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# P400P5/P450E5



Image for illustration purposes only.

## Output Ratings

Generating Set Model	Prime*	Standby*
380-415V, 50Hz	400.0 kVA / 320.0 kW	450.0 kVA / 360.0 kW
480V, 60 Hz	438.0 kVA / 350.4 kW	500.0 kVA / 400.0 kW

Ratings at 0.8 power factor.

## Prime Rating

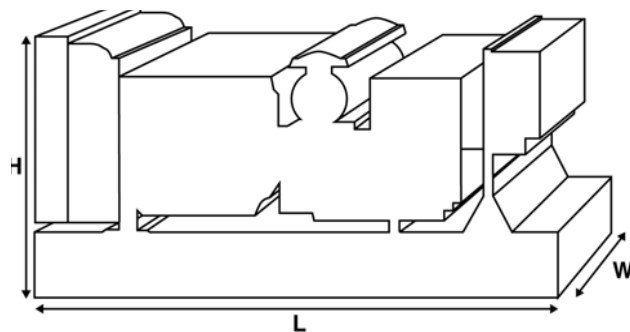
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

## 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

Engine Make & Model:	Perkins 2206A-E13TAG3/6	
Alternator manufactured for FG Wilson by:	Leroy Somer	
Alternator Model:	LL6114D	
Control Panel:	PowerWizard 1	
Base Frame:	Heavy Duty Fabricated Steel	
Circuit Breaker Type:	3 Pole MCCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Fuel Tank Capacity: litres (US gal)	867 (229.0)	
Fuel Consumption: l/hr (US gal/hr)		
(100% Load)	- Prime	81.6 (21.6) 92.8 (24.5)
	- Standby	90.1 (23.8) 102.8 (27.2)

## 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)
3500 (137.8)	1110 (43.7)	2158 (85.0)	2814 (6204)	2860 (6305)
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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Northern Ireland • Brazil • China • India • USA

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

Performance	50 Hz	60 Hz
Engine Speed: rpm	1500	1800
Gross Engine Power: kW (hp)		
- Prime	368.4 (494.0)	405.5 (544.0)
- Standby	412.5 (553.0)	460.7 (618.0)
BMEP: kPa (psi)		
- Prime	2357.0 (341.9)	2162.0 (313.6)
- Standby	2639.0 (382.8)	2457.0 (356.3)

Fuel System					
Fuel Filter Type:	Replaceable Element				
Recommended Fuel:	Class A2 Diesel				
Fuel Consumption: l/hr (US gal/hr)					
	110%	100%	75%	50%	
Prime	Load	Load	Load	Load	
50 Hz	90.1 (23.8)	81.6 (21.6)	63.7 (16.8)	44.9 (11.9)	
60 Hz	102.8 (27.2)	92.8 (24.5)	73.5 (19.4)	52.3 (13.8)	
	110%	100%	75%	50%	
Standby	Load	Load	Load	Load	
50 Hz		90.1 (23.8)	70.5 (18.6)	49.7 (13.1)	
60 Hz		102.8 (27.2)	82.0 (21.7)	58.5 (15.5)	

(Based on diesel fuel with a specific gravity of 0.84 and conforming to BS2869, Class A2)

Air Systems	50 Hz	60 Hz
Air Filter Type:	Paper Element 15"	
Combustion Air Flow: m <sup>3</sup> /min (cfm)		
- Prime	24.3 (858)	26.9 (950)
- Standby	26.4 (932)	29.0 (1024)
Max. Combustion Air Intake Restriction: kPa (in H <sub>2</sub> O)	6.4 (25.7)	6.4 (25.7)

Cooling System	50 Hz	60 Hz
Cooling System Capacity: l (US gal)	45.2 (11.9)	45.2 (11.9)
Water Pump Type:	Centrifugal	
Heat Rejected to Water & Lube Oil:		
kW (Btu/min)	- Prime	127.3 (7239) 146.4 (8326)
	- Standby	139.9 (7956) 162.2 (9224)
Heat Radiation to Room: Heat radiated from engine and alternator		
kW (Btu/min)	- Prime	34.0 (1934) 47.5 (2701)
	- Standby	40.0 (2275) 65.8 (3742)
Radiator Fan Load: kW (hp)	12.0 (16.1)	20.0 (26.8)
Radiator Cooling Airflow: m <sup>3</sup> /min (cfm)	599.4 (21168)	742.8 (26232)
External Restriction to Cooling Airflow: Pa (in H <sub>2</sub> O)	125 (0.5)	125 (0.5)

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)	40.0 (10.6)
Oil Pan: l (US gal)	38.0 (10.0)
Oil Type:	API CH4 SAE15W-40
Oil Cooling Method:	Water

Exhaust System	50 Hz	60 Hz
Silencer Type:	Industrial	
Silencer Model & Quantity:	243-6273 (1)	
Pressure Drop Across Silencer System: kPa (in Hg)	2.32 (0.685)	0.96 (0.283)
Silencer Noise Reduction Level: dB	11	20
Maximum Allowable Back Pressure: kPa (in Hg)	10.0 (3.0)	10.0 (3.0)
Exhaust Gas Flow: m <sup>3</sup> /min (cfm)		
- Prime	64.6 (2281)	67.5 (2384)
- Standby	72.5 (2560)	73.5 (2596)
Exhaust Gas Temperature: °C (°F)		
- Prime	630 (1166)	660 (1220)
- Standby	630 (1166)	660 (1220)

Alternator Physical Data	
Manufactured for FG Wilson by:	Leroy Somer
Model:	LL6114D
No. of Bearings:	1
Insulation Class:	H
Winding Pitch Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R450M

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:	2.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
- 50 Hz	23.8 (1353)
- 60 Hz	26.9 (1530)

Alternator Performance Data:	50 Hz			60 Hz		
	415/240V	400/230V	380/220V	480/277V	380/220V	440/254V 220/127V
Motor Starting Capability* kVA	987	923	840	1089	709	930
Short Circuit Capacity** %	300	300	300	300	300	300
Reactances: Per Unit						
Xd	2.915	3.138	3.476	2.860	4.570	3.407
X'd	0.157	0.169	0.187	0.150	0.250	0.180
X''d	0.110	0.118	0.131	0.108	0.172	0.128

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

Voltage Technical Data 50 Hz				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
415/240V	400.0	320.0	450.0	360.0
400/230V	400.0	320.0	450.0	360.0
380/220V	400.0	320.0	450.0	360.0

Voltage Technical Data 60 Hz				
Voltage	Prime:		Standby:	
	kVA	kW	kVA	kW
480/277V	438.0	350.4	500.0	400.0
220/127V	438.0	350.4	500.0	400.0
380/220V	438.0	350.4	500.0	400.0
440/254V	438.0	350.4	500.0	400.0

**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:**

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