

Exclusively from your Caterpillar® dealer



## GEP100 (3-Phase)

<b>50 HZ</b>	
<b>STANDBY</b>	<b>100 kVA / 80 kW</b>
<b>PRIME</b>	<b>90 kVA / 72 kW</b>
<b>60 HZ</b>	
<b>STANDBY</b>	<b>120 kVA / 96 kW</b>
<b>PRIME</b>	<b>110 kVA / 88 kW</b>

### FEATURES

#### GENERATING SET

- Complete system designed and built at ISO9001 certified facility
- Factory tested to design specifications at full load conditions
- Fully engineered with a range of options and accessories

#### ENGINE

- Industrial water cooled diesel engine
- Governor, mechanical
- Electrical system, 12 VDC
- Cartridge type fuel and oil filters
- Air filter
- Battery(s), rack and cables

#### GENERATOR

- Self excited brushless generator
- Insulation system, class H
- Drip proof generator air intake (IP23)
- Electrical design in accordance with BS5000 Part 99, IEC60034-1, VDE0530, UTE51100

#### CONTROL SYSTEM

- 1001 keystart control panel
- Vibration isolated sheet steel enclosure with hinged lockable door

#### MOUNTING ARRANGEMENT

- Heavy-duty fabricated steel base with lifting points
- Anti-vibration pads to ensure vibration isolation
- Engine coupled to generator with flexible disc coupling
- Baseframe incorporates heavy-duty fabricated steel fuel tank, 8 hours running capacity

#### EXHAUST SYSTEM

- Heavy duty industrial capacity exhaust silencer (approximately 10 dB reduction) supplied loose

#### COOLING SYSTEM

- Standard ambient temperatures up to 50° C (122° F)
- Fan, fan drive and charging alternator fully guarded
- Antifreeze protection coolant

#### CIRCUIT BREAKER

- 3-pole miniature circuit breaker (mcb) < 160 amps and 3-pole molded case circuit breaker (mccb) >= 160 amps
- Vibration isolated sheet steel enclosure with removable cover plate
- Outgoing cable stub-up area directly below circuit breaker

#### AUTOMATIC VOLTAGE REGULATOR

- Voltage regulation ±0.5 %
- Provides fast recovery from transient load changes

#### EQUIPMENT FINISH

- All electroplated hardware
- Anticorrosive paint protection
- High gloss polyurethane paint for durability and scuff resistance

#### QUALITY STANDARDS

- BS4999, BS5000, BS5514, IEC60034, VDE0530

#### DOCUMENTATION

- Operation and maintenance manuals provided
- Wiring diagrams included

#### WARRANTY

- 12 months from date of initial start-up or 18 months from shipping, whichever occurs first

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## OPTIONAL EQUIPMENT\*

<b>Engine</b>	Electronic governor (fully adjustable) Lube oil drain Lube oil drain valve Lube oil drain pump High lube oil temperature shutdown
<b>Generator</b>	Anti-condensation heater Quadrature droop upgrade Permanent magnet generator (PMG) AREP Excitation system
<b>Cooling System</b>	Coolant heater Low coolant temperature alarm Low coolant level shutdown Radiator transition flange Coolant drain Coolant drain valve 50% Anti-Freeze (Protection to -36°C)
<b>Fuel System</b>	Extended capacity metal basetank Bunded fuel tank (not available with canopied sets) Manual fuel pump Low fuel level shutdown Low fuel level alarm High fuel level alarm Remote fuel systems Fuel transfer systems Manual Bypass Valve
<b>Silencer System — Open Unit</b>	Level 2 silencer with mounting kit (approximately 25 dB reduction) Level 3 silencer with mounting kit (approximately 35 dB reduction) Overhead mounting kit for level 1 silencer Level 1, 2 and 3 silencer installation kits
<b>Enclosures</b>	Sound attenuated (EC) canopy Super sound attenuated (EC) canopy
<b>Handling/Trailers</b>	Oil field skid Single point lift Fixed height chassis trailer Adjustable height chassis trailer
<b>Controls</b>	Baseframe mounted terminal box instead of control panel 2001 Autostart panel 4001 Autostart panel 4001E Autostart panel 6000 Series digital synchronising control panels Access 1000 modular control panel Access 2000 modular control panel Access 4000 digital control panel Automatic mains failure (AMF) upgrades for 2001, 4001 and 4001E panels Control panel upgrades — gauges, meters, battery chargers, alarms, shutdowns
<b>Remote Annunciators</b>	8- and 16-channel remote annunciator panel for 4001 and 4001E control systems only (supplied loose) Remote annunciator upgrade — normal/run control switch Remote annunciator upgrade — lockdown stop pushbutton
<b>Circuit Breaker</b>	Upgrades from 3-pole to 4-pole breaker
<b>Transfer Switches</b>	TM Series manual load transfer panels TC Series automatic load transfer panels TI Series load transfer panels and bypass switches TX Series load transfer panels
<b>Certification</b>	European CE certification (not available on 60 Hz models)

\*Some options may not be available on all models.  
Not all options are listed.

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## SPECIFICATIONS



### GENERATOR

Make..... Olympian  
 Model..... LL3014B  
 Type..... Self-excited, brushless  
 Voltage regulation..... ±0.5% at steady state from  
 from no load to full load  
 Frequency..... ±0.8% for constant load from  
 no load to full load  
 Waveform distortion..... THD <4%  
 Radio interference..... Compliance with BS800 and  
 VDE Class G&N  
 Telephone Interference..... TIF <50, THF <2%  
 Overspeed limit..... 2250 rpm  
 Insulation..... Class H  
 Temperature rise..... Within Class H limits  
 Deration..... Consult factory for available outputs

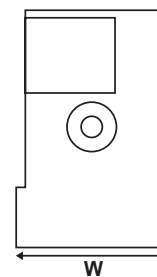
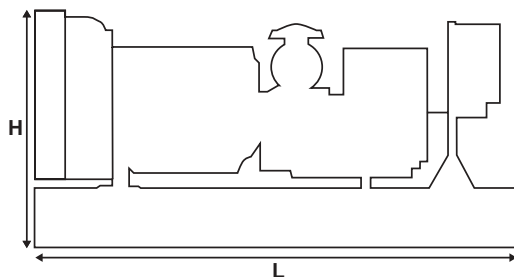


### ENGINE

Manufacturer..... Perkins  
 Model..... 1006TG1A  
 Type..... 4-Cycle  
 Aspiration..... Turbocharged  
 Cylinder configuration..... In-line 6  
 Displacement — L (cu in)..... 5.99 (366)  
 Bore/stroke — mm (in)..... 100/127 (3.9/5.0)  
 Compression ratio..... 16.0:1  
 Engine speed — rpm  
 50 Hz..... 1500  
 60 Hz..... 1800

Piston speed — m/sec (ft/sec)  
 50 Hz..... 6.35 (20.8)  
 60 Hz..... 7.62 (25.0)  
 Maximum power at rated rpm — kW (hp)  
 Standby  
 50 Hz..... 94.9 (127)  
 60 Hz..... 112.0 (150)  
 Prime  
 50 Hz..... 86.3 (116)  
 60 Hz..... 102.0 (136)  
 BMEP — kPa (psi)  
 Standby  
 50 Hz..... 1283 (186)  
 60 Hz..... 1259 (182)  
 Prime  
 50 Hz..... 1155 (167)  
 60 Hz..... 1133 (164)  
 Regenerative power — kW (hp)  
 50 Hz..... 12.6 (16.9)  
 60 Hz..... 16.2 (21.7)  
 Motor starting capability — kW (hp)  
 50 Hz..... 75 (101)  
 60 Hz..... 87 (117)  
 Governor  
 Type..... Mechanical  
 Class..... ISO 8528 G2

## GENERATING SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight* kg (lb)
GEP100	2481 (97.7)	746 (29.4)	1433 (56.4)	1220 (2690)

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

\*Includes oil and coolant

Consult your Olympian representative for more information

50 Hz    STANDBY    100 kVA / 80 kW  
           PRIME        90 kVA / 72 kW  
 60 Hz    STANDBY    120 kVA / 96 kW  
           PRIME        110 kVA / 88 kW

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**GEP100 (3-Phase)**

Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
<b>Package Performance</b> Power rating	kVA (kW)	100 (80)	90 (72)	120 (96)	110 (88)
<b>Lubricating System</b> Type: Oil pump & lubrication sump Oil filter: Spin-on, full flow Oil cooler: Water Oil type required: API CD 15W-40 Total lube system capacity Oil pan capacity	L (U.S. Gal) L (U.S. Gal)	16.1 (4.3) 13.1 (3.5)		16.1 (4.3) 13.1 (3.5)	
<b>Fuel System</b> Fuel Tank Capacity Generator set fuel consumption** 100% load 75% load 50% load	L (U.S. Gal) L/hr (U.S. g/hr) L/hr (U.S. g/hr) L/hr (U.S. g/hr)	230 (60.8) 23.1 (6.1) 17.3 (4.6) 12.1 (3.2)	20.7 (5.5) 15.7 (4.2) 11.1 (2.9)	230 (60.8) 28.3 (7.51) 21.6 (5.7) 15.4 (4.1)	26.1 (6.9) 20.0 (5.3) 14.4 (3.8)
<b>Engine Electrical System</b> Voltage/ground: 12 vDC/negative Battery charging alternator ampere rating	amps	55		55	
<b>Cooling System</b> Water pump type: Centrifugal Cooling system capacity Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L (U.S. Gal) m H <sub>2</sub> O (ft H <sub>2</sub> O) L/hr (U.S. gal/hr) °C (°F) °C (°F) kW (Btu/min) kW (Btu/min) kW (hp)	27.7 (7.3) 11.7 (38.7) 8280 (2188) 70 (158) 8 (14) 59.8 (3401) 36.0 (2048) 2.8 (3.8)	53.0 (3015) 27.6 (1570)	27.7 (7.3) 8.0 (26.5) 10080 (2663) 70 (158) 8 (14) 72.2 (4107) 39.5 (2247) 4.8 (6.4)	65.5 (3726) 31.3 (1780)
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air Generator cooling air	m <sup>3</sup> /min (cfm) kPa (in H <sub>2</sub> O) m <sup>3</sup> /min (cfm) m <sup>3</sup> /min (cfm)	5.6 (200) 5.0 (20.1) 192 (6780) 22.2 (784)	5.45 (192)	7.28 (257) 5.0 (20.1) 246 (8687) 26.4 (932)	6.95 (245)
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated power Exhaust temperature at rated power (dry exhaust)	kPa (in Hg) m <sup>3</sup> /min (cfm) °C (°F)	6.0 (1.77) 17.0 (599) 583 (1081)	15.6 (549)	6.0 (1.77) 21.1 (743) 573 (1063)	19.4 (686) 540 (1004)
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3.28 ft)	dBA	95.6		96.6	

\*dBA levels are for guidance only

\*\*Fuel consumption data at indicated load with diesel fuel with a specific gravity of 0.85 and conforming to BS2869:1998 Class A2.

Generator Technical Data	50 Hz				60 Hz				
	415/240V	400/230V	380/220V	220/127V	480/277V	440/254V	208/120V	230/115V	380/220V
<b>Motor Starting Capability:</b>									
Self Excited (kVA)	195	180	162	220	216	181	162	149	135
AREP Excited*** (kVA)	257	238	215	289	283	238	212	197	176
PM Excited**** (kVA)	257	238	215	289	283	238	212	197	176
<b>Full Load Efficiency</b>									
Standby %	89.9	89.9	89.5	89.5	90.8	90.2	89.6	89.2	88.4
Prime %	90.4	90.4	90.1	90.2	91.2	90.7	90.2	89.8	89.2
<b>Reactances (per unit)</b>									
Saturated X'd	3.23	3.48	3.86	2.88	3.48	4.14	4.66	5.01	5.55
Reactances are shown X"q	0.12	0.13	0.14	0.11	0.13	0.15	0.17	0.19	0.21
applicable to the standby rating X"q	0.072	0.077	0.085	0.064	0.077	0.092	0.103	0.111	0.123
X2	1.94	2.09	2.32	1.73	2.09	2.49	2.80	3.01	3.33
X0	0.091	0.098	0.109	0.081	0.098	0.117	0.131	0.141	0.156
	0.081	0.087	0.096	0.072	0.087	0.104	0.116	0.125	0.139
	0.005	0.005	0.006	0.004	0.005	0.006	0.007	0.007	0.008
<b>Time Constants:</b>	t'd 100 ms		t" 10 ms		t'do 2712 ms		ta 15 ms		

\*\*\*With AREP Excited Option AR20A/AR21A

\*\*\*\*With PMG Excited Option AR18A/AR19A

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## RATINGS AT AVAILABLE VOLTAGES

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT502	415/240	100	80	90	72
VOPT503	400/230	100	80	90	72
VOPT504	380/220	100	80	90	72
VOPT506	230/115	100	80	90	72
VOPT507	220/127	100	80	90	72
VOPT508	220/110	100	80	90	72
VOPT510	200/115	100	80	90	72

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT601	480/277	120	96	110	88
VOPT603	440/254	120	96	110	88
VOPT605	380/220	120	96	110	88
VOPT606	240/120	120	96	110	88
VOPT607	230/115	120	96	110	88
VOPT608	220/127	120	96	110	88
VOPT609	220/110	120	96	110	88
VOPT610	208/120	120	96	110	88
VOPT611	240/139	120	96	110	88

Ratings at 27° C (80° F), 152.4 m (500 ft), 60% humidity, 0.8 pf

## RATING DEFINITIONS

### STANDBY

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. When used at standby rating the alternator will be peak continuous rated (as defined in ISO8528-3).

### PRIME POWER

These ratings are applicable for supplying continuous 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.

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