

# SG120 | 9.0L | 150 kVA

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

**GENERAC** | INDUSTRIAL  
POWER

### Standby Power Rating

150 kVA, 120 kW, 50 Hz

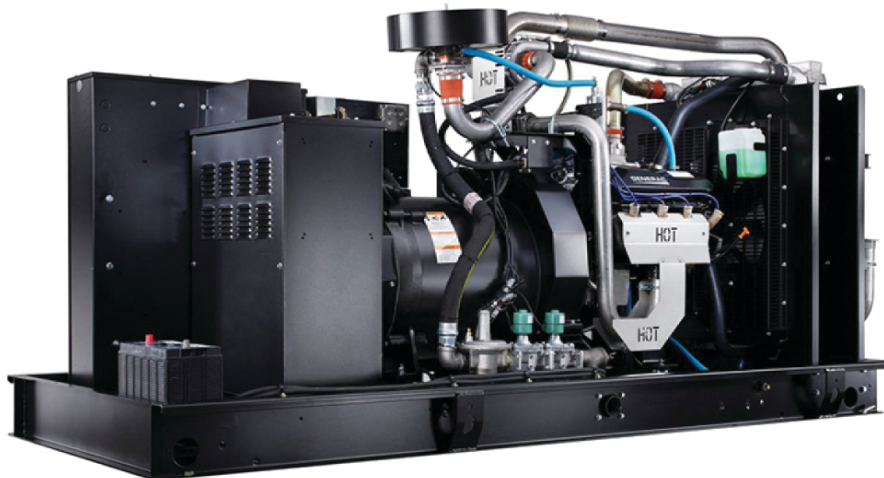


Image used for illustration purposes only

## Codes and Standards

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



BS5514 and DIN 6271



SAE J1349



ISO 3046, 7637, 8528, 9001



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

## 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.

# SG120 | 9.0L | 150 kVA

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

**GENERAC** | INDUSTRIAL  
POWER

### STANDARD FEATURES

#### ENGINE SYSTEM

- Engine Coolant Heater
- Oil Drain Extension
- Air Cleaner
- Level 1 Fan and Belt Guards (Open Set Only)
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Critical Exhaust 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

- GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet 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 (Enclosed Units Only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby 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
- 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)

CONFIGURABLE OPTIONS

ENGINE SYSTEM

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

FUEL SYSTEM

- Flexible Fuel Line

ELECTRICAL SYSTEM

- 10A Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating

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)
- Pad Vibration Isolators
- 8 Position Load Center

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Steel Enclosure
- Aluminum Enclosure
- Up to 322 KPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Horn

CONTROL SYSTEM

- 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
- 100 dB Alarm Horn
- Ground Fault Annunciator
- 120V GFCI and 240V Outlets

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan

ALTERNATOR SYSTEM

- 3rd Breaker System

CONTROL SYSTEM

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

GENERATOR SET

- Special Testing
- Battery Box

ENCLOSURE

- Motorized Dampers
- Enclosure Heater

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	8
Type	V
Displacement - L (In <sup>3</sup> )	8.9 (540)
Bore - mm (in)	114.3 (4.49)
Stroke - mm (in)	107.95 (4.25)
Compression Ratio	9.1:1
Intake Air Method	Turbocharged
Number of Main Bearings	5
Connecting Rods	Forged Steel
Cylinder Head	Cast Iron
Cylinder Liners	No
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 - L (qt)	9.5 (10.0)

Cooling System

Cooling System Type	Pressurized Closed
Fan Type	Pusher
Fan Speed - RPM	1,988
Fan Diameter - mm (in)	559 (22)

Fuel System

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard (Dual)
Standard Operating Fuel Pressure - kPa (in H <sub>2</sub> O)	2.7 - 3.5 (7 - 11)

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	R0120124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Permanent Magnet Excitation
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%

# SG120 | 9.0L | 150 kVA

## INDUSTRIAL SPARK-IGNITED GENERATOR SET

Generac International Products

**GENERAC®** | **INDUSTRIAL POWER**

### OPERATING DATA

#### POWER RATINGS

	Natural Gas		Propane Vapor	
Single-Phase 110/220 VAC @1.0pf	115 kVA	Amps: 523	107 kVA	Amps: 487
Three-Phase 231/400 VAC @0.8pf	150 kVA	Amps: 217	140 kVA	Amps: 202

#### MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip			
110/220 VAC 1Ø	30%	231/400 VAC 3Ø	30%
M0160124Y21	Contact Factory	R0120124Y21	243
		R0160124Y21	361

#### FUEL CONSUMPTION RATES\*

Natural Gas – m³/hr (scfh)		Propane Vapor – m³/hr (scfh)	
Percent Load	Standby	Percent Load	Standby
25%	15.8 (558)	25%	2.6 (93)
50%	23.8 (842)	50%	4.5 (160)
75%	31.4 (1,108)	75%	6.3 (222)
100%	39.4 (1,393)	100%	8.1 (285)

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

#### COOLING

	Standby
Air Flow (Fan Air Flow Across Radiator) - Open Set	m³/min (cfm) 176 (6,204)
Coolant Flow	Lpm (gpm) 87 (23)
Coolant System Capacity	L (gal) 24.0 (6.3)
Maximum Operating Ambient Temperature	°C (°F) 50 (122)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199270SSD
Maximum Additional Radiator Backpressure	kPa (in H₂O) 0.12 (0.5)

#### COMBUSTION AIR REQUIREMENTS

Standby
Flow at Rated Power - m³/min (cfm) 6.6 (232)

#### ENGINE

	Standby
Rated Engine Speed	RPM 1,500
Horsepower at Rated kW	hp 183
Piston Speed	m/min (ft/min) 324 (1,063)
BMEP	kPa (psi) 1,225 (178)

#### EXHAUST

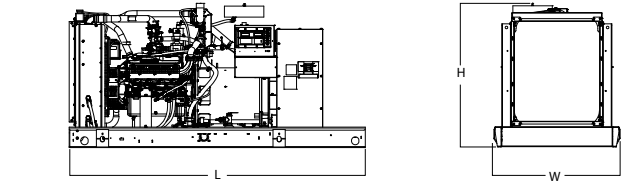
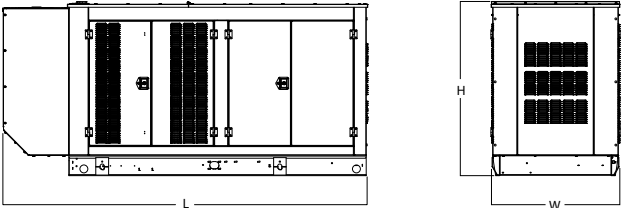
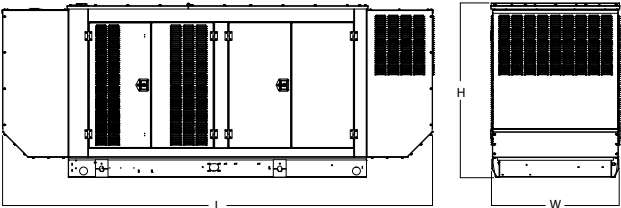
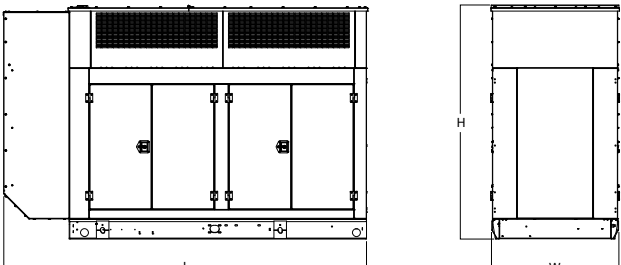
	Standby
Exhaust Flow (Rated Output)	m³/min (cfm) 23 (816)
Maximum Allowable Exhaust Backpressure (Post Silencer)	kPa (inHg) 2.54 (0.75)
Exhaust Temperature (Rated Output)	°C (°F) 782 (1,440)

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

DIMENSIONS AND WEIGHTS\*

		<b>OPEN SET</b>
L x W x H - mm (in)		2,960 (116.5) x 1,249 (49.2) x 1,378 (54.3)
Weight - kg (lbs)		Steel: 1,337 (2,946)
		<b>WEATHER PROTECTED ENCLOSURE</b>
L x W x H - mm (in)		3,633 (143.0) x 1,280 (50.4) x 1,732 (68.2)
Weight - kg (lbs)		Steel: 1,744 (3,843) Aluminum: 1,536 (3,384)
		<b>LEVEL 1 SOUND ATTENUATED ENCLOSURE</b>
L x W x H - mm (in)		4,279 (168.5) x 1,280 (50.4) x 1,732 (68.2)
Weight - kg (lbs)		Steel: 1,874 (4,129) Aluminum: 1,592 (3,508)
		<b>LEVEL 2 SOUND ATTENUATED ENCLOSURE</b>
L x W x H - mm (in)		3,633 (143.0) x 1,280 (50.4) x 2,330 (91.8)
Weight - kg (lbs)		Steel: 1,961 (4,321) Aluminum: 1,630 (3,592)

\* 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.