



www.FGWilson.com

# P688ER2



## Output Ratings

Generating Set Model	P688ER2
	<b>Emergency Rating</b>
480V, 60 Hz	688.0 kVA / 550.4 kW

Ratings at 0.8 pf

## Definitions

### Emergency Rating

(Models with suffix "ER") - these ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure, up to a maximum of 200 hours per year. No overload is permitted on these ratings. Exceeding 200 hours operation per year may result in a reduced product life.

### Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m (328ft) A.S.L. 30% relative humidity. All engine performance data based on the above mentioned maximum continuous ratings. 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

Engine Make and Model	Perkins 2506C-E15TAG4
Alternator manufacturer for FG Wilson by:	Leroy Somer
Alternator Model:	LL6114G
Control Panel:	PowerWizard 1.0
Base Frame:	Heavy Duty Fabricated Steel
Circuit Breaker Type:	3 Pole MCCB
Frequency:	<b>60 Hz</b>
Engine Speed: RPM:	1800
Fuel Tank Capacity litres (US gal)	928 (245.2)
Fuel Consumption: l/hr (US gal/hr) (100% load)	151 (39.9)

## 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

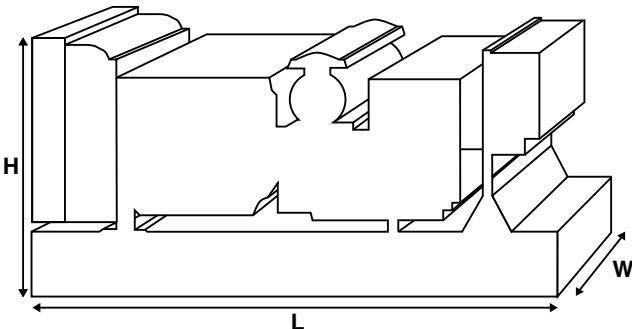
For further information on all of the standard and optional features accompanying this product please contact your local Dealer or visit: [www.FGWilson.com](http://www.FGWilson.com)

## Dimensions and Weights

Length (L) mm (in)	Width (W) mm (in)	Height (H) mm (in)	Dry kg (lb)	Wet kg (lb)
3700 (145.7)	1100 (43.3)	2143 (84.4)	3942 (8691)	3980 (8774)

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..



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## Engine Technical Data

No. of Cylinders/Alignment:	6 in-line
Cycle:	4 Stroke
Bore/Stroke: mm (in)	135.0 (5.3)/167.0 (6.6)
Induction:	Turbocharged Air to Air Charge Cooled
Cooling Method:	Water
Governing Type:	Electronic
Governing Class:	ISO 8528 G2
Compression Ratio:	16.0:1
Displacement: l (cu.in):	15.2 (927.6)
Moment of Inertia: kg m <sup>2</sup> (lb/in <sup>2</sup> )	4.29 (14660)
Engine Electrical System:	
-Voltage/Ground	24 / Negative
-Battery Charger Amps	70
Weight: kg (lb)	
- Dry	1633 (3600)
- Wet	1714 (3779)

## Performance

Engine Speed: rpm	1800
Gross Engine Power: kW (hp)	609.0 (817.0)
BMEP: kPa (psi)	2831.0 (410.6)

## Fuel Systems

Fuel Filter Type:	Replaceable Element
Recommended Fuel:	Class A2 Diesel
Fuel Consumption: l/hr (US gal/hr)	

P688ER2	110% Load	100% Load	75% Load	50% Load
-	151.0 (39.9)	113.0 (29.9)	88.0 (23.3)	

(Based on diesel fuel with a specific gravity of 0.82 and conforming to BS2869, Class A2).

## Air Systems

Air Filter Type:	Paper Element 18"
Combustion Air Flow: m <sup>3</sup> /min (cfm)	44.1 (1557)
Max. Combustion Air Intake Restriction: kPa (in H <sub>2</sub> O)	6.2 (24.9)

## Cooling System

Cooling System Capacity: l (US gal)	38.3 (10.1)
Water Pump Type:	Centrifugal
Heat Rejected to Water & Lube Oil: kW (Btu/min)	211.0 (11999)
Heat Radiation to Room: kW (Btu/min)	116.0 (6597)
Radiator Cooling Airflow: m <sup>3</sup> /min (cfm)	822.0 (29029)

Cooling system 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

Oil Filter Type:	Eco, Full Flow
Total Oil Capacity: l (US gal)	62.0 (16.4)
Oil Pan: l (US gal)	53.0 (14.0)
Oil Type:	AP CI4 15W-40
Oil Cooling Method:	Water

## Exhaust System

Silencer Type:	Level 1
Silencer Model & Qty:	SD150 (1)
Pressure Drop Across Silencer System: kPa (in Hg)	0.59 (0.173)
Silencer Noise Reduction Level: dB	11.0
Max. Allowable Back Pressure: kPa (in Hg)	6.8 (2.0)
Exhaust Gas Flow: m <sup>3</sup> /min (cfm)	105.3 (3719)
Exhaust Gas Temperature: °C (°F):	511 (952)

## Alternator Physical Data

Manufactured for FG Wilson by:	FG Wilson
Model:	LL6114G
No. of Bearings:	1
Insulation Class:	H
Winding Pitch Code:	2/3 (No. 6)
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	Shunt
AVR Model:	R450

## Alternator Operating Data

Overspeed: RPM	2250
Voltage Regulation (steady state):	+/- 0.5
Wave Form NEMA = TIF:	50
Wave Form IEC = THF:	2%
Total Harmonic Content LL/LN:	2%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	60 Hz: 37.6 (2138)

## Alternator Performance Data:

Data Item	480/277V	380/220V	240/120V	230/115V	440/254V
	240/139V	220/110V	208/120V		220/127V
<b>Motor Starting Capability* kVA</b>	1445	944	1116	1038	1236
<b>Short Circuit Capacity** %</b>	300	300	300	300	300
<b>Reactances:</b>					
<b>Per Unit</b>					
X <sub>d</sub>	3.75	5.55	4.99	5.22	4.46
X' <sub>d</sub>	0.19	0.28	0.25	0.27	0.23
X'' <sub>d</sub>	0.134	0.199	0.179	0.187	0.160

Reactances shown are applicable to emergency ratings

\*Based on 30% voltage dip at 0.6 power factor.

\*\* With optional Permanent Magnet generator or AREP excitation.

## Voltage Technical Data

	Emergency Rating	
	kVA	kW
480/277	688.0	550.4
440/254	688.0	550.4
380/220	638.0	510.4
240/139	688.0	550.4
240/120	688.0	550.4
230/115	665.0	532.0
220/127	688.0	550.4
220/110	638.0	510.4
208/120	688.0	550.4

## General Information

### 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.  
EU Stage II Emissions Compliant.

### 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).

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