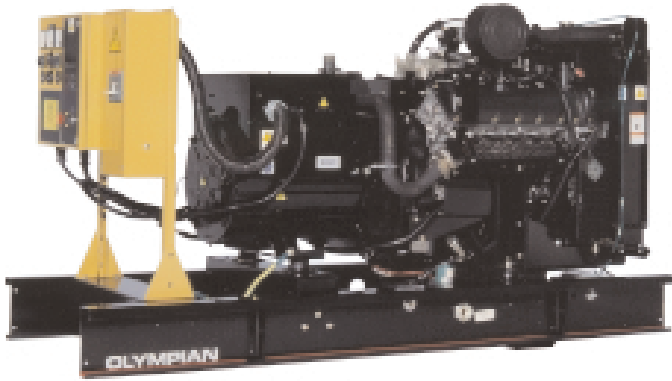


Exclusively from your Caterpillar® dealer



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.

Energy Power Systems Australia Pty Ltd
ABN 80 055 274 514

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