# OLYMPIAN<sup>™</sup>



GEP110-4

## Diesel Generator Set Exclusively from your Cat<sup>®</sup> dealer

EU stage II emissions compliant.

Standby\*

110.0 kVA

88.0 kW

125.0 kVA

100.0 kW

Output Ratings			
Generating Set Model - 3 Phase	Prime*		
400V, 50 Hz	100.0 kVA 80.0 kW		

\* Refer to ratings definitions on page 4. Ratings at 0.8 power factor.

480V, 60 Hz

Image shown may not reflect actual package

Technical Data				
Engine Make & Model:	Perkins <sup>®</sup> 1104C-44TAG2			
Alternator Model:	LL3114F			
Control Panel:	PowerWizard 1.1			
Base Frame Type:	Heavy Duty Fabricated Steel	Heavy Duty Fabricated Steel		
Circuit Breaker Type:	3 Pole MCCB	3 Pole MCCB		
Frequency:	50 Hz	60 Hz		
Engin e Speed: RPM	1500	1800		
Fuel Tank Capacity: litres (US gal)	250	250 (66.0)		
Fuel Consumption, Prime: I/hr (US gal/hr)	21.7 (5.7)	21.7 (5.7) 25.7 (6.8)		
Fuel Consumption, Standby : I/hr (US gal/hr)	23.8 (6.3)	28.5 (7.5)		

113.0 kVA

90.4 kW

# **Engine Technical Data**

Physical Data	
Manufacturer:	Perkins
Model:	1104C-44TAG2
No. of Cylinders/Alignment:	4 / In Line
Cycle:	4 Stroke
Induction:	Turbocharged Air To Air Charge Cooled
Cooling Method:	Water
Governing Type:	Electronic
Governing Class:	ISO 8528 G2
Compression Ratio:	18.3:1
Displacement: I (cu.in)	4.4 (268.5)
Bore/Stroke: mm (in)	105.0 (4.1)/127.0 (5.0)
Moment of Inertia: kg m <sup>2</sup> (lb. in <sup>2</sup> )	1.51 (5160)
Engine Electrical System:	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
Weight: kg (lb) - Dry:	500 (1102)
- Wet:	520 (1146)

Air System		50 Hz	60 Hz
Air Filter Type:		Replaceable Elem	ent
Combustion Air Fl	ow:		
m³/min (cfm)	-Standby:	6.3 (221)	7.8 (275)
	-Prime:	6.0 (212)	7.8 (274)
Max. Combustion	Air Intake		
Restriction: kPa (	in H <sub>2</sub> O)	8.0 (32.1)	8.0 (32.1)
Radiator Cooling	Air Flow:		
m³/min (cfm)		187.8 (6632)	244.2 (8624)
External Restrictio	n to		
Cooling Air Flow	Pa (in H <sub>2</sub> O)	125 (0.5)	125 (0.5)

<b>Cooling System</b>	n	50 Hz	60 Hz
Cooling System C	apacity:		
l (US gal)		17.5 (4.6)	17.5 (4.6)
Water Pump Type	:	Centr	ifugal
Heat Rejected to \	Nater &		
Lube Oil: kW (Bt	u/min)		
	-Standby:	50.7 (2883)	64.0 (3640)
	-Prime:	46.1 (2622)	57.7 (3281)
Heat Radiation to	Room: Heat radiate	ed from engine and alt	ernator
kW (Btu/min)	-Standby:	15.3 (870)	17.7 (1007)
	-Prime:	13.7 (779)	15.7 (893)
Radiator Fan Load	: kW (hp)	2.8 (3.8)	4.8 (6.4)
Cooling system desig	gned to operate in	ambient conditions	s up to 50°C
(122°F). Contact yo	ur local Olympian <sup>T</sup>	<sup>M</sup> dealer for power	ratings at

specific site conditions.

#### Lubrication System Oil Filter Type: Spin-On, Full Flow Total Oil Capacity I (US gal): 8.0 (2.1) Oil Pan I (US gal): 7.0 (1.8) Oil Type: API CC/SE **Cooling Method:** Water

Performance	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Gross Engine Power: kW (hp)		
-Standby:	103.0 (138.0)	117.5 (158.0)
-Prime:	93.6 (126.0)	106.8 (143.0)
<b>BMEP:</b> kPa (psi)		
-Standby:	1873.0 (271.7)	1781.0 (258.3)
-Prime:	1702.0 (246.9)	1619.0 (234.8)
Regenerative Power: kW	8.2	13.8

## **Fuel System**

Fuel Filter Type:Replaceable ElementRecommended Fuel:Class A2 Diesel or BSEN590Fuel Consumption:I/hr (US gal/hr)					
	110% Load	100% Load	75% Load	50% Load	
Prime					
50 Hz	23.8 (6.3)	21.7 (5.7)	16.5 (4.4)	11.7 (3.1)	
60 Hz	28.5 (7.5)	25.7 (6.8)	19.6 (5.2)	14.1 (3.7)	
Standby					
50 Hz		23.8 (6.3)	18.0 (4.8)	12.6 (3.3)	
60 Hz		28.5 (7.5)	21.5 (5.7)	15.2 (4.0)	
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)					

Exhaust Syster	n	50 Hz	60 Hz
Silencer Type:		Indus	trial
Silencer Model & C	Quantity:	EXSY	1 (1)
Pressure Drop Acro	oss		
Silencer System:	kPa (in Hg)	2.10 (0.620)	3.56 (1.051)
Silencer Noise Red	uction		
Level: dB		22	17
Max. Allowable Back			
Pressure: kPa (in.	Hg)	18.0 (5.3)	15.0 (4.4)
Exhaust Gas Flow:			
m³/min (cfm)	-Standby:	16.3 (576)	20.4 (720)
	-Prime:	15.2 (537)	18.4 (650)
Exhaust Gas Temp	erature: °C (°F)		
	-Standby:	543 (1009)	574 (1065)
	-Prime:	514 (957)	517 (963)

# **Alternator Performance Data**

		50	Hz				60 Hz	_	
Data Item	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	256	240	220	282	280	187	219	205	242
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	2.666	2.870	3.180	2.372	2.702	4.312	3.598	3.891	3.216
X'd	0.120	0.129	0.143	0.107	0.121	0.194	0.162	0.175	0.145
X''d	0.072	0.077	0.086	0.064	0.073	0.116	0.097	0.105	0.087

Reactances shown are applicable to prime ratings. \*Based on 30% voltage dip at 0.6 power factor and SHUNT excitation system. \*\* With optional Permanent Magnet generator.

# **Alternator Technical Data**

Physical Data	
Manufactured for Olympian by:	OLYMPIAN
Model:	LL3114F
No. of Bearings:	1
Insulation Class:	н
Winding Pitch - Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R250

Operating Data				
Overspeed: RPM		2250		
Voltage Regulation: (	steady state)	+/- 0.5%		
Wave Form NEMA =	TIF:	50		
Wave Form IEC = THF: 2.0%				
Total Harmonic Conte	ent LL/LN:	2.0%		
Radio Interference:	Radio Interference: Supression is in line with European Standard EN61000-6			
Radiant Heat: kW (Bt	u/min)			
-50 Hz:		7.8 (444)		
-60 H	łz:	8.3 (472)		

## Technical Data

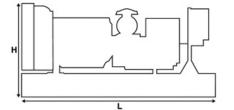
Voltage 50 Hz	Prime		Stand	lby
	kVA	kW	kVA	kW
415/240V	100.0	80.0	110.0	88.0
400/230V	100.0	80.0	110.0	88.0
380/220V	100.0	80.0	110.0	88.0
230/115V	100.0	80.0	110.0	88.0
220/127V	100.0	80.0	110.0	88.0
220/110V	100.0	80.0	110.0	88.0
200/115V	100.0	80.0	110.0	88.0

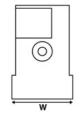
Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW
480/277V	113.0	90.4	125.0	100.0
220/127V	113.0	90.4	125.0	100.0
380/220V	113.0	90.4	125.0	100.0
240/120V	113.0	90.4	125.0	100.0
230/115V	113.0	90.4	125.0	100.0
440/254V	113.0	90.4	125.0	100.0
220/110V	113.0	90.4	125.0	100.0
208/120V	113.0	90.4	125.0	100.0
240/139V	113.0	90.4	125.0	100.0

## Weights & Dimensions

Weights: kg (lb)			
Net (+ lube oil)	1129 (2490)		
Wet (+ lube oil & coolant)	1147 (2529)		
Fuel, lube oil & coolant	1358 (2994)		

Dimensions: mm (in)	
Length	2089 (82.2)
Width	1120 (44.1)
Height	1375 (54.1)





Note: General configuration not to be used for installation. See general dimension drawings for detail.

## 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.

# **General Data**

## **Documents**

A full set of operation and maintenance manuals and circuit wiring diagrams.

## **Quality Standards**

The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

## 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: www.OlympianPower.com.

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