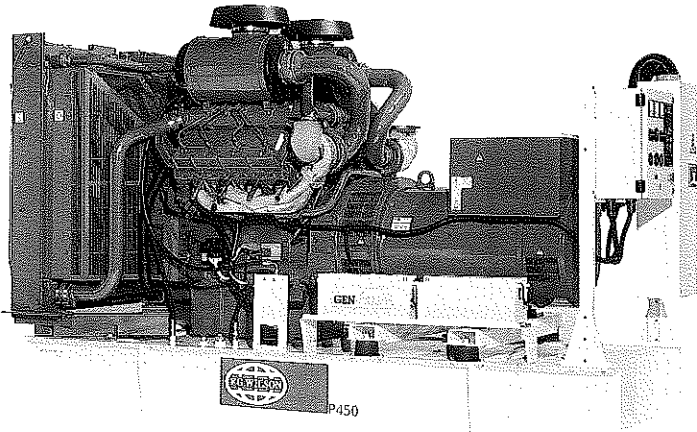


P450 / P500E



Output Ratings		
Generating Set Model	P450	P500E
	Prime*	Standby*
380-415V, 50 Hz	450 kVA	500 kVA
	360 kW	400 kW
480V, 60 Hz	494 kVA	512 kVA
	395 kW	409.6 kW

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

Technical Data	
Engine Make & Model	Perkins 3008TAG3A
Alternator Model	LL6014F
Base Frame Type	Heavy Duty Fabricated Steel
Circuit Breaker Type/Rating	3 Pole MCCB
Frequency	50 Hz 60Hz
Engine Speed	1500 1800
Fuel Tank Capacity: Litres (US Gal)	750 (198)
Fuel Consump, P450: l/hr (US Gal/hr)	99.6 (26.3) 123 (29.8)
Fuel Consump, P500E: l/hr (US Gal/hr)	111 (29.4) 135 (35.6)



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Engine Technical Data

Physical Data		Air System		50 Hz	60 Hz
Manufacturer:	Perkins	Air Filter Type:	Replaceable Element		
Model:	3008TAG3A	Combustion Air Flow:			
No. of Cylinders/Alignment:	8V	m ³ /min (cfm) -Standby:	33.8 (194)	38.2 (349)	
Cycle:	4 stroke	-Prime:	31.3 (1105)	36.8 (1299)	
Induction:	Turbocharged	Max. Combustion Air Intake			
	AA Charge Cooled	Restriction: kPa (in H ₂ O)	6.20 (24.9)	6.20 (24.9)	
Cooling Method:	Water	Radiator Cooling			
Governing Type:	Mechanical	Airflow: m ³ /sec (cfm)	9.62 (340)	12.62 (446)	
Class:	ISO 8528 G2	External Restriction to			
Compression Ratio:	14.5:1	Cooling Airflow: Pa (in Wg)	120 (0.48)	120 (0.48)	
Displacement: L (cu.in)	17.40	Cooling System			
Bore/Stroke: mm (in)	135.0 (5.3)/152.4 (6.0)	Cooling System Ambient			
Moment of Inertia: kg m ² (lb/in ²)	1.1326 (1611)	Capability: °C (°F)	37 (98.6)	33 (91.4)	
Engine Electrical System:		Cooling System			
-Voltage/Ground	24/Negative	Capacity: L (US Gal)	68.2 (18.02)	68.2 (18.02)	
-Battery Charger Amps	32	Water Pump Type:	Centrifugal		
Weight: kg (lbs) -Dry	1725 (3804)	Heat Rejected to Water & Lube			
-Wet	1824 (4022)	Oil: kW (Btu/min)-Standby:	186 (10580)	232 (13196)	
Performance		-Prime:	171 (9726)	226 (12855)	
		Heat Radiation to Room:			
Engine Speed: rpm	50Hz	1800			
Gross Engine Power: kW (hp)					
-Standby	442 (593)	456 (612)			
-Prime	403 (540)	442 (593)			
BMEP: kPa (psi)					
-Standby	2030 (294)	1750 (254)			
-Prime	2030 (294)	1750 (254)			
Regenerative Power: kW	46.0	64.0	Lubrication System		
Fuel System		Oil Filter Type:	Spin-On, Full Flow		
Fuel Filter Type:	Replaceable Element		Total Oil Capacity L (US Gal):	31.2 (8.24)	
Recommended Fuel:	Class 2 Diesel		Oil Pan L (US Gal):	25.0 (6.60)	
Fuel Consumption: L/hr (US Gal/hr)			Oil Type:	API CD 15W - 40	
			Cooling Method:	Water	
	110% Load	100% Load	75% Load	50% Load	
P450					
50 Hz	111 (29.4)	99.6 (26.3)	74.7 (19.7)	49.8 (13.2)	
60 Hz	135 (35.6)	113 (29.8)	92.7 (24.5)	69.2 (18.3)	
P500E					
50 Hz	n/a	111 (29.4)	82.2 (21.7)	54.8 (14.5)	
60 Hz	n/a	135 (35.6)	102 (26.9)	76.1 (20.1)	
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, class 2)					
		Exhaust System		50 Hz	60 Hz
		Silencer Type:	Industrial (Absorbitive)		
		Silencer Model & Qty:	SD125 (2)		
		Pressure Drop Across			
		Silencer System: kPa (in Hg)	0.4 (0.11)	0.5 (0.15)	
		Silencer Noise Reduction			
		Level: dB	10	10	
		Max. Allowable Back			
		Pressure: kPa (in Hg)	6.8 (2.01)	6.8 (2.01)	
		Exhaust Gas Flow: m ³ /min (cfm)			
		-Standby:	90.5 (3190)	97.8 (3448)	
		-Prime:	81.2 (2863)	90.5 (3190)	
		Exhaust Gas Temperature:			
		°C (°F) - Standby:	525 (977)	490 (914)	

Alternator Performance Data

Data Item	50 Hz				60 Hz					
	415/240	400/230 230/115 200/115	380/220 220/110	220/127	480/277 240/139	460/266	380/220 220/110	240/120 208/120	230/115	220/127 440/254
Motor Starting Capability* kVA	1030	970	860	1180	1120	1050	700	850	790	950
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300	300
Reactances: Per Unit										
X_d	2.83	3.05	3.38	2.52	2.79	3.03	4.23	3.71	4.01	3.32
X'_d	0.13	0.14	0.16	0.12	0.13	0.14	0.20	0.17	0.19	0.15
X''_d	0.105	0.113	0.125	0.094	0.104	0.113	0.157	0.138	0.149	0.123

Reactances shown are applicable to prime ratings

* Based on 30% voltage dip. 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:	LL6014F	Voltage Regulation (steady state)	+/- 0.5%
No. of Bearings:	Single	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 British Standard BS 800 and VDE class G & N
Ingress Protection Rating:	IP22	Radiant Heat: kW (Btu/min)	
Excitation System:	SHUNT	-50 Hz	21.52 (1251)
AVR Model:	R448	-60 Hz	23.20 (1308)

Technical Data

3 Phase Ratings and Performance at 50 Hz, 1500 RPM

3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Model: P450 Prime		Model: P500E Standby		Voltage	Model: P450 Prime		Model: P500E Standby	
	kVA	kW	kVA	kW		kVA	kW	kVA	kW
415/240	450	360	500	400	480/277	494	395	512	409.6
400/230	450	360	500	400	460/266	494	395	512	409.6
380/220	450	360	500	400	440/254	494	395	512	409.6
230/115	450	360	500	400	380/220	470	376	512	409.6
220/127	450	360	500	400	240/139	494	395	512	409.6
220/110	450	360	500	400	240/120	494	395	512	409.6
200/115	450	360	500	400	230/115	494	395	512	409.6
					220/127	494	395	512	409.6
					220/110	470	376	512	409.6
					208/120	494	395	512	409.6

Definitions

Standby Rating

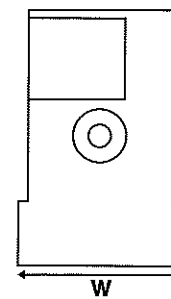
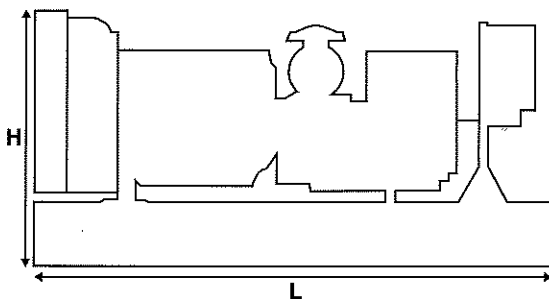
These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO8528-3).

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

Standard reference conditions 27°C (80°F) Air Inlet Temp, 152.4m (500 ft) A.S.L. All engine performance data based on the above mentioned maximum continuous ratings. Fuel consumption data at full load with diesel fuel with a specific gravity of 0.85 and conforming to BS2869: 1988, Class A2.



Weights & Dimensions

Weights: kg (lbs)		Dimensions: mm (in)	
Net (+ lube oil)	3800 (8379)	Length	3313 (130.4)
Wet (+ lube oil & coolant)	3868 (8529)	Width	1400 (55.1)
Fuel, lube oil & coolant	4498 (9918)	Height	2097 (82.6)

General Data

Documents

A full set of operation and maintenance manuals, circuit wiring diagrams, and commissioning/fault finding instruction leaflets.

Control Panel Standards

The equipment meets the following standards: BS5000, ISO 8528, ISO 3406, IEC 60034, VDE 0530, NEMA MG-1.22.

Warranty

All equipment is guaranteed for a period of 12 months from date of commissioning or 18 months from shipping, whichever occurs first. Extended warranty terms are available.

FG Wilson is a fully accredited ISO9001 company.