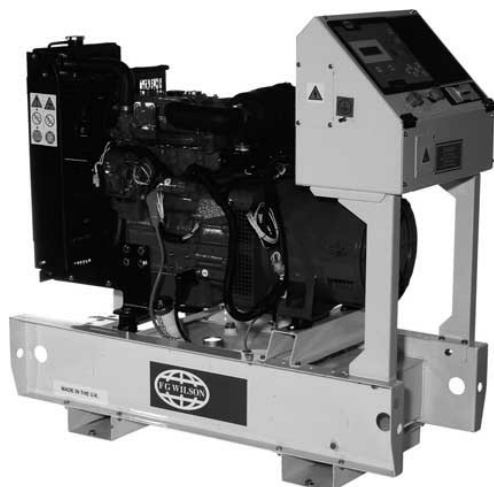


P16.5-4S



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Output Ratings		
Generating Set Model	Prime*	Standby*
220-240V, 50 Hz	15.0 kVA	16.5 kVA
	15.0 kW	16.5 kW
240/120V, 60 Hz	18.0 kVA	20.0 kVA
	18.0 kW	20.0 kW

* Refer to ratings definitions on page 4.

Ratings at 1.0 power factor.

Technical Data		
Engine Make & Model:	Perkins 404D-22G	
Alternator Model:	LLB1014N	
Base Frame Type:	Heavy Duty Fabricated Steel	
Circuit Breaker Type:	3 Pole MCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Fuel Tank Capacity: litres (US gal)	45 (11.9)	
Fuel Consumption: Prime l/hr (US gal/hr)	4.9 (1.3)	5.9 (1.6)
Fuel Consumption: Standby l/hr (US gal/hr)	5.5 (1.5)	6.6 (1.7)



FG Wilson has manufacturing facilities in the following locations:

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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: Perkins					Air Filter Type:		Replaceable Element	
Model: 404D-22G					Combustion Air Flow:			
No. of Cylinders/Alignment: 4 / In Line					m³/min (cfm)	-Standby:	1.5 (51)	1.7 (61)
Cycle: 4 Stroke						-Prime:	1.5 (51)	1.7 (61)
Induction: Naturally Aspirated					Max. Combustion Air Intake			
					Restriction: kPa (in H ₂ O)		3.0 (12.0)	3.0 (12.0)
Cooling Method: Water					Radiator Cooling Air Flow:			
Governing Type: Mechanical					m³/min (cfm)		33.0 (1165)	41.4 (1462)
Governing Class: ISO 8528 G2					External Restriction to			
Compression Ratio: 23.3:1					Cooling Air Flow: Pa (in H ₂ O)		125 (0.5)	125 (0.5)
Displacement: l (cu.in)					2.2 (135.2)			
Bore/Stroke: mm (in)					84.0 (3.3)/100.0 (3.9)			
Moment of Inertia: kg m² (lb. in²)					2.72 (9308)			
Engine Electrical System:								
-Voltage/Ground:					12/Negative			
-Battery Charger Amps:					65			
Weight: kg (lb) - Dry:					242 (534)			
- Wet:					251 (554)			
Performance					50 Hz		60 Hz	
Engine Speed: RPM					1500		1800	
Gross Engine Power: kW (hp)								
-Standby:					20.6 (28.0)		24.3 (33.0)	
-Prime:					18.7 (25.0)		22.0 (30.0)	
BMEP: kPa (psi)								
-Standby:					743.0 (107.8)		731.0 (106.0)	
-Prime:					675.0 (97.9)		662.0 (96.0)	
Regenerative Power: kW					5.6		7.2	
Fuel System								
Fuel Filter Type: Replaceable Element								
Recommended Fuel: Class A2 Diesel								
Fuel Consumption: l/hr (US gal/hr)								
	110% Load	100% Load	75% Load	50% Load				
Prime								
50 Hz	5.5 (1.5)	4.9 (1.3)	3.7 (1.0)	2.7 (0.7)				
60 Hz	6.6 (1.7)	5.9 (1.6)	4.5 (1.2)	3.3 (0.9)				
Standby								
50 Hz		5.5 (1.5)	4.0 (1.1)	2.9 (0.8)				
60 Hz		6.6 (1.7)	4.9 (1.3)	3.6 (1.0)				
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)								
					Cooling System		50 Hz	60 Hz
					Cooling System Capacity:			
					l (US gal)		6.5 (1.7)	6.5 (1.7)
					Water Pump Type:		Centrifugal	
					Heat Rejected to Water & Lube Oil: kW (Btu/min)			
					-Standby:		21.6 (1228)	24.2 (1376)
					-Prime:		19.6 (1115)	22.2 (1262)
					Heat Radiation to Room:			
					kW (Btu/min) -Standby:		4.4 (250)	4.6 (262)
					-Prime:		3.5 (199)	3.8 (216)
					Radiator Fan Load: kW (hp)		0.2 (0.3)	0.4 (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:		Spin-On, Full Flow	
					Total Oil Capacity l (US gal):		10.6 (2.8)	
					Oil Pan l (US gal):		8.9 (2.4)	
					Oil Type:		API CH4 15W-40	
					Cooling Method:		N/A	
					Exhaust System		50 Hz	60 Hz
					Silencer Type:		Level 1	
					Silencer Model & Qty:		263-0765 (1)	
					Pressure Drop Across			
					Silencer System: kPa (in Hg)		0.70 (0.207)	1.60 (0.472)
					Silencer Noise Reduction			
					Level: dB		28	21
					Max. Allowable Back			
					Pressure: kPa (in. Hg)		10.0 (3.0)	10.0 (3.0)
					Exhaust Gas Flow:			
					m³/min (cfm) -Standby:		4.2 (148)	4.8 (168)
					-Prime:		3.8 (134)	4.3 (153)
					Exhaust Gas Temperature: °C (°F)			
					-Standby:		451 (844)	510 (950)
					-Prime:		410 (770)	440 (824)

Alternator Performance Data

Data Item	50 Hz				60 Hz				
	240V	230V	220V			220V/110V	240V/120V		
Motor Starting Capability* kVA	33	31	29			25	29		
Short Circuit Capacity** %	-	-	-			-	-		
Reactances: Per Unit									
Xd	1.370	1.490	1.630			2.340	1.970		
X'd	0.180	0.200	0.220			0.310	0.260		
X''d	0.086	0.094	0.102			0.147	0.124		

Reactances shown are applicable to prime ratings

* Based on 30% voltage dip.

** With optional Permanent Magnet generator or AREP excitation.

Alternator Technical Data

Physical Data		Operating Data	
Manufacturer:	FG WILSON	Overspeed: RPM	2250
Model:	LLB1014N	Voltage Regulation (steady state) (%):	+/- 1.0
No. of Bearings:	1	Wave Form NEMA = TIF:	50
Insulation Class:	H	Wave Form IEC = THF:	2.0%
Winding Pitch Code:	2/3 - M	Total Harmonic Content LL/LN:	4.0%
Wires:	4	Radio Interference:	Supression is in line with European Standard EN61000-6
Ingress Protection Rating:	IP23	Radiant Heat: kW (Btu/min)	
Excitation System:	SHUNT		-50 Hz: 2.6 (148)
AVR Model:	R250		-60 Hz: 3.4 (193)

Technical Data

1 Phase Ratings and Performance at 50 Hz, 1500 RPM

1 Phase Ratings and Performance at 60 Hz, 1800 RPM

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Definitions

Standby Rating

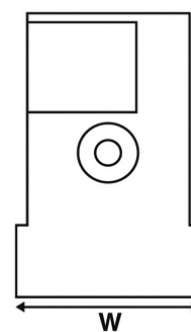
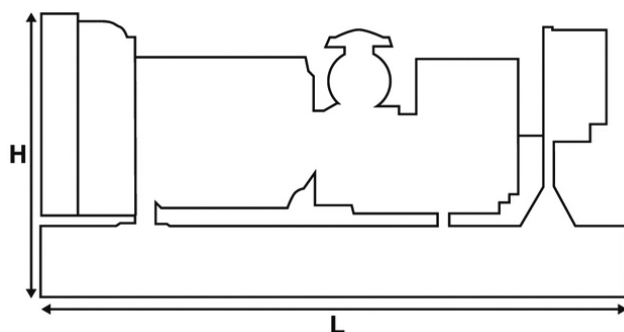
These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

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

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m (328ft) 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.



Weights and Dimensions

Weights: kg (lb)		Dimensions: mm (in)	
Net (+ lube oil)	460 (1014)	Length	1320 (52.0)
Wet (+ lube oil & coolant)	467 (1030)	Width	552 (21.7)
Fuel, lube oil & coolant	505 (1113)	Height	1179 (46.4)

General Data

Documents

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 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