# **OLYMPIAN**<sup>™</sup>



# **GEH300-1**

Diesel Generator Set Exclusively from your Cat  $^{\scriptsize \scriptsize (B)}$  dealer

Image shown may not reflect actual package

Output Ratings				
Generating Set Model - 3 Phase	Prime*	Standby*		
380-415V,50Hz	275.0 kVA 220.0 kW	300.0 kVA 240.0 kW		
480V, 60 Hz	312.5 kVA 250.0 kW	343.8 kVA 275.0 kW		

<sup>\*</sup> Refer to ratings definitions on page 4. Ratings at 0.8 power factor.

Technical Data					
Engine Make & Model:	Perkins <sup>™</sup> 1606A-E93TAG4	Perkins <sup>™</sup> 1606A-E93TAG4			
Alternator Model:	LL5014J				
Control Panel:	PowerWizard 1.1 +				
Base Frame Type:	Heavy Duty Fabricated Steel	Heavy Duty Fabricated Steel			
Circuit Breaker Type:	3 Pole MCCB				
Frequency:	50 Hz	60 Hz			
Engine Speed: RPM	1500	1800			
Fuel Tank Capacity: litres (US gal)	617 (	617 (163.0)			
Fuel Consumption, Prime: I/hr (US gal/hr)	55.5 (14.7)	68.1 (18.0)			
Fuel Consumption, Standby : I/hr (US gal/hr)	60.1 (15.9)	60.1 (15.9) 74.1 (19.6)			

## **Engine Technical Data**

Physical Data	
Manufacturer:	Perkins
Model:	1606A-E93TAG4
No. of Cylinders/Alignment:	6 / 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:	17.2:1
Displacement: I (cu.in)	9.3 (567.5)
Bore/Stroke: mm (in)	116.6 (4.6)/146.0 (5.7)
Moment of Inertia: kg m² (lb. in²)	1.95 (6657)
Engine Electrical System:	
-Voltage/Ground:	24/Negative
-Battery Charger Amps:	70
Weight: kg (lb) - Dry:	827 (1823)
- Wet:	860 (1896)

Air System		50 Hz	60 Hz	
Air Filter Type:		Paper Element		
Combustion Air Flo	ow:			
m³/min (cfm)	-Standby:	18.3 (648)	23.4 (826)	
	-Prime:	17.9 (632)	22.0 (778)	
Max. Combustion	Air Intake			
Restriction: kPa (	in H <sub>2</sub> O)	4.0 (16.1)	4.0 (16.1)	
Radiator Cooling	Air Flow:			
m³/min (cfm)		609.0 (21507)	679.0 (23979)	
External Restrictio	n to			
Cooling Air Flow	Pa (in H <sub>2</sub> O)	125 (0.5)	125 (0.5)	

Cooling System		50 Hz	60 Hz	
Cooling System Capacit	y:			
l (US gal)		30.9 (8.2)	30.9 (8.2)	
Water Pump Type:		Centr	ifugal	
Heat Rejected to Water	&			
Lube Oil: kW (Btu/min)	1			
-S	tandby:	123.0 (6995)	145.0 (8246)	
	-Prime:	116.0 (6597)	137.0 (7791)	
Heat Radiation to Room	: Heat radiate	ed from engine and alte	ernator	
kW (Btu/min) -S	tandby:	30.5 (1735)	43.1 (2451)	
	-Prime:	28.3 (1609)	39.6 (2252)	
Radiator Fan Load: kW (	(hp)	10.0 (13.4)	15.0 (20.1)	
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	
Oil Filter Type:	Spin-On, Full Flow
Total Oil Capacity I (US gal):	36.0 (9.5)
Oil Pan I (US gal):	33.0 (8.7)
Oil Type:	API CI-4
Cooling Method:	Water

Performance		50 Hz	60 Hz
Engine Speed: RPM		1500	1800
Gross Engine Power:	kW (hp)		
-Si	andby:	271.0 (363.0)	314.0 (421.0)
	-Prime:	249.0 (334.0)	287.0 (385.0)
BMEP: kPa (psi)			
-S1	andby:	2318.0 (336.2)	2238.0 (324.6)
	-Prime:	2130.0 (308.9)	2046.0 (296.7)

Fuel S	System					
Fuel Filter Type: Recommended Fuel:		Replaceable Element Class A1/A2 Diesel or BSEN590				
Fuel Co	onsumption: I/hr	(US gal/hr)				
	110% Load	100% Load	75% Load	50% Load		
Prime						
50 Hz	60.1 (15.9)	55.5 (14.7)	43.3 (11.4)	31.2 (8.2)		
60 Hz	74.1 (19.6)	68.1 (18.0)	53.3 (14.1)	38.9 (10.3)		
Standb	у					
50 Hz		60.1 (15.9)	46.6 (12.3)	33.4 (8.8)		
60 Hz		74.1 (19.6)	57.7 (15.2)	41.7 (11.0)		
(based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)						

Exhaust System		50 Hz	60 Hz	
Silencer Type:		Indus	strial	
Silencer Model & Q	uantity:	SD10	0 (1)	
Pressure Drop Acros	ss			
Silencer System: k	Pa (in Hg)	4.22 (1.246)	6.34 (1.872)	
Silencer Noise Redu	ction			
<b>Level</b> : dB		16.1	11.6	
Max. Allowable Bac	k			
<b>Pressure:</b> kPa (in. l	Hg)	10.0 (3.0)	10.0 (3.0)	
Exhaust Gas Flow:				
m³/min (cfm)	-Standby:	43.0 (1517)	52.9 (1868)	
	-Prime:	39.1 (1379)	50.6 (1789)	
Exhaust Gas Tempe	rature: °C (°F)			
-Standby:		436 (817)	389 (732)	
-Prime:		396 (745)	354 (669)	

## **Alternator Performance Data**

		50	Hz				60 Hz	_	
Data Item	415/240V	400/230V	380/220V		480/277V 240/139V	380/220V			440/254V 220/127V
Motor Starting Capability* kVA	623	585	536	1	682	458	-	-	590
Short Circuit Capacity** %	300	300	300	-	300	300	-	-	300
Reactances: Per Unit									
Xd	2.691	2.896	3.209	-	2.743	4.201	-	-	3.264
X'd	0.123	0.133	0.147	-	0.125	0.192	-	-	0.149
X''d	0.073	0.079	0.088	-	0.075	0.115	-	-	0.089

### **Alternator Technical Data**

Physical Data	
Manufactured for Olympian by:	OLYMPIAN
Model:	LL5014J
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 Content LL/LN:		4.0%	
Radio Interference: Supression is Standard EN6		n line with European 000-6	
Radiant Heat: kW (B	Radiant Heat: kW (Btu/min)		
-50 Hz:		18.5 (1052)	
-60 H	Hz:	20.1 (1143)	

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 or AREP excitation.

#### **Technical Data**

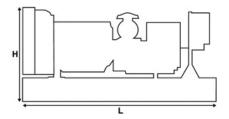
Voltage 50 Hz	Prime		Stand	dby
	kVA	kW	kVA	kW
415/240V	275.0	220.0	300.0	240.0
400/230V	275.0	220.0	300.0	240.0
380/220V	275.0	220.0	300.0	240.0

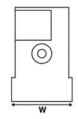
Voltage 60 Hz	Prime		Stand	lby
	kVA	kW	kVA	kW
480/277V	312.5	250.0	343.8	275.0
220/127V	312.5	250.0	343.8	275.0
380/220V	300.0	240.0	330.0	264.0
440/254V	312.5	250.0	343.8	275.0
240/139V	312.5	250.0	343.8	275.0

#### Weights & Dimensions

Weights: kg (lb)		
Net (+ lube oil)	2452 (5406)	
Wet (+ lube oil & coolant)	2483 (5474)	
Fuel, lube oil & coolant	3008 (6631)	

Dimensions: mm (in)	
Length	3300 (129.9)
Width	1100 (43.3)
Height	1848 (72.8)





**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**

 $\boldsymbol{\mathsf{A}}$  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.