

Exclusively from your Caterpillar® dealer



GEH250 (3-Phase)

50 HZ

STANDBY 250 kVA / 200 kW

PRIME 230 kVA / 184 kW

60 HZ

STANDBY 269 kVA / 215.2 kW

PRIME 245 kVA / 196 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, electronic
- Electrical system, 24 VDC
- Cartridge type fuel and oil filters
- Air filter
- Battery(s), 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

- 2001 autostart 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 $\pm 0.5\%$
- 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

- 12 months from date of initial start-up or 18 months from shipping, whichever occurs first

50 Hz	STANDBY	250 kVA / 200 kW
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OPTIONAL EQUIPMENT*

Engine	<ul style="list-style-type: none"> Droop engine control module for synchronising purposes Lube oil drain Lube oil drain pump High lube oil temperature shutdown
Generator	<ul style="list-style-type: none"> Anti-condensation heater Quadrature droop upgrade Permanent magnet generator (PMG) AREP Excitation system
Cooling System	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Extended capacity metal basetank Bunded fuel tank (not available with canopied sets) 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 2001, 4001 and 4001E panels Control panel upgrades — gauges, meters, battery chargers, alarms, shutdowns
Remote Annunciators	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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
Certification	European CE certification (not available on 60 Hz models)

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

50 Hz	STANDBY	220 kVA	/	176 kW
	PRIME	200 kVA	/	160 kW
60 Hz	STANDBY	250 kVA	/	200 kW
	PRIME	225 kVA	/	180 kW

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SPECIFICATIONS



GENERATOR

Make..... Olympian
 Model..... LL5014H
 Type..... Self-excited, brushless
 Voltage regulation..... ±0.5% at steady state 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 BS800 and
 VDE Class G&N
 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

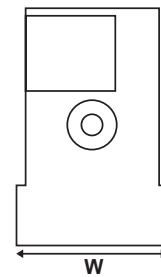
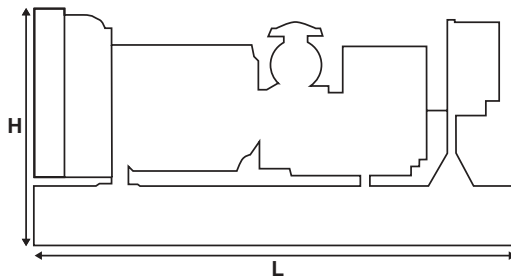


ENGINE

Manufacturer..... Perkins
 Model..... 1306-E87TA300
 Type..... 4-Cycle
 Aspiration..... Turbocharged AA Charge Cooled
 Cylinder configuration..... In-line 6
 Displacement — L (cu in)..... 8.71 (532)
 Bore/stroke — mm (in)..... 116.6/135.9 (4.59/5.35)
 Compression ratio..... 16.9:1
 Engine speed — rpm
 50 Hz..... 1500
 60 Hz..... 1800

Piston speed — m/sec (ft/sec)
 50 Hz..... 6.8 (22.3)
 60 Hz..... 8.2 (26.9)
 Maximum power at rated rpm — kW (hp)
 Standby
 50 Hz..... 224 (300)
 60 Hz..... 242 (325)
 Prime
 50 Hz..... 204 (273)
 60 Hz..... 220 (295)
 BMEP — kPa (psi)
 Standby
 50 Hz..... 2055 (298)
 60 Hz..... 1855 (269)
 Prime
 50 Hz..... 1871 (271)
 60 Hz..... 1686 (245)
 Regenerative power — kW (hp)
 50 Hz..... 20.8 (27.9)
 60 Hz..... 28.6 (38.4)
 Motor starting capability — kW (hp)
 50 Hz..... 420 (563)
 60 Hz..... 345 (463)
 Governor
 Type..... Electronic
 Class..... ISO 8528 G3

GENERATING SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight* kg (lb)
GEH250	2953 (116.0)	1003 (39.5)	1717 (67.6)	2100 (4631)

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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GEH250 (3-Phase)

Generator Set Technical Data		50 Hz		60 Hz	
		Standby	Prime	Standby	Prime
Package Performance Power rating	kVA (kW)	250 (200)	230 (184)	269 (215.2)	245 (196)
Lubricating System Type: Wet sump Oil filter: Spin-on, full flow Oil cooler: Water Oil type required: API CF-4/ACEA E2 Total lube system capacity Oil pan capacity	L (U.S. Gal) L (U.S. Gal)	26.4 (7.0) 22.7 (6.0)		26.4 (7.0) 22.7 (6.0)	
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)	350 (92.5) 52.6 (13.9) 40.4 (10.7) 28.6 (7.5)	48.7 (12.9) 37.6 (9.9) 26.8 (7.1)	350 (92.5) 61.4 (16.2) 45.0 (11.9) 31.5 (8.3)	55.3 (14.6) 41.1 (10.9) 29.3 (7.7)
Engine Electrical System Voltage/ground: 24 vDC/negative Battery charging alternator ampere rating	amps	55		55	
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)	39.8 (10.5) 13.0 (42.9) 293 (77) 79 (174) 5 (9) 96.0 (5460) 57.3 (3259) 6.4 (8.6)	86.0 (4892) 52.0 (2958)	39.8 (10.5) 15.5 (51.4) 351 (93) 79 (174) 5 (9) 110 (6257) 65.5 (3726) 11.2 (15.0)	100 (5688) 58.7 (3339)
Air Requirements Combustion air flow Maximum air cleaner restriction Radiator cooling air Generator cooling air	m ³ /min (cfm) kPa (in H ₂ O) m ³ /min (cfm) m ³ /min (cfm)	14.9 (525) 6.2 (25.0) 324 (11440) 25.8 (910)		20.2 (712) 6.2 (25.0) 414 (14618) 30.6 (1080)	
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)	10.7 (3.20) 40.3 (1424) 526 (979)	40.3 (1424)	10.7 (3.20) 51.3 (1811) 477 (891)	51.3 (1811) 460 (860)
Generator Set Noise Rating* (without attenuation) at 1 m (3.28 ft)	dBA	100		98	

*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	380/220V	220/127V	480/277V	440/254V	208/120V	230/115V	380/220V
Motor Starting Capability:									
Self Excited (kVA)	495	465	425	546	543	468	425	397	362
AREP Excited*** (kVA)	595	559	511	657	652	563	511	477	435
PM Excited**** (kVA)	595	559	511	657	652	563	511	477	435
Full Load Efficiency									
Standby %	92.2	92.1	92.0	92.1	93.0	92.6	92.2	91.9	91.6
Prime %	92.5	92.5	92.4	92.4	93.1	92.8	92.6	92.4	92.2
Reactances (per unit)									
Saturated X'd	3.03	3.26	3.61	2.59	2.92	3.47	3.87	4.15	4.58
Reactances are shown X"q	0.15	0.16	0.17	0.12	0.14	0.17	0.19	0.20	0.22
applicable to the standby rating X2	0.087	0.094	0.104	0.074	0.084	0.100	0.111	0.119	0.132
X0	1.82	1.96	2.17	1.55	1.76	2.08	2.32	2.49	2.75
	0.107	0.116	0.128	0.092	0.104	0.123	0.137	0.147	0.162
	0.097	0.104	0.115	0.083	0.093	0.111	0.124	0.133	0.146
	0.005	0.005	0.006	0.004	0.005	0.006	0.006	0.007	0.007
Time Constants:	t'd	t"	t'do	ta					
	100 ms.	10 ms.	2105 ms.	15 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
V502	415/240	250	200	230	184
V503	400/230	250	200	230	184
V504	380/220	250	200	230	184
V506	230/115	250	200	230	184
V507	220/127	240	192	215	172
V508	220/110	250	200	230	184
V510	200/115	250	200	230	184

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
V601	480/277	269.0	215.2	245.0	196.0
V603	440/254	268.0	214.4	245.0	196.0
V605	380/220	264.0	212	243.0	194.4
V606	240/120	269.0	215.2	245.0	196.0
V607	230/115	266.0	212.8	245.0	196.0
V608	220/127	268.0	214.4	245.0	196.0
V609	220/110	265.0	212	243.0	194.4
V610	208/120	267.0	213.6	245.0	196.0
V611	240/139	269.0	215.2	245.0	196.0

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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European sourced

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The International System of Units (SI) is used in this publication.