

GEN SET PACKAGE PERFORMANCE DATA [FSE00794]

(FSE00794)-ENGINE (BGK00873)-GENERATOR (X4R00262)-
GENSET

Performance Number: DM9100

Sales Model: C15 DITA	Combustion: DI	Aspr: TA
Engine Power:		
400 W/F EKW	416 W/O F EKW	Speed: 1,800 RPM
619 HP		After Cooler: ATAAC
Manifold Type: DRY	Governor Type: ELEC	After Cooler Temp(F): 120
Turbo Quantity: 1	Engine App: GP	Turbo Arrangement:
Hertz: 60	Application Type: PACKAGE-DIE	Engine Rating: PGS
Rating Type: STANDBY	Certification: EPA TIER-3 2005 - ----	Strategy:

General Performance Data 1

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL BSFC LB/BHP- HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
400	100	619	293.56	0.35	31.33	118.04	62.57	1,288.99	1,203.8	894.56	3,418.46
360	90	557	264.41	0.36	28.87	115.88	59.61	1,264.27	1,161.32	863.96	3,280.74
320	80	497	235.69	0.38	27.26	115.52	59.37	1,267.8	1,148.72	852.98	3,248.95
300	75	467	221.48	0.39	26.26	114.62	58.49	1,260.73	1,135.58	843.26	3,203.04
280	70	437	207.26	0.4	24.96	112.64	56.44	1,239.55	1,113.62	828.68	3,114.76
240	60	378	179.27	0.41	22.24	108.14	50.91	1,175.98	1,062.5	797.9	2,878.15
200	50	319	151.57	0.42	19.28	102.38	43.41	1,077.1	1,002.56	764.78	2,567.38
160	40	264	125.46	0.43	16.27	95.9	33.91	935.84	945.14	734.18	2,182.45
120	30	208	98.63	0.44	13.18	89.24	24.19	787.52	876.38	700.16	1,786.92
100	25	179	85.14	0.45	11.62	85.82	19.25	713.36	837.5	681.8	1,585.63
80	20	150	71.36	0.47	10.09	83.48	14.69	642.73	790.88	655.52	1,391.4
40	10	92	43.37	0.55	7.19	84.56	8	533.25	662	560.66	1,052.38

General Performance Data 2

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	COMPRESS OUT PRESS IN- HG	COMPRESS OUT TEMP DEG F
400	100	619	63.4	381.92
360	90	557	60.83	368.24
320	80	497	60.62	368.42
300	75	467	59.76	364.82

280	70	437	57.75	355.82
240	60	378	52.27	331.52
200	50	319	44.78	298.4
160	40	264	35.12	256.1
120	30	208	25.26	212.9
100	25	179	20.23	191.12
80	20	150	15.61	170.24
40	10	92	8.74	135.14

Engine Heat Rejection Data

GEN W/F EKW	PERCENT LOAD	REJ TO JW BTU/MN	REJ TO ATMOS BTU/MN	REJ TO EXHAUST BTU/MN	EXH RCOV TO 350F BTU/MN	FROM OIL CLR BTU/MN	FROM AFT CLR BTU/MN	WORK ENERGY BTU/MN	LHV ENERGY BTU/MN	HHV ENERGY BTU/MN
400	100	10,066.0	5,857.6	23,828.5	13,080.1	3,582.8	5,743.9	26,217.0	67,277.1	71,712.9
360	90	9,326.7	5,459.5	22,236.1	11,999.5	3,304.1	5,402.6	23,657.9	62,045.0	66,082.8
320	80	8,814.8	5,402.6	21,724.3	11,715.2	3,122.2	5,402.6	21,041.9	58,576.0	62,386.3
300	75	8,530.5	5,288.9	21,155.6	11,374.0	3,002.7	5,288.9	19,790.7	56,414.9	60,111.5
280	70	8,246.1	5,004.5	20,302.6	10,805.3	2,860.6	5,061.4	18,539.6	53,685.2	57,154.2
240	60	7,563.7	4,606.5	18,312.1	9,554.1	2,547.8	4,435.9	16,037.3	47,827.6	50,955.4
200	50	6,938.1	4,208.4	15,923.6	8,075.5	2,206.6	3,582.8	13,535.0	41,458.1	44,187.9
160	40	6,255.7	4,094.6	13,193.8	6,483.2	1,865.3	2,502.3	11,203.4	34,975.0	37,249.8
120	30	5,573.2	3,639.7	10,520.9	4,947.7	1,512.7	1,649.2	8,814.8	28,378.1	30,197.9
100	25	5,232.0	3,298.4	9,212.9	4,208.4	1,330.8	1,251.1	7,620.6	24,965.9	26,615.1
80	20	4,833.9	2,957.2	7,961.8	3,469.1	1,154.5	966.8	6,369.4	21,667.4	23,089.2
40	10	3,980.9	2,672.9	5,459.5	1,990.4	824.6	455.0	3,867.1	15,468.6	16,435.4

EMISSIONS DATA

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 Gaseous emissions data measurements are consistent with those described in 40 CFR, EU 97/68/EC, ECE Regulation No. 96 and ISO 8178 for measuring HC, CO, PM, and NOx.

Gaseous emissions values are WEIGHTED CYCLE AVERAGES and are in compliance with the following non-road regulations:

LOCALITY	AGENCY/LEVEL	MAX LIMITS - g/kW-hr
U. S. (incl Calif)	EPA/TIER-3	CO:3.5 NOx + HC:4.0 PM:0.2

REFERENCE EXHAUST STACK DIAMETER	--
WET EXHAUST MASS	5,919.4 LB/HR
WET EXHAUST FLOW (894.20 F STACK TEMP)	3,422.70 CFM
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	1,223.00 STD CFM
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	1,120.18 STD CFM
FUEL FLOW RATE	31 GAL/HR

RATED SPEED "Not to exceed data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT
400	100	619	7.5000	1.4900	.0400	.1000	9.6000
300	75	467	3.1200	2.4600	.1100	.0800	11.2000
200	50	319	1.6500	4.9600	.2000	.1000	12.7000
100	25	179	1.6100	1.6200	.2200	.0900	13.5000
40	10	92	1.0800	.9000	.1800	.1000	14.8000

RATED SPEED "Nominal Data"

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	TOTAL NOX (AS NO2) LB/HR	TOTAL CO LB/HR	TOTAL HC LB/HR	TOTAL CO2 LB/HR	PART MATTER LB/HR	OXYGEN IN EXHAUST PERCENT
400	100	619	6.2000	.8000	.0200	681.7	.0500	9.6000
300	75	467	2.5800	1.3100	.0600	565.4	.0400	11.2000
200	50	319	1.3600	2.6500	.1100	415.9	.0500	12.7000
100	25	179	1.3300	.8700	.1200	247.7	.0400	13.5000
40	10	92	.8900	.4800	.0900	149.8	.0500	14.8000

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp.	50 F	68 F	86 F	104 F	122 F	NORMAL
Altitude						
0 F	619.55 hp	619.55 hp	619.55 hp	619.55 hp	619.55 hp	619.55 hp
984.25 F	619.55 hp	619.55 hp	619.55 hp	619.55 hp	619.55 hp	619.55 hp
1,640.42 F	619.55 hp	619.55 hp	619.55 hp	619.55 hp	604.8 hp	619.55 hp
3,280.84 F	619.55 hp	619.55 hp	606.14 hp	587.37 hp	568.59 hp	619.55 hp
4,921.26 F	610.16 hp	590.05 hp	569.93 hp	552.5 hp	535.07 hp	588.71 hp
6,561.68 F	573.96 hp	555.18 hp	536.41 hp	518.97 hp	502.88 hp	559.21 hp
8,202.1 F	539.09 hp	521.66 hp	504.22 hp	488.13 hp	473.38 hp	532.38 hp
9,842.52 F	506.91 hp	489.47 hp	473.38 hp	458.63 hp	443.88 hp	504.22 hp
11,482.94 F	474.72 hp	458.63 hp	443.88 hp	429.13 hp	415.72 hp	478.74 hp
13,123.36 F	445.22 hp	430.47 hp	415.72 hp	402.31 hp	390.24 hp	454.61 hp
14,763.78 F	417.06 hp	402.31 hp	390.24 hp	376.83 hp	366.1 hp	430.47 hp

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

Engine Arrangement:	2729745	Lube Oil Press @ Rated Spd(PSI):	71.1
Effective Serial No:	FSE00001	Piston Speed @ Rated Eng SPD(FT/Min):	1,974.4
Primary Engine Test Spec:	0K7141	Max Operating Altitude(FT):	3,280.8
Performance Parm Ref:	TM5739	PEEC Elect Control Module Ref	
Performance Data Ref:	DM9100	PEEC Personality Cont Mod Ref	

Aux Coolant Pump Perf Ref:

Cooling System Perf Ref:		Turbocharger Model	GT5008
Certification Ref:	EPA TIER 3	Fuel Injector	
Certification Year:	2006	Timing-Static (DEG):	--
Compression Ratio:	16.0	Timing-Static Advance (DEG):	--
Combustion System:	DI	Timing-Static (MM):	--
Aftercooler Temperature (F):	120	Unit Injector Timing (MM):	--
Crankcase Blowby Rate(CFH):	--	Torque Rise (percent)	--
Fuel Rate (Rated RPM) No Load(Gal/HR):	--	Peak Torque Speed RPM	--
Lube Oil Press @ Low Idle Spd(PSI):	64.5	Peak Torque (LB/FT):	--

**Reference
Number: DM9100**

CORE ARRN: 273-0026
EPA TIER-3 2005----D6

**Parameters
Reference: TM5739**

GEN SET - PACKAGED - DIESEL
TOLERANCES:
AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT THESE
VALUES.
EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH THE
FOLLOWING
TOLERANCES.

ENGINE POWER	+/-	3%
EXHAUST STACK TEMPERATURE	+/-	8%
GENERATOR POWER	+/-	5%
INLET AIR FLOW	+/-	5%
INTAKE MANIFOLD PRESSURE - GAGE	+/-	10%
EXHAUST FLOW	+/-	6%
SPECIFIC FUEL CONSUMPTION	+/-	3%
FUEL RATE	+/-	5%
HEAT REJECTION	+/-	5%
HEAT REJECTION EXHAUST ONLY	+/-	10%

CONDITIONS:
ENGINE PERFORMANCE IS CORRECTED TO INLET AIR STANDARD
CONDITIONS
OF 99 KPA (29.31 IN HG) AND 25 DEG C (77 DEG F).

THESE VALUES CORRESPOND TO THE STANDARD ATMOSPHERIC
PRESSURE AND
TEMPERATURE IN ACCORDANCE WITH SAE J1349. ALSO INCLUDED
IS A
CORRECTION TO STANDARD FUEL GRAVITY OF 35 DEGREES API
HAVING A
LOWER HEATING VALUE OF 42,780 KJ/KG (18,390 BTU/LB) WHEN
USED AT
29 DEG C (84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002
LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR
CATERPILLAR ENGINES WILL
APPROXIMATE THE VALUES OBTAINED WHEN THE OBSERVED
PERFORMANCE
DATA IS CORRECTED TO SAE J1349, ISO 3046-2 & 8665 & 2288 & 9249 &
1585, EEC 80/1269 AND DIN70020 STANDARD REFERENCE

CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES; LUBE OIL, FUEL PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL) LOAD. TYPICAL AUXILIARIES INCLUDE COOLING FANS, AIR COMPRESSORS, AND CHARGING ALTERNATORS.

RATINGS MUST BE REDUCED TO COMPENSATE FOR ALTITUDE AND/OR AMBIENT TEMPERATURE CONDITIONS ACCORDING TO THE APPLICABLE DATA SHOWN ON THE PERFORMANCE DATA SET.

GEN SET - PACKAGED - DIESEL
ALTITUDE:
ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL AMBIENT TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET DURING NORMAL ENGINE OPERATION.
NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS SPECIFIC ALTITUDE LEVELS IS FOUND ON TM2001.

THE GENERATOR POWER CURVE TABULAR DATA REPRESENTS THE NET ELECTRICAL POWER OUTPUT OF THE GENERATOR.

GENERATOR SET RATINGS
EMERGENCY STANDBY POWER (ESP)

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE DURATION OF AN EMERGENCY OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE ESP RATING. TYPICAL OPERATION IS 50 HOURS PER YEAR, WITH MAXIMUM EXPECTED USAGE OF 200 HOURS PER YEAR.

STANDBY POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE DURATION OF AN EMERGENCY OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE STANDBY POWER RATING. TYPICAL OPERATION IS 200 HOURS PER YEAR, WITH MAXIMUM

EXPECTED USAGE
OF 500 HOURS PER YEAR.

PRIME POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR AN UNLIMITED
TIME. AVERAGE
POWER OUTPUT IS 70% OF THE PRIME POWER RATING. TYPICAL
PEAK DEMAND IS
100% OF PRIME RATED EKW WITH 10% OVERLOAD CAPABILITY FOR
EMERGENCY
USE FOR A MAXIMUM OF 1 HOUR IN 12. OVERLOAD OPERATION
CANNOT EXCEED
25 HOURS PER YEAR.

CONTINUOUS POWER RATING

OUTPUT AVAILABLE WITH NON-VARYING LOAD FOR AN UNLIMITED
TIME.
AVERAGE POWER OUTPUT IS 70-100% OF THE CONTINUOUS POWER
RATING.
TYPICAL PEAK DEMAND IS 100% OF CONTINUOUS RATED EKW FOR
100% OF
OPERATING HOURS.