Exclusively from your Caterpillar® dealer

GEH200 (3-Phase)

50 HZ

STANDBY	220 kVA / 176 kW
PRIME	200 kVA / 160 kW

60 HZ

STANDBY	250 kVA / 200 kW
PRIME	225 kVA / 180 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 ±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

OPTIONAL EQUIPMENT*

Engine	Droop engine control module for synchronising purposes Lube oil drain 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 Coolant drain valve 50% Anti-Freeze (Protection to -36°C)
Fuel System	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	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 2001, 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
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

OLYMPIAN™

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SPECIFICATIONS

GENERATOR

Make . . . . . Olympian
Model LL5014F
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 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) 8.70 (530)
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)

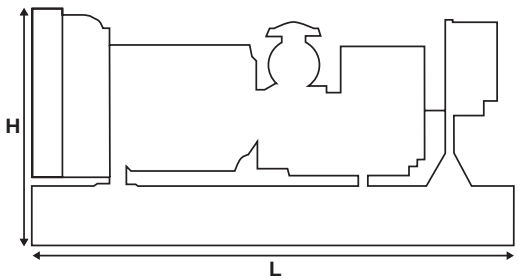
BMEP — kPa (psi)
- Standby
  - 50 Hz 2055 (298)
  - 60 Hz 1855 (269)
- Prime
  - 50 Hz 1871 (271)
  - 60 Hz 1686 (245)

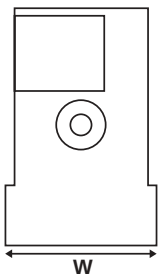
Regenerative power — kW (hp)
- 50 Hz 20.8 (27.9)
- 60 Hz 28.6 (38.4)

Motor starting capability — kW (hp)
- 50 Hz 365 (489)
- 60 Hz 295 (396)

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)
GEH200	2953 (116.0)	1003 (39.5)	1717 (67.6)	1980 (4366)

*Includes oil and coolant

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

GEH200 (3-Phase)

Generator Set Technical Data		50 Hz Standby	50 Hz Prime	60 Hz Standby	60 Hz Prime
Package Performance					
Power rating	kVA (kW)	220 (176)	200 (160)	250 (200)	225 (180)
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	L (U.S. Gal)	26.4 (7.0)		26.4 (7.0)	
Oil pan capacity	L (U.S. Gal)	22.7 (6.0)		22.7 (6.0)	
Fuel System					
Fuel Tank Capacity	L (U.S. Gal)	350 (92.5)		350 (92.5)	
Generator set fuel consumption**					
100% load	L/hr (U.S. g/hr)	47.0 (12.4)	43.1 (11.4)	56.9 (15.0)	50.7 (13.4)
75% load	L/hr (U.S. g/hr)	36.3 (9.6)	33.3 (8.8)	42.1 (11.1)	38.1 (10.1)
50% load	L/hr (U.S. g/hr)	25.8 (6.3)	23.9 (6.3)	29.6 (7.8)	27.4 (7.2)
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	L (U.S. Gal)	39.8 (10.5)		39.8 (10.5)	
Maximum coolant static head	m H_2O (ft H_2O)	13.0 (42.9)		15.5 (51.4)	
Coolant flow rate	L/hr (U.S. gal/hr)	293 (77)		351 (93)	
Minimum temperature to engine	°C (°F)	79 (174)		79 (174)	
Temperature rise across engine	°C (°F)	5 (9)		5 (9)	
Heat rejected to coolant at rated power	kW (Btu/min)	85 (4835)	77 (4380)	97 (5517)	91 (5176)
Total heat radiated to room at rated power	kW (Btu/min)	52.2 (2969)	46.7 (2656)	56.2 (3197)	50.0 (2844)
Radiator fan load	kW (hp)	6.4 (8.6)		11.2 (15.0)	
Air Requirements					
Combustion air flow	m^3/min (cfm)	14.9 (526)		20.2 (712)	
Maximum air cleaner restriction	kPa (in H_2O)	6.2 (25.0)		6.2 (25.0)	
Radiator cooling air	m^3/min (cfm)	324 (11440)		414 (14618)	
Generator cooling air	m^3/min (cfm)	25.8 (911)		30.6 (1080)	
Exhaust System					
Maximum allowable backpressure	kPa (in Hg)	10.7 (3.20)		10.7 (3.20)	
Exhaust flow at rated power	m^3/min (cfm)	40.3 (1424)	40.3 (1424)	51.3 (1811)	51.3 (1811)
Exhaust temperature at rated power (dry exhaust)	°C (°F)	526 (979)	500 (932)	477 (890)	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 415/240V	50 Hz 400/230V	50 Hz 380/220V	50 Hz 220/127V	60 Hz 480/277V	60 Hz 440/254V	60 Hz 208/120V	60 Hz 230/115V	60 Hz 380/220V
Motor Starting Capability:										
Self Excited	(kVA)	433	400	360	476	481	402	360	329	293
AREP Excited***	(kVA)	541	510	460	599	602	508	453	417	369
PM Excited****	(kVA)	541	510	460	599	602	508	453	417	369
Full Load Efficiency										
Standby	%	91.5	91.4	91.1	91.8	92.5	92.0	91.5	91.4	90.8
Prime	%	92.0	92.7	91.6	92.1	92.8	92.4	92.0	91.8	91.4
Reactances (per unit)	Xd	3.15	3.39	3.75	2.55	3.21	3.82	4.27	4.47	4.73
Saturated	X'd	0.15	0.17	0.18	0.12	0.16	0.19	0.21	0.22	0.23
Reactances	X"d	0.089	0.096	0.106	0.072	0.091	0.108	0.121	0.126	0.134
are shown	Xq	1.89	2.04	2.25	1.53	1.93	2.29	2.57	2.69	2.84
applicable to the	X"q	0.110	0.119	0.132	0.089	0.113	0.134	0.150	0.157	0.166
standby rating	X2	0.099	0.107	0.118	0.080	0.101	0.120	0.135	0.141	0.149
	X0	0.005	0.006	0.006	0.004	0.005	0.006	0.007	0.007	0.008
Time Constants:		t'd 100 ms		t" 10 ms		t'do 2116 ms		ta 15 ms		

***With AREP Excited Option AR20A/AR21A
****With PMG Excited Option AR18A/AR19A

RATINGS AT AVAILABLE VOLTAGES

50 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT502	415/240	220	176	200	160
VOPT503	400/230	220	176	200	160
VOPT504	380/220	220	176	200	160
VOPT506	230/115	220	176	200	160
VOPT507	220/127	200	160	180	144
VOPT508	220/110	220	176	200	160
VOPT510	200/115	220	176	200	160

60 Hz					
Voltage Code	Voltage	Standby		Prime	
		kVA	kW	kVA	kW
VOPT601	480/277	250.0	200.0	225.0	180.0
VOPT603	440/254	250.0	200.0	225.0	180.0
VOPT605	380/220	231.0	184.8	210.0	168.0
VOPT606	240/120	249.0	199.2	225.0	180.0
VOPT607	230/115	242.0	193.6	220.0	176.0
VOPT608	220/127	250.0	200.0	225.0	180.0
VOPT609	220/110	231.0	184.8	210.0	168.0
VOPT610	208/120	249.0	199.2	225.0	180.0
VOPT611	240/139	250.0	200.0	225.0	180.0

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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