



## GEN SET PACKAGE PERFORMANCE DATA [3PG00615]

MARCH 02, 2015

(3PG00615)-ENGINE (BGG00159)-GENERATOR (GHJ00244)-  
GENSET

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Performance Number: DM6199

Change Level:

**Sales Model:** 3456 DITA **Combustion:** DI **Aspr:** TA  
**Engine Power:**  
 275 W/F 292 W/O F **Speed:** 1,800 RPM **After Cooler:** ATAAC  
 EKW EKW  
 434 HP  
**Manifold Type:** DRY **Governor Type:** ELEC **After Cooler Temp(F):** --  
**Turbo Quantity:** 1 **Engine App:** GP **Turbo Arrangement:**  
**Hertz:** 60 **Application Type:** PACKAGE-DIE **Engine Rating:** PGS **Strategy:**  
**Rating Type:** PRIME **Certification:** EPA TIER-II 2001 - 2005  
 EU STAGE-2 2002 - 2009

### 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
275	100	434	198.7	0.33	20.68	113.54	43.21	1,038.25	1,009.22	770	2,486.16
247.5	90	394	180.14	0.33	18.81	109.22	38.56	992.34	975.74	756.14	2,344.9
220	80	354	161.72	0.34	16.99	104.9	34	946.43	942.62	742.28	2,200.11
206.3	75	334	152.58	0.34	16.14	102.74	31.72	914.65	925.16	734.18	2,111.82
192.5	70	314	143.59	0.34	15.27	100.4	29.49	886.4	906.8	724.82	2,027.06
165	60	274	125.46	0.35	13.58	96.08	25.05	822.83	867.56	702.86	1,846.96
137.5	50	235	107.62	0.35	11.89	91.94	20.7	759.27	823.28	676.22	1,659.79
110	40	198	90.36	0.36	10.2	88.16	16.52	699.23	766.04	640.4	1,472.62
82.5	30	159	72.67	0.37	8.48	84.74	12.29	635.66	698.54	594.68	1,281.92
68.8	25	139	63.67	0.38	7.63	83.3	10.19	603.88	660.92	567.86	1,186.57
55	20	119	54.54	0.4	6.74	81.86	8.11	572.1	620.42	538.16	1,087.69
27.5	10	79	36.11	0.45	5.1	80.06	5.36	529.72	531.32	466.16	932.31

### General Performance Data 2

GEN W/F EKW	PERCENT LOAD	ENGINE POWER BHP	COMPRESS OUT PRESS IN-HG	COMPRESS OUT TEMP DEG F
275	100	434	45.69	294.62
247.5	90	394	40.93	277.34
220	80	354	36.22	259.88
206.3	75	334	33.91	250.34
192.5	70	314	31.57	240.44
165	60	274	27.01	220.46
137.5	50	235	22.48	199.94

110	40	198	18.12	179.42
82.5	30	159	13.77	158.54
68.8	25	139	11.58	147.92
55	20	119	9.45	137.48
27.5	10	79	6.57	121.82

## 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
275	100	6,881.3	3,253.0	15,809.8	7,904.9	2,377.2	3,167.6	18,425.8	44,642.9	47,543.2
247.5	90	6,540.0	2,468.1	14,729.3	7,279.3	2,161.1	2,820.8	16,719.7	40,605.1	43,221.1
220	80	6,198.8	1,757.3	13,591.9	6,710.6	1,950.6	2,479.5	15,013.7	36,624.2	39,012.7
206.3	75	6,028.2	1,615.1	12,966.3	6,312.6	1,854.0	2,280.5	14,160.6	34,747.5	37,022.3
192.5	70	5,857.6	1,478.6	12,340.8	5,971.3	1,751.6	2,092.8	13,307.5	32,927.7	35,031.9
165	60	5,516.4	1,245.4	11,032.8	5,175.2	1,558.2	1,728.8	11,658.3	29,231.1	31,107.8
137.5	50	5,175.2	1,023.7	9,667.9	4,435.9	1,359.2	1,387.6	10,009.1	25,534.6	27,240.7
110	40	4,833.9	818.9	8,303.0	3,582.8	1,171.5	1,074.8	8,359.9	21,951.8	23,373.5
82.5	30	4,435.9	608.5	6,881.3	2,729.8	972.5	790.5	6,710.6	18,255.2	19,449.5
68.8	25	4,265.2	489.1	6,142.0	2,274.8	870.1	659.7	5,914.5	16,378.5	17,459.1
55	20	4,037.8	352.6	5,459.5	1,876.7	773.4	534.6	5,061.4	14,501.8	15,468.6
27.5	10	3,639.7	125.1	4,208.4	1,080.5	585.8	375.3	3,355.3	10,975.9	11,715.2

**EMISSIONS DATA**

EPA TIER-II 2001 - 2005 \*\*\*\*\* C3  
 Gaseous emissions data measurements are consistent with those described in  
 EPA 40 CFR PART 89 SUBPART D 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-2	CO:3.5	NOx + HC:6.4	PM:0.2	
Europe	EU/Stage-II	CO:3.5	HC:1.0	NOx:6.0	PM:0.2

EU STAGE-2 2002 - 2009 \*\*\*\*\* C3  
 Gaseous emissions data measurements are consistent with those described in  
 EPA 40 CFR PART 89 SUBPART D 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:

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Europe	EU/Stage-II	CO:3.5	HC:1.0	NOx:6.0	PM:0.2

REFERENCE EXHAUST STACK DIAMETER	5 IN
WET EXHAUST MASS	4,733.3 LB/HR
WET EXHAUST FLOW (770.00 F STACK TEMP )	2,487.92 CFM
WET EXHAUST FLOW RATE ( 32 DEG F AND 29.98 IN HG )	989.00 STD CFM
DRY EXHAUST FLOW RATE ( 32 DEG F AND 29.98 IN HG )	905.82 STD CFM
FUEL FLOW RATE	21 GAL/HR

**RATED SPEED "Potential site variation"**

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
275	100	434	5.2600	.2800	.1000	.0600	11.6000
206.3	75	334	3.6500	.3100	.0600	.0600	12.8000
137.5	50	235	2.2300	.3900	.0800	.0700	13.7000
68.8	25	139	1.3800	.5000	.1000	.0600	15.2000
27.5	10	79	.9700	.7100	.1400	.0600	16.5000

**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
275	100	434	4.3500	.1500	.0500	443.1	.0300	11.6000
206.3	75	334	3.0200	.1700	.0300	357.8	.0300	12.8000
137.5	50	235	1.8400	.2100	.0400	264.1	.0400	13.7000
68.8	25	139	1.1400	.2700	.0500	170.4	.0300	15.2000
27.5	10	79	.8000	.3800	.0700	114.4	.0300	16.5000

**Altitude Capability Data(Corrected Power Altitude Capability)**

<b>Ambient Operating Temp.</b>	<b>50 F</b>	<b>68 F</b>	<b>86 F</b>	<b>104 F</b>	<b>122 F</b>	<b>NORMAL</b>
<b>Altitude</b>						
0 F	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp
984.25 F	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp
1,640.42 F	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp	434.49 hp
3,280.84 F	434.49 hp	434.49 hp	434.49 hp	434.49 hp	426.44 hp	434.49 hp
4,921.26 F	434.49 hp	434.49 hp	427.79 hp	413.03 hp	400.96 hp	434.49 hp
6,561.68 F	430.47 hp	415.72 hp	402.31 hp	388.9 hp	376.83 hp	419.74 hp
8,202.1 F	403.65 hp	390.24 hp	376.83 hp	364.76 hp	354.03 hp	398.28 hp
9,842.52 F	379.51 hp	366.1 hp	354.03 hp	343.3 hp	332.57 hp	378.17 hp
11,482.94 F	355.37 hp	343.3 hp	332.57 hp	321.84 hp	312.46 hp	359.39 hp
13,123.36 F	333.91 hp	321.84 hp	311.12 hp	301.73 hp	292.34 hp	340.62 hp
14,763.78 F	312.46 hp	301.73 hp	292.34 hp	282.96 hp	273.57 hp	321.84 hp

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

**Identification Reference and Notes**

<b>Engine Arrangement:</b>	2035531	<b>Lube Oil Press @ Rated Spd(PSI):</b>	63.8
<b>Effective Serial No:</b>	3PG00001	<b>Piston Speed @ Rated Eng SPD (FT/Min):</b>	1,974.4
<b>Primary Engine Test Spec:</b>	0K3091	<b>Max Operating Altitude(FT):</b>	5,413.4
<b>Performance Parm Ref:</b>	TM5739	<b>PEEC Elect Control Module Ref</b>	
<b>Performance Data Ref:</b>	DM6199	<b>PEEC Personality Cont Mod Ref</b>	
<b>Aux Coolant Pump Perf Ref:</b>			
<b>Cooling System Perf Ref:</b>		<b>Turbocharger Model</b>	GT5002-1.41VTF
<b>Certification Ref:</b>	EPA,EC,CARB	<b>Fuel Injector</b>	
<b>Certification Year:</b>	2001	<b>Timing-Static (DEG):</b>	--
<b>Compression Ratio:</b>	16.1	<b>Timing-Static Advance (DEG):</b>	--
<b>Combustion System:</b>	DI	<b>Timing-Static (MM):</b>	--
<b>Aftercooler Temperature (F):</b>	--	<b>Unit Injector Timing (MM):</b>	--
<b>Crankcase Blowby Rate(CFH):</b>	--	<b>Torque Rise (percent)</b>	--
<b>Fuel Rate (Rated RPM) No Load (Gal/HR):</b>	--	<b>Peak Torque Speed RPM</b>	--
<b>Lube Oil Press @ Low Idle Spd(PSI):</b>	60.2	<b>Peak Torque (LB.FT):</b>	--

**Reference** XQ300 RENTAL GENSET PACKAGE  
**Number: DM6199** CORE ARRANGEMENT: 204-7196  
 EPA TIER-II 20012005C3EU STAGE-2 20022009C3

**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.

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Generator Power	+/- 5%
Inlet Airflow	+/- 5%
Intake Manifold Pressure-gage	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Fuel Rate	+/- 5%
Heat Rejection	+/- 5%
Heat Rejection - Exhaust Only	+/- 10%

### **T4i Tolerance Exceptions**

**C15:** Power Tolerance +4% , -0%  
**C27:** Power Tolerance +0% , -4%

### **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.

**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.

**SOUND DEFINITIONS:**

Sound Power : [DM8702](#)

Sound Pressure : [TM7080](#)

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