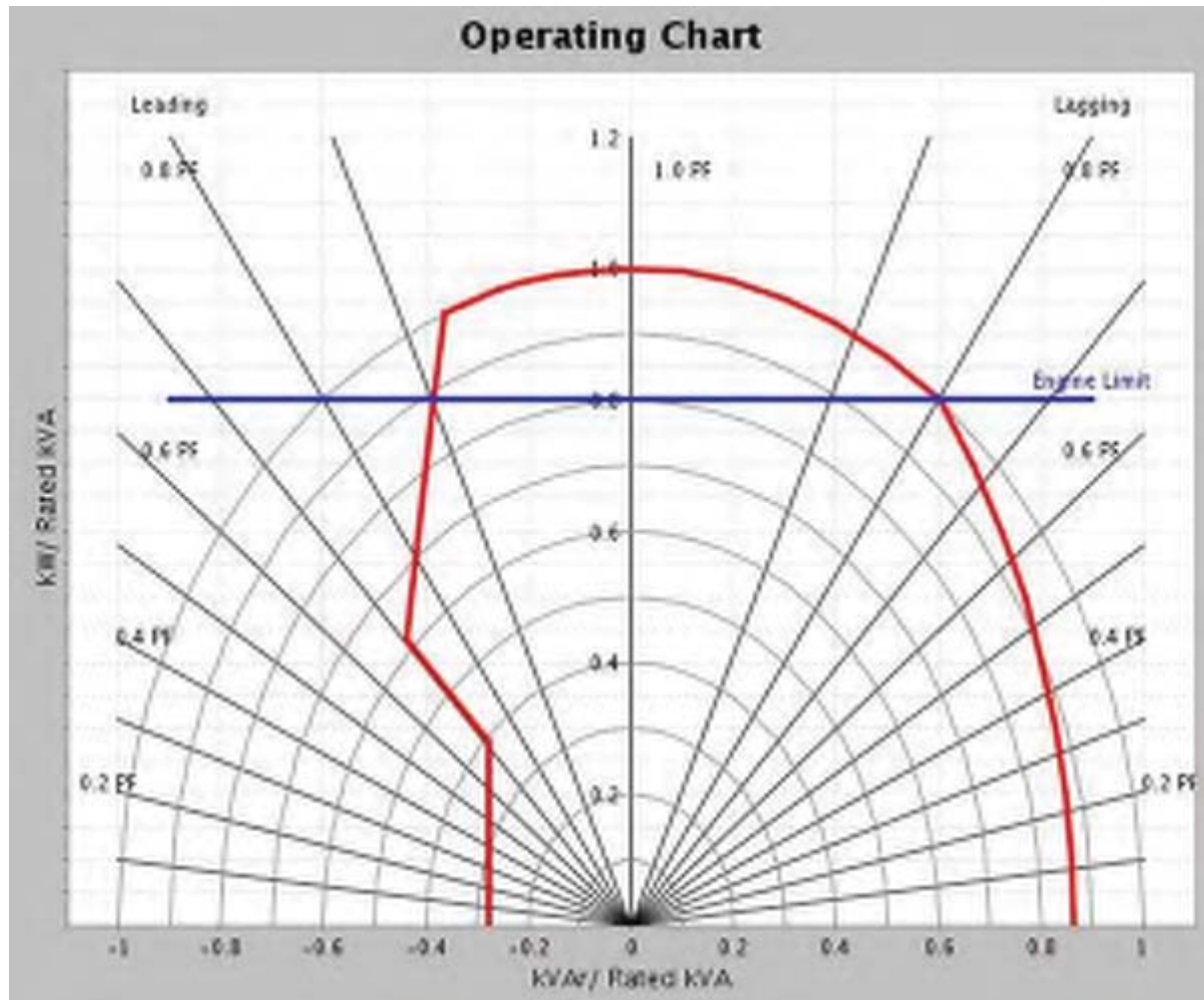
Air Gap Curve



Selected Model

Engine: 3516	Generator Frame: 1844	Genset Rating (kW): 2500.0	Line Voltage: 480
Fuel: Diesel	Generator Arrangement: 3723056	Genset Rating (kVA): 3125.0	Phase Voltage: 277
Frequency: 60	Excitation Type: Permanent Magnet	Pwr. Factor: 0.8	Rated Current: 3758.8
Duty: STANDBY	Connection: SERIES STAR	Application: EPG	Status: Current

Version: 41205 /40749 /40681 /9309



Selected Model

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Duty: STANDBY	Connection: SERIES STAR	Application: EPG	Status: Current

Version: 41205 /40749 /40681 /9309**General Information**

DM7825 Caterpillar SR5 Generators (50 Hz, 60 Hz)
Data for 1400, 1600, 1700, 1800 and 1900 frames Caterpillar SR5
generators built by Leroy Somer - USA and Leroy Somer France.

Refer to DM7821 for explanation of all generator data in Technical
Marketing Information (TMI) except generator efficiency for which the
explanation is given below.

GENERATOR EFFICIENCY

Generator efficiency is the percentage of engine flywheel (or other
prime mover) power that is converted into electrical output. The
generator efficiency shown is calculated by the summation of all
losses method, and is determined in accordance with the IEC Standard
60034. The efficiency considers only the generator. There is no
consideration of engine or parasitic losses here.

Refer to DM7829 for low and medium voltage protective setting values and
limits.

Caterpillar Confidential: **Green**

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Web Master(s): [PSG Web Based Systems Support](#)

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RADIATOR PERFORMANCE DATA [GP2031]

Component Performance Number: EM0775

Radiator Data

Radiator Part Number: 4447815

Radiator Type: ASF56.0CV

Front Area: 55.97 ft²

Radiator Dry Weight: 6,686.6 lbs

Radiator Wet Weight: 7,319.3 lbs

Radiator Water Capacity High Temp Circuit: 71.0 gal Settings: NA

Radiator Water Capacity Low Temp Circuit: NA gal IM ATAAC Temp Deg F: 122

Center of Gravity (X): 25.28 in (Distance from front face of core)

Center of Gravity (Y): 58.94 in (Distance from bottom of radiator support)

Center of Gravity (Z): 0.78 in (Distance from center line of core)

Engine Data

Performance Number: DM8266 Pully Ratio: 0.408

Sales Model: 3516

EKW: 2500

Rating: STANDBY

Speed: 1800

Combination Data

Pully Ratio: 0.408

Fan Power: 128.73792 hp

Ambient Restrictions (1/2 inH2O)			Ambient Restrictions (3/4 inH2O)			Air Flow Restrictions (1/2 inH2O)		Air Flow Restrictions (3/4 inH2O)	
984 Feet	2460 Feet	4921 Feet	984 Feet	2460 Feet	4921 Feet	----- scfm -----			
----- Max Ambient Pre-alarm Deg F -----									
120	116	109	116	114	104	115196		110393	

No Graph data available...

Reference

Number: EM0775

No notes found...

Parameters

Reference: TM6016

RADIATOR CORE DATA

CONDITIONS:

CORE AIR FLOW RESISTANCE DATA IS FOR A FREE STANDING CORE ONLY. ADDITIONAL AIR FLOW RESISTANCE DUE TO SHROUDS, DUCTING, COOLERS AND ENGINE COMPONENTS MUST BE ADDED IN ORDER TO CALCULATE TOTAL SYSTEM PERFORMANCE.

CORE PERFORMANCE DATA IS BASED ON AN AIR DENSITY OF 1.20 KG/M3 (.075 LB/CU FT).

AMBIENT CAPABILITY:

THE AMBIENT CAPABILITY AND ALTITUDE CAPABILITY LISTED ON THIS PAGE REFLECTS THE THE CAPABILITY OF THE COOLING SYSTEM AT THE MAXIMUM GENERATOR SET RATING. THE AMBIENT AND ALTITUDE CAPABILITY MUST BE VERIFIED FOR THE ENGINE AND GENERATOR IN THE ENGINE PERFORMANCE SECTION OF TMI. NON-TIER 4 AMBIENT CAPABILITY CALCULATIONS ARE BASED ON A 50/50 GLYCOL COOLANT MIX AND 4°C (7°F) AIR TO CORE RISE. TIER 4 AMBIENT CAPABILITY CALCULATIONS ARE BASED ON A 50/50 GLYCOL COOLANT MIX AND 6°C (9°F) AIR TO CORE RISE. ASSUME 3°C ADDITIONAL AMBIENT CAPABILITY WITH TREATED WATER INSTEAD OF 50/50 GLYCOL AS COOLANT. THE CORE AIRFLOW VS CORE RESISTANCE CHARTS REPRESENT CORE ONLY DATA. ALL OTHER DATA IS FOR THE COMPLETE PACKAGE.

LAST UPDATED : 05/13/2010