

P45P3 / P50E3



Output Ratings		
Generating Set Model	P45P3	P50E3
	Prime*	Standby*
380-415V, 50 Hz	45.0 kVA	50.0 kVA
	36.0 kW	40.0 kW
480V, 60 Hz	50.0 kVA	56.3 kVA
	40.0 kW	45.0 kW

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

Technical Data		
Engine Make & Model	Perkins 1103A-33TG1	
Alternator Model	LL2014C	
Base Frame Type	Heavy Duty Fabricated Steel	
Circuit Breaker Type/Rating	3 Pole MCB < 160 Amps	
Frequency	50 Hz	60Hz
Engine Speed	1500	1800
Fuel Tank Capacity: Litres (US Gal)	175 (46.2)	
Fuel Consump, P45P3: L/hr (US Gal/hr)	10.6 (2.8)	11.9 (3.1)
Fuel Consump, P50E3: L/hr (US Gal/hr)	11.9 (3.1)	13.5 (3.6)

Engine Technical Data

Physical Data		Air System		50 Hz	60 Hz
Manufacturer:	Perkins	Air Filter Type:	Replaceable Element		
Model:	1103A-33TG1	Combustion Air Flow:			
No. of Cylinders/Alignment:	3 in-line	m ³ /min (cfm) -Standby:	2.8 (99)	3.4 (120)	
Cycle:	4 Stroke	-Prime:	2.6 (92)	3.2 (113)	
Induction:	Turbocharged	Max. Combustion Air Intake			
Cooling Method:	Water	Restriction: kPa (in H ₂ O)	8.0 (32.1)	8.0 (32.1)	
Governing Type:	Mechanical	Radiator Cooling Airflow:			
Governing Class:	ISO 8528 G2	m ³ /min (cfm)	TBA	TBA	
Compression Ratio:	17.25:1	External Restriction to			
Displacement: L (cu.in):	3.3 (201.4)	Cooling Airflow: Pa (in H ₂ O)	TBA	TBA	
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)	Cooling System			
Moment of Inertia: kg m ² (lb/in ²)	1.14 (3896)	Cooling System Capacity:			
Engine Electrical System:		L (US Gal)	10.2 (2.7)	10.2 (2.7)	
-Voltage/Ground	12 / Negative	Water Pump Type:	Centrifugal		
-Battery Charger Amps	65	Heat Rejected to Water &			
Weight: kg (lbs)		Lube Oil: kW (Btu/min)			
-Dry	420 (926)	-Standby:	30.6 (1740)	33.1 (1882)	
-Wet	438 (966)	-Prime:	26.1 (1484)	29.5 (1678)	
Performance		Heat Radiation to Room:			
		kW (Btu/min) -Standby:	14.0 (796)	15.3 (870)	
		-Prime:	11.9 (677)	13.0 (739)	
		Radiator Fan Load: kW (hp)	0.5 (0.7)	0.9 (1.2)	
Engine Speed: rpm	1500	Lubrication System			
Gross Engine Power:		Oil Filter Type:	Spin-On, Full Flow		
kW (hp) -Standby	46.4 (62.0)	Total Oil Capacity L (US Gal):	8.2 (2.2)		
-Prime	42.2 (57.0)	Oil Pan L (US Gal):	7.8 (2.1)		
BMEP: kPa (psi)		Oil Type:	API CG4 15W-40		
-Standby	1125.0 (163.2)	Cooling Method:	Water		
-Prime	1023.0 (148.4)	Exhaust System			
Regenerative Power: kW	7.0	Silencer Type:	Level 1		
	9.0	Silencer Model & Qty:	SD80 (1)		
Fuel System		Pressure Drop Across			
Fuel Filter Type:	Replaceable Element	Silencer System: kPa (in Hg)	0.8 (0.2)	1.1 (0.3)	
Recommended Fuel:	Class A2 Diesel	Silencer Noise Reduction			
Fuel Consumption: L/hr (US Gal/hr)		Level: dB	20.0	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:	7.7 (272)	9.6 (339)	
		-Prime:	7.0 (247)	8.8 (311)	
P45P3		Exhaust Gas			
50 Hz	11.9 (3.1)	Temperature: °C (°F):			
60 Hz	13.5 (3.6)	-Standby:	540 (1004)	553 (1027)	
		-Prime:	489 (912)	506 (943)	
P50E3		(based on diesel fuel with a specific gravity of 0.84 and conforming to BS2869, Class A2)			
50 Hz	-				
60 Hz	-				

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	89	84	76	99	98	65	76	71	84
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
X_d	2.66	2.87	3.18	2.37	2.65	4.23	3.53	3.82	3.16
X'_d	0.12	0.13	0.14	0.10	0.12	0.19	0.16	0.17	0.14
X''_d	0.059	0.063	0.070	0.052	0.059	0.093	0.078	0.084	0.070

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:	LL2014C	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:	6.6 (375)

Technical Data

3 Phase Ratings and Performance at 50 Hz, 1500 RPM

3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Model: P45P3 Prime		Model: P50E3 Standby		Voltage	Model: P45P3 Prime		Model: P50E3 Standby	
	kVA	kW	kVA	kW		kVA	kW	kVA	kW
415/240	45.0	36.0	50.0	40.0	480/277	50.0	40.0	56.3	45.0
400/230	45.0	36.0	50.0	40.0	440/254	50.0	40.0	56.3	45.0
380/220	45.0	36.0	49.8	39.8	380/220	50.0	40.0	56.3	45.0
230/115	45.0	36.0	50.0	40.0	240/139	50.0	40.0	56.3	45.0
220/127	45.0	36.0	50.0	40.0	240/120	50.0	40.0	56.3	45.0
220/110	45.0	36.0	49.8	39.8	230/115	50.0	40.0	56.3	45.0
200/115	45.0	36.0	50.0	40.0	220/127	50.0	40.0	56.3	45.0
					220/110	50.0	40.0	56.3	45.0
					208/120	50.0	40.0	56.3	45.0

Definitions

Standby Rating

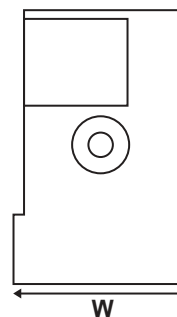
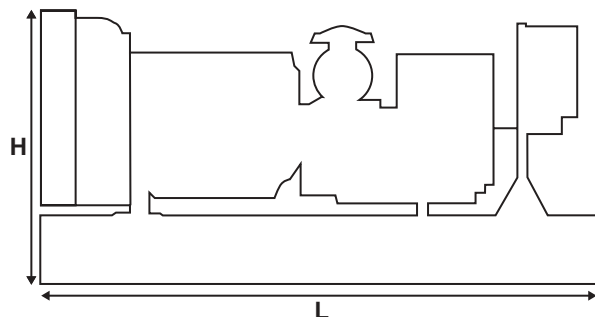
These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO8528-3).

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)	890 (1962)	Length	2149 (84.6)
Wet (+ lube oil & coolant)	910 (2006)	Width	752 (29.6)
Fuel, lube oil & coolant	1055 (2326)	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 3046, IEC 60034, VDE 0530, NEMA MG-1.22.

Warranty

All equipment carries full manufacturer's warranty. Extended warranty terms available. For details on warranty cover please contact your local dealer.