

Exclusively from your Caterpillar® dealer



## GEP88-1 (3-Phase)

50 HZ

**STANDBY**

**88.0 kVA / 70.4 kW**

**PRIME**

**80.0 kVA / 64.0 kW**

60 HZ

**STANDBY**

**100 kVA / 80.0 kW**

**PRIME**

**90.0 kVA / 72.0 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, BS5514, IEC60034, VDE0530

### DOCUMENTATION

- Operation and maintenance manuals provided
- Wiring diagrams included

### WARRANTY

- All equipment carries full manufacturer's warranty.

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## OPTIONAL EQUIPMENT\*

<b>Engine</b>	Electronic governor (fully adjustable) Lube oil drain Lube oil drain valve Lube oil drain pump
<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>	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 PowerWizard 1.0 panel PowerWizard 2.0 panel 6000 Series digital synchronising control panels
<b>Remote Annunciators</b>	PowerWizard Annunciator
<b>Circuit Breaker</b>	Upgrades from 3-pole to 4-pole breaker
<b>Transfer Switches</b>	TM Series manual load transfer panels ATI Series load transfer panels and bypass switches
<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 ..... LL2014L  
 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

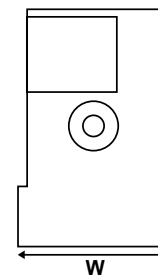
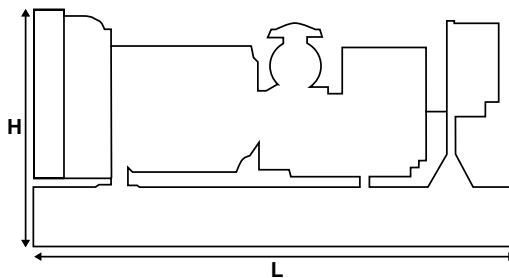


### ENGINE

Manufacturer ..... Perkins  
 Model ..... 1104A-44TG2  
 Type ..... 4-Cycle  
 Aspiration ..... Turbocharged  
 Cylinder configuration ..... In-line 4  
 Displacement — L (cu in) ..... 4.4 (269)  
 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..... 80.7 (108)  
 60 Hz ..... 92.6 (124)  
 Prime  
 50 Hz ..... 73.4 (98.0)  
 60 Hz..... 84.2 (113)  
 BMEP — kPa (psi)  
 Standby  
 50 Hz ..... 1468 (213)  
 60 Hz ..... 1403 (204)  
 Prime  
 50 Hz ..... 1335 (194)  
 60 Hz ..... 1276 (185)  
 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)
GEP88-1	2149 (84.6)	752 (29.6)	1366 (53.8)	1010 (2227)

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 88.0 kVA / 70.4 kW  
 PRIME 80.0 kVA / 64.0 kW  
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 PRIME 90.0 kVA / 72.0 kW

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**GEP88-1 (3-Phase)**

Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
<b>Package Performance</b> Power rating	kVA (kW)	88.0 (70.4)	80.0 (64.0)	100 (80.0)	90.0 (72.0)
<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)	8.0 (2.1) 7.0 (1.8)		8.0 (2.1) 7.0 (1.8)	
<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)	175 (46.2) 19.9 (5.3) 14.9 (3.9) 10.3 (2.7)	18.0 (4.8) 13.6 (3.6) 9.5 (2.5)	175 (46.2) 23.7 (6.3) 17.9 (4.7) 12.6 (3.3)	21.3 (5.6) 16.2 (4.3) 11.6 (3.1)
<b>Engine Electrical System</b> Voltage/ground: 12 vDC/negative Battery charging alternator ampere rating	amps	65		65	
<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)	13.0 (3.4) TBA 8520 (2251) TBA TBA 50.4 (2866) 20.8 (1183) 1.0 (1.3)	45.9 (2610) TBA 19.0 (1081)	13.0 (3.4) TBA 10200 (2695) TBA TBA 55.8 (3173) 22.7 (1291) 1.7 (2.3)	51.6 (2934) TBA 20.5 (1166)
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air External restriction to cooling airflow Generator cooling air	m <sup>3</sup> /min (cfm) kPa (in H <sub>2</sub> O) m <sup>3</sup> /min (cfm) Pa (in H <sub>2</sub> O) m <sup>3</sup> /min (cfm)	5.1 (180) 8.0 (32.1) 121 (4280) 120 (0.5) 16.2 (572)	4.8 (170) 8.0 (32.1) 121 (4280) 120 (0.5) 16.2 (572)	6.4 (226) 8.0 (32.1) 140 (4958) 120 (0.5) 19.2 (678)	6.1 (215) 8.0 (32.1) 140 (4958) 120 (0.5) 19.2 (678)
<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)	10.0 (3.0) 13.3 (470) 580 (1076)	12.5 (441) 12.5 (441) 555 (1031)	15.0 (4.4) 15.9 (560) 560 (1040)	15.0 (530) 15.0 (530) 535 (995)
<b>Generator Set Noise Rating*</b> (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
<b>Motor Starting Capability:</b> Self Excited (kVA) AREP Excited*** (kVA) PM Excited**** (kVA)	218 285 285	206 269 269	189 247 247	240 313 313	239 311 311	207 270 270	188 247 247	176 231 231	161 212 212
<b>Full Load Efficiency</b> Standby % Prime %	91.1 91.4	91.1 91.4	90.7 91.2	91.2 91.3	91.5 91.8	91.3 91.6	90.9 91.2	90.5 91.0	90.1 90.4
<b>Reactances (per unit)</b> Xd Saturated X'd Reactances X'd are shown Xq applicable to the X"q standby rating X2 X0	2.64 0.09 0.044 1.58 0.055 0.050 0.005	2.84 0.10 0.047 1.71 0.059 0.054 0.005	3.15 0.11 0.052 1.89 0.065 0.060 0.006	2.35 0.08 0.039 1.41 0.049 0.045 0.004	2.61 0.09 0.043 1.57 0.054 0.050 0.005	3.11 0.10 0.052 1.86 0.064 0.059 0.006	3.48 0.12 0.058 2.09 0.072 0.066 0.006	3.76 0.13 0.063 2.26 0.078 0.071 0.007	4.17 0.14 0.069 2.50 0.086 0.079 0.008
<b>Time Constants:</b>	t'd 50 ms		t" 5 ms		t'do 1480 ms		ta 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	88.0	70.4	80.0	64.0
VOPT503	400/230	88.0	70.4	80.0	64.0
VOPT504	380/220	88.0	70.4	80.0	64.0
VOPT506	230/115	88.0	70.4	80.0	64.0
VOPT507	220/127	88.0	70.4	80.0	64.0
VOPT508	220/110	88.0	70.4	80.0	64.0
VOPT510	200/115	88.0	70.4	80.0	64.0

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT601	480/277	100	80.0	90.0	72.0
VOPT603	440/254	100	80.0	90.0	72.0
VOPT605	380/220	97.0	77.6	88.0	70.4
VOPT606	240/120	100	80.0	90.0	72.0
VOPT607	230/115	100	80.0	90.0	72.0
VOPT608	220/127	100	80.0	90.0	72.0
VOPT609	220/110	97.0	77.6	88.0	70.4
VOPT610	208/120	100	80.0	90.0	72.0
VOPT611	240/139	100	80.0	90.0	72.0

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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