OLYMPIAN™

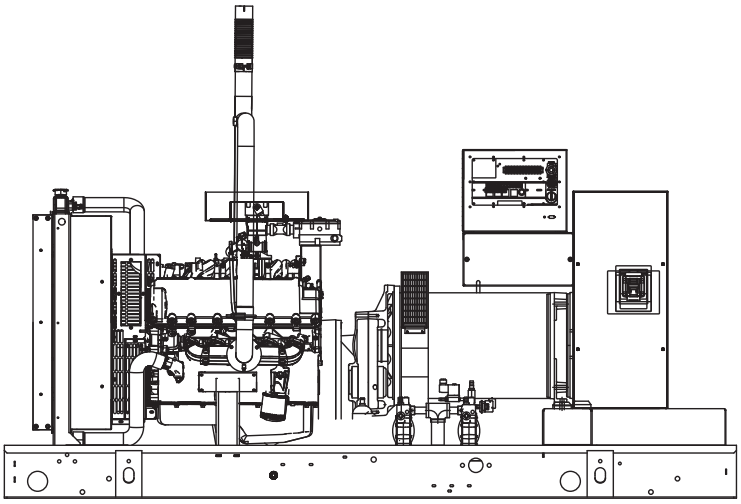
G80LG

Industrial Gaseous Generator Set

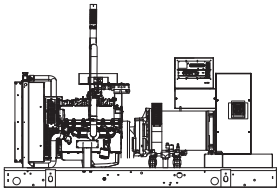
EPA Certified Stationary Emergency

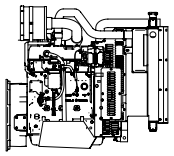
Standby Power Rating

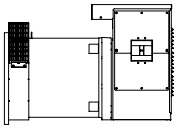
100kVA 80kW 60 Hz

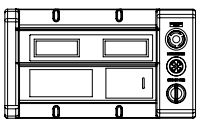


Generator image used for illustration purposes only









features benefits

Generator Set

PROTOTYPE & TORSIONALLY TESTED	PROVIDES A PROVEN UNIT
UL2200 TESTED	ENSURES A QUALITY PRODUCT
RHINOCOAT PAINT SYSTEM	IMPROVES RESISTANCE TO ELEMENTS
WIDE RANGE OF ENCLOSURES	PROVIDES A SINGLE SOURCE SOLUTION

Engine

EPA COMPLIANT	ENVIRONMENTALLY FRIENDLY
INDUSTRIAL TESTED	ENSURES INDUSTRIAL STANDARDS
POWER-MATCHED OUTPUT	ENGINEERED FOR PERFORMANCE
INDUSTRIAL GRADE	IMPROVES LONGEVITY AND RELIABILITY

Alternator

TWO-THIRDS PITCH	ELIMINATES HARMFUL 3RD HARMONIC
LAYER WOUND ROTOR & STATOR	IMPROVES COOLING
CLASS H MATERIALS	HEAT TOLERANT DESIGN
DIGITAL 3-PHASE VOLTAGE CONTROL	FAST AND ACCURATE RESPONSE

Controls

ENCAPSULATED BOARD W/ SEALED HARNESS	EASY, AFFORDABLE REPLACEMENT
4-20mA VOLTAGE-TO-CURRENT SENSORS	NOISE RESISTANT 24/7 MONITORING
SURFACE-MOUNT TECHNOLOGY	PROVIDES VIBRATION RESISTANCE
ADVANCED DIAGNOSTICS & COMMUNICATIONS	HARDENED RELIABILITY

primary codes and standards

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G80LG

application and engineering data

ENGINE SPECIFICATIONS

General

EPA Emissions Compliance	Stationary Emergency
EPA Emissions Engine Reference	See Emissions Data Sheet
Cylinder #	10
Type	V
Displacement - L (Cu. In.)	6.8 (414.96)
Bore - mm (in.)	90.17 (3.55)
Stroke - mm (in.)	105.92 (4.17)
Compression Ratio	9:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	7
Connecting Rods	Forged
Cylinder Head	Aluminum
Cylinder Liners	No
Ignition	High Energy
Pistons	Aluminum Alloy
Crankshaft	Steel
Lifter Type	Overhead Cam
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Steel Alloy
Hardened Valve Seats	Yes

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-flow spin-on cartridge
Crankcase Capacity - L (qts)	5.7 (6)

Cooling System

Cooling System Type	Pressurized Closed
Water Pump Flow	38 gal/min
Fan Type	Pusher
Fan Speed (rpm)	2300
Fan Diameter mm (in.)	558 (22)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120V

Fuel System

Fuel Type	Natural Gas, Propane
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	11" - 14" H2O

Engine Electrical System

System Voltage	12VDC
Battery Charging Alternator (Amps)	30
Battery Size	925CCA
Battery Group	31
Battery Voltage	12VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390mm
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Standard Excitation	Brushless
Bearings	Sealed Ball
Coupling	Gear Drive
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Full Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	+/- 0.25%

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	+/- 0.25%

CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1

Rating Definitions:
Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

G80LG

operating data (60Hz)

POWER RATINGS (kW)

	Natural Gas		Propane Vapor	
Single-Phase 120/240VAC @1.0pf	80	Amps: 333	80	Amps: 333
Three-Phase 120/208VAC @0.8pf	80	Amps: 278	80	Amps: 278
Three-Phase 120/240VAC @0.8pf	80	Amps: 241	80	Amps: 241
Three-Phase 277/480VAC @0.8pf	80	Amps: 120	80	Amps: 120
Three-Phase 346/600VAC @0.8pf	80	Amps: 96	80	Amps: 96

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480VAC						208/240VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	80	59	88	117	147	176	205	44	66	88	110	132	154
Upsize 1	100	79	118	157	197	236	275	59	89	118	148	177	206
Upsize 2	130	116	174	232	290	348	406	87	131	174	218	261	305
Upsize 3*	150	133	199	265	332	398	464	100	149	199	249	299	348
Upsize 4*	200	187	280	373	467	560	653	140	210	280	350	420	490

*PME Only

FUEL

Fuel Consumption Rates*

Natural Gas			Propane Vapor			
Percent Load	ft³/hr	m³/hr	Percent Load	ft³/hr	gal/hr	m³/hr
25%	312	8.8	25%	129	3.6	3.7
50%	600	17.0	50%	248	6.8	7.0
75%	835	23.6	75%	346	9.5	9.8
100%	1060	30.0	100%	439	12.1	12.4

* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

COOLING

		STANDBY
Air Flow (inlet air combustion and radiator)	ft³/min (m³/min)	5895 (166.9)
System Coolant Capacity	Gal (Liters)	6.3 (23.9)
Heat Rejection to Coolant	BTU/hr	296,800
Max. Operating Air Temp on Radiator	°F (°C)	122 (50)
Max. Ambient Temperature	°F (°C)	104 (40)
Maximum Radiator Backpressure	in H_2O	1.50

COMBUSTION AIR REQUIREMENTS

		STANDBY
Flow at Rated Power	cfm	295

ENGINE

		STANDBY
Rated Engine Speed	rpm	2300
Horsepower at Rated kW**	hp	108
Piston Speed	ft/min	1598
BMEP	psi	106

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

		STANDBY
Exhaust Flow (Rated Output)	cfm (m³/min)	900 (25.5)
Maximum Recommended Back Pressure	inHg	1.5
Exhaust Temp (Rated Output)	°F (°C)	1250 (676.7)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

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standard features and options

GENERATOR SET

●	Genset Vibration Isolation	Std
○	IBC Seismic Certified/Seismic Rated Vibration Isolators	Opt
○	Steel Enclosure	Opt
○	Aluminum Enclosure	Opt
○	Enclosure Lighting Kits	Opt

ENGINE SYSTEM

General

●	Oil Drain Extension	Std
○	Oil Heater	Opt
○	Critical Exhaust Silencer (Enclosed Sets)	Opt
●	Stainless steel flexible exhaust connection	Std
●	Air cleaner	Std
●	Fan guard	Std
●	Radiator duct adapter	Std

Fuel System

●	Fuel lockoff solenoid	Std
●	Secondary Fuel Regulator	Std
○	Flexible fuel lines	Opt
○	Automatic Gaseous Dual Fuel	Opt

Cooling System

●	120VAC Coolant Heater	Std
○	208VAC Coolant Heater	Opt
○	240VAC Coolant Heater	Opt
○	Other Coolant Heater	Opt
●	Closed Coolant Recovery System	Std
●	UV/Ozone resistant hoses	Std
●	Factory-Installed Radiator	Std
●	Radiator Drain Extension	Std

Engine Electrical System

●	Battery charging alternator	Std
●	Battery cables	Std
●	Battery tray	Std
○	Battery heater	Opt
●	Solenoid activated starter motor	Std
○	2.5A UL battery charger	Opt
○	10A UL float/equalize battery charger	Opt
●	Rubber-booted engine electrical connections	Std

ALTERNATOR SYSTEM

●	UL2200 GENprotect™	Std
○	Main Line Circuit Breaker	Opt
○	2nd Circuit Breaker	Opt
○	3rd Circuit Breaker	Opt
○	Alternator Upsizing	Opt
○	Anti-Condensation Heater	Opt
○	Tropical coating	Opt
○	Permanent Magnet Generator	Opt

CONTROL SYSTEM

Control Panel

●	Digital H-Panel Controller	Std
●	Programmable Crank Limiter	Std
●	Programmable Crank Limiter	Std
○	21-Light Remote Annunciator	Opt
○	Remote Relay Panel (8 or 16)	Opt
●	7-Day Programmable Exerciser	Std
●	Special Applications Programmable PLC	Std
●	RS-485 Communications	Std
●	All-Phase Sensing DVR	Std
●	Full System Status	Std
●	2-Wire Start Compatible	Std
●	Power Output (kW)	Std
●	Power Factor	Std
●	Reactive Power	Std
●	All phase AC Voltage	Std
●	All phase Currents	Std
●	Oil Pressure	Std
●	Coolant Temperature	Std
●	Coolant Level	Std
○	Oil Temperature	Opt
●	Low Fuel Pressure	Std
●	Engine Speed	Std
●	Battery Voltage	Std
●	Frequency	Std
●	Date/Time Fault History (Event Log)	Std
○	Low-Speed Exercise	Opt
●	Isochronous Governor Control	Std
●	-40deg C - 70deg C Operation	Std
●	Waterproof Plug-In Connectors	Std
●	Audible Alarms and Shutdowns	Std
●	Not in Auto (Flashing Light)	Std
●	Auto/Off/Manual Switch	Std
●	E-Stop (Red Mushroom-Type)	Std
○	Remote E-Stop (Break Glass-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Surface Mount)	Opt
○	Remote E-Stop (Red Mushroom-Type, Flush Mount)	Opt
●	NFPA 110 Level I and II (Programmable)	Std
●	Remote Communication - RS232	Std
○	Remote Communication - Modem	Opt
○	Remote Communication - Ethernet	Opt
○	10A Run Relay	Opt

Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

●	Oil Pressure (Pre-programmed Low Pressure Shutdown)	Std
●	Coolant Temperature (Pre-programmed High Temp Shutdown)	Std
●	Coolant Level (Pre-programmed Low Level Shutdown)	Std
○	Oil Temperature	Opt
●	Engine Speed (Pre-programmed Overspeed Shutdown)	Std
●	Voltage (Pre-programmed Overvoltage Shutdown)	Std
●	Battery Voltage	Std

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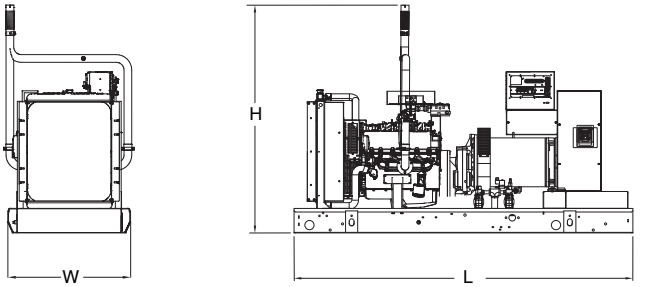
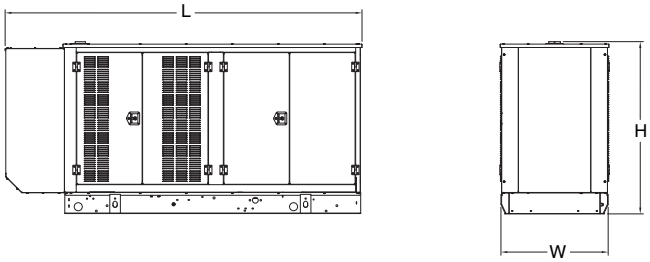
dimensions, weights and sound levels



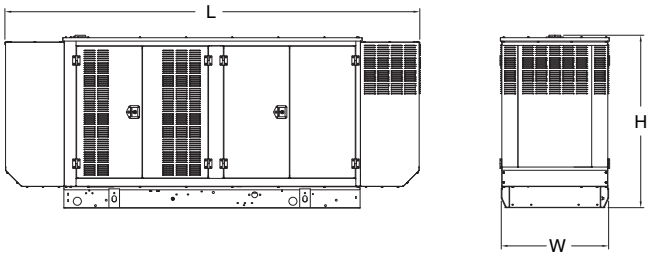
OPEN SET (Includes Exhaust Flex)

L	W	H	WT	dBA*
110	40	74	2600	87



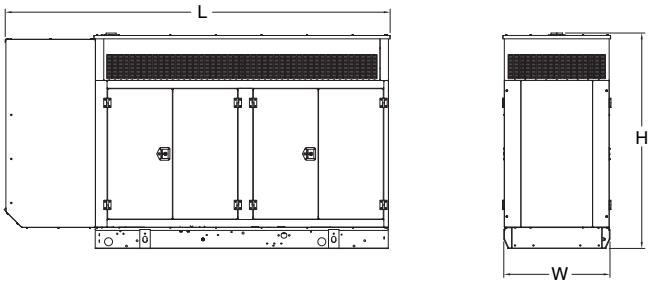
STANDARD ENCLOSURE

L	W	H	WT	dBA*
133	41	64	3100	81



LEVEL 1 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
154	41	64	3350	75



LEVEL 2 ACOUSTIC ENCLOSURE

L	W	H	WT	dBA*
145	41	81	3600	70

Note: Units upsized to 150 or 200kW alternators use a larger frame size.

*All measurements are approximate and for estimation purposes only. Sound levels measured at 23ft (7m) and does not account for ambient site conditions.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Cat® Dealer for detailed installation drawings.

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