

Exclusively from your Caterpillar® dealer



## GEP550 (3-Phase)

### 50 HZ

STANDBY 550 kVA / 440 kW

PRIME 500 kVA / 400 kW

## FEATURES

### GENERATOR 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
- Isochronous electronic speed control
- Governor, electronic
- Electrical system, 24 VDC
- Cartridge type fuel and oil filters
- Air filter
- Lube oil drain valve
- Battery(ies), rack and cables

### ALTERNATOR

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

### CONTROL SYSTEM

- 2001 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
- Coolant drain valve
- Antifreeze protection coolant

### CIRCUIT BREAKER

- 3-pole molded case circuit breaker (mccb)
- Vibration isolated sheet steel enclosure with removable cover plate
- Outgoing cable stub-up area directly below circuit breaker

### AUTOMATIC VOLTAGE REGULATOR

- Voltage regulation  $\pm 0.5\%$
- 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

- All equipment carries full manufacturer's warranty. Extended warranty terms available.

*Exclusively from your Caterpillar® dealer***OPTIONAL EQUIPMENT\***

<b>Engine</b>	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 50% Anti freeze
<b>Fuel System</b>	Manual fuel pump Low fuel level shutdown Low 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
<b>Handling/Trailers</b>	Oil field skid
<b>Controls</b>	Baseframe mounted terminal box instead of control panel 4001 Autostart panel 4001E Autostart panel 6000 Series digital synchronising control panels Access 4000 digital control panel Automatic mains failure (AMF) upgrades for 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 STI Series load transfer panels STX Series load transfer panels
<b>Certification</b>	European CE certification

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

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## SPECIFICATIONS



### ALTERNATOR

Make..... Olympian  
 Model..... LL6014H  
 Type..... Self-excited, brushless  
 Voltage regulation..... ±0.5% at steady state from  
 from no load to full load  
 Frequency..... ±0.25% for constant load from  
 no load to full load  
 Waveform distortion..... THD <4%  
 Radio interference..... Compliance with EN61000-6  
 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

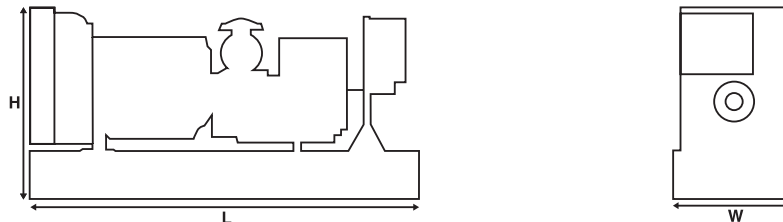


### ENGINE

Manufacturer..... Perkins  
 Model..... 2806C-E16TAG2  
 Type..... 4-Cycle  
 Aspiration..... Turbocharged, AA Charge Cooled  
 Cylinder configuration..... In-line 6  
 Displacement — L (cu in)..... 15.8 (964)  
 Bore/stroke — mm (in)..... 140 (5.5) / 171 (6.7)  
 Compression ratio..... 15.9:1  
 Engine speed — rpm  
 50 Hz..... 1500

Piston speed — m/sec (ft/sec)  
 50 Hz..... 8.55 (28.1)  
 Maximum power at rated rpm — kW (hp)  
 Standby  
 50 Hz..... 483 (648)  
 Prime  
 50 Hz..... 445 (597)  
 BMEP — kPa (psi)  
 Standby  
 50 Hz..... 2450 (355)  
 Prime  
 50 Hz..... 2260 (328)  
 Regenerative power — kW (hp)  
 50 Hz..... TBA  
 Motor starting capability — kW (hp)  
 50 Hz..... 322 (431.8)  
 Governor  
 Type..... Electronic  
 Class..... ISO 8528 G3

## GENERATOR SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight* kg (lb)
<b>GEP550</b>	3828 (150.7)	1200 (47.2)	2174 (85.6)	3810 (8400)

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

\*Includes oil and coolant

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**GEP550 (3-Phase)**

Generator Set Technical Data		50 Hz	
		Standby	Prime
<b>Package Performance</b> Power rating	kVA (kW)	550 (440)	500 (400)
<b>Lubricating System</b> Type: Wet sump Oil filter: Spin-on, full flow Oil cooler: Water Oil type required: API CG4 Total lube system capacity Oil pan capacity	L (U.S. Gal) L (U.S. Gal)	68 (17.9) 60 (15.9)	
<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)	863 (228) 118.2 (31.2) 90.1 (23.8) 63.3 (16.7)	107.9 (28.5) 82.3 (21.8) 58.5 (15.5)
<b>Engine Electrical System</b> Voltage/ground: 24 vDC/negative Battery charging alternator ampere rating	amps	70	
<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)	50 (13.2) 17.6 (5.77) 18728 (4947) 70 (158) 8.0 (46.4) 179.4 (10200) 48.8 (2753) 14.5 (19.4)	165.3 (9402) 46 (2616)
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air Generator cooling air External restriction to cooling airflow	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) Pa (in Wg)	41.3 (1458) 2.5 (10) 564 (19915) 48 (1696) 187 (0.75)	38.1 (1345)
<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)	6.9 (2.0) 90 (3178) 459 (858)	83 (2931) 457 (855)
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3.28 ft)	dBA	TBA	

\*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			
	415/240V	400/230V	380/220V	
<b>Motor Starting Capability:</b>				
Self Excited (kVA)	1258	1175	1067	
AREP Excited*** (kVA)	1518	1417	1287	
PM Excited**** (kVA)	1518	1417	1287	
<b>Full Load Efficiency</b>				
Standby %	94.1	94.2	94.0	
Prime %	94.3	94.4	94.3	
<b>Reactances (per unit)</b>				
Saturated X <sub>d</sub>	3.19	3.44	3.81	
X <sub>d</sub> '	0.14	0.15	0.16	
Reactances X <sub>d</sub> "	0.109	0.117	0.130	
are shown X <sub>q</sub>	1.92	2.06	2.29	
applicable to the X <sub>q</sub> "	0.125	0.135	0.149	
standby rating X <sub>2</sub>	0.118	0.127	0.140	
X <sub>0</sub>	0.006	0.007	0.008	
<b>Time Constants:</b>	t' <sub>d</sub> 100 ms.	t" <sub>d</sub> 10 ms.	t' <sub>do</sub> 2339 ms.	t <sub>a</sub> 15 ms.

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

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

Consult your Olympian representative for more information.

5 0 H z

S T A N D B Y  
P R I M E5 5 0 k V A / 4 4 0 k W  
5 0 0 k V A / 4 0 0 k W**OLYMPIAN™***Exclusively from your Caterpillar® dealer***RATINGS AT AVAILABLE VOLTAGES**

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
<b>VOPT502</b>	415/240	550	440	500	400
<b>VOPT503</b>	400/230	550	440	500	400
<b>VOPT504</b>	380/220	550	440	500	400

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.

5 0 H z

S T A N D B Y  
P R I M E

5 5 0 k V A / 4 4 0 k W  
5 0 0 k V A / 4 0 0 k W

**OLYMPIAN™**

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European sourced

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