

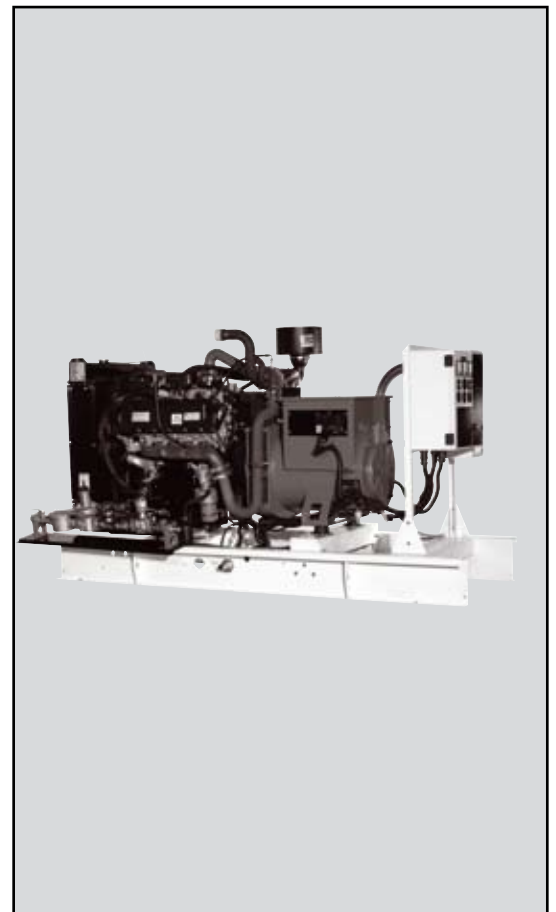
FG51P1/FG60E1



Output Ratings				
Generating Set Model	FG51P1/FG60E1			
	LPG		Nat Gas	
	Prime*	Standby*	Prime*	Standby*
380 – 415V, 50 Hz	51.0 kVA	60.0 kVA	51.0 kVA	60.0 kVA
	40.8 kW	48.0 kW	40.8 kW	48.0 kW
480V, 60 Hz	68.8 kVA	75.0 kVA	68.8 kVA	75.0 kVA
	55.0 kW	60.0 kW	55.0 kW	60.0 kW

* Refer to ratings definitions on page 4.
Ratings at 0.8 pf

Technical Data		
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 Consump m ³ /hr (cfh) LPG	6.2 (218)	7.4 (260)
Fuel Consump m ³ /hr (cfh) NG	16.7 (590)	20.4 (719)



Weights & Dimensions

Weights: kg (lbs)		Dimensions: mm (in)	
Wet (+ lube oil & coolant)	898 (1976)	Length	2400 (96.0)
		Width	918 (36.7)
		Height	1364 (54.6)



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Northern Ireland • Brazil • China • India • USA

With headquarters in Northern Ireland, FG Wilson operates through a Global Dealer Network. To contact your local Sales Office please visit the FG Wilson website at

www.FGWilson.com



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:	V10	m ³ /min (cfm) -Standby:	2.8 (101)	3.4 (122)	
Cycle:	4 Stroke	-Prime:	2.5 (90.0)	3.0 (109)	
Induction:	Natural	Combustion Air Flow Natural Gas:			
Cooling Method:	Water	m ³ /min (cfm) -Standby:	2.8 (101)	3.4 (122)	
Governing Type:	Electronic	-Prime:	2.5 (90.0)	3.0 (109)	
Class:	ISO 8528 G2	Max. Combustion Air Intake			
Compression Ratio:	9.0:1	Restriction: kPa (in H ₂ O)	2.5 (10.1)	2.5 (10.1)	
Displacement: L (cu.in):	6.8 (415)	Radiator Cooling Airflow:			
Bore/Stroke: mm (in)	90.2 (3.55) / 105.8 (4.16)	m ³ /min (cfm)	196 (6916)	239 (8433)	
Engine Electrical System:		External Restriction to			
-Voltage/Ground	12/Negative	Cooling Airflow: Pa (in Wg)	125 (0.5)	125 (0.5)	
-Battery Charger Amps	110				
Weight: kg (lbs) - (includes lube oil)	898 (1976)				
Performance		Cooling System		50 Hz	60 Hz
Engine Speed: rpm	1500	1800	Cooling System Capacity:		
Gross Engine Power:			L (US Gal)	20 (5.3)	20 (5.3)
kW (hp) -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)
Fuel System		Lubrication System			
Fuel Filter Type:	Replaceable Element	Oil Filter Type:	Spin-On, Full Flow		
Recommended Fuel:	Natural Gas with lower calorific value of 34.71MJ/ m ³ and minimum methane number of 70 LPG	Total Oil Capacity L (US Gal)	5.7 (1.5)		
Fuel Consumption LPG: m ³ /hr (cfh)		Oil Pan L (US Gal):	4.7 (1.2)		
		Oil Type:	API CF-4		
		Cooling Method	Water		
Prime		Exhaust System		50 Hz	60 Hz
110% Load	100% Load	75% Load	50% 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		Max. Allowable Back Pressure: kPa (in H ₂ O)		15.3 (61.6)	15.3 (61.6)
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)		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)	
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

Data Item	50 Hz				60 Hz				
	415/240	400/230 230/115 200/115	380/220 220/110	220/127	480/227 240/139	380/220 220/110	240/120 208/120	230/115	220/127 440/254
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									
X_d	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:	FG Wilson	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: FG51P1 Prime		Model: FG60E1 Standby		Voltage	Model: FG51P1 Prime		Model: FG60E1 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).

Prime 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.

FG Wilson is a fully accredited ISO9001 company.

Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact your local dealer, or visit our website, www.FGWilson.com

