

SG100 | 9.0L | 100 kW
INDUSTRIAL SPARK-IGNITED GENERATOR SET
EPA Certified Stationary Emergency

DEMAND RESPONSE READY

Standby Power Rating
100 kW, 125 kVA, 60 Hz

Prime Power Rating*
90 kW, 113 kVA, 60 Hz



*EPA Certified Prime ratings are not available in the US or its Territories

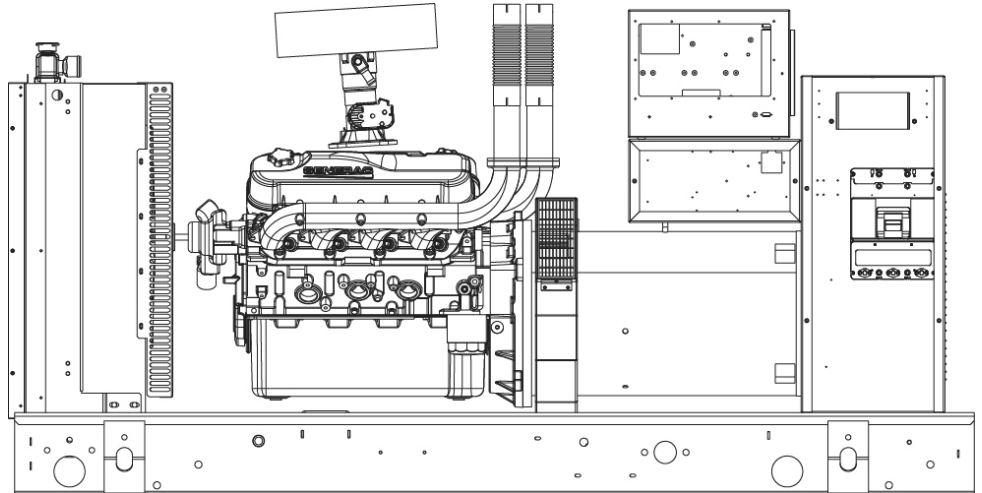


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Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.



UL2200, UL6200, UL1236, UL489



CSA C22.2



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



ISO 3046, 7637, 8528, 9001



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41



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

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

STANDARD FEATURES

DEMAND RESPONSE READY

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Open Set Only)

Fuel System

- NPT Fuel Connection on Frame
- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- 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 and Demand Response Rated Units)
- 1 Year Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- 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
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level

- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

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CONFIGURABLE OPTIONS

DEMAND RESPONSE READY

ENGINE SYSTEM

- Engine Block Heater
- Baseframe Cover/Rodent Guard
- Oil Heater
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Level 1 Fan and Belt Guards (Enclosed Units Only)

FUEL SYSTEM

- NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

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

GENERATOR SET

- Extended Factory Testing (3-Phase Only)
- 8 Position Load Center
- IBC Seismic Certification
- Pad Vibration Isolators

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Enclosure Heater (with Motorized Dampers Only)
- Door Open Alarm Switch

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Indication with 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 Engine Run Relay
- Ground Fault Annunciator
- Damper Kit Auxiliary Contacts (with Motorized Dampers Only)
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets

WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan

ALTERNATOR SYSTEM

- 3rd Breaker System

CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

GENERATOR SET

- Special Testing
- Battery Box

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General	
Make	Generac
Cylinder #	8
Type	V
Displacement - in³ (L)	543 (8.9)
Bore - in (mm)	4.49 (114.23)
Stroke - in (mm)	4.25 (107.95)
Compression Ratio	9.9:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	5
Connecting Rods	Forged Steel
Cylinder Head	Cast Iron
Ignition	High Energy
Piston Type	Aluminum Alloy
Crankshaft Type	Forged Steel
Lifter Type	Hydraulic Roller
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Stainless Steel
Hardened Valve Seats	Yes
Engine Governing	
Governor	Electronic
Frequency Regulation (Steady State)	±0.25%
Lubrication System	
Oil Pump Type	Gear Driven
Oil Filter Type	Full-Flow Spin-On Cartridge
Crankcase Capacity - qt (L)	10.0 (9.5)

Cooling System	
Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	2,386
Fan Diameter - in (mm)	22 (559)
Fuel System	
Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure - in H ₂ O (kPa)	11 - 14 (2.7 - 3.5)
Optional Operating Fuel Pressure - in H ₂ O (kPa)	7 - 11 (1.7 - 2.7)

Engine Electrical System	
System Voltage	12 VDC
Battery Charger Alternator	40 Amps
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0130124Y21	Standard Excitation	Synchronous Brushless
Poles	4	Bearings	Sealed Ball
Field Type	Revolving	Coupling	Direct Drive
Insulation Class - Rotor	H	Prototype Short Circuit Test	Yes
Insulation Class - Stator	H	Voltage Regulator Type	Full Digital
Total Harmonic Distortion	<5% (3-Phase)	Number of Sensed Phases	All
Telephone Interference Factor (TIF)	<50	Regulation Accuracy (Steady State)	±0.25%

OPERATING DATA

DEMAND RESPONSE READY

POWER RATINGS - NATURAL GAS/PROPANE VAPOR

	Standby	Prime
Single-Phase 120/240 VAC @1.0pf	100 kW/100 kVA Amps: 417	90 kW/90 kVA Amps: 375
Three-Phase 120/208 VAC @0.8pf	100 kW/125 kVA Amps: 347	90 kW/113 kVA Amps: 313
Three-Phase 120/240 VAC @0.8pf	100 kW/125 kVA Amps: 301	90 kW/113 kVA Amps: 271
Three-Phase 277/480 VAC @0.8pf	100 kW/125 kVA Amps: 151	90 kW/113 kVA Amps: 135
Three-Phase 346/600 VAC @0.8pf	100 kW/125 kVA Amps: 120	90 kW/113 kVA Amps: 108

MOTOR STARTING CAPABILITIES (skVA)

	skVA vs. Voltage Dip	
	277/480 VAC 30%	208/240 VAC 30%
K0130124Y21	327	327

FUEL CONSUMPTION RATES*

60 Hz Natural Gas – scfh (m³/hr)			60 Hz Propane Vapor – scfh (m³/hr)			60 Hz LP Liquid – gph (Lph)		
Percent Load	Standby	Prime	Percent Load	Standby	Prime	Percent Load	Standby	Prime
25%	497 (14.1)	475 (13.5)	25%	194 (5.5)	188 (5.3)	25%	5.1 (19.3)	4.8 (18.2)
50%	768 (21.7)	714 (20.2)	50%	294 (8.3)	274 (7.8)	50%	7.9 (29.9)	7.3 (27.6)
75%	1,017 (28.8)	942 (26.7)	75%	394 (11.2)	364 (10.3)	75%	10.5 (39.7)	9.7 (36.7)
100%	1,280 (36.2)	1,175 (33.3)	100%	487 (13.8)	450 (12.7)	100%	12.9 (48.8)	11.9 (45.0)

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

COOLING

	Standby	Prime
Air Flow (Fan Air Flow Across Radiator) - Open Set	scfm (m³/min)	6,589 (186)
Coolant Flow	gpm (Lpm)	27.5 (104.1)
Coolant System Capacity	gal (L)	5.5 (20.8)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199270SSD	
Maximum Additional Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby	Prime
Flow at Rated Power - scfm (m³/min)	230 (6.5)	208 (5.9)

ENGINE

EXHAUST

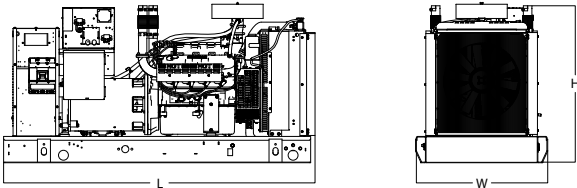
	Standby	Prime		Standby	Prime
Rated Engine Speed	RPM	1,800	1,800	Exhaust Flow (Rated Output)	scfm (m³/min)
Horsepower at Rated kW**	hp	154	139	Maximum Exhaust Backpressure	inHg (kPa)
Piston Speed	ft/min (m/min)	1,275 (389)	1,275 (389)	Exhaust Temp (Rated Output - Post Catalyst)	°F (°C)
BMEP	psi (kPa)	123 (846)	112 (775)		

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

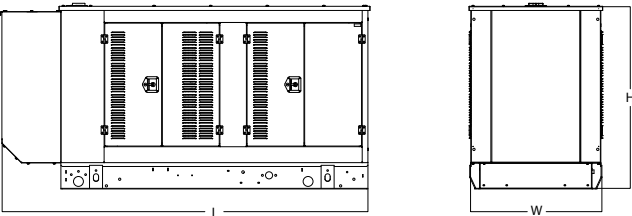
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
 Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
 Standby - See Bulletin 0187500SSB
 Demand Response - See Bulletin 10000018250.

DIMENSIONS AND WEIGHTS*

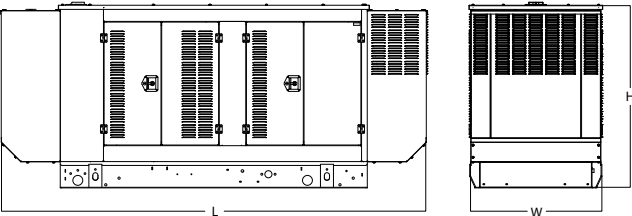
DEMAND RESPONSE READY



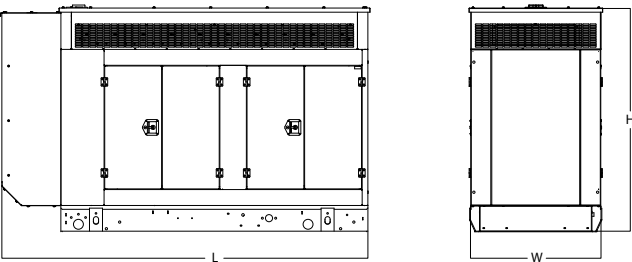
OPEN SET (Includes Exhaust Flex)	
L x W x H - in (mm)	93.0 (2,362) x 40.0 (1,016) x 48.0 (1,219)
Weight - lbs (kg)	Steel: 2,245 - 2,543 (1,018 - 1,153)



WEATHER PROTECTED ENCLOSURE	
L x W x H - in (mm)	129.4 (3,287) x 40.0 (1,016) x 56.2 (1,428)
Weight - lbs (kg)	Steel: 2,774 (1,258) - 3,072 (1,393) Aluminum: 2,504 (1,136) - 2,802 (1,271)



LEVEL 1 SOUND ATTENUATED ENCLOSURE	
L x W x H - in (mm)	129.4 (3,287) x 40.0 (1,016) x 56.2 (1,428)
Weight - lbs (kg)	Steel: 2,935 (1,331) - 3,233 (1,466) Aluminum: 2,630 (1,193) - 2,873 (1,303)



LEVEL 2 SOUND ATTENUATED ENCLOSURE	
L x W x H - in (mm)	111.8 (2,840) x 40.0 (1,016) x 68.6 (1,742)
Weight - lbs (kg)	Steel: 3,062 (1,389) - 3,360 (1,524) Aluminum: 2,630 (1,193) - 2,928 (1,328)

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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