

Exclusively from your Caterpillar® dealer



GEP500 (3-Phase)

50 HZ

STANDBY 500 kVA / 400 kW

PRIME 450 kVA / 360 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***

Engine	Lube oil drain pump High lube oil temperature shutdown
Generator	Anti-condensation heater Quadrature droop upgrade Permanent magnet generator (PMG) AREP Excitation system
Cooling System	Coolant heater Low coolant temperature alarm Low coolant level shutdown Radiator transition flange Coolant drain 50% Anti freeze
Fuel System	Manual fuel pump Low fuel level shutdown Low fuel level alarm Remote fuel systems Fuel transfer systems Manual Bypass Valve
Silencer System – Open Unit	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
Enclosures	Sound attenuated (EC) canopy
Handling/Trailers	Oil field skid
Controls	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
Remote Annunciators	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
Circuit Breaker	Upgrades from 3-pole to 4-pole breaker
Transfer Switches	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
Certification	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 LL6014F
 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

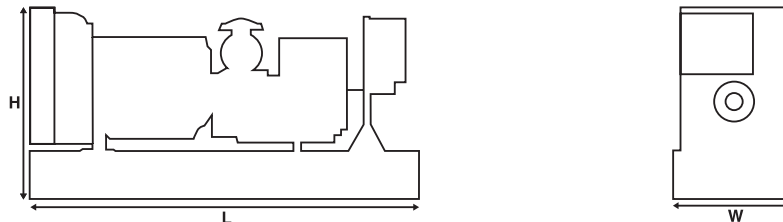


ENGINE

Manufacturer Perkins
 Model 2806C-E16TAG1
 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 445 (597)
 Prime
 50 Hz 402 (539)
 BMEP — kPa (psi)
 Standby
 50 Hz 2260 (328)
 Prime
 50 Hz 2040 (296)
 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)
GEP500	3828 (150.7)	1200 (47.2)	2174 (85.6)	3800 (8378)

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

*Includes oil and coolant

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GEP500 (3-Phase)

Generator Set Technical Data		50 Hz	
		Standby	Prime
Package Performance Power rating	kVA (kW)	500 (400)	450 (360)
Lubricating System 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)	
Fuel System 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) 108.9 (28.8) 84.0 (22.2) 58.9 (15.6)	98.9 (26.1) 76.5 (20.2) 54.0 (14.3)
Engine Electrical System Voltage/ground: 24 vDC/negative Battery charging alternator ampere rating	amps	70	
Cooling System 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 ₂ O (ft H ₂ O) L/hr (U.S. gal/hr) °C (°F) °C (°F) kW (Btu/min) kW (Btu/min) kW (hp)	50 (13.2) 17.6 (57.7) 18728 (4947) 70 (158) 8.0 (46.4) 165.3 (9402) 44.7 (2542) 14.5 (19.4)	149.3 (8490) 43 (2446)
Air Requirements Combustion air flow Maximum air cleaner restriction Radiator cooling air Generator cooling air External restriction to cooling airflow	m ³ /min (cfm) kPa (in H ₂ O) m ³ /min (cfm) m ³ /min (cfm) Pa (in Wg)	38 (1342) 2.5 (10) 564 (19915) 48 (1696) 187 (0.75)	34.6 (1222)
Exhaust System Maximum allowable backpressure Exhaust flow at rated power Exhaust temperature at rated power (dry exhaust)	kPa (in Hg) m ³ /min (cfm) °C (°F)	6.9 (2.0) 83 (2931) 457 (855)	75.2 (2656) 453 (847)
Generator Set Noise Rating* (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	
Motor Starting Capability:				
Self Excited (kVA)	1038	972	886	
AREP Excited*** (kVA)	1246	1167	1064	
PM Excited**** (kVA)	1246	1167	1064	
Full Load Efficiency				
Standby %	93.9	93.9	93.9	
Prime %	94.3	94.3	94.3	
Reactances (per unit)				
Saturated X _d	3.14	3.38	3.74	
X _d	0.15	0.16	0.17	
X _d	0.117	0.126	0.139	
are shown X _q	1.88	2.03	2.24	
applicable to the X _q	0.134	0.144	0.159	
standby rating X ₂	0.126	0.135	0.150	
X ₀	0.010	0.011	0.012	
Time Constants:	t' _d 100 ms.	t'' _d 10 ms.	t' _{do} 2153 ms.	t _a 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 0 0 k V A / 4 0 0 k W
4 5 0 k V A / 3 6 0 k W**OLYMPIAN™***Exclusively from your Caterpillar® dealer***RATINGS AT AVAILABLE VOLTAGES**

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT502	415/240	500	400	450	360
VOPT503	400/230	500	400	450	360
VOPT504	380/220	500	400	450	360

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 0 0 k V A / 4 0 0 k W
4 5 0 k V A / 3 6 0 k W

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European sourced

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