

## Standby & Prime: 60Hz, 220V (3 Phase)



Engine Model	Cat® C18 ATAAC™ In-line 6, 4-cycle diesel
Bore x Stroke	145 mm x 183 mm (5.71 in x 7.2 in)
Displacement	18.13 L (1106.36 in <sup>3</sup> )
Compression Ratio	14.5:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

Standby	Prime	Performance Strategy
550 ekW, 688 kVA	500 ekW, 625 kVA	Low BSFC

## PACKAGE PERFORMANCE

Performance	Standby		Prime	
Frequency	60 Hz		60 Hz	
Genset Power Rating	688 kVA		625 kVA	
Gen set power rating with fan @ 0.8 power factor	550 ekW		500 ekW	
Fuelling strategy	Low BSFC		Low BSFC	
Performance Number	DM9832-01		DM9831-01	
<b>Fuel Consumption</b>				
100% Load with Fan	147.8 L/hr	39.1 gal/hr	133.9 L/hr	35.4 gal/hr
75% Load with Fan	107.9 L/hr	28.5 gal/hr	101.1 L/hr	26.7 gal/hr
50% Load with Fan	73.9 L/hr	19.5 gal/hr	70.8 L/hr	18.7 gal/hr
25% Load with Fan	43.6 L/hr	11.5 gal/hr	43.3 L/hr	11.4 gal/hr
<b>Cooling System<sup>1</sup></b>				
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water	0.12 kPa	0.48 in. Water
Radiator air flow	481 m <sup>3</sup> /min	16986 cfm	481 m <sup>3</sup> /min	16986 cfm
Engine coolant capacity	20.8 L	5.5 gal	20.8 L	5.5 gal
Radiator coolant capacity	37.0 L	9.7 gal	37.0 L	9.7 gal
Total coolant capacity	57.8 L	15.2 gal	37.0 L	9.7 gal
<b>Inlet Air</b>				
Combustion Air Inlet Flow Rate	44.6 m <sup>3</sup> /min	1574.9 cfm	42.0 m <sup>3</sup> /min	1483.1 cfm
Max. Allowable Combustion Air Inlet Temp	48.4 °C	119.1 °F	48.0 °C	118.4 °F
<b>Exhaust System</b>				
Exhaust Stack Gas Temperature	487.9 °C	910.2 °F	466.0 °C	870.8 °F
Exhaust Gas Flow Rate	119.9 m <sup>3</sup> /min	4233.7 cfm	109.5 m <sup>3</sup> /min	3866.8 cfm
Exhaust System Backpressure (Maximum Allowable)	10.0 kPa	40.0 in. water	10.0 kPa	40.0 in. water
<b>Heat Rejection</b>				
Heat Rejection to Jacket Water	172 kW	9781 Btu/min	161 kW	9156 Btu/min
Heat Rejection to Exhaust (Total)	523 kW	29742 Btu/min	468 kW	26617 Btu/min
Heat Rejection to Aftercooler	125 kW	7109 Btu/min	109 kW	6199 Btu/min
Heat Rejection to Atmosphere from Engine	138 kW	7848 Btu/min	124 kW	7052 Btu/min
Heat Rejection to Atmosphere from Generator	26.4 kW	1501 Btu/min	29.8kW	1695 Btu/min

Emissions (Nominal) <sup>2</sup>	Standby		Prime	
NOx	3374.3 mg/Nm <sup>3</sup>	6.8 g/hp-hr	3530.2 mg/Nm <sup>3</sup>	7.0 g/hp-hr
CO	75.0 mg/Nm <sup>3</sup>	0.2 g/hp-hr	87.1 mg/Nm <sup>3</sup>	0.2 g/hp-hr
HC	4.0 mg/Nm <sup>3</sup>	0.0 g/hp-hr	4.8 mg/Nm <sup>3</sup>	0.0 g/hp-hr
PM	6.4 mg/Nm <sup>3</sup>	0.0 g/hp-hr	5.8 mg/Nm <sup>3</sup>	0.0 g/hp-hr
Alternator <sup>3</sup>	Standby		Prime	
Voltages	380V			
Motor Starting Capability @ 30% Voltage Dip	1629 skVA			
Current	1806 amps		1640 amps	
Frame Size	GTA312AE47			
Excitation	Auxiliary Coil			
Temperature Rise	150 ° C		125 ° C	

## DEFINITIONS AND CONDITIONS

<sup>1</sup> For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

<sup>2</sup> 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.

<sup>3</sup> 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.

## 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, 2006/95/EC, 2006/42/EC, 2004/108/EC.

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

**STANDBY:** Output available with varying load for the duration of the interruption of the normal source power. 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:** 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 kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 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/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

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