

# OLYMPIAN™

## GEP33-3

*Diesel Generator Set  
Exclusively from your Cat® dealer*



Output Ratings		
Generating Set Model	Prime*	Standby*
380-415V, 50Hz	30.0 kVA 24.0 kW	33.0 kVA 26.4 kW
480V, 60 Hz	33.8 kVA 27.0 kW	37.5 kVA 30.0 kW

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

Technical Data		
Engine Make & Model:	Perkins 1103A-33G1	
Alternator Model:	LL1014S	
Base Frame Type:	Fbc2 - (08Hr)	
Circuit Breaker Type:	3 Pole MCCB / 3 Pole MCCB	
Frequency:	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Fuel Tank Capacity: litres (US gal)	161 (42.5)	
Fuel Consumption, Prime: l/hr (US gal/hr)	6.9 (1.8)	8.0 (2.1)
Fuel Consumption, Standby : l/hr (US gal/hr)	7.6 (2.0)	8.9 (2.4)

# Engine Technical Data

Physical Data	
<b>Manufacturer:</b>	Perkins
<b>Model:</b>	1103A-33G1
<b>No. of Cylinders/Alignment:</b>	3 / In Line
<b>Cycle:</b>	4 Stroke
<b>Induction:</b>	Naturally Aspirated
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Mechanical
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	19.25:1
<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:	412 (908)
- Wet:	430 (948)

Air System	50 Hz	60 Hz
<b>Air Filter Type:</b>	Replaceable Element	
<b>Combustion Air Flow:</b>		
m <sup>3</sup> /min (cfm)	-Standby: 2.2 (76)	2.6 (91)
	-Prime: 2.2 (76)	2.6 (92)
<b>Max. Combustion Air Intake</b>		
Restriction: kPa (in H <sub>2</sub> O)	6.5 (26.1)	6.5 (26.1)
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	62.6 (2211)	84.8 (2995)
<b>External Restriction to</b>		
Cooling Air Flow: Pa (in H <sub>2</sub> O)	125 (0.5)	125 (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)		
-Standby:	18.0 (1024)	22.0 (1251)
-Prime:	16.0 (910)	18.0 (1024)
<b>Heat Radiation to Room:</b>		
kW (Btu/min)	-Standby: 6.0 (341)	6.0 (341)
	-Prime: 5.0 (284)	5.0 (284)
<b>Radiator Fan Load:</b> kW (hp)	0.3 (0.4)	0.5 (0.7)
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 l (US gal):</b>	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)		
-Standby:	31.0 (42.0)	36.5 (49.0)
-Prime:	28.2 (38.0)	33.1 (44.0)
<b>BMEP:</b> kPa (psi)		
-Standby:	752.0 (109.0)	738.0 (107.0)
-Prime:	684.0 (99.2)	669.0 (97.0)
<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			
<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	7.6 (2.0)	6.9 (1.8)	5.2 (1.4)	3.8 (1.0)
60 Hz	8.9 (2.4)	8.0 (2.1)	6.2 (1.6)	4.7 (1.2)
<b>Standby</b>				
50 Hz	7.6 (2.0)	5.7 (1.5)	4.1 (1.1)	
60 Hz	8.9 (2.4)	6.8 (1.8)	5.0 (1.3)	
(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 Noise Reduction</b>	SD50 (1)	
<b>Pressure Drop Across</b>		
Silencer System: kPa (in Hg)	1.80 (0.532)	2.00 (0.591)
<b>Silencer Noise Reduction</b>		
Level: dB	20	19
<b>Max. Allowable Back</b>		
Pressure: kPa (in. Hg)	8.0 (2.4)	10.0 (3.0)
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)	-Standby: 5.8 (205)	6.6 (233)
	-Prime: 5.7 (201)	6.4 (226)
<b>Exhaust Gas Temperature:</b> °C (°F)		
m <sup>3</sup> /min (cfm)	-Standby: 520 (968)	530 (986)
	-Prime: 500 (932)	520 (968)

Consult your Olympian representative for more information

## 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	64	60	55	71	70	47	55	52	61
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300
Reactances: Per Unit									
Xd	1.970	2.120	2.350	1.750	1.990	3.170	2.650	2.860	2.370
X'd	0.100	0.110	0.120	0.090	0.110	0.170	0.140	0.150	0.130
X''d	0.052	0.056	0.062	0.046	0.053	0.084	0.070	0.076	0.063

Reactances shown are applicable to standby ratings.

\* Based on 30% voltage dip.

\*\* With optional Permanent Magnet generator or AREP excitation.

## Alternator Technical Data

Physical Data	
Manufacturer:	OLYMPIAN
Model:	LL1014S
No. of Bearings:	1
Insulation Class:	H
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 Content LL/LN:	4.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	3.3 (188)
-60 Hz:	3.7 (210)

Consult your Olympian representative for more information

## Technical Data

### 3 Phase Ratings and Performance at 50 Hz, 1500 RPM

Voltage	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	30.0	24.0	33.0	26.4
400/230V	30.0	24.0	33.0	26.4
380/220V	30.0	24.0	33.0	26.4
230/115V †	30.0	24.0	33.0	26.4
220/127V	30.0	24.0	33.0	26.4
220/110V †	30.0	24.0	33.0	26.4
200/115V †	30.0	24.0	33.0	26.4

† Not available from our Chinese facility - Tianjin.

## Weights & Dimensions

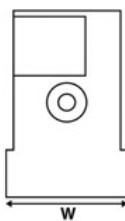
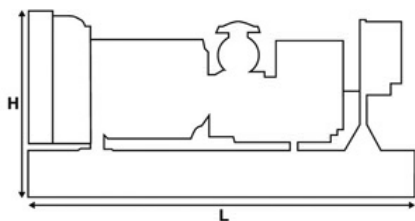
Weights: kg (lb)	
Net (+ lube oil)	827 (1823)
Wet (+ lube oil & coolant)	840 (1852)
Fuel, lube oil & coolant	976 (2153)

### 3 Phase Ratings and Performance at 60 Hz, 1800 RPM

Voltage	Prime		Standby	
	kVA	kW	kVA	kW
480/277V	33.8	27.0	37.5	30.0
220/127V	33.8	27.0	37.5	30.0
380/220V	33.8	27.0	37.4	29.9
240/120V	33.8	27.0	37.5	30.0
230/115V	33.8	27.0	37.5	30.0
440/254V	33.8	27.0	37.5	30.0
220/110V †	33.8	27.0	37.4	29.9
208/120V †	33.8	27.0	37.5	30.0
240/139V †	33.8	27.0	37.5	30.0

### Dimensions: mm (in)

Length	1540 (60.6)
Width	970 (38.2)
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

BS4999, BS5000, BSEN60034, BSEN61000, IEC60034.

### Warranty

All equipment carries full manufacturer's warranty.

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