G70LG2

Industrial Spark-Ignited Generator Set

EPA Certified Stationary Emergency

6.8L

Standby Power Rating 70 kW 88 kVA 60 Hz

Prime Power Rating* 63 kW 79 kVA





*EPA Certified Prime ratings are not available in the U.S. or its Territories

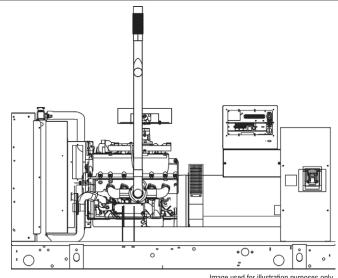


Image used for illustration purposes only

Codes and Standards

Olympian products are designed to the following standards:



UL2200, UL508, UL142, UL498



NFPA70, 99, 110, 37



NEC700, 701, 702, 708



ISO9001, 8528, 3046, 7637, Pluses #2b, 4



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

American National Standards Institute



os pd IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Prime power or standby service. Olympian Natural gas or Propane fuel generator sets deliver dependable, clean, economical power - even in the most demanding conditions - and Olympian gensets are available in a wide range of configurations with optional equipment.

Olympian generator sets are designed, engineered and manufactured for optimal performance. All major components are tested individually; once assembled, the entire unit is tested at and above 100% of rated load for safety and operation.

These complete, ready-to-run packages have another distinct advantage. They all come with the comprehensive service and support of Cat® dealers - beginning with prompt delivery and ongoing support throughout the life of the generator set.

OLYMPIAN™

LG Series

Standard Features

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- Factory Filled Oil
- Radiator duct adapter (open set only)

Fuel System

- Primary and Secondary Fuel Shutoff
- Flexible Fuel Line NPT Connection

Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-installed Radiator
- Radiator drain extension
- 50/50 Ethylene glycol antifreeze

Engine Electrical System

- Battery charging alternator
- Battery Cables
- Battery Tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- Class H insulation material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearings
- Amortisseur winding
- Full load capacity alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits high/low voltage
- Separation of circuits multiple breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (if selected)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles

CONTROL SYSTEM



Control Panel

- Digital H Control Panel Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run

- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection

- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

LG Series

Configurable Options

ENGINE SYSTEM GENERATOR SET ENCLOSURE General Standard Enclosure Engine Block Heater Level 1 Sound Attenuation O 0il Heater Extended Factory Testing (3 Phase Only) Level 2 Sound Attenuation IBC Seismic Certification O Air Filter Restriction Indicator Steel Enclosure 8 Position Load Center Stone Guard (Open Set Only) Aluminum Enclosure 2 Year Extended Warranty O Critical Exhaust Silencer (Open Set Only / O 150 MPH Wind Kit Standard on Ultra Low Emissions Option) 5 Year Warranty ○ 12 VDC Enclosure Lighting Kit 5 Year Extended Warranty Engine Electrical System 120 VAC Enclosure Lighting Kit 10A UL battery charger AC/DC Enclosure Lighting Kit \bigcirc 2.5A UL battery charger O Door Alarm Switch Battery Warmer **CIRCUIT BREAKER OPTIONS ALTERNATOR SYSTEM** Main Line Circuit Breaker Alternator Upsizing 2nd Main Line Circuit Breaker Anti-Condensation Heater Shunt Trip and Auxiliary Contact Tropical coating Electronic Trip Breakers Permanent Magnet Excitation **CONTROL SYSTEM** O 21-Light Remote Annunciator Remote E-Stop (Break Glass-Type, Surface O Remote Communication - Modem Mount) O Remote Relay Panel (8 or 16) Remote Communication - Ethernet Remote E-Stop (Red Mushroom-Type, Oil Temperature Sender with Indication 10A Run Relay Surface Mount) Alarm Ground fault indication and protection Remote E-Stop (Red Mushroom-Type, functions Flush Mount) **Engineered Options ENGINE SYSTEM GENERATOR SET CONTROL SYSTEM** O Coolant heater ball valves Special Testing O Spare inputs (x4) / outputs (x4) - H Panel Only Fluid containment pans Battery Box O Battery Disconnect Switch ALTERNATOR SYSTEM **ENCLOSURE**

Rating Definitions

O 3rd Breaker Systems

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Motorized Dampers

Enclosure Ambient Heaters

Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications.

Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

LG Series

application and engineering data

ENGINE SPECIFICATIONS

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Cylinder #	10				
Туре	V				
Displacement - L (Cu In)	6.8 (414.96)				
Bore - mm (in)	90.17 (3.55)				
Stroke - mm (in)	105.992 (4.17)				
Compression Ratio	9:01				
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				

Engine Governing

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

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 Recovery				
Water Pump Flow - gpm (lpm)	38 (144)				
Fan Type	Pusher				
Fan Speed (rpm)	2300				
Fan Diameter mm (in)	558 (22)				
Coolant Heater Wattage	1500				
Coolant Heater Standard Voltage	120 V				

Fuel System

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure (Standard)	11" - 14" H ₂ 0
Operating Fuel Pressure (Optional)	7" - 14" H ₂ 0

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390				
Poles	4				
Field Type	Revolving				
Insulation Class - Rotor	Н				
Insulation Class - Stator	Н				
Total Harmonic Distortion	<5%				
Telephone Interference Factor (TIF)	< 50				
Standard Excitation	Brushless				
Bearings	Sealed Ball				
Coupling	Flexibile Disc				
Prototype Short Circuit Test	Yes				

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

LG Series operating data

POWER RATINGS

		Natural Gas	Propane Vapor		
Single-Phase 120/240 VAC @1.0pf	64 kW	Amps: 267	67 kW	Amps: 279	
Three-Phase 120/208 VAC @0.8pf	67 kW	Amps: 232	70 kW	Amps: 243	
Three-Phase 120/240 VAC @0.8pf	67 kW	Amps: 201	70 kW	Amps: 210	
Three-Phase 277/480 VAC @0.8pf	67 kW	Amps: 101	70 kW	Amps: 105	
Three-Phase 346/600 VAC @0.8pf	67 kW	Amps: 81	70 kW	Amps: 84	

STARTING CAPABILITIES (SKVA)

		sKVA vs. Voltage Dip											
		480 VAC							208/24	10 VAC			
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	70	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

^{*}Brushless excitation only

FUEL CONSUMPTION RATES*

Natural Gas – ft³/hr (m³/hr)				
Percent Load	Standby			
25%	353 (10.0)			
50%	605 (17.1)			
75%	817 (23.1)			
100%	1009 (28.6)			

Propane vapor – nynr (mynr)	
Percent Load	Standby
25%	153.8 (4.4)
50%	263.7 (7.5)
75%	356.0 (10.1)
100%	439.5 (12.4)

^{*}Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (inlet air combustion and radiator)	ft³/min (m³/min)	5813 (164.6)
Coolant Flow per Minute	gpm (lpm)	38 (144)
Coolant System Capacity	gal (L)	6.3 (23.9)
Heat Rejection to Coolant	BTU/hr	275,800
Max. Operating Air Temp on Radiator	°F (°C)	122 (50)
Max. Operating Ambient Temperature (before derate)	°F (°C)	104 (40)
Maximum Radiator Backpressure	in H ₂ 0	0.5

COMBUSTION AIR REQUIREMENTS

	_	Standby
Flow at Rated Power	cfm (m3/min)	213 (6.0)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	107
Piston Speed	ft/min (m/min)	1251 (381)
BMEP	psi	119

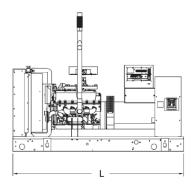
^{**} Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

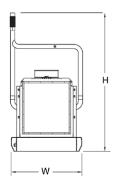
EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	679.5 (19.2)
Maximum Recommended Back Pressure	inHg	1.5
Exhaust Temp (Rated Output)	°F (°C)	1250 (676.7)
Exhaust Outlet Size (Open Set)	in	2.5" I.D. Flex (No muffler)

LG Series

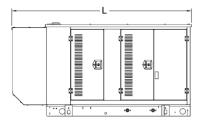
dimensions and weights

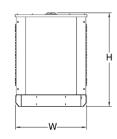




OPEN SET (Includes Exhaust Flex)

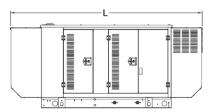
LxWxHin (mm)	92.9 (2360) x 40 (1015.9) x 75.4 (1914.1)
Weight lbs (kg)	1929 (875)

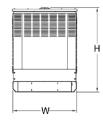




STANDARD ENCLOSURE

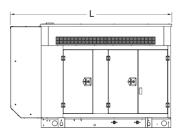
LxWxHin (mm)	111.8 (2839.7) x 40.5 (1027.8) x 55.3 (1405.7)
Weight lbs (kg)	Steel: 2370 (1075) Aluminum: 2074.5 (941)

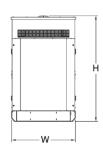




LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H in (mm)	129.4 (3287.2) x 40.5 (1027.8) x 55.3 (1405.7)
Weight lbs (kg)	Steel: 2590 (1175) Aluminum: 2147 (974)





LEVEL 2 ACOUSTIC ENCLOSURE

LxWxHin (mm)	111.8 (2839.7) x 40.5 (1027.8) x 67.8 (1721.5)
Weight lbs (kg)	Steel: 2811 (1275) Aluminum: 2220 (1007)