

# OLYMPIAN™

## GEP165-3

*Diesel Generator Set  
Exclusively from your Cat® dealer*



Image shown may not reflect actual package

<b>Output Ratings</b>		
Generating Set Model - 3 Phase	Prime*	Standby*
380/220 V, 50 Hz	135.0 kVA 108.0 kW	150.0 kVA 120.0 kW
220/127V, 60 Hz	150.0 kVA 120.0 kW	165.0 kVA 132.0 kW

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

<b>Technical Data</b>		
Engine Make & Model:	Perkins 1006TAG	
Alternator Model:	GTA 251AE27	
Control Panel:	PowerWizard 1.1	
Base Frame Type:	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)	327 (86.4)	
Fuel Consumption, Prime: l/hr (US gal/hr)	31.1 (8.2)	37.5 (9.9)
Fuel Consumption, Standby : l/hr (US gal/hr)	34.5 (9.1)	41.0 (10.8)

## Engine Technical Data

Physical Data	
<b>Manufacturer:</b>	Perkins
<b>Model:</b>	1006TAG
<b>No. of Cylinders/Alignment:</b>	6 / In Line
<b>Cycle:</b>	4 Stroke
<b>Induction:</b>	Turbocharged Air To Air Charge Cooled
<b>Cooling Method:</b>	Water
<b>Governing Type:</b>	Electronic
<b>Governing Class:</b>	ISO 8528 G2
<b>Compression Ratio:</b>	17.0:1
<b>Displacement: l (cu.in)</b>	6.0 (365.5)
<b>Bore/Stroke: mm (in)</b>	100.0 (3.9)/127.0 (5.0)
<b>Moment of Inertia: kg m<sup>2</sup> (lb. in<sup>2</sup>)</b>	1.61 (5502)
<b>Engine Electrical System:</b>	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	55
<b>Weight: kg (lb) - Dry:</b>	586 (1292)
- Wet:	630 (1389)

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: 8.8 (310)	11.2 (394)
	-Prime: 8.4 (296)	10.7 (379)
<b>Max. Combustion Air Intake</b>		
Restriction: kPa (in H <sub>2</sub> O)	5.0 (20.1)	5.0 (20.1)
<b>Radiator Cooling Air Flow:</b>		
m <sup>3</sup> /min (cfm)	231.0 (8158)	283.8 (10022)
<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)	21.0 (5.5)	21.0 (5.5)
<b>Water Pump Type:</b>	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil: kW (Btu/min)</b>		
-Standby:	70.0 (3981)	76.7 (4362)
-Prime:	65.5 (3725)	68.0 (3867)
<b>Heat Radiation to Room:</b> Heat radiated from engine and alternator		
kW (Btu/min)	-Standby: 39.3 (2235)	47.9 (2724)
	-Prime: 26.3 (1496)	30.6 (1740)
<b>Radiator Fan Load: kW (hp)</b>	4.5 (6.0)	8.0 (10.7)

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 l (US gal):</b>	19.0 (5.0)
<b>Oil Pan l (US gal):</b>	16.0 (4.2)
<b>Oil Type:</b>	API CD 15W-40
<b>Cooling Method:</b>	Water

Performance	50 Hz	60 Hz
<b>Engine Speed: RPM</b>	1500	1800
<b>Gross Engine Power: kW (hp)</b>		
-Standby:	141.0 (189.0)	158.5 (213.0)
-Prime:	128.4 (172.0)	144.2 (193.0)
<b>BMEP: kPa (psi)</b>		
-Standby:	1885.0 (273.4)	1766.0 (256.1)
-Prime:	1716.0 (248.9)	1606.0 (233.0)
<b>Regenerative Power: kW</b>	12.6	16.2

Fuel System				
<b>Fuel Filter Type:</b>	Replaceable Element			
<b>Recommended Fuel:</b>	Class A2 Diesel or BSEN590			
<b>Fuel Consumption: l/hr (US gal/hr)</b>				
	<b>110% Load</b>	<b>100% Load</b>	<b>75% Load</b>	<b>50% Load</b>
<b>Prime</b>				
50 Hz	34.5 (9.1)	31.1 (8.2)	24.0 (6.3)	17.0 (4.5)
60 Hz	41.0 (10.8)	37.5 (9.9)	29.1 (7.7)	20.6 (5.4)
<b>Standby</b>				
50 Hz		34.5 (9.1)	26.3 (6.9)	18.6 (4.9)
60 Hz		41.0 (10.8)	31.6 (8.3)	22.3 (5.9)

(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>	EXSY1 (1)	
<b>Pressure Drop Across</b>		
Silencer System: kPa (in Hg)	0.15 (0.044)	0.23 (0.068)
<b>Silencer Noise Reduction</b>		
Level: dB	15	14
<b>Max. Allowable Back</b>		
Pressure: kPa (in. Hg)	6.0 (1.8)	6.0 (1.8)
<b>Exhaust Gas Flow:</b>		
m <sup>3</sup> /min (cfm)	-Standby: 25.7 (908)	31.4 (1109)
	-Prime: 24.1 (852)	29.8 (1051)
<b>Exhaust Gas Temperature: °C (°F)</b>		
-Standby:	584 (1083)	551 (1024)
-Prime:	584 (1083)	551 (1024)

## Alternator Performance Data

Data Item	50 Hz				60 Hz				
			380/220V				208/120V		220/127V
Motor Starting Capability* kVA	-	-	399	-	-	-	385	-	439
Short Circuit Capacity %	-	-	300	-	-	-	300	-	300
Reactances: Per Unit									
Xd	-	-	2.829	-	-	-	3.380	-	2.910
X'd	-	-	0.157	-	-	-	0.174	-	0.155
X''d	-	-	0.102	-	-	-	0.104	-	0.094

Reactances shown are applicable to prime ratings.  
\*Based on 30% voltage dip at 0.6 power factor.

## Alternator Technical Data

Physical Data	
Manufactured for Olympian by:	OLYMPIAN
Model:	GTA 251AE27
No. of Bearings:	1
Insulation Class:	H
Winding Pitch - Code:	2/3 - NA
Wires:	12
Ingress Protection Rating:	IP21
Excitation System:	AUX COIL
AVR Model:	GRT7-TH4E

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:	5.0%
Radio Interference:	Suppression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	13.6 (773)
-60 Hz:	14.3 (813)

## Technical Data

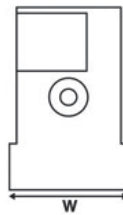
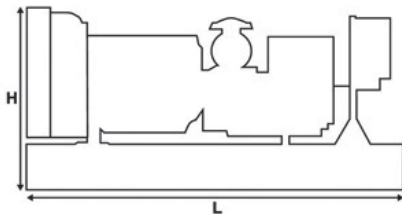
Voltage 50 Hz	Prime		Standby	
	kVA	kW	kVA	kW
380/220V	135.0	108.0	150.0	120.0

Voltage 60 Hz	Prime		Standby	
	kVA	kW	kVA	kW
220/127V	150.0	120.0	165.0	132.0

## Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	1413 (3115)
Wet (+ lube oil & coolant)	1439 (3172)
Fuel, lube oil & coolant	1716 (3783)

Dimensions: mm (in)	
Length	2450 (96.5)
Width	1010 (39.8)
Height	1544 (60.8)



**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

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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