

*Exclusively from your Caterpillar® dealer*



## **GEP88SP1 (Single Phase)**

### **50 HZ**

**STANDBY      88.0 kVA / 88.0 kW**

**PRIME         80.0 kVA / 80.0 kW**

### **60 HZ**

**STANDBY      100 kVA / 100 kW**

**PRIME         90.0 kVA / 90.0 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 ±1.0 %
- 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

50 Hz	STANDBY	88.0 kVA / 88.0 kW
	PRIME	80.0 kVA / 80.0 kW
60 Hz	STANDBY	100 kVA / 100 kW
	PRIME	90.0 kVA / 90.0 kW

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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 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 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 Fixed height chassis trailer Adjustable height chassis trailer Spare wheel (mounted)
<b>Controls</b>	Baseframe mounted terminal box instead of control panel PowerWizard 1.0 PowerWizard 2.0
<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 TC Series automatic load transfer panels ATI 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.

Consult your Olympian representative for more information

50 Hz	STANDBY	88.0 kVA / 88.0 kW
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	PRIME	90.0 kVA / 90.0 kW

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## SPECIFICATIONS



### GENERATOR

Make ..... Olympian  
 Model ..... LL3014H  
 Type ..... Self-excited, brushless  
 Voltage regulation ..... ±1.0% at steady state 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

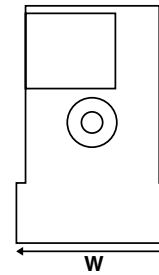
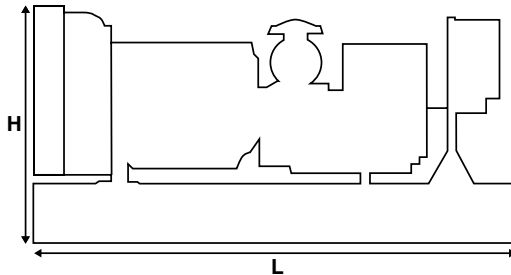


### ENGINE

Manufacturer ..... Perkins  
 Model ..... 1006TG2A  
 Type ..... 4-Cycle  
 Aspiration ..... Turbocharged  
 Cylinder configuration ..... In-line 6  
 Displacement — L (cu in) ..... 6.0 (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 ..... 6.4 (20.8)  
 60 Hz ..... 7.6 (25.0)  
 Maximum power at rated rpm — kW (hp)  
 Standby  
 50 Hz ..... 105 (141)  
 60 Hz ..... 125 (168)  
 Prime  
 50 Hz ..... 95.7 (128)  
 60 Hz ..... 114 (153)  
 BMEP — kPa (psi)  
 Standby  
 50 Hz ..... 1404 (204)  
 60 Hz ..... 1393 (202)  
 Prime  
 50 Hz ..... 1279 (186)  
 60 Hz ..... 1270 (184)  
 Regenerative power — kW (hp)  
 50 Hz ..... 12.6 (16.9)  
 60 Hz ..... 16.2 (21.7)  
 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)
GEP88SP1	2793 (110)	900 (35.4)	1541 (60.7)	1402 (3091)

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

\*Includes oil and coolant

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           PRIME        80.0 kVA / 80.0 kW  
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           PRIME        90.0 kVA / 90.0 kW

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Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
<b>Package Performance</b> Power rating	kVA (kW)	88.0 (88.0)	80.0 (80.0)	100 (100)	90.0 (90.0)
<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)	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) 27.0 (7.1) 19.8 (5.2) 13.5 (3.6)	24.2 (6.4) 18.0 (4.8) 12.5 (3.3)	230 (60.8) 31.6 (8.3) 24.0 (6.3) 17.0 (4.5)	28.5 (7.5) 21.8 (5.8) 15.7 (4.1)
<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 (38.4) 8280 (2187) 70.0 (158) 7.7 (13.9) 58.8 (3344) 55.1 (3133) 2.8 (3.8)	53.0 (3014) 46.7 (2656)	27.7 (7.3) 8.0 (26.2) 10080 (2663) 70.0 (158) 7.7 (13.9) 66.6 (3787) 52.5 (2986) 4.9 (6.6)	59.4 (3378) 43.5 (2474)
<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)	4.0 (141) 5.0 (20.1) 192 (6780) 125 (0.5) 22.2 (784)	3.9 (138) 5.0 (20.1) 244 (8617) 125 (0.5) 26.4 (933)	5.4 (191) 5.0 (20.1) 244 (8617) 125 (0.5) 26.4 (933)	5.1 (180)
<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 (1.8) 17.7 (624) 585 (1085)	16.2 (574) 22.5 (794) 550 (1022)	6.0 (1.8) 22.5 (794) 580 (1076)	20.0 (705) 540 (1004)
<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					
	240V	240/120V	230V	230/115V	220V	220/110V	240V	240/120V	230V	230/115V	220V	220/110V
<b>Motor Starting Capability:</b>												
Self Excited (kVA)	329	329	311	311	293	293	292	292	275	275	258	258
AREP* (kVA)	420	420	399	399	377	377	375	375	354	354	333	333
PM ** (kVA)	420	420	399	399	377	377	375	375	354	354	333	333
<b>Full Load Efficiency</b>												
Standby %	89.2	89.2	88.9	88.9	88.3	88.3	88.5	88.5	87.9	87.9	87.2	87.2
Prime %	89.4	89.4	89.1	89.1	88.5	88.5	89.1	89.1	88.6	88.6	88.0	88.0
<b>Reactances (per unit) Xd</b>	1.74	1.74	1.90	1.90	2.07	2.07	2.38	2.38	2.59	2.59	2.83	2.83
Saturated X'd	0.10	0.10	0.11	0.11	0.12	0.12	0.14	0.14	0.15	0.15	0.16	0.16
Reactances are shown X"q	0.061	0.061	0.067	0.067	0.073	0.073	0.083	0.083	0.091	0.091	0.099	0.099
applicable to the standby rating X"q	1.04	1.04	1.13	1.13	1.24	1.24	1.42	1.42	1.54	1.54	1.69	1.69
X2	0.072	0.072	0.078	0.078	0.085	0.085	0.098	0.098	0.107	0.107	0.117	0.117
X0	-	-	-	-	-	-	-	-	-	-	-	-
<b>Time Constants:</b>												
			t'd		t"		t'do		ta			
			100 ms		10 ms		2966 ms		15 ms			

\*With AREP Excited Option AR20A

\*\*With PM Excited Option AR18A

Consult your Olympian representative for more information

5 0 H z      S T A N D B Y      8 8 . 0 k V A / 8 8 . 0 k W  
                  P R I M E            8 0 . 0 k V A / 8 0 . 0 k W  
 6 0 H z      S T A N D B Y      1 0 0 k V A / 1 0 0 k W  
                  P R I M E            9 0 . 0 k V A / 9 0 . 0 k W

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**RATINGS AT AVAILABLE VOLTAGES**

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT521	240	88.0	88.0	80.0	80.0
VOPT522	240/120	88.0	88.0	80.0	80.0
VOPT523	230	88.0	88.0	80.0	80.0
VOPT524	230/115	88.0	88.0	80.0	80.0
VOPT525	220	88.0	88.0	80.0	80.0
VOPT526	220/110	88.0	88.0	80.0	80.0

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT621	240	100	100	90.0	90.0
VOPT622	240/120	100	100	90.0	90.0
VOPT623	230	100	100	90.0	90.0
VOPT624	230/115	100	100	90.0	90.0
VOPT625	220	100	100	90.0	90.0
VOPT626	220/110	100	100	90.0	90.0

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