P60P3 / P65E3

Output Ratings		
Generating Set Model	P60P3	P65E3
	Prime*	Standby*
380-415V, 50 Hz	60.0 kVA	65.0 kVA
	48.0 kW	52.0 kW
480V, 60 Hz	68.8 kVA	75.0 kVA
	55.0 kW	60.0 kW

* Refer to ratings definitions on page 4.
Ratings at 0.8 pf

Technical Data		
Engine Make & Model	Perkins 1103A-33TG2	
Alternator Model	LL2014H	
Base Frame Type	Heavy Duty Fabricated Steel	
Circuit Breaker Type/Rating	3 Pole MCB < 160 Amps 3 Pole MCCB > 160 Amps	
Frequency	50 Hz	60Hz
Engine Speed	1500	1800
Fuel Tank Capacity: Litres (US Gal)	175 (46.2)	
Fuel Consump, P60P3: L/hr (US Gal/hr)	13.8 (3.6)	15.9 (4.2)
Fuel Consump, P65E3: L/hr (US Gal/hr)	15.1 (4.0)	17.4 (4.6)

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Engine Technical Data

Physical Data

Manufacturer:	Perkins
Model:	1103A-33TG2
No. of Cylinders/Alignment:	3 in-line
Cycle:	4 Stroke
Induction:	Turbocharged
Cooling Method:	Water
Governing Type:	Mechanical
Governing Class:	ISO 8528 G2
Compression Ratio:	17.25:1
Displacement: L (cu.in):	3.3 (201.4)
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)
Moment of Inertia: kg m^2 (lb/in^2)	1.14 (3896)
Engine Electrical System:	
-Voltage/Ground	12 / Negative
-Battery Charger Amps	65
Weight: kg (lbs) -Dry	420 (926)
-Wet	438 (966)

Performance

	50Hz	60Hz
Engine Speed: rpm	1500	1800
Gross Engine Power:		
kW (hp) -Standby	60.5 (81.0)	69.6 (93.0)
-Prime	55.0 (74.0)	63.3 (85.0)
BMEP: kPa (psi)		
-Standby	1467.0 (212.8)	1407.0 (204.0)
-Prime	1333.0 (193.4)	1279.0 (185.5)
Regenerative Power: kW	7.0	9.0

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
P60P3				
50 Hz	15.1 (4.0)	13.8 (3.6)	10.3 (2.7)	7.3 (1.9)
60 Hz	17.4 (4.6)	15.9 (4.2)	12.0 (3.2)	8.8 (2.3)
P65E3				
50 Hz	-	15.1 (4.0)	11.1 (2.9)	7.7 (2.0)
60 Hz	-	17.4 (4.6)	13.0 (3.4)	9.3 (2.5)

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

Air System

	50 Hz	60 Hz
Air Filter Type:	Replaceable Element	
Combustion Air Flow:		
m^3/min (cfm) -Standby:	3.9 (138)	4.8 (170)
-Prime:	3.8 (134)	4.7 (166)
Max. Combustion Air Intake		
Restriction: kPa (in H_2O)	8.0 (32.1)	8.0 (32.1)
Radiator Cooling Airflow:		
m^3/min (cfm)	TBA	TBA
External Restriction to		
Cooling Airflow: Pa (in H_2O)	TBA	TBA

Cooling System

	50 Hz	60 Hz
Cooling System Capacity:		
L (US Gal)	10.2 (2.7)	10.2 (2.7)
Water Pump Type:	Centrifugal	
Heat Rejected to Water &		
Lube Oil: kW (Btu/min)		
-Standby:	37.7 (2144)	42.8 (2434)
-Prime:	35.2 (2002)	41.0 (2332)
Heat Radiation to Room:		
kW (Btu/min) -Standby:	16.7 (950)	17.9 (1018)
-Prime:	15.2 (864)	17.0 (967)
Radiator Fan Load: kW (hp)	1.0 (1.3)	1.7 (2.3)

Lubrication System

Oil Filter Type:	Spin-On, Full Flow
Total Oil Capacity L (US Gal):	8.3 (2.2)
Oil Pan L (US Gal):	7.8 (2.1)
Oil Type:	AP1 CG4 15W-40
Cooling Method:	Water

Exhaust System

	50 Hz	60 Hz
Silencer Type:	Level 1	
Silencer Model & Qty:	SD80 (1)	
Pressure Drop Across		
Silencer System: kPa (in Hg)	1.0 (0.3)	1.2 (0.4)
Silencer Noise Reduction		
Level: dB	19.0	18.0
Max. Allowable Back		
Pressure: kPa (in Hg)	15.0 (4.4)	15.0 (4.4)
Exhaust Gas Flow: m^3/min (cfm)		
-Standby:	10.4 (367)	12.5 (441)
-Prime:	10.1 (357)	11.8 (417)
Exhaust Gas		
Temperature:°C (°F):		
-Standby:	571 (1060)	564 (1047)
-Prime:	557 (1035)	534 (993)

Alternator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V	480/277V 240/139V	380/220V 220/110V	240/120V 208/120V	230/115V	440/254V 220/127V
Motor Starting Capability* kVA	148	139	128	164	163	109	127	119	140
Short Circuit Capacity % **	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	2.46	2.65	2.94	2.19	2.53	4.04	3.37	3.65	3.01
X'd	0.09	0.10	0.11	0.08	0.09	0.15	0.12	0.13	0.11
X"d	0.046	0.049	0.054	0.041	0.047	0.075	0.062	0.068	0.056

Reactances shown are applicable to prime ratings

*Based on 30% voltage dip at 0.6 power factor. Improved motor starting capability is available with optional Permanent Magnet generator or AREP excitation

** With optional Permanent Magnet generator or AREP excitation.

Alternator Technical Data

Physical Data		Operating Data	
Manufacturer:	FG Wilson	**Overspeed:** RPM	2250
Model:	LL2014H	**Voltage Regulation (steady state)**	+/- 0.5
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 European Standard EN61000-6
Ingress Protection Rating:	IP23	**Radiant Heat:** kW (Btu/min)	
Excitation System:	Shunt	-50 Hz:	5.8 (330)
AVR Model:	R230	-60 Hz:	6.9 (392)

Technical Data

3 Phase Ratings and Performance at 50 Hz, 1500 RPM

Voltage	Model: P60P3 Prime		Model: P65E3 Standby	
	kVA	kW	kVA	kW
415/240	60.0	48.0	65.0	52.0
400/230	60.0	48.0	65.0	52.0
380/220	60.0	48.0	65.0	52.0
230/115	60.0	48.0	65.0	52.0
220/127	60.0	48.0	65.0	52.0
220/110	60.0	48.0	65.0	52.0
200/115	60.0	48.0	65.0	52.0

3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Model: P60P3 Prime		Model: P65E3 Standby	
	kVA	kW	kVA	kW
480/277	68.8	55.0	75.0	60.0
440/254	68.8	55.0	75.0	60.0
380/220	68.7	55.0	75.0	60.0
240/139	68.8	55.0	75.0	60.0
240/120	68.8	55.0	75.0	60.0
230/115	68.8	55.0	75.0	60.0
220/127	68.8	55.0	75.0	60.0
220/110	68.7	55.0	75.0	60.0
208/120	68.8	55.0	75.0	60.0

Definitions

Standby Rating

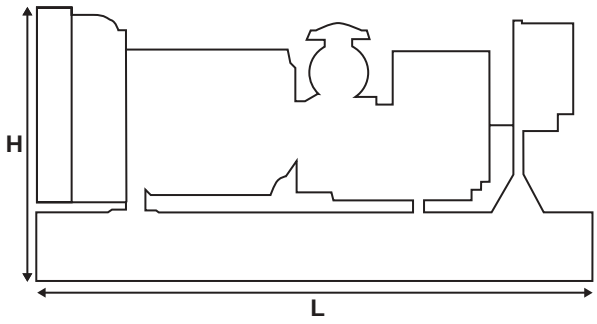
These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO8528-3).

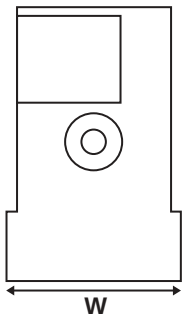
Prime Rating

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 27˚C (80˚F) Air Inlet Temp, 152.4m (500ft) A.S.L. 60% 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.





Weights & Dimensions

Weights: kg (lbs)		Dimensions: mm (in)	
Net (+ lube oil)	940 (2072)	Length	2149 (84.6)
Wet (+ lube oil & coolant)	960 (2116)	Width	752 (29.6)
Fuel, lube oil & coolant	1105 (2436)	Height	1366 (53.8)

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 3406, IEC 60034, VDE 0530, NEMA MG-1.22.

FG Wilson is a fully accredited ISO9001 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