

Exclusively from your Caterpillar® dealer



GEP50-5 (3-Phase)

50 HZ

STANDBY 50.0 kVA / 40.0 kW

PRIME 45.0 kVA / 36.0 kW

60 HZ

STANDBY 56.3 kVA / 45.0 kW

PRIME 50.0 kVA / 40.0 kW

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(ies), 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, BSEN60034, BSEN61000, IEC60034

DOCUMENTATION

- Operation and maintenance manuals provided
- Wiring diagrams included

WARRANTY

- All equipment carries full manufacturer's warranty.

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OPTIONAL EQUIPMENT*

Engine	Electronic governor (fully adjustable) Lube oil drain Lube oil drain valve Lube oil drain pump
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 Coolant drain valve 50% Anti-Freeze (Protection to -36°C)
Fuel System	Manual fuel pump Low fuel level shutdown Low fuel level alarm High 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 Super sound attenuated (EC) canopy
Handling/Trailers	Oil field skid Single point lift Fixed height chassis trailer Adjustable height chassis trailer
Controls	Baseframe mounted terminal box instead of control panel PowerWizard 1.0 panel PowerWizard 2.0 panel 6000 Series digital synchronising control panels
Remote Annunciators	PowerWizard Annunciator
Circuit Breaker	Upgrades from 3-pole to 4-pole breaker
Transfer Switches	TM Series manual load transfer panels ATI Series load transfer panels and bypass switches
Certification	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..... LL2014C
 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 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

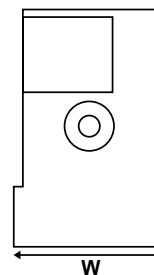
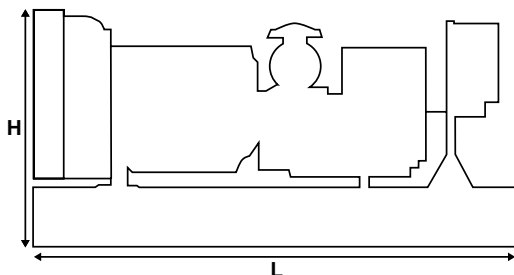


ENGINE

Manufacturer..... Perkins
 Model..... 1103A-33TG1
 Type..... 4-Cycle
 Aspiration..... Turbocharged
 Cylinder configuration..... In-line 3
 Displacement — L (cu in)..... 3.3 (201)
 Bore/stroke — mm (in)..... 105/127 (4.1/5.0)
 Compression ratio..... 17.25:1
 Engine speed — rpm
 50 Hz..... 1500
 60 Hz..... 1800

Piston speed — m/sec (ft/sec)
 50 Hz..... 6.4 (20.8)
 60 Hz..... 7.6 (25.0)
 Maximum power at rated rpm — kW (hp)
 Standby
 50 Hz..... 46.4 (62.0)
 60 Hz..... 55.6 (75.0)
 Prime
 50 Hz..... 42.2 (57.0)
 60 Hz..... 50.5 (68.0)
 BMEP — kPa (psi)
 Standby
 50 Hz..... 1125 (163)
 60 Hz..... 1124 (163)
 Prime
 50 Hz..... 1023 (148)
 60 Hz..... 1020 (148)
 Regenerative power — kW (hp)
 50 Hz..... 7.0 (9.4)
 60 Hz..... 9.0 (12.1)
 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)
GEP50-5	2149 (84.6)	752 (29.6)	1366 (53.8)	910 (2006)

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

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GEP50-5 (3-Phase)

Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
Package Performance Power rating	kVA (kW)	50.0 (40.0)	45.0 (36.0)	56.3 (45.0)	50.0 (40.0)
Lubricating System 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)	8.3 (2.2) 7.8 (2.1)		8.3 (2.2) 7.8 (2.1)	
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)	175 (46.2) 11.9 (3.1) 8.8 (2.3) 6.1 (1.6)	10.6 (2.8) 7.9 (2.1) 5.6 (1.5)	175 (46.2) 13.5 (3.6) 10.1 (2.7) 7.3 (1.9)	11.9 (3.1) 9.1 (2.4) 6.7 (1.8)
Engine Electrical System Voltage/ground: 12 vDC/negative Battery charging alternator ampere rating	amps	65		65	
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)	10.2 (2.7) TBA 7530 (1989) TBA TBA 30.6 (1740) 14.0 (796) 0.5 (0.7)	26.1 (1484) TBA 26.1 (1484) 11.9 (677)	10.2 (2.7) TBA 9060 (2393) TBA TBA 33.1 (1882) 15.3 (870) 0.9 (1.2)	29.5 (1678) TBA TBA TBA 29.5 (1678) 13.0 (739)
Air Requirements Combustion air flow Maximum air cleaner restriction Radiator cooling air External restriction to cooling airflow Generator cooling air	m ³ /min (cfm) kPa (in H ₂ O) m ³ /min (cfm) Pa (in H ₂ O) m ³ /min (cfm)	2.8 (99.0) 8.0 (32.1) TBA TBA 16.2 (572)	2.6 (92.0) 8.0 (32.1) TBA TBA	3.4 (120) 8.0 (32.1) TBA TBA 19.2 (678)	3.2 (113) 8.0 (32.1) TBA TBA
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)	15.0 (4.4) 7.7 (272) 540 (1004)	7.0 (247) 7.0 (247) 489 (912)	15.0 (4.4) 9.6 (339) 553 (1027)	8.8 (311) 8.8 (311) 506 (943)
Generator Set Noise Rating* (without attenuation) at 1 m (3.28 ft)	dBA	TBA		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				60 Hz				
	415/240V	400/230V 230/115V 200/115V	380/220V 220/110V	220/127V	480/277V 240/139V	440/254V 220/127V	240/120V 208/120V	230/115V	380/220V 220/110V
Motor Starting Capability:									
Self Excited (kVA)	89.0	84.0	76.0	99.0	98.0	84.0	76.0	71.0	65.0
AREP Excited*** (kVA)	117	110	100	129	128	110	100	93.0	85.0
PM Excited**** (kVA)	117	110	100	129	128	110	100	93.0	85.0
Full Load Efficiency									
Standby %	87.5	87.3	86.8	87.2	88.3	87.9	87.2	88.6	85.8
Prime %	88.1	88.0	87.5	87.7	88.8	88.5	87.9	87.5	86.8
Reactances (per unit)									
Saturated X _d	2.96	3.18	3.53	2.63	2.99	3.56	4.98	4.30	4.77
Reactances are shown applicable to the standby rating	0.13	0.14	0.16	0.12	0.13	0.15	0.17	0.19	0.21
X _d	0.065	0.070	0.078	0.058	0.066	0.079	0.088	0.095	0.105
X _q	1.77	1.91	2.12	1.58	1.79	2.13	2.39	2.58	2.86
X _q	0.082	0.088	0.098	0.073	0.083	0.098	0.110	0.119	0.132
X ₂	0.073	0.079	0.087	0.065	0.074	0.088	0.098	0.106	0.118
X ₀	0.005	0.005	0.006	0.004	0.005	0.006	0.006	0.007	0.008
Time Constants:									
	t' _d 50 ms.		t'' _d 5 ms.		t' _{do} 1131 ms.		t _a 8 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	50.0	40.0	45.0	36.0
VOPT503	400/230	50.0	40.0	45.0	36.0
VOPT504	380/220	49.8	39.8	45.0	36.0
VOPT506	230/115	50.0	40.0	45.0	36.0
VOPT507	220/127	50.0	40.0	45.0	36.0
VOPT508	220/110	49.8	39.8	45.0	36.0
VOPT510	200/115	50.0	40.0	45.0	36.0

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT601	480/277	56.3	45.0	50.0	40.0
VOPT603	440/254	56.3	45.0	50.0	40.0
VOPT605	380/220	56.3	44.6	50.0	40.0
VOPT606	240/120	56.3	45.0	50.0	40.0
VOPT607	230/115	56.3	45.0	50.0	40.0
VOPT608	220/127	56.3	45.0	50.0	40.0
VOPT609	220/110	56.3	45.0	50.0	40.0
VOPT610	208/120	56.3	45.0	50.0	40.0
VOPT611	240/139	56.3	45.0	50.0	40.0

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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