

# OLYMPIAN™



## GEP50-7

Diesel Generator Set  
Exclusively from your Cat® dealer

Image shown may not reflect actual package

<b>Output Ratings</b>		
<b>Generating Set Model - 3 Phase</b>	Prime*	Standby*
380-415V, 50Hz	45.0 kVA 36.0 kW	50.0 kVA 40.0 kW
480V, 60 Hz	50.0 kVA 40.0 kW	56.3 kVA 45.0 kW

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

<b>Technical Data</b>		
<b>Engine Make &amp; Model:</b>	Perkins™ 1103A-33TG1	
<b>Alternator Model:</b>	LL1514L	
<b>Control Panel:</b>	1002T	
<b>Base Frame Type:</b>	Heavy Duty Fabricated Steel	
<b>Circuit Breaker Type:</b>	3 Pole MCB / 3 Pole MCCB	
<b>Frequency:</b>	<b>50 Hz</b>	<b>60 Hz</b>
<b>Engine Speed: RPM</b>	1500	1800
<b>Fuel Tank Capacity: litres (US gal)</b>	219 (57.9)	
<b>Fuel Consumption, Prime: l/hr (US gal/hr)</b>	10.5 (2.8)	11.7 (3.1)
<b>Fuel Consumption, Standby : l/hr (US gal/hr)</b>	11.7 (3.1)	12.9 (3.4)

## Engine Technical Data

Physical Data	
<b>Manufacturer:</b>	Perkins
<b>Model:</b>	1103A-33TG1
<b>No. of Cylinders/Alignment:</b>	3 / In Line
<b>Cycle:</b>	4 Stroke
<b>Induction:</b>	Turbocharged
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Mechanical
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	17.25:1
<b>Displacement:</b> l (cu.in)	3.3 (201.4)
<b>Bore/Stroke:</b> mm (in)	105.0 (4.1)/127.0 (5.0)
<b>Moment of Inertia:</b> kg m <sup>2</sup> (lb. in <sup>2</sup> )	1.14 (3896)
<b>Engine Electrical System:</b>	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
<b>Weight:</b> kg (lb) - Dry:	420 (926)
- Wet:	438 (966)

Air System	50 Hz	60 Hz
<b>Air Filter Type:</b>	Replaceable Element	
<b>Combustion Air Flow:</b>		
m <sup>3</sup> /min (cfm)	<b>-Standby:</b> 3.1 (109)	3.9 (138)
	<b>-Prime:</b> 2.9 (102)	3.7 (131)
<b>Max. Combustion Air Intake</b>		
<b>Restriction:</b> kPa (in H <sub>2</sub> O)	8.0 (32.1)	8.0 (32.1)
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	86.4 (3051)	105.6 (3729)
<b>External Restriction to</b>		
<b>Cooling Air Flow:</b> Pa (in H <sub>2</sub> O)	120 (0.5)	120 (0.5)

Cooling System	50 Hz	60 Hz
<b>Cooling System Capacity:</b>		
l (US gal)	10.2 (2.7)	10.2 (2.7)
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil:</b> kW (Btu/min)		
<b>-Standby:</b>	30.0 (1706)	34.0 (1934)
<b>-Prime:</b>	26.1 (1484)	31.0 (1763)
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)	<b>-Standby:</b> 13.2 (751)	14.4 (819)
	<b>-Prime:</b> 11.4 (648)	12.6 (717)
<b>Radiator Fan Load:</b> kW (hp)	0.5 (0.7)	0.9 (1.2)
Cooling system designed to operate in ambient conditions up to 50°C (122°F). Contact your local Olympian™ dealer for power ratings at specific site conditions.		

Lubrication system	
<b>Oil Filter Type:</b>	Spin-On, Full Flow
<b>Total Oil Capacity</b> l (US gal):	8.3 (2.2)
<b>Oil Pan</b> l (US gal):	7.8 (2.1)
<b>Oil Type:</b>	API CG4 / CH4 15W-40
<b>Cooling Method:</b>	Water

Performance	50 Hz	60 Hz
<b>Engine Speed:</b> RPM	1500	1800
<b>Gross Engine Power:</b> kW (hp)		
<b>-Standby:</b>	46.5 (62.0)	55.6 (75.0)
<b>-Prime:</b>	42.2 (57.0)	50.5 (68.0)
<b>BMEP:</b> kPa (psi)		
<b>-Standby:</b>	1127.0 (163.5)	1124.0 (163.0)
<b>-Prime:</b>	1023.0 (148.4)	1020.0 (148.0)
<b>Regenerative Power:</b> kW	7.0	9.0

Fuel System				
<b>Fuel Filter Type:</b>	Replaceable Element			
<b>Recommended Fuel:</b>	Class A2 Diesel or BSEN590			
<b>Fuel Consumption:</b> l/hr (US gal/hr)				
	<b>110% Load</b>	<b>100% Load</b>	<b>75% Load</b>	<b>50% Load</b>
<b>Prime</b>				
50 Hz	11.7 (3.1)	10.5 (2.8)	7.8 (2.1)	5.5 (1.5)
60 Hz	12.9 (3.4)	11.7 (3.1)	9.0 (2.4)	6.6 (1.7)
<b>Standby</b>				
50 Hz		11.7 (3.1)	8.7 (2.3)	6.0 (1.6)
60 Hz		12.9 (3.4)	9.7 (2.6)	7.0 (1.9)
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)				

Exhaust System	50 Hz	60 Hz
<b>Silencer Type:</b>	Industrial	
<b>Silencer Model &amp; Quantity:</b>	SD80 (1)	
<b>Pressure Drop Across</b>		
<b>Silencer System:</b> kPa (in Hg)	0.82 (0.242)	1.08 (0.319)
<b>Silencer Noise Reduction</b>		
<b>Level:</b> dB	20	18
<b>Max. Allowable Back</b>		
<b>Pressure:</b> kPa (in. Hg)	10.0 (3.0)	15.0 (4.4)
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)	<b>-Standby:</b> 7.7 (272)	9.5 (335)
	<b>-Prime:</b> 7.0 (247)	8.8 (311)
<b>Exhaust Gas Temperature:</b> °C (°F)		
<b>-Standby:</b>	537 (999)	551 (1024)
<b>-Prime:</b>	492 (918)	510 (950)

## 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	109	104	96	118	118	84	96	90	104
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	2.583	2.780	3.080	1.991	2.574	3.778	3.427	3.595	3.063
X'd	0.140	0.150	0.166	0.108	0.139	0.204	0.185	0.194	0.165
X''d	0.070	0.075	0.083	0.054	0.070	0.102	0.093	0.097	0.083

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:	LL1514L
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - 6
Wires:	12
Ingress Protection Rating:	IP23
Excitation System:	SHUNT
AVR Model:	R220

Operating Data	
Overspeed: RPM	2250
Voltage Regulation: (steady state)	+/- 1.0%
Wave Form NEMA = TIF:	50
Wave Form IEC = THF:	2.0%
Total Harmonic Content LL/LN:	2.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	5.2 (296)
-60 Hz:	5.4 (307)

## Technical Data

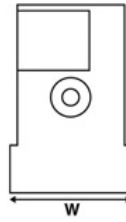
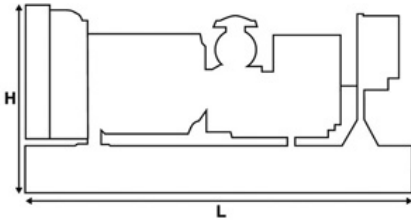
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	45.0	36.0	50.0	40.0
400/230V	45.0	36.0	50.0	40.0
380/220V	45.0	36.0	50.0	40.0
230/115V	45.0	36.0	50.0	40.0
220/127V	39.0	31.2	42.9	34.3
220/110V	45.0	36.0	50.0	40.0
200/115V	45.0	36.0	50.0	40.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW
480/277V	50.0	40.0	56.3	45.0
220/127V	50.0	40.0	56.3	45.0
380/220V	46.0	36.8	50.6	40.5
240/120V	50.0	40.0	55.0	44.0
230/115V	50.0	40.0	55.0	44.0
440/254V	48.5	38.8	53.4	42.7
220/110V	46.0	36.8	50.6	40.5
208/120V	50.0	40.0	56.3	45.0
240/139V	50.0	40.0	55.0	44.0

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	858 (1891)
Wet (+ lube oil & coolant)	871 (1920)
Fuel, lube oil & coolant	1056 (2328)

Dimensions: mm (in)	
Length	1925 (75.8)
Width	1120 (44.1)
Height	1361 (53.6)



**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](http://www.OlympianPower.com).

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