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Image for illustration purposes only.

# P438-1

## Output Ratings

Voltage, Frequency	Prime	Standby
-	- / -	- / -
<b>480V, 60 Hz</b>	400.0 kVA / 320.0 kW	437.5 kVA / 350.0 kW

Ratings at 0.8 power factor.

Please refer to the output ratings technical data section for specific generator set outputs per voltage.

## Prime Rating

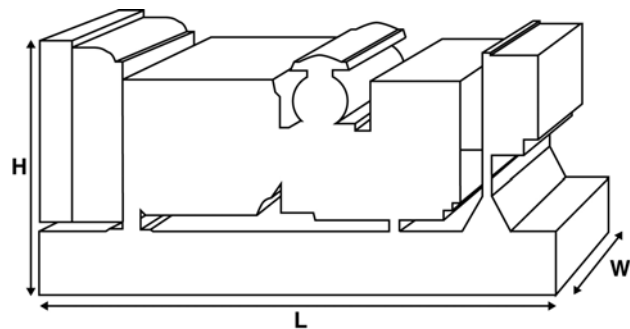
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

## 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 ISO 8528-3).

## Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m (328 ft) A.S.L. 30% relative humidity.  
Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.



## Ratings and Performance Data

<b>Engine Make &amp; Model:</b>	Perkins® 2206A-E13TAG5	
<b>Alternator manufactured for FG Wilson by:</b>	Leroy Somer	
<b>Alternator Model:</b>	LL6114B	
<b>Control Panel:</b>	PowerWizard 1.1+	
<b>Base Frame:</b>	Heavy Duty Fabricated Steel	
<b>Circuit Breaker Type:</b>	3 Pole MCCB	
<b>Frequency:</b>	<b>50 Hz</b>	<b>60 Hz</b>
<b>Engine Speed: RPM</b>	-	1800
<b>Fuel Tank Capacity:</b> litres (US gal)	888 (234.6)	
<b>Fuel Consumption: l/hr (US gal/hr)</b> (100% Load)	- Prime	80.9 (21.4)
	- Standby	88.0 (23.2)

## Available Options

FG Wilson offer a range of optional features to tailor our generating sets to meet your power needs. Options include:

- Upgrade to CE Certification
- A wide range of Sound Attenuated Enclosures
- A variety of generating set control and synchronising panels
- Additional alarms and shutdowns
- A selection of exhaust silencer noise levels

For further information on all of the standard and optional features accompanying this product please contact your local Dealer or visit: [www.FGWilson.com](http://www.FGWilson.com)

## Dimensions and Weights

Length (L) mm (in)	Width (W) mm (in)	Height (H) mm (in)	Dry kg (lb)	Wet kg (lb)
3800 (149.6)	1131 (44.5)	2156 (84.9)	3183 (7017)	3241 (7145)

Dry = With Lube Oil

Wet = With Lube Oil and Coolant

Ratings in accordance with ISO 8528, ISO 3046, IEC 60034, BS5000 and NEMA MG-1.22. Generating set pictured may include optional accessories.

## Engine Technical Data

<b>No. of Cylinders / Alignment:</b>	6 / In Line
<b>Cycle:</b>	4 Stroke
<b>Bore / Stroke:</b> mm (in)	130.0 (5.1)/157.0 (6.2)
<b>Induction:</b>	Turbocharged Air To Air Charge Cooled
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Electronic
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	16.3:1
<b>Displacement:</b> l (cu. in)	12.5 (762.8)
<b>Moment of Inertia:</b> kg m <sup>2</sup> (lb/in <sup>2</sup> )	2.77 (9465)
<b>Engine Electrical System:</b>	
- Voltage / Ground	24/Negative
- Battery Charger Amps	70
<b>Weight:</b> kg (lb)	
- Dry	1301 (2868)
- Wet	1351 (2978)

## Performance

	50 Hz	60 Hz
<b>Engine Speed:</b> rpm	-	1800
<b>Gross Engine Power:</b> kW (hp)		
- Prime	-	373.4 (501.0)
- Standby	-	406.5 (545.0)
<b>BMEP:</b> kPa (psi)		
- Prime	-	1991.0 (288.8)
- Standby	-	2168.0 (314.4)

## Fuel System

<b>Fuel Filter Type:</b>	Replaceable Element			
<b>Recommended Fuel:</b>	Class A2 Diesel or BSEN590			
<b>Fuel Consumption:</b> l/hr (US gal/hr)				
	110%	100%	75%	50%
<b>Prime</b>	<b>Load</b>	<b>Load</b>	<b>Load</b>	<b>Load</b>
50 Hz	-	-	-	-
60 Hz	88.0 (23.2)	80.9 (21.4)	62.1 (16.4)	43.4 (11.5)
		100%	75%	50%
<b>Standby</b>		<b>Load</b>	<b>Load</b>	<b>Load</b>
50 Hz	-	-	-	-
60 Hz	88.0 (23.2)	67.5 (17.8)	47.0 (12.4)	

(Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)

## Air Systems

	50 Hz	60 Hz
<b>Air Filter Type:</b>	Non Canister	
<b>Combustion Air Flow:</b> m <sup>3</sup> /min (cfm)		
- Prime	-	23.8 (840)
- Standby	-	25.7 (908)
<b>Max. Combustion Air Intake Restriction:</b> kPa (in H <sub>2</sub> O)	-	6.4 (25.7)

## Cooling System

	50 Hz	60 Hz
<b>Cooling System Capacity:</b> l (US gal)	-	45.2 (11.9)
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil:</b>		
kW (Btu/min)	- Prime	137.5 (7819)
	- Standby	148.9 (8468)
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)	- Prime	67.6 (3844)
	- Standby	73.2 (4163)
<b>Radiator Fan Load:</b> kW (hp)	-	19.0 (25.5)
<b>Radiator Cooling Airflow:</b> m <sup>3</sup> /min (cfm)	-	538.2 (19006)
<b>External Restriction to Cooling Airflow:</b> Pa (in H <sub>2</sub> O)	-	125 (0.5)

Designed to operate in ambient conditions up to 50°C (122°F).  
Contact your local FG Wilson Dealer for power ratings at specific site conditions.

## Lubrication System

<b>Oil Filter Type:</b>	Eco, Full Flow
<b>Total Oil Capacity:</b> l (US gal)	40.0 (10.6)
<b>Oil Pan:</b> l (US gal)	38.0 (10.0)
<b>Oil Type:</b>	API CH4 SAE15W-40
<b>Oil Cooling Method:</b>	Water

## Exhaust System

	50 Hz	60 Hz
<b>Maximum Allowable Back Pressure:</b> kPa (in Hg)	-	10.0 (3.0)
<b>Exhaust Gas Flow:</b> m <sup>3</sup> /min (cfm)		
- Prime	-	67.5 (2384)
- Standby	-	74.5 (2631)
<b>Exhaust Gas Temperature:</b> °C (°F)		
- Prime	-	618 (1145)
- Standby	-	680 (1256)

Alternator Physical Data	
Manufactured for FG Wilson by:	Leroy Somer
Model:	LL6114B
No. of Bearings:	1
Insulation Class:	H
Winding Pitch Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R250

Alternator Operating Data	
Overspeed: rpm	2250
Voltage Regulation: (Steady state)	+/- 0.5%
Wave Form NEMA = TIF:	50
Wave Form IEC = THF:	2.0%
Total Harmonic content LL/LN:	4.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
- 50 Hz	-
- 60 Hz	25.9 (1473)

Alternator Performance Data:	50 Hz	60 Hz		
<b>Data Item</b>		480/277V 240/139V	380/220V	440/254V 220/127V
Motor Starting Capability* kVA		880	572	751
Short Circuit Capacity** %		300	300	300
Reactances: Per Unit				
Xd		3.060	4.886	3.645
X'd		0.180	0.280	0.210
X''d		0.123	0.197	0.147

Reactances shown are applicable to prime ratings.  
 \*Based on 30% voltage dip at 0.6 power factor and SHUNT excitation.  
 \*\*With optional permanent magnet generator or AREP excitation.

Output Ratings Technical Data 50 Hz				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW

Output Ratings Technical Data 60 Hz				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
480/277V	400.0	320.0	437.5	350.0
220/127V	400.0	320.0	437.5	350.0
380/220V	400.0	320.0	437.2	349.8
440/254V	400.0	320.0	437.5	350.0
240/139V	400.0	320.0	437.5	350.0

**Documentation**

A full set of operation and maintenance manuals and circuit wiring diagrams.

**Generating Set Standards**

The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

FG Wilson is a fully accredited ISO 9001 company.

**Warranty**

All prime equipment carries a one year manufacturer's warranty. Standby equipment, limited to 500 running hours per year, has a two year manufacturer's warranty. For details on warranty cover please contact your local Dealer, or visit our website: [FGWilson.com](http://FGWilson.com).

**Dealer contact details:**

**FG Wilson manufactures product in the following locations:**

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](http://www.FGWilson.com).

FG Wilson is a trading name of Caterpillar (NI) Limited.

In line with our policy of continuous product development, we reserve the right to change specification without notice.