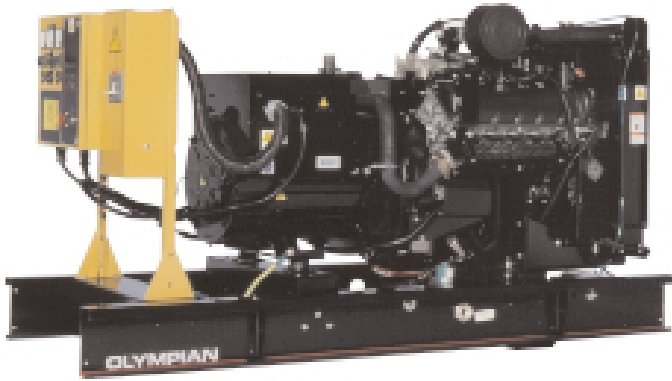


Exclusively from your Caterpillar® dealer



STANDBY 60-75 kVA
PRIME 51-68 kVA
50Hz
60Hz

Output Ratings

Generating Set Model	G60F3					
	Prime*	LPG	Standby*	Prime*	Nat Gas	Standby*
380-415V, 50Hz	51.0 kVA 40.8 kW		60 kVA 48.0 kW	51.0 kVA 40.8 kW		60.0 kVA 48.0 kW
480V, 60 Hz	68.8 kVA 55.0 kW		75.0 kVA 60.0 kW	68.8 kVA 55.0 kW		75.0 kVA 60.0 kW

* Refer to ratings definitions on page 5. Ratings at 0.8 pf

Overview

Engine Make & Model	Ford WSG 1068	
Alternator Model	LL2014H	
Base Frame Type	Heavy Duty Fabricated Steel	
Circuit Breaker Type / Rating	3 Pole MCCB	
Frequency	50 Hz	60 Hz
Engine Speed	1500	1800
Fuel Consumption m ³ /hr (cfh) LPG	6.2 (218)	7.4 (260)
Fuel Consumption m ³ /hr (cfh) NG	16.7 (590)	20.4 (719)

Weight kg (lbs)

Dimensions mm (in)

Wet (+ lube oil and coolant)	898 (1976)	Length	2400 (96.0)
		Width	918 (36.7)
		Height	1364 (54.6)

Engine Technical Data

Physical Data		Air System	50 Hz	60 Hz	
Manufacturer:	Ford	Air filter Type:	Replaceable Element		
Model:	WSG 1068	Combustion Air Flow LPG:			
No. of Cylinders/Alignment:	V8	m ³ /min (cfm)			
Cycle:	4 Stroke	- Standby:	2.8 (101)	3.4 (122)	
Induction:	Natural	- Prime:	2.5 (90.0)	3.0 (109)	
Cooling Method:	Water	Combustion Air Flow Natural Gas:			
Governing Type:	Electronic	m ³ /min (cfm)			
Class:	ISO 8528 G2	- Standby:	2.8 (101)	3.4 (122)	
Compression Ratio:	9.0:1	- Prime:	2.5 (90.0)	3.0 (109)	
Displacement: L (cu.in):	6.8 (415)	Max. Combustion Air Intake Restriction:			
Bore/Stroke: mm (in)	90.2 (3.55) / 105.8 (4.16)	kPa (in H ₂ O)	2.5 (10.1)	2.5 (10.1)	
Engine Electrical System:		Radiator Cooling Airflow:			
-Voltage/Ground	12/Negative	m ³ /min (cfm)	196 (6916)	239 (8433)	
-Battery Charger Amps	110	External Restriction to Cooling Airflow:			
Weight: kg (lbs) - (incl. lube oil)	898 (1976)	Pa (in Wg)	125 (0.5)	125 (0.5)	
Performance	50 Hz	60 Hz	Cooling System	50 Hz	60Hz
Engine Speed: rpm	1500	1800	Cooling System Capacity:		
Gross Engine Power: kW (hp)			L (US Gal)	20 (5.3)	20 (5.3)
- Standby:	72.1 (96.6)	90.1 (121.7)	Water Pump Type:	Centrifugal	
- Prime:	64.2 (86.0)	80.2 (108.3)	Heat Rejected to Water & Lube Oil: kW (Btu/min)		
BMEP: kPa (psi)			- Standby:	37.5 (2133)	45.5 (2587)
- Standby:	848 (122.9)	897 (130.0)	- Prime:	33.4 (1898)	40.5 (2302)
- Prime:	755 (109.5)	798 (115.7)	Heat Radiation to Room kW (Btu/min)		
			- Standby:	21.3 (1212)	26.0 (1479)
			- Prime:	18.9 (1079)	23.1 (1316)
			Radiator Fan Load: kW (hp)		
				1.22 (1.65)	2.10 (2.80)
Lubrication System					
Oil Filter Type:	Spin-On, Full Flow				
Total Oil Capacity L (US Gal)	5.7 (1.5)				
Oil Pan L (US Gal):	4.7 (1.2)				
Oil Type:	API CF-4				
Cooling Method	Water				

Exhaust System		50 Hz	60 Hz	
Max. Allowable Back Pressure: kPa (in H ₂ O)		15.3 (61.6)	15.3 (61.6)	
Exhaust Gas Flow:				
LPG: m ³ /min (cfm)	- Standby:	11.5 (407)	14.0 (495)	
	- Prime:	10.2 (362)	12.5 (441)	
Natural Gas: m ³ /min (cfm)	- Standby:	11.5 (407)	14 (495)	
	- Prime:	10.2 (362)	12.5 (441)	
Exhaust Gas Temperature: °C (°F)				
LPG: °C (°F)	- Standby:	599 (1110)	628 (1162)	
	- Prime:	580 (1076)	610 (1130)	
Natural Gas: °C (°F)	- Standby:	580 (1075)	610 (1130)	
	- Prime:	560 (1040)	580 (1076)	
Fuel System				
Fuel Filter Type: Replaceable Element				
Recommended Fuel: Natural Gas with lower calorific value of 34.71MJ/m ³ and minimum methane number of 70				
LPG				
Fuel Consumption LPG: m ³ /hr (cfh)				
	110%	100%	75%	50%
Prime	Load	Load	Load	Load
50 Hz	6.2 (219)	5.3 (187)	4.0 (141)	2.7 (95.3)
60 Hz	7.4 (261)	6.5 (230)	4.9 (173)	3.3 (117)
Standby				
50 Hz	n/a	6.2 (219)	4.7 (166)	3.2 (113)
60 Hz	n/a	7.4 (261)	5.6 (198)	3.8 (134)
Fuel Consumption Natural Gas: m ³ /hr (cfh)				
	110%	100%	75%	50%
Prime	Load	Load	Load	Load
50 Hz	16.7 (590)	15.1 (533)	11.3 (399)	7.7 (272)
60 Hz	20.4 (720)	18.6 (657)	14.0 (494)	9.5 (335)
Standby				
50 Hz	n/a	16.7 (590)	12.7 (448)	8.5 (300)
60 Hz	n/a	20.4 (720)	15.3 (540)	10.3 (364)

Alternator Performance Data

	50 Hz				60 Hz				
Data Item	415/240	400/230	380/220	220/127	480/227	380/220	240/120	230/115	220/127
		230/115	220/110		240/139	220/110	208/120		440/254
		200/115							
Motor Starting Capability* kVA	150	140	125	164	165	109	125	119	140
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	2.45	2.64	2.92	2.18	2.52	4.02	3.35	3.63	3.0
X'd	0.09	0.1	0.11	0.08	0.09	0.15	0.12	0.13	0.11
X''d	0.045	0.048	0.054	0.04	0.046	0.074	0.061	0.066	0.055

Reactances shown are applicable to prime ratings

* Based on 30% voltage dip. Improved motor starting is available with optional AREP excitation

** With optional AREP excitation

Alternator Technical Data

Physical Data		Operating Data	
Manufacturer:	Leroy Somer	Overspeed: RPM	2250
Model:	LL2014H	Voltage Regulation (steady state)	+/- 5%
No. of Bearings:	1	Wave Form NEMA =TIF	<50
Insulation Class:	H	Wave Form IEC=THF	<2%
Winding Pitch Code:	2/3 (No. 6)	Total Harmonic Content LL/LN	<4%
Wires:	12	Radio Interference	Suppression is in line with British Standard BSEN50081 and BSEN50082
Ingress Protection Rating:	IP23	Radiant Heat: kW (Btu/min)	
Excitation System:	SHUNT	-50 Hz:	5.9 (336)
AVR Model:	R230	-60 Hz:	7.3 (415)

Technical Data

3 Phase Ratings and Performance at 50 Hz, 1500 RPM

3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Model: G60F3 Prime		Model: G60F3 Standby		Voltage	Model: G60F3 Prime		Model: G60F3 Standby	
	kVA	kW	kVA	kW		kVA	kW	kVA	kW
415/240	51.0	40.8	60.0	48.0	480/277	60.0	48.0	75.0	60.0
400/230	51.0	40.8	60.0	48.0	440/254	60.0	48.0	75.0	60.0
380/220	51.0	40.8	60.0	48.0	380/220	60.0	48.0	75.0	60.0
230/115	51.0	40.8	60.0	48.0	240/139	60.0	48.0	75.0	60.0
220/127	51.0	40.8	60.0	48.0	240/120	60.0	48.0	75.0	60.0
220/110	51.0	40.8	60.0	48.0	230/115	60.0	48.0	75.0	60.0
200/115	51.0	40.8	60.0	48.0	220/127	60.0	48.0	75.0	60.0
					220/110	60.0	48.0	75.0	60.0
					208/120	60.0	48.0	75.0	60.0

These ratings are based on generating set performance using LPG fuel.

Definitions

Standby Rating

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO8528-3).

Standby Rating

These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

Standard Reference Conditions

Ratings in accordance with ISO8528. All engine performance data based on the above mentioned maximum continuous ratings.

Fuel Consumption data assumes complete combustion of LPG fuel with a calorific value of 95MJ/m³ and of Natural gas with a calorific value of 34.4MJ/m³.

General Data

Documents

A full set of operation and maintenance manuals, circuit wiring diagrams, and commissioning/fault finding instruction leaflets.

Generating Set Standards

The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, VDE 0530.

Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact your local dealer.

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