SG080 | 9.0 L | 80 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating

80 kW, 100 kVA, 60 Hz

*Assembled in the USA using domestic and foreign parts

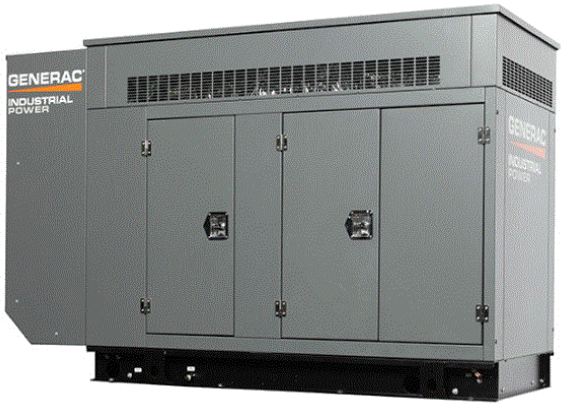

Image used for illustration purposes only

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

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 provides 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 for 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

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 (Enclosed Units 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

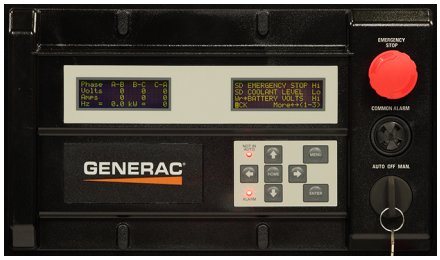
ELECTRICAL SYSTEM
- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM
- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed 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 (Emergency Standby 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
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods
- (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder

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
- 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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INDUSTRIAL SPARK-IGNITED GENERATOR SET

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CONFIGURABLE OPTIONS

ENGINE SYSTEM
- Engine Block Heater
- Oil Heater
- Air Filter Restriction Indicator
- Radiator Stone Guard (Open Set Only)
- Baseframe Cover/Rodent Guard
- Fan and Belt Guards
- Shipped Loose Critical Silencer (Open Set Only)

FUEL SYSTEM
- Dual Fuel NG/LPV
- Dual Fuel NG/LPL

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 Rating
- GenLink® Communications Software (English Only)
- Extended Factory Testing (3-Phase Only)
- IBC Seismic Certification
- 8 Position Load Center

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

CONTROL SYSTEM
- NFPA 110 Compliant Level 1 21-Light Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Indication and 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
- 100 dB Alarm Horn
- 120 V GFCI and 240 V Outlets
- Damper Alarm Contacts
- Spare Inputs (x4)/Outputs (x4)

WARRANTY (Standby Gensets Only)
- 2 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
- Battery Disconnect Switch

GENERATOR SET
- Special Testing
- Battery Box

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APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	8
Type	V
Displacement - in^3 (L)	543 (8.9)
Bore - in (mm)	4.49 (114.3)
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
Cylinder Liners	No
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
Oil Filter Type	Full-Flow Spin-On Cartridge
Crankcase Capacity: qt (L)	10 (9.5)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed (RPM)	2,386
Fan Diameter - in (mm)	22 (558.8)

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_2O (kPa)	11 - 14 (2.7 - 3.5)
Optional Operating Fuel Pressure - in H_2O (kPa)	7 - 11 (1.7 - 2.7)

*When designing the external fuel system, assume a 20% safety factor to the upper and lower limit of the specified fuel pressure range to account for site variation and measurement at the generator test port. Refer to Generac 10000046207, latest rev, for proper gas supply guidelines (Contact Factory for Details).

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	K0080124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<50
Standard Excitation	Synchronous Brushless
Bearings	Sealed Ball
Coupling	Direct Drive
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

POWER RATINGS - NATURAL GAS/PROPANE VAPOR

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

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0080124Y21	172	K0080124Y21	132
K0100124Y21	227	K0100124Y21	171
K0130124Y21	327	K0130124Y21	327

FUEL CONSUMPTION RATES*

Natural Gas – scfh (m^3/hr)		Propane Vapor – scfh (m^3/hr)		Propane Liquid – gph (Lph)	
Percent Load	Standby	Percent Load	Standby	Percent Load	Standby
25%	415.0 (11.7)	25%	191.0 (5.4)	25%	4.0 (15.1)
50%	720.0 (20.4)	50%	298.0 (8.4)	50%	7.6 (28.8)
75%	989.0 (28.0)	75%	409.0 (11.5))	75%	10.5 (39.7)
100%	1,247.0 (35.3)	100%	519.0 (14.7	100%	13.6 (51.5)

*1.5X maximum site rated fuel consumption should be used for gas supply design practices. Refer to Generac 10000046207, latest rev., for more information or contact factory for details.

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power scfm — (m^3/min)	185.0 (5.2)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	122
Piston Speed	ft/min (m/min)	1,275 (389)
BMEP	psi (kPa)	99.9 (689)

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

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	599 (16.9)
Maximum Exhaust Backpressure	inHG (kPa)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Catalyst)	°F (°C)	1,288 (698)

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 BS5514 and DIN6271 standards.

Standby - See Bulletin 0187500SSB

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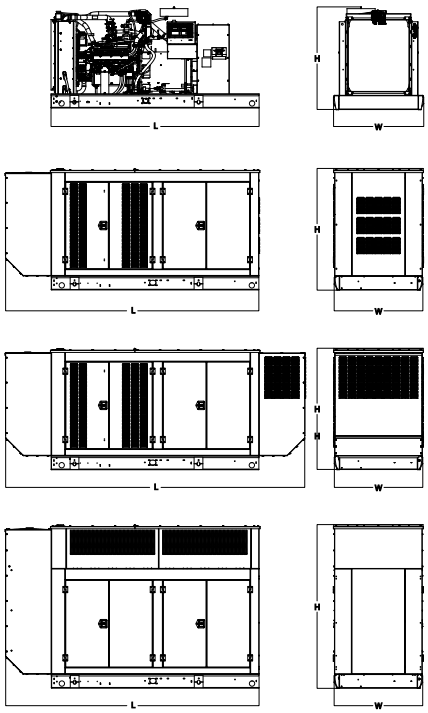
DIMENSIONS AND WEIGHTS*



OPEN SET (Includes Exhaust Flex)

L x W x H - in (mm)	94.2 (2,394) x 40.0 (1,016) x 47.6 (1,208)
Weight - lbs	2,543 (1,153)

WEATHER PROTECTED ENCLOSURE

L x W x H - in (mm)	111.8 (2,840) x 40.5 (1,028) x 56.2 (1,427)
Weight - lbs	Steel: 3,075 (1,393) Aluminum: 2,802 (1,271)

LEVEL 1 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	129.4 (3,287) x 40.5 (1,028) x 56.2 (1,427)
Weight - lbs	Steel: 3,233 (1,466) Aluminum: 2,873 (1,303)

LEVEL 2 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	111.8 (2,840) x 40.5 (1,028) x 68.6 (1,743)
Weight - lbs	Steel: 3,360 (1,524) Aluminum: 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. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

Generac Power Systems, Inc. | S45 W29290 HWY. 59 | Waukesha, WI 53189 | generac.com

Part No. 0K4290
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