SG050 | 6.8L | 50 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

DEMAND RESPONSE READY

Standby Power Rating
50 kW, 63 kVA, 60 Hz

Demand Response Rating
50 kW, 63 kVA, 60 Hz

Prime Power Rating
45 kW, 56 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT* *Assembled in the USA using domestic and foreign parts

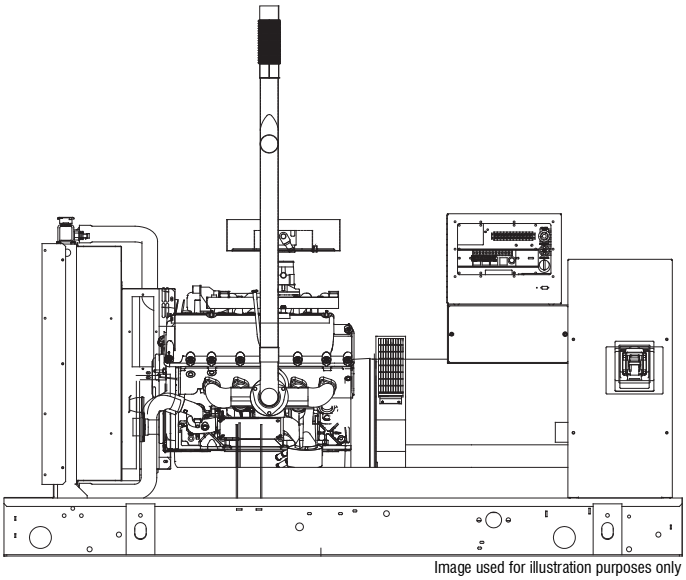

Image used for illustration purposes only

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.

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STANDARD FEATURES

DEMAND RESPONSE READY

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Level 1 Fan and Belt Guard (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Critical Silencer (Enclosed Units Only)
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)

Fuel System

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

Cooling System

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

Electrical System

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

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 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 and Demand Response Rated Units)
- 1 Year Limited 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)

SG050 | 6.8L | 50 kW

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CONFIGURABLE OPTIONS

DEMAND RESPONSE READY

ENGINE SYSTEM

- ○ Engine Coolant Heater
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Radiator Stone Guard (Open Set Only)
- ○ Critical Silencer (Open Set Only
- ○ Baseframe Cover/Rodent Guard
- ○ Level 1 Fan and Belt Guard (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

- ○ Demand Response
- ○ Extended Factory Testing (3-Phase Only)
- ○ IBC Seismic Certification
- ○ 8 Position Load Center
- ○ Spring Vibration Isolators
- ○ 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 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)
- ○ 10A Engine Run Relay
- ○ Remote Communication - Modem
- ○ Ground Fault Annunciator
- ○ 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

CONTROL SYSTEM

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

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pans

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing
- ○ Battery Box

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APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	10
Type	V
Displacement - in^3 (L)	6.8 (414.96)
Bore - in (mm)	90.17 (3.55)
Stroke - in (mm)	105.992 (4.17)
Compression Ratio	9.0:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	7
Connecting Rods	Forged
Cylinder Head	Aluminum
Cylinder Liners	No
Ignition	Electronic
Piston Type	Aluminum Alloy
Crankshaft Type	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 - qt (L)	6 (5.7)

Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	2,300
Fan Diameter - in (mm)	22 (558)

Fuel System

Fuel Type	Natural Gas, Propane Vapor, Propane Liquid
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off	Standard
NG Operating Fuel Pressure - in H_2O (kPa)	11 - 14 (2.7 - 3.5)
LP Operating Fuel Pressure - in H_2O (kPa)	7 - 14 (1.7 - 3.5)

Engine Electrical System

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

ALTERNATOR SPECIFICATIONS

Standard Model	K0050124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase Only)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Synchronous Brushless
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

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OPERATING DATA

DEMAND RESPONSE READY

POWER RATINGS - NATURAL GAS/PROPANE VAPOR

	Standby		Prime	
Single-Phase 120/240 VAC @1.0pf	50 kW/50 kVA	Amps: 208	45 kW/45 kVA	Amps: 188
Three-Phase 120/208 VAC @0.8pf	50 kW/63 kVA	Amps: 174	45 kW/56 kVA	Amps: 156
Three-Phase 120/240 VAC @0.8pf	50 kW/63 kVA	Amps: 150	45 kW/56 kVA	Amps: 135
Three-Phase 277/480 VAC @0.8pf	50 kW/63 kVA	Amps: 75	45 kW/56 kVA	Amps: 68
Three-Phase 346/600 VAC @0.8pf	50 kW/63 kVA	Amps: 60	45 kW/56 kVA	Amps: 54

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

480 VAC	30%	208/240 VAC	30%
K0050124Y21	98	K0050124Y21	75
K0060124Y21	124	K0060124Y21	95
K0080124Y21	172	K0080124Y21	132
K0100124Y21	227	K0100124Y21	171
K0130124Y21	327	K0130124Y21	327

FUEL CONSUMPTION RATES*

Natural Gas – scfh (m^3/hr)

Percent Load	Standby	Prime
25%	282 (8)	247 (7)
50%	483 (14)	423 (12)
75%	652 (19)	571 (17)
100%	805 (23)	684 (19)

Propane Vapor – scfh (m^3/hr)

Percent Load	Standby	Prime
25%	106.8 (3.0)	93.5 (2.7)
50%	183.0 (5.2)	160.3 (4.5)
75%	247.1 (7.0)	216.4 (6.1)
100%	305.0 (8.6)	259.3 (7.3)

LP Liquid – gph (Lph)

Percent Load	Standby	Prime
25%	3.0 (11.4)	2.6 (9.9)
50%	5.0 (19.3)	4.5 (17.0)
75%	6.9 (26.1)	6.0 (22.7)
100%	8.5 (32.2)	7.2 (27.3)

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

COOLING

		Standby	Prime
Air Flow (Fan Air Flow Across Radiator) - Open Set	scfm (m^3/min)	5,760 (163.1)	Contact Factory
Coolant Flow	gpm (Lpm)	38 (144)	38 (144)
Coolant System Capacity	gal (L)	6.3 (23.9)	6.3 (23.9)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD	
Maximum Additional Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby	Prime
Flow at Rated Power - scfm (m^3/min)	160 (4.5)	150 (4.2)

ENGINE

		Standby	Prime
Rated Engine Speed	RPM	1,800	1,800
Horsepower at Rated kW**	hp	80	64
Piston Speed	ft/min (m/min)	1,251 (381)	1,251 (381)
BMEP	psi (kPa)	85 (586)	82 (565)

EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	scfm (m^3/min)	455 (12.9)	428 (12.1)
Maximum Allowable Exhaust Backpressure (Post Silencer)	inHg (kPa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temperature (Rated Output - Post Silencer)	°F (°C)	1,000 (537.8)	920 (493.0)

** 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
Prime - See Bulletin 0187510SSB

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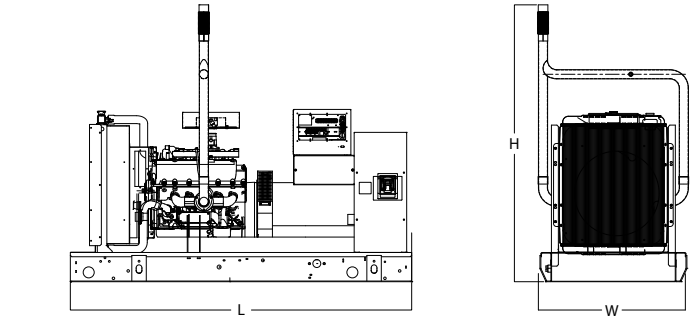
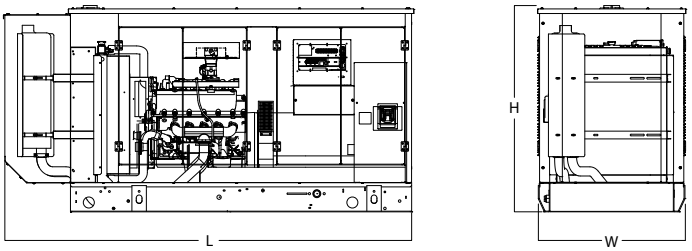
DIMENSIONS AND WEIGHTS*

DEMAND RESPONSE READY



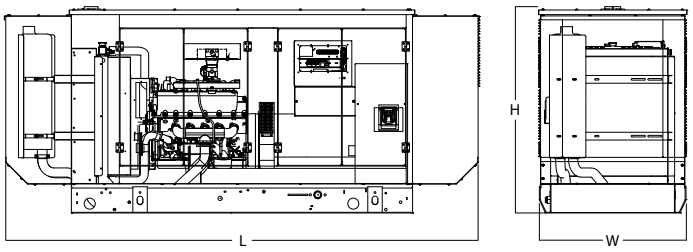
OPEN SET

L x W x H - in (mm)	92.9 (2,360) x 40.0 (1,016) x 75.4 (1,914)
Weight - lbs (kg)	1,929 (875)



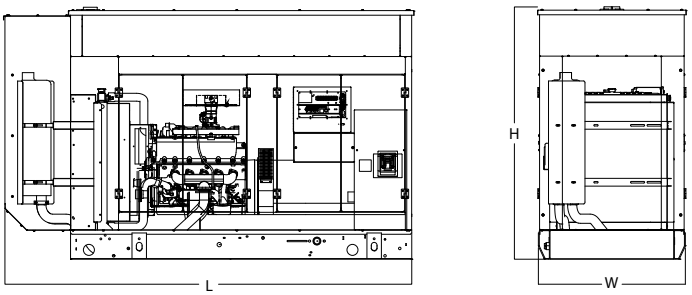
WEATHER PROTECTED ENCLOSURE

L x W x H - in (mm)	111.8 (2,840) x 40.5 (1,028) x 55.3 (1,406)
Weight - lbs (kg)	Steel: 2,370 (1,075) Aluminum: 2,075 (941)



LEVEL 1 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	129.4 (3,287) x 40.5 (1,028) x 55.3 (1,406)
Weight - lbs (kg)	Steel: 2,590 (1,175) Aluminum: 2,147 (974)



LEVEL 2 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	111.8 (2,840) x 40.5 (1,028) x 67.8 (1,722)
Weight - lbs (kg)	Steel: 2,811 (1,275) Aluminum: 2,220 (1,007)

* 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.

SPEC SHEET

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No. 0K4285
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