

# MG100

## 6.8L

## Industrial Spark-Ignited Generator Set

EPA Certified Stationary Emergency

Standby Power Rating  
**100 kW 125 kVA 60 Hz**

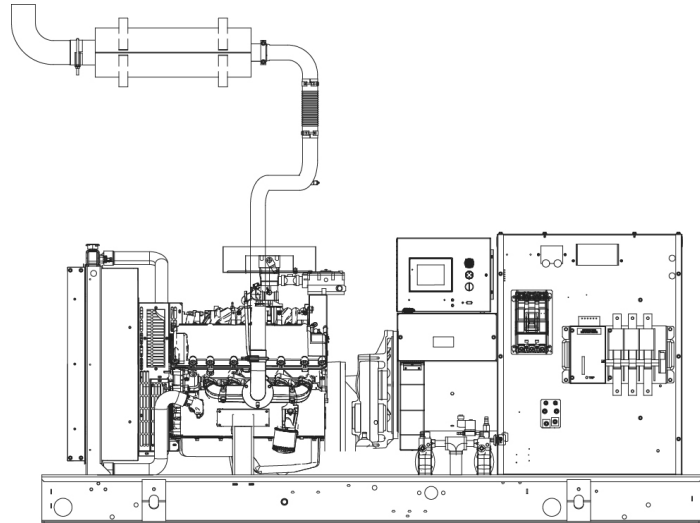


Image used for illustration purposes only

### Codes and Standards

Generac products are designed to the following standards:

-  UL2200, UL508, UL142, UL498, ETL
-  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*
-  IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE7-10, ICC-ES AC-156 (2012)

### Powering Ahead

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

# MG100

## Standard Features

### ENGINE SYSTEM

#### General

- Oil Drain
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer
- Factory Filled Oil

#### 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
- 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
- Permanent Magnet 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 (enclosed only)
- Standard Factory Testing
- 2 Year Warranty (Standby rated units)
- 1 Year Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

### ENCLOSURE

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Upward pointing radiator discharge hood
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

### CONTROL SYSTEM

#### Control Panel

- Digital G-200 Paralleling Control Panel - Touchscreen
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- 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)
- 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)

### PARALLELING CONTROLS

- Auto-synchronization process
- Isochronous load sharing
- Reverse power protection
- Maximum power protection
- Electrically operated, mechanically held paralleling switch
- Sync check system
- Independent on-board paralleling
- Optional programmable logic full auto back-up control (pls)

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## Configurable Options

### ENGINE SYSTEM

- General
- Engine Block Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Engine Electrical System
- 10A battery charger

### ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical coating

### GENERATOR SET

- Gen-Link Communications Software (English Only)
- Extended Factory Testing
- Pad Vibration Isolators
- 150 MPH Wind Kit

### CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

### ENCLOSURE

- Weather Protected
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- 12 VDC Enclosure Lighting Kits
- Door Alarm Switch

### CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Panel (8 or 16)
- Oil Temperature Sender with Indication / Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Modem
- 10A Run Relay
- Ground fault indication and protection functions
- PLS Full Auto Back-Up for PM-SC
- MODBUS Protocol

## Engineered Options

### ENGINE SYSTEM

- Coolant heater ball valves
- Fluid containment pans

### ALTERNATOR SYSTEM

- 3rd Breaker Systems

### GENERATOR SET

- Special Testing
- Battery Box

### ENCLOSURE

- Motorized Dampers

### CONTROL SYSTEM

- Spare inputs (x4) / outputs (x4) - H Panel Only
- Battery Disconnect Switch

## Rating Definition

**Standby** – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)  
 Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

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## application and engineering data

### ENGINE SPECIFICATIONS

#### General

Make	Generac
Cylinder #	10
Type	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

#### 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	11" - 14" H2O

#### 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	H
Insulation Class - Stator	H
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%

#### Engine Governing

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

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# operating data

## POWER RATINGS

	Natural Gas		Propane Vapor	
	kW	Amps	kW	Amps
Single-Phase 120/240 VAC @1.0pf	89 kW	371	100 kW	417
Three-Phase 120/208 VAC @0.8pf	94 kW	326	100 kW	347
Three-Phase 120/240 VAC @0.8pf	94 kW	283	100 kW	301
Three-Phase 277/480 VAC @0.8pf	94 kW	141	100 kW	150
Three-Phase 346/600 VAC @0.8pf	94 kW	113	100 kW	120

## STARTING CAPABILITIES (sKVA)

		sKVA vs. Voltage Dip											
		480 VAC						208/240 VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	100	79	118	157	197	236	275	59	89	118	148	177	206
Upsize 1	130	116	174	232	293	348	406	87	131	174	218	261	305
Upsize 2	150	133	199	265	332	398	464	100	146	199	249	299	348
Upsize 3	200	187	280	373	467	560	653	140	210	280	350	420	490

## FUEL CONSUMPTION RATES\*

Natural Gas – ft <sup>3</sup> /hr (m <sup>3</sup> /hr)		Propane Vapor – ft <sup>3</sup> /hr (m <sup>3</sup> /hr)	
Percent Load	Standby	Percent Load	Standby
25%	442 (12.5)	25%	183 (5.2)
50%	730 (20.6)	50%	302 (8.6)
75%	962 (27.2)	75%	398 (11.3)
100%	1300 (36.8)	100%	538 (15.2)

\*Fuel supply installation must accommodate fuel consumption rates at 100% load.

## COOLING

		Standby
Air Flow (inlet air combustion and radiator)	ft <sup>3</sup> /min (m <sup>3</sup> /min)	5895 (166.9)
Coolant Flow per Minute	gpm (lpm)	38 gpm (144 lpm)
Coolant System Capacity	gal (L)	6.3 (23.9)
Heat Rejection to Coolant	BTU/hr	364,000
Max. Operating Air Temp on Radiator	°F (°C)	122 (50)
Max. Ambient Temperature	°F (°C)	104 (40)
Maximum Radiator Backpressure	in H <sub>2</sub> O	0.5

## COMBUSTION AIR REQUIREMENTS

Flow at Rated Power	Standby
cfm (m <sup>3</sup> /min)	295(8.4)

## ENGINE

		Standby
Rated Engine Speed	rpm	2300
Horsepower at Rated kW**	hp	147
Piston Speed	ft/min (m/min)	1598 (487)
BMEP	psi	133

## EXHAUST

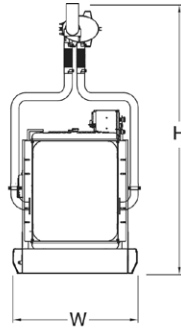
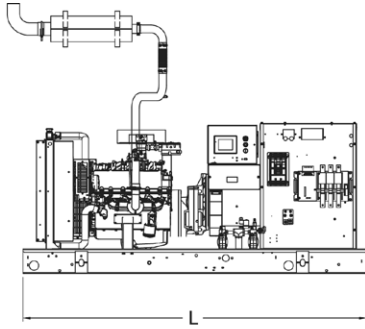
		Standby
Exhaust Flow (Rated Output)	cfm (m <sup>3</sup> /min)	938 (26.6)
Maximum Recommended Back Pressure	inHg	1.5
Exhaust Temp (Rated Output)	°F (°C)	1250 (676.7)
Exhaust Outlet Size (Open Set)	in	2.5" I.D. Flex (No muffler)

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

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards. All power ratings are +/- 5%.

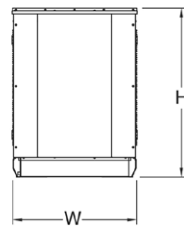
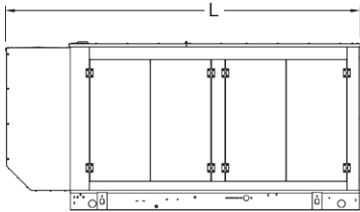
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## dimensions and weights



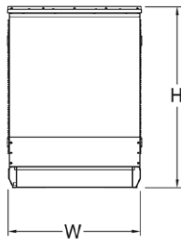
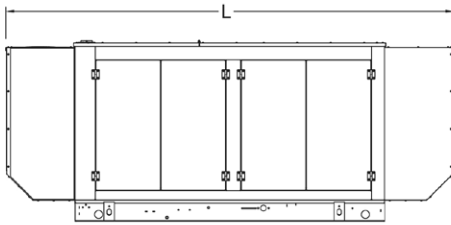
**OPEN SET (Includes Exhaust Flex)**

L x W x H in (mm)	110.04 (2795) x 39.88 (1013) x 52.38 (1330)
Weight lbs (kg)	2600 (1180)



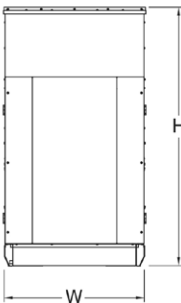
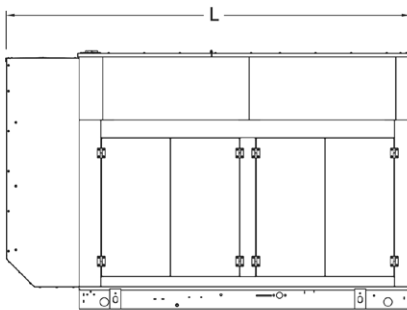
**STANDARD ENCLOSURE**

L x W x H in (mm)	132.72 (3371.1) x 40.46 (1027.8) x 64.05 (1627)
Weight lbs (kg)	Steel: 3100 (1407) Aluminum: 2765 (1255)



**LEVEL 1 ACOUSTIC ENCLOSURE**

L x W x H in (mm)	154.13 (3914.9) x 40.46 (1027.8) x 64.05 (1627)
Weight lbs (kg)	Steel: 3350 (1520) Aluminum: 2850 (1292)



**LEVEL 2 ACOUSTIC ENCLOSURE**

L x W x H in (mm)	144.53 (3671) x 40.46 (1027.8) x 80.88 (2054.3)
Weight lbs (kg)	Steel: 3600 (1634) Aluminum: 2930 (1330)

**YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER**

Specification characteristics may change without notice. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.