

**35 kVA**

**Industrial Spark-Ignited Generator Set**

Generac International Products

**5.4L**

**LA RED®**

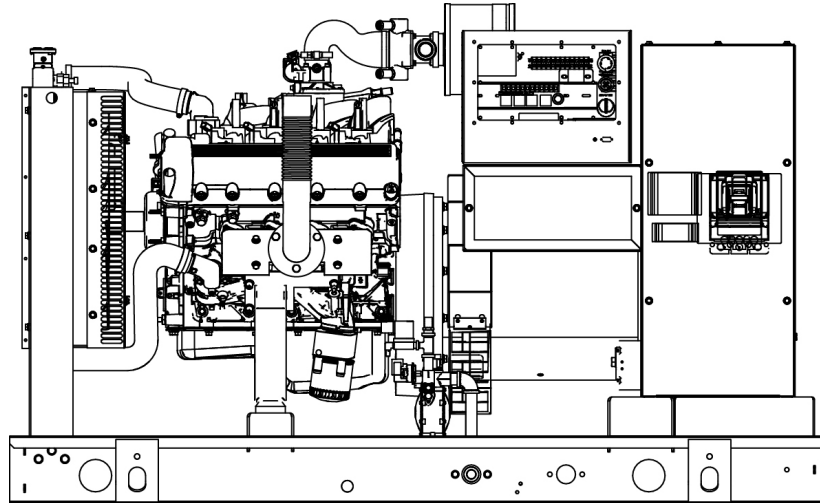


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Standby Rated Generators		
Standby	SG028	35 kVA / 28 kW
Prime	PG022	28 kVA / 22 kW

Prime and standby ratings based on 3-Phase voltages.  
Model number based on kW rating.

**Powering Ahead**

For over 50 years, Generac has provided 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 applications under adverse conditions.

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

# 50 Hz SG/PG Series

## Standard Features

### ENGINE SYSTEM

#### General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- 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
- 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 (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
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

## CONTROL SYSTEM



#### Control Panel

- Digital H Control Panel - Dual 4x20 Display
- 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)

## SG/PG Series

### Configurable Options

#### ENGINE SYSTEM

- General
- Engine Block Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Critical Exhaust Silencer (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 (3 Phase Only)
- 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

### 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 Definitions

**Standby** – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

**Prime** – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 70%) A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications.

Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

## SG/PG Series

## application and engineering data

### ENGINE SPECIFICATIONS

#### General

Make	Generac
Cylinder #	8
Type	V
Displacement - L (Cu. In.)	5.4
Bore - mm (in.)	90.17 (3.55)
Stroke - mm (in.)	105.92 (4.17)
Compression Ratio	9:1
Intake Air Method	Naturally Aspirated
Number of Main Bearings	4
Connecting Rods	Forged
Cylinder Head	Aluminum
Cylinder Liners	No
Ignition	Single Fire
Pistons	Aluminum Alloy
Crankshaft	Nodular Iron
Lifter Type	Hydraulic
Intake Valve Material	Steel Alloy
Exhaust Valve Material	Hardened Steel
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	38 gal/min
Fan Type	Pusher
Fan Speed (rpm)	1900
Fan Diameter mm (in.)	508 (20)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	240 V

#### Fuel System

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure	8" - 14" H2O*

#### Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Standard
Min. Recommended Battery Size	711 CCA
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	Direct Drive
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%

# 35 kVA / 28 kW

# operating data

50 Hz

## POWER RATINGS – NATURAL GAS/PROPANE VAPOR

	Standby		Prime	
Single-Phase 110/220 VAC @1.0pf	28 kVA / 28 kW	127 Amps	22 kVA / 22 kW	100 Amps
Three-Phase 231/400 VAC @0.8pf	35 kVA / 28 kW	51 Amps	28 kVA / 22 kW	40 Amps

## STARTING CAPABILITIES (sKVA)

		sKVA vs. Voltage Dip											
		231/400 VAC						110/220 VAC					
Alternator	kVA	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	35	20	30	40	50	60	70	12	18	24	29	35	41
Upsize 1	40	22	34	45	56	67	79	13	20	27	33	40	47
Upsize 2	50	28	43	57	71	85	100	17	26	34	42	51	59
Upsize 3	60	35	52	69	86	104	121	21	31	41	51	61	72

## 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	Prime	Percent Load	Standby	Prime
25%	209 (5.9)	183 (5.2)	25%	69.8 (2.0)	61.2 (1.7)
50%	359 (10.2)	314 (8.9)	50%	119.7 (3.4)	104.8 (3.0)
75%	484 (13.7)	424 (12)	75%	161.6 (4.6)	141.5 (4.0)
100%	598 (16.9)	524 (14.8)	100%	219.8 (6.2)	174.7 (4.9)

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

## COOLING

		Standby	Prime
Air Flow (inlet air combustion and radiator)	ft <sup>3</sup> /min (m <sup>3</sup> /min)	1968 (55.8)	1968 (55.8)
System Coolant Capacity	Gal (Liters)	3 (11.36)	3 (11.36)
Heat Rejection to Coolant	BTU/hr	119,520	99,202
Max. Operating Ambient Temperature	°F (°C)	104 (40)	104 (40)
Maximum Radiator Backpressure	in H <sub>2</sub> O	0.5	0.5

## COMBUSTION AIR REQUIREMENTS

		Standby	Prime
Flow at Rated Power	cfm (m <sup>3</sup> /min)	68 (2.0)	64 (1.9)

## ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1500	1500
Horsepower at Rated kVA	hp	43	34
Piston Speed	ft/min (m/min)	1042 (318)	1042 (318)
BMEP	psi	69	66

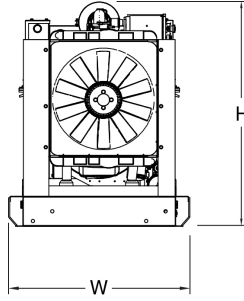
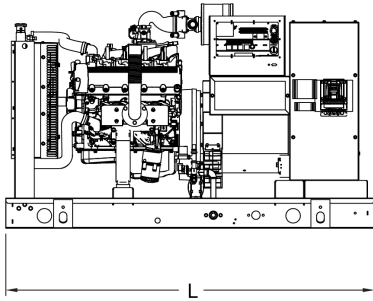
## EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	cfm (m <sup>3</sup> /min)	203 (5.8)	191 (5.5)
Maximum Recommended Back Pressure	inHg	1.5	1.5
Exhaust Temp (Rated Output)	°F (°C)	828 (442)	762 (406)
Exhaust Outlet Size (Open Set)	in	2.5" OD	2.5" OD

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%.

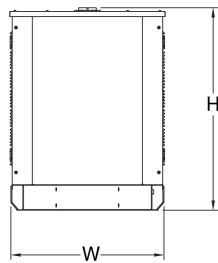
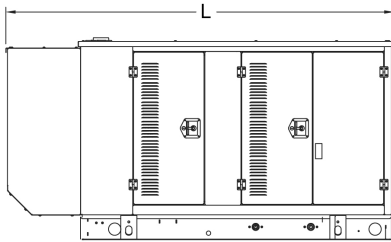
**SG/PG Series**

**dimensions and weights**



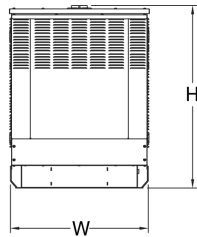
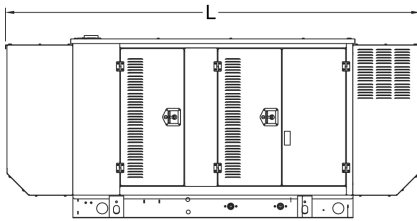
**OPEN SET (Includes Exhaust Flex)**

L x W x H in (mm)	76 (1930) x 37.4 (949.9) x 47 (1193.8)
Weight lbs (kg)	1575 (714)



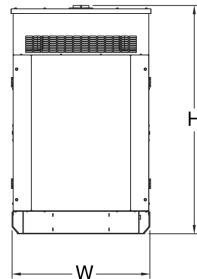
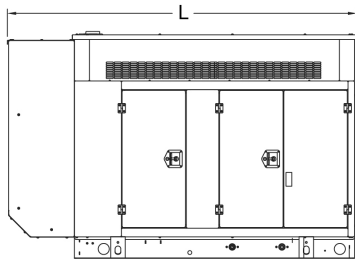
**STANDARD ENCLOSURE**

L x W x H in (mm)	94.8 (2408.9) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2100 (952) Aluminum: 1754 (795)



**LEVEL 1 ACOUSTIC ENCLOSURE**

L x W x H in (mm)	112.5 (2857.1) x 38 (965.1) x 49.5 (1258.1)
Weight lbs (kg)	Steel: 2140 (970) Aluminum: 1767 (801)



**LEVEL 2 ACOUSTIC ENCLOSURE**

L x W x H in (mm)	94.8 (2407) x 38 (965.1) x 62 (1573.9)
Weight lbs (kg)	Steel: 2328 (1056) Aluminum: 1831 (830)

